# Australia's Gambling Industries

Inquiry Report

Volume 3: Appendices

Report No. 10
26 November 1999
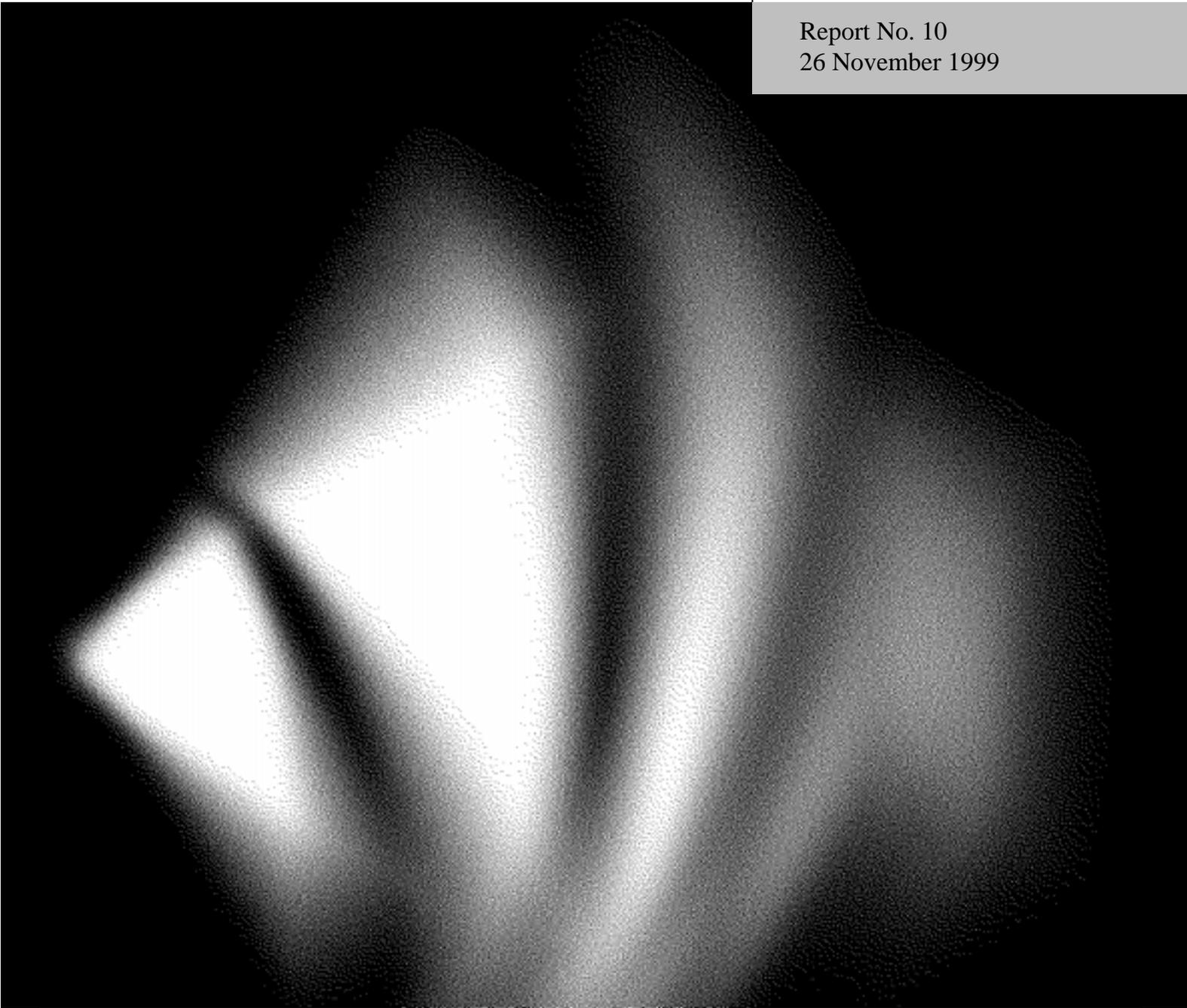
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Appendices

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A Participation and public consultation

The Commission received the terms of reference for this inquiry on 26 August 1998. The inquiry was advertised widely and an Issues Paper was sent to a large number of individuals and organisations. During the inquiry the Commission held informal discussions with a wide range of people and organisations (section A.2), organised six roundtable meetings (section A.3) and held public hearings in all states and territories (section A.4). In addition, 290 public submissions were received (section A.5), together with 39 confidential submissions. The Commission is grateful to all those who participated in the inquiry.

A.1 The research team

The following staff assisted in the preparation of this report:

Ralph Lattimore (team leader)
Bronwyn Fisher
Marty French
Catherine Knox
Greg McGuire
Geraldine Martisius
Tom Nankivell
Robert Phillips
Robert Wells
John Williams
Ross Wilson
Stuart Wilson

A.2 Visits with individuals and organisations

The Commission made an extensive round of visits, holding discussions with the following people and organisations.

Australian Capital Territory

Federation of Ethnic Communities' Councils of Australia
Norfolk Island Gaming Authority

New South Wales

Access Systems
Dr Clive Allcock, University of Sydney & Cumberland Hospital
Aristocrat Leisure Industries
Australian Hotels Association (NSW)
Australian Retailers Association
Betsafe group of clubs
Assoc Prof Alex Blaszczynski
The Cabinet Office
Casino Community Benefit Fund
Casino Community Development Fund
Department of Gaming and Racing
EMIGRE
Gamblers Help Line
Gambling Research Unit, University of Sydney
Rev Harry Herbert, Uniting Church in Australia
Prof Jan McMillen, Australian Institute for Gambling Research
Nepean Rowing Club
NSW Lotteries
Online Gambling Association of Australia
Penrith Panthers Club
Registered Clubs Association of NSW
Society of Vincent de Paul, GAME program
Star City
Paul Symond, St Edmunds Private Hospital
TAB Ltd
Wesley Gambling Counselling Services

Victoria

Australian Hotels Association (Vic)
Break Even counsellors
Crown Casino
Department of Premier and Cabinet
Interchurch Gambling Task Force
Assoc Prof Alun Jackson
Licensed Clubs Association of Victoria
Office of Racing
Tabcorp Holdings Ltd
Tattersall's
Victorian Casino and Gaming Authority

South Australia

Adelaide Central Mission
Department of Premier and Cabinet
Liquor and Gaming Commissioner
Treasury
The Hon Nick Xenophon MLC

Queensland

BreakEven
Department of Families, Youth and Community Care
Department of Premier and Cabinet
Jupiters Casino
Queensland Council of Social Services
Queensland Office of Gaming Regulation
Racing Industry Taskforce
Relationships Australia, Queensland
Treasury
Rev John Tully

Western Australia

BreakEven
Burswood International Resort Casino
Department of Treasury
Lotteries Commission of WA
Ministry of Premier and Cabinet
Office of Racing, Gaming and Liquor
TAB
Tourism Commission

Northern Territory

Amity Community Service & Anglicare
Centrebet
Chief Minister's Office
Ethnic Communities Council
Department of Health
Lasseters Hotel Casino
Menzies School of Health Research
MGM Grand Darwin Hotel/Casino
Racing and Gaming Commission
Treasury

Tasmania

Wrest Point Casino

New Zealand

Dr Max Abbott, Auckland Institute of Technology
Compulsive Gambling Society of New Zealand
Department of Internal Affairs
Lotteries Commission of New Zealand
New Zealand TAB

Washington

National Gambling Impact Study Commission

A.3   Roundtables

Canberra, 10 September 1998

Mr Jack Ball AM	Council of Community Clubs of Australia and New Zealand
Mr James Connolly	Wesley Gambling Counselling Services
Rev Tim Costello	Interchurch Gambling Task Force
Prof Mark Dickerson	University of Western Sydney
Prof Anne Edwards	Flinders University
Dr Peter Grabosky	Australian Institute of Criminology
Mr John Harris	Tattersalls
Mr Jim Hoggett	Star City
Ms Margo McGregor	Australian Hotels Association (SA)
Prof Jan McMillen	Australian Institute for Gambling Research
Mr Toby O'Connor	Australian Catholic Social Welfare Commission
Mr Michael Schilling	Consultant

Goulburn, 26 October 1998 — regional issues

This roundtable was organised for the Commission by the Goulburn City Council.

Margaret O'Neill	The Mayor
David Mantle	Workers Club
Martin Tattersall	Goulburn Correctional Centre
Richard Simmer	Secretary, AHA Goulburn & District

Allison O'Brien	Country Women's Association of NSW
Rob Watson	Goulburn Golf Club/Chamber of Commerce
Keith Cole	Goulburn Soldiers' Club
Garry Easterby	Goulburn Soldiers' Club
Alex Gilroy	Psychologist
Louis Maroya	Mulwaree Shire Council
Sen. Sgt. Ken Topham	Goulburn Police

Canberra, 27 October 1998 — methodology and surveys

Prof. Mark Dickerson	University of Western Sydney
Dr Michael Walker	University of Sydney
Prof Jan McMillen	Australian Institute for Gambling Research
Assoc Prof Alun Jackson	University of Melbourne
Dr Paul Delfabbro	Flinders University of South Australia

Port Augusta, 9 December 1998 — regional issues

This roundtable was organised for the Commission by the City of Port Augusta.

Anne Marie Sharp	Department of Family and Youth Services
Cephas Stanley	Pika Wiya Health Services
Trish Munn	Centacare Whyalla
Joan Carcuro	St Vincent de Paul
David Hervey	Port Augusta Focus
David Curnow	Port Augusta Prison
Peter Taylor	Pastoral Hotel
Roy Pool	Port Augusta Racing Club
John Elley	Port Augusta Bowling Club
Robert Cugley	Salvation Army

Canberra, 12 February 1999 — gambling and crime

This roundtable was organised for the Commission by the Australian Institute of Criminology.

Mandy Carter	National Crime Authority
Det. Supt. Denis Edmonds	South Australian Police
Janelle Ford	Wesley Community Legal Service
Dr Peter Grabosky	Australian Institute of Criminology
Bill Horman	Crown Casino

Marianne James	Australian Institute of Criminology
Prof Jan McMillen	Australian Institute for Gambling Research
Peter O'Brien	University of Technology, Sydney
Jelena Popovic	Melbourne Magistrates Court
Ass. Comm. Clive Small	New South Wales Police
Supt. Ray Sweeny	Australian Federal Police

Sydney, 18 October 1999 — assessing the incidence and costs of problem gambling

Prof Jan McMillen	Australian Institute for Gambling Research
Assoc Prof Blaszczynski	Psychiatry Research and Teaching Unit, University of Sydney
Dr Clive Allcock	University of Sydney & Cumberland Hospital
Dr Michael Walker	Gambling Research Unit, University of Sydney

A.4   Public hearings and submissions

The following people and organisations participated in public hearings.

Perth, 2 November 1998

Western Australian Council of Social Services, Coalition Against Pokies
Independent Gaming Corporation
Wendy Silver
Lockridge Community Group
Anglican Social Responsibilities Commission of Western Australia

Brisbane, 9 November 1998

J.D. Davis
Rev John Tully
Dr Myles McGregor-Lowndes, Queensland University of Technology
Relationships Australia
Logan City Council

Darwin, 12 November 1998

Dr Bill Tyler, Northern Territory University, Centre for Social Research

Sydney, 16-17 November 1998

Council of Community Clubs of Australia and New Zealand
New South Wales Council on Problem Gambling
Wesley Community Legal Service
Don Beggs
Star City
Betsafe
Peter Mair
Norm Hooper
Access Systems Pty Ltd
Australian Hotels Association (NSW)
Marea Donnelly
St Vincent de Paul, GAME program

Melbourne, 23-25 November 1998

Springvale Legal Service
Interchurch Gambling Task Force
Melbourne Anglican Social Responsibilities Committee
Catholic Social Services
Victorian Local Governance Association
Maribyrnong City Council
City of Greater Dandenong
Moreland City Council
Committee on Problem Gambling
Compulsive Gambling Society of New Zealand
Ian Murphy
Good Shepherd Youth and Family Services
Women's Electoral Lobby
Financial and Consumer Rights Council and Broadmeadows Care
Tabcorp Holdings Ltd
G-Line
Australian Vietnamese Women's Association
Licensed Clubs Association of Victoria
Gabriella Byrne
Australian Labor Party, Victorian Branch
Australian Hotels Association (Vic)
Jane Pashallis

Canberra, 30 November 1998

Senator Grant Chapman
Gambling Crisis and Counselling Service
John Beagle
Lifeline Canberra

Adelaide, 7-8 December 1998

The Hon Nick Xenophon MLC
Australian Hotels Association (SA)
Anglicare
Terry Coughlin
The Australian Family Party
Richard Balfour
Adelaide Central Mission
National Association of Gambling Studies
Festival of Light, South Australian Branch
Relationships Australia
National Centre for Education and Training on Addiction
Adelaide Crusade Centre
Nunkuwarrin Yunti

Hobart, 14 December 1998

Anglicare Tasmania
Local Government Association of Tasmania and Brighton Council
Australian Hotels Association
Retail Traders Association of Tasmania
Tasmanian Council of Social Services

Melbourne, 30 March 1999 (supplementary)

ACIL Consulting
TAB Ltd
Tabcorp Holdings Ltd
Crown Casino
Tattersall's
Access Economics

Canberra, 20 August 1999

The Hon Nick Xenophon MLC
Dr Anne Hawke and Prof Richard Blandy, University of South Australia

Melbourne, 25-26 August 1999

BreakEven Services in Victoria
Interchurch Gambling Task Force
Gabriela Byrne
Kelly & Donna
Jesuit Social Services
Springvale Legal Service
Victorian Women's Trust
Broadmeadows Progress Association
Neville Ford
Woman's Christian Temperance Union of Victoria
BJ mAsters Pty Ltd Professional Blackjack School

Hobart, 31 August 1999

Kim Peart
Brighton Council
Anglicare Tasmania

Melbourne, 1 September 1999

Victorian Local Governance Association
Boroondara City Council
Moreland City Council
Licensed Clubs Association of Victoria

Adelaide, 13 September 1999

Relationships Australia
Dr Anne Hawke and Prof Richard Blandy, University of South Australia
Festival of Light
Adelaide Central Mission
Nunkuwarrin Yunti

Sydney, 16-17 September 1999

Rev Fred Nile, Christian Democratic Party

Australian Hotels Association

Rev Harry Herbert, Uniting Church Board for Social Responsibility

Star City

Wesley Community Legal Service

Public Interest Advocacy Centre

St Vincent de Paul, GAME Program

Prof Jan McMillen, Australian Institute for Gambling Research

New South Wales Community Benefit Fund

Norm Hooper

Brisbane, 30 September-1 October 1999

Sunshine Coast Community Services Council

Rev John Tully, New Life Ministry at Street Level

Australian Hotels Association (Vic)

Community Clubs Association of Australia and New Zealand

ACIL Consulting

Tabcorp Holdings Ltd

Interchurch Gambling Task Force

Jim Stewart

Clubs Queensland

Australian Casinos Association

Southside Coalition of Emergency Relief Agencies

A.5   Public submissions[1]

Participant	Sub. no.[2]
Doug Buckley	1
Michael Kuschert	2
Peter Mair	3
Michael Moll	4
N M Lewis	5
V A Wigzell	6
Anglican Social Responsibilities Commission (WA)	7
Peter Logan	8
Gabriela Byrne	9
Wyndham City Council	10
Terry Coughlin	11
Institute of Public Affairs	12
Caloundra Community Centre	13
Peter Mair	14
Don Beggs	15
Access Systems Pty Ltd	16
Springvale Legal Service	17
Alison G Walpole	18
Council of Social Service of New South Wales	19
John Rotenstein	20
Australian Institute of Criminology	21
BreakEven Hume Region Problem Gambling Service	22
Senator Grant Chapman	23
Public Health Association of Australia (WA)	24
Lotteries Commission of Western Australia	25
Wesley Gambling Counselling Service	26
John Anthony McDermott	27

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[1] In addition to their submissions, many participants provided the inquiry with pamphlets, annual reports, research studies and other publications. (The VCGA, for example, provided copies of all of its research studies.) This material was very helpful. Many are cited in the reference list at the end of this report.

[2] Submissions with a number prefaced by the letter D were received after completion of the draft report.

Festival of Light (SA)   D213

Nunkuwarrin Yunti of SA   D214

Wesley Community Legal Service   D215

Prof Jan McMillen, Australian Institute for Gambling Research   D216

Star City   D217

St Vincent de Paul – GAME Program   D218

City of Unley   D219

Sunshine Coast Community Services Council   D220

Christian Democratic Party (Fred Nile group)   D221

Prof Christian Marfels, Dalhousie University, Nova Scotia   D222

Focus on the Family Australia   D223

Australian Medical Association   D224

Frank G Thompson   D225

Council of Community Clubs of Australia and New Zealand   D226

Anglicare, Riverina   D227

Rev John Tully, New Life Ministry at Street Level   D228

Jim Stewart   D229

Interchurch Gambling Task Force   D230

Australian Hotels Association   D231

Tabcorp Holdings Ltd   D232

ACIL Consulting   D233

Australian Casino Association   D234

Southside Coalition of Emergency Relief Welfare Agencies   D235

Clubs Queensland   D236

Australian Hotels Association (Vic)   D237

Yarra City Council   D238

Banyule City Council   D239

Victorian Casino and Gaming Authority   D240

Australian Broadcasting Authority   D241

Geelong Catholic Social Justice Committee   D242

Harrah's Entertainment Inc   D243

Penrith City Council   D244

Dennis Projects Pty Ltd   D245

City of Whittlesea   D246

Australian Christian Coalition   D247

Alison G Walpole   D248

BreakEven Services in Victoria   D249

BetSafe Group – Paul Symond Consultancy	D250
Will Barrett – University of Melbourne	D251
Gambling and Betting Addiction Inc. Tasmania	D252
Shirley & Gordon Lovel; Lois & Dennis Litchfield	D253
BoysTown Family Care	D254
Anonymous	D255
Tony Michell	D256
Australian Gaming Machine Manufacturers Association	D257
Gamblers Help Line Inc	D258
Ross Henderson	D259
Linda Smith	D260
Ministry of the Premier and Cabinet (WA)	D261
Council of Social Service of New South Wales	D262
Surebet Gaming Systems Pty Ltd	D263
Rev John Tully, New Life Ministry at Street Level	D264
Maribyrnong City Council	D265
Aristocrat Leisure Industries	D266
Adelaide Central Mission	D267
Penrith Rugby League Club	D268
Prof John Quiggin	D269
National Civic Council	D270
Department of Transport and Regional Services	D271
Melissa Raven, Addiction Studies Coordinator, Flinders University	D272
Clubs Queensland	D273
Prof Jan McMillen, Australian Institute for Gambling Research	D274
Queensland Government	D275
Senator Andrew Murray	D276
Ian Stewart	D277
The Hon Nick Xenophon MLC	D278
Ian Pinge	D279
NSW Lotteries	D280
Ethnic Affairs Commission (NSW)	D281
Legal Aid Queensland	D282
Australian Hotels Association (NSW)	D283
South Australian Government	D284
BJ mAsters Professional BlackJack School	D285
Tabcorp Holdings Ltd	D286

B   Participation in gambling: data tables

Chapter 3 summarised the participation profiles of gamblers based on findings from the Commission's *National Gambling Survey.* This appendix presents the more detailed survey data.

The tables provide information on the socio-demographic profiles of gamblers as a whole, by state and territory, location, gender, age, income, education, and personal status.

The following information is provided by each socio-demographic characteristic:

- the proportion of gamblers who participated, in a particular gambling activity (non-bracketed figures in each column);

- of those who gambled, the proportion of gamblers who participated in a particular activity (bracketed figures in each column); and

- the proportion of each group in the population (bracketed figure under each column heading).

For example, table B.1 shows that:

- 45 per cent of Victorians played gaming machines compared with 39 per cent of Australians; and

- of those that gambled on gaming machines 29 per cent were from Victoria. This is more than Victoria's representation in the population — Victorians form 25 per cent of Australia's population.

Similarly, table B.2 shows that:

- 40 per cent of people aged between 18 and 24 purchased a lottery product compared with 60 per cent of all adults; and

- of those that purchased a lottery product 9 per cent were aged between 18 and 24. This is less than their representation in the adult population — 13 per cent of adults are aged between 18 and 24.

Table B.1 Participation in gambling by state and location, all gamblers

Per cent of adults who participated in the last 12 months (per cent of gamblers)

Form of gambling	Australia	NSW (34)	Vic (25)	Qld (18)	SA (8)	WA (10)	Tas (2)	ACT (1)	NT (2)	Metropolitan (65)	Non-metropolitan (35)
Played poker or gaming machines	39	39 (34)	45 (29)	41 (20)	41 (9)	16 (4)	36 (2)	37 (2)	33 (1)	38 (64)	39 (35)
at a club	30	35 (39)	34 (29)	36 (22)	19 (5)	5 (2)	18 (1)	37 (2)	12 (..)	28 (61)	33 (39)
at a hotel/pub	18	14 (28)	23 (33)	17 (17)	37(17)	3 (2)	25 (4)	3 (..)	10 (1)	17 (63)	19 (37)
at a casino	17	12 (23)	22 (32)	20 (22)	18 (9)	15 (9)	27 (4)	5 (..)	27 (1)	18 (70)	15 (30)
Bet on horse or greyhound races	24	26 (36)	25 (26)	20 (15)	19 (6)	27 (11)	31 (3)	28 (2)	28 (1)	25 (66)	23 (33)
on-course	13	14 (35)	15 (29)	11 (15)	8 (5)	17 (12)	12 (2)	13 (2)	9 (1)	13 (64)	14 (36)
off-course	19	21 (37)	19 (25)	17 (16)	16 (7)	18 (9)	26 (3)	21 (2)	22 (1)	19 (66)	19 (34)
by phone	3	3 (31)	4 (33)	3 (19)	3 (8)	2 (6)	3 (3)	2 (1)	1 (..)	3 (63)	3 (36)
via the internet	..	.. (68)	.. (11)	.. (21)	.. (..)	.. (..)	.. (..)	.. (1)	.. (..)	.. (54)	.. (46)
Played lotto or other lottery game	60	54 (31)	62 (26)	64 (20)	55 (7)	74 (12)	52 (2)	53 (1)	63 (1)	58 (63)	63 (37)
a weekly lottery game	57	47 (28)	60 (27)	64 (20)	54 (8)	74 (13)	50 (2)	52 (1)	60 (1)	56 (63)	59 (37)
a daily lottery game	12	29 (79)	4 (9)	.. (..)	8 (5)	4 (3)	9 (2)	14 (2)	1 (..)	12 (60)	14 (40)
Bought instant scratch tickets	46	47 (35)	33 (18)	66 (26)	32 (6)	53 (11)	40 (2)	43 (1)	39 (1)	42 (59)	53 (41)
Played keno at a club/hotel/casino/other	16	16 (33)	11 (18)	25 (29)	14 (7)	9 (6)	34 (5)	13 (1)	21 (1)	15 (59)	18 (41)
Played table games at a casino	10	10 (34)	14 (35)	7 (12)	7 (6)	9 (9)	9 (2)	8 (1)	12 (1)	12 (74)	8 (26)
Played bingo at a club or hall	5	5 (38)	5 (30)	4 (16)	3 (5)	3 (6)	5 (3)	5 (2)	4 (1)	4 (58)	5 (42)
Bet on a sporting event	6	8 (42)	5 (20)	3 (10)	8 (10)	9 (13)	6 (3)	6 (2)	4 (1)	7 (68)	6 (32)
Played an internet casino game	..	.. (21)	1 (64)	.. (12)	.. (..)	.. (..)	.. (3)	.. (1)	.. (1)	.. (67)	.. (34)
Played games privately for money	5	5 (30)	6 (29)	4 (14)	10 (15)	5 (9)	6 (3)	4 (1)	3 (1)	6 (70)	5 (30)
Played any other gambling activity	1	1 (29)	.. (15)	1 (23)	.. (4)	1 (23)	.. (..)	.. (1)	4 (6)	1 (62)	1 (39)
Participated in any gambling activity	82	80 (33)	81 (25)	86 (19)	77 (8)	84 (10)	77 (2)	80 (2)	80 (1)	80 (63)	84 (37)

a .. indicates less than 0.5 per cent; Numbers in brackets beneath the headings represent the per cent of each group in the adult population eg. 18 per cent of adult Australians are from Queensland.

Source: PC *National Gambling Survey.*

Table B.2 **Participation in gambling by gender and age, all gamblers**

Per cent of adults who participated in the last 12 months (per cent of gamblers)

Form of gambling	All groups	Males (49)	Females (51)	18 to 24 (13)	25 to 34 (20)	35 to 49 (30)	50 to 64 (23)	65+ (13)
Played poker or gaming machines	39	40 (50)	38 (50)	56 (19)	36 (19)	35 (27)	37 (22)	37 (12)
at a club	30	32 (52)	28 (48)	40 (18)	27 (18)	27 (27)	31 (24)	31 (13)
at a hotel/pub	18	20 (55)	16 (45)	33 (24)	18 (21)	17 (29)	14 (19)	10 (7)
at a casino	17	17 (50)	17 (50)	33 (26)	16 (19)	14 (25)	15 (20)	12 (9)
Bet on horse or greyhound races	24	27 (55)	21 (45)	30 (16)	30 (25)	24 (30)	20 (19)	18 (10)
on-course	13	16 (57)	11 (43)	17 (17)	17 (26)	14 (30)	11 (19)	8 (8)
off-course	19	22 (58)	16 (43)	24 (17)	23 (25)	18 (29)	17 (20)	13 (9)
by phone	3	5 (76)	2 (24)	3 (10)	4 (24)	3 (28)	3 (22)	4 (15)
via the internet	..	.. (73)	.. (27)	.. (13)	.. (13)	.. (41)	.. (12)	.. (22)
Played lotto or other lottery game	60	62 (51)	58 (49)	40 (9)	59 (20)	66 (33)	67 (26)	54 (12)
a weekly lottery game	57	59 (51)	55 (49)	39 (9)	57 (20)	64 (33)	63 (26)	49 (11)
a daily lottery game	12	13 (52)	12 (48)	7 (8)	10 (16)	15 (36)	14 (26)	13 (13)
Bought instant scratch tickets	46	43 (46)	49 (54)	45 (13)	47 (21)	50 (32)	46 (23)	37 (10)
Played keno at a club/hotel/casino/other	16	17 (52)	15 (48)	25 (21)	15 (19)	16 (29)	16 (24)	10 (8)
Played table games at a casino	10	14 (65)	7 (35)	27 (34)	14 (27)	7 (21)	6 (13)	4 (4)
Played bingo at a club or hall	5	3 (29)	6 (71)	9 (25)	4 (16)	4 (24)	4 (19)	6 (16)
Bet on a sporting event	6	10 (75)	3 (25)	11 (24)	10 (32)	6 (29)	3 (12)	2 (4)
Played an internet casino game	..	.. (25)	.. (75)	2 (66)	.. (3)	.. (19)	.. (4)	.. (9)
Played games privately for money	5	7 (68)	3 (32)	9 (22)	7 (27)	4 (24)	4 (16)	4 (11)
Played any other gambling activity	1	1 (56)	1 (44)	1 (15)	.. (11)	1 (28)	1 (36)	1 (10)
Participated in any gambling activity	82	83 (50)	80 (50)	85 (14)	84 (21)	82 (30)	82 (23)	74 (12)

a .. indicates less than 0.5 per cent; Numbers in brackets beneath the headings represent the per cent of each group in the adult population eg. 49 per cent of adult Australians are males.

Source: PC *National Gambling Survey*.

Table B.3 **Participation in gambling by personal income and education attainment, all gamblers**

Per cent of adults who participated in the last 12 months (per cent of gamblers)

Form of gambling	All groups	<$10K (20)	$10k-25k (25)	$25k-$35k (19)	$35k-$50k (18)	$50k+ (18)	Year 10 or less (28)	Senior high (27)	TAFE or Tech. (10)	CAE or University (32)
Played poker or gaming machines	39	41 (20)	40 (25)	50 (23)	36 (16)	35 (16)	42 (31)	41 (29)	41 (11)	33 (28)
at a club	30	28 (18)	35 (27)	40 (24)	27 (16)	28 (16)	35 (34)	33 (31)	32 (11)	23 (25)
at a hotel/pub	18	19 (20)	18 (23)	25 (24)	19 (18)	16 (15)	19 (30)	20 (31)	21 (12)	14 (27)
at a casino	17	16 (18)	16 (23)	24 (25)	18 (18)	15 (16)	15 (26)	19 (32)	16 (10)	17 (33)
Bet on horse or greyhound races	24	17 (13)	26 (25)	32 (23)	26 (19)	27 (20)	23 (27)	28 (33)	18 (8)	24 (32)
on-course	13	9 (12)	11 (19)	19 (24)	17 (22)	17 (22)	11 (24)	17 (36)	11 (8)	13 (32)
off-course	19	13 (13)	21 (26)	26 (23)	20 (18)	22 (20)	18 (28)	21 (32)	15 (8)	18 (32)
by phone	3	2 (9)	2 (16)	5 (29)	3 (17)	5 (29)	5 (41)	4 (34)	3 (8)	2 (16)
via the internet	..	.. (..)	.. (..)	.. (1)	.. (18)	.. (81)	.. (27)	.. (24)	.. (1)	.. (49)
Played lotto or other lottery game	60	56 (18)	59 (23)	61 (18)	68 (20)	68 (20)	67 (32)	62 (29)	67 (12)	50 (28)
a weekly lottery game	57	54 (18)	56 (23)	59 (19)	62 (19)	66 (20)	64 (32)	60 (29)	61 (11)	48 (28)
a daily lottery game	12	9 (12)	16 (29)	13 (18)	14 (19)	17 (22)	15 (34)	12 (27)	20 (17)	8 (22)
Bought instant scratch tickets	46	44 (18)	51 (26)	45 (17)	49 (19)	50 (19)	51 (32)	48 (29)	52 (12)	38 (27)
Played keno at a club/hotel/casino/other	16	13 (14)	19 (26)	26 (27)	15 (16)	16 (16)	20 (35)	18 (32)	18 (12)	10 (21)
Played table games at a casino	10	11 (18)	8 (18)	10 (17)	10 (17)	19 (30)	6 (17)	11 (29)	10 (11)	14 (44)
Played bingo at a club or hall	5	8 (34)	7 (39)	3 (11)	2 (8)	2 (9)	7 (42)	4 (27)	3 (8)	3 (23)
Bet on a sporting event	6	4 (11)	4 (14)	8 (19)	10 (25)	12 (31)	4 (20)	7 (30)	7 (11)	8 (39)
Played an internet casino game	..	.. (15)	1 (57)	.. (22)	.. (..)	.. (5)	.. (32)	1 (33)	.. (..)	.. (35)
Played games privately for money	5	6 (20)	5 (19)	6 (20)	7 (20)	7 (21)	5 (28)	5 (28)	4 (8)	6(37)
Played any other gambling activity	1	2 (45)	1 (16)	.. (8)	.. (4)	1 (28)	1 (45)	.. (21)	.. (3)	1 (31)
Participated in any gambling activity	82	82 (19)	81 (24)	86 (19)	86 (19)	84 (18)	84 (29)	84 (28)	86 (11)	76 (30)

a .. indicates less than 0.5 per cent; Numbers in brackets beneath the headings represent the per cent of each group in the adult population eg. 25 per cent of adult Australians have annual incomes between $10 000 and $25 000.

Source: PC *National Gambling Survey.*

Table B.4   **Participation in gambling by employment status and personal status, all gamblers**

Per cent of adults who participated in the last 12 months (per cent of gamblers)

Form of gambling	All groups	Married (66)	Separated or divorced (6)	Widowed (4)	Single (24)
Played poker or gaming machines	39	36 (61)	41 (6)	32 (3)	47 (29)
at a club	30	29 (63)	34 (6)	22 (3)	35 (28)
at a hotel/pub	18	15 (57)	19 (6)	11 (3)	25 (34)
at a casino	17	15 (58)	17 (6)	11 (3)	24 (33)
Bet on horse or greyhound races	24	23 (62)	25 (6)	13 (2)	30 (29)
on-course	13	13 (63)	14 (6)	6 (2)	16 (29)
off-course	19	18 (62)	22 (6)	10 (2)	23 (29)
by phone	3	3 (67)	4 (7)	2 (2)	3 (23)
via the internet	..	.. (82)	.. (..)	.. (5)	.. (13)
Played lotto or other lottery game	60	65 (72)	59 (6)	51 (3)	48 (19)
a weekly lottery game	57	62 (72)	55 (6)	44 (3)	46 (19)
a daily lottery game	12	13 (70)	15 (7)	14 (5)	10 (19)
Bought instant scratch tickets	46	49 (70)	50 (6)	37 (3)	40 (21)
Played keno at a club/hotel/casino/other	16	15 (64)	18 (7)	10 (2)	18 (27)
Played table games at a casino	10	7 (47)	6 (4)	3 (1)	21 (48)
Played bingo at a club or hall	5	4 (58)	6 (7)	8 (7)	5 (28)
Bet on a sporting event	6	5 (54)	7 (7)	1 (1)	10 (39)
Played an internet casino game	..	.. (28)	1 (9)	.. (..)	1 (63)
Played games privately for money	5	4 (53)	6 (6)	2 (2)	9 (39)
Played any other gambling activity	1	.. (42)	4 (31)	1 (4)	1 (23)
Participated in any gambling activity	82	81 (66)	85 (6)	71 (4)	83 (24)

a .. indicates less than 0.5 per cent; Numbers in brackets beneath the headings represent the per cent of each group in the adult population eg. 66 per cent of adult Australians are married.

Source: PC *National Gambling Survey.*

B.5

C   Estimating consumer surplus

C.1   What is consumer surplus?

The consumer surplus from the purchase of any quantity of a product is the difference in dollars between the amount which the consumer pays for this product and the maximum amount which the consumer would be prepared to pay rather than do entirely without the product.

For a group of consumers, this can be understood by observing that at a given price a certain quantity of a product will be sold in the market. If the price falls, more of the product is sold, and both the original and new consumers who purchase at the new lower price are better off. The original consumers, who had been willing to pay the higher price, have gained a consumer surplus on their original purchases equivalent to the difference between the old and new prices. In other words, consumer surplus occurs when consumers pay less for a good or service than they are willing to pay for that good or service. The gain, in terms of consumer surplus, from the introduction of a new product is illustrated in figure C.1 below.

Figure C.1   **Consumer surplus**
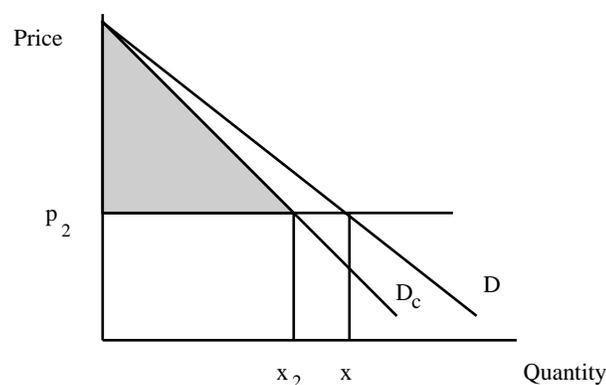
The consumer surplus resulting from the introduction of a new product can be represented by the area underneath the demand schedule (or demand curve) for that

product in excess of the price paid. The demand schedule *D* in figure C.1 represents the quantity that consumers are willing to purchase at different prices. As the price rises, less is purchased, but the remaining buyers value the product at that higher price.

In theory, consumers would be willing to pay all the area under the demand schedule in excess of the market price and would still purchase the product. Indeed, some businesses sell essentially the same product at different prices to different customers (for example, movie theatres sell tickets at varying discounts) in an attempt to capture consumer surplus.

The demand curve *D* measures the price–quantity tradeoff for the new product or service in a situation where the consumer does not need to actually pay the consumer surplus. This is the demand curve that would typically be observed or estimated using information on prices and quantities of goods and services purchased over time.

The slope of the demand schedule (which is derived from information on the own price elasticity of demand for the product) is critical to the size of the consumer surplus. A product with a very flat demand schedule (a high price elasticity or elastic demand) will, other things being equal, have a lower consumer surplus than a product with a very steep demand schedule (lower price elasticity or inelastic demand). A product will have a high price elasticity when, for example, there are many substitutes for that product and if the price were to rise consumers would readily switch to other products.

Requiring consumers to pay the consumer surplus would, however, reduce consumers' income, thus reducing the amount actually purchased. A slightly steeper 'compensated demand schedule' (*Dc*) can be drawn representing the impact on income that actual payment of the consumer surplus would have. The more 'trivial' the product is in the consumers budget and/or the lower the income elasticity, the closer will the compensated demand schedule be to the uncompensated demand schedule.

The consumers' surplus in each case equals the area under the compensated demand schedule *Dc* above the relevant price level. The shaded area in figure C.1 thus shows the size of the consumers' surplus when the price of the new commodity equals p_2.

Bohm (1987) commented:

> We now know which area under what curve defines the exact size of the consumer's surplus. The next step is to note that the Dc curve is often close enough to the D curve

for the area under the latter curve - the ordinary demand curve - to give a reasonably good approximation of the consumer's surplus.

Similarly, Mishan (1971, p. 338) commented that:

Goods having zero income effect are hard to come by, but for a great many purposes the income effect involved is small enough for economists to make use of the area under the demand curve as a close approximation of the relevant benefit or loss.

A number of economists have presented ways of estimating the difference between the observed demand schedule and the compensated demand schedule (Willig 1976, Hausman 1981).

Because the budget share of gambling for some gamblers — particularly problem gamblers — is high, the compensated demand schedule is potentially significantly different from the observed demand schedule. As a result, the Commission has used the relationship presented by Willig (1976) to estimate the surplus from the compensated demand schedule for gambling in its estimates of consumer surplus contained in this appendix.

Adding consumer surpluses

When the price of a particular product falls, or when a new product is introduced, a consumer surplus is generated as consumers purchase the same amount at a lower price or as consumers switch to the new product. A reasonable question to ask is whether there is any loss in consumer surplus elsewhere as a result of the shift in consumption to the new product. Is there a decline in consumer surplus in those products where the consumer is consuming less? The answer, according to the economic literature, is no (Mishan 1971).

The demand schedule for an individual product represents the net position in relation to the consumers' choice between various products. It represents how much of other products they are willing give up to purchase the new one. It represents the judgement that the benefit generated by the new product is greater than that of the old. If there were somehow any remaining loss resulting from switching away from other products, consumers would not be prepared to pay as much to make the shift. The elasticity of demand for the new product would be greater (that is, they would purchase less at any given price), and the consumer surplus of the new product would be correspondingly lower. Essentially, the consumer surplus for the new product is a measure of the net gain for the consumer, and already implicitly includes the 'losses' resulting from consuming less of the alternative.

C.2 Consumer surplus in the gambling industries

Legalising gambling is equivalent to the introduction of a new good or service. Once the price has been set (in a competitive market this would be determined by the costs of production), the area under the (compensated) demand schedule above that price is the consumer surplus resulting from the introduction of the new product. Consumers have received this benefit by shifting consumption to gambling and away from less preferred goods and services.

The key information needed to estimate consumer surplus in the gambling industry comprises:

- estimates of the price and income elasticities of the demand for gambling;

- the significance of gambling expenditure in consumers' total spending (budget shares); and

- information on current consumption of gambling — quantity and price.

Estimates of price elasticities

There is a paucity of up-to-date estimates of the price elasticity of gambling, and Australian estimates are even more scarce. There are a number of reasons for this, notably the difficulty of making an accurate measure from the data available. In Australia, as in other countries, access to gambling has been heavily restricted. The large changes in the quantity of gambling products purchased have been driven primarily by changes in regulations rather than changes in price. Changes in market shares between different forms of gambling are largely a result of the sequencing of the deregulation process, rather than changes in the relative prices of gambling products offered. In Australia, the decline in the average price of gambling that has been associated with the rapid rise in consumption is a result of the sequencing of liberalisation, with high priced forms of gambling such as lotteries being introduced before lower priced forms such as gaming machines and casinos.

The Commission has come across a range of elasticity estimates in the literature, which are presented in table C.1.

Table C.1 **Elasticities of demand for different types of gambling**

Author	Period	Area	Preferred price elasticity
Horse racing			
Suits (1979)	1949-71	24 US states	-1.36 to -1.82
Suits (1979)	1974	Nevada	-1.64
Gruen (1976)	1940-69	New York City	-1.57
Morgan and Vasche (1979)	1958-78	California	-1.48
Berl (1997)		New Zealand	-0.7
Bookmakers			
Suits (1979)	1974-75	Nevada	-1.64
Sports betting			
Suits (1979)	1974-75	Nevada	-2.17
Lotteries			
Clotfelter and Cook (1990)			-2.55 (lotto)
Clotfelter and Cook (1990)			-3.05 (numbers game)
Farrel and Walker,	1998, 1997	UK	-1.55 to -2.6
Berl, (1997) (Lotto and Instant Kiwi)		New Zealand	-1.054
Access Economics (1998)			
Tattslotto - low turnover		Australia	-2.19
Tattslotto - high turnover		Australia	-0.24
Ozlotto		Australia	-0.2 to -0.8
Powerball		Australia	-0.03 to -0.2
Other			
Swan (1992)			
All gambling		NSW	-1.6
Poker machines		NSW	-1.7
Casino		NSW	-1.9
Berl (1997) (EGMs and casino)		New Zealand	-0.8

While there is some variability in the estimates of the price elasticity of gambling, most studies indicate that the demand for gambling is quite sensitive to changes in price. The Commission, nevertheless, finds it difficult to believe that they provide an accurate picture of the price sensitivity of demand for gambling. The main reasons for suggesting that the literature overstates the price sensitivity of demand for gambling are:

- price (the odds of winning) is difficult for gamblers to observe, particularly for low probability games such as lotteries;

- there seems to be little substitution between various forms of gambling, indicating that consumers do not have abundant alternatives if prices rise; and

- gambling has been significantly deregulated over the last two decades, both in Australia and in other countries. It is difficult to disentangle the effects of price changes, which are typically falling as availability and competition increases,

from increased consumption resulting from increased accessibility and growing community acceptance of gambling as a legitimate form of entertainment.

In its modelling for Aristocrat (sub. 111), the CIE used a range of elasticity measures (-0.3, -1 and -1.7) but chose to present results based on an elasticity of -1. The CIE (p. 24) said:

> While a consensus estimate from these studies seems to be around -1.7 for gambling as a whole, a difficulty in utilising estimates from these studies is that in a number of cases the studies are fairly old (the studies quoted in Haig and Reece date back to the 1940's).

> We adopt a more conservative approach in this modelling allowing the elasticity of demand for gambling to take on different values. We conduct simulations assuming a price elasticity of demand (in absolute terms) of 0.3, 1 and 1.7. The measure of 0.3 is in line with what might be regarded as reasonable price elasticity estimates for other heavily taxed products such as tobacco. The value of 1.7 is based upon the estimates from the studies presented in table 3.1. The value of unity is simply a mid range estimate and is the basis for the results presented below.

Similarly, ACIL (Sub. 155), in modelling undertaken on behalf of a group of major gambling providers, used an own price demand elasticity for gambling products of -⅓.

Despite widespread reservations about estimates of high price sensitivity in the gambling industries, they may not be as unreasonable as first appear. Gambling is undertaken widely in the community. The vast majority of consumers spend modest amounts, treating gambling as a recreational activity. The majority of expenditure (some two thirds) comes from this group of recreational gamblers, for whom gambling is just one of a number of alternative forms of entertainment. Such consumers may well be quite sensitive to the price of gambling because of these alternatives, and it may be the response of this group to price changes that we are seeing when we observe high price elasticities.

It is, however, reasonable to presume that problem gamblers are less sensitive to changes in the price of gambling products, but the literature in this field does not attempt to distinguish between problem and recreational gamblers.

As a consequence of these uncertainties, the Commission has used a range of price elasticities for the demand for gambling — from -0.3 to -1.3. The components of this are discussed in more detail later in the appendix.

Estimates of income elasticity

Estimates of income elasticity are even more scarce than estimates of price elasticities (table C.2).

Table C.2	**Estimates of income elasticity from the literature**	
Study	*Demand*	*Elasticity estimate*
Haig and Reece (1985)	Horse racing in the U.S.	0.6 to 1.0
Mason et al (1989)	Las Vegas gambling	0.3 to 0.8
Swan (1992)	Gambling in NSW	1.2

In the modelling work undertaken for the Commission in this inquiry (ECONTECH 1999), an income elasticity of 0.79 was used. The Commission has used this income elasticity in the estimates of consumer surplus contained in this appendix.

Accounting for high taxation

The level of taxation on gambling is very high. This varies significantly from product to product, but out of the $11 billion that consumers spent on gambling in 1997-98, over one third ($3.8 billion) went to government (equivalent to an average tax rate of 51 per cent). In the Commission's estimates of consumer benefit, the estimated annual equivalent of licence fees paid by the industry ($233 million) and the community contribution of clubs ($246 million) out of their gaming machine revenues have also been included. The total of taxes, licences and community contributions is estimated to be $4.3 billion in 1997-98.

When estimating the benefit from a new product, the question of the level of taxation needs to be considered. Taxation transfers part of the available consumer surplus to the government. There is also an efficiency loss to the community in the form of a small component of potential consumer surplus forgone as a result of the reduction in demand caused by the introduction of the tax. Chapter 18 discusses the loss (marginal excess burdens) associated with the range of taxes on gambling products in Australia.

This is illustrated in figure C.2, where p represents the price without tax, at which price q would be the quantity of the product consumed. The surplus generated would be the areas $a+b+c$. With the imposition of a tax increasing the price to $p(1+t)$, the quantity demanded falls to q^t. At q^t, the consumer surplus remaining for consumers is the area a, while the area b is transferred to government in the form of tax revenue. The area c of consumer surplus is lost as demand falls.

Figure C.2   **Tax and consumer surplus**
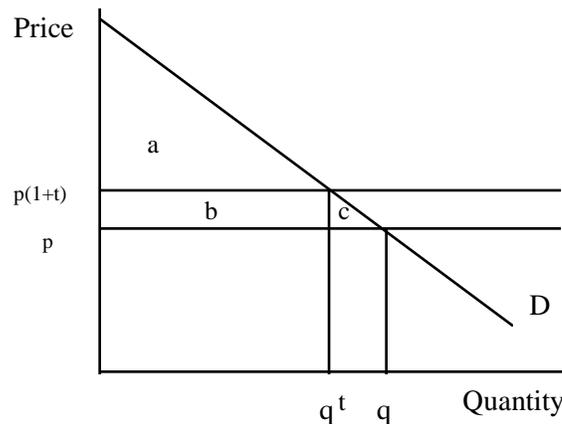
The consumer surplus is measured by looking at consumers' expenditure and information on their price elasticity, and would be represented by the area *a* in figure C.2. To measure the total level of benefit we must include tax revenue — that component of consumer surplus that is transferred to government. In the absence of the taxes, the price faced by consumers would be *p*, and the total consumer surplus they would enjoy would be the area *a+b+c*.

Accounting for problem gambling

Unlike most other forms of entertainment, gambling can have adverse effects for a small minority. While the number may be small, their contribution to total spending on gambling is much higher, and the cost to them and those close to them, can be severe. This cost also extends to the wider community as it attempts (through the health and welfare system) to assist those harmed by gambling. As a result of its national survey, the Commission has estimated that 2.1 per cent of the adult population are problem gamblers (those who score 5 or more on the SOGS), and these gamblers account for around one-third of the money spent on gambling each year.

How do we value consumer surplus for problem gamblers?

In most cases, we assume that consumers gain a benefit equal to the amount of money that they spend on the product or service, and gain the net benefit of the consumer surplus involved. Does this assumption hold when it comes to the spending of problem gamblers? If problem gamblers are treated in the same way as other consumers, their consumer surplus would be large. This is because they each spend, on average, some 20 times more than recreational gamblers, and because their demand is expected to be less sensitive to changes in price. In most cases, this

insensitivity to price changes is a signal that consumers value the product highly, and thus a high consumer surplus is generated. But in the case of problem gamblers, it could be argued that this insensitivity to price changes is the result of an inability to control consumption rather than the result of a high value placed on the product. Many, if not most problem gamblers, say that they would not gamble at all or would gamble considerably less if they could control their compulsion. As problem gamblers account for around one third of the money spent on gambling in Australia, these questions can have a major effect on estimates of the benefits of the gambling industries.

How should demand by problem and recreational gamblers be treated?

The demand schedule for any product or service is a composite of the demand schedules of individual consumers. For gambling, the two major groups of consumers that are of interest in this analysis are non-problem or recreational gamblers and problem gamblers. In the analysis in this appendix, each group is treated separately, and problem gamblers are further disaggregated into moderate problem gamblers and severe problem gamblers (appendix P). The key differences between the two groups are assumptions about their responsiveness to changes in the price of gambling, and assumptions about the nature of the benefit received by problem gamblers.

As noted, it is reasonable to presume that the demand of problem gamblers is less sensitive to price changes than is the demand of recreational gamblers.

In making estimates of consumer surplus and the benefits from gambling, two elasticity scenarios were used, a low elasticity scenario and a high elasticity scenario. The elasticities chosen should not be treated as precise estimates. They are, however, a reasonable indication of the likely demand by gamblers based on the Commission's judgement of the market for gambling products. The following price elasticities of demand for gambling products by the identified groups of consumers have been used (table C.3).

Table C.3   **Price elasticities of demand for gambling used in the Commission's estimates of benefits**

	Low demand elasticity	High demand elasticity
Recreational gamblers	-0.8	-1.3
Moderate problem gamblers	-0.6	-1
Severe problem gamblers	-0.3	-1

As mentioned earlier, the use of these elasticities, particularly those for problem gamblers would generate a high level of consumer surplus. But, many problem gamblers express a wish to discontinue gambling or at least control it to a much greater extent than they are currently able to do. Many other studies of the costs of gambling assume that problem gamblers receive no benefit from their gambling, that is, that all the money spent represents a cost for which there is no matching benefit and, by implication, no consumer surplus. The Commission considers that this assumption is too extreme. It is reasonable to presume that problem gamblers do gain some benefit from their expenditure, but the question is the likely level of that benefit.

There are two ways of looking at this issue. The first is to consider the level of consumption that problem gamblers are likely to undertake were they to be 'cured' of their obsessive gambling behaviour. Information from problem gamblers in treatment indicates that some 80 per cent seek to cease gambling altogether, with the remainder seeking to control their gambling expenditure at a much lower level (chapter 6). The second way of looking at this issue is to consider the likely expenditure by problem gamblers were they not to develop their compulsive gambling habit. This is likely to be a higher overall level of expenditure than that which would result from 'cured' problem gamblers. As problem gamblers typically start out as more intensive players than the average recreational gambler, it is reasonable to consider a pre-problem level of play similar to that of regular recreational gamblers.

While we can only speculate on the level of demand that problem gamblers would exhibit in the absence of the compulsion, there is sufficient information available to presume that it would be considerably less than their current level — as mentioned earlier, those who successfully 'kick the habit' typically spend nothing or very little on gambling, and even regular recreational gamblers are spending considerable less than the average problem gambler.

In estimating consumer surplus for problem gamblers in the absence of the compulsion, the Commission has assumed that they would spend an amount similar to that spent by regular recreational gamblers. This is estimated to be some $1500 each per year compared to their 1997-98 average spend of $12 200 each (box C.3

for an explanation of how the alternative level of spending was derived). Recreational gamblers are estimated to spend only $645 each in a year.

This results in an estimated annual expenditure by all problem gamblers of $438 million, less than 15 per cent of their current spending of $3.6 billion.

The demand condition for problem and recreational gamblers is illustrated in figure C.3. Two demand schedules are drawn for problem gamblers. The first is their observed demand (D_p), representing current consumption and the assumption that their demand is less sensitive to price changes than that of recreational gamblers. Their demand schedule in the absence of their compulsion is depicted as *Dpa*, representing the assumption that problem gamblers would consume considerably less in the absence of their compulsion.

For problem gamblers in the absence of the compulsion, there is an element of consumer surplus indicated by area *b*, where the value they receive is more than the price. As the quantity of gambling they would undertake in the absence of the compulsion is small (typically problem gamblers spend almost 20 times the amount per annum as recreational gamblers and 5 times the amount per annum than regular recreational gamblers), this surplus is likely to be small.

Importantly, spending in excess of the 'recreational' level is not all 'lost' to the problem gambler. It does have some value, even if this value is less than the amount of money paid. The value is represented by the area under the demand schedule in excess of the 'recreational' level of consumption. The loss that they face is represented by the area *d*. This area can be seen as representing 'negative' consumer surplus in that the real benefit (represented by D_{pa} in the absence of the compulsion) is less than the price they are paying. This may exceed the amount of 'true' consumer surplus (area *b*) that they derive from the activity.

For recreational gamblers, their consumer surplus is indicated by the area *c*.

Figure C.3   **Consumer surplus for problem and recreational gamblers**
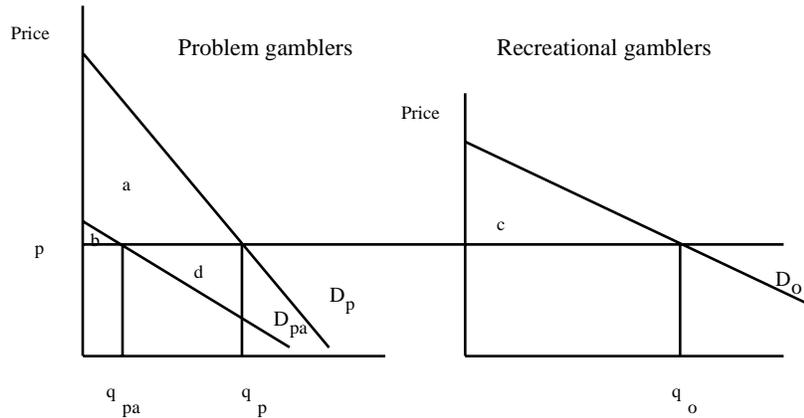
Accounting for tax and problem gamblers

The impact of taxation for problem and recreational gamblers is explored in more detail in figure C.4. For recreational gamblers, the situation is the same as that described in figure C.2, with the benefit being estimated as the areas *a* and *b*, being respectively the surplus retained by consumers and the tax transfer to government.

Figure C.4   **Consumer surplus and tax: problem and recreational gamblers**
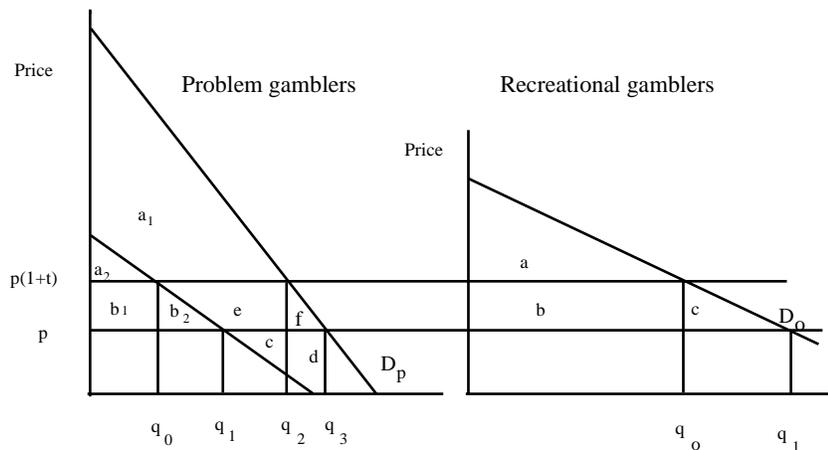
For problem gamblers, the calculation is more complex. As developed previously, problem gamblers are seen as having two relevant demand schedules. The first (D_p) representing their observed demand, and a second 'non-compulsive' demand schedule representing their assumed demand if they did not gamble compulsively. In the absence of tax, 'observed' demand would be q_3 while their non-problem level of demand would be q_1. A surplus of $a_2+b_1+b_2$ would accrue to the consumer, to be offset against the 'negative' surplus of the areas $c+d$.

With the imposition of tax, the price increases to $p(1+t)$, actual consumption contracts to q_2, while consumption by recreational gamblers would fall to q_0. A problem gambler accrues a surplus of area a_2, while the government receives tax revenue b_1+b_2+e from problem gamblers. But area e represents a payment to government for which the gambler does not receive matching satisfaction and thus this area represents a loss to the gambler. The net gain in the tax collected is only the areas b_1 and b_2. The area c represents payments to the industry for which the gambler does not receive a matching level of benefit, and is thus a cost to the gambler.

While the area c goes to the industry, it pays for productive resources used to provide the product and thus it is not a net gain for the industry. However, the consumer is not getting a matching benefit from the money spent equivalent to the area c which thus represents a true loss to society. By comparison the area e represents a similar cost to the gambler but, because productive resources are not involved with the tax collected (ignoring for the moment the cost of running the tax system), others in society receive a benefit equivalent to the loss for the gambler, and thus the area e is neither a benefit nor cost for society, simply a transfer.

The net position is represented by benefits from areas a_2, b_1 and b_2, offset by the loss of area c.

Box C.1   Problem gamblers: each area of the diagrams explained

(a_2)   Surplus on the assumed 'recreational' (non-compulsive) level of spending by problem gamblers. This area is a benefit to the consumer as it represents consumption on which consumers place a higher value than the cost they pay.

(b_1+b_2+e)   Tax paid to government. As (for simplicity) we assume that there are no costs associated with government collecting the tax, this area represents a net benefit to government. It, however, represents a cost to the consumer but, in most cases, the consumer receives satisfaction equivalent to that cost and thus it usually does not represent a net cost to the consumer. In such situations, the revenue to government would represent a benefit overall. For problem gamblers the area is divided into two components outlined below.

(b_1+b_2)   That part of the tax for which consumers receive a benefit in the form of satisfaction, as it lies under the 'recreational' (non-compulsive) demand schedule which measures the satisfaction that consumers are assumed to receive. While the consumer pays the money to government this cost is offset by this satisfaction. To the extent that the revenue to government is not offset by collection costs, this part of the total tax represents a benefit overall.

(continued)

(e) That part of the tax for which consumers do not receive matching benefit. This area represents a loss to the consumer but this loss is offset by the gain to government. Thus, overall the area represents a transfer between groups and is neither a loss or benefit overall.

(c) That part of the consumers' payment to industry for the purchase of the product for which consumers do not receive a matching benefit. For the consumer this area is a loss. The payment to industry covers the cost of production and thus it is not a benefit for that group. Thus this area represents a loss overall.

C.3   The Commission's estimates

The Commission has used the depiction of demand by problem and recreational gamblers outlined above to arrive at a range of estimates of the benefits from the introduction of gambling. The following sections of this appendix outline in more detail the key data used (table C.4) and calculations undertaken by the Commission to estimate the benefits presented in chapter 5.

Table C.4   **Key data used**

		Wagering	Lotteries	Scratchies	Gaming machines	Casino games	Other	All gambling
Share of total spending by Australians accounted for by:								
MPGs	%	9.5	3.7	11.3	8.7	8.2	8.5	8.3
SPGs	%	23.5	2.1	7.8	33.7	2.5	16.5	24.8
All PGs	%	33.1	5.7	19.1	42.3	10.7	25.0	33.0
Total expenditure	$m	1 600.2	1 179.1	246.4	6 400.8	1 431.6	449.2	11 307.3
NPGs	$m	1 071.1	1 111.4	199.2	3 690.7	799.4	337.0	7 208.9
MPGs	$m	152.4	43.4	28.0	554.1	73.3	38.2	889.4
SPGs	$m	376.7	24.3	19.2	2 156.0	22.4	74.0	2 672.6
All PGs	$m	529.1	67.7	47.2	2 710.1	95.7	112.2	3 562.0
foreign	$m	0	0	0	0	563.5	0	563.5

Note: MPG = moderate problem gamblers, SPG = severe problem gamblers; PG = problem gamblers; NPG, non-problem (recreational) gamblers. **a** Gamblers and problem gamblers engage in more than one mode of gambling thus the number of gamblers in each mode cannot be added to arrive at the total number. **b** Per head spend in individual modes is low because gamblers and problem gamblers spend in modes other than those which account for the bulk of their expenditure. **c** estimated from ABS household disposable income divided by the adult population.

Source: PC National Gambling Survey, Tasmanian Gaming Commission, and Commission estimates.

Table C.4   **continued**

		Wagering	Lotteries	Scratchies	Gaming machines	Casino games	Other	All gambling
Tax	$m	610.9	832.1	173.5	2 365.0	279.9	50.8	4 312.2
NPGs	$m	408.9	784.3	140.3	1 363.6	170.3	38.1	2 826.4
MPGs	$m	58.2	30.6	19.7	204.7	15.6	4.3	348.7
SPGs	$m	143.8	17.1	13.5	796.6	4.8	8.4	1 047.8
All PGs	$m	202.0	47.8	33.2	1 001.3	20.4	12.7	1 396.5
foreign	$m	0	0	0	0	89.3	0	89.3
Price		0.14	0.40	0.38	0.10	0.11	0.33	0.16
Price elasticity (high)								
NPGs		-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3
MPGs		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
SPGs		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Price elasticity (low)								
NPGs		-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
MPGs		-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
SPGs		-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Income elasticity		0.79	0.79	0.79	0.79	0.79	0.79	0.79
Number of NPGs[a]	'000	3 279.7	8 235.8	6 342.2	5 196.6	1 366.6	3 134.8	11 185.6
Number of MPGs[a]	'000	84.5	133.3	105.3	141.5	53.1	105.6	163.4
Number of SPGs[a]	'000	68.5	99.2	79.3	112.9	36.1	80.5	129.3
Total PGs[a]	'000	152.9	232.6	184.6	254.4	89.2	186.1	292.7
Spend per head[b]								
NPGs	$	327	135	31	710	585	108	644
MPGs	$	1805	325	266	3915	1382	362	5443
SPGs	$	5502	245	242	19,104	619	919	20 662
All PGs	$	-	-	-	-	-	-	12 168
Disposable income (1997-98) per head[c]	$	25 095	25 095	25 095	25 095	25 095	25 095	25 095
Gambling budget share								
NPGs	%	1.30	0.54	0.13	2.83	2.33	0.43	2.57
MPGs	%	7.19	1.30	1.06	15.60	5.51	1.44	21.69
SPGs	%	21.92	0.98	0.96	76.12	2.47	3.66	82.33
All PGs	%	13.79	1.16	1.02	42.45	4.28	2.40	48.49

Note: MPG = moderate problem gamblers, SPG = severe problem gamblers; PG = problem gamblers; NPG, non-problem (recreational) gamblers. **a** Gamblers and problem gamblers engage in more than one mode of gambling thus the number of gamblers in each mode cannot be added to arrive at the total number. **b** Per head spend in individual modes is low because gamblers and problem gamblers spend in modes other than those which account for the bulk of their expenditure. **c** estimated from ABS household disposable income divided by the adult population.

Source: PC National Gambling Survey, Tasmanian Gaming Commission (1999), and Commission estimates.

Table C.4   **continued**

		Wagering	Lotteries	Scratchies	Gaming machines	Casino games	Other	All gambling
MPG 'recreational spend'	$m	38	12	4	155	27	10	244
SPG 'recreational spend	$m	31	9	3	124	19	8	194
Tax on 'recreational' spend								
MPGs	$m	13.4	8.1	3.1	47.8	4.5	1.1	85.0
SPGs	$m	10.9	6.1	2.3	38.1	3.1	0.8	67.3
PG 'recreational' budget share	%	1.78	0.34	0.17	4.37	2.04	0.37	5.96

Note: MPG = moderate problem gamblers, SPG = severe problem gamblers; PG = problem gamblers; NPG, non-problem (recreational) gamblers. **a** Gamblers and problem gamblers engage in more than one mode of gambling thus the number of gamblers in each mode cannot be added to arrive at the total number. **b** Per head spend in individual modes is low because gamblers and problem gamblers spend in modes other than those which account for the bulk of their expenditure. **c** estimated from ABS household disposable income divided by the adult population.

Source: PC *National Gambling Survey*, Tasmanian Gaming Commission, and Commission estimates.

Recreational gamblers

Figure C.5   **Demand for gambling by recreational gamblers**
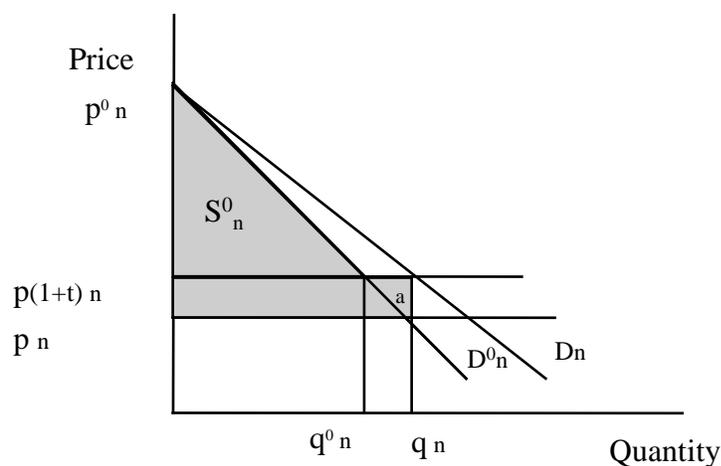
Where:

$p(1+t)_n$ = the price of gambling (including tax 't') faced by recreational gamblers. This is assumed to be (1-the probability of winning).

p_n =   price excluding tax.

p^0_n =   the price at which demand equals zero for a linear demand schedule (D_n).

q_n =   the 'quantity' of gambling product consumed by recreational gamblers at the current price. This is estimated by dividing the known amount of money spent (lost) on gambling in a year by the price.

D_n =   the demand schedule for gambling products by recreational gamblers.

ε_n =   the price elasticity of demand for gambling products by recreational gamblers estimated around the current price.

The area $[p(1+t)_n*q_n]$ is the total expenditure (loss) by gamblers in a year.

The area $[(p(1+t)_n - p_n)*q_n]$ is the total annual amount of tax revenue collected.

D^0_n =   the demand for gambling if gamblers were actually required to pay up front the benefit (consumer surplus) from gambling. Because paying this surplus requires income, less can be spent on all products including gambling. Key influences on the extent of the difference between D_n and D^0_n are the share of income spent on the product and the income elasticity of demand for the product (that is, the extent to which consumption changes as income changes.)

q^0_n =   the quantity of gambling consumed by recreational gamblers after adjusting for the effect on income of actually paying consumer surplus.

Consumer surplus is the area above the price line and below the demand schedule. It is a measure of the value that consumers place on the product in excess of the price that they are required to pay for it. In the simple linear example outlined here, the value of consumer surplus 'S' (prior to any adjustment for the effect on income of paying for the surplus) has been estimated by the Commission as:

(1) $S_n = (p(1+t)_n*q_n)/2\varepsilon_n$

The adjusted consumer surplus (adjusted for the effect on income of having to pay for the consumer surplus) is estimated by:

(2) $S^0_n = S_n - 0.5S_n(\varepsilon^i_n)(s_n)$

where:

ε^i_n =   income elasticity of demand for gambling by recreational gamblers.

s_n =   share of gambling expenditure in income.

This method of estimating the adjusted surplus is from Willig (1976).

The total benefit from the consumption of gambling by recreational gamblers is calculated as the adjusted consumer surplus plus the total tax revenue collected [the shaded area in figure C.5].

Note that this slightly overstates the benefit as it includes all the tax collected at the current level of consumption (q_n) to the extent of the triangular area (a) in figure C.5. Adjusting for this is, however, quite complex, and the difference is small (less than 1 per cent) in the overall estimate of consumer surplus, and has thus not been presented in the Commission's estimates.

Problem gamblers

For problem gamblers, two calculation have been made. First, the calculation of the benefit (adjusted consumer surplus and tax) on the basis of their existing observed demand. The method of calculation is the same as for recreational gamblers and assumes that problem gamblers are fully rational in their consumption. The calculation uses equations (1) and (2) incorporating information on the expenditure by problem gamblers, their elasticity of demand, income elasticity, and share of income spent on gambling at their current level of activity.

The second calculation assumes that problem gamblers are not rational consumers in the traditional sense and consume gambling at their current high levels 'involuntarily'.

To make the second calculation, the Commission has compared existing levels of gambling by problem gamblers with 'normal' levels of expenditure. The Commission has estimated the 'non-problem' or recreational level of spending by problem gamblers using information on the level of spending of regular recreational gamblers. Such an approach assumes that any gambling activity in excess of the assumed 'non-compulsive' level does not represent value-for-money for the problem gambler and represents a loss rather than a benefit to the gambler.

Box C.2   Estimating spend by problem gamblers in the absence of their compulsion

The Commission looked at the median per capita outlay of regular recreational players in each mode (except for table games, where the median for all recreational gamblers was chosen) as the base for its estimate of the alternative spend by problem gamblers.

The median was chosen rather than the average, because the average is skewed by a few heavy gamblers. That is, the average is not representative of the behaviour of most regular recreational gamblers, whereas the median is more representative of what most of them spend.

In the case of casino table games, the median of all recreational gamblers was chosen rather than the median of regular recreational gamblers, because there are very few regular recreational gamblers in this category. The characteristic mode of play for NPGs in the casino table game category, even 'enthusiastic' recreational players, appears not to play weekly.

The elements of the calculations were as follows:

- Calculate the median of outlays per head of regular recreational gamblers in each mode, except for casino table games where the median of all recreational gamblers was used.

- Calculate the ratio of reported expenditure (loss) to reported outlays for all NPGs for each mode of gambling. This accounts for the lower tendency of non-problem (recreational) gamblers to recycle their winnings.

- Multiply the median outlay per head by this ratio to obtain an estimate of the 'benchmark' expenditure (loss) per head for regular NPGs

- Look at the per head outlays by each problem gambler in each mode. If this is greater than the median outlay for that mode, assume that their recreational level of expenditure is the estimated 'benchmark' amount.

- If their outlay is less than the median, then their expenditure is assumed to be their reported expenditure.

Added together, this provides an estimate of what the expenditure by problem gamblers would be if their spending patterns were similar to that of regular recreational players.

Adjust the total of expenditure to match the known expenditure as reported by the Tasmanian Gaming Commission and the ABS.

The reason that problem gamblers in each mode were identified as those outlaying more than the median and those outlaying less than the median is that, in each individual mode of gambling there are a number of problem gamblers whose primary mode of gambling is different from the one in question. It would be unrealistic to assume that those who spend little in that particular mode would increase their expenditure to the level of regular recreational gamblers in that mode.

Figure C.6   **Demand for gambling by problem gamblers**
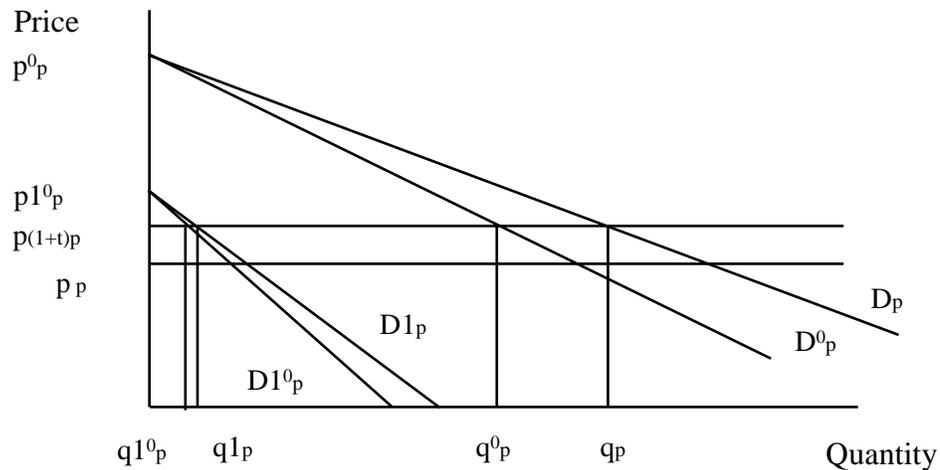
For current consumption:

$p(1+t)_p$ =   the price of gambling (including tax 't') faced by problem gamblers. This is assumed to be (1-the probability of winning).

p_p =   price excluding tax.

$p^0{}_p$ =   the price at which demand equals zero assuming (for simplicity) a linear demand schedule (D_p).

q_p =   the 'quantity' of gambling product consumed by problem gamblers at the current price. This is estimated by dividing the known amount of money spent (lost) on gambling in a year by the price.

D_p =   the demand schedule for gambling products by problem gamblers.

ε_p =   the price elasticity of demand for gambling products by problem gamblers estimated around the current price.

The area $[p(1+t)_p * q_p]$ is the total expenditure (loss) by problem gamblers in a year.

The area $[(p(1+t)_p - p_p) * q_p]$ is the total annual amount of tax revenue collected on the expenditure by problem gamblers.

$D^0{}_p$ =   the demand for gambling if gamblers were actually required to pay the consumer surplus associated with consuming gambling products.

q^0_p = the quantity of gambling product consumed by problem gamblers after adjusting for the effect on income of actually paying consumer surplus.

For 'normal' level of consumption:

$q1_p$ = the 'quantity' of gambling product consumed by problem gamblers at the current price if they consumed at a 'normal' level.

$D1_p$ = the demand schedule for gambling products by problem gamblers if they consumed at a 'normal' level.

$\varepsilon 1_p$ = the price elasticity of demand for gambling products by problem gamblers if they were to consume gambling products in the same way as recreational gamblers.

$p1^0_p$ = the price at which demand equals zero, assuming for simplicity a linear demand schedule ($D1_p$) for the 'normal' level of consumption.

The area $[p(1+t)_p*q1_p]$ is the total expenditure (loss) by problem gamblers in a year if they consumed at a 'normal' level.

The area $[(p(1+t)_p - p_p)*q1_p]$ is the total annual amount of tax revenue that would be collected on the expenditure by problem gamblers if they consumed at a 'normal' level.

$D1^0_p$ = the demand for gambling if gamblers were actually required to pay the consumer surplus associated with consuming gambling products if they consumed at a 'normal' level.

$q1^0_p$ = the quantity of gambling product consumed by problem gamblers after adjusting for the effect on income of actually paying consumer surplus if they consumed at a 'normal' level.

The Commission has calculated the benefit for problem gamblers as follows:

- the adjusted surplus on the 'normal' level of gambling ($S1^0_p$) [the triangular area 'a' in figure C.7]; plus

- the tax on the adjusted 'normal' level of gambling [the rectangular area 'b']; less

- expenditure on gambling by problem gamblers in excess of the adjusted 'normal' level [areas 'c', 'd', 'e', and 'f']; plus

- the satisfaction gained from the 'excess' gambling [the triangular area 'c' and 'e']; plus

- the tax collected on 'excess' spending [the rectangular area 'c' and 'd'].

- the triangular area 'g' which can be seen as representing consumption in excess of a satiation point (box C.3) has not been included in the calculations.

Figure C.7 **Areas included in the calculation of the benefit for problem gamblers**
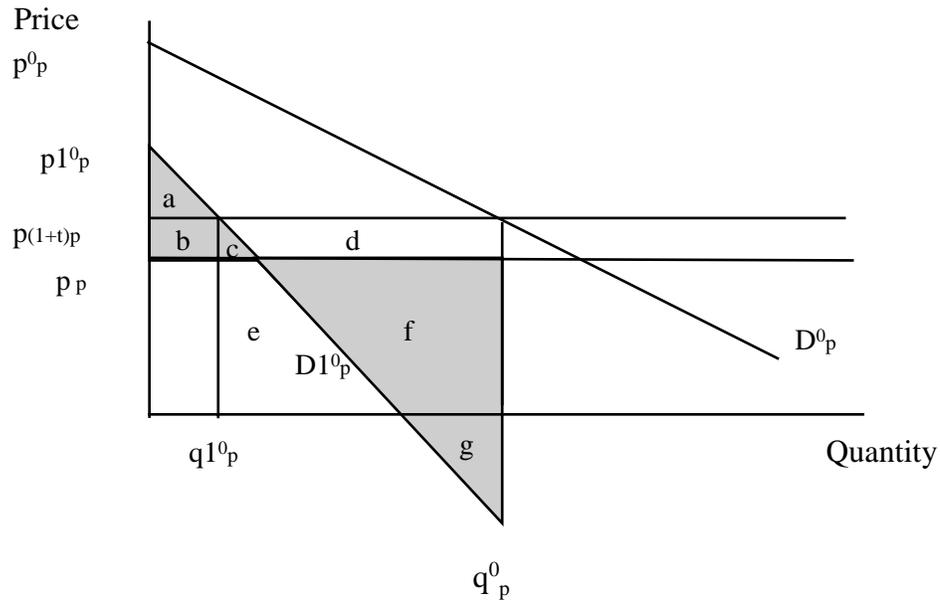
This figure has, for simplicity, been drawn using only the income adjusted demand schedules.

Note that the tax revenue for recreational gamblers is a net benefit to society as the consumer receives benefits in the form of satisfaction to cover the cost including the tax paid. As the tax paid is in excess of the cost of producing the product, it represents a net benefit to those in receipt of the tax revenue but not a loss to those paying the tax. For problem gamblers, the tax on gambling in excess of the 'normal' level of consumption represents a gain to others, but it is a cost to the problem gambler because it is not matched by 'normal' satisfaction from consumption. Thus, the tax collected from this group is not an unambiguous gain for society.

The adjusted surplus on the 'normal' level of gambling for problem gamblers $(S1^0_p)$ is estimated using equations (1) and (2) as it is for recreational gamblers, together with information on the assumed level of 'normal' consumption. The 'normal' level of gambling is presumed to be twice the per capital level of recreational gamblers multiplied by the estimated number of problem gamblers.

The adjusted 'normal' level of expenditure 'E' is estimated as:

$$E = p(1+t)_p * q1^0_p$$

where: $q1^0_p$ (the quantity consumed at the 'normal' level of expenditure adjusted for the income effects of paying the surplus) is estimated by:

$$q1^0_p = (2*S1^0_p)/(p1^0_p - p(1+t)_p \text{ where:}$$

$$p1^0_p = (2*S1_p/q1_p) + p(1+t)_p$$

The tax on the adjusted 'normal' level of expenditure is estimated using the known ratio of tax collected on all expenditure and applying this to the adjusted 'normal' level of expenditure.

Gambling by problem gamblers in excess of the 'normal' level is estimated by subtracting the adjusted 'normal' level from the total amount spent by problem gamblers in a year.

The satisfaction gained from the 'excess' spending [the area 'c' and 'e' in figure C.7) is estimated as:

$$\text{adjusted 'normal' expenditure} * (\varepsilon1_p/2)$$

The difference between the value of spending on gambling in excess of the 'normal' level and the satisfaction gained from this 'excess' spending can be seen as a measure of the extent to which problem gamblers do not get value-for-money for their spending. Another way of looking at this is to say that the economy is using resources to produce a good whose 'true' value to consumers (as indicated by the 'normal' demand schedule) is less than the cost of the resources being used.

The tax collected on 'excess' gambling is estimated by subtracting the estimated tax that would be collected on the adjusted 'normal' level of gambling from the total amount of tax collected on spending of problem gamblers.

Box C.3   'Satiation'

Note that the demand schedule representing the 'normal' level of demand typically intersects the zero price line at a quantity considerably less than the quantity currently consumed by problem gamblers. In essence, this is saying that recreational gamblers, even if the price of gambling were zero, would not consume as much of the product as problem gamblers. For recreational gamblers this can be seen as a situation where you would need to pay them to spend as much time and effort on gambling as problem gamblers, in effect a negative price. This situation represents satiation effects of high levels of consumption. There is therefore, potentially an area below the zero price line [area 'g' in figure C.7] which could be added to our estimate of lack of value for money for problem gamblers. The Commission has not included this in its estimates of the net benefit for gambling.

The Commission's treatment falls between the two approaches typically taken by those estimating costs and benefits for gambling. Many studies of the costs of gambling treat all the expenditure by problem gamblers as a cost and presume that problem gamblers receive no benefit at all in exchange for their expenditure. The alternative approach treats the consumption of gambling in the same way as other products. This means that problem gamblers' surplus is very large. This latter approach assumes that, as problem gamblers choose to gamble at that level, they do so because the benefits exceed or are matched by the cost, including all the other costs in the form of unhappiness, marriage breakdown etc that are borne by the problem gambler.

The Commission has considered that both the approaches are unrealistic. Arguably there is some benefit gained by problem gamblers from their activity — all their expenditure cannot be considered to represent a net cost. Conversely, it is equally unrealistic to presume that problem gamblers consumption decisions are fully informed and perfectly rational.

Total benefits are the sum of the benefits estimated for recreational gamblers and the value of benefits (typically negative) estimated for problem gamblers.

C.4   The results

The estimates of consumer surplus for recreational, problem and all gamblers and for different forms of gambling are presented in the following tables.

Table C.5   **Estimated consumer surplus retained by recreational gamblers 1997-98 ($ million)**

	Range
Wagering	410 — 666
Lotteries	427 — 693
Scratchies	77 — 124
Gaming machines	1 404 — 2281
Casino games	305 — 495
Other	129 — 210
All gambling	**2 745 — 4 460**

Source: PC estimates.

Table C.6   **Estimated loss for problem gamblers, 1997-98 ($ million)**

	Annual spending by moderate problem gamblers	Annual spending by severe problem gamblers	Loss for moderate problem gamblers	Loss for severe problem gamblers
Wagering	152	377	76 — 77	315 — 315
Lotteries	43	24	20 — 20	7 — 7
Scratchies	28	19	19 — 19	13 — 13
Gaming machines	554	2 156	244 — 245	1 908 — 1 910
Casino games	73	22	18 — 19	(15) — (15)
Other	38	74	18 — 18	59 — 59
All gambling	**889**	**2 673**	**404 — 406**	**2 288 — 2 290**

Figures in brackets mean that problem gamblers receive a net benefit rather than a loss on their gambling expenditure in that category.

Source: PC estimates.

Note that the estimated loss for problem gamblers varies little between the two sets of elasticities used by the Commission. The reason for this that there are two offsetting effects from changing the elasticity of demand. For example, with a lower elasticity, the 'normal' demand schedule ($D1^{0}p$ in figure C.7) rotates around the point where it intersects the price line. As a consequence, the consumer surplus benefit to consumers (area *a*) increases, but the size of the loss area *f* also increases.

By chance, with the elasticities chosen by the Commission to represent demand by recreational gamblers (-0.8 and -1.3) these two effects almost exactly cancelling out (box C.4).

Table C.7   **Estimates of consumer surplus: all gambling (1997-98) ($ million)**

		High elasticity	Low elasticity
Spending by recreational gamblers		7 209	7 209
Recreational gamblers' consumer surplus	a	2 745	4 460
Spending by problem gamblers		3 562	3 562
Apparent surplus from problem gamblers	b	1 440	3,841
Tax, licence fees and community contributions	c	4 312	4 312
Total benefit if *all* consumers are 'rational'	(a+b+c)	8 497	12 613
Spending if problem gamblers consume at the rate of recreational regular gamblers		438	438
Surplus on problem gamblers' reduced spend	d	165	267
Loss on excess spending by problem gamblers	e	(2 856)	(2 963)
Net loss for problem gamblers	f = (d-e)	(2 692)	(2 696)
Adjusted consumer surplus	(a+c+f)	4 365	6 076

a Figures in brackets represent a loss

Source: PC estimates.

Table C.8   **Estimates of consumer surplus by type of gambling: 1997-98 ($ million)**

	Consumer surplus for recreational gamblers	Tax, licences and community contributions	Consumer loss for problem gamblers	Net total benefit/surplus
Wagering	410 — 666	611	391 — 392	629 — 885
Lotteries	427 — 693	832	27 — 27	1 232 — 1 498
Scratchies	77 — 124	174	32 — 32	219 — 266
Gaming machines	1 404 — 2 281	2 365	2 152 — 2 155	1 617 — 2 491
Casino games	305 — 495	280	3 — 4	580 — 769
Other	129 — 210	51	77 — 77	103 — 184
All gambling	**2 745 — 4 460**	**4 312**	**2 692 — 2 696**	**4 365 — 6 076**

Source: PC estimates.

D   The sensitivity of the demand for gambling to price changes

Unfortunately, very little reliable data are available on the price sensitivity of the demand for gambling as a whole or for particular gambling activities. This appendix examines what is known about the demand for different forms of gambling. It concludes that most forms are unlikely to be particularly sensitive to changes in price, although there is likely to be significant variation in price sensitivity among different gambling forms.

Two factors explain, at least in part, why most gambling forms are relatively insensitive to price:

- As discussed in chapter two, unlike normal consumer goods, the price of gambling is not readily apparent. To the extent that consumers do not know the price, it is reasonable to suggest that they will not be particularly responsive to price changes. It is particularly difficult to determine the price where there are infrequent or highly variable payouts. As Weinstein and Deitch (1974) contend 'gamblers will be more concerned about the odds and hence more responsive to tax/price changes, where there is a good chance of winning any particular bet'.

- Secondly, there appears to be only limited substitution of one gambling form for another by consumers. The less substitutable a good is, in general, the less price responsive it is.

  - As illustrated in figure 19.2 (in chapter 19) the introduction of gaming machines and casinos in a number of states drew more gamblers into the market, rather than drawing significant revenue from existing forms of gambling.

  - Gaming machines have a significantly lower payout ratio than most casino table games (ie a much higher price), yet gaming machines are still very popular within casinos, indicating a lack of substitution by these gamblers based on price.

In the discussion that follows it is important to recognise that the responsiveness of the demand for a gambling game overall, can be different to the responsiveness as measured at a particular tax rate. For instance, as shown in figure 1 the demand for petrol is inelastic over a large range of prices. Yet at a high price of $1.50 a litre,

demand may become elastic, as people eventually move to other forms of transport, or drive their cars less. In general, the higher the price, or tax rate, the more elastic demand for the good will become.

Figure D.1 The higher the price the more price responsive demand for a product is likely to be

Demand elasticity for petrol at a high and low price

The demand for a good may be inelastic overall. However, at a high price the measured elasticity may be –1 (elastic) whereas at a lower price it may be –0.5 (inelastic).

Price $

← Demand for petrol

1.50   Elasticity -1

                    Elasticity -0.5

0.50

Q*   Q

Quantity
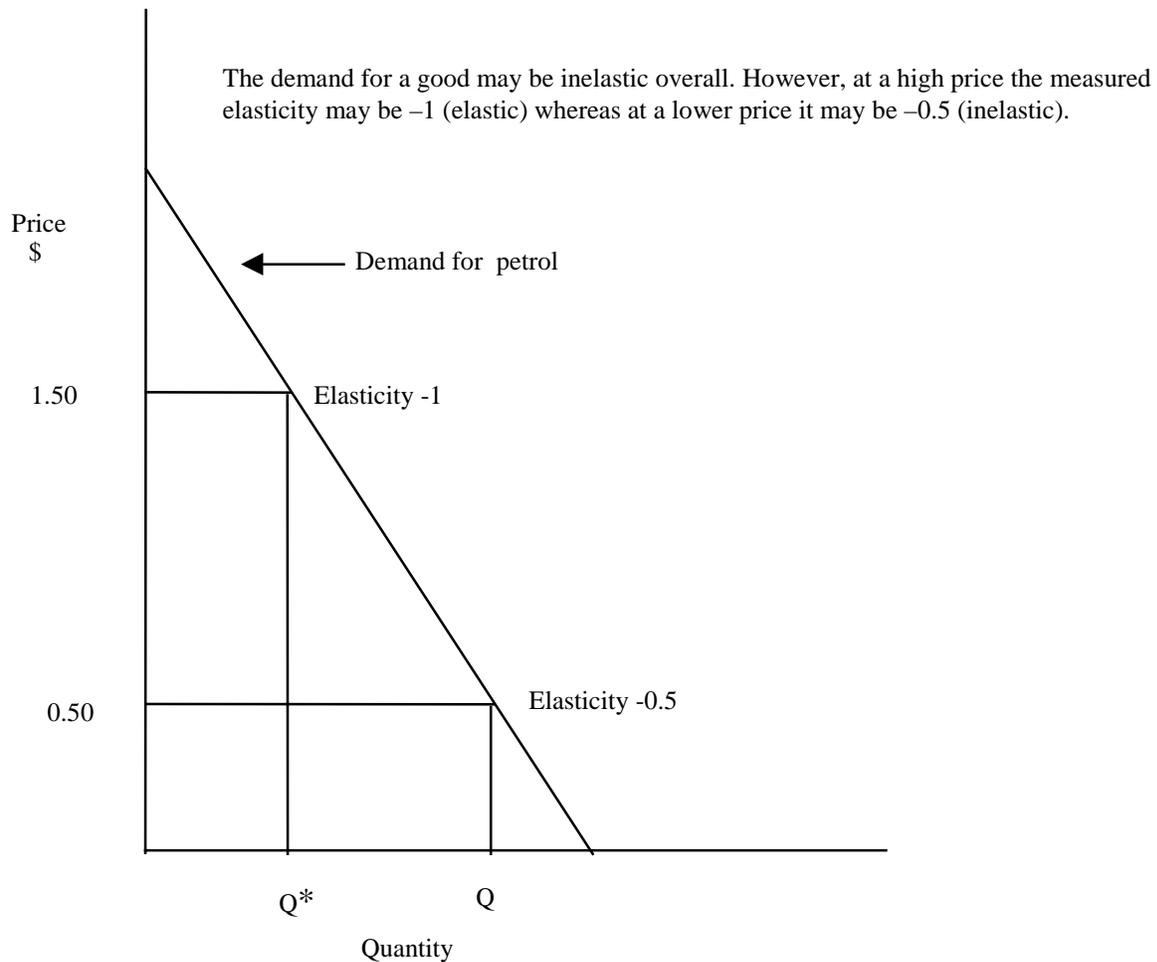
(a) Lotteries

Lotteries — which are characterised by a low ticket cost combined with a very low chance of winning — are likely to be highly insensitive to price across a broad range of prices. For instance, Lyons and Ghezzi's time series study of lotteries in Oregon and Arizona found that 'reducing the odds was unrelated in either state to changes in betting, suggesting that people like low stakes and do not discriminate [between] different odds or changes in odds when the odds are small anyway (National Research Council 1999, p. 246). In fact, it is unlikely that lotteries could operate at their current levels in the presence of such high tax rates (82 per cent of expenditure,

or 455 per cent if expressed in pre-tax prices) if their demand was not unresponsive to price/odds. The taxation of lotteries in Australia is not unique; lotteries in other countries also tend to be highly taxed. Moreover they are often have lower payout ratios than in Australia, further suggesting inelastic demand.[1]

Indeed, because the demand for lotteries seems to be insensitive to tax rates, governments tend to treat them as a form of voluntary taxation, and they are often accepted as such by the public (especially if the proceeds are used to fund major projects or good causes).

However, the perception that the demand for lotteries is insensitive to price, contrasts with the findings of some econometric studies. For instance, Clotfelter and Cook (1990), and Farrel and Walker (1999) find that the demand for lotteries and lotto products is highly elastic. Access Economics (1998) find the demand is highly elastic for 'high-turnover' Tattslotto. On the other hand, Access find that the demand is highly inelastic for Ozlotto and Powerball and 'high-turnover' Tattslotto. BERL (1997) in New Zealand found that lotteries were only slightly elastic (table D.1).

Table D.1   **Studies appear to show that demand for lotteries is price sensitive**

(less than -1 is elastic, greater than -1 is inelastic)

Study and product	Elasticity
Farrel and Walker, UK 1999	-1.55 to -2.6
Access Economics, Aust 1998	
Tattslotto – low turnover	-2.19
Tattslotto – high turnover	-0.24
Ozlotto - low turnover	-0.2
Ozlotto – high turnover	-0.8
Powerball – low turnover	-0.03
Powerball – high turnover	-0.02
BERL, NZ 1997	
Lotto and Instant Kiwi	-1.054
Clotfelter and Cook, US 1990	
Lotto	-2.55
Numbers game	-3.05

Source: Tattersall's, sub. 156, p. 53; other references as in the table.

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[1] Australian lotteries typically have payouts of 60 per cent of revenue. US lotteries have an average payout of 51 per cent of revenue (Clotfelter and Cook 1990). The National UK lottery pays out 45 per cent of revenue (Farrel and Walker 1999). The NZ lottery pays out 55 per cent. In price terms (one minus the payout) these differences are significant.

There are a number possible explanations for the apparent difference between some of the econometric findings and the more qualitative assessment that demand for lotteries is insensitive to their price:

- As mentioned above, a finding that demand for lotteries is sensitive at high prices — owing to current levels of taxes — does not mean demand is necessarily sensitive at lower prices and tax rates. In fact, faced with an inelastic demand curve, to maximise profits, a producer will continue to raise prices until eventually demand becomes elastic. Elasticity increases because at high prices substitutes may emerge that are not viable at lower prices (see IC 1994 for further details).

  - With the exception of the Access study, the estimates are based on overseas lotteries, which have lower payout ratios — often significantly lower — than lotteries in Australia. Lower payout ratios are equivalent to higher prices. So as illustrated in the diagram (figure D.1), the studies are based on a price that is further up the demand curve (where we would *expect* demand to be more elastic) than Australian lotteries.

- A number of the studies are based on the demand for particular lottery products. Such demand would be expected to be considerably more sensitive than for lottery products as a whole. For instance, the demand for beer is insensitive to price. However, if one beer brand attempted to put up prices, even slightly, relative to other brands, demand would be expected to fall significantly.

- Most quantitative studies estimate the responsiveness of demand to price using consumers' reaction to occasional big payouts, or 'super draws', that are announced in advance and accompanied by advertising campaigns. It is uncertain whether consumer reaction to these occasional events is a good guide to how the demand for lotteries would change if tax reductions increased payouts on a permanent basis. For instance, just as the consumer response to clothing sales is not be a good guide to the elasticity of demand for clothing overall, the response to lottery special draws is similarly not likely to be a good guide to the elasticity of lottery products.

Access Economics (1998) suggests that, on the basis of their empirical work, the demand for Tattslotto is so sensitive that reducing the tax rate would lead to such an expansion in expenditure that tax revenue would actually increase. That is not inconsistent, however, with the demand for lotteries being sensitive at very high tax levels but insensitive at lower levels. In fact, the study supports this proposition. It suggests that if taxes were reduced from 35.5 to 20.8 per cent *of turnover* (equivalent to a reduction from 88 to 52 per cent of expenditure) the deadweight losses could be largely eliminated. If deadweight losses were very low at a tax rate

of 50 per cent — still a higher tax than on other gambling products — this would suggest that demand was quite inelastic up to that price.[2]

Even so, the Access result must be interpreted with caution. The same study estimates that Powerball and Ozlotto have very inelastic demand, with the implication that taxes could be raised on these goods without much increase in the excess burden. It is difficult to see how virtually identical and highly substitutable products could exhibit such widely differing elasticities of demand — a puzzle acknowledged by Access.

Thus, in the Commission's judgment, while the available studies are useful and raise some questions, they do not undermine the presumption that the demand for lotteries is generally insensitive to price, across a wide range of prices. If the pattern of demand for lotteries is similar in different countries, the lower payout ratios (higher prices) of most overseas lotteries suggest that taxes in Australia may not have pushed the price of lotteries close to the elastic part of the demand curve.

(b) Gaming Machines

Although the price of gaming machines is also very difficult to observe, they provide more feedback to the consumer on total returns than lotteries — the game is played repeatedly, and consumers will have some idea of the rate at which they lose. This in itself may mean that the demand for gaming machines is more price sensitive than that for lotteries. Lower tax rates for gaming machines may mean this view is shared by state revenue authorities. The fact that operators offer payouts above the minimum may also indicate a greater degree of price sensitivity than lotteries, although this is also likely to reflect competition among operators — like the beer brand example — rather than price sensitivity for gaming machines overall.

In New Zealand, BERL (1997) estimated the elasticity of demand for gaming machines and casinos to be -0.8 (somewhat unresponsive to price). While this estimate is subject to the same caveats applying to other econometric studies, anecdotal evidence tends to suggest that demand for gaming machines may be somewhat unresponsive to price, albeit less so than for lotteries.

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[2] In theory, if gambling operators have superior knowledge about demand, and are willing to *guarantee* governments increased tax revenue (through agreeing to pay a specific amount of tax), there is a reasonable argument on efficiency grounds for allowing them to increase payout rates (thereby reducing the implicit level of tax on net expenditure). But this is properly a matter for negotiation between the gambling operator and relevant state government. And if demand for lotteries is price sensitive, the equity implications of any reductions (and associated revenue increases) should be considered.

- Firstly, there has been extraordinary growth in revenue from gaming machine since they were legalised in a number of states in the 1990s. While this growth is driven by the greater accessibility of gaming machines, it also provides no support for the view that high tax rates are significantly reducing the level of gaming machine play. Demand also appears to have grown strongly in New South Wales in recent years where they have been legal for many years;

- Secondly, people on low incomes tend to gamble a greater proportion of their income on gaming machines than people on high incomes. The sacrifices, in terms of other goods forgone, that low income earners are willing to make to gamble on gaming machines shows they place a high value on being able to gamble in this way. In turn, this may indicate that their demand is relatively unresponsive to price.

- Finally, payout ratios on gaming machines often vary between clubs and hotels. For instance in New South Wales, clubs retained 9.4 per cent of turnover, whereas hotels retained 10.5 per cent of turnover. Thus, the payouts from hotels were about 10 per cent less than for clubs. Lower payouts by hotels appear to be sustainable behaviour, which — allowing for differences in the venues and their clienteles — could also indicate that gamblers are insensitive to relatively small changes in payout rates.[3]

(c) Casinos

There are no studies solely on the sensitivity of the demand for casino gaming. It is likely, however, that some types of gamblers in casinos are more sensitive to prices than others. 'High rollers', who are able to gamble anywhere in the world, are acknowledged to be highly responsive to price, and for this reason are offered commissions to gamble at particular casinos. Since prices are more easily observable for some table games than other gambling forms, the sensitivity of demand for casino gaming is likely to be significantly greater than for lotteries. In practical terms, it may not be possible to tax casinos at the same rate as lotteries (and possibly gaming machines), without changing the rules of table games (such as roulette and blackjack) which have significantly higher payout ratios than gaming machines or lotteries.

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[3] Within the *one location* there is contradictory evidence about the sensitivity of demand to price. Many people play 2 cent machines at a high level of intensity, betting up to $1.00 at a time. Yet the payouts on these machines are less than payouts on the $1.00 machines which may indicate players are insensitive to price. On the other hand gaming machine operators have told the inquiry that gamblers tend to gravitate to machines that they perceive offer the largest payouts.

(d) Racing

Like casinos, racing attracts different types of gamblers who could also be expected to display different levels of sensitivity of demand to price. Traditional racing punters, who follow 'form', are not likely to substitute racing for other forms of gambling. However, there is also a category of 'recreational' gambler who treats racing in much the same way as gaming — particularly since racing and gaming opportunities are increasingly located in the same venue. This group may substitute one form for another depending on price changes. If any form of gambling has suffered from the introduction of gaming machines and casinos, it is most likely to be racing, although other factors may be behind the slight decline in racing expenditures.

BERL (1997) estimated the elasticity of demand for race betting at -0.7 in New Zealand — somewhat unresponsive to price.

E   Gambling in indigenous communities

As noted in chapter 6, the apparent levels of problem gambling are much higher among indigenous people of Australia — a pattern that is repeated also for New Zealand.

The word 'apparent' is appropriate because patterns of gambling and its social and personal consequences are very different in Aboriginal communities (Goodale 1987). Card games, such as *Kuns* and *Cuncan*, dominate and are organised usually by the communities themselves (Hunter 1993; Hunter and Spargo 1988). These games may involve nearly the whole community in gambling for money — and may sometimes include children. Such games have important social value:

> Many activities have become organised around it, such as drinking and the patterns of re-distribution of credit and obligation within the community. It ... has powerful integrative functions for certain sub-groups (Hunter 1993, p. 250).

In non-Aboriginal communities, large losses are usually accompanied by distress, whereas in Aboriginal communities it is claimed that 'subjective distress is generally not a feature of indebtedness per se' but that gamblers feel anxious if they are not able to continue playing because they have no money. There is no significant difference in the prevalence of depression among Aboriginal gamblers versus non-gamblers. However, there is evidence that gamblers have higher average levels of anxiety, especially amongst males (Hunter 1993, p. 249).

Foote (1996 p. 7) says that in community games:

> If one is not successful, one is assisted by others ... there is ... no shame to being unsuccessful or losing, except when the loss is the result of foolishness ... With no shame attached to losing there is no need to cover up one's gambling behaviour ... The individual, as a result, does not suffer post gambling session anxiety. There is a ready source of assistance from all around one.

Altman (1987, p. 167ff) has shown that gambling has a redistributive function in Aboriginal communities, which explains why gambling bouts can go on and on. Indeed, because the games are typically games of chance, rather than of skill, and because there are no taxes or gambling production costs to siphon off money, they operate to randomly redistribute money throughout the community. Such gambling can be a source for small scale accumulation, as a person playing a card game will at

times accumulate enough to purchase something of personal or social value that could not otherwise be afforded:

> ATSI community controlled gambling is noted to a large degree to utilise gambling activity as a vehicle to build ... capital and redistribute this capital to community members who would otherwise be unable to achieve such capital accumulation. Goods purchased with the proceeds at times become socially utilised commodities. The majority of the money gambled is redistributed to players ... community gambling is described as being conducted largely in an atmosphere of and in the spirit of reciprocal social responsibility. Gambling also is used for the purposes of social interaction, to facilitate information exchange and to have fun as a group ... Reference to protocols of conduct that actively discourages personal disadvantage are a prominent feature. This includes steps to prevent people playing if impaired by alcohol and steps to prohibit destitution and or disadvantage as a result of incurring losses. This is not to say that this form of gambling is free of negative impacts (Nunkuwarrin Yunti, sub. 106, p. 9).

However, while losses from such games appear initially to stay in the community, they can be dissipated if winnings are spent on capital and luxury items or alcohol (Hunter 1993, p. 248). This in turn reduces the community budget for essentials, such as nutritious food.[1] Social pressures to hand over unspent money may militate against *large* scale financial accumulation (Hunter 1993). Hunter concludes that:

> For those communities where gambling is pervasive, it is the conduit for a major drain on resources and energy, contributing to patterns of indebtedness and rapid expenditure that undermine personal and community development (p. 252).

Nunkuwarrin Yunti (sub. D214, p. 1) emphasise that it is important not to overstate the protective function of gambling with peers:

> It is critical to state that the 'no impact' of community gambling is not universal to all communities … A worrisome finding in a gambling study in Canada (n=1821), stated that some probable pathological gamblers were found to have played cards or board games for money with family or friends as their first experience.

Coinciding with the proliferation of modern gambling products, indigenous people have broadened the types of gambling in which they participate and in some indigenous communities card games are no longer the predominant form of gambling:

> There are a number of Aboriginal communities where cards are no longer the principle form of gambling activity. TAB and Pokies have impacted on drawing people away from communities to participate in these alternative forms of gambling. This has proved to have far more serious implications on individuals and families especially when people leave communities to travel miles to be close to the gambling venue, be it a pub or casino (Nunkuwarrin Yunti, sub. D214, p. 2).

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[1] However, there is apparently little evidence that gambling is counterproductive to gathering bush food (Altman 1987, p. 165).

The pattern of institutionally-based gambling amongst indigenous peoples differs from community-run gambling in that it is demarcated along gender lines, and has included former non-gamblers:

> Information ... suggests a pattern of ATSI community gambling largely demarcated along gender lines when engaged with industry business orientated gambling. A more equal ratio of involvement along gender lines exists in ATSI community operated gambling such as card games. Prior to the introduction of gaming machines in South Australia, TAB gambling has been very popular and continues to be popular with ATSI men. Bingo, bingo tickets and scratchies were more popular with ATSI women ... while there has been some migration towards gaming machine gambling by ATSI men, the racing codes still account for the main form of gambling. ATSI women to a larger degree have moved and stayed with gaming machines as the preferred code ... In ... Queensland ... 29% of ATSI people gambling on the pokies reported that prior to their introduction in Queensland, they did not gamble at all (Nunkuwarrin Yunti, sub. 106, p. 8).

Foote (1996) has confirmed that ATSI women tend to be far more frequent users of poker machines in the Darwin casino than men.

While there are concerns about adverse outcomes for Aboriginal communities from community based gambling, these are more pronounced for commercially oriented gambling:

> ... the radically different social meanings and functions which surround gambling in traditional Aboriginal societies ... suggest that any transfer of cognitive style, of mindset ... could be very disruptive, not to say catastrophic when these are translated into an urban culture in which the 'casino culture' is emergent ... (Tyler 1996, p. 9).

Indigenous communities perceive some severe problems in relation to institutionally based gambling:

> When people leave communities with the intention of "winning big bucks" at the casino they have no realistic ideas of their chances of doing so … They would have saved big money or collected money from relatives … Once in town the enticement and entrapment of the gambling venue eventually drains all the individuals financial resources. The individual is then stranded in town with no money to get back home … If the person does not have family or friends to support them while in town they are very vulnerable. This can lead on to all kinds of problems or trauma.

> The other obvious negative affects of poker machines on Aboriginal people and the community is that it alleviates the social interaction of card games and the money gambled has left the community and reaped by the gambling institution (Nunkuwarrin Yunti, sub. D214, pp. 2–3).

Indeed, in the Nundroo case (chapter 22) South Australia's Liquor and Gaming Commissioner refused to grant a gaming licence to a hotel located on the Eyre

Highway because of its potential detrimental impact on surrounding indigenous communities. The Gaming Commissioner commented:

> I do accept that the machines have the potential to drain a substantial amount of money from communities that are already hurt by money spent on alcohol.
>
> The result of this could be a significant increase in anti social behaviour in and around Nundroo Caused by Yalata and Oak Valley residents.
>
> I am concerned that gaming machines would result in an increase in violence in and around Nundroo (cited in sub. D214, p. 2).

Further, there is a perception that the web of reciprocal social responsibilities and brakes on extreme adverse outcomes are weakened when indigenous people gamble in a commercial setting:

> Profiteering forms the primary focus of business oriented gambling. These operations derive benefit from the misfortune of others to a small group or individual who is generally not part of the community. The rules and decisions about profits are not a shared community responsibility (Nunkuwarrin Yunti, sub. 106, p. 8).

A further concern for indigenous communities, cited by some participants, is the link between alcohol and institutionally-based gambling:

> Alcohol related problems are reported by the indigenous community to be significant. 58 % of Indigenous people aged over 13 years of age nominated alcohol as a major health problem in their local area. While indigenous Australians are less likely to consume alcohol in comparison to non-indigenous Australians, consumption levels in harmful quantities are statistically higher than that of non-indigenous Australians. 79% of indigenous Australians who drink at least weekly were found to be consuming at harmful levels in comparison to 12% in the general community who consume alcohol at least weekly.
>
> The enmeshment of alcohol and gambling opportunities under the same roof seem to be a trend far more common today than ever before. Pub/TABs are far more common than stand alone agencies in South Australia. Gaming licences are always linked to licensed premises, preventing the setting up of alcohol free venues. Any steps to minimise the opportunity to consume alcohol and gambling in the same venue is supported as a step to minimise associated harm (Nunkuwarrin Yunti, sub. D203, p. 4).

There is some evidence that people from ATSI communities tend to be heavier gamblers than other Australians:

> The Aboriginal and Torres Strait Islander community experiences disproportionate harmful consequences ... While not adequately researched, the ATSI community gambling profiles that exist describe greater participation rates in the percentage of people gambling and average expenditure to that of non-indigenous Australians. This situation may in part be explained by ATSI people continuing to endure disproportionate social disadvantage ... This in our view creates a predisposition to

chase the "miracles" offered by gambling enterprises to achieve some equity (Nunkuwarrin Yunti, sub. 106, p. 1).

A survey of 128 members of the ATSI community in gambling venues in Queensland found that average weekly gambling expenditure was $60 (comprising 20 per cent of average income), of which half was spent on gaming machines (AIGR/LIRU 1995 p. 5). This is far higher than found among Queensland gamblers in general. However, as noted by the study, the method used to recruit indigenous respondents is likely to have imparted a significant upward bias to spending estimates.[2]

Respondents to this survey reported a range of problems related to their gambling. Eight per cent needed family assistance to help pay gambling debts and 6 per cent said that gambling had put important relationships at risk.

A case study of the Yarrabah community found that around 50 per cent of indigenous people were heavy or weekly gamblers, compared to the general population where this is 4 to 6 per cent of players (AIGR/LIRU 1995 and sub. 106, p. 8). The average gambling expenditure of a group of indigenous gamblers regularly using the newly introduced PubTAB was about $70 per week — around 25 per cent of their income. The introduction of PubTAB to this community was associated with a significant reduction in local card games, and to the withdrawal from the community of funds that would otherwise circulate repeatedly as part of community gambling. On the other hand, it was also associated with a reduction in apparent alcohol consumption and alcohol-related community violence.

Studies of other indigenous peoples in similar disadvantaged circumstances have found similarly high rates of regular and heavy play (for example, Abbott and Volberg 1992 for Maori and Pacific Islanders in New Zealand; Wynne, Smith and Volberg 1994 and the National Council of Welfare 1996[3] for Canadian Aboriginal gamblers; and Volberg 1993 and Elia and Jacobs 1993 for native Americans).

It has also been found that Torres Strait Islanders are disproportionately represented amongst problem gamblers seeking help from counselling services.

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[2] Heavy spenders tend to play more frequently and for longer than the average. This means that random selection of gamblers in a venue will give too high a weight to heavy (and problem) gamblers.

[3] A Canadian (Alberta) study cited by the National Council of Welfare found that the Aboriginal sample of problem gamblers spent nearly three times as much on gambling as their non-Aboriginal problem gambling peers. The extent to which this is also true for ATSI problem gamblers is unknown in Australia.

There is much to be learned, both in relation to community and institutionally based gambling in indigenous communities:

> Anthropological research has focused on card games which continue to be very popular in Aboriginal communities throughout Australia. However, with few exceptions there is little in the social science literature about Aboriginal participation in commercial gambling such as machine gambling, TAB, bingo or lotteries. The limited research into casino gambling by Aboriginal people has methodological flaws and does not satisfy basic standards of reliability and validity.

> Preliminary research … has shown that Aboriginal people do gamble on these forms of gambling when it is available to them — but the extent of that participation, the types of gambling preferred by Aboriginal people, and the nature of commercial gambling impacts on Aboriginal communities have yet to be investigated systematically in any state.

> Of particular concern is the extent to which commercial gambling (TAB betting, gaming machines) impact on Aboriginal communities, including the impacts on 'traditional' community based gambling (such as card games) The association between gambling and drinking also merits research attention (McMillen, sub. D274 p.6).

F   National Gambling Survey

F.1   Introduction

Background

The only so-called 'national' gambling survey previously undertaken for Australia was carried out in 1991-92 (Dickerson et al. 1996), but its coverage was national in only a limited sense:

- it covered four large capital cities (Sydney, Melbourne, Adelaide and Brisbane); but

- there was no coverage of rural populations.

More recently, statewide surveys have been undertaken which cover metropolitan and country populations: Tasmania (Dickerson and Baron 1994b, Dickerson and Maddern 1997); Western Australia (Dickerson, Baron and O'Connor 1994); New South Wales (Dickerson, Allcock, Blaszczynski, Nicholls, Williams and Maddern 1996a, Dickerson, Allcock, Blaszczynski, Maddern, Nicholls and Williams 1998); South Australia (Delfabbro and Winefield 1996); and Victoria (Market Solutions and Dickerson 1997, Roy Morgan Research 1999).

In October 1998, a Roundtable was held at the Commission which brought together key Australian researchers in the gambling field, including: Professor Mark Dickerson, Professor Jan McMillen, Associate Professor Alun Jackson, Dr Paul Delfabbro, and Dr Michael Walker. At the Roundtable, issues discussed included:

- limitations of existing Australian prevalence surveys;

- whether a new national gambling survey should be conducted;

- survey methodology and design issues for any proposed survey; and

- gaps in the available data.

The Roundtable endorsed the conducting of a new National Gambling Survey. The advantages of such a survey are that it would:

- assemble a contemporary national unit record database, using a uniform set of questions asked at the one time across adults in all metropolitan and country regions;

- fill in some gaps for some states — such as Queensland (only metropolitan data are available from the 1991 'national' study), the Northern Territory and the ACT;

- establish a national baseline for future research;

- secure more reliable data by paying careful attention to the wording of particular questions; and

- shed some light on changes in statewide gambling patterns over time — though any inferences might be complicated by differences in survey methodologies.

The surveys of gambling behaviour undertaken in Australia have focused on the general adult population (18 years of age or older). Two survey approaches have been used — face-to-face (doorknock) interviews and telephone interviews. It is sometimes suggested that telephone surveys tend to have limitations that make identifying problem gamblers difficult, such as:

- *problems with contacting some gamblers* — some problem gamblers might have their telephones disconnected because of unpaid bills, or might be too poor to have a phone. They are also more likely to be "not at home" because they are at a race track, or a casino, or gambling at some other location.

- *problems of nonresponse and refusal* — when contacted, problem gamblers are more likely to refuse to participate because they are unwilling to answer potentially embarrassing questions.

- *problem of denial* — even where problem gamblers agree to participate in a survey, they are more likely to be reluctant to provide truthful responses and to minimise the problems their gambling has created for themselves or others (Lesieur 1994).

But as Delfabbro and Winefield (1996) have pointed out, all of these limitations can also arise with face to face interviews — the 'not at home' problem can be just as important, refusals can still be high, and people are probably just as reluctant, if not more so, to provide information in person as over the phone.

Approach

Against this background, the Commission decided to undertake a national telephone survey of gambling patterns and behaviour among the general adult population (18 years or older), covering all states and territories, and metropolitan and country areas within those regions.

F.2   The questionnaire

Development of the questionnaire

In early 1999, a draft questionnaire was developed which drew on:

- suggestions made by the Roundtable participants;

- previous Australian surveys; and

- key recent overseas surveys, including those for Nova Scotia (Focal Research 1998) and Alberta (Wynne Resources 1998).

The draft questionnaire was distributed to the Roundtable participants and other eminent researchers in the field. Advice on the questionnaire content was provided by Professor Mark Dickerson, Professor Jan McMillen, Associate Professor Alex Blaszczynski, Dr Paul Delfabbro, and Professor Jan Carter.

A final questionnaire was developed on the basis of this feedback. The consultant which undertook the survey field work (Roy Morgan Research) also made useful suggestions for making the survey more user friendly.

Survey approach

Two key objectives of the survey were to obtain:

- an estimate of problem gambler prevalence; and

- an adequate set of data on problem gamblers.

A sampling strategy for the national survey was developed in the form of a two-phase approach:

- *Phase 1* — a brief questionnaire (or 'screener') was designed for the purpose mainly of identifying whether a respondent was a regular gambler, a non-regular gambler or a non gambler. The sample size was set at 10 500 completed interviews.

- *Phase 2* — a more detailed questionnaire was completed by respondents on the basis of a selective (random) interview strategy:

    - *all* respondents classified as regular gamblers were interviewed;

    - 1 in 4 respondents classified as non-regular gamblers were interviewed; and

    - 1 in 2 respondents classified as non gamblers were interviewed.

In choosing this approach, the Commission was guided by the optimal allocation strategy suggested by Shaffer et al. (1997) who state that:

> If the purpose of the research is to understand the attributes or clinical needs of disordered gamblers, we suggest a survey sampling strategy that is different from the traditional random sampling approach. This strategy does not simply concentrate on respondents selected at random from the general population. Instead, this strategy encourages investigators to focus on selecting respondents who most likely will represent disordered gamblers (p. 117).

The approach of interviewing *all* regular gamblers identified from the screener questionnaire and randomly selecting non-regular gamblers and non gamblers for full interviews was adopted as being a cost effective strategy because:

- it enabled a larger overall sample size to be interviewed for a given survey cost, with only a small sacrifice in precision for the non gambler and non-regular gambler groups; and

- the larger sample size enabled more regular gamblers to be identified, and hence more accurate estimates to be achieved for this group — which is the main focus of interest because they are the most likely to experience gambling related problems.

The large initial sample size of 10 500 respondents meant that even with the 1 in 2 sampling of non gamblers and the 1 in 4 sampling of non-regular gamblers, the sizes of the groups administered complete surveys were much larger than any previous Australian gambling survey.

In arriving at the particular sampling ratios used, estimates of the proportions of non gamblers, non-regular gamblers and regular gamblers likely to be obtained from the Phase 1 screener were made on the basis of existing Australian statewide surveys. Such estimates were approximate not only because these proportions varied across surveys but also because the definitions proposed for 'gambler' and 'regular' gambler in the *National Gambling Survey* were not necessarily identical to all previous studies.

These estimated proportions therefore gave an indication of the likely sample sizes of the three groups of respondents. Given the decision to administer the full Phase 2 interview to *all* regular gamblers, the sampling ratios for the non gambler and non-regular gambler groups were determined on the basis of achieving similar sample sizes across all three groups. Taking account of refusals and terminations in Phase 2, the sampling of 1 in 2 non gamblers and 1 in 4 non-regular gamblers resulted in fully completed interviews from 1225 regular gamblers, 1290 non-regular gamblers and 983 non gamblers. This allowed comparisons of results among the three groups to be made with similar statistical precision.

The use of this sampling approach meant that a slightly more complex weighting scheme needed to be used in Phase 2. The data for non gamblers and non-regular gamblers were weighted up, using weighting factors from the information on the population for non gamblers and non-regular gamblers obtained in the screener questionnaire (see section F.7).

F.3   Phase 1 — the screener questionnaire

The screener questionnaire sought information on:

- gender of respondent; household size (number of adults in the household); and age of respondent;

- whether respondents had participated in one or more of twelve gambling activities in the last 12 months; and

- how frequently respondents had participated in each of these gambling activities in the last 12 months.

The questions on gambling participation and frequency served as filters for distinguishing between non gamblers, non-regular gamblers and regular gamblers. A simplified schematic representation is provided in figure F.1.

Figure F.1   **Simplified operation of filters in screener questionnaire**
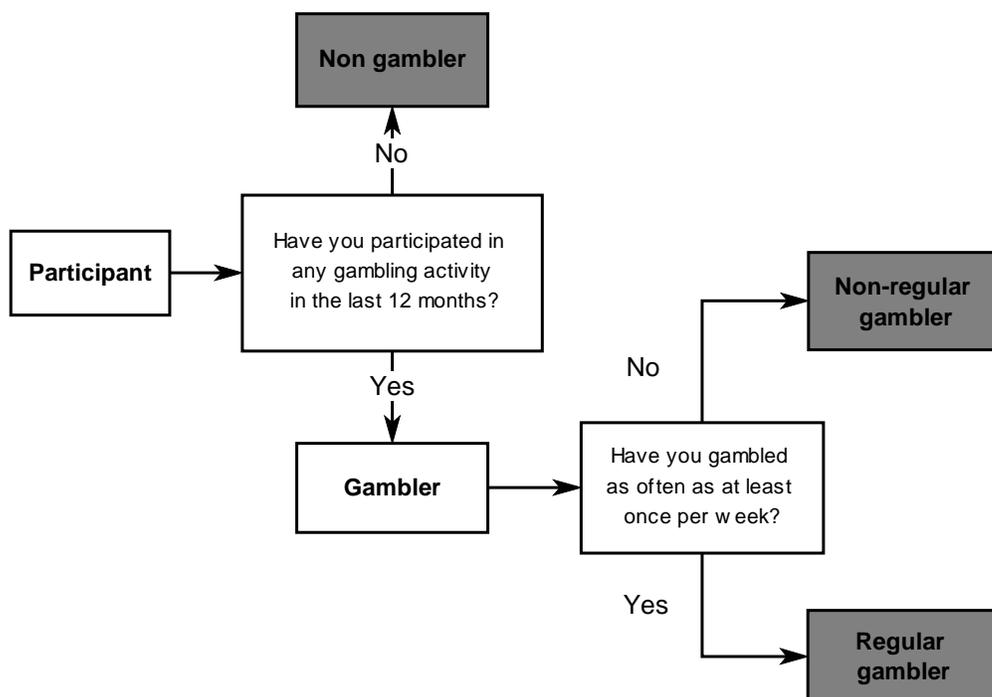
The main reason for identifying these three categories of respondents was because not all questions in the main interview were relevant for all three groups. In particular, because previous gambling surveys have found that problem gamblers are generally *regular* (weekly) rather than infrequent gamblers, the problem gambling screening instrument used (the South Oaks Gambling Screen, SOGS) was only administered to the 'regular' group.

The approach of administering the problem gambling screen to the subset of gamblers most likely to experience problematic behaviour is commonplace in the gambling survey literature. The filtering approaches used to determine that subset have typically been based on:

- *frequency of play* — with 'regular' or 'frequent' gamblers generally defined as those who gamble at least once per week (or even once per month, as in Focal Research 1998);

- *expenditure* on gambling; or

- *losses experienced* — for example, in the recent US NORC study (Gerstein et al. 1999) the focus was on those respondents who acknowledged experiencing significant losses (defined as $100 or more in a single day of gambling).

The *National Gambling Survey* used a combination of the first two points — frequency of play (filter 2) and annual gross expenditure on gambling (filter 3, described below) — to define the subset of gamblers most likely to experience problems from their gambling.

Filter 1 — to classify respondents as gamblers or non gamblers

Respondents were asked if they had participated in any gambling activity in the last 12 months, from the list of twelve presented in box F.1:

- if a respondent answered no to all forms of gambling, or yes only to raffles, they were classified as a non gambler; or

- if a respondent answered yes to at least one gambling activity (excluding raffles), they were classified as a gambler and proceeded to filter 2.

Filter 2 — to classify gamblers as regular or non-regular

Respondents who had undertaken one or more gambling activities in the last 12 months were asked how often they had participated in each of those activities (in terms of how many times per week, per month or per year). This filter allowed a respondent to be classified as a regular or a non-regular gambler.

Box F.1   **List of gambling activities**

- Played poker machines or gaming machines

- Bet on horse or greyhound races (*excluding* sweeps)

- Bought *instant* scratch tickets (eg. Instant Scratchies, Scratch'n'win)

- Played Lotto or any other lottery game (eg. Tattslotto, Ozlotto, Powerball, the Pools, $2 Jackpot lottery, Tatts 2, Tatts Keno)

- Played table games at a casino (eg. roulette, blackjack)

- Played Keno at a club, hotel, casino or any other place

- Played bingo at a club or hall

- Bet on a sporting event (eg. football, cricket, tennis)

- Played casino games on the internet

- Played games privately for money (eg. cards, mahjong) at home or any other place

- Bought raffle tickets

- Played any other gambling activity

Regular gamblers

Regular gamblers were defined as respondents who either:

- participated in any single gambling activity (apart from lottery games or instant scratch tickets) at least once per week; or

- whose overall participation in gambling activities (apart from lottery games or instant scratch tickets) was the *equivalent* of weekly (that is, at least 52 times per year).

While it was decided that mainly regular gamblers would be asked the questions for the problem gambling screen in the main interview, weekly lottery (and instant scratch ticket) players were excluded from the definition of regular gamblers because:

- previous Australian surveys have found that playing lottery games only rarely contributes to problem gambling (though it was decided to include big spending 'lottery only' players via filter 3 described below); and

- the number of regular 'lottery only' players is relatively large and to have administered the SOGS to all of this group would have imposed a significant burden on these respondents and increased the overall cost of the survey appreciably but with little offsetting benefit in terms of obtaining significantly greater precision in the problem gambling prevalence estimates.

The second aspect of filter 2 captures those gamblers who gamble less frequently than weekly on individual activities, but often enough across several forms to be gambling the equivalent of weekly. For example, suppose a respondent played poker machines three times a month, bet on horse races twice a month and played table games at a casino once a month. The annual rate of play is therefore $(3*12) + (2*12) + (1*12) = 72$ times per year. Hence, because this overall rate of play is more frequent than once per week, the respondent is classified as regular even though no single gambling activity is played weekly.

Even though lottery games are excluded from this filter, the regular group will still contain gamblers who play lottery games weekly because it includes:

- those who participated in individual 'other' gambling activities weekly (and who may or may not have played lottery games weekly); and

- those who participated in 'other' gambling activities the equivalent of weekly (and who may or may not have played lottery games weekly).

Non-regular gamblers

Those gamblers not classified as regular are, of course, non-regular and comprise in the main:

- those who participated in any single gambling activity less often than weekly, or gambling activities overall less often than the equivalent of weekly.

But because the filter for classifying gamblers as regular excludes all lottery games, among the non-regular group will also be:

- those who *only* played lottery games weekly; and

- those who participated in 'other' gambling activities less often than the equivalent of weekly (and who may or may not have also played lottery games weekly).

Filter 3 — to re-classify some non-regular gamblers as 'regular'

While Australian gambling surveys have found that 'lottery only' players rarely experience problems related to their gambling, a third filter was included in the main questionnaire to re-classify some gamblers from the non-regular group to the regular group, based on their annual gambling expenditure, in order for them to be administered the SOGS. Such a filter sought to capture the following two groups of respondents:

- *Big spending regular or less frequent lottery only players* — there has been a proliferation of lottery games in Australia in recent years, such that players in the different states and territories can participate in weekly lottery draws on as many as four to even seven days per week — Tattslotto, The Pools, Lotto, Oz Lotto, Powerball, and Lucky 7. There are also daily lottery games that are played every day of the week (Tatts 2, Tatts Keno, Cash 3 and $2 Lottery) and some games played as frequently as every 5 minutes (5-minute Keno). Because of this increase in the number of opportunities to play lottery games, it was therefore considered desirable to ask the gambling screen of 'big spending' lottery only players.

- *Other big spending non-regular gamblers* — it was also considered desirable to identify 'binge' gamblers who participate only occasionally (perhaps only a couple of times a year) but who spend a relatively large amount when they do gamble.

In the phase 2 questionnaire, all respondents were asked for information on how much they spent on any single gambling activity each time they gambled. Combined with the information obtained on frequency of play, this enabled their annual gambling expenditure to be calculated as follows, as the interview proceeded:

$$\Sigma freq_i * spend_i,$$

where *freq$_i$* is the number of times a respondent gambled per year on activity *i*, and *spend$_i$* is the amount of money outlaid each time the respondent gambled on activity *i*, and the expenditure was summed across all gambling activities.

For this filter, a cutoff value of annual expenditure was required to be set that was neither too low as to be all-encompassing nor too high as to exclude cases where expenditure might be symptomatic of a 'problem'.[1] A cutoff value of annual gross expenditure across all gambling activities of $4000 per year was set. This filter therefore captured non-regular gamblers who spent on average $80 per week or more either on lottery games only, or on lottery games and/or any other forms of gambling.

However, in practice this filter operated in a more inclusive way than intended. Because the survey consultant unfortunately allowed 'can't say' responses to

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[1] While expenditure on gambling activities *relative to* income is a preferable indicator of whether gambling might be perceived as being 'excessive' or contributing to financial problems for an individual, a more complex filter was not feasible given the question sequence of the interview. The implication of this is that the problem gambling prevalence estimates may well be conservative — because some non-regular gamblers spending less than $4,000 per year but a relatively high proportion of their income on gambling might not have been offered the SOGS.

expenditure questions in some cases to be coded as '99999', this rendered the calculation of gross expenditure spurious in those cases. As the filter operated, it included virtually all of the high spenders as intended — 29 of the 30 non-regular gamblers with annual gross expenditure of $4000 or more were re-allocated to the 'regular' category and offered the SOGS. However, 342 respondents in total were re-allocated.

F.4   Phase 2 — the main questionnaire

Because not all questions were relevant for all three groups of respondents, a summary of the main sections of the questionnaire asked of the different groups is given in table F.1. To minimise respondent burden, some information was not sought which was available from other Australian and overseas studies (such as motives for gambling); and complementary data was sought in another survey undertaken for the inquiry — a *Survey of Clients of Counselling Agencies* (appendix G).

Table F.1   **Broad categories of questions asked of different types of respondents in main questionnaire**

Non gambler	Non-regular gambler	Regular gambler
• perceptions about aspects of gambling	• perceptions about aspects of gambling	• perceptions about aspects of gambling
• knowledge of anyone with gambling problems?	• knowledge of anyone with gambling problems?	• knowledge of anyone with gambling problems?
• personal characteristics	• personal characteristics	• personal characteristics
	• further details of gambling participation and frequency	• further details of gambling participation and frequency
	• how much time is devoted to each gambling activity?	• how much time is devoted to each gambling activity?
	• how much money is spent on each gambling activity?	• how much money is spent on each gambling activity?
	• how would the money spent on gambling otherwise have been used?	• how would the money spent on gambling otherwise have been used?
		• problem gambling screen (SOGS)
		• other effects of gambling on the gambler and 'significant others'
		• help seeking behaviour for problem gambling?

Questions asked of all respondents

Information was obtained from regular gamblers, non-regular gamblers and non gamblers in the following broad areas:

- *Perceptions about gambling* — such as the extent to which respondents perceived that gambling does more good than harm for the community; perceptions about the number of gaming machines in local communities, and their location in different venues; and the extent to which respondents perceived that the wider availability of gambling had provided more opportunities for recreational enjoyment.

- *Knowledge of people with gambling problems* — whether respondents knew personally of someone who had experienced serious problems with their gambling; the type of gambling in which that person experiencing problems was mainly involved; and whether that person was obtaining help for their gambling problems.

- *Personal characteristics* — information on gender, age and household size was obtained in the screener questionnaire. The main interview obtained information on a range of socio-demographic items, including: ethnicity (country of birth of respondent and of respondent's father and mother, main language spoken in the household), marital status, household composition, employment status, main source of household income, personal and household income, and educational attainment.

Questions asked of gamblers (regular and non-regular) only

Details of gambling participation and duration

Respondents who indicated in the screener that they had participated in a particular form of gambling in the last 12 months were asked more detailed information in relation to each activity played, including:

- *Gambling venues and modes* — for example, whether a respondent played gaming machines at a club, a hotel or a casino; or bet on horse or greyhound races on-course, off-course, by phone or via the internet.

- *Time devoted to each gambling activity* — for example, the amount of time a respondent played gaming machines each time they visited a venue; and the amount of time a betting gambler took each week to study the form, place the bets, and listen to and/or watch the races.

Gambling behaviour

Because previous Australian research has revealed gaming machines ('pokies') to be the main form of gambling associated with problematic behaviour, information was obtained from respondents on particular facets of their play, including:

- denomination of gaming machine usually played; and

- nature of play (number of lines played, number of credits bet per line, use of bill acceptors, use of loyalty bonus cards).

Use of ATM machines

Gamblers can augment the amount of money they take with them to gamble by accessing funds from an ATM machine at some types of venues. Accordingly, information was obtained from players of gaming machines (at clubs, hotels and casinos) and players of table games at casinos on:

- how often gamblers withdrew money from an ATM when they played the gaming machines and/or table games.

Expenditure on gambling

A study by Blaszczynski, Dumlao and Lange (1997) has shown that one question often asked in gambling surveys — "how much money do you spend gambling?" — can be interpreted by respondents in a number of ways, and only between half and two-thirds appear to interpret it in the preferred 'net expenditure' sense. As Blaszczynski, Dumlao and Lange (1997) state:

> Net expenditure [is] calculated as the difference between the initial amount available at the commencement of a gambling session and the amount remaining at its conclusion. … This reflects the actual amount of money the gambler has gambled and represents the true cost of gambling to the individual (pp. 248–9).

Accordingly, the *National Gambling Survey* used mainly a two-question approach to allow net expenditure to be calculated. For example, in relation to the playing of gaming machines, the questions were worded along the following lines:

(a) When you visit a venue, how much money do you usually take with you to play the machines, including any additional money withdrawn or borrowed during the period of play?

(b) And how much money do you usually have left when you finish playing the machines?

Comparisons of aggregate expenditure on different gambling modes obtained from the *National Gambling Survey* with that reported by the Australian Bureau of Statistics and Tasmanian Gaming Commission are presented in appendix P.

Other aspects of gamblers' expenditure

The *National Gambling Survey* also asked respondents:

- perceptions about the effect that gambling has had on the quality of their life, in terms of a 5-point scale ranging from making their life 'a lot more enjoyable' to 'a lot less enjoyable';

- how would people otherwise spend the money gambled? — there is a paucity of information available on the extent to which gamblers would have otherwise spent or saved the money they used for gambling, and if they would have spent it, where they would have directed that expenditure.

Questions asked of 'regular' gamblers only

The South Oaks Gambling Screen

The use of the SOGS as the problem gambling measurement instrument was endorsed by the panel of experts at the Roundtable, comprising Professor Mark Dickerson, Professor Jan McMillen, Associate Professor Alun Jackson, Dr Paul Delfabbro, and Dr Michael Walker. While other screening instruments are being devised in different countries to replace the SOGS — such as the NODS (the National Opinion Research Centre at the University of Chicago DSM Screen) — the use of the SOGS in the *National Gambling Survey* allows comparisons of results with previous Australian and most overseas surveys.

In the original version of the SOGS (Lesieur and Blume 1987) the questions were framed in 'lifetime' terms ('have you *ever* …?'). Since that time, most surveys have used slightly modified versions, depending on whether the aim was to assess the prevalence of lifetime and/or current problem gambling:

- SOGS-R (revised SOGS) — developed by Abbott and Volberg (1991). The SOGS items are framed initially as 'lifetime' questions, and for those where a yes response is given, the question is asked again with a shorter timeframe (6 months in New Zealand, 12 months in most other studies); and

- SOGS-M (modified SOGS) — the questions are framed with a current timeframe only ('have you *in the last 12 months* …?).

For the *National Gambling Survey*, the modified version of the SOGS was used not only because the shorter time frame is most appropriate for assessing *current* prevalence (which is of greatest policy relevance) but also because the way in which the SOGS was asked of respondents was more comprehensive than is normally the case. That is, the SOGS questions were asked:

- in the conventional way — mainly requiring a yes or no response; and

- in terms of a frequency scale — if a respondent answered yes to a question, they were then asked 'is that rarely, sometimes, often or always?'; or if a respondent answered no, they were then asked 'do you mean rarely or not at all?'

The approach of asking the SOGS questions to allow responses in terms of a frequency scale has been used by Professor Mark Dickerson in virtually all previous Australian gambling prevalence surveys. The Commission's approach of following both the conventional and the Dickerson approaches therefore allows comparisons of results with previous Australian and most overseas surveys. However, to have asked the SOGS in the SOGS-R version as well as in terms of a frequency scale would have imposed too big a burden on respondents and for that reason the SOGS-M was used.

The *National Gambling Survey* did not administer the SOGS to all respondents — indeed there are good reasons why gambling surveys do *not* ask the problem gambling screen of *all* participants:

- questions about what people do when they gamble are clearly of *no relevance* to non gamblers. In the *National Gambling Survey*, respondents were classified as a non gambler only after they had answered 'no' to thirteen separate questions about whether they had participated in any of twelve specified gambling activities and an 'any other' gambling category. Hence, this detail of questioning should reliably identify a genuine non gambler.

- a problem gambling screen is of *little or no relevance* to infrequent gamblers because their gambling is very unlikely to be associated with problematic behaviour; but

- it *is* most appropriate to administer a problem gambling screen to those respondents whose gambling has a greater likelihood of giving rise to problems.

Indeed, as the NORC study (Gerstein et al. 1999) noted:

> We chose to use these "filter" questions in the national survey after our pretesting indicated that nongamblers and very infrequent gamblers grew impatient with repeated questions about gambling-related problems (p. 19).

For these reasons, the problem gambling diagnostic instrument was administered only to that subset of gamblers considered most likely to experience problems

related to their gambling — all 'regular' gamblers as defined by filter 2 and 'big spending' and other non-regular gamblers captured by filter 3.

Self-designated assessment of problems

One of the SOGS questions asks a respondent: "Do you feel you have had a problem with your gambling?" The *National Gambling Survey* followed this with questions relating to:

- *how long* a respondent had felt they had experienced problems; and

- how they would rate their gambling at the present time on a scale of 1 to 10 — where 1 means their gambling is not at all a problem and 10 means they feel their gambling is a serious problem (see Focal Research 1998).

Other impacts of gambling on respondents

As a complement to the SOGS, other information was sought on impacts of gambling on respondents. Each question was framed initially in terms of lifetime experience ('have you ever …') and for those questions receiving a yes response there was a follow-up question on experience 'in the last 12 months'. The questionnaire was careful always to relate an impact to a respondent's *gambling* behaviour. The impacts canvassed included:

- *employment* — loss of work efficiency, job changes, sacking.

- *legal* — obtaining money illegally; involvement with the police, appearance in court.

- *financial* — incurring gambling-related debt; converting personal items to cash; bankruptcy.

- *personal/family* — depression; time devoted to looking after family interests; break-up of important relationships; divorce or separation; suicide ideation.

An example of the type of question asked was: 'Have you ever suffered from depression because of your gambling?' For respondents answering yes, there was a follow-up question to gauge current prevalence: 'And in the last 12 months, have you suffered from depression because of your gambling?'

The consultant to the AHA (sub. D231) criticised such an approach as being both double-barrelled and suggestive — double barrelled in the sense that some people may respond 'yes' if they have suffered from depression, even if gambling was not the main cause; and suggestive because the question suggests gambling as a cause of depression without putting forward other possible causes.

But because the *National Gambling Survey* was a survey on gambling behaviour and these questions was asked only of gamblers, it would be very surprising if someone were to answer 'yes' to this question if gambling were not actually a source of their depression (either ever or in the last 12 months). To further clarify how important gambling was as a source of depression, respondents answering yes to the 'in the last 12 months' question were asked: 'And in the last 12 months have you suffered from depression because of your gambling rarely, sometimes, often or always?' For those answering 'often' or 'always' it seems reasonable to assume that gambling is an important (probably the main) source of their depression.

The survey findings do *not* suggest that the *National Gambling Survey* question elicited positive responses from people who may have suffered from depression, but not due to their gambling. For example, as noted in chapter 7, non-problem regular gamblers nevertheless reported extremely low levels of enduring depression — 0.4 per cent reported often or always suffering from depression in the last 12 months because of their gambling. By contrast, the corresponding prevalence among problem gamblers was 22 per cent. Furthermore, administering the same questions to problem gamblers in the Commission's *Survey of Clients of Counselling Agencies* revealed that the proportion of problem gamblers in counselling who reported that they often or always felt depressed because of their gambling was similar to that determined using clinical evaluation techniques for such groups.

Overall, it appears that the questions used in the Commission's surveys picked up depression related to gambling, and other impacts of gambling, relatively well. A detailed analysis of the survey findings in relation to impacts of gambling on relationship breakdown and divorce/separation is provided in appendix T.

Help seeking behaviour

Regular gamblers were asked a short set of questions in relation to:

- whether they had *wanted* help in the last 12 months for problems related to their gambling; and whether they had *tried to get* help for these problems; and

Those respondents who reported that they had tried to get help in the last 12 months were then asked:

- the ways in which they had found out about the gambling help services available;

- the people/organisation they had first turned to for help; and

- the organisation/service from which they had actually received counselling for problems related to their gambling.

Interview duration

As with any questionnaire design, the *National Gambling Survey* weighed up the tradeoff between obtaining all the information that was considered of key importance for the inquiry while at the same time minimising respondent burden. The average interview durations for the three categories of respondents (covering the screener questionnaire and main questionnaire) were as follows:

- non gambler — 10 minutes;
- non-regular gambler — 14 minutes; and
- regular gambler — 24 minutes.

F.5   Sample size and stratification

Problem gambler prevalence rates in general population surveys are typically small. This means that a relatively large sample size is needed for a reasonable number of problem gamblers to be identified and for the prevalence of problem gambling to be estimated with acceptable precision.

In determining the size of the sample necessary to be adequately representative of the Australian adult population, the Commission was guided by the approach used by the Australian Bureau of Statistics (ABS) in two surveys most relevant to the *National Gambling Survey* — the *Household Expenditure Survey* (ABS 1995) which used a sample of around 8 500 households; and the *National Survey of Mental Health and Wellbeing of Adults* (ABS 1998d) which obtained information from approximately 10 600 people aged 18 years or over.

The original specification for the *National Gambling Survey* was that completed interviews be obtained from 10 500 respondents. To ensure the representativeness of the sample, it was stratified by:

- area — all states and territories were included, with metropolitan and country areas separately identified (except in the ACT), resulting in 15 geographic areas;
- age — 4 categories were identified (18-24 years, 25-34 years, 35-49 years, and 50 years or older); and
- gender.

Taking account of 15 geographic areas, four age categories and gender thereby resulted in a stratification of the sample across 120 area/age/gender cells.

The distribution of the sample across state/territory and metropolitan/country areas was roughly in proportion to population, using the latest available ABS census data

(table F.2). However, coverage in the smaller states/territories was boosted to increase statistical precision. Overall, the sample structure by area was very similar to that used by the ABS for the *Household Expenditure Survey*.

While the original sample size for the *National Gambling Survey* was 10 500 respondents, interviews were actually completed by more than 10 600 participants. The larger than originally specified number of respondents was needed in order for all minimum quotas in the 120 area/age/gender cells to be met (see section F.7).

Table F.2   **Distribution of national sample by geographic area**

State/Territory	Population share (18+) %		Sample distribution (No.)		
	Metropolitan	Country	Metropolitan	Country	Total
NSW	62	38	1 620	980	2 600
Vic	73	27	1 605	595	2 200
Qld	46	54	684	816	1 500
WA	74	26	813	287	1 100
SA	74	26	742	258	1 000
Tas	42	58	334	466	800
NT	42	58	252	348	600
ACT	100	-	700	-	700
Total	62	38	6 750	3 750	10 500

F.6   Procedures for selecting respondents

Two features of any survey are the *coverage* and the degree of *non-response*. As noted by Steel, Vella and Harrington (1996):

> Non-respondent units are selected in the sample but not measured, whereas non-covered units have no chance of selection (p. 21).

While surveys generally aim to be representative samples of the general population as a whole, there is a degree of non-coverage because some groups in the general population tend to be excluded, such as:

- people in treatment settings, in hospitals, or in prisons; and

- the homeless.

With telephone surveys, a further element of non-coverage is that some households either do not have a telephone or have an unlisted number. The former problem is generally unimportant in Australia (though it may be relatively more important for some groups such as problem gamblers who have had their phones disconnected

because of non-payment), while there are telephone number selection methods that can be used to minimise the latter problem.

Household selection method

Three alternative methods were considered for drawing the sampling frame for telephone interviewing:

- randomly from residential telephone numbers in the latest electronic White Pages directory (RWP);

- using random digit dialling (RDD); or

- using an adaptation of random digit dialling (MRDD) — such as selecting residential telephone numbers at random from the White Pages directory and incrementing the last digit by one (to get unlisted or not yet listed numbers).

There are advantages and disadvantages associated with each approach.

RWP has the highest proportion of usable contacts, because the number of telephone numbers dialled that turn out to be faxes or businesses or out of service is lower than for either RDD or MRDD. But it has two main disadvantages:

- individuals with silent (unlisted) numbers are excluded from the listings; and

- individuals who have only recently moved or been connected are excluded.

The advantages of RDD arise precisely in these two areas: it throws up silent numbers and it can capture recent movers. But it also has disadvantages:

- it produces a much higher level of unusable numbers than RWP — even RDD systems which automatically cross check the sample with the Yellow Pages cannot avoid selecting numbers which are either faxes, not in use or unlisted business numbers; and

- contacting unlisted numbers is not necessarily an advantage — individuals who have a silent number have signalled that they do not wish to be annoyed by unsolicited calls, and hence there is a much greater likelihood of refusal.

Modified RDD lies somewhere in between — it tends to generate fewer non-usable numbers than RDD, but still much greater than RWP. So more dialling is required than for RWP, which yields a higher proportion of possible contacts.

Overall, while RDD reduces several sources of bias inherent in RWP (unlisted numbers and recent movers), it does so at higher cost and with greater likelihood of more refusals. So on balance, the Commission opted for the RWP approach.

Respondent selection method

A commonly used and recommended procedure for selecting individuals randomly within households is some variant of the birthday approach — such as the individual having the 'nearest' birthday or the 'last' birthday. For this survey, once a household was contacted, the respondent was selected randomly as the adult (aged 18 years or older) normally living in the household who had the last birthday.

As advised by some of the survey consultants approached by the Commission, while the last birthday method is a rigorous method of respondent selection, it can have a limitation. If used on its own, without sufficient callbacks, it can result in an undersampling of younger people and an oversampling of older people, because younger people (especially younger males) are more often 'not at home' and therefore more difficult to contact. It is therefore important that survey protocols using the last birthday method also allow for a sufficiently large number of callbacks.

One survey consultant (ACNielsen) noted that with a last birthday selection method, there will inevitably be some under-representation of young males, but that:

> In any case, the distortion can be corrected [by] age/gender weighting ... and while the extent of the need to correct a distortion with weighting will impact in terms of increasing the sampling error of any estimates from the sample, it is arguable that this increase in sampling error is still appreciably less than the increase in non-sampling error that comes from the non-response bias inherent in quota sampling systems (personal communication).

ACNielsen also argued that from its experience, the last birthday method is preferable to alternatives such as Kish-grid type selection methods:

> ... over a series of tests we conducted ... we found that anything approaching a Kish-type grid, or a last birthday method which started with asking the number of people in the household was ultimately unproductive, as refusals and mid-screening terminations increased, and overall the process slowed down interviewing significantly (personal communication).

F.7   Quotas and weighting

While the last birthday method of respondent selection coupled with an adequate number of callbacks should generate a sample that is generally random and representative, it is still likely that adjustments will be needed either by the use of quotas, or weighting or both. This study used an approach of:

- having 'strict' quotas based on area (by state/territory and metropolitan/country), and 'loose' quotas based on age and gender; and

- post-weighting the sample data for phase 1 (screener questionnaire) and phase 2 (full interview) respondents.

Quotas

The strict quotas for completed screener interviews based on area are those set out in table F.2. Approximate rather than strict age and gender quotas were used to ensure sufficient representation of each age/gender group, as a compromise solution to survey accuracy and cost. This involved setting minimum and maximum bounds (of ±33 per cent) around the strict quotas, and monitoring the degree to which the quotas were being met as the survey proceeded. Such an approach means that modest differences between each age/gender/area cell size in comparison with those that would apply with strict quotas are acceptable, bringing about a major reduction in the cost of the survey but only a small reduction in accuracy. The deviations from ABS age/gender/area population data are then corrected by applying weights to the sample data.

In relation to the 'loose' quotas, it became apparent towards the end of the fieldwork phase that some of the minimum age/gender quotas would not be met in some of the smaller States. Hence, in place of the last birthday method — which was used to complete 10 365 interviews — the approach taken was to ask to speak to the youngest male aged 18 or older (and then the youngest female) before substituting for another adult within the household. This enabled all minimum quotas to be met, but the number of screener interviews needed to be completed slightly exceeded the original 10 500 — 10 609 participants completed the screener.

Weighting schemes for population estimates

Information for the sample respondents was multiplied by weighting factors to provide estimates for the whole population. Because of the selective (random) interview strategy used in phase 2 of the questionnaire, separate weights are appropriate for the screener respondents and the full interview respondents.

Phase 1 weights — Screener respondents

As noted in section F.5, the sample was stratified across 120 area/age/gender cells. The weight for each screener respondent in a given cell was calculated as:

$$WTSCR = (HHSize) * [\text{cell population} / \Sigma HHSize].$$

That is, within each of the cells, weights were calculated for each respondent as the product of two factors:

- the number of adults in the household (*HHSize*), to adjust for the random selection of one adult respondent per household; and

- the ratio of the cell population to the adjusted sample size, where the adjusted sample size is calculated as the sum of the household size of each respondent in the cell.

The screener weights sum to the total number of adults in the Australian population in 1997-98 (14.126 million).

Phase 2 weights — full interview respondents

Respondents to the screener were classified as either a regular gambler, a non-regular gambler or a non gambler and, as noted above, given a full interview on the following basis:

- regular gamblers — *all* respondents were interviewed;

- non-regular gamblers — every fourth respondent was interviewed; and

- non gamblers — every second respondent was interviewed.

Accordingly, the weight for each full interview respondent in a given cell was calculated as:

$$WTGAM = (Adjust*HHSize) * [\text{cell population} / \Sigma(Adjust*HHSize)].$$

That is, for each phase 2 respondent in each of the 120 cells, a sampling adjustment factor based on gambling status (*Adjust*) was calculated as the ratio of the cell sample size from the screener to the cell sample size of those who completed full interviews.

Because all regular gamblers were interviewed, the sampling adjustment factors were unity for all regulars across all cells. But the corresponding factors were not necessarily exactly 1 in 4 or 1 in 2 for non-regular gamblers or non gamblers respectively. The sample was set up on the CATI system as separate surveys for the 15 geographic regions, and the number of participants within each of the regions was not necessarily an exact multiple of 2 or 4 — the *overall* interview ratios for non-regular gamblers and non gamblers turned out to be 1 in 4.11 and 1 in 1.95 respectively.

But within individual area/age/gender cells, the sampling ratios can differ somewhat from the 1 in 4 or 1 in 2. For example, if there turned out to be 7 non-regulars in a

particular area/age/gender cell from the screener, then in effect only the fourth would have been interviewed (a sampling ratio of 1 in 7) whereas if there had been eight then the eighth would also have been interviewed (and the sampling ratio would have been 1 in 4). For each cell, adjustment factors reflecting the specific sampling ratios were calculated for non gamblers and non-regulars, so that no biases are introduced from the random interview strategy.

As with the phase 1 screener weights, the phase 2 weights sum to the total number of adults in the Australian population in 1997-98 (14.126 million).

F.8   Other survey protocols

Protocols were put in place in the *National Gambling Survey* to maximise the contact rate and minimise non-response (refusals).

Procedures for maximising the contact rate

The following procedures were used with the aim of achieving as high a contact rate as possible:

- generally calling in the evening or at weekends when individuals were more likely to be at home;

- allowing the phone to ring at least 10 times before hanging up;

- making up to 4 callbacks (that is, 5 contact attempts) to achieve an initial contact — most survey research shows that the impact on contact rates is minimal after this number of attempts (see Steel, Vella and Harrington 1996);

- allowing a further 5 callbacks to achieve an interview, once contact was made and a respondent identified;

- varying the time of day and day of week for callbacks, to increase the chance of catching gamblers who might be out during the evening; and

- allowing a fieldwork phase of sufficient duration to ensure that the proportion of numbers dialled that did not have their full number of callbacks completed was minimal.

Procedures for maximising the respondent participation rate

Another important consideration was to have protocols in place to maximise the participation rate once a respondent was contacted. This included:

- wording the introduction to the survey to encourage participation by stressing:

-   the importance of the survey;

-   the importance of the respondent's participation in the survey; and

-   the confidentiality of information provided by participants.

- making a special effort to schedule callbacks at the convenience of the respondent;

- having foreign language interviewing capability; and

- having specially prepared responses for interviewers in case a respondent indicated any reservation about participating.

F.9   Conduct of the survey

Pilot testing of the questionnaire

The survey was conducted using a CATI (Computer Assisted Telephone Interview) approach. The CATI system was programmed to calculate annual frequency from the individual gambling activity frequency questions in the screener, thereby automatically identifying a respondent as either a non-regular gambler or a regular gambler. The CATI system guided the interviewer through the relevant set of questions appropriate for each of the three types of respondent. By programming the CATI system in this way and building in logic checks where appropriate, the validity of responses and hence the quality of the survey data was maximised.

The questionnaire was piloted in late March, with around 30 completed interviews carried out. The piloting was important for ensuring that all of the CATI programming worked correctly, that the sections of the questionnaire to be completed by the three groups of respondents ran smoothly, and to ensure that all questions were easily understood by respondents.

As a result of the pilot, a couple of questions were simplified, but most particularly the questionnaire's introduction to encourage a respondent to participate was re-phrased more positively, to stress the importance of the survey and in turn the importance of the respondent's participation.

Fieldwork phase

The *National Gambling Survey* commenced on 30 March 1999 and was completed by 27 April 1999 — a fieldwork phase of four weeks. While this period took in Easter and two weeks of school holidays in six of the eight states/territories, it is unlikely to have had an appreciable impact on the contact rate. As noted in the following section, a very satisfactory contact rate of 86 per cent was achieved. This

result in turn reflects the survey protocols in place to maximise the contact rate — such as requiring up to five call attempts to make a contact, scheduled over a period of time. This meant that most respondents who could not be contacted on the first attempt were able to be contacted after the subsequent callbacks were completed.

F.10   Response rates in gambling prevalence surveys

Elements of a response rate — contact and participation rates

The response rate to a survey can be defined as the ratio of the number of respondents that participate in the survey to the total number of respondents eligible to participate. In the case of gambling surveys which generally interview one respondent per household, it can be described as the outcome of the following two determinants:

- the *contact* rate — the proportion of eligible individuals that are contacted; and

- the *participation* rate — the proportion of eligible individuals contacted that participate in the survey.

The response rate can therefore be defined as $RR = (H_c / H_e)*(H_p / H_c)$,

where H_e = number of eligible individuals surveyed;
        H_c = number of eligible individuals contacted; and
        H_p = number of individuals that participate.

The number of eligible individuals can differ from the number of individuals selected to be surveyed. Sample loss arises when selected units are subsequently found to be 'out of scope' of the survey. For example, in the case of a telephone survey, a selected telephone number dialled at random would be invalid if it turned out to be a business number, a fax number, or a disconnected number. A household would also be out of scope if no occupant met the age requirements for the survey (in gambling surveys of adults, persons 18 years of age or older).

Once an eligible individual is contacted, the respondent can either agree to participate or refuse; or after initially agreeing, may terminate the interview before it is completed. Another category of contact is one where an individual indicates that it is not a convenient time to be interviewed, and an appointment is made. However, they will turn out to be a non-response if subsequent callbacks fail to elicit a completed interview.

How have response rates been calculated in practice?

In relation to US experience, Volberg (1997) has commented that response rates for telephone surveys have generally declined in recent years because of the proliferation of fax machines, answering machines, blocking devices and other telecommunications technology that make it more difficult to identify and recruit eligible individuals. According to Volberg, the consequence has been that:

> ... response rates for telephone surveys are now calculated in several different ways although all of these approaches involve dividing the number of respondents by the number of contacts believed to be eligible. *Differences in response rates result from different ways of calculating the denominator, ie. the number of individuals eligible to respond* (1997, p. 6, emphasis added).

Two main approaches for calculating a survey response rate can be distinguished:

- *Upper bound method* — with this approach, the numbers that cannot be reached (the no reply/no answer category) are treated as 'eligibility not determined' and deducted from the total numbers dialled before ineligible numbers are taken into account. Other numbers dialled also treated in this way in Gerstein et al. (1999) include those where 'language barriers' prevent the relevant respondent being identified and those picked up by an 'answering machine'.

- *Conservative method* — an alternative approach is to treat the no replies as eligible numbers. This is the view of Shaffer et al. (1997) who regard deleting from the denominator those households that fail to answer the phone as improperly inflating the response rate.

To illustrate how these different methods can influence the magnitude of the response rate, some calculations are presented for selected surveys:

- Volberg (1997) — a survey for Oregon yields an upper bound response rate of 61 per cent, whereas the use of more conservative approaches result in a response rate of around 50 per cent.

- Abbot and Volberg (1991) — a survey for New Zealand reports a response rate of 66 per cent; however, if the no replies are treated as eligible, the lower bound response rate is 59 per cent.

- Wynne Resources (1998) — a survey for Alberta, Canada reports a response rate of 67 per cent; however, if the no replies are treated as eligible, the lower bound response rate is around 46 per cent.

- Gerstein et al. (1999) — a national survey for the United States, reports a response rate of 58 per cent; however, if the 'no answers', 'foreign language' and 'answering machine' categories are treated as eligible, the lower bound response rate is 51 per cent.

F.11 Contact and participation rates achieved

Because of the two phase nature of the survey, contact and participation rates are reported for the screener and the main questionnaire (table F.3). The following discussion details the conservative approach to calculating the response rate, though calculations for the screener questionnaire are reported in terms of both the conservative and upper bound approaches to allow comparisons with other studies.

Phase 1 — the screener questionnaire

Of the 31 886 numbers originally dialled, 6 623 were classified as ineligible for a variety of reasons:

- they were a disconnected number, or a business or fax number;

- there was no-one in the household aged 18 years or over; or there was no-one available in the younger age groups when the respondent selection was changed from the last birthday method to the respondent that had the age-gender description needed to fill the quotas to their minimum level; and

- other reasons for ineligibility (such as cellular phone numbers, respondents having two numbers, hearing problems/elderly).

A total of 22 460 calls can therefore be regarded as 'eligible' numbers. Two categories of 'no replies' are reported in the table — the 'no replies 4+ callbacks' (those where there was no answer even after 5 call attempts) and the 'no replies < 4 callbacks' (those that did not have their full number of callbacks completed by the cut-off date for the end of the fieldwork phase). Ideally the latter number should be as close as possible to zero; but it is still small relative to the total numbers dialled (around 1 per cent).

The contact rate achieved was 86 per cent. After taking account of terminations, refusals, and appointments not met, 10 609 completed screeners were obtained — a participation rate of 55 per cent. The overall response rate for the screener was therefore 47 per cent. Using the upper bound method (treating the no replies as 'eligibility not determined' and therefore excluded from eligible numbers) gives a response rate of 55 per cent. The results for the *National Gambling Survey* are therefore similar to the best of the surveys that have been carried out in recent times.

Table F.3   **Contact and participation rates for National Gambling Survey**

Item/nature of respondent	No.	No.
Conservative method		
Total numbers dialled		31 886
Ineligible — disconnected number, business, fax	6 623	
Ineligible — no-one fits introductory/quota criteria	1 719	
Ineligible — mobile phone, other reasons	1 084	
Eligible numbers		22 460
No replies (< 4 callbacks)	375	
No replies (4+ callbacks)	2 683	
Engaged	39	
Eligible Contacts		19 363
Upper bound method		
Total numbers dialled		31 886
No replies (< 4 callbacks)	375	
No replies (4+ callbacks)	2 683	
Engaged	39	
Total less eligibility not determined		28 789
Ineligible — disconnected number, business, fax	6 623	
Ineligible — no-one fits introductory/quota criteria	1 719	
Ineligible — mobile phone, other reasons	1 084	
Eligible numbers		19 363
Appointments	78	
Refusals (before relevant respondent identified)	7 657	
Foreign language [a]	230	
Other terminations [b]	96	
Screener questionnaire		
Relevant respondent identified	11 302	
Refuses to continue	450	
Agrees and starts screener	10 852	
Terminates mid-screener	243	
Completes screener	10 609	
Screener contact rate (conservative method) (%)		86
Screener participation rate (conservative method) (%)		55
Screener response rate (conservative method) (%)		47
Screener response rate (upper bound method) (%)		55
Main questionnaire		
Qualifies	3 809	
Refuses to continue	260	
Agrees and starts interview	3 549	
Terminates mid-interview	51	
Completes interview	3 498	
Main questionnaire participation rate (%)		92

a While foreign language interviews were undertaken, this category represents those who the interviewers were unable to get back to. **b** Includes 'did not wish to continue'; 'no reason given'.

Source: PC *National Gambling Survey*.

Being aware of the need to minimise refusals, the CATI system for the *National Gambling Survey* included several help screens for interviewers to assist them to persuade people who indicated an unwillingness to participate to change their minds. However, virtually all of the refusals occurred right at the outset, so that interviewers had little or no opportunity to convert them to participants.

The issue of refusals is important only if it is likely to bias the results — and bias will arise if non-respondents have characteristics and gambling behaviour patterns different from those persons who respond to the survey. In relation to gambling surveys, the presumption is usually that because of the sensitive nature of problem gambling, people with gambling problems are more likely to refuse to participate — in which case the problem gambling prevalence rates obtained will be *under*-estimates. But on the other hand, refusals may be more evenly divided between gamblers and non-gamblers. As Abbot and Volberg (1992) noted in relation to the first New Zealand survey:

> While it is not possible to provide data about those who refused to take part, anecdotal evidence points to refusals coming both from those who were sensitive about the subject, and also from those who were disinterested because of lack of involvement (p. 75).

An approximate independent check is available for the *National Gambling Survey* on whether the gambler/non-gambler split obtained is representative of the population as a whole. In the ABS *Population Survey Monitor* for 1995-96, data were obtained on participation by persons aged 18 years or over in different types of gambling. While this information is somewhat dated and gambling participation would be expected to have increased since that time, an advantage of the *Population Survey Monitor* is that the response rate was relatively high (around 80 per cent) so that non-response bias would be expected to be small.

In the *Population Survey Monitor*, 10 803 adults Australia-wide were asked whether they had participated in a form of gambling in the week prior to the interview. The survey yielded the result that around 48 per cent of the adult population in 1995-96 had participated in a gambling activity in the previous week. The *National Gambling Survey* obtained information on gambling participation on a different basis — 10 633 adults reported on whether they had participated in a form of gambling in the *twelve months* prior to the interview. As discussed elsewhere in the report, this yielded the result that around 82 per cent of the adult population had gambled on at least one occasion during the 12 month period (excluding raffles only participants).

To enable a comparison between the surveys, the information obtained from the *National Gambling Survey* was recalculated to estimate what proportion of the

population would most likely have played in any single week in the twelve month period. The approach used was as follows:

- those who participated at least once per week can be assumed to have participated in any given week;

- those who participated between 1 and 3 times per month were assumed to have a 24/52 probability of participating in any given week; and

- those who participated less frequently than once per month were assumed to have a 5/52 probability of participating in any given week.

On this basis, results from the *National Gambling Survey* suggest that around 50 per cent of the adult population would have participated in some form of gambling activity in a typical week in 1998-99. Allowing for differences in time periods and gambling activities captured in the surveys, the similarity of the gambling prevalence estimates (48 and 50 per cent) suggests that respondents to the *National Gambling Survey* are likely to be representative of the adult population as a whole in relation to the gambler/non-gambler split.

Phase 2 — the main questionnaire

Of the 3809 participants who were offered a phase 2 interview, fully completed questionnaires were obtained from 3498 — a participation rate of 92 per cent. These completed interviews comprised: 1225 regular gamblers, 1290 non-regular gamblers and 983 non gamblers. The 1225 regulars comprised 889 respondents who participated in any single gambling activity (apart from lottery games or instant scratch tickets) at least once per week, or whose overall participation in gambling activities (apart from lottery games or instant scratch tickets) was the equivalent of weekly; and 336 'big spending' and other respondents transferred from the non-regular category by filter 3.

F.11   The questionnaire

The CATI version of the *National Gambling Survey* is attached.

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STRICTLY CONFIDENTIAL
CC-2133
MARCH 1999

NATIONAL GAMBLING SURVEY

Have you participated in any gambling activities in the last 12 months, such as poker machines, betting, scratchies, lotteries, casino games, keno, and bingo, but not raffles or sweeps?

Yes..............	1
No..............	2

In what country were you born?

Australia........	1
United Kingdom...	2
New Zealand......	3
USA..............	4
Canada..........	5
Greece..........	6
Italy...........	7
Lebanon.........	8
China...........	9
India...........	10
Vietnam.........	11
Malaysia........	12
Philippines.....	13
Hong Kong.......	14
South Africa.....	15
OTHER (PLEASE SPECIFY)........	97

QQ. RECORD SEX OF RESPONDENT

MALE............	1
FEMALE..........	2

+-----------------------------------+
| Good %A. My name is (say name) |
| from Roy Morgan Research, the |
| people who conduct the Morgan |
| Gallup poll. Today we are |
| conducting an important survey for |
| the Commonwealth Government about |
| people's attitudes to gambling, |
| and would like your help please. |
| |
| Could I please speak to the person |
| aged 18 years or over in your |
| household who had the last |
| birthday. (IF REQUIRED PERSON IS |
| NOT AVAILABLE, ASK FOR A SUITABLE |
| TIME TO CALL BACK. RECORD FIRST |
| NAME AND DETAILS FOR CALL BACK) |
| IF RESPONDENT CHANGES: REPEAT |
| FIRST PARA OF INTRODUCTION. |
+-----------------------------------+

WHO IS THE RESPONDENT?
IF RESPONDENT NOT PERSON WITH LAST BIRTHDAY, ENTER REASON FOR SPEAKING TO CURRENT RESPONDENT

PERSON WHO HAS LAST BIRTHDAY....	1

AWAY FOR DURATION OF SURVEY........	2
INCAPABLE/DEAF/ILLNESS/DISABILITY /TOO OLD........	3
DON'T KNOW WHOSE BIRTHDAY WAS LAST	4
OTHER (PLEASE SPECIFY)........	97

+-----------------------------------+
| You might have read about the |
| study in the newspaper or heard |
| about it on TV. Your views are |
| very important and we would like |
| you to participate. |
| I am asking only a few quick |
| questions to start with, to see if |
| you qualify for the survey. They |
| will take only a couple of |
| minutes, and your answers will be |
| strictly confidential. |
| |
| IF DOES NOT AGREE TO PARTICIPATE, |
| SAY: I realise I am intruding on |
| your time, but the results of this |
| survey are for a very important |
| Government study, and by |
| participating the results will be |
| more accurate. Please can you |
| spare just a couple of minutes to |
| participate in the initial part? |
| IF RESPONDENT SAYS THEY ARE NOT A |
| GAMBLER AND CAN'T SEE THE POINT OF |
| PARTICIPATING, SAY: |
| We are just as interested to speak |
| to non-gamblers as gamblers. It is |
| particularly important that we get |
| everybody's views. |
+-----------------------------------+

IS THE RESPONDENT WILLING TO CONTINUE?

WILLING TO CONTINUE........	1
STILL REFUSES....	2

+-----------------------------------+
| If still refuses then say: I |
| understand that (REPEAT REASON FOR |
| REFUSAL, E.G, YOU ARE BUSY) but |
| before hanging up, could you |
| please give me answers to just |
| three quick questions? |
+-----------------------------------+

+-----------------------------------+
| Thank you for your time and |
| assistance. |
+-----------------------------------+

+-----------------------------------+
| IF RESPONDENT ASKS HOW WE GOT |
| THEIR NUMBER, SAY: Your phone |
| number was selected randomly from |
| the White Pages phone book. |
| IF RESPONDENT WANTS INFORMATION |
| ABOUT WHO'S CONDUCTING THE SURVEY, |
| SAY: The survey is being conducted |
| on behalf of the Commonwealth |
| Government. For more information |
| about the survey you can contact |
| Dr. Robert Phillips on 02 6240 |
| 3222 |
+-----------------------------------+

NATIONAL GAMBLING SURVEY

SQ1a. First, could you please tell me how many people aged 18 or over usually live at this address?
ENTER NUMERIC CODE
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|+

SQ1b. For demographic purposes, would you mind telling me your age please?
IF BELOW 18, THANK AND CLOSE.
IF REFUSES, READ OUT:

BELOW 18..........	1
18 - 24..........	2
25 - 29..........	3
30 - 34..........	4
35 - 39..........	5
40 - 44..........	6
45 - 49..........	7
50 - 54..........	8
55 - 59..........	9
60 - 64..........	10
65 - 69..........	11
70+.............	12
REFUSED..........	13

IF AGED UNDER 18, SAY:

```
+-------------------------------------------+
| Thank you for your time, but we           |
| only wish to speak with people            |
| aged 18 and over                          |
|                                           |
| THIS WILL NOW TERMINATE                    |
+-------------------------------------------+
```

SQ2a. I am now going to read out a list of popular gambling activities. Could you please tell me which of these you have participated in during the last 12 months?
READ OUT

Played poker machines or gaming machines..	1,
Bet on horse or greyhound races EXCLUDING sweeps.	2,
Bought INSTANT scratch tickets..	3,
Played lotto or ANY OTHER lottery game like Tattslotto, Powerball, the Pools, $2 Jackpot lottery, Tatts 2, or Tatts Keno....	4,
Played Keno at a club, hotel, casino or any other place......	5,

Played table games at a casino, such as Blackjack or Roulette........	6,
Played bingo at a club or hall.....	7,
Bet on a sporting event like football, cricket, or tennis..........	8,
Played casino games on the internet........	9,
Played games like cards, or mahjong, privately FOR MONEY at home or any other place..	10,
Bought raffle tickets..........	11,
Played any other gambling activity EXCLUDING raffles or sweeps (PLEASE SPECIFY) (FIRST OTHER MENTION - SINGLE CODE).....	96,
Played any other gambling activity EXCLUDING raffles or sweeps (PLEASE SPECIFY) (ALL OTHER MENTIONS - MULTICODES)......	97,
(DO NOT READ) NONE OF THE ABOVE	98,

IF ONLY "BOUGHT RAFFLE TICKETS" OR "NONE OF THE ABOVE" GETS CODED (CODE 11 OR 98 AT SQ2A), THEN SAY:

I still have a few other questions to ask you. Is this a convenient time for you to take part in the rest of the survey?
It will only take about 5 minutes.

YES - AGREES TO TAKE PART........	1
NO..............	2

ALL NOT A CONVENIENT TIME

IF NOT A CONVENIENT TIME, SAY: When is it convenient for me to call you back? Who should I ask for? I only need a first name [RECORD DETAILS FOR CALL BACK]

IF DOES NOT AGREE TO PARTICIPATE, SAY: I realise I am intruding on your time, but the results of this survey are for a very important Government study, and by participating the results will be more accurate. Please can you spare 5 minutes to participate?

YES - AGREES TO TAKE PART........	1
NO..............	2

IF NOT WILLING TO PARTICIPATE, SAY:

+------------------------------------+
| Thank you for your time and |
| assistance |
| |
| THIS WILL NOW TERMINATE |
+------------------------------------+

IF MORE THAN ONE OTHER MENTION (CODES 96 AND 97 ON SQ2A), ASK:

SQ2B1. Of these other gambling activities that you just mentioned, which one have you played THE MOST in the last 12 months?
SINGLE RESPONSE. RESPONDENT SAID %O%124. AT SQ2A

    OTHER (PLEASE
    SPECIFY)......... 97

    (DO NOT READ)
    CAN'T SAY....... 98

IF GIVES ONE MAIN OTHER ACTIVITY (CODE 96 AND NOT 97 AT SQ2A, OR CODE 97 AT SQ2B1)

SQ2b2a. In the last 12 months, how many times per week OR per month OR per year have you played %O%124. %O%128.?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

    WEEK............ 1

    MONTH........... 2

    YEAR............ 3

    CAN'T SAY....... 4

    NONE............ 5

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK PLAYS OTHER ACTIVITY
IF CAN'T SAY ENCOURAGE BEST GUESS

        |__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH PLAYS OTHER ACTIVITY
IF CAN'T SAY ENCOURAGE BEST GUESS

        |__|__|__+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR PLAYS OTHER ACTIVITY
IF CAN'T SAY ENCOURAGE BEST GUESS

        |__|__|__+

IF HAVE played poker machines or gaming machines (CODE 1 AT SQ2A)

SQ2c1. In the last 12 months, how many times per week OR per month OR per year have you played poker machines or gaming machines?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

    WEEK............ 1

    MONTH........... 2

    YEAR............ 3

    CAN'T SAY....... 4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT played poker machines or gaming machines
IF CAN'T SAY ENCOURAGE BEST GUESS

        |__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT played poker machines or gaming machines
IF CAN'T SAY ENCOURAGE BEST GUESS

        |__|__|__+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT played poker machines or gaming machines
IF CAN'T SAY ENCOURAGE BEST GUESS

        |__|__|__+

IF HAVE bought INSTANT scratch tickets (CODE 3 AT SQ2A)

SQ2c3. In the last 12 months, how many times per week OR per month OR per year have you bought INSTANT scratch tickets?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

    WEEK............ 1

    MONTH........... 2

    YEAR............ 3

    CAN'T SAY....... 4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT bought INSTANT scratch tickets
IF CAN'T SAY ENCOURAGE BEST GUESS

        |__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT bought INSTANT scratch tickets
IF CAN'T SAY ENCOURAGE BEST GUESS

        |__|__|__+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT bought INSTANT scratch tickets
IF CAN'T SAY ENCOURAGE BEST GUESS

        |__|__|__+

IF HAVE Played lotto or ANY OTHER lottery game like Tattslotto, Powerball, the Pools, $2 Jackpot lottery, Tatts 2, or Tatts Keno (CODE 4 AT SQ2A)

SQ2c4. In the last 12 months, how many times per week OR per month OR per year have you Played lotto or ANY OTHER lottery game like Tattslotto, Powerball, the Pools, $2 Jackpot lottery, Tatts 2, or Tatts Keno? ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

WEEK............	1
MONTH...........	2
YEAR............	3
CAN'T SAY.......	4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT Played lotto or ANY OTHER lottery game like Tattslotto, Powerball, the Pools, $2 Jackpot lottery, Tatts 2, or Tatts Keno IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT Played lotto or ANY OTHER lottery game like Tattslotto, Powerball, the Pools, $2 Jackpot lottery, Tatts 2, or Tatts Keno IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT Played lotto or ANY OTHER lottery game like Tattslotto, Powerball, the Pools, $2 Jackpot lottery, Tatts 2, or Tatts Keno IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF HAVE Played Keno at a club, hotel, casino or any other place (CODE 5 AT SQ2A)

SQ2c5. In the last 12 months, how many times per week OR per month OR per year have you Played Keno at a club, hotel, casino or any other place? ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

WEEK............	1
MONTH...........	2
YEAR............	3
CAN'T SAY.......	4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT Played Keno at a club, hotel, casino or any other place IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT Played Keno at a club, hotel, casino or any other place IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT Played Keno at a club, hotel, casino or any other place IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF HAVE Played table games at a casino such as Blackjack or Roulette (CODE 6 AT SQ2A)

SQ2c6. In the last 12 months, how many times per week OR per month OR per year have you Played table games at a casino such as Blackjack or Roulette? ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

WEEK............	1
MONTH...........	2
YEAR............	3
CAN'T SAY.......	4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT Played table games at a casino such as Blackjack or Roulette IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT Played table games at a casino such as Blackjack or Roulette IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT Played table games at a casino such as Blackjack or Roulette IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF HAVE Played bingo at a club or hall (CODE 7 AT SQ2A)

SQ2c7. In the last 12 months, how many times per week OR per month OR per year have you Played bingo at a club or hall? ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

WEEK............	1
MONTH...........	2
YEAR............	3
CAN'T SAY.......	4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK
RESPONDENT Played bingo at a club or
hall
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|_+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH
RESPONDENT Played bingo at a club or
hall
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|_+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR
RESPONDENT Played bingo at a club or
hall
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|_+

IF HAVE Played casino games on the
internet (CODE 9 AT SQ2A)

SQ2c9. In the last 12 months, how many
times per week OR per month OR per
year have you Played casino games on
the internet?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR
FREQUENCY

WEEK.............	1
MONTH............	2
YEAR.............	3
CAN'T SAY........	4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK
RESPONDENT Played casino games on the
internet
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|_+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH
RESPONDENT Played casino games on the
internet
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|_+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR
RESPONDENT Played casino games on the
internet
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|_+

IF HAVE Played games like cards, or
mahjong, privately FOR MONEY at home
or any other place (CODE 10 AT SQ2A)

SQ2c10. In the last 12 months, how
many times per week OR per month OR
per year have you Played games like
cards, or mahjong, privately FOR MONEY
at home or any other place?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR
FREQUENCY

| WEEK............. | 1 |

MONTH...........	2
YEAR............	3
CAN'T SAY.......	4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK
RESPONDENT Played games like cards, or
mahjong, privately FOR MONEY at home
or any other place
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|_+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH
RESPONDENT Played games like cards, or
mahjong, privately FOR MONEY at home
or any other place
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|_+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR
RESPONDENT Played games like cards, or
mahjong, privately FOR MONEY at home
or any other place
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|_+

IF HAVE bet on horse or greyhound
races EXCLUDING sweeps (CODE 2 AT
SQ2A)

SQ2c2. In the last 12 months, how many
DAYS per week OR per month OR per year
have you bet on horse or greyhound
races EXCLUDING sweeps?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR
FREQUENCY

WEEK.............	1
MONTH...........	2
YEAR............	3
CAN'T SAY.......	4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF DAYS PER WEEK
RESPONDENT bet on horse or greyhound
races EXCLUDING sweeps
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|_+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF DAYS PER MONTH
RESPONDENT bet on horse or greyhound
races EXCLUDING sweeps
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|_+

IF ANSWER GIVEN IN DAYS PER YEAR

ENTER NUMBER OF DAYS PER YEAR
RESPONDENT bet on horse or greyhound
races EXCLUDING sweeps
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|_+

IF HAVE Bet on a sporting event like football, cricket, or tennis (CODE 8 AT SQ2A)

SQ2c8. In the last 12 months, how many DAYS per week OR per month OR per year have you Bet on a sporting event like football, cricket, or tennis?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

    WEEK............   1

    MONTH...........   2

    YEAR............   3

    CAN'T SAY........   4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF DAYS PER WEEK RESPONDENT Bet on a sporting event like football, cricket, or tennis
IF CAN'T SAY ENCOURAGE BEST GUESS

    |__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF DAYS PER MONTH RESPONDENT Bet on a sporting event like football, cricket, or tennis
IF CAN'T SAY ENCOURAGE BEST GUESS

    |__|__|__+

IF ANSWER GIVEN IN DAYS PER YEAR

ENTER NUMBER OF DAYS PER YEAR RESPONDENT Bet on a sporting event like football, cricket, or tennis
IF CAN'T SAY ENCOURAGE BEST GUESS

    |__|__|__+

GAMBLE VALUE FOR QUOTAS

    |__|__|__|__|__|__|__+

REGULAR VALUE FOR QUOTAS

    REGULAR..........   1

    NON REGULAR......   2

    NON GAMBLERS.....   3

REGULAR VALUE FOR QUOTAS

    OVERALL REGULAR..   1

    OVERALL NON
    REGULAR..........   2

    OVERALL NON
    GAMBLERS.........   3

+------------------------------+
| Thank you for your time and |
| assistance. |
+------------------------------+

+------------------------------------+
| We think you will make an ideal |
| participant for the rest of the |
| survey. Is this a convenient time |
| for you to continue? |
| The rest of the survey could take |
| only about 10 or 20 minutes, and |
| if you can not finish it now, we |
| can call you back at another time. |
| |
| IF NOT A CONVENIENT TIME, SAY: |
| When is it convenient for me to |
| call you back? Who should I ask |
| for? |
| I only need a first name [RECORD |
| DETAILS FOR CALL BACK] |
+------------------------------------+

IF DOES NOT AGREE TO CONTINUE, SAY:
The results of this survey are part of a very important Government study, and by participating the results will be more accurate. Please can you spare the time to participate ?

    YES - AGREES TO
    TAKE PART........   1

    NO...............   2

IF NOT WILLING TO PARTICIPATE, SAY:

+------------------------------------+
| Thank you for your time and |
| assistance |
| |
| THIS WILL NOW TERMINATE |
+------------------------------------+

+------------------------------------+
| As you know, gambling is a popular |
| leisure activity for many people. |
| I am going to read out some |
| statements about gambling that I |
| would like to hear your opinion |
| about. |
+------------------------------------+

B1. What do you think of the statement that overall, gambling does more good than harm for the community? Do you ...%1230,/strongly agree, slightly agree, neither agree nor disagree, slightly disagree or strongly disagree/strongly disagree, slightly disagree, neither disagree nor agree, slightly agree or strongly agree/?

    STRONGLY AGREE...   1

    SLIGHTLY AGREE...   2

    NEITHER AGREE NOR
    DISAGREE.........   3

    SLIGHTLY DISAGREE   4

    STRONGLY DISAGREE   5

    DON'T KNOW/CAN'T
    SAY.............   6

B2. Do you think the number of poker machines and other gaming machines currently available in your local community should be increased, decreased or stay the same?

PROBE: And do you think the increase/decrease should be small or large?

    A LARGE INCREASE.   1

    A SMALL INCREASE.   2

STAY THE SAME....	3
A SMALL DECREASE.	4
A LARGE DECREASE.	5
HAVE NO OPINION/CAN'T SAY	6

IF NUMBER OF MACHINES SHOULD BE INCREASED OR DECREASED (CODES 1, 2 4 OR 5 AT B2), ASK:

B3 Poker machines and gaming machines are located in clubs, hotels and casinos. Where do you think the number of machines should be %1234,/increased/decreased/? Would you say ...

in clubs?

Yes..............	1
No..............	2
Can't say........	3

B3 (Poker machines and gaming machines are located in clubs, hotels and casinos. Where do you think the number of machines should be %1236,/increased/decreased/?) Would you say ...

in hotels?

Yes..............	1
No..............	2
Can't say.......	3

B3 (Poker machines and gaming machines are located in clubs, hotels and casinos. Where do you think the number of machines should be %1238,/increased/decreased/?) Would you say ...

in casinos?

Yes..............	1
No..............	2
Can't say.......	3

B4. Some people say that the wider availability of gambling in recent years has provided more opportunities for recreational enjoyment? Do you ...%1240,/strongly agree, slightly agree, neither agree nor disagree, slightly disagree or strongly disagree/strongly disagree, slightly disagree, neither disagree nor agree, slightly agree or strongly agree/?

Strongly agree...	1
Slightly agree...	2
Neither agree nor disagree........	3
Slightly disagree	4
Strongly disagree	5
Don't know/Can't say..............	6

IF GAMBLER (CODE 1 OR 2 AT REGULAR)

IF PLAYED POKER MACHINES OR GAMING MACHINES (QUESTION sq2A CODED 1)

+--+
| Next some questions about the GAMING MACHINES YOU PLAYED IN THE LAST 12 MONTHS. |
+--+

C0. What type of gaming machine do you USUALLY play? READ OUT

Poker machines ('pokies').......	1
Video card machines........	2
Video keno machines........	3
Or some other gaming machine (PLEASE SPECIFY).	97
(DO NOT READ) CAN'T SAY........	98

C1a. In the last 12 months, how many times per week OR per month OR per year have you visited a CLUB and played %1247,/poker// %1249,/video card// %1251,/video keno// %1253,/other gaming// %1255,/poker// machines? ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

WEEK.............	1
MONTH...........	2
YEAR.............	3
CAN'T SAY.......	4
NONE.............	5

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT VISITED A CLUB AND PLAYED %1259,/POKER// %1261,/VIDEO CARD// %1263,/VIDEO KENO// %1265,/OTHER GAMING// %1267,/POKER// MACHINES IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT VISITED A CLUB AND PLAYED %1271,/POKER// %1273,/VIDEO CARD// %1275,/VIDEO KENO// %1277,/OTHER GAMING// %1279,/POKER// MACHINES IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT VISITED A CLUB AND PLAYED %1283,/POKER// %1285,/VIDEO CARD// %1287,/VIDEO KENO// %1289,/OTHER GAMING// %1291,/POKER// MACHINES IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

C1b. And in the last 12 months, how many times per week OR per month OR per year have you visited a PUB or HOTEL and played %1293,/poker// %1295,/video card// %1297,/video keno// %1299,/other gaming// %1301,/poker// machines?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

WEEK............   1

MONTH...........   2

YEAR............   3

CAN'T SAY.......   4

NONE............   5

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT VISITED A PUB OR HOTEL AND PLAYED %1305,/POKER// %1307,/VIDEO CARD// %1309,/VIDEO KENO// %1311,/OTHER GAMING// %1313,/POKER// MACHINES
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT VISITED A PUB OR HOTEL AND PLAYED %1317,/POKER// %1319,/VIDEO CARD// %1321,/VIDEO KENO// %1323,/OTHER GAMING// %1325,/POKER// MACHINES
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT VISITED A PUB OR HOTEL AND PLAYED %1329,/POKER// %1331,/VIDEO CARD// %1333,/VIDEO KENO// %1335,/OTHER GAMING// %1337,/POKER// MACHINES
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

C1c. And in the last 12 months, how many times per week OR per month OR per year have you visited a CASINO and played %1339,/poker// %1341,/video card// %1343,/video keno// %1345,/other gaming// %1347,/poker// machines?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

WEEK............   1

MONTH...........   2

YEAR............   3

CAN'T SAY.......   4

NONE............   5

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT VISITED A CASINO AND PLAYED %1351,/POKER// %1353,/VIDEO CARD// %1355,/VIDEO KENO// %1357,/OTHER GAMING// %1359,/POKER// MACHINES
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT VISITED A CASINO AND PLAYED %1363,/POKER// %1365,/VIDEO CARD// %1367,/VIDEO KENO// %1369,/OTHER GAMING// %1371,/POKER// MACHINES
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT VISITED A CASINO AND PLAYED %1375,/POKER// %1377,/VIDEO CARD// %1379,/VIDEO KENO// %1381,/OTHER GAMING// %1383,/POKER// MACHINES
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

C2. For how long do you usually play the %1385,/poker// %1387,/video card// %1389,/video keno// %1391,/other gaming// %1393,/poker// machines when you visit a venue?
RECORD HOURS HERE AND RETURN TO RECORD MINUTES
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__+

C2. (For how long do you usually play the %1397,/poker// %1399,/video card// %1401,/video keno// %1403,/other gaming// %1405,/poker// machines when you visit a venue?)
RECORD MINUTES HERE
IF CAN'T SAY ENCOURAGE BEST GUESS
IF ANSWER ONLY GIVEN IN HOURS, ENTER 0 MINUTES

|__|__+

C3. How often do you withdraw money from an automatic teller machine (ATM) at a venue when you play the %1407,/poker// %1409,/video card// %1411,/video keno// %1413,/other gaming// %1415,/poker// machines? Is that %1417,/never/rarely/sometimes/often or always/ always/often/sometimes/rarely or never/?

NEVER...........   1

RARELY..........   2

SOMETIMES.......   3

OFTEN...........   4

ALWAYS..........   5

CAN'T SAY.......   6

C4. When you visit a venue, how much money do you usually take with you to play the %1419,/poker// %1421,/video card// %1423,/video keno// %1425,/other gaming// %1427,/poker// machines, including any additional money withdrawn or borrowed during the period of play?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__+

C5. And how much money do you usually have left when you finish playing the %1429,/poker// %1431,/video card// %1433,/video keno// %1435,/other gaming// %1437,/poker// machines?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

```
+------------------------------------------+
| IF CAN'T SAY AT C4 OR C5, ASK:           |
+------------------------------------------+
```

C5B. Do you usually lose or win when you play these machines?

    USUALLY WIN......   1

    USUALLY LOSE.....   2

    CAN'T SAY........   3

IF USUALLY WIN (CODE 1 AT C5B)

C5b2. So how much money do you USUALLY WIN?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

IF USUALLY LOSE (CODE 2 AT C5B)

C5b3. So how much money do you USUALLY LOSE?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

C6. What kind of machine do you usually play?
READ OUT

    1 cent machine...   1

    2 cents machine..   2

    5 cents machine..   3

    10 cents machine.   4

    20 cents machine.   5

    50 cents machine.   6

    $1 machine.......   7

    $2 machine.......   8

    Higher than $2 machine.........   9

    (DO NOT READ) CAN'T SAY........   10

IF POKER MACHINE (CODE 1 AT C0)

C7. Do you bet more than 1 line at each press of the button?

    YES..............   1

    NO...............   2

    CAN'T SAY........   3

IF BET ON MORE THAN ONE LINE (CODE 1 AT C7)

C8. Is that %1449,/rarely/ sometimes/often or always/always/ often/sometimes or rarely/?

    RARELY..........   1

    SOMETIMES.......   2

    OFTEN...........   3

    ALWAYS..........   4

    CAN'T SAY.......   5

C9. And how many lines do you usually play on those occasions?
ENTER NUMBER OF LINES.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|+

```
+------------------------------------------+
| IF POKER MACHINE (CODE 1 AT C0)          |
+------------------------------------------+
```

C10. Do you bet more than 1 credit per line?

    YES..............   1

    NO...............   2

    CAN'T SAY.......   3

IF BET MORE THAN 1 CREDIT/LINE (CODE 1 AT C10)

C11. Is that %1453,/rarely/ sometimes/often or always/always/ often/sometimes or rarely/?

    RARELY..........   1

    SOMETIMES.......   2

    OFTEN...........   3

    ALWAYS..........   4

    CAN'T SAY.......   5

C12. And how many credits do you usually play on those occasions?
ENTER NUMBER OF CREDITS.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|+

```
+------------------------------------------+
| IF PLAYED POKER MACHINES OR GAMING       |
|      MACHINES (CODE 1 AT SQ2A)           |
+------------------------------------------+
```

C13. Do the machines you usually play allow you to insert notes rather than coins?

    YES..............   1

    NO...............   2

    CAN'T SAY.......   3

IF MACHINES USUALLY ALLOW NOTES (CODE 1 AT C13)

C14. Do you insert notes %1457,/never/rarely/ sometimes/often or always/always/ often/sometimes/rarely or never/?

    NEVER...........   1

    RARELY..........   2

SOMETIMES............ 3

OFTEN............ 4

ALWAYS.......... 5

CAN'T SAY........ 6

+---------------------------------------+
| IF PLAYED POKER MACHINES OR GAMING |
| MACHINES (QUESTION sq2A CODED 1) |
+---------------------------------------+

C15. Do you have a card which you can use to earn bonus points when you play the machines?

YES.............. 1

NO.............. 2

CAN'T SAY........ 3

IF HAS CARD FOR BONUS POINTS (CODE 1 AT C15)

C16. Do you insert this card into the machines
%1461,/never/rarely/sometimes/often or always /always/often/sometimes/rarely or never/?

NEVER............ 1

RARELY........... 2

SOMETIMES........ 3

OFTEN............ 4

ALWAYS.......... 5

CAN'T SAY........ 6

REFUSED.......... 7

+---------------------------------------+
| IF PLAYED POKER MACHINES OR GAMING |
| MACHINES (QUESTION sq2A CODED 1) |
+---------------------------------------+

C17. On how many separate visits have you won $250 or more from playing the machines in the last 12 months?
ENTER NUMBER OF TIMES.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__+

IF BET ON HORSE OR GREYHOUND RACES (CODE 2 AT sQ2A)

+---------------------------------------+
| Next some questions about your |
| BETTING ON HORSE OR GREYHOUND |
| RACES IN THE LAST 12 MONTHS. |
+---------------------------------------+

D1a. In the last 12 months, on how many DAYS per WEEK or per MONTH or per YEAR have you bet on the races AT A RACETRACK?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

WEEK............. 1

MONTH............ 2

YEAR............. 3

CAN'T SAY........ 4

NONE.............. 5

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF DAYS PER WEEK BETS ON THE RACES AT A RACETRACK
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF DAYS PER MONTH BETS ON THE RACES AT A RACETRACK
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN DAYS PER YEAR

ENTER NUMBER OF DAYS PER YEAR BETS ON THE RACES AT A RACETRACK
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

D1b. And in the last 12 months, on how many DAYS per week or per month or per year have you bet on the races at an OFF-COURSE VENUE such as a TAB agency, club or hotel?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

WEEK............. 1

MONTH............ 2

YEAR............. 3

CAN'T SAY........ 4

NONE............. 5

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF DAYS PER WEEK BETS ON THE RACES AT AN OFF-COURSE VENUE
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF DAYS PER MONTH BETS ON THE RACES AT AN OFF-COURSE VENUE
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN DAYS PER YEAR

ENTER NUMBER OF DAYS PER YEAR BETS ON THE RACES AT AN OFF-COURSE VENUE
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

D1c. And in the last 12 months, on how many DAYS per week or per month or per year have you bet on the races by PHONE?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

WEEK............. 1

MONTH............ 2

YEAR............. 3

CAN'T SAY........ 4

NONE............. 5

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF DAYS PER WEEK BETS ON
THE RACES BY PHONE
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF DAYS PER MONTH BETS ON
THE RACES BY PHONE
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN DAYS PER YEAR

ENTER NUMBER OF DAYS PER YEAR BETS ON
THE RACES BY PHONE
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

D1d. And in the last 12 months, on how
many DAYS per week or per month or per
year have you bet on the races VIA THE
INTERNET?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR
FREQUENCY

WEEK..............	1
MONTH.............	2
YEAR.............	3
CAN'T SAY........	4
NONE.............	5

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF DAYS PER WEEK BETS ON
THE RACES VIA THE INTERNET
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF DAYS PER MONTH BETS ON
THE RACES VIA THE INTERNET
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN DAYS PER YEAR

ENTER NUMBER OF DAYS PER YEAR BETS ON
THE RACES VIA THE INTERNET
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

GAMBLE ON COURSE

|__|__|__|__|__|__|__|+

GAMBLE OFF COURSE

|__|__|__|__|__|__|__|+

GAMBLE ON PHONE

|__|__|__|__|__|__|__|+

GAMBLE ON INTERNET

|__|__|__|__|__|__|__|+

IF BETS ONCE A WEEK OR MORE OFTEN IN
ANY FORM, THEN ASK:

D2. In a usual week, overall how much
time do you take to study the form,
place your bets, and listen to and/or
watch the races?
RECORD HOURS HERE AND RETURN TO RECORD
MINUTES
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|+

D2. (In a usual week, overall how much
time do you take to study the form,
place your bets, and listen to and/or
watch the races?)
RECORD MINUTES HERE
IF CAN'T SAY ENCOURAGE BEST GUESS
IF ANSWER ONLY GIVEN IN HOURS, ENTER 0
MINUTES

|__|__|+

IF BET ONLY ONCE IN LAST 12 MONTHS,
THEN ASK:

D3a. How much money did you outlay on
that occasion?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

D4a. And how much, if any, did you
win?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

IF BET MORE THAN ONCE ON COURSE IN
LAST 12 MONTHS, THEN ASK:

D3b Thinking of when you go to a
racecourse, how much money do you
usually take with you to bet on the
races, including any additional money
withdrawn or borrowed during your time
at the races?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

D4b. And how much money do you usually
have left when you leave the races?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

+-------------------------------------+
| IF CAN'T SAY AT D3B OR D4B, ASK: |
+-------------------------------------+

D5b1. Do you usually win or lose
during a day at the races?

USUALLY WIN......	1
USUALLY LOSE.....	2
CAN'T SAY........	3

IF USUALLY WIN (CODE 1 AT D5B1) OR D3B
LESS THAN D4B

D5b2. So how much money do you USUALLY
WIN during a day at the races?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|_+

IF USUALLY LOSE (CODE 2 AT D5B1 OR D4B
LESS THAN D3B)

D5b3. So how much money do you USUALLY
LOSE during a day at the races?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|_+

IF BET MORE THAN ONCE OFF COURSE IN
LAST 12 MONTHS, THEN ASK:

D3c. How much money do you usually
outlay on the races each day you bet
off-course at a TAB, club or hotel?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|_+

D4c. And how much money do you usually
have left at the end of the day's
betting?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|_+

+--+
| IF CAN'T SAY AT D3C OR D4C, ASK: |
+--+

D5c1. Do you usually lose or win
during a day's betting off-course at
the TAB, club or hotel?
ENTER WIN/LOSE THEN RETURN FOR AMOUNT

    USUALLY WIN......   1

    USUALLY LOSE.....   2

    CAN'T SAY........   3

IF USUALLY WIN (CODE 1 AT D5c1)

D5c2. So how much money do you USUALLY
WIN during a day's betting off-course
at the TAB, club or hotel?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|_+

IF USUALLY LOSE (CODE 2 AT D5c1)

D5c3. So how much money do you USUALLY
LOSE during a day's betting off-course
at the TAB, club or hotel?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|_+

IF BET MORE THAN ONCE BY PHONE IN LAST
12 MONTHS, THEN ASK:

D3D. How much money do you usually
outlay on the races each day you bet
by phone?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|_+

D4D. And how much money do you usually
have left at the end of the day's
betting?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|_+

+--+
| IF CAN'T SAY AT D3D OR D4D, ASK: |
+--+

D5D1. Do you usually lose or win
during a day's betting by phone?
ENTER WIN/LOSE THEN RETURN FOR AMOUNT

    USUALLY WIN......   1

    USUALLY LOSE.....   2

    CAN'T SAY........   3

IF USUALLY WIN (CODE 1 AT D5d1)

D5d2. So how much money do you USUALLY
WIN during a day's betting by phone?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|_+

IF USUALLY LOSE (CODE 2 AT D5d1)

D5d3. So how much money do you USUALLY
LOSE during a day's betting by phone?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|_+

IF BET MORE THAN ONCE VIA THE INTERNET
IN LAST 12 MONTHS, THEN ASK:

D3E. How much money do you usually
outlay on the races each day you bet
via the internet?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|_+

D4e. And how much money do you usually
have left at the end of the day's
betting?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|_+

+--+
| IF CAN'T SAY AT D3E OR D4E, ASK: |
+--+

D5e1. Do you usually lose or win
during a day's betting via the
internet?
ENTER WIN/LOSE THEN RETURN FOR AMOUNT

    USUALLY WIN......   1

    USUALLY LOSE.....   2

CAN'T SAY........   3

IF USUALLY WIN (CODE 1 AT D5e1)

D5e2. So how much money do you USUALLY WIN during a day's betting via the internet?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

IF USUALLY LOSE (CODE 2 AT D5e1)

D5e3. So how much money do you USUALLY LOSE during a day's betting via the internet?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

IF BOUGHT INSTANT SCRATCH TICKETS (CODE 3 AT sQ2A)

+--+
| You mentioned earlier that you |
| bought INSTANT SCRATCH TICKETS |
| %148.%150.%152. per %146. IN THE |
| LAST 12 MONTHS. |
+--+

E2. How much money do you usually outlay each time you buy instant scratch tickets?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

E3. And approximately how much money would you say you have won from the instant scratch tickets you have bought in the last %146.?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

+--+
| IF CAN'T SAY AT E2 OR E3, ASK: |
+--+

E4. Do you usually lose or win from the instant scratch tickets?

    USUALLY WIN......   1

    USUALLY LOSE.....   2

    CAN'T SAY........   3

IF USUALLY WIN (CODE 1 AT e4)

E4B. So how much money do you USUALLY WIN?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

IF USUALLY LOSE (CODE 2 AT e4)

E4c. So how much money do you USUALLY LOSE?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

IF PLAYED LOTTO OR ANY OTHER LOTTERY GAME (QUESTION sq2a CODED 4)

interview area for MF1

    NSW.............   1

    VIC.............   2

    QLD.............   3

    WA..............   4

    SA..............   5

    TAS.............   6

    NT..............   7

    ACT.............   8

F1. Thinking about the lottery games you have played in the last 12 months. I will now read out a list of games. Please tell me if you have played that game IN THE LAST 12 MONTHS.

    Lotto...........   1,

    Lotto Strike.....   2,

    Tattslotto.......   3,

    Gold Lotto.......   4,

    Oz Lotto........   5,

    Powerball........   6,

    Super 66........   7,

    The Pools........   8,

    Lucky 7 Lottery..   9,

    $5 Jackpot
    Lottery..........   10,

    Casket Lottery...   11,

    Territorian
    lottery..........   12,

    Tatts 2..........   13,

    Cash 3...........   14,

    $2 Lottery.......   15,

    Tatts Keno.......   16,

    5--minute Keno...   17,

    (DO NOT READ)
    NONE OF THESE....   18,

IF PLAYED Lotto IN LAST 12 MONTHS (CODE 1 AT F1)

F2A. How many times per week OR per month OR per year DO you play Lotto?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

    WEEK............   1

    MONTH...........   2

    YEAR............   3

    CAN'T SAY........   4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT PLAYED Lotto
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT PLAYED Lotto
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT PLAYED Lotto
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

F3A. And how much money do you usually outlay each time you play Lotto?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|+

IF PLAYED Lotto Strike IN LAST 12 MONTHS (CODE 2 AT F1)

F2B. How many times per week OR per month OR per year DO you play Lotto Strike?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

WEEK............   1

MONTH...........   2

YEAR............   3

CAN'T SAY........   4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT PLAYED Lotto Strike
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT PLAYED Lotto Strike
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT PLAYED Lotto Strike
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

F3B. And how much money do you usually outlay each time you play Lotto Strike?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|+

IF PLAYED Tattslotto IN LAST 12 MONTHS (CODE 3 AT F1)

F2C. How many times per week OR per month OR per year DO you play Tattslotto?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

WEEK............   1

MONTH...........   2

YEAR............   3

CAN'T SAY........   4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT PLAYED Tattslotto
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT PLAYED Tattslotto
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT PLAYED Tattslotto
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

F3C. And how much money do you usually outlay each time you play Tattslotto?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|+

IF PLAYED Gold Lotto IN LAST 12 MONTHS (CODE 4 AT F1)

F2D. How many times per week OR per month OR per year DO you play Gold Lotto?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

WEEK............   1

MONTH...........   2

YEAR............   3

CAN'T SAY........   4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT PLAYED Gold Lotto
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT PLAYED Gold Lotto
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT PLAYED Gold Lotto
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

F3D. And how much money do you usually outlay each time you play Gold Lotto?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|+

IF PLAYED Oz Lotto IN LAST 12 MONTHS (CODE 5 AT F1)

F2E. How many times per week OR per month OR per year DO you play Oz Lotto?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

     WEEK.............   1

     MONTH............   2

     YEAR.............   3

     CAN'T SAY........   4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT PLAYED Oz Lotto
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT PLAYED Oz Lotto
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT PLAYED Oz Lotto
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

F3E. And how much money do you usually outlay each time you play Oz Lotto?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__+

IF PLAYED Powerball IN LAST 12 MONTHS (CODE 6 AT F1)

F2F. How many times per week OR per month OR per year DO you play Powerball?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

     WEEK.............   1

     MONTH............   2

     YEAR.............   3

     CAN'T SAY........   4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT PLAYED Powerball
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT PLAYED Powerball
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT PLAYED Powerball
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

F3F. And how much money do you usually outlay each time you play Powerball?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__+

IF PLAYED Super 66 IN LAST 12 MONTHS (CODE 7 AT F1)

F2G. How many times per week OR per month OR per year DO you play Super 66?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

     WEEK.............   1

     MONTH............   2

     YEAR.............   3

     CAN'T SAY........   4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT PLAYED Super 66
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT PLAYED Super 66
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT PLAYED Super 66
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

F3G. And how much money do you usually outlay each time you play Super 66?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__+

IF PLAYED The Pools IN LAST 12 MONTHS (CODE 8 AT F1)

F2H. How many times per week OR per month OR per year DO you play The Pools?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

     WEEK.............   1

     MONTH............   2

     YEAR.............   3

CAN'T SAY........   4

IF ANSWER GIVEN IN WEEKS

ENTER   NUMBER   OF   TIMES   PER   WEEK
RESPONDENT PLAYED The Pools
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER   NUMBER   OF   TIMES   PER   MONTH
RESPONDENT PLAYED The Pools
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER   NUMBER   OF   TIMES   PER   YEAR
RESPONDENT PLAYED The Pools
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

F3H. And how much money do you usually
outlay each time you play The Pools?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__+

IF PLAYED Lucky 7 Lottery IN LAST 12
MONTHS (CODE 9 AT F1)

F2I. How   many   times per week OR per
month   OR per year DO you play Lucky 7
Lottery?
ENTER   WEEK/MONTH/YEAR THEN RETURN FOR
FREQUENCY

WEEK.............   1

MONTH............   2

YEAR.............   3

CAN'T SAY........   4

IF ANSWER GIVEN IN WEEKS

ENTER   NUMBER   OF   TIMES   PER   WEEK
RESPONDENT PLAYED Lucky 7 Lottery
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER   NUMBER   OF   TIMES   PER   MONTH
RESPONDENT PLAYED Lucky 7 Lottery
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER   NUMBER   OF   TIMES   PER   YEAR
RESPONDENT PLAYED Lucky 7 Lottery
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

F3I. And how much money do you usually
outlay each time you play Lucky 7
Lottery?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__+

IF PLAYED $5 Jackpot Lottery IN LAST
12 MONTHS (CODE 10 AT F1)

F2J. How   many   times per week OR per
month   OR   per   year   DO   you   play $5
Jackpot Lottery?
ENTER   WEEK/MONTH/YEAR THEN RETURN FOR
FREQUENCY

WEEK.............   1

MONTH............   2

YEAR.............   3

CAN'T SAY........   4

IF ANSWER GIVEN IN WEEKS

ENTER   NUMBER   OF   TIMES   PER   WEEK
RESPONDENT PLAYED $5 Jackpot Lottery
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER   NUMBER   OF   TIMES   PER   MONTH
RESPONDENT PLAYED $5 Jackpot Lottery
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER   NUMBER   OF   TIMES   PER   YEAR
RESPONDENT PLAYED $5 Jackpot Lottery
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

F3J. And how much money do you usually
outlay each time you play $5 Jackpot
Lottery?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__+

IF PLAYED Casket Lottery IN LAST 12
MONTHS (CODE 11 AT F1)

F2K. How   many   times per week OR per
month   OR   per year DO you play Casket
Lottery?
ENTER   WEEK/MONTH/YEAR THEN RETURN FOR
FREQUENCY

WEEK.............   1

MONTH............   2

YEAR.............   3

CAN'T SAY........   4

IF ANSWER GIVEN IN WEEKS

ENTER   NUMBER   OF   TIMES   PER   WEEK
RESPONDENT PLAYED Casket Lottery
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER   NUMBER   OF   TIMES   PER   MONTH
RESPONDENT PLAYED Casket Lottery
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT PLAYED Casket Lottery
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

F3K. And how much money do you usually outlay each time you play Casket Lottery?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|+

IF PLAYED Territorian lottery IN LAST 12 MONTHS (CODE 12 AT F1)

F2L. How many times per week OR per month OR per year DO you play Territorian lottery?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

     WEEK............   1

     MONTH...........   2

     YEAR............   3

     CAN'T SAY.......   4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT PLAYED Territorian lottery
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT PLAYED Territorian lottery
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT PLAYED Territorian lottery
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|+

F3L. And how much money do you usually outlay each time you play Territorian lottery?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|+

IF PLAYED Tatts 2 IN LAST 12 MONTHS (CODE 13 AT F1)

F2M. How many times per week OR per month OR per year DO you play Tatts 2?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

     WEEK............   1

     MONTH...........   2

     YEAR............   3

CAN'T SAY.......   4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT PLAYED Tatts 2
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT PLAYED Tatts 2
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT PLAYED Tatts 2
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|+

F3M. And how much money do you usually outlay each time you play Tatts 2?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|+

IF PLAYED Cash 3 IN LAST 12 MONTHS (CODE 14 AT F1)

F2N. How many times per week OR per month OR per year DO you play Cash 3?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR FREQUENCY

     WEEK............   1

     MONTH...........   2

     YEAR............   3

     CAN'T SAY.......   4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK RESPONDENT PLAYED Cash 3
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH RESPONDENT PLAYED Cash 3
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR RESPONDENT PLAYED Cash 3
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__|+

F3N. And how much money do you usually outlay each time you play Cash 3?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|+

IF PLAYED $2 Lottery IN LAST 12 MONTHS
(CODE 15 AT F1)

F2O. How many times per week OR per
month OR per year DO you play $2
Lottery?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR
FREQUENCY

    WEEK.............   1

    MONTH...........   2

    YEAR............   3

    CAN'T SAY........   4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK
RESPONDENT PLAYED $2 Lottery
IF CAN'T SAY ENCOURAGE BEST GUESS

    |__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH
RESPONDENT PLAYED $2 Lottery
IF CAN'T SAY ENCOURAGE BEST GUESS

    |__|__|__+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR
RESPONDENT PLAYED $2 Lottery
IF CAN'T SAY ENCOURAGE BEST GUESS

    |__|__|__+

F3O. And how much money do you usually
outlay each time you play $2 Lottery?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

    |__|__|__|__+

IF PLAYED Tatts Keno IN LAST 12 MONTHS
(CODE 16 AT F1)

F2P. How many times per week OR per
month OR per year DO you play Tatts
Keno?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR
FREQUENCY

    WEEK.............   1

    MONTH...........   2

    YEAR............   3

    CAN'T SAY........   4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK
RESPONDENT PLAYED Tatts Keno
IF CAN'T SAY ENCOURAGE BEST GUESS

    |__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH
RESPONDENT PLAYED Tatts Keno
IF CAN'T SAY ENCOURAGE BEST GUESS

    |__|__|__+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR
RESPONDENT PLAYED Tatts Keno
IF CAN'T SAY ENCOURAGE BEST GUESS

    |__|__|__+

F3P. And how much money do you usually
outlay each time you play Tatts Keno?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

    |__|__|__|__+

IF PLAYED 5--minute Keno IN LAST 12
MONTHS (CODE 17 AT F1)

F2Q.487. . How many times per week OR
per month OR per year DO you play
5--minute Keno?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR
FREQUENCY

    WEEK.............   1

    MONTH...........   2

    YEAR............   3

    CAN'T SAY........   4

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK
RESPONDENT PLAYED 5--minute Keno
IF CAN'T SAY ENCOURAGE BEST GUESS

    |__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH
RESPONDENT PLAYED 5--minute Keno
IF CAN'T SAY ENCOURAGE BEST GUESS

    |__|__|__+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR
RESPONDENT PLAYED 5--minute Keno
IF CAN'T SAY ENCOURAGE BEST GUESS

    |__|__|__+

F3Q.487. . And how much money do you
usually outlay each time you play
5--minute Keno?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

    |__|__|__|__+

F4. Have you played any other lottery
games in the last 12 months?
IF YES, RECORD NAME OF LOTTERY

    YES (PLEASE
    SPECIFY).........   97

    NO..............   98

    CAN'T SAY........   99

IF PLAYED ANY OTHER LOTTERY GAMES IN
LAST 12 MONTHS (CODE 97 AT F4)

F2. How many times per week OR per
month OR per year DO you play OTHER
LOTTERY GAMES ?
ENTER WEEK/MONTH/YEAR THEN RETURN FOR
FREQUENCY

    WEEK.............   1

MONTH............   2

YEAR............   3

CAN'T SAY........   4

NONE............   5

IF ANSWER GIVEN IN WEEKS

ENTER NUMBER OF TIMES PER WEEK
RESPONDENT PLAYS OTHER LOTTERY GAMES
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN MONTHS

ENTER NUMBER OF TIMES PER MONTH
RESPONDENT PLAYS OTHER LOTTERY GAMES
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

IF ANSWER GIVEN IN TIMES PER YEAR

ENTER NUMBER OF TIMES PER YEAR
RESPONDENT PLAYS OTHER LOTTERY GAMES
IF CAN'T SAY ENCOURAGE BEST GUESS

|__|__|__+

F3. And how much money do you usually
outlay each time you play other
lottery games?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__+

F5. Approximately how much money would
you say you have won from the lottery
games you have played in the last 12
months?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__+

IF PLAYED TABLE GAMES AT CASINO
(QUESTION sq2a CODED 6)

+------------------------------------+
| You mentioned earlier that you |
| play TABLE GAMES AT A CASINO, SUCH |
| AS   ROULETTE   OR   BLACKJACK, |
| %172.%174.%176. times per %170. IN |
| THE LAST 12 MONTHS. |
+------------------------------------+

G2. For how long do you usually play
the table games when you visit a
casino?
RECORD HOURS HERE AND RETURN TO RECORD
MINUTES
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__+

G2. (For how long do you usually play
the table games when you visit a
casino?)
RECORD MINUTES HERE
IF CAN'T SAY ENCOURAGE BEST GUESS
IF ANSWER ONLY GIVEN IN HOURS, ENTER 0
MINUTES

|__|__+

G3. How often do you withdraw money
from an automatic teller machine (ATM)
at a casino when you play the table
games?
Is   that
%1758./never/rarely/sometimes/often or
always/ always/often/sometimes/rarely
or never/?

NEVER...........   1

RARELY..........   2

SOMETIMES.......   3

OFTEN...........   4

ALWAYS..........   5

CAN'T SAY........   6

G4. How much money do you usually take
with you to play the table games,
including   any   additional   money
withdrawn or borrowed during the
period of play?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__+

G5. And how much money do you usually
have left when you finish playing the
table games?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__+

+------------------------------------+
| IF CAN'T SAY AT G4 OR G5, ASK: |
+------------------------------------+

G6. Do you usually lose or win when
playing the table games?

USUALLY WIN......   1

USUALLY LOSE.....   2

CAN'T SAY........   3

IF USUALLY WIN (CODE 1 AT g6)

G6b. So how much money do you USUALLY
WIN?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__+

IF USUALLY LOSE (CODE 2 AT G6)

G6C. So how much money do you USUALLY
LOSE?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__+

IF PLAYED KENO AT A CLUB, HOTEL,
CASINO OR ELSEWHERE (QUESTION SQ2A
CODED 5)

+------------------------------------+
| You mentioned earlier that you |
| have played KENO %164.%166.%168. |
| times per %162. IN THE LAST 12 |
| MONTHS. |
+------------------------------------+

H2. For how long do you usually play Keno on those occasions?
RECORD HOURS HERE AND RETURN TO RECORD MINUTES
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__+

H2. (For how long do you usually play Keno on those occasions?)
RECORD MINUTES HERE
IF CAN'T SAY ENCOURAGE BEST GUESS
IF ANSWER ONLY GIVEN IN HOURS, ENTER 0 MINUTES

|__|__+

H3 How much money do you usually take with you to play Keno, including any additional money withdrawn or borrowed during the period of play?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__+

H4. And how much money do you usually have left when you finish playing Keno?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__+

+--+
| IF CAN'T SAY AT H3 OR H4, ASK: |
+--+

H5. Do you usually lose or win when you play Keno?

     USUALLY WIN......   1

     USUALLY LOSE.....   2

     CAN'T SAY........   3

IF USUALLY WIN (CODE 1 AT h5)

H6A. So how much money do you USUALLY WIN?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__+

IF USUALLY LOSE (CODE 2 AT h5)

H6B. So how much money do you USUALLY LOSE?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__+

IF PLAYED BINGO AT A CLUB OR HALL (QUESTION SQ2A CODED 7)

+--+
| You mentioned earlier that you |
| have played BINGO %180.%182.%184. |
| times per %178. IN THE LAST 12 |
| MONTHS. |
+--+

I2. For how long do you usually play Bingo when you visit a venue?
RECORD HOURS HERE AND RETURN TO RECORD MINUTES
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__+

I2. (For how long do you usually play Bingo when you visit a venue?)
RECORD MINUTES HERE
IF CAN'T SAY ENCOURAGE BEST GUESS
IF ANSWER ONLY GIVEN IN HOURS, ENTER 0 MINUTES

|__|__+

I3. How much money do you usually take with you to play Bingo, including any additional money withdrawn or borrowed during the period of play?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__+

I4. And how much money do you usually have left when you finish playing Bingo?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__+

+--+
| IF CAN'T SAY AT I3 OR I4, ASK: |
+--+

I5. Do you usually lose or win when you play Bingo?

     USUALLY WIN......   1

     USUALLY LOSE.....   2

     CAN'T SAY........   3

IF USUALLY WIN (CODE 1 AT i5)

I6A. So how much money do you USUALLY WIN?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__+

IF USUALLY LOSE (CODE 2 AT i5)

I6B. So how much money do you USUALLY LOSE?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__+

IF BET ON A SPORTING EVENT (EG. FOOTBALL, CRICKET, TENNIS) (QUESTION SQ2A CODED 8)

+--+
| Next some questions about your |
| sports betting in the last 12 |
| months. |
+--+

J0. How do you usually place your sports bets?
READ OUT

     By phone........   1

In person............   2

Via the Internet.   3

(DO NOT READ)
CAN"T SAY........   4

+--+
| You mentioned earlier that you |
| have   PLACE   SPORTS   BETS |
| %212.%214.%216. times per %210. IN |
| THE LAST 12 MONTHS. |
+--+

J2 How much money do you usually
outlay each day you place sports bets?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

J3. And how much money do you usually
end up with at the end of the day's
betting?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

+--+
| IF CAN'T SAY AT J2 OR J3, ASK: |
+--+

J4a. Do you usually lose or win during
a day's betting?

   USUALLY WIN......   1

   USUALLY LOSE.....   2

   CAN'T SAY........   3

IF USUALLY WIN (CODE 1 AT j4a)

J5A. So how much money do you USUALLY
WIN?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

IF USUALLY LOSE (CODE 2 AT j4a)

J5B. So how much money do you USUALLY
LOSE?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

IF PLAYED CASINO GAMES ON THE INTERNET
(QUESTION SQ2A CODED 9)

+--+
| You mentioned earlier that you |
| played casino games on the |
| internet %188.%190.%192. per %186. |
| IN THE LAST 12 MONTHS. |
+--+

K2. For how long do you usually play
casino games when you gamble on the
internet?
RECORD HOURS HERE AND RETURN TO RECORD
MINUTES
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|+

K2. (For how long do you usually play
casino games when you gamble on the
internet?)
RECORD MINUTES HERE
IF CAN'T SAY ENCOURAGE BEST GUESS
IF ANSWER ONLY GIVEN IN HOURS, ENTER 0
MINUTES

|__|__|+

K3. How much money do you usually
outlay each time you play casino games
on the internet?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

K4. And how much money do you usually
have left when you finish playing
casino games on the internet?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

+--+
| IF CAN'T SAY AT K3 OR K4, ASK: |
+--+

K5. Do you usually lose or win when
you play Casino games on the INTERNET?

   USUALLY WIN......   1

   USUALLY LOSE.....   2

   CAN'T SAY........   3

IF USUALLY WIN (CODE 1 AT k5)

K6A. So how much money do you USUALLY
WIN?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

IF USUALLY LOSE (CODE 2 AT k5)

K6B. So how much money do you USUALLY
LOSE?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

IF PLAYED GAMES PRIVATELY FOR MONEY
(QUESTION SQ2A CODED 10)

+--+
| You mentioned earlier that you |
| played games privately for money |
| %196.%198.%200. per %194. IN THE |
| LAST 12 MONTHS. |
+--+

L0. What games have you played
privately for money in the last 12
months?
RECORD NAMES OF GAMES

   CARDS
   (UNSPECIFIED)....   1,

   POKER...........   2,

   BLACKJACK.......   3,

   BRIDGE/ CONTRACT
   BRIDGE..........   4,

PONTOON............	5,
EUCHRE.............	6,
MAJONG.............	7,
RUMMY (GIN/ ROYALE)..........	8,
TWENTY ONE........	9,
THIRTY ONE........	10,
500...............	11,
SOLO..............	12,
RED ACE...........	13,
MANILLA...........	14,
ACDC..............	15,
YUKA..............	16,
IN BETWEENS.......	17,
SKAT..............	18,
CHASE THE ACE.....	19,
CRIB/ CRIBBAGE....	20,
DOLLY.............	21,
UNO...............	22,
OTHER (PLEASE SPECIFY)..........	97,
CAN'T SAY.........	98,

L2. For how long do you gamble each time you play?
RECORD HOURS HERE AND RETURN TO RECORD MINUTES
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|+

L2. (For how long do you gamble each time you play?)
RECORD MINUTES HERE
IF CAN'T SAY ENCOURAGE BEST GUESS
IF ANSWER ONLY GIVEN IN HOURS, ENTER 0 MINUTES

|__|__|+

L3. How much money do you usually outlay each time you play?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

L4. And how much money do you usually have left when you finish playing?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

+------------------------------------+
| IF CAN'T SAY AT L3 OR L4, ASK: |
+------------------------------------+

L5. Do you usually lose or win each time you play?

    USUALLY WIN......   1

USUALLY LOSE......   2

   CAN'T SAY........   3

IF USUALLY WIN (CODE 1 AT 15)

L6A. So how much money do you USUALLY WIN?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

IF USUALLY LOSE (CODE 2 AT 15)

L6B. So how much money do you USUALLY LOSE?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

IF PLAYED ANY OTHER GAMBLING ACTIVITY (QUESTION SQ2A CODES 96 OR 97)

+--+
| You mentioned earlier that you |
| play (OTHER GAMBLING ACTIVITIES) |
| (%O%124. %O%128.), %132.%134.%136. |
| times per %130. IN THE LAST 12 |
| MONTHS. |
+--+

M2. For how long do you usually gamble on that activity when you play?
RECORD HOURS HERE AND RETURN TO RECORD MINUTES
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|+

M2. (For how long do you usually gamble on that activity when you play?)
RECORD MINUTES HERE
IF CAN'T SAY ENCOURAGE BEST GUESS
IF ANSWER ONLY GIVEN IN HOURS, ENTER 0 MINUTES

|__|__|+

M3. How much money do you usually outlay each time you play that activity?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

M4. And how much money do you usually have left when you finish playing that activity?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

+--+
| IF CAN'T SAY AT M3 OR M4, ASK: |
+--+

M5. Do you usually lose or win each time you play that activity?

    USUALLY WIN......   1

    USUALLY LOSE.....   2

    CAN'T SAY........   3

IF USUALLY WIN (CODE 1 AT m5)

M6A.   So how much money do you USUALLY WIN?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

IF USUALLY LOSE (CODE 2 AT m5)

M6B.   So how much money do you USUALLY LOSE?
ENTER AMOUNT IN $'S.
IF CAN'T SAY ENCOURAGE BEST GUESS
IF STILL CAN'T SAY ENTER <F11> D

|__|__|__|__|__|+

ANNUAL GROSS EXPENDITURE

|__|__|__|__|__|__|__|__|__|+

RECALCULATED REGULAR FOR QUOTAS

REGULAR..........   1

NON REGULAR......   2

NON GAMBLERS.....   3

```
+-----------------------------------------+
| Thank  you   for  your  time  and       |
| assistance.                             |
+-----------------------------------------+
```

ASK ALL GAMBLERS GAMBLING ON MORE THAN ONE ACTIVITY (MORE THAN ONE RESPONSE AT SQ2A AND REGULAR CODED 1 OR 2)

N1.   On which gambling activity have you spent   the most money in the last 12 months?

PLAYED POKER
MACHINES OR
GAMING MACHINES..   1

BET ON HORSE OR
GREYHOUND RACES
EXCLUDING SWEEPS.   2

BOUGHT INSTANT
SCRATCH TICKETS..   3

PLAYED LOTTO OR
ANY OTHER LOTTERY
GAME LIKE
TATTSLOTTO,
POWERBALL, THE
POOLS, $2 JACKPOT
LOTTERY, TATTS 2,
OR TATTS KENO....   4

PLAYED KENO AT A
CLUB, HOTEL,
CASINO OR ANY
OTHER PLACE......   5

PLAYED TABLE
GAMES AT A
CASINO, SUCH AS
BLACKJACK OR
ROULETTE.........   6

PLAYED BINGO AT A
CLUB OR HALL.....   7

BET ON A SPORTING
EVENT LIKE
FOOTBALL,
CRICKET, OR
TENNIS...........   8

PLAYED CASINO
GAMES ON THE
INTERNET.........   9

PLAYED GAMES
PRIVATELY FOR
MONEY AT HOME OR
ANY OTHER PLACE,
GAMES LIKE CARDS,
OR MAHJONG.......   10

BOUGHT RAFFLE
TICKETS..........   11

(FIRST OTHER
MENTION) PLAYED
ANY OTHER
GAMBLING ACTIVITY
EXCLUDING RAFFLES
OR SWEEPS (PLEASE
SPECIFY).........   96

(ALL OTHER
MENTIONS) PLAYED
ANY OTHER
GAMBLING ACTIVITY
EXCLUDING RAFFLES
OR SWEEPS (PLEASE
SPECIFY).........   97

NONE OF THE
ABOVE/CAN'T SAY..   98

DUMMY QUESTION FOR N2 QUESTION TEXT

poker machines or
gaming machines..   1

horse or
greyhound races..   2

INSTANT scratch
tickets..........   3

lotto or ANY
OTHER lottery
game.............   4

Keno.............   5

table games at a
casino...........   6

bingo............   7

a sporting event.   8

casino games on
the internet.....   9

games privately
FOR MONEY........   10

raffle tickets...   11

%o%124...........   96

%o%124...........   97

(DO NOT READ)
NONE OF THE
ABOVE/CAN'T SAY..   98

ASK ALL GAMBLERS (REGULAR CODED 1 OR 2)

IF GIVEN ANSWER AT N1

N2. Looking back over the last 12 months, how would you rate your experience of gambling on %603.? Would you say it has ... ?
READ OUT

Made your life a lot more enjoyable........	1
Made your life a little more enjoyable........	2
Made no difference to your life........	3
Made your life a little less enjoyable........	4
Made your life a lot less enjoyable........	5
(DO NOT READ) DON'T KNOW/CAN'T SAY.............	6

+--+
| Think about the amount of money |
| you used for gambling in the last |
| %2030,/WEEK/MONTH/ |
+--+

N3. IF YOU HADN'T SPENT THE MONEY ON GAMBLING, could you please tell me IN WHAT OTHER WAYS YOU MIGHT HAVE USED IT?
DO NOT READ OUT
IF MENTIONS 'SPENT IT ON OTHER ITEMS', RECORD DETAILS

SPENT IT ON GROCERIES OR SMALL HOUSEHOLD ITEMS............	1,
PUT IT TOWARDS MAJOR HOUSEHOLD GOODS (EG. TV, REFRIGERATOR)....	2,
SPENT IT ON PERSONAL ITEMS (EG. CLOTHING, FOOTWEAR)........	3,
SPENT IT ON RESTAURANT MEALS.	4,
SPENT IT ON WINE, BEER, ETC........	5,
SPENT IT ON THE MOVIES OR A CONCERT..........	6,
SPENT IT ON OTHER ENTERTAINMENT OR RECREATION ACTIVITIES.......	7,
USED IT TO PAY BILLS/CREDIT CARDS............	8,
USED IT TO PAY RENT/MORTGAGE....	9,
WOULD SPEND IT ON CHILDREN/ GRANDCHILDREN/ FAMILY..........	10,
WOULD SPEND IT ON PETROL...........	11,
WOULD SPEND IT ON CIGARETTES.......	12,
WOULD DONATE IT TO CHARITY.......	13,
BUY MAGAZINES/ BOOKS............	14,
SPENT IT ON OTHER ITEMS (PLEASE SPECIFY).........	97,
NOT SPENT IT/SAVED IT/PUT IT IN THE BANK...	98,
DON'T KNOW.......	99,

ASK ALL REGULAR GAMBLERS (CODE 1 AT REGULAR2)

+--+
| I am now going to read out some |
| questions about WHAT PEOPLE DO |
| WHEN THEY GAMBLE. As I read out |
| each statement, please tell me |
| WHETHER IT HAS APPLIED TO YOU |
| PERSONALLY IN THE LAST 12 MONTHS. |
| Remember that all the information |
| you provide is ANONYMOUS and |
| CONFIDENTIAL, so I need your |
| HONEST ANSWERS. |
+--+

O1. In the last 12 months, when you gambled, HOW OFTEN DID YOU GO BACK ANOTHER DAY TO WIN BACK MONEY YOU LOST? Would you say never/rarely/sometimes/often or always?

NEVER............	1
RARELY...........	2
SOMETIMES........	3
OFTEN............	4
ALWAYS...........	5
CAN'T SAY........	6
REFUSED..........	7

O2. In the last 12 months, HAVE YOU CLAIMED TO BE WINNING MONEY FROM GAMBLING WHEN IN FACT YOU LOST? Would you say %2036,/never/rarely/sometimes/often or always/ always/often/sometimes/rarely or never/?

NEVER............	1
RARELY...........	2
SOMETIMES........	3
OFTEN............	4
ALWAYS...........	5
CAN'T SAY........	6
REFUSED..........	7

For the next set of questions, please initially answer just yes or no.

O3a. In the last 12 months, HAVE YOU GAMBLED MORE THAN YOU INTENDED TO?

YES..............	1
NO..............	2
CAN'T SAY........	3
REFUSED..........	4

ALL NOT GAMBLING MORE THAN INTENDED (CODE 2 AT O3A)

O3B. Do you mean rarely or not at all?

RARELY...........	1
NOT AT ALL.......	2

IF GAMBLING MORE THAN INTENDED (CODE 1 AT O3A)

O3c. Is that rarely/sometimes/often or always?

RARELY...........	1
SOMETIMES........	2
OFTEN............	3
ALWAYS...........	4
CAN'T SAY........	5

O4a. In the last 12 months, HAVE PEOPLE CRITICISED YOUR GAMBLING OR TOLD YOU THAT YOU HAVE A GAMBLING PROBLEM, REGARDLESS OF WHETHER OR NOT YOU THOUGHT IT WAS TRUE?

YES..............	1
NO..............	2
CAN'T SAY........	3
REFUSED..........	4

IF NOT CRITICISED (O4A CODE 2)

O4B. Do you mean rarely or not at all?

RARELY...........	1
NOT AT ALL.......	2

IF CRITICISED (O4A CODE 1)

O4c. Is that rarely/sometimes/often or always?

RARELY...........	1
SOMETIMES........	2
OFTEN............	3
ALWAYS...........	4
CAN'T SAY........	5

O5a. In the last 12 months, HAVE YOU FELT GUILTY ABOUT THE WAY YOU GAMBLE OR WHAT HAPPENS WHEN YOU GAMBLE?

YES..............	1
NO..............	2
CAN'T SAY........	3
REFUSED..........	4

IF NOT FELT GUILTY (O5A CODE 2)

O5B. Do you mean rarely or not at all?

RARELY...........	1
NOT AT ALL.......	2

IF FELT GUILTY (O5A CODE 1)

O5c. Is that rarely/sometimes/often or always?

RARELY...........	1
SOMETIMES........	2
OFTEN............	3
ALWAYS...........	4
CAN'T SAY........	5

O6a. In the last 12 months, HAVE YOU FELT THAT YOU WOULD LIKE TO STOP GAMBLING, BUT DIDN'T THINK YOU COULD?

YES..............	1
NO..............	2
CAN'T SAY........	3
REFUSED..........	4

IF NOT WISHED TO STOP (O6A CODE 2)

O6B. Do you mean rarely or not at all?

RARELY...........	1
NOT AT ALL.......	2

IF WISHED TO STOP (O6A CODE 1)

O6c. Is that rarely/sometimes/often or always?

RARELY...........	1
SOMETIMES........	2
OFTEN............	3
ALWAYS...........	4
CAN'T SAY........	5

O7a. In the last 12 months, HAVE YOU HIDDEN BETTING SLIPS, LOTTERY TICKETS, GAMBLING MONEY OR OTHER SIGNS OF GAMBLING FROM YOUR SPOUSE/PARTNER, CHILDREN, OR OTHER IMPORTANT PEOPLE IN YOUR LIFE?

YES..............	1
NO..............	2
CAN'T SAY........	3
REFUSED..........	4

IF NOT HIDDEN BETTING (O7A CODE 2)

O7B. Do you mean rarely or not at all?

RARELY...........	1
NOT AT ALL.......	2

IF HIDDEN BETTING (O7A CODE 1)

O7c. Is that rarely/sometimes/often or always?

RARELY.......... 1

SOMETIMES....... 2

OFTEN........... 3

ALWAYS.......... 4

CAN'T SAY....... 5

O8a. In the last 12 months, HAVE YOU ARGUED WITH PEOPLE YOU LIVE WITH OVER HOW YOU HANDLE MONEY?

YES............. 1

NO.............. 2

CAN'T SAY....... 3

REFUSED......... 4

IF NOT ARGUED (O8A CODE 2)

O8B. Do you mean rarely or not at all?

RARELY.......... 1

NOT AT ALL...... 2

IF ARGUED (O8A CODE 1)

O8c. Have these money arguments centred on your gambling? Would you say %2063,/never/rarely/sometimes/often or always/ always/often/sometimes/rarely or never/?

NEVER........... 1

RARELY.......... 2

SOMETIMES....... 3

OFTEN........... 4

ALWAYS.......... 5

CAN'T SAY....... 6

O9a. In the last 12 months, HAVE YOU BORROWED FROM SOMEONE AND NOT PAID THEM BACK AS A RESULT OF YOUR GAMBLING?

YES............. 1

NO.............. 2

CAN'T SAY....... 3

REFUSED......... 4

IF NOT BORROWED (O9A CODE 2)

O9B. Do you mean rarely or not at all?

RARELY.......... 1

NOT AT ALL...... 2

IF BORROWED (O9A CODE 1)

O9c. Is that rarely/sometimes/often or always?

RARELY.......... 1

SOMETIMES....... 2

OFTEN............ 3

ALWAYS.......... 4

CAN'T SAY....... 5

O10a. In the last 12 months, HAVE YOU LOST TIME FROM WORK OR STUDY BECAUSE OF YOUR GAMBLING?

YES............. 1

NO.............. 2

CAN'T SAY....... 3

REFUSED......... 4

IF NOT LOST TIME (O10A CODE 2)

O10B. Do you mean rarely or not at all?

RARELY.......... 1

NOT AT ALL...... 2

IF LOST TIME (O10A CODE 1)

O10c. Is that rarely/sometimes/often or always?

RARELY.......... 1

SOMETIMES....... 2

OFTEN........... 3

ALWAYS.......... 4

CAN'T SAY....... 5

+--+
| Next are some ways people have |
| obtained money to gamble or to pay |
| gambling debts. Again, please |
| answer honestly and tell me |
| whether any of the following |
| questions applied to you |
| personally. |
+--+

O11a. In the last 12 months, HAVE YOU BORROWED FROM HOUSEHOLD MONEY to gamble or to pay gambling debts?

YES............. 1

NO.............. 2

CAN'T SAY....... 3

REFUSED......... 4

IF NOT BORROWED (O11A CODE 2)

O11B. Do you mean rarely or not at all?

RARELY.......... 1

NOT AT ALL...... 2

IF BORROWED (O11A CODE 1)

O11c. Is that rarely/sometimes/often or always?

RARELY.......... 1

SOMETIMES....... 2

OFTEN........... 3

ALWAYS.......... 4

CAN'T SAY........   5

O12a. In the last 12 months, HAVE YOU BORROWED FROM YOUR SPOUSE OR PARTNER to gamble or to pay gambling debts?

YES..............   1

NO..............   2

CAN'T SAY........   3

REFUSED..........   4

IF NOT BORROWED (O12A CODE 2)

O12B. Do you mean rarely or not at all?

RARELY...........   1

NOT AT ALL.......   2

IF BORROWED (O12A CODE 1)

O12c. Is that rarely/sometimes/often or always?

RARELY...........   1

SOMETIMES........   2

OFTEN............   3

ALWAYS...........   4

CAN'T SAY........   5

O13a. In the last 12 months, HAVE YOU BORROWED FROM OTHER RELATIVES OR IN-LAWS to gamble or to pay gambling debts?

YES..............   1

NO..............   2

CAN'T SAY........   3

REFUSED..........   4

IF NOT BORROWED (O13A CODE 2)

O13B. Do you mean rarely or not at all?

RARELY...........   1

NOT AT ALL.......   2

IF BORROWED (O13A CODE 1)

O13c. Is that rarely/sometimes/often or always?

RARELY...........   1

SOMETIMES........   2

OFTEN............   3

ALWAYS...........   4

CAN'T SAY........   5

O14a. In the last 12 months, HAVE YOU OBTAINED CASH ADVANCES USING YOUR CREDIT CARDS to gamble or to pay gambling debts? This does not include using cards to make cash withdrawals from savings or cheque accounts. ?

YES..............   1

NO..............   2

CAN'T SAY........   3

REFUSED..........   4

IF NOT OBTAINED CASH (O14A CODE 2)

O14B. Do you mean rarely or not at all?

RARELY...........   1

NOT AT ALL.......   2

IF OBTAINED CASH (O14A CODE 1)

O14c. Is that rarely/sometimes/often or always?

RARELY...........   1

SOMETIMES........   2

OFTEN............   3

ALWAYS...........   4

CAN'T SAY........   5

O15a. In the last 12 months, HAVE YOU BORROWED FROM BANKS, FINANCE COMPANIES OR CREDIT UNIONS to gamble or to pay gambling debts?

YES..............   1

NO..............   2

CAN'T SAY........   3

REFUSED..........   4

IF NOT OBTAINED CASH (O15A CODE 2)

O15B. Do you mean rarely or not at all?

RARELY...........   1

NOT AT ALL.......   2

IF OBTAINED CASH (O15A CODE 1)

O15c. Is that rarely/sometimes/often or always?

RARELY...........   1

SOMETIMES........   2

OFTEN............   3

ALWAYS...........   4

CAN'T SAY........   5

O16a. In the last 12 months, HAVE YOU BORROWED FROM LOAN SHARKS to gamble or to pay gambling debts?

YES..............   1

NO..............   2

CAN'T SAY........   3

REFUSED..........   4

IF NOT BORROWED (O16A CODE 2)

O16B. Do you mean rarely or not at all?

RARELY...........   1

NOT AT ALL.......   2

IF BORROWED (O16A CODE 1)

O16c. Is that rarely/sometimes/often or always?

RARELY...........	1
SOMETIMES........	2
OFTEN...........	3
ALWAYS..........	4
CAN'T SAY........	5

O17a. In the last 12 months, HAVE YOU CASHED IN SHARES, BONDS OR OTHER SECURITIES to gamble or to pay gambling debts?

YES..............	1
NO...............	2
CAN'T SAY........	3
REFUSED..........	4

IF NOT CASHED IN SHARES (O17A CODE 2)

O17B. Do you mean rarely or not at all?

RARELY...........	1
NOT AT ALL.......	2

IF NOT CASHED IN SHARES (O17A CODE 1)

O17c. Is that rarely/sometimes/often or always?

RARELY...........	1
SOMETIMES........	2
OFTEN...........	3
ALWAYS..........	4
CAN'T SAY........	5

O18a. In the last 12 months, HAVE YOU SOLD PERSONAL OR FAMILY PROPERTY to gamble or to pay gambling debts?

YES..............	1
NO...............	2
CAN'T SAY........	3
REFUSED..........	4

IF NOT SOLD ITEMS (O18A CODE 2)

O18B. Do you mean rarely or not at all?

RARELY...........	1
NOT AT ALL.......	2

IF NOT SOLD ITEMS (O18A CODE 1)

O18c. Is that rarely/sometimes/often or always?

RARELY...........	1
SOMETIMES........	2

OFTEN...........	3
ALWAYS..........	4
CAN'T SAY.......	5

O19a. In the last 12 months, HAVE YOU WRITTEN A CHEQUE KNOWING THERE WAS NO MONEY IN YOUR ACCOUNT, to gamble or to pay gambling debts?

YES..............	1
NO...............	2
CAN'T SAY........	3
REFUSED..........	4

IF NOT FRAUDULANTLY WRITTEN CHEQUE (O19A CODE 2)

O19B. Do you mean rarely or not at all?

RARELY...........	1
NOT AT ALL.......	2

IF FRAUDULANTLY WRITTEN CHEQUE (O19A CODE 1)

O19c. Is that rarely/sometimes/often or always?

RARELY...........	1
SOMETIMES........	2
OFTEN...........	3
ALWAYS..........	4
CAN'T SAY........	5

O20a. In the last 12 months, HAVE YOU SPENT MORE MONEY ON GAMBLING THAN YOU COULD AFFORD?

YES..............	1
NO...............	2
CAN'T SAY........	3
REFUSED..........	4

IF NOT SPENDING MORE THAN THEY CAN AFFORD (O20A CODE 2)

O20B. Do you mean rarely or not at all?

RARELY...........	1
NOT AT ALL.......	2

IF SPENDING MORE THAN THEY CAN AFFORD (O20A CODE 1)

O20c. Is that rarely/sometimes/often or always?

RARELY...........	1
SOMETIMES........	2
OFTEN...........	3
ALWAYS..........	4
CAN'T SAY........	5

O21. Do you feel you have had a problem with your gambling? Would you say, yes, in the past but not now; yes, I feel this way now; or no?

YES, IN THE PAST BUT NOT NOW......	1
YES, I FEEL THIS WAY NOW..........	2
NO I HAVEN'T.....	3
CAN'T SAY.......	4
REFUSED..........	5

IF HAD PROBLEM IN PAST (CODE 1 AT O21)

O22. And for how long did you have a problem with your gambling?
ENTER NUMBER OF YEARS
IF CAN'T SAY ENCOURAGE BEST GUESS
ROUND TO NEAREST YEAR - IF LESS THAN 6 MONTHS ENTER 0
IF STILL CAN'T SAY ENTER <F11> D

|__|__+

IF HAS PROBLEM NOW (CODE 2 AT O21)

O23. So for how long do you feel you have had a problem with your gambling?
ENTER NUMBER OF YEARS
IF CAN'T SAY ENCOURAGE BEST GUESS
ROUND TO NEAREST YEAR - IF LESS THAN 6 MONTHS ENTER 0
IF STILL CAN'T SAY ENTER <F11> D

|__|__+

O24. Now ON A SCALE OF 1 TO 10, where 1 MEANS you feel your gambling is NOT AT ALL A PROBLEM and 10 MEANS you feel your gambling IS A SERIOUS PROBLEM, HOW WOULD YOU RATE YOUR GAMBLING RIGHT NOW?

1 - NOT AT ALL A PROBLEM..........	1
2................	2
3................	3
4................	4
5................	5
6................	6
7................	7
8................	8
9................	9
10 - A SERIOUS PROBLEM..........	10
CAN'T SAY.......	11

+------------------------------------+
| ASK EVERYONE |
+------------------------------------+

+------------------------------------+
| As you probably know, there is some concern about the number of people who have gambling related problems, such as personal problems or financial problems. |
+------------------------------------+

P1. Do you personally know of someone who has experienced serious problems with their gambling?

YES..............	1
NO..............	2
CAN'T SAY.......	3

IF KNOW PROBLEM GAMBLER (CODE 1 AT P1)

P2. Were those problems experienced in the last 12 months?

YES..............	1
NO..............	2
CAN'T SAY.......	3

P3. Could you please tell me, what is that person's relationship to you?
READ OUT

Spouse/partner...	1
Father..........	2
Mother..........	3
Brother.........	4
Sister..........	5
Child...........	6
Other relative...	7
Friend/acquaintance..............	8
Work colleague...	9
MYSELF..........	10
CLIENT/ CUSTOMER/ PATIENT..........	11
EX SPOUSE/ PARTNER..........	12
EX FRIEND/ BOYFRIEND........	13
EX RELATIVE......	14
OTHER (PLEASE SPECIFY).........	97
(DO NOT READ) CAN'T SAY.......	98
REFUSED..........	99

P4. In what type of gambling is that person mainly involved?
READ OUT

Poker machines and gaming machines.........	1
Betting on the horses/greyhounds	2
Instant Lotteries	3
Lotto-type games.	4
Table games at a casino..........	5
Keno............	6
Bingo...........	7

Sports betting...   8

Private games
played for money.   9

Internet gambling   10

EVERYTHING/
ANYTHING.........   11

CASINO/ CASINO
BASED ACTIVITIES.   12

Other (PLEASE
SPECIFY).........   97

DON'T KNOW/CAN'T
SAY..............   98

P5. Is that person obtaining help for
their gambling problems?

YES.............   1

NO..............   2

CAN'T SAY........   3

P6. Do you personally know of anyone
else who has experienced serious
problems with their gambling?

Yes.............   1

No..............   2

IF KNOW 2nd PROBLEM GAMBLER (CODE 1 AT
P6)

P7. Were those problems experienced in
the last 12 months?

YES.............   1

NO..............   2

CAN'T SAY........   3

P8. Could you please tell me, what is
that person's relationship to you?

Spouse/partner...   1

Father..........   2

Mother..........   3

Brother.........   4

Sister..........   5

Child...........   6

Other relative...   7

Friend/acquainta-
nce.............   8

Work colleague...   9

MYSELF..........   10

CLIENT/ CUSTOMER/
PATIENT.........   11

EX SPOUSE/
PARTNER.........   12

EX FRIEND/
BOYFRIEND........   13

EX RELATIVE......   14

OTHER (PLEASE
SPECIFY).........   97

(DO NOT READ)
CAN'T SAY.......   98

REFUSED.........   99

P9. In what type of gambling is that
person mainly involved?

Poker machines
and gaming
machines.........   1

Betting on the
horses/greyhounds   2

Instant Lotteries   3

Lotto-type games.   4

Table games at a
casino..........   5

Keno............   6

Bingo...........   7

Sports betting...   8

Private games
played for money.   9

Internet gambling   10

EVERYTHING/
ANYTHING.........   11

CASINO/ CASINO
BASED ACTIVITIES.   12

Other (PLEASE
SPECIFY).........   97

DON'T KNOW/CAN'T
SAY..............   98

P10. Is that person obtaining help for
their gambling problems?

YES.............   1

NO..............   2

CAN'T SAY........   3

ASK ALL REGULAR GAMBLERS (CODE 1 AT
REGULAR2)

+------------------------------------+
| I am now going to read out some |
| questions that relate to what |
| people have told me about their |
| gambling. Again, please answer |
| honestly and tell me whether any |
| of the questions apply to you |
| personally. Remember that your |
| answers are confidential. |
+------------------------------------+

Q1a. Have you EVER owed money because
of your gambling?

YES.............   1

NO..............   2

CAN'T SAY........   3

REFUSED.........   4

IF OWED MONEY (CODE 1 AT Q1A)

Q1b. And have you owed money IN THE LAST 12 MONTHS because of your gambling?

YES.............. 1

NO.............. 2

CAN'T SAY....... 3

+----------------------------------+
| ASK ALL REGULAR GAMBLERS |
+----------------------------------+

Q2a. Have you EVER deposited personal items at a pawnbrokers or Cash Converters because of your gambling?

YES.............. 1

NO.............. 2

CAN'T SAY....... 3

REFUSED.......... 4

IF EVER DEPOSITED ITEMS (CODE 1 AT Q2A)

Q2b. And have you done this IN THE LAST 12 MONTHS?

YES.............. 1

NO.............. 2

CAN'T SAY....... 3

+----------------------------------+
| ASK ALL REGULAR GAMBLERS |
+----------------------------------+

Q3a. Have you EVER suffered from depression because of your gambling?

YES.............. 1

NO.............. 2

CAN'T SAY....... 3

REFUSED.......... 4

IF EVER SUFFERED DEPRESSION (CODE 1 AT Q3A)

Q3b. And have you suffered from that IN THE LAST 12 MONTHS?

YES.............. 1

NO.............. 2

CAN'T SAY....... 3

SUFFERED IN LAST 12 MONTHS (CODE 1 AT Q3B)

Q3C. And in the last 12 months, have you suffered from depression because of your gambling rarely/sometimes/often or always?

RARELY.......... 1

SOMETIMES........ 2

OFTEN........... 3

ALWAYS.......... 4

CAN'T SAY........ 5

+----------------------------------+
| ASK ALL REGULAR GAMBLERS |
+----------------------------------+

Q4a. Has your gambling EVER adversely affected how well you perform in your job?

YES.............. 1

NO.............. 2

CAN'T SAY....... 3

REFUSED.......... 4

IF JOB ADVERSELY AFFECTED (CODE 1 AT Q4A)

Q4b. And has this happened IN THE LAST 12 MONTHS?

YES.............. 1

NO.............. 2

CAN'T SAY....... 3

HAPPENED IN LAST 12 MONTHS (CODE 1 AT Q4B)

Q4C. And in the last 12 months, has gambling adversely affected your job performance rarely/sometimes/often or always?

RARELY.......... 1

SOMETIMES........ 2

OFTEN........... 3

ALWAYS.......... 4

CAN'T SAY....... 5

+----------------------------------+
| ASK ALL REGULAR GAMBLERS |
+----------------------------------+

Q5A. Have you ever changed jobs because of problems relating to your gambling?

YES.............. 1

NO.............. 2

CAN'T SAY....... 3

REFUSED.......... 4

IF CHANGED JOBS (CODE 1 AT Q5A)

Q5b. And have you done so IN THE LAST 12 MONTHS?

Yes.............. 1

No.............. 2

Can't say....... 3

+----------------------------------+
| ASK ALL REGULAR GAMBLERS |
+----------------------------------+

Q6a. Have you EVER been sacked from a job because of your gambling?

YES.............. 1

NO.............. 2

CAN'T SAY....... 3

REFUSED..........   4

IF EVER SACKED (CODE 1 AT Q6A)

Q6b. And has this happened IN THE LAST 12 MONTHS?

     Yes.............   1

     No..............   2

     Can't say.......   3

+------------------------------------+
| ASK ALL REGULAR GAMBLERS |
+------------------------------------+

Q7a. Has your gambling ever left you with not enough time to look after your family's interests?

     YES.............   1

     NO..............   2

     CAN'T SAY.......   3

     REFUSED.........   4

IF NO TIME FOR FAMILY (CODE 1 AT Q7A)

Q7b. And has this been so IN THE LAST 12 MONTHS?

     YES.............   1

     NO..............   2

     CAN'T SAY.......   3

BEEN SO IN LAST 12 MONTHS (CODE 1 AT Q7B)

Q7C. And in the last 12 months, has your gambling left you with not enough time to look after your family's interests rarely/sometimes/often or always?

     RARELY..........   1

     SOMETIMES.......   2

     OFTEN...........   3

     ALWAYS..........   4

     CAN'T SAY.......   5

+------------------------------------+
| ASK ALL REGULAR GAMBLERS |
+------------------------------------+

Q8a. Have your gambling debts EVER caused you to be declared bankrupt?

     YES.............   1

     NO..............   2

     CAN'T SAY.......   3

     REFUSED.........   4

IF EVER CAUSED TO DECLARE BANKRUPTCY (CODE 1 AT Q8A)

Q8b. And has this happened IN THE LAST 12 MONTHS?

     YES.............   1

     NO..............   2

     CAN'T SAY.......   3

+------------------------------------+
| ASK ALL REGULAR GAMBLERS |
+------------------------------------+

Q9a. Has your gambling EVER led to the break-up of an important relationship in your life?

     YES.............   1

     NO..............   2

     CAN'T SAY.......   3

     REFUSED.........   4

IF RELATIONSHIP BREAK UP (CODE 1 AT Q9A)

Q9b. And has this happened IN THE LAST 12 MONTHS?

     YES.............   1

     NO..............   2

     CAN'T SAY.......   3

Q9c. And did the break-up as a result of your gambling lead to a divorce or separation?

     YES.............   1

     NO..............   2

     CAN'T SAY.......   3

     REFUSED.........   4

+------------------------------------+
| ASK ALL REGULAR GAMBLERS |
+------------------------------------+

Q10a. Has your gambling EVER led you to obtain money illegally, even if you intended to pay it back?

     YES.............   1

     NO..............   2

     CAN'T SAY.......   3

     REFUSED.........   4

IF EVER OBTAINED MONEY ILLEGALLY (CODE 1 AT Q10A)

Q10b. And has your gambling led you to obtain money illegally IN THE LAST 12 MONTHS?

     YES.............   1

     NO..............   2

     CAN'T SAY.......   3

+------------------------------------+
| ASK ALL REGULAR GAMBLERS |
+------------------------------------+

Q11a. Have you EVER been in trouble with the police because of activities related to your gambling?

     YES.............   1

     NO..............   2

     CAN'T SAY.......   3

     REFUSED.........   4

IF EVER BEEN IN TROUBLE (CODE 1 AT Q11A)

Q11b. And has this happened IN THE LAST 12 MONTHS?

YES.............	1
NO..............	2
CAN'T SAY........	3

Q12a. Have you EVER appeared in court on charges related to your gambling?

YES.............	1
NO..............	2
CAN'T SAY........	3
REFUSED..........	4

IF BEEN TO COURT (CODE 1 AT Q12A)

Q12b. And has this happened IN THE LAST 12 MONTHS?

YES.............	1
NO..............	2
CAN'T SAY........	3

+---------------------------------------+
| ASK ALL REGULAR GAMBLERS |
+---------------------------------------+

Q13a. Have you EVER seriously thought about suicide because of your gambling?

YES.............	1
NO..............	2
CAN'T SAY........	3
REFUSED..........	4

IF EVER THOUGHT OF SUICIDE (CODE 1 AT Q13A)

+---------------------------------------+
| If you like I can give you the |
| phone number of a counselling |
| agency: 1-800-633-635 |
+---------------------------------------+

Q13b. And have you thought like that IN THE LAST 12 MONTHS?

YES.............	1
NO..............	2
CAN'T SAY........	3

+---------------------------------------+
| ASK ALL REGULAR GAMBLERS |
+---------------------------------------+

+---------------------------------------+
| The next few questions relate to |
| the gambling support services that |
| are available to help people who |
| are experiencing difficulties |
| related to gambling. Could you |
| please answer from your own |
| experience. |
+---------------------------------------+

R1. In the last 12 months, have you WANTED help for problems related to your gambling?

YES.............	1
NO..............	2
CAN'T SAY........	3

R2. In the last 12 months, have you TRIED TO GET help for problems related to your gambling?

YES.............	1
NO..............	2
CAN'T SAY........	3

IF TRIED TO GET HELP (CODE 1 AT R2)

R3. How did you find out about services available to help people with gambling problems?
READ OUT. CODE ALL ANSWERS

Signs at a gambling venue...	1,
Pamphlets available at a gambling venue...	2,
Signs or pamphlets available elsewhere (eg. GP's surgery)....	3,
Telephone directory........	4,
Radio and TV advertising......	5,
Newspaper and media articles on gambling........	6,
Referral by a health professional.....	7,
Referral by a financial adviser	8,
Referral by a community service agency..........	9,
Employees assistance program........	10,
Word of mouth....	11,
Asked for help from someone.....	12,
DIDN'T/ COULDN'T FIND OUT ANY WAYS OF HELP..........	13,
OTHER (PLEASE SPECIFY).........	97,
(DO NOT READ) CAN'T SAY........	98,
(DO NOT READ) REFUSED..........	99,

R4. Could you please tell me who did you first turn to for help for problems related to your gambling? READ OUT. CODE ALL ANSWERS

Spouse or partner	1,
Family or friends	2,
An employee of a gambling venue...	3,
Doctor (physician)......	4,
Church or religious worker.	5,
G-line or other referral service or help line (such as Lifeline)........	6,
Social worker....	7,
Indigenous or ethnic community worker..........	8,
GAMBLERS ANONYMOUS........	9,
Someone else (PLEASE SPECIFY).	97,
(DO NOT READ) CAN'T SAY........	98,
(DO NOT READ) REFUSED..........	99,

R5. Have you received counselling from any of the following organisations for problems related to your gambling? READ OUT. CODE ALL ANSWERS

Gamblers Anonymous........	1,
Lifeline.........	2,
BreakEven........	3,
Centrecare.......	4,
Amity Community Services.........	5,
Welfare or church organisation (eg. Salvation Army, Wesley, Anglicare).......	6,
Family relationships organisation (eg. Relationships Australia).......	7,
Specialised university or hospital research unit.............	8,
Hospital or clinic...........	9,
Community Health Centre..........	10,
Indigenous or ethnic community agency..........	11,

Somewhere else (PLEASE SPECIFY).	97,
(DO NOT READ) CAN'T SAY........	98,
(DO NOT READ) REFUSED..........	99,

```
+------------------------------------+
|            ASK EVERYONE            |
+------------------------------------+
```

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+------------------------------------+
| Finally, I need to ask some        |
| general questions about you and    |
| your household to make sure we     |
| have a reasonable coverage of the  |
| population.                        |
+------------------------------------+
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S1. In what country were you born? READ OUT

Australia........	1
United Kingdom...	2
New Zealand......	3
USA..............	4
Canada...........	5
Greece...........	6
Italy............	7
Lebanon..........	8
China............	9
India............	10
Vietnam..........	11
Malaysia.........	12
Philippines......	13
Hong Kong........	14
South Africa.....	15
Other............	97
Don't know.......	98

S2a. Was your mother born in Australia?

YES..............	1
NO...............	2
REFUSED..........	3

S2b. Was your father born in Australia?

YES..............	1
NO...............	2
REFUSED..........	3

S4. Are you of Aboriginal or Torres Strait Islander descent?

Yes..............	1
No...............	2
REFUSED..........	3

NATIONAL GAMBLING SURVEY

S3a. Is English the main language spoken in your household?

YES.............. 1

NO.............. 2

IF ENGLISH NOT MAIN HOUSEHOLD LANGUAGE (CODE 2 AT S3A)

S3b. What is the main language spoken in your household?

ARABIC........... 1

CANTONESE CHINESE 2

GREEK............ 3

ITALIAN.......... 4

KOREAN........... 5

MANDARIN CHINESE. 6

PORTUGUESE....... 7

SPANISH.......... 8

TAGALOG
(FILIPINO)....... 9

TURKISH.......... 10

VIETNAMESE....... 11

GERMAN........... 12

RUSSIAN.......... 13

FRENCH........... 14

CROATION......... 15

PHILIPINO........ 16

ENGLISH.......... 17

DUTCH............ 18

POLISH........... 19

MACEDONIAN....... 20

INDONESIAN....... 21

CHINESE.......... 22

MALAYSIAN........ 23

OTHER............ 97

CAN'T SAY........ 98

S5. What is your current marital status?
READ OUT

Married or living
with a partner... 1

Separated or
divorced......... 2

Widowed.......... 3

Single........... 4

REFUSED.......... 5

S7. Which of the following best describes your household?
READ OUT

Single person.... 1

One parent family
with children.... 2

Couple with
children......... 3

Couple with no
children......... 4

Group household.. 5

Other........... 6

CAN'T SAY........ 7

S6. How many people in total, including children, usually live in your household?
ENTER NUMBER OF PEOPLE
IF CAN'T SAY ENCOURAGE BEST GUESS IF STILL CAN'T SAY ENTER <F11> D

|__|__+

IF CHILDREN IN HOUSEHOLD (CODES 2, 3 OR 5 AT S7)

S8. How many children under 15 years of age usually live in your household?
ENTER NUMBER OF CHILDREN
IF CAN'T SAY ENCOURAGE BEST GUESS IF STILL CAN'T SAY ENTER <F11> D

|__|__+

S9. Which of the following best describes your current work status?
READ OUT

Working full-time 1

Working part-time 2

Home duties...... 3

Student.......... 4

Retired
(self-supporting,
in receipt of
superannuation).. 5

Pensioner........ 6

Unemployed (or
looking for work) 7

Other........... 8

(DO NOT READ)
CAN'T SAY........ 9

S10. What is the main source of income in your household?
READ OUT

Wages/salary..... 1

Own business..... 2

Other private
income.......... 3

Unemployment
benefit.......... 4

Retirement
benefit.......... 5

Sickness benefit. 6

Supporting parent
benefit.......... 7

Aged pension..... 8

Invalid pension.. 9

Other............ 10

(DO NOT READ)
DON'T KNOW....... 11

S11. Could you please tell me your own annual income from all sources before tax?

< $10,000........ 1

$10,000 - $14,999 2

$15,000 - $19,999 3

$20,000 - $24,999 4

$25,000 - $29,999 5

$30,000 - $34,999 6

$35,000 - $39,999 7

$40,000 - $49,999 8

$50,000 - $59,999 9

$60,000 - $69,999 10

$70,000 or more.. 11

(DO NOT READ)
DON'T KNOW....... 12

S12. Could you please tell me your total annual household income from all sources BEFORE TAX?
Include income from ALL HOUSEHOLD MEMBERS.

< $10,000........ 1

$10,000 - $14,999 2

$15,000 - $19,999 3

$20,000 - $24,999 4

$25,000 - $29,999 5

$30,000 - $34,999 6

$35,000 - $39,999 7

$40,000 - $49,999 8

$50,000 - $59,999 9

$60,000 - $69,999 10

$70,000 - $79,999 11

$80,000 - $89,999 12

$90,000 - $99,999 13

$100,000 -
$124,999........ 14

$125,000 or more. 15

(DO NOT READ)
DON'T KNOW....... 16

S13. What is the highest level of education you have reached?
READ OUT

Primary School... 1

Some Secondary
School.......... 2

Year 10 / 4th
Form (or
equivalent)...... 3

Year 11 / 5th
Form / leaving
certificate (or
equivalent)...... 4

Year 12 / HSC /
VCE (or
equivalent)...... 5

Some technical or
commercial....... 6

Finished
Technical School. 7

Commercial
College or TAFE.. 8

Diploma from CAE. 9

Diploma.......... 10

Some
University/CAE... 11

Degree from
University/CAE... 12

Other............ 13

CAN'T SAY........ 14

REFUSED.......... 15

IF REGULAR GAMBLER (CODE 1 AT REGULAR2)

S15. There is a possibility that I might want to contact participants again in the future to follow up in more detail some of the questions asked today?
Could we contact you?

YES.............. 1

NO............... 2

IF RESPONDENT AGREES TO BE RECONTACTED (CODE 1 AT S15)

+------------------------------------+
| NAME DETAILS WILL BE ASKED HERE |
+------------------------------------+

+------------------------------------+
| This completes the survey. Thank |
| you very much for your time and |
| assistance. Your participation is |
| greatly appreciated. |
+------------------------------------+

TO BE COMPLETED BY THE INTERVIEWER

PLEASE RATE THE LEVEL OF THE RESPONDENT'S COOPERATION WITH THE SURVEY.
HOW WILLING WAS THE RESPONDENT TO BE INTERVIEWED?

HIGH............. 1

MEDIUM........... 2

LOW.............. 3

TO BE COMPLETED BY THE INTERVIEWER	QUOTA GROUPS	
PLEASE CODE THE QUALITY OF THE COMMUNICATION WITH THE RESPONDENT (HOW WELL DID THE RESPONDENT APPEAR TO UNDERSTAND THE QUESTIONS)?	MALE 18-24.......	1
	MALE 25-34.......	2
	MALE 35-49......	3
HIGH............. 1	MALE 50+........	4
MEDIUM.......... 2	MALE Refused.....	5
LOW............. 3	FEMALE 18-24.....	6
Q. RECORD YOUR NAME FOR A TRUE AND HONEST INTERVIEW.	FEMALE 25-34.....	7
	FEMALE 35-49.....	8
|_|_|_|_|_|_|_|_|_+	FEMALE 50+.......	9
TAKE RESPONDENT NAME	FEMALE Refused...	10
|_|_|_|_|_|_|_|_|_+		

G Survey of Clients of Counselling Agencies

G.1   Basic design and purpose

This survey was designed for problem gamblers attending a counselling agency. Its prime intention was to examine the nature of the problems facing people who seek help for their gambling, including measures of the personal and other costs. The larger sample of problem gamblers accessible from a survey of agencies may provide more accurate information about the social/economic impacts of problem gambling than a population survey by itself (because low prevalence rates of problem gambling inevitably mean small numbers of problem gamblers in the sample).

We note, however, that the characteristics of problem gamblers seeking help and the impact of gambling on their lives, families and communities may be different to that experienced by non-help seeking problem gamblers. For this reason, the results were compared with a range of identical questions in the population survey to see if non-help seeking problem gamblers were different from help seeking problem gamblers, as well as comparing behaviour and outcomes for problem gamblers compared to non-problem gamblers.

The Commission sought advice from key experts familiar with problem gambling when designing the survey, and also obtained advice from the Australian Bureau of Statistics regarding questions which may have self-incriminated the client (in relation to previously undisclosed criminal behaviour). The Commission also sought and obtained ethical clearance from the Ethics Committee of the Department of Health and Aged Care, since the survey constitutes human subject research.

The survey was implemented as a face-to-face questionnaire with counsellors as paid interviewers. Counsellors did not *select* clients for the survey to reduce the risk of selection bias. Rather, agencies were asked to interview a pre-determined sequence of clients (depending on the size of their load) — over the period from March to May 1999 (see section G.4). 404 responses from individual clients were received.

Non-response bias can emerge if particular sorts of people systematically fail to answer the survey questions. The Commission asked counsellors to record a few aspects of the 72 non-respondents to the survey (such as their gender, approximate age and a subjective rating of the severity of their gambling problems on a scale of 1 to 5), to see if non-respondents were qualitatively different from respondents. It appeared that younger males were somewhat less likely to respond, but the impact on estimates is slight (table G.1).

Table G.1   **Characteristics of non-respondents**

Severity	Males	Females	Total
	Number	Number	Number
1 Not very serious	2	0	2
2	11	1	12
3	5	8	13
4	18	7	25
5 Very serious	10	10	20
Total	46	26	72
Share	%	%	%
1 Not very serious	4.3	0.0	2.8
2	23.9	3.8	16.7
3	10.9	30.8	18.1
4	39.1	26.9	34.7
5 Very serious	21.7	38.5	27.8
Total	100	100	100
Average age	39.0	41.6	40.0

a Males were less likely to respond to the *Survey of Clients of Counselling Agencies*, though the overall impact on the estimated gender balance given by the survey is slight. The raw survey results suggest that males account for 51.9 per cent of clients. If adjustment is made for the non-respondents this rises to 53.8 per cent. Similarly, the average age of male non-respondents was somewhat younger than that found in the survey. If adjustment for this is made, the average age for males becomes 43.5 years (compared with 44.6 years unadjusted), the average age for females becomes 40.4 years (compared with 40.3 years unadjusted) and the average age for all clients becomes 42 years (compared with 42.4 years unadjusted). It appears that the bulk of the gamblers who did not respond had relatively serious problems, with 62.5 per cent being rated at least a 4 on the 5 point Likert scale.

Source: PC *Non-respondent Survey of Clients of Counselling Agencies.*

G.2   Preliminary aspects

Most questions were asked for the *period when the person was experiencing gambling problems*. This is because:

- the key interest is in expenditure levels when gamblers have problems, rather than when they have partially or fully resolved these; and

- there is a higher likelihood of eliciting accurate answers about what may be seen as stigmatised behaviour if it is 'in the past'.

G.3 Question by question

A1 to A3 — These questions are intended to gather information on frequency and per session expenditure, to provide an overall estimate of expenditure on gambling. It also provides information on the primary mode of gambling for problem gamblers. It is also provides a comparison with problem gamblers and non-problem gamblers in the Commission's national survey, to see what objective patterns emerge which distinguish problem gamblers from non- problem gamblers, and help-seeking problem gamblers from non-help seeking problem gamblers (expenditure levels, frequency etc).

A4 — This indicates the amount of time spent gambling, which is both a check on expenditure questions above (in the sense that long hours and low expenditures would typically indicate an error), and a measure of the opportunity cost of gambling for that person. The amount of time spent gambling by a problem gambler is time denied other things, which should in part figure in the social costs of problem gambling (eg time denied family members). As above, it provides a comparison with the national survey for distinguishing features of problem gamblers.

A5 — This measures the overall financial losses of a problem gambler, to assess the overall financial impact of gambling on their lives so far.

A6 and A7 — These measure gambling indebtedness. This is important because it indicates the magnitude of the stock of obligations that can be left as a result of gambling problems. Thus even if a person has resolved their past gambling problems, their financial difficulties may persist if they have a substantial debt to service.

A8 — This examines the social context in which gambling takes place for problem gamblers. While problem gamblers are said to possess a high degree of social impulsivity and thus to enjoy the social aspects of gambling, there is some evidence that problem players paradoxically play alone. The New Zealand national survey being collected in 1999 also includes a question of this type.

A9 — This is the self-perception by the gambler of the gambling mode which poses the biggest problem for them. It overcomes the deficiency of asking questions about the 'favourite' mode of gambling, and can be compared with frequency and expenditure data to see if the problem gambling mode is always the one where the expenditure is the greatest.

Part B — is only for those who nominate gaming machines as the major source of their problems. Other evidence suggests that electronic gaming machines are the

dominant gambling mode for 70 to 80 per cent of problem gamblers — hence its special treatment here. This part looks at machine-player interaction and choices (such as line, credit, bill acceptor choices). It is useful for seeing whether players with problems play in certain characteristic ways (compared to recreational players answering the same set of questions in the national survey). This may be useful in designing 'safer' machines or in providing information to people, if, for example, their behaviour is sharply distinguished from other non-problem players. The Dutch have put in place a range of gaming machine design measures (which have been seen as naive and inappropriate by some commentators) to alleviate problem gambling. The data collected here enables the evaluation of possible design changes with a greater base of evidence.

C1 and C2 — These questions are aimed at looking at the duration and development of gambling problems (eg do problem gamblers start young, how long do their problems typically last up until counselling was first sought as noted in E1).

C3 to C5 — With corresponding data from the population survey, these questions look at the extent to which the propensity for problem gambling may be influenced by a problem in family members. This is important because if there is any 'inheritability' then current gambling problems not only generate current and future social costs associated with that problem gambler, but also have expected social costs through a subsequent increased prevalence of problem gambling.

Part D — questions 1 to 21 comprise the South Oaks Gambling Screen (developed by Lesieur and Blume 1987). While subject to a range of criticisms, in particular its possible high false positive rate in general populations (eg Dickerson 1997) it is still the most widely used instrument for diagnosing problem gambling. Given that the survey is to be administered to people with gambling problems (and not for significant others seeking counselling), it will be possible to see which questions from the SOGS most reliably pick up problem gambling and something about the false negative rate, *at least in this setting* (the false negative rate outside a clinical setting is suspected to be much higher). The results were also used to test whether similarly scoring people in the national survey have similar socio-demographic characteristics and experiences of problems as those gamblers in counselling.

D22 — examines another aspect of the false negative rate — the possible disinclination of a gambler who has not yet confronted their problems to divulge them. It has been conjectured that many problem gamblers who are not currently seeking help will conceal the magnitude of their problems when the SOGS is administered. This attempts to provide one perspective on this issue.

D23 — is concerned with the mechanisms which lead a problem gambler to stop a particular session of play. This is policy relevant since it might suggest control mechanisms that could help gamblers to reduce expenditure or harmful play.

E1 and E2 — provide an estimate of the resources used to help the typical problem gambler in terms of number of sessions, and the age at which they sought help.

E3 — is about the reason for seeking help. It is likely that problem gamblers who seek help and those who do not are different in a number of ways. Looking at the trigger point for seeking help provides information about the factors which discriminate help-seeking problem gamblers from non-help-seeking problem gamblers. It also provides information about the nature of the harms posed by problem gambling.

E4 — is about the modes through which problem gamblers became aware of services to help them, which may be used to show which modalities are underexploited.

E5 — is about the more general help-seeking behaviour of problem gamblers, much of which may lie outside the locus of specialised counselling services — and may therefore suggest better access to informal /community resources for how to deal with gambling problems.

E6 — aims to find out what the gambler's intentions are when they have completed counselling.

Part F concerns the impact of gambling on the expenditure decisions of households.

F1 to F2 — relate to the question of whether their households face an immediate budget crisis because of gambling.

F3 to F6 — are about how much and often gamblers seek funds from charities and whether they disclose the reason for needing help (this is important because data from charities on funds provided to gamblers may understate the real magnitude of help).

F7 — is about other actions a gambler takes if they run out of money. This is important, since one of the most obvious social implications of gambling is its impacts on household and others' (eg, friends) budgets, as well as issues of potential illegality and impropriety (eg stealing, lying for money).

F8 — is about the perceptions that problem gamblers have about what they have had to deny themselves to gamble — with implications for the life of their households.

G1 — is about perceptions of impacts on relationships — a major area of potential adverse impact for problem gamblers.

G2 to G4 — look at some of the qualitative and quantitative costs to employers from problem gamblers, including an attempt to estimate the overall impact on work performance (G4).

G5 — is concerned with some of the potentially positive aspects of gambling, which form an important counterbalance to some of the problems. They can also provide insight into some of the psychological aspects of gambling, which have been noted in the literature (particularly in the United States), such as gambling as a way of relieving loneliness, boring jobs, or worrying parts of people's lives.

G6 — is a list, building in severity so as to lower non-response, of possible adverse social impacts of problem gambling. It has been adapted so that the gambler cannot self-incriminate.

G7 — is a self-perception question about depression. We considered a longer set of questions concerning depression, such as the Goldberg or Beck measures, but we gauged that the increase in questionnaire length did not warrant the gain in precision, and there is evidence that this one-shot self-assessment question is a reasonable measure.

G8 and G9 — are about thoughts of, and possible attempted, suicide attempts. Both are indicators of large personal costs of gambling. People of course may be reluctant to divulge such problems, especially attempts, although the setting in which the questions are being posed may increase the prospects for honest disclosure, while also providing for immediate counselling if this is being revealed for the first time.

Part H asks problem gamblers to consider a number of government policies that might be considered as part of a preventative and harm minimisation strategy. Problem gamblers have obvious advantages in assessing whether they think these strategies would really be effective. On the other hand, we note that many considerations, other than the views of problem gamblers themselves, are relevant for appraising the likely efficacy of these measures.

Part I allows the respondent to put in their own words their views about the impact of gambling on their life and on others.

Part J is a standard set of respondent characteristics (shared with the population survey). These will be important in both seeing whether help-seeking problem gamblers are different to non-help-seeking ones, but also to examine other aspects

of problem gambling (eg how many children live in households affected by problem gambling?).

G.4 Interviewer instructions and questionnaire

Interviewers were provided with instructions to ensure accuracy of the survey results. The set of instructions and the questionnaire are attached.

Interviewer Instructions for the

Productivity Commission's

Survey of Clients of Counselling Agencies

Thank you for agreeing to help in this survey. We hope the results will be of help to you and to policy makers in this area. Please read the points below carefully, so that we meet your needs, those of the client, and also ensure accurate survey responses. Also please read the questionnaire carefully, so that you are familiar with it before using it with clients. If you have any queries about any question please call either Ralph Lattimore (ph 02 6240 3242) or Rob Phillips (02 6240 3222).

Who should be selected for the questionnaire?

Select people over 18 years old who are personally experiencing problems with their gambling. Please exclude significant others. The Commission has already spoken with your agency about the number of interviews you can manage per week over the three week survey period. It is important that you do not select clients on the basis that you think they represent interesting cases or would be more willing to participate. This could bias the results.

The best approach for selecting clients for the survey is a sequential one. You have agreed to a certain number of clients out of your weekly caseload that you can survey each week. For example, you might have agreed to survey 5 out of 30 clients you are seeing in a given week. In that case, you would need to survey one in every six of those clients. We suggest you start with client number 1, then client 7, client 13, client 19 and finally client 25. If any given client in this sequence does not want to participate then choose the next client, but otherwise keep to the sequence. For example, if client 1 does not want to participate, then survey clients 2,7,13,19 and 25. The sequence does not have to be equally spaced as in the illustration above. For example, it could be randomly spaced. It could also be changed to reflect the workload of your agency, but how you choose the clients to survey *should not be affected by the nature of the client.*

When should you approach the client about whether they wish to participate or not?

That should be done at the end of a counselling session, and after you have made any arrangements for future counselling sessions. We want to emphasise to the client that if they do not participate, it in no way affects future help from you. By making future appointments prior to asking about the survey, this idea is put into action as well as words.

Do we need the clear consent of the client to participate in the survey?

Yes. It is very important that the client is able to make an informed decision about whether they wish to participate or not. You should raise the subject of the survey, indicating that:

- it is absolutely confidential, with no names appearing on the survey form;
- it is voluntary;
- it will in no way affect the client's continued use of your counselling services whether they participate or not; and
- even if they agree to participate, they can still stop the survey at any time.

You should ask them to read and record their preference for participation on the consent form on page 2 of the questionnaire. If they have questions please answer them if they have been covered here or in the consent form. If they are not covered, we have given our contact details.

What do you do if they do not wish to participate?

If they do not want to participate, please thank them for their consideration of the consent form.

We also have a very brief *Non-response Form* (the pink form) we would like you to fill in if they do not want to participate. This is to try and gauge whether refusals represent an unbiased group of your caseload, or particular kinds of people. It allows us to adjust the results if there are such biases. We pose only three questions to you:

- what is the gender of the person?
- what is their approximate age? and
- your subjective rating of the severity of their gambling problems on a scale of 1 (not very serious) to 5 (extremely serious). The assessment of severity should take account of the psychological distress of the problems to the gambler and others, the seriousness of financial problems, possible effects on employment, and crime.

What is the procedure if they agree to participate?

If they are willing to participate, also thank them, and then proceed with the questionnaire.

Guidance on particular questions

Most questions are self-explanatory or include notes to help you and the client. But some are more complex, or involve delicate issues.

Part A is a complex question, because it looks at three aspects of gambling: whether they played a game or not, how often they played it, and how much was usually lost each time a game was played.

The way of proceeding is to first fill in column 1, ticking only those gambling forms in which they participated when they were experiencing problems.

Then go to the first of the ticked items, and ask how many times they played these per week, month or year. For example, one client might play poker machines 3 times a month. This would be recorded as a 3 in column 2 and with the word 'month' circled in column 3.

Then ask how much they usually lost each time they played this gambling form and enter the amount in column 4. If they usually won, please put the words 'win' next to the appropriate figure in column 4.

Then go to the next ticked box in column 1, and ask the same set of frequency and expenditure questions.

Do this until you have dealt with all of the gambling forms the client played. For every tick in column 1 there should be a frequency in column 2, a circle around a period in column 3 and the amount lost in column 4.

We have provided an example sheet which shows the imaginary return of a gambler called John, which may help you to fill in this question.

Questions G8 and G9

While some questions in the survey are sensitive, this is particularly true for questions G8 and G9, which relate to suicide ideation and attempts. If a person answers that they have seriously contemplated suicide or have made an attempt, and you have not covered this issue in counselling prior to this, it is important to ask the client if they wish to talk about that matter now with you, or to arrange a time to do so.

At the end of the interview

At the end of the interview, please thank the client for their help, and repeat that the form will be sent to us with no name on it.

Also please enter the time it took to complete the interview.

Please put the completed form in a secure place in your office, until the end of the week. Then send us the first group of completed forms, including any non-responses or incomplete returns.

Complaints

If a client complains about the survey, then please contact us to see if we can resolve the problem.

Has this research been cleared by a recognised ethics committee?

Yes. We took the research proposal to the Ethics Committee of the Commonwealth Department of Health and Aged Care and they have indicated that it meets their guidelines.

Thank you for your valuable help

3

PRODUCTIVITY COMMISSION

GAMBLING INQUIRY

SURVEY OF CLIENTS OF COUNSELLING AGENCIES 1999

Confidentiality

The completed form will not have the client's name on it, so that their identity is not known to the research team.

Return Address

Please send the completed survey forms in the attached enclosed pre-paid envelope to Dr Ralph Lattimore, Productivity Commission, PO Box 80, Belconnen ACT 2616.

Survey Instructions

First, please read the consent form over the next page before you start the survey. We want to make sure you know about why we are doing this survey and how we will protect your interests. You must be aged 18 and over to complete this form.

It is very important that you provide honest answers to the survey questions so that we can work out how best to assist other people in the future.

Where there are multiple choice boxes, please tick ☑ the appropriate box.

Where we ask you for numbers, try to give us an accurate answer, but if you are a little unsure, estimates are acceptable. Please report all monetary amounts in dollars.

Date of completion of form	/ /

CONFIDENTIAL

Consent for participation

What is the survey for?

Please help us find out more about the impacts of gambling on people in Australia. The survey will be analysed as part of the Productivity Commission's national inquiry into gambling, and will be used to provide information about the social impacts of problem gambling and what might be done about it.

Are the results confidential?

Yes. The completed form will not have your name on it, so that your identity is not known to the research team.

What is the role of the counsellor in the survey?

We are using a counsellor from this agency to help you fill out the survey. Because of this, they will see your answers. However, they will not make any record of your answers for themselves or the agency, unless you specifically consent to this. The survey may raise issues that you wish to discuss with the counsellor and, of course, that is up to you and the counsellor concerned.

What happens to the survey form?

It is sent back to the Productivity Commission, which will then analyse the data. Remember again that your name is not linked in any way to the survey form.

Do I have to fill in this survey?

No. It is a voluntary survey, but, of course, we would really like you to take part. You should also know that at any time while you are filling it out, you can decide to stop.

If I decide not to participate will it affect the help I get here?

Absolutely not. We would like to stress that whether you participate in this survey or not in no way affects the help you will get from this counselling agency.

Is there someone I can contact if I have concerns about the survey or survey process?

Yes. You can contact the Commission to discuss any concerns. Please speak to Rob Phillips (phone 02 6240 3222) or Ralph Lattimore (02 6240 3242).

Can I find out what the overall survey findings are?

Yes. If you would like to get a copy of the report, we will send it to you. We have provided a *Background Sheet* on the Commission with details on how you may obtain a copy of the report. It also tells you how to make a submission to us if you would like to do so.

How long will it take to fill in the form?

That will vary a bit. But it should be about 20-25 minutes.

1 Are you willing to participate in this survey?	2 Are you willing to have the anonymous data provided to researchers other than the Productivity Commission?
Tick one box	*Tick one box*
Yes ☐ Thank you, please turn to the next page	Yes ☐
No ☐ Thank you for considering this survey	No ☐

CONFIDENTIAL

Part A — Questions about the nature of your gambling

The following questions relate only to the time when you were experiencing **problems** with your gambling. This may be before you came to this agency. We are trying to get a picture of what people did when they took part in gambling activities.

A1   What activities did you play? Tick the appropriate boxes in *column 1*.

A2   How many times per week, per month or per year did you play? Enter the number in *column 2*, and circle the right period in *column 3*.

A3   What did you usually spend each time you played? By 'spend' we mean what you usually **lost**. Enter this value in *column 4*.

	Column 1 Tick which of these you have played	Column 2 Enter the number of times you played these per week, month or year	Column 3 Circle the right period	Column 4 What amount did you usually lose per session of play
Gambling activities				
Played gaming machines (eg poker or video card machines) … … … …	☐	☐	times per week/month/year	$
Bet on horse/harness/greyhound races (*excluding sweeps*) … … … … …	☐	☐	times per week/month/year	$
Bought an *instant* lottery ticket (eg Instant Scratchies, Scratch'n'win) …	☐	☐	times per week/month/year	$
Played lotto or any *other* lottery game (eg Tattslotto, Powerball) … … …	☐	☐	times per week/month/year	$
Played table games at a casino … … … … … … … … … … … … …	☐	☐	times per week/month/year	$
Played Keno at a club, hotel, casino or any other place … … … … … …	☐	☐	times per week/month/year	$
Played bingo at a club or hall … … … … … … … … … … … … … …	☐	☐	times per week/month/year	$
Bet on a sporting event (eg football, cricket, tennis) … … … … … … …	☐	☐	times per week/month/year	$
Gambled on the internet … … … … … … … … … … … … … … …	☐	☐	times per week/month/year	$
Played games *privately* for money at home/elsewhere (eg cards, mahjong)	☐	☐	times per week/month/year	$
Played any other gambling activity (*excluding* raffles). … … … … … …	☐	☐	times per week/month/year	$

Please **CHECK** that if you ticked any box in column 1, you have also made corresponding entries in column 2, column 3 and column 4.

CONFIDENTIAL

A4   Roughly how much time did you usually devote to gambling in a usual week?

Tick one box

Less than 2 hours per week	☐
Between 2 and 6 hours per week	☐
Between 6 and 10 hours per week	☐
Between 10 and 15 hours per week	☐
Between 15 and 20 hours per week	☐
Between 20 and 30 hours per week	☐
More than 30 hours per week	☐
Don't recall	☐

A5   What do you think your total financial losses have been since you first experienced problems with gambling?

Enter value

$

A6   Do you have any outstanding gambling debt? (Include outstanding debts on credit cards, money lent from friends or loans used to fund gambling)

Tick one box

No   ☐ → Go to A8

Yes   ☐ → Go to A7

A7   What is your approximate level of gambling debt at present?

Enter value

$

A8   When you gambled, did you mostly do so:

Tick one box

Alone?	☐
With your partner?	☐
With other family members?	☐
With friends?	☐
With work colleagues?	☐
Other people (please specify)?	☐
Don't recall?	☐

A9   Which form of gambling was the biggest problem for you?

Tick one box

Gaming machines (eg poker, card machines) ... ...   ☐ → Goto Part B

Betting on horse race, harness race, greyhound race ... ...   ☐

Table games at the casino ... ...   ☐   } Goto Part C

Other (please specify)   ☐
....

Part B — Questions about gaming machines (eg poker/card machines)

B1   What type of gaming machine did you usually play?

Tick one box

Poker machines	☐ → Goto B2
Video card machines	☐
Video keno machines	☐ } Goto B9
Other	☐

B2   What type of machine did you usually play?

Tick one box

1 cent	☐
2 cent	☐
5 cent	☐
10 cent	☐
20 cent	☐
50 cent	☐
$1	☐
More than $1	☐

B3   Did you bet more than 1 line at each press of the button?

Tick one box

No   ☐ → Go to B6

Yes   ☐ → Go to B4

B4   How often did you bet more than 1 line at each press of the button?

Tick one box

Never	Rarely	Some-times	Often	Always

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B5 How many lines did you usually play on these occasions?

Enter number of lines

	lines

B6 Did you bet more than 1 credit per line?

Tick one box

No ☐ → Go to **B9**

Yes ☐ → Go to **B7**

B7 How often did you play more than one credit per line?

Tick one box

Never	Rarely	Some-times	Often	Always
☐	☐	☐	☐	☐

B8 How many credits per line did you usually play on these occasions?

Enter number of credits per line

	credits per line

B9 Do the machines you play allow you to insert notes rather than coins?

Tick one box

No ☐ → Go to **B11**

Yes ☐ → Go to **B10**

B10 How often did you insert notes rather than coins in the machines?

Tick one box

Never	Rarely	Some-times	Often	Always
☐	☐	☐	☐	☐

B11 Did you have a card which you could use to earn bonus points when you play the machines?

Tick one box

No ☐ → Go to **B13**

Yes ☐ → Go to **B12**

B12 How often did you insert this card into the machines when you were playing them?

Tick one box

Never	Rarely	Some-times	Often	Always
☐	☐	☐	☐	☐

B13 How many times have you won $250 or more from playing the machines in the last 12 months?

Number of times

	times

Part C — Gambling duration and family links

C1 How old were you when you first started gambling *regularly* (including in private games for money)?

Enter age | years old |

C2 Looking back now, how old were you when you first started having problems with gambling?

Enter age | years old |

C3 Has anyone else in your family had serious problems with their gambling, now or in the past?

Tick one box

No ☐ → Go to **Part D**

Yes ☐ → Go to **C4**

C4 What is their relationship to you?

If more than one person, tick more than one box

Spouse/partner ☐	Father ☐	Mother ☐
Brother/sister ☐	Child ☐	Other family member ☐

C5 How did you know there was a problem?

Part D — Gambling behaviour

Note: The following questions are about what people do when they gamble. Please read each question and answer whether it has applied to you personally **in the last 12 months**. Remember that all the information you provide is anonymous and confidential. Please try to be as accurate as possible in your answers.

Tick one of these boxes in each row

		Never	Rarely	Some-times	Often	Always
1	Over the last 12 months, when gambling, how often did you go back another day to win back money you lost?	☐	☐	☐	☐	☐
2	Over the last 12 months, have you claimed to be winning money from gambling when in fact you lost?	☐	☐	☐	☐	☐
3	Over the last 12 months, have you gambled more than you intended?	☐	☐	☐	☐	☐
4	Over the last 12 months, have people criticised your gambling or told you that you had a gambling problem, regardless of whether or not you thought it was true?	☐	☐	☐	☐	☐
5	Over the last 12 months, have you felt guilty about the way you gamble or what happens when you gamble?	☐	☐	☐	☐	☐
6	Over the last 12 months, have you felt that you would like to stop gambling, but didn't think you could?	☐	☐	☐	☐	☐
7	Over the last 12 months, have you hidden betting slips, lottery tickets, gambling money or other signs of gambling from your spouse/partner, children, or other important people in your life?	☐	☐	☐	☐	☐
8	Over the last 12 months, have you argued with people you live with over how you handle money?	☐	☐	☐	☐	☐
9	If you answered rarely, sometimes, often or always to D8, have these money arguments ever centred on your gambling?	☐	☐	☐	☐	☐
10	Over the last 12 months, have you borrowed from someone and not paid them back as a result of your gambling?	☐	☐	☐	☐	☐
11	Over the last 12 months, have you lost time from work or study because of your gambling?	☐	☐	☐	☐	☐

The following questions relate to ways in which some people obtain money for gambling. We want to know which of these you have used either to obtain money to *gamble or to pay gambling debts* over the last 12 months.

Tick one of these boxes in each row

To gamble or pay gambling debts...	Never	Rarely	Some-times	Often	Always
12 Over the last 12 months, have you borrowed from household money?	☐	☐	☐	☐	☐
13 Over the last 12 months, have you borrowed from your spouse or partner?	☐	☐	☐	☐	☐
14 Over the last 12 months, have you borrowed from other relatives or in-laws?	☐	☐	☐	☐	☐
15 Over the last 12 months, have you borrowed money using your credit cards?	☐	☐	☐	☐	☐
16 Over the last 12 months, have you borrowed from banks, finance companies or credit unions?	☐	☐	☐	☐	☐
17 Over the last 12 months, have you borrowed from loan sharks?	☐	☐	☐	☐	☐
18 Over the last 12 months, have you cashed in shares, bonds or other securities?	☐	☐	☐	☐	☐
19 Over the last 12 months, have you sold personal or family property?	☐	☐	☐	☐	☐
20 Over the last 12 months, have you written a cheque knowing there was no money in your account?	☐	☐	☐	☐	☐

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D21 Do you feel you have had a problem with gambling?   *Tick one box*

Yes, in the past but not now ... ...   ☐

Yes, I feel that way now ... ...   ☐

No ... ...   ☐

Can't say... ... ...   ☐

If you answered 'no' to D21, why are you presenting to a counsellor?

....

D22 The previous 21 questions are often used to look at whether people are experiencing problems with their gambling. Think about your situation *before* you decided to seek help. If a survey agency had telephoned you and asked you these questions, how do you think you would have answered?

Tick one box

Answered exactly as above?   ☐

Refused to answer the survey agency?   ☐

Somewhat concealed any problems?   ☐

Mostly concealed any problems?   ☐

Completely concealed any problems?   ☐

Exaggerated any problems?   ☐

Told them you didn't know   ☐

I don't know what I would have said then   ☐

D23 Think about the type of gambling you have had most problems with. Based on your play over the last 3 months, how often did you finish a session of gambling for the following reasons?

Tick one of these boxes in each row

	Never	Rarely	Some times	Often	Always
Ran out of money	☐	☐	☐	☐	☐
You spent your budgeted amount of money...	☐	☐	☐	☐	☐
You spent your planned amount of time playing..	☐	☐	☐	☐	☐
You lost interest in gambling or got bored...	☐	☐	☐	☐	☐
The venue closed or there were no more immediate gambling opportunities (eg last race)	☐	☐	☐	☐	☐
To eat or drink.	☐	☐	☐	☐	☐
Friends or family left	☐	☐	☐	☐	☐
Other (please specify)	☐	☐	☐	☐	☐

Part E — Help for problems with gambling

E1 How long ago did you first receive counselling for problems with your gambling?

Enter number of months ago   _____ months

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E2   **How many counselling sessions have you been to (here and elsewhere) for your gambling?**

Enter number of sessions attended

[   ] sessions attended here

[   ] sessions attended in another agency

E3   **What prompted you to seek help for your gambling problems?**

Tick as many as appropriate

Crisis in finances due to gambling	[ ]
Crisis in relationship due to gambling...	[ ]
Legal problems due to gambling	[ ]
Difficulties at work due to gambling	[ ]
Someone urged me to come (eg spouse, doctor, friend)	[ ]
Felt depressed or very worried about my gambling	[ ]
Other (please specify)	[ ]

E4   **How did you find out about the services for people with gambling problems?**

Tick as many as appropriate

Signs at a gambling venue	[ ]
Pamphlets available at a gambling venue	[ ]
Signs or pamphlets elsewhere (eg doctor's surgery)	[ ]
Telephone directory	[ ]
Radio and TV advertising...	[ ]
Newspaper and media articles on gambling	[ ]
Referral by a health professional	[ ]
Referral by a community service agency	[ ]
Referred by a financial adviser..	[ ]
Word of mouth	[ ]
Asked for help from someone	[ ]
Other	[ ]
Can't say/ don't recall	[ ]

E5   **Other than a counselling agency or gambling help line, who else did you turn to for help for problems related to your gambling?**

Tick as many as appropriate

No one else	[ ]
Partner, other family or friends	[ ]
An employee of a gambling venue	[ ]
Doctor (physician)	[ ]
Church or religious worker (eg priest)	[ ]
Community service agency	[ ]
Indigenous or ethnic community worker	[ ]
Someone else	[ ]

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E6 After finishing your contact with the agency you currently visit, how much do you aim to gamble?

Tick one box

I hope to limit my gambling to a controlled extent ... ... ☐

I hope to stop gambling altogether ... ... ☐

I am undecided ... ... ☐

Other (please specify) .... ☐

Part F — Impacts of gambling on household spending

F1 Did you ever *run out of money* to buy household essentials, pay the rent or meet other urgent bills as a result of your gambling?

Tick one box

No ☐ → Go to F8

Yes ☐ → Go to F2

F2 How often did this happen?

Rarely	Sometimes	Often	Always
☐	☐	☐	☐

Tick one box

F3 Did you ever obtain emergency help from a charity (eg Salvation Army) when the money ran out?

Tick one box

No ☐ → Go to F7

Yes ☐ → Go to F4

F4 Did you usually say that you needed help because you had spent your money on gambling?

Tick one box

No ☐ Yes ☐

F5 About how many times did you get help in the last 12 months?   times

F6 About how much money (or equivalent in food or other benefits) did they provide to you per visit

$ _____ per visit

F7 What *else* did you do when the money ran out? When the money ran out, have you ever...

Tick one of these boxes in each row

	No	Yes
obtained advance money from Social Security	☐	☐
borrowed from friends and family	☐	☐
not paid or deferred urgent bills (eg phone, rent)	☐	☐
went without	☐	☐
sold personal property and assets	☐	☐
did odd jobs or worked overtime to get more money	☐	☐
obtained money improperly (eg illegally, through trickery, telling lies)	☐	☐

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F8   Have you or your family had to go without things because of gambling?

Tick one box on each line

	Never went without	Rarely went without	Some-times went without	Often went without	Always went without	Don't know
Food and grocery items	☐	☐	☐	☐	☐	☐
Savings for things you were hoping to buy later ...	☐	☐	☐	☐	☐	☐
Phone, power, suitable accommodation	☐	☐	☐	☐	☐	☐
Buying a car, TV or other household goods	☐	☐	☐	☐	☐	☐
Holidays	☐	☐	☐	☐	☐	☐
Entertainment and going out	☐	☐	☐	☐	☐	☐
Restaurant meals	☐	☐	☐	☐	☐	☐

Part G — Impacts of gambling on your life

G1   What, if any, bad effects has your gambling had on your relationships with:

Tick one box on each line

	No effect at all	Minor adverse effect	Moderate adverse effect	Major adverse effect	Not appli-cable	Don't know
Your partner	☐	☐	☐	☐	☐	☐
Children	☐	☐	☐	☐	☐	☐
Parents and other relations	☐	☐	☐	☐	☐	☐
Friends	☐	☐	☐	☐	☐	☐
Work colleagues	☐	☐	☐	☐	☐	☐

If you noted that the effects had been moderate or major, please describe what happened:

....
....
....
....

G2   Were you employed when you were experiencing problems with gambling?

Tick one box

No   ☐   Go to G5

Yes   ☐   Go to G3

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G3   In what ways do you think your gambling affected your work life?

Tick one box on each line

Did gambling affect:	No effect	Minor adverse effect	Moderate adverse effect	Major adverse effect	Not appli- cable	Don't know
The amount of time spent at work	☐	☐	☐	☐	☐	☐
The quality of my work	☐	☐	☐	☐	☐	☐
My cooperation with colleagues ... ... ·	☐	☐	☐	☐	☐	☐
The speed at which I worked	☐	☐	☐	☐	☐	☐
My prospects for promotion	☐	☐	☐	☐	☐	☐
My concentration on my work	☐	☐	☐	☐	☐	☐
The confidence or trust others placed in me ...	☐	☐	☐	☐	☐	☐
Other (please specify)	☐	☐	☐	☐	☐	☐

G4   Overall, how much do you think your gambling problems reduced your ability to do your job?

Tick one box

Not at all	By a little bit (less than 5%)	By a modest amount (5 to 10%)	By a lot (11 to 25%)	By a very large amount (Over 25%)
☐				

G5   What have been some of the good things about gambling for you?

Tick one box in each row

	Never	Rarely	Some times	Often	Always
It enabled me to relax.	☐	☐	☐	☐	☐
It has given me pleasure and fun..	☐	☐	☐	☐	☐
It enabled me to meet new friends	☐	☐	☐	☐	☐
It has been a hobby and interest to me	☐	☐	☐	☐	☐
It has given me some hope for a change in my life	☐	☐	☐	☐	☐
It enabled me to get out to a safe and pleasant place	☐	☐	☐	☐	☐
It has given me something to talk about with family and friends	☐	☐	☐	☐	☐
Thinking about gambling has helped me get through a boring job	☐	☐	☐	☐	☐
It took my mind off things that worried me ... ... ·	☐	☐	☐	☐	☐
It made me feel less lonely	☐	☐	☐	☐	☐

G6 **Has gambling led to:**

Tick one box in each row

	Yes	No
you having to change jobs?	☐	☐
you losing a job?	☐	☐
you separating or divorcing from your partner?	☐	☐
you losing contact with your children?	☐	☐
you being declared bankrupt?	☐	☐
the sale/repossession of your house?	☐	☐
the loss of superannuation funds?	☐	☐
you borrowing without permission or obtaining money improperly?	☐	☐
problems with the police?	☐	☐
an appearance in court on criminal charges?	☐	☐
a prison sentence?	☐	☐
incidents of violence involving family, friends or others?	☐	☐

G7 **Have you ever suffered from depression because of your gambling?**

Tick one box

Never ☐   Rarely ☐   Sometimes ☐   Often ☐   Always ☐

G8 **Have you ever seriously contemplated suicide because of your gambling?**

Tick one box

Never ☐   Rarely ☐   Sometimes ☐   Often ☐   Always ☐

G9 **If you answered rarely, sometimes, often or always, have you ever tried to commit suicide because of your gambling?**

Tick one box

No ☐

Yes ☐

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Part H — What actions might help reduce problem gambling?

Some people have suggested that governments, venues or gambling equipment makers might be able to reduce problem gambling in Australia by changing gambling practices. Please rate the following ideas, based on your own experiences, on whether you think they would reduce the likelihood of problem gambling.

Tick one box on each line

	Would not work	Would work a bit	Would work well
The education system should teach children about the risks of gambling and how to understand odds	☐	☐	☐
Information about the odds of winning in any particular gamble should be clearly displayed (eg on a poker machine)	☐	☐	☐
Venues should put up signs warning customers of the risks of gambling	☐	☐	☐
TV and radio advertising campaigns should be used to make people aware of the risks of problem gambling	☐	☐	☐
Promotion of gambling should be banned	☐	☐	☐
Technology should be developed allowing gamblers to self-exclude from gambling, if they wish to	☐	☐	☐
Counselling services should be advertised on national TV and radio	☐	☐	☐
Automatic teller machines should not be located right next to where people gamble ...	☐	☐	☐
Technologies should be developed allowing gamblers to set limits on their gambling, if they wish to	☐	☐	☐
Winnings over a certain amount should be paid by cheque (eg over $200)	☐	☐	☐
The odds of winning should be reduced to make gambling less attractive	☐	☐	☐
Technologies should be developed allowing gamblers to track their gambling spending over time	☐	☐	☐
Gambling venues should not be open 24 hours a day	☐	☐	☐
Alcohol should not be served to people while they are gambling	☐	☐	☐
Venues should have windows and clocks so that people know how much time they have gambled...	☐	☐	☐
Poker machines should only be able to take coins and not notes	☐	☐	☐
Poker machines should have enforced breaks in play so players can think about whether they want to continue gambling	☐	☐	☐
Poker machines should be far less accessible in local communities	☐	☐	☐
Poker machines should remind the gambler how long they have been playing, and ask them if they want to continue	☐	☐	☐
The number of lines and credits playable on poker machines should be reduced	☐	☐	☐
Poker machines should not have linked jackpots	☐	☐	☐

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Part I — Your views about your gambling

You might like to tell us about the impact gambling has had on your life and the lives of those around you.

....
....
....
....
....
....
....
....
....
....
....
....
....
....
....

Part J — Respondent characteristics

We need to ask some general questions about you and your household to help us combine your answers with those of other people being interviewed for the study.

J1   What was your year of birth?

    19___

J2   What is the postcode of your usual place of residence?

Postcode   [   ]

OR

Suburb   [   ]   State   [   ]

J3   Record your gender   *Male*   *Female*

J4   In what country were you born?

    [   ]

J5   Were your parents born in Australia?

Tick one box in each row

	Yes	*No*
Father	[ ]	
Mother	[ ]	

J6   Is English the main language spoken in your household?

Yes   [ ]

No   [ ] → the language spoken is   [   ]

J7   Are you of Aboriginal or Torres Strait Islander descent?

Yes   [ ]

No   [ ]

J8   What is your current marital status?

Tick one box

Married or living with a partner	[ ]
Separated or divorced	[ ]
Widowed	[ ]
Single	[ ]

J9   How many people in total, including children, usually live in your household?

Enter number in household

    [_____ people]

J10   How many children under 15 years of age usually live in your household?

Enter number in household

    [_____ people]

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J11 Which of the following best describes your household?

Tick one box

Single person ... ... ☐

One parent family with children ... ... ☐

Couple with no children ... ... ☐

Couple with children ... ... ☐

Group household (unrelated individuals) ... ... ☐

Other ... ... ☐

J12 What is the main source of income in your household?

Tick one box

Wages/salary ... ... ☐

Own business ... ... ☐

Other private income ... ... ☐

Unemployment benefit ... ... ☐

Retirement benefit ... ... ☐

Sickness benefit ... ... ☐

Supporting parent benefit ... ... ☐

Aged/invalid pension ... ... ☐

Other ... ... ☐

Don't know ... ... ☐

J13 Which of the following best describes your current work status?

Tick one box

Working full time ... ... ☐

Working part time ... ... ☐

Home duties ... ... ☐

Student ... ... ☐

Retired (self-supporting) ... ... ☐

Pensioner ... ... ☐

Unemployed (or looking for work) ... ... ☐

Other ... ... ☐

J14 What is the highest level of education you have reached?

Tick one box

Primary school ... ... ☐

Some secondary school ... ... ☐

year 10/ 4th form (or equivalent) ... ... ☐

year 11/ 5th form/ Leaving certificate (or equivalent) ... ☐

year 12/ HSC /VCE (or equivalent) ... ... ☐

Some technical or commercial ... ... ☐

Finished technical school, commercial college or TAFE ☐

Diploma from CAE ... ... ☐

Some university/ CAE ... ... ☐

Degree from university/CAE ... ... ☐

Other ... ... ☐

Don't know ... ... ☐

J15 Please estimate your annual income (before tax) from all sources at the:

Tick one box in each column

	Personal level	Household level
$10,000	☐	☐
$10,000 – $14,999	☐	☐
$15,000 - $19,999	☐	☐
$20,000 - $24,999	☐	☐
$25,000 - $29,999	☐	☐
$30,000 - $34,999	☐	☐
$35,000 - $39,999	☐	☐
$40,000 - $44,999	☐	☐
$45,000 - $49,999	☐	☐
$50,000 - $54,999	☐	☐
$55,000 - $59,999	☐	☐
$60,000 - $64,999	☐	☐
$65,000 - $69,999	☐	☐
$70,000 - $79,999	☐	☐
$80,000 - $89,999	☐	☐
$90,000 - $99,999	☐	☐
$100,000 - $124,999	☐	☐
$125,000 or more	☐	☐
Can't say	☐	☐

Thank you for completing this questionnaire.

We hope it will help us to help other people.

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☐ minutes to complete survey
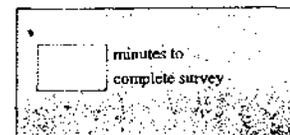
H   Problem gambling and crime

H.1   Introduction

In this appendix, some aspects of the relationship between crime and gambling are reviewed. The sequence of events that leads some problem gamblers to turn to crime to finance their gambling habits or to fund gambling-related debts is examined first. A range of data sources is then analysed to shed light on the prevalence of criminal offences among problem gamblers.

The question of whether there is a causal link between problem gambling and criminal behaviour is then examined, based on considerations such as:

- the reasons why problem gamblers commit crimes; and

- the types of crimes that problem gamblers commit.

Arguments are also considered that serve to qualify causality, such as the fact that not all offences committed by problem gamblers are necessarily gambling related, and that some problem gamblers may well be predisposed to commit criminal offences independently of their gambling behaviour.

Finally, the chapter looks at loan shark lending and problem gambling.

H.2   Why do some problem gamblers turn to crime?

Lesieur (1984, 1996) has outlined the sequence of events that lead some problem gamblers to commit criminal offences. To obtain money for gambling or to pay gambling debts, gamblers initially draw on their savings and then make cash advances on their credit cards, borrow from family and friends, or take out loans with banks or other financial institutions.

As the Wesley Community Legal Service noted:

> Typically a gambler will borrow increasing amounts of money to gamble, disguising the purpose for which the money is borrowed by shuffling money from one place to another. For example, a personal loan may be taken out to purchase a car, which is then sold to provide gambling money (sub. 46, p. 7).

Problem gamblers may subsequently borrow from loan sharks, or resort to selling personal or family property to obtain funds for gambling. Faced with mounting financial difficulties and gambling-related debts, when all these legal sources of gambling funds are exhausted, problem gamblers may then resort to illegal activities to obtain money. As the Salvation Army noted:

> Once they [problem gamblers] have exhausted their income, whether wages, salaries, pensions or benefits, they then borrow on credit cards, take out loans, steal from family/friends, sell personal and family property, and then move to stealing from others (sub. 35, p. 2).

The stresses and pressures experienced by problem gamblers that lead to crime are described by Blaszczynski and McConaghy (1994a) as follows:

> As financial circumstances deteriorate, the ability to abstain from gambling is reduced as the pressures to meet financial commitments mount. Such financial pressures [lead] gamblers to utilise any available means or resources to obtain funds to ... gamble and a chance to win. ... Under these conditions, the propensity to use illegal methods to obtain gambling funds [is] substantially increased (p. 120).

While financial difficulties are the main motive for problem gamblers turning to crime, the gambling behaviour that leads to financial difficulties and crime has been referred to as the 'post behavioural cycle' (Lesieur 1984) or 'gambling-offending cycle' (Marshall, Balfour and Kenner, sub. 116; see also Andrew et al. 1997). At the start of the cycle, the problem gambler frequently experiences a phase of wins, which tends to encourage more frequent play in the expectation of further wins. But greater frequency of play increases the likelihood of losses, and so the gambler enters a phase of financial difficulties. As financial problems mount, the gambler resorts to 'chasing losses', which generally results in the rapid depletion of financial resources and mounting levels of debt. As a consequence, the gambler may commit a criminal offence to obtain money to service the debt and to continue gambling. And once a problem gambler has committed a gambling related offence, they generally continue to do so until they are discovered.

H.3 What proportion of problem gamblers commit offences?

To shed light on what proportion of problem gamblers commit offences to support their gambling, information is drawn from Australian surveys of:

- people seeking help from problem gambling counselling services;
- problem gamblers seeking treatment from hospital/university psychiatric units and Gamblers Anonymous;

- prison inmates; and

- the general population.

Clients seeking help at problem gambling counselling agencies

Information from six studies on the proportion of clients at problem gambling counselling agencies who admit to having committed criminal offences is summarised in table H.1.

Table H.1 **Criminal activity among clients of problem gambling counselling agencies**

Region	Period	Type of clients assessed	Number of clients assessed	% admitting to criminal offences
Victoria	1996–97	New clients of the 18 Break Even problem gambling counselling services	1 452	30
Victoria	1997-98	New problem gambler clients of the 18 Break Even problem gambling counselling services (presenting for gambling behaviour)	2 209	20
Victoria	Nov97-Nov98	New clients at counselling service for Vietnamese gamblers	30	50
Queensland	May93-Oct98	New clients at Break Even-Gold Coast	443	53
Queensland	1993-94	New clients at 5 Break Even centres	174	29
Queensland	1994-95	New clients at 5 Break Even centres	357	64
Australia	1998-99	Clients of problem gambling counselling agencies, Australia-wide	404	44

Sources: Jackson et al. (1997, 1999b); sub. 86; Boreham et al. (1995); sub. 62; PC *Survey of Clients of Counselling Agencies.*

Case studies for agencies

A study by Jackson et al. (1997) presents information on criminal activity among 1452 new clients who registered with problem gambling counselling agencies in Victoria in the period 1 July 1996 to 30 June 1997, and who were assessed in terms of the ten DSM-IV criteria for 'pathological' gambling. One of the criteria is whether a subject had committed illegal acts (for example, forgery, fraud, theft or embezzlement) in order to finance their gambling. The study found that:

- around 30 per cent of clients admitted to having committed illegal acts to finance their gambling (Jackson et al. 1997, p. 27).

For a subset of 856 clients in 1996-97, information was also collected on the primary reason for a client attending a problem gambling counselling agency. It was found that:

- around 5 per cent of clients reported legal issues as the *primary reason* for attending counselling for gambling problems (Jackson et al. 1997, p. 22).

An analysis of new problem gambler clients of the 18 Victorian Break Even agencies in 1997-98 (Jackson et al. 1999b) yielded the following findings:

- around 20 per cent of clients admitted to having ever committed illegal acts which were associated with their gambling; and

- 10.5 per cent of problem gamblers revealed illegal actions to be a current source of funding for their gambling.

The Australian Vietnamese Women's Welfare Association Inc. (sub. 86) reported on characteristics of clients who presented at a problem gambling counselling service for Vietnamese gamblers in the western region of Melbourne. In the twelve month period to November 1998, the service provided assistance to 30 people (18 males and 12 females) with gambling related difficulties. Of these clients who sought help:

- 50 per cent were involved with the courts (they had either been ordered by a Magistrate's Court to undergo counselling or were about to appear in court because of their gambling or gambling-related activities);

- 27 per cent were involved in stealing casino chips, cheating at casino games, stealing or shoplifting; and

- 17 per cent were involved with inappropriate money-lending schemes.

One of the Queensland Break Even centres (Gold Coast) provided information on 443 clients who presented for counselling during the five and a half year period 1 May 1993 to 31 October 1998 (sub. 62). An assessment of these clients in terms of the DSM-IV criteria for 'pathological' gambling revealed that:

- around 53 per cent reported they had committed illegal acts to finance their gambling.

Further information on the prevalence of illegal activities among problem gamblers in Queensland is available for samples of new clients attending the five Break Even Centres in Brisbane, Gold Coast, Rockhampton, Toowoomba and Townsville. A breakdown by gender of the proportion of clients reporting adverse legal effects as a result of gambling revealed that (Boreham et al. 1995):

- in 1993-94, gambling had led to some form of legal problem for 31 per cent of male clients and 22 per cent of female clients; but

- in 1994-95, 68 per cent of male clients and 57 per cent of female clients experienced legal problems as a result of their gambling.

Survey of Clients of Counselling Agencies

Results of illegal activity among clients of problem gambling agencies are available from the Commission's *Survey of Clients of Counselling Agencies* (table H.2). As with the *National Gambling Survey*, all questions about criminal activity were asked specifically in relation to a respondent's gambling.

Overall, 44 per cent of clients reported an involvement in some form of gambling related criminal activity at some stage of their gambling career (apart from fraudulently written cheques). Around 16 per cent had appeared in court on charges related to their gambling, and around 6 per cent had received a prison sentence because of a gambling related criminal offence.

Table H.2   **Crime among clients of problem gambling counselling agencies**

Gambling related crime	% of clients
Fraudulently written cheques (in the last 12 months)	21.2
Borrowing without permission or obtaining money improperly (ever)	42.3
Gambling has led to problems with the police (ever)	18.3
An appearance in court on criminal charges (ever)	15.8
A prison sentence (ever)	6.4
Any gambling related crime (ever)	50.2
Any gambling related crime except fraudulently written cheques (ever)	44.1

a The percentages refer to 404 clients.

Source: PC *Survey of Clients of Counselling Agencies.*

Information obtained in the *Survey of Clients of Counselling Agencies* can be used to estimate the characteristics of gamblers that are most likely to be associated with criminal activity. Results from a logistic regression are reported in table H.3, where explanators such as age, gender, and level of gambling debt are considered. These suggest that higher levels of debt present a significant risk factor for crime. For example, the estimated regression suggests that a 35 year old, English-speaking male problem gambler with $10 000 debt has around a 45 per cent chance of having committed a crime. However, with a debt level of $50 000, the probability of a crime rises to around 78 per cent.

Table H.3 **Logistic estimate of influences on gambling-related illegal acts**
Australia, clients of problem gambling counselling agencies[a]

Variable	Estimate	Chi-square	Chi-square probability	Odds ratio
INTERCEPT	-1.07	1.3	0.25	.
FEMALE (1 if female)	-0.51	3.5	0.06	0.6
JOBLOSE (1 if gambling-related job loss)	2.35	38.6	0.00	10.5
DIVORCE (1 if gambling related divorce)	1.03	12.0	0.00	2.8
ENGLISH (1 if English speaking)	2.62	12.5	0.00	13.7
TRYSUIC (1 if gambling-related suicide attempt)	0.97	6.4	0.01	2.6
DEBT (stock of gambling debt $)	0.000035	13.2	0.00	1.0
AGE (years)	-0.058	18.5	0.00	0.9

a Based on 379 observations. The Chi-square test for the joint significance of the parameters is 156.4 with 7 degrees of freedom (p=0.0001). Predictions were concordant in 84.7 per cent of cases, and discordant in 15.1 per cent of cases. The odds ratio gives the changed odds associated with a problem gambler 'borrowing without permission or obtaining money improperly' (the definition of an illegal act used here).

Data source: PC *Survey of Clients of Counselling Agencies.*

Clients receiving treatment and members of Gamblers Anonymous

Detailed information on offences committed by problem gamblers was obtained in a survey of 306 New South Wales problem gamblers (Blaszczynski and McConaghy 1994a, 1994b), comprising 152 hospital treated subjects and 154 members of Gamblers Anonymous. To provide insights into the motivation for crimes, the offences committed were classified as either:

- *gambling* related — those motivated by a specific need to obtain funds for gambling (directly related), or initiated by a need to cover shortfalls in financial commitments caused by gambling losses (indirectly related); or

- *non-gambling* related — those committed for reasons completely unrelated to gambling or problems caused by gambling behaviour.

The study (1994b) revealed that the majority of offences committed by problem gamblers are gambling related. Of the 306 subjects surveyed:

- 59 per cent admitted to committing at least one *gambling* related offence over their gambling careers (and 48 per cent admitted to committing *only* gambling related offences);

- 18 per cent admitted to committing at least one *non-gambling* related offence (and 6 per cent admitted to committing *only* non-gambling related offences);

- 11 per cent admitted to committing *both* types of offences; and

- 35 per cent reported committing no offence at all over their lifetime.

For the two subsets of problem gamblers surveyed — Gamblers Anonymous attenders and hospital treated patients — the proportion of subjects who had committed a gambling related offence during their gambling careers was 66 per cent and 53 per cent respectively.

These criminal offence rates among problem gamblers are similar to those found in overseas studies. For example, rates of 90 per cent have been found in a US study of Gamblers Anonymous attenders (Custer and Custer 1978), 82 per cent in a UK study (Brown 1987) and 54 per cent in a German study (Meyer and Fabian 1990).

Gambling related offences among prison inmates

Findings are presented from two studies of the prevalence of gambling-related offences among inmates at correctional facilities in Queensland and South Australia.

Boreham et al. (1996) surveyed inmates at the Arthur Gorrie Centre — the remand centre for the prison population of Queensland. This facility was selected as the most likely to achieve a representative sample of prison inmates. However, the representativeness of the results is questionable on two grounds: first, a very low response rate was obtained — only 74 of 550 questionnaires distributed to inmates were returned; and second, the survey only sought information on legal problems experienced by inmates arising from poker machine playing. Against this background, of the 74 inmates:

- 11 per cent reported being in trouble with the police because of their poker machine playing, or taking money without permission; and

- 7 per cent reported they had been incarcerated because of the offences committed to obtain money to play poker machines.

The Boreham et al. (1996) study did not seek to screen inmates for problem gambling by means of the SOGS or DSM-IV criteria. But it inferred that a "certain percentage" of inmates in the correctional system are likely to be problem gamblers because of the following findings for the 74 inmates surveyed:

- 27 per cent reported that they gambled daily or a couple of times a week;

- 26 per cent reported spending more than $40 per session of playing poker machines; and

- 31 per cent reported experiencing personal or financial problems because of their poker machine playing.

Another study of gambling-related crime in a prison setting is by Marshall, Balfour and Kenner (sub. 116). Subjects for that study were chosen from Yatala Labour

Prison, South Australia's main reception jail for sentenced prisoners. The study collected data during the period August to December 1997 on 103 inmates from the 176 who were new intakes from the courts and sentenced for an immediate period of imprisonment.

To determine the prevalence of problem gamblers, these new intakes were screened on the basis of the SOGS. Of the 103 subjects surveyed, 26 admitted to committing gambling-related offences (they had 'been in trouble with the law due to gambling'), and 34 obtained a SOGS score of 5 or more. The *joint* characteristics of these groups are of particular interest:

- all 26 subjects who had committed a gambling related offence scored 5 or more on the SOGS (using a SOGS cutoff score of 10 or more missed out on around one-third of those inmates who committed gambling related offences); but

- 8 of the 34 subjects (24 per cent) with a SOGS score of 5 or more had *not* committed a gambling related offence.

The consultant to ACIL was critical of the relevance of any of these studies to the question of a causal link between problem gambling and crime:

> The quoted studies on prisoners do not demonstrate causation. They simply look at the prevalence of 'gambling related' crimes among prisoners (sub. D233, p. 97).

But such an assessment ignores the very elements of these studies which can be used to demonstrate causation. For example, the 7 per cent of inmates surveyed in Boreham et al. (1996) who reported they had been incarcerated *because of the offences committed to obtain money to play poker machines* provides strong evidence of causality. Furthermore, such a refutation of any causation whatsoever ignores an important distinction which does involve causality. For example, Marshall, Balfour and Kenner conclude that:

> It cannot be assumed that all illegal behaviours committed by pathological [problem] gamblers are directly gambling related in a prison population. There is a need to differentiate between criminals who gamble excessively and the pathological gambler who turns to gambling-related crime (sub. 116, p. 15).

A similar observation is made by Boreham et al. (1996) who note that there is a distinction:

> ... between those who carry out criminal acts and gamble excessively and those individuals who gamble excessively and commit criminal acts in support of their gambling or to retrieve a disastrous financial situation that has been caused by their gambling (p. 48).

The findings of the Marshall, Balfour and Kenner study shed light on the relative importance of these two groups. Of the 34 inmates with a SOGS score of 5 or more:

- the three-quarters who committed gambling related crimes are problem gamblers in the sense that gambling appears to be a sufficiently important source of financial difficulties for them to turn to crime; but

- the remaining one-quarter who committed crimes that were unrelated to their gambling may well be 'criminals who also happen to be gamblers'.

Findings from general population gambling surveys

Information on the extent of gambling related illegal activity among problem gamblers has been obtained in several Australian general population gambling surveys — a 1991 four capital city survey (Dickerson et al. 1996), statewide surveys for NSW (Dickerson et al. 1996a, 1998), and the Commission's *National Gambling Survey* undertaken for the inquiry.

Australian multi-city or statewide gambling surveys

In 1991, a doorknock survey of gambling behaviour among 2744 participants in Sydney, Melbourne, Adelaide and Brisbane was undertaken (Dickerson et al. 1996). The 22 respondents who scored 10 or more on the SOGS (and on that basis were identified as problem gamblers) reported the following illegal activity:

- 32 per cent had experienced problems with the police because of their gambling;

- 18 per cent had appeared in court on charges related to gambling; and

- 27 per cent had been in prison because of gambling related crime.

Two large-scale gambling studies carried out for New South Wales (Dickerson et al. 1996a, 1998) also examine the prevalence of gambling-related illegal activity. Across the two surveys, the 14 respondents who scored 10 or more on the SOGS reported the following illegal activity:

- 43 per cent had experienced problems with the police because of their gambling;

- 71 per cent had appeared in court on charges related to gambling; and

- 29 per cent had been in prison because of crime related to gambling.

National Gambling Survey

The Commission's *National Gambling Survey* sought information on the prevalence of gambling-related illegal activity. The questions posed in the survey in relation to crime were:

- "Has your gambling ever led you to obtain money illegally, even if you intended to pay it back?"

- "Have you ever been in trouble with the police because of activities related to your gambling?"

- "Have you ever appeared in court on charges related to your gambling?"

As well as these questions being framed in 'lifetime' (ever) terms, they were also asked in relation to experience 'in the last 12 months'. The results classified in terms of two categories of problem gamblers — those with a SOGS score of 5 or more (5+) and 10 or more (10+) — are presented in table H.4.

Table H.4   **Legal system impacts of problem gambling**
per cent of problem gamblers in specified SOGS categories

Gambling related crime	Ever SOGS 5+	Ever SOGS 10+	Last 12 months SOGS 5+	Last 12 months SOGS 10+
Any gambling related illegal activity	10.5	26.5	3.3	11.3
Obtained money illegally	7.0	13.2	1.2	3.7
Been in trouble with the police	4.1	13.8	2.2	7.6
In court on gambling related charges	3.1	13.4	0.2	1.4

Source: PC *National Gambling Survey*.

Around one in four problem gamblers in the 'severe' category (SOGS 10+) reported having committed some form of gambling-related illegal activity at some stage of their gambling careers, and around 11 per cent during the past 12 months. Prevalence rates of illegal activity were somewhat less among problem gamblers more generally, with around 11 per cent of those with a SOGS score of 5+ having ever committed a gambling-related criminal offence, and 3 per cent in the last 12 months.

However, it should be noted that of the 23 respondents to the *National Gambling Survey* who admitted to having *ever* committed an illegal activity because of their gambling, 9 scored less than five on the SOGS. Four of these indicated that they used to have a gambling problem in the past but not now, while the other five denied ever having a problem. There is a very high likelihood that the latter respondents are false negatives — because if someone commits a crime to finance their gambling habits then this is normally symptomatic of a significant gambling problem. On that assumption, the prevalence rate of crime among problem gamblers in the severe category would be rather higher than that indicated by the raw data in the *National Gambling Survey*.

The ACIL consultant was critical of this procedure:

> The mindset shown … where the authors argue that the 9 people who admitted to having committed an illegal activity and scored negative on the SOGS are likely to be false negatives is disturbing. Presumably the logic is that if you commit a crime then you must be a problem gambler (sub. D233, p. 98).

But such a statement reflects a misunderstanding about the nature of the questions that were asked in the *National Gambling Survey*. As indicated above, all questions about criminal activity were specifically asked of respondents *in relation to their gambling*. If a person reported that their gambling had led them either to obtain money illegally, or to get into trouble with the police, or to appear in court on gambling related charges, then it would seem reasonable to conclude that in the absence of their gambling problems they would not have committed these acts. If they had committed a crime for a reason not related to their gambling, they would have answered *no* to these questions.

Overall summary of findings on extent of crime by problem gamblers

Marshall, Balfour and Kenner summarised the relationship between problem gambling and criminal behaviour as follows:

> Pathological [problem] gambling is a significant risk factor in offending. Depending on the population assessed and the methodology used, the percentage of pathological gamblers that offend to support their gambling ranges from 30 to 50 per cent (sub. 116, p. 2).

The findings on the proportion of problem gamblers committing criminal offences estimated in the various studies summarised above, and brought together in table H.5, is largely consistent with this conclusion in relation to the lower bound but suggests that for some categories of problem gamblers it can be as high as 60 or 70 per cent.

Because the estimates of the proportion of problem gamblers who engage in criminal activities relate to different populations, a difficulty arises in making inferences about the broader population of problem gamblers who either don't seek help from counselling agencies, or don't receive treatment in hospital-based programs, or who don't end up in prison.

For example, as Volberg et al. (1998) have commented, a limitation of relying on surveys of members of Gamblers Anonymous or of people seeking treatment to

elicit information on vocational, financial or criminal impacts of their gambling is that:

> members of Gamblers Anonymous and individuals seeking treatment are not representative of problem gamblers in the general population. Hence, it is difficult to say how accurate these figures are for problem gamblers in the community (p. 351).

Table H.5   **Summary of proportion of problem gamblers committing offences**

Category of problem gambler	Number of clients/subjects studied	% committing gambling related offences
Seeking help at problem gambling counselling agencies	30–1452	30–64
Hospital treated patients	152	53
Gamblers Anonymous members	154	66
Prison inmates identified with SOGS score of 5 or more	34	76
Identified in *National Gambling Survey*	140	11–27

Sources: Refer tables H.1, H.2 and H.4.

Results from the *National Gambling Survey* can shed light on the representativeness of problem gamblers who seek help compared to the general population of problem gamblers. Of the problem gamblers (scoring 5 or more on the SOGS) who reported that they had tried to get help for their gambling problems in the last 12 months, around 38 per cent reported being involved in gambling-related criminal activity during their gambling careers. This compares with an involvement in gambling-related crime among 6 per cent of problem gamblers who had not tried to get help in the last 12 months. But treating as false negatives those who committed a criminal activity and who recorded less than 5 on the SOGS, then around 10 per cent of problem gamblers who had not sought help had committed a criminal offence at some stage of their gambling careers. Hence, while the help-seeking group contains a higher prevalence of illegal activity, there is still an appreciable rate of crime among the non-help seeking group.

H.4   Is there a causal link between problem gambling and crime?

The material presented in sections H.2 and H.3 can be reviewed to assess the relationship between problem gambling and crime from the viewpoint of two competing explanations:

- that problem gambling leads people to commit crimes because of gambling-related financial difficulties; or alternatively

- that crime and problem gambling are associated because some criminals just happen to be gamblers.

Arguments suggesting a causal relationship

Previous empirical research has looked at the question of whether there is a causal link between problem gambling and crime. Perhaps the key argument suggesting a causal link relates to the motivation for the crimes committed:

- the main reason why some problem gamblers turn to crime is because of the *need to obtain funds for gambling* rather than the desire for personal economic gain (Lesieur 1984, Blaszczynski and McConaghy 1994a).

As noted above, in examining causality the Blaszczynski and McConaghy studies of NSW problem gamblers receiving treatment or attending GA (1994a, 1994b) have been careful to distinguish between gambling related and non-gambling related crimes. They found that the majority of crimes committed by problem gamblers were gambling related — in the sense that they were motivated by a need to obtain funds for gambling or to pay gambling debts.

The consultant to ACIL was critical of any suggestion of causation on the basis of these or similar studies:

> The main data … relates to criminal activity given that the subject has presented for counselling. Phrases like 'illegal acts to finance their gambling' are used. However, this does not demonstrate causation. They may be using the money to finance other aspects of their life as well. Since, they are attending counselling, they may be more likely to say that crime follows gambling (sub. D233, p. 97).

But the empirical studies suggest that causation is not a simple yes or no because problem gamblers themselves can distinguish between crimes they committed that were either for reasons that were related to their gambling or completely unrelated. If a problem gambler admits that they committed a crime *because of their gambling*, in the Commission's view this suggests a stronger link between that criminal activity and their gambling behaviour than just mere association.

The Blaszczynski and McConaghy (1994a) survey of 306 NSW problem gamblers also investigated causality by examining links between the onset of problem gambling, the development of financial difficulties and resort to crime. They found that:

- subjects who *had* committed offences had gambled for an appreciably longer period of time than those who had *not* committed an offence (three to five years longer).

This finding is consistent with the argument that a longer period of problematic gambling gives rise to greater financial difficulties. They also found that:

- there was a much longer period of time between when a subject commenced gambling and committed their first *gambling related* offence than was the case for a *non-gambling* related offence (nine years compared to three).

This finding is consistent with the argument that gambling related crimes are linked to financial difficulties. By contrast, non-gambling related offences tended to be committed before any gambling induced financial problems were experienced.

A second argument suggesting a causal link is that the pattern of crimes committed by problem gamblers differs markedly from that found for the general population:

- the crimes committed by problem gamblers are mainly *non-violent offences against property* (such as fraud, forgery, embezzlement, thefts by deception) rather than violent property or non-property crimes.

The consultant to ACIL failed to see any causal link with this explanation:

> It is difficult to see how the different spectrum of crimes among non-gamblers demonstrates causation. It may just say that people who tend to do a certain type of crime also like to gamble (sub. D233, p. 98).

But such a comment ignores the key motive which leads problem gamblers to resort to these particular types of crimes — mounting financial difficulties and gambling-related debts (section H.2).

Further details on the types of crimes committed by problem gamblers are provided in the following section (H.5). But there are also arguments that serve to qualify the assumption of a causal link between problem gambling and crime.

Qualifications to a causal link

As noted above, not all offences committed by problem gamblers are gambling related. For example, 6 per cent of problem gamblers in the Blaszczynski and McConaghy (1994b) survey had committed *only* non-gambling related offences, and 11 per cent had committed *both* gambling related and non-gambling related offences. These findings suggest that perhaps 6–11 per cent of the subjects in their survey may well warrant being described as "criminals who also happen to be gamblers".

A related qualification is that some problem gamblers may well be predisposed to commit criminal offences independently of their gambling behaviour. To test this possibility, Blaszczynski, McConaghy and Frankova (1989) classified a sample of

109 NSW problem gamblers into four groups among — those committing 'no offences', 'gambling related offences only', 'non-gambling related offences only', and 'both gambling and non-gambling related offences'. Each group of subjects was screened to determine the prevalence of the (DSM-III) diagnosis of Antisocial Personality.

They found that the proportion of subjects meeting the criteria differed little between the 'no offences' group and the 'gambling related offences only' group (5-11 per cent). However, among the two groups committing non-gambling related crimes, the proportions meeting the criteria were appreciably higher (20 to 47 per cent). Blaszczynski, McConaghy and Frankova (1989) conclude that:

> [Problem] gamblers who engage in both gambling and non-gambling related offences come predominantly from lower socioeconomic classes and also exhibit more sociopathic features ... compared to gamblers who committed gambling only related offences. ... The need to differentiate the criminal who gambles from the sociopathic gambler who is also a [problem] gambler is more pertinent for this group (p. 150).

However, in the larger Blaszczynski and McConaghy (1994b) study of 306 problem gamblers, the results were not quite so robust. But consistent with the above view, significantly smaller proportions of subjects were found with antisocial personality disorders among the 'no offence' group compared to the 'gambling plus non-gambling related offences' group, and among the 'gambling related offences only' group compared to the 'gambling plus non-gambling related offences' group.

Overall assessment of causal link between problem gambling and crime

In the Commission's view, the question of whether there is a causal relationship between problem gambling and crime is not a simple yes or no, but the findings reported above strongly suggest that most crimes committed by problem gamblers are gambling related — that is, motivated by a specific need to obtain funds for gambling or initiated by a need to cover shortfalls in financial commitments caused by gambling losses. Two key findings are that:

- while not all crimes committed by problem gamblers are gambling related, the overwhelming majority are; and

- in a minority of cases, crime and problem gambling are associated because some criminals happen to be gamblers.

H.5   What crimes do problem gamblers commit?

A wide range of illegal activities are committed by problem gamblers, and examples were provided in a number of submissions.

Anecdotal evidence of gambling related crime

Illegal activity can take place within the family of the gambler. For example, the Wesley Community Legal Service (sub. 46) described cases where a problem gambler had stolen the property of family members which was then sold or pawned to raise money for gambling, or forged the signature of family members to borrow money.

Break Even–Gold Coast commented that:

> Group members reported committing crimes as a result of gambling, ... [including] stealing cash from workplaces, fraud and uttering. A common form of fraud was the writing of cheques to secure goods and then returning the goods for cash refund, thus accessing cash for gambling (sub. 73, pp. 3-4).

The Society of St Vincent de Paul (NSW) commented that more than 20 per cent of its clients have reported legal problems as a result of their gambling. The crimes committed included the following (sub. D218, p. 1):

- taking funds from family and employers using debit and credit cards;

- stealing items from family, friends and employers and then 'hocking' or selling them on;

- stealing funds from family, friends and employers in other ways — such as from purses, wallets, social or punters clubs, petty cash theft or fraud using saving and cheque accounts; and

- fraud of government agencies (such as Centrelink).

The Blaszczynski and McConaghy (1994a) survey of problem gamblers reported some of the offences committed as follows:

> At the petty end of the spectrum, gamblers forged their spouses signature on cheques or in opening new joint accounts, stole from petty cash, engaged in shoplifting to subsequently sell the goods ... and stole from fellow employees at work (p. 124).

But the illegal activity can also extend to offences such as larceny, embezzlement and misappropriation, and more violent crimes such as armed robbery and burglary. Blaszczynski and McConaghy (1994a) also reported that:

More serious offences included repeated theft of vehicle spare parts for illicit sale, distribution and sale of marijuana, and the embezzlement of significant amounts on a regular basis from large corporations or banks (p. 124).

Among the gambling related crimes reported by Jelena Popovic, Deputy Chief Magistrate in Victoria, were large frauds and thefts by people with gambling problems:

> The majority of anecdotes of my colleagues around the State involve defendants who have previously been of good character (offence free), with long standing employment histories who steal large amounts of money from their employers. ... In some cases, long standing social security frauds have been attributed to gambling (1998, pp. 3-4).

Survey evidence on types of offences committed

The Blaszczynski and McConaghy (1994a) survey provides detailed information on the types of gambling related offences committed among the sample of 306 NSW problem gamblers (table H.6).

Table H.6   **Gambling related offences, sample of 306 NSW problem gamblers**

Offence	Number committing an offence [a]	Range in number of offences committed	Total number of offences committed	Median number of offences committed
Larceny	96	1-1000	5 388	13.5
Embezzlement	66	1-600	3 045	5.0
Misappropriation	20	1-500	1 698	11.5
Break and enter	16	1-250	760	6.0
Shop-lifting	13	1-200	592	10.0
Armed robbery	8	1-17	42	3.5
Drug dealing	5	15-200	315	30.0
Other	5	1-10	19	1.0

a Of the 306 problem gamblers surveyed, 180 admitted to committing criminal offences. However, the sum of the number of gamblers committing individual offences is greater than this number because some gamblers committed more than one type of offence.

Source: Blaszczynski and McConaghy 1994a, table 2.

The most common offences involved the direct theft of money, either through acts of:

- larceny (committed by 31 per cent of problem gamblers surveyed);

- embezzlement (committed by 22 per cent); or

- misappropriation (committed by 7 per cent).

Other more violent crimes such as break and enter, and armed robbery were committed much less frequently (by 5 per cent and 3 per cent of problem gamblers respectively).

Two further features of table H.6 are that some problem gamblers committed more than one type of offence, and some committed a particular type of offence on many occasions. Indeed, some of the problem gamblers surveyed were responsible for up to 1000 acts of larceny, 600 acts of embezzlement, 250 acts of break and enter and 17 acts of armed robbery. It is clear then that a small number of individuals were responsible for committing the vast majority of crimes. When the median number of crimes by types are averaged, it suggests that each problem gambler surveyed who had committed gambling related offences carried out around 10 such offences.

The sample of problem gamblers revealed very substantial variation in the amount of money involved in the crimes committed, ranging from as little as a couple of dollars up to $250 000. Some indicative statistics are:

- for one third of the problem gamblers surveyed, the average value per offence was $100 or less, and for two-thirds it was $1000 or less;

- the approximate average value per offence (as given by the median) was $300; but

- a small minority of less than 10 per cent of subjects committed offences involving substantial amounts of money.

H.6   How reliable are police/court statistics on gambling related crime?

Not all of the offences that are committed by problem gamblers lead to arrest or prosecution because: some of the offences are not serious enough to be detected; not all crimes that are committed are reported to the police; not everyone who commits an offence gets caught; and only some of the offences end up in the courts.

Are all gambling related offences reported to police?

At the Commission's Roundtable on crime and gambling, one of the participants commented that less substantial crimes are unlikely to be reported:

> Police only see large scale embezzlement. When its minor, its resolved in the firm or in the family.

Another participant at the Roundtable mentioned that under-reporting of crime is likely to be more common among ethnic communities:

> Cultural beliefs prevent ethnic groups reporting crime. Asians have a different view of the police to some other groups in the community.

Furthermore, much of the crime that is committed by problem gamblers against family members is never reported (box H.1).

Box H.1   Participants' views on under-reporting of crimes

Family members, friends and employers are the most frequent victims. These people are reluctant to report the criminal activity, and will often 'bail out' the problem gambler by advancing funds to pay creditors where criminal charges are threatened (Wesley Community Legal Service, sub. 46, p. 13).

We believe that the incidence of gambling related crime is under reported: very few families will lay charges against another member of their family and many employers are also reluctant to press charges (Relationships Australia (South Australia), sub. 118, p. 12).

Crimes committed against family and friends included stealing and pawning goods and selling family assets without consent. [But because] ... family members rarely choose to prosecute, many of the crimes and their impact on the family and the economy go unnoticed (Break Even–Gold Coast, sub. 73, pp. 3-4).

In the counselling work we undertake we are seeing clear evidence of white-collar crime, both large and small, being used to finance gambling activities. A large proportion of this theft occurs from family members and significant others. It is not reported, but it is crime nonetheless (Adelaide Central Mission, sub. 108, p. 19).

Hence, crime report rates understate by a substantial margin the number of offences that are actually committed.

Are motives for offences always revealed to courts?

Only limited information was provided to the inquiry on the extent to which police/court statistics reveal any changes in gambling related crime over time, and particularly whether there is any relationship with the increased availability of gambling opportunities.

The Australian Hotels and Hospitality Association was sceptical of any such relationship:

> ... newspaper reports have highlighted an increase in reporting of gambling habits as a motive for crime in the magistrate's court. However, there are no studies showing an increase in overall criminal activity since the introduction of gaming machines (sub. 154, p. 34).

But as noted above, police statistics understate gambling related crime rates because many offences go unreported, and many crimes that are committed for gambling related reasons are not recorded as such.

Jelena Popovic, Deputy Chief Magistrate in Victoria, has summarised recent experience in that State as follows:

> My premise after very much thought and discussion with my colleagues around the State is that there has not been a crime wave in the Magistrate's Court brought about by the liberalisation of the gambling laws. The increase in crime directly attributable to gambling has been marginal. ... The view from the Bench is that gambling is a major problem in the community but is largely hidden from the Courts (1998, pp. 1, 9).

There appear to be offsetting influences at work which confound the extent to which crimes that come before the courts are identified as gambling related. On the one hand, it is held that there is an increasing tendency for some offenders to claim the defence of 'gambling addiction' as a mitigating factor in the hope of securing a more lenient sentence. The Australian Institute of Criminality stated that:

> There may well be persons who, having committed a criminal act but not suffering any disability, may invoke problem gambling as an excuse. Whilst some criminal activity no doubt does arise from problem gambling, it may be unwise to accept defences without some form of verification (sub. 21, p. 1).

On the same theme, ACIL commented that:

> We have been told that already in Melbourne accused thieves have been offering problem gambling (or as it is termed locally, the 'Crown defence') as an excuse for their actions, although to date the courts have not accepted such claims as a reason for leniency (sub. 155, p. 113).

Wesley Community Legal Service reported that the official position in NSW Courts is that problem gamblers will not be afforded any special leniency — pathological gambling is not a 'special circumstance' which will allow the Courts to impose a 'non-custodial' sentence or reduce the minimum term (sub. D215, p. 5). However, Wesley Community Legal Service also reported that there appears to be more flexibility in the Local Court for non-custodial sentenced to be imposed.

But on the other hand, there are also some offenders who suffer from a gambling problem who apparently do not disclose this to the courts as a reason for the offence. As Popovic noted, a number of magistrates in Victorian districts from whom she canvassed opinions believed that:

> ... gambling was a large social problem in their area, but ... defendants were ashamed to disclose their gambling to the court, or ... somehow the fact of their gambling remained undisclosed to the court (1998, p. 2).

H.7 What happens to problem gamblers who are convicted?

The Blaszczynski and McConaghy (1994a) study also sheds light on what proportion of gambling related crimes actually result in charges being laid. Of the 306 NSW problem gamblers surveyed:

- 24 per cent had been charged with committing a gambling related offence.

This represents around 40 per cent of subjects who admitted to committing a gambling related offence.

Only around one quarter of those committing larceny were charged, and slightly less than half of those committing embezzlement or misappropriation (table H.7, column 3). But typically, the more serious types of offences — such as armed robbery, break and enter, and drug dealing — were associated with a greater likelihood of arrest.

Table H.7   Convictions and type of sentences, sample of 306 NSW problem gamblers

Offence	Number charged with an offence [a]	Number charged as a % of number committing an offence	Range in number of counts	Number jailed	Number receiving bond	Number receiving fine
Larceny	24	25	1–53	3	12	0
Embezzlement	29	44	1–40	9	15	4
Misappropriation	9	45	1–33	2	4	2
Break and enter	15	94	1–46	7	6	2
Shop-lifting	3	23	1–10	0	3	0
Armed robbery	7	88	1–7	7	0	0
Drug dealing	3	60	1–3	3	0	0
Other	3	60	1–3	0	2	0

a Of the 306 problem gamblers surveyed, 73 had been charged with an offence. However, the sum of the number of gamblers charged with individual offences is greater than this number because some gamblers were charged with more than one type of offence.

Source: Blaszczynski and McConaghy 1994a, table 6.

For crimes like larceny and embezzlement, the most common sentence imposed was a good behaviour bond. However, all convictions for armed robbery and drug-related offences, and around half the convictions for break and enters, resulted in jail sentences.

Overall, the mean prison term actually served by those receiving jail sentences was 2.6 years — or 1.4 years if two subjects who served especially long sentences are excluded.

H.8   Problem gambling and loan shark lending

Problem gamblers may resort to borrowing money from 'loan sharks' (or 'fringe' credit providers) when possibilities for borrowing from mainstream avenues such as banks, credit unions, and financial institutions are exhausted. Dealing with loan sharks signals desperation on the part of the borrower because such loans not only entail exorbitant interest rates but also a menacing context in the event of non-repayment. Legal Aid Queensland (sub. D282) reported on loan sharking in South East Queensland, involving a network of credit providers who typically lend amounts of between $1000 and $2000 to borrowers at interest rates of 150-200 per cent per annum.

Box H.2   Some loan sharking experiences

Fred is a 26 year old ... club staff member ... [who] only started gambling about two years ago and has developed a very serious problem in the last 12 months. After gambling all of his savings away at the casino, Fred was introduced to some loan sharks who operate there. His financial problem was very severe given his limited income and there is significant pressure building over his failure to make the payments on some personal loans he got at the casino. Fred's debts exceed $40 000 and he is very depressed. He has attempted suicide recently. The main pressure on Fred is coming from a man who provided money at the casino. ... Another of Fred's personal loans was arranged by a loan shark who charged a fee of $2 000 in order to arrange a loan of $10 000 (*BetSafeNews*, April 1999, p. 3).

... some [clients] have been approached by people at the gaming venue to lend them money. ... One of them was ... [for] a loan of $9 000 and she had to pay $300 interest a month. There's a lot of issues involving that sort of thing because sometimes its a private individual lender and threats of violence may be used ... towards the gambler (Australian Vietnamese Women's Welfare Association, transcript, p. 563).

There's some pretty awful loan sharking going on down on the Gold Coast. The people are too frightened to even tell you about it, who they are or terribly much about it ... because of the types of threats that have been made to people who don't pay up (Relationships Australia Queensland, Transcript, p. 129).

Group members as gamblers were not only perpetrators of crime, but also witnesses and victims. One group member reported witnessing theft at a gambling venue. Another had been extended credit by a loan shark and received threats when he was unable to meet repayments (Break Even–Gold Coast, sub. 73, p. 4).

Gambling venues like casinos provide problem gamblers with access to loan sharking — people spot at casinos and approach gamblers to take out loans (box H.2). The Australian Vietnamese Women's Welfare Association reported on the experience of some of its clients:

They [the loan sharks] move around the casino and when they see that someone has lost ... money, they say, "Come on, I'll give you some money. You'll win everything back". [And] the person is so keen to get back the money that [they] agree to any terms (transcript, p. 564).

Participants at the Commission's Roundtable on crime and gambling gave a variety of views on how commonplace loan sharking had become:

In Victoria it's prolific, people spot in gambling venues and put gamblers in touch with financial institutions.

Loan sharking is a problem in small communities and is becoming more sophisticated. It is difficult to tell when loan sharking begins and a personal loan ends.

Loan sharking evidence is only anecdotal. If it is increasing this may reflect a lack of alternative investment arrangements.

But Star City Casino noted that:

Loan sharking of the overtly threatening kind is virtually impossible at Star City as it would be picked up very quickly by staff, surveillance and/or the Casino Surveillance Division inspectors. Lending activity among patrons does take place. This practice is not illegal and occurs all over NSW. We discourage the practice where it appears to be taking the form of a regular business transaction ... (sub. 33, p. 23).

Wesley Community Legal Service thought this was a surprising admission on the part of Star City:

Firstly, it is hard to imagine that lending between Star City patrons occurs as some sort of benevolent gesture between gamblers. Not many gamblers would be generous or foolish enough to lend money to another gambler. Secondly, if it is a loan for interest or some other return, then it is regulated by the Consumer Credit Code, and requires compliance with the legislation. Thirdly, it is hard to see why Star City would wish to discourage lending activities when they contribute to its overall revenue (sub. D215, p. 2).

The issue of loan shark lending in South East Queensland has been the subject of a recent Report by the Office of Fair Trading (OFT, 1999). The OFT collected information from community groups such as financial counselling organisations and community legal centres, and from consumers via a state-wide Phone-In (conducted between 12 and 16 April 1999). While the OFT study did not specifically ask borrowers whether the reason for having to borrow from a loan shark was related to a gambling problem, the information obtained on loan shark lending characteristics in general is of interest.

Typically, loan shark credit contracts had the following common features: extremely high interest rates — weekly (3 or 4 per cent) or monthly (20 per cent); loan amounts were small — the majority were for between $1000 and $2000; weekly

repayments were required — but most were 'interest only' repayments and the terms of the loans were open-ended; late payment fees applied — commonly $5 per day; and loans were described as being for 'business or investment purposes' to circumvent the Consumer Credit Code.

Wesley Community Legal Service noted that loan sharking is illegal in that it is in breach of the consumer protection provisions of the Consumer Credit Code — for example, section 22 of the Code provides a maximum fine of $11 000 for imposing a monetary liability on a loan that is inconsistent with the Code (sub. D215, p. 2).

Among the enforcement practices adopted by loan sharks in cases where a borrower could not meet a weekly repayment included: death threats; other threats to physical safety; intimidatory language; refusal to recognise bankruptcy; and personal collection of payments by the loan sharks or their agents.

Legal Aid Queensland itself reported anecdotal evidence of links between problem gamblers and loan shark borrowing:

> This Office has advised in excess of 70 people who have borrowed small amounts of money from loan sharks for personal use. A significant number of the people we have assisted have, in the course of handling their debt problem with the loan shark, disclosed that they have gambling problems. They told us that they have turned to the loan sharks for money either to gamble immediately, or for cash to pay for living expenses, their income having been previously lost in gambling (sub. D282, p. 2).

Some of the consequences of loan shark lending for the gambler and the community include:

- intimidation and physical threats to ensure repayment of loans;

- a problem gambler's personal debt problem is likely to be magnified rather than relieved;

- gamblers may resort to crime rather than suffer the consequences of not being able to meet repayment conditions; and

- there can be violence and criminal activity associated with loan sharking.

As an illustration of the last point, a recent RAND Institute report (Bennert 1999) on hardware thefts in the US technology industry highlighted a link between gambling and thefts from high-tech businesses involving loan sharks. A typical crime in Silicon Valley involves someone who works for a high tech-firm and has some gambling losses. A loan shark then pressures the worker to provide inside information that is used to perpetrate a theft.

I   Regional data analysis

In chapter 10, the Commission discussed the results from a basic analysis of estimating the relationships between income levels, number of gaming machines and expenditure on gaming machines in different regions within New South Wales, Victoria, Queensland and South Australia. The econometric analysis involves the regression of cross-sectional data to provide an indication of the relationships between these variables. Chapter 10 presented a summary of the results *weighted* by the *adult population* in each region.

This appendix outlines the data and methodology underlying those results, as well as presenting similar results, on an *unweighted* basis — that is, not adjusting for the population in a region. The results from the analyses show correlation and not causation between the variables.

I.1   Data sources and issues

The data are sourced from the Australian Bureau of Statistics (ABS) and the state gaming authorities (table I.1) for New South Wales, Victoria, Queensland and South Australia. The Commission did not undertake analyses of other jurisdictions because of data limitations and, in the case of Western Australia, its prohibition on gaming machines outside the casino.

Australian Bureau of Statistics data

The ABS data is the *median weekly income* and *adult population* for regions. It is sourced from *1996 Census of Population and Housing — State Summaries* (ABS 1996a). Regional *median weekly income* per person is the median personal weekly income and the regional *adult population* is the sum of people aged over 18. The only income data provided by the ABS for regions is *median weekly income*. The data is as recorded on 1996 census night for each statistical local area (SLA), as defined by the ABS.

State Gaming Authorities data

The state gaming authorities data mainly includes:

- the *number of venues* — mainly, hotels and clubs — in each region;
- the *number of gaming machines* in each region; and
- data to calculate the *average annual expenditure on gaming machines* per person in each region (total profit, total metered wins and net revenue).

In Victoria, data was unavailable to calculate the *average annual expenditure on gaming machines*.

Table I.1   **Data sources and calculations**

	New South Wales	*Victoria[a]*	*Queensland*	*South Australia*
Year	1997-98	1997-98	1997-98	Year ended 31 August 1999
Data sources	Department of Gaming and Racing (DGR 1999b)	Victorian Casino and Gaming Authority (VCGA 1998a)	Queensland Office of Gaming Regulation (QOGR 1998b)	South Australian Liquor and Gaming Commission
Data	Number of venues per region Number of gaming machines per region Total profit on gaming machines per region (table I.6)	Number of venues per Local Government Area (LGA) Number of gaming machines per LGA (tables I.7 and I.8)	Adult population per region Average metered win per gaming machine per region Number of venues per region Number of gaming machines per region (table I.9)	Number of gaming machines per region Net revenue from gaming machines per region
Estimated average expenditure on gaming machines per person per region	Total profit on gaming machines divided by adult population	na	Total metered wins[b] divided by divided by adult population	Net revenue from gaming machines divided by adult population

na not available **a** Data was not available for Victoria to estimate *average annual expenditure on gaming machines* per person in each region. **b** Total metered wins is the average metered win per venue for each region multiplied by the number of venues in each region.

Adjustments and calculations

While there was a reasonable, but not perfect, concordance between the data sourced from the state gaming authorities and the ABS, a number of adjustments and calculations were made to the data to improve this:

- In Victoria, the ABS SLAs were aggregated to concord exactly with each local government area (LGA) (ABS 1998a).

- The *median weekly income* data for regions in New South Wales, Queensland and South Australia were estimated as the weighted-average of median incomes of all SLAs (defined by the ABS) in a region (defined by state authorities). Weights were based on *adult population* size.

- The *adult population* data for each region in New South Wales, Victoria and South Australia was concorded with the regions defined by the state gaming authorities for their data on the *number of venues* and the *number of gaming machines*. In Queensland, the regional *adult population* data was sourced from the Queensland Office of Gaming Regulation. There was no need to do an *adult population* concordance for Queensland.

- The *average annual expenditure on gaming machines* per person in a region was estimated from data sourced from state authorities, except Victoria where the data was not available (table I.1).

I.2   Methodology

The regional data was used to estimate the relationships between income, number of gaming machines and expenditure on gaming machines on an *unweighted* and *weighted* basis for each state.

Unweighted estimation

The relationships estimated between *median weekly income*, the *number of gaming machines* and *average annual expenditure on gaming machines* in each state on an *unweighted* basis are represented in table I.2. The equations were econometrically estimated using 'ordinary least squares' technique.

Table I.2 **Unweighted estimation**

Median weekly income and the number of gaming machines	Average annual expenditure on gaming machines and the number of gaming machines	Median weekly income and average annual expenditure on gaming machines
$Y_{ij} = \beta_{1j} + \beta_{2j} NGM_{ij}$	$GE_{ij} = \beta_{1j} + \beta_{2j} NGM_{ij}$	$Y_{ij} = \beta_{1j} + \beta_{2j} GE_{ij}$

where:

Y_{ij} median weekly income per person in region *i* in state *j*;

NGM_{ij} number of gaming machines in region *i* in state *j*; and

GE_{ij} average annual expenditure on gaming machines per person in region *i* in state *j*.

Weighted estimation

A potential problem with the *unweighted* approach is that it fails to take account of differences in the size of the adult population between regions. For example, in Victoria the *unweighted* analysis applies the same weight to the Borough of Queenscliff, which has an adult population of 2600, as to the City of Greater Geelong, which has a population of over 130 000. The *unweighted* analysis applies too much weight to regions with small populations and, conversely, too little weight to regions with large populations.

To take account of the differing populations for regions within a state, the Commission included a 'weighted variable' in the *unweighted* equations in table I.2. The input for this variable is the *adult population* per region divided by the adult population of all regions with gaming machines in that state. The equations are then estimated using 'weighted least squares' where the input for the weighted variable is square rooted and multiplied by each observation of the dependent and independent variables. The weights are then normalised to sum to the number of observations. The weighted variable is represented by the term W_{ij} in the equations in table I.3.

The relationship between *median weekly income*, the *number of gaming machines* in a region and *average annual expenditure on gaming machines* on a *weighted* basis are represented in table I.3.

Table I.3   **Weighted estimation**

Relationship between	Equations
Median weekly income and the number of gaming machines	$Y_{ij} \times W_{ij} = \beta_{1j} + \beta_{2j}(NGM_{ij} \times W_{ij})$
Average annual expenditure on gaming machines and the number of gaming machines	$GE_{ij} \times W_{ij} = \beta_{1j} + \beta_{2j}(NGM_{ij} \times W_{ij})$
Median weekly income and average annual expenditure on gaming machines	$Y_{ij} \times W_{ij} = \beta_{1j} + \beta_{2j}(GE_{ij} \times W_{ij})$

where:

Y_{ij} median weekly income per person in region i in state j;

NGM_{ij} number of gaming machines in region i in state j;

GE_{ij} average annual expenditure on gaming machines in region i in state j; and

W_{ij} the population in region i in state j, divided by the population of all regions with gaming machines in state j.

I.3   Results

The *unweighted* and *weighted* analysis yields similar results for the selected states. The *weighted* results are a better estimation of the relationships, but the unweighted provide an indication of the results that can also be shown graphically. The statistical significance of the results have been assessed at the 5 per cent level.

Unweighted results

The *unweighted* results provide an indication of the relationship between income, gaming expenditure and the number of gaming machines in selected states. This analysis has only been provided to show the nature of the relationship diagrammatically. The results from the *weighted* analysis, presented in the following section, are a better indicator of these relationships, but are unable to be shown graphically because of their three dimensional nature.

The Commission's *unweighted* analysis suggests that there is:

- a negative and statistically significant relationship between *median weekly income* and the *number of gaming machines* in New South Wales and South Australia — at lower income levels there were a greater the number of gaming

machines. There is no statistically significant relationship in Queensland and Victoria;

- a positive and statistically significant relationship between *average annual expenditure on gaming machines* and the *number of gaming machines* in all states examined — at higher levels of expenditure on gaming machines there were a greater the number of machines; and

- no statistically significant relationship between *median weekly income* and *average annual expenditure on gaming machines* for all states examined (table I.4 and figures I.1 to I.3).

Table I.4   **Unweighted results for selected states**[ab]

Relationship between	Unweighted coefficient (t statistic)			
	NSW	Vic[cde]	Qld	SA[f]
Median weekly income and the number of gaming machines	Negative and significant	No significant relationship	No significant relationship	Negative and significant
	-0.71 (-3.48)	-0.05 (-0.62)	0.10 (0.52)	-0.52 (-2.82)
Average annual expenditure on gaming machines and the number of gaming machines	Positive and significant	na	Positive and significant	Positive and significant
	2.12 (7.51)		2.76 (8.81)	1.66 (5.69)
Median weekly income and average annual expenditure on gaming machines	No significant relationship	na	No significant relationship	No significant relationship
	-0.69 (-1.10)		0.50 (0.72)	-0.51 (-0.98)

na not available [a] The data used for *median weekly income*, the *number of gaming machines* and *average annual expenditure on gaming machines* are explained in section I.1. [b] The results are statistically significant at the 5 per cent level. [c] Data are unavailable on *average annual expenditure on gaming machines* in Victoria. [d] Data for the City of Melbourne produces an outlier that has been removed from the analysis. This region has a large number of gaming machines and high median incomes. Including the City of Melbourne yields the following results: *median weekly income* and the *number of gaming machines* 0.01 (0.08). [e] Analysis was also undertaken for metropolitan and non-metropolitan regions. The results for metropolitan regions (excluding the City of Melbourne) are -0.35 (-3.98) and for non-metropolitan regions are 0.07 (0.32). [f] Data for the City of Adelaide and Roxby Downs produce two outliers that have been removed from the analysis. These regions have a large number of gaming machines and high median incomes. Including the City of Adelaide and Roxby Downs yields the following results: *median weekly income* and the *number of gaming machines* 0.06 (0.32), *average annual expenditure on gaming machines* and the *number of gaming machines* 2.09 (10.30) and *median weekly income* and *average expenditure on gaming machines* 1.48 (2.17).

Figure I.1   Income and the number of gaming machines for selected states

Vertical axis – number of gaming machines per 10 000 adults in each region
Horizontal axis – median weekly income per person in each region

New South Wales

Victoria[a]

Victoria – Metropolitan areas[a]

Victoria – Non-metropolitan areas

Queensland

South Australia[b]
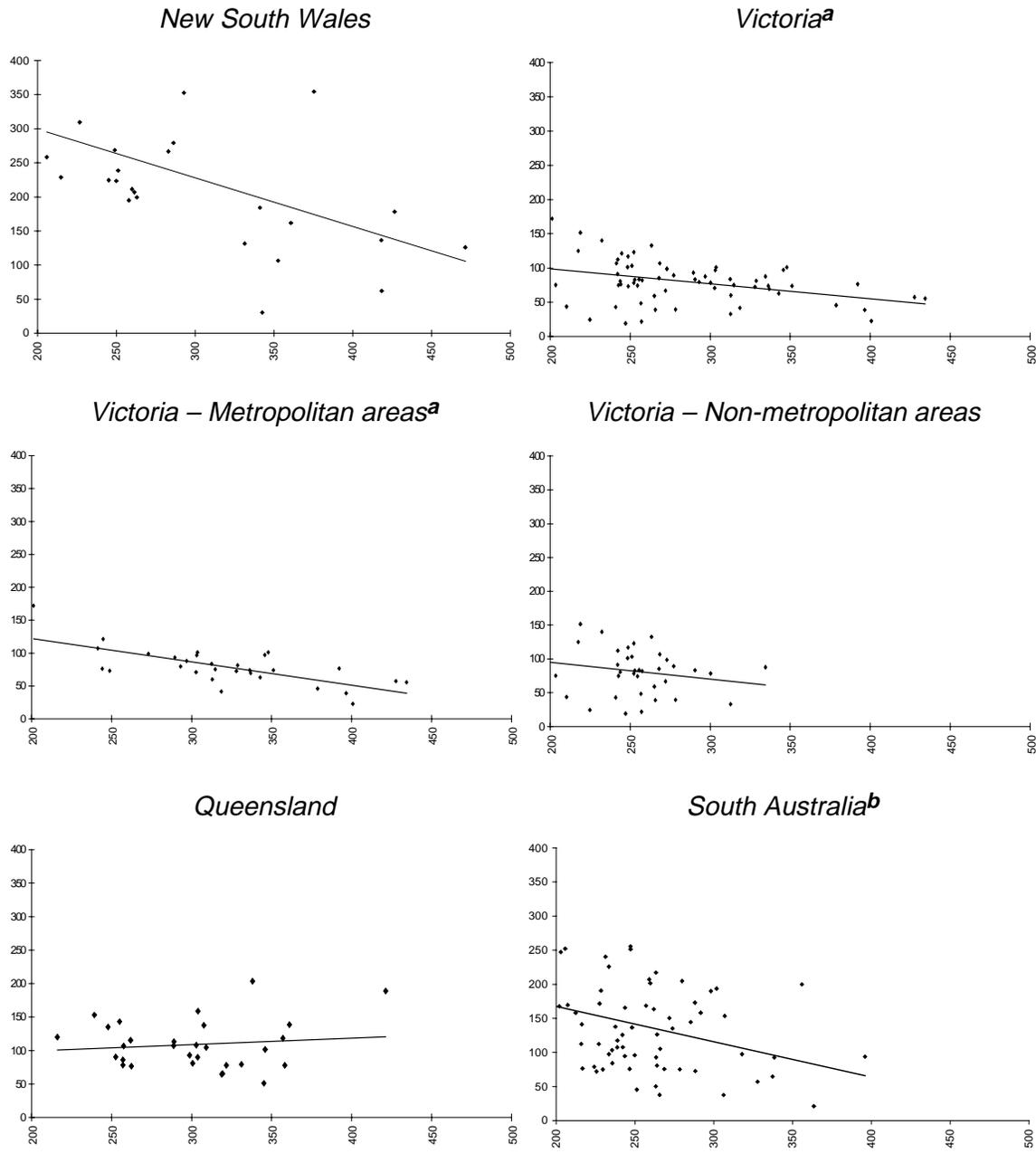
a Data for the City of Melbourne produces an outlier that has been removed from the analysis. **b** Data for the City of Adelaide and Roxby Downs produce two outliers that have been removed from the analysis

Data source: ABS (1996a), DGR(1996b), QOGR (1998b) and VCGA (1998).

Figure I.2   **Expenditure on gaming machines and the number of gaming machines for selected states**[a]

Vertical axis – average annual expenditure on gaming machines per person in each region

Horizontal axis – number of gaming machines per 10 000 adults in each region
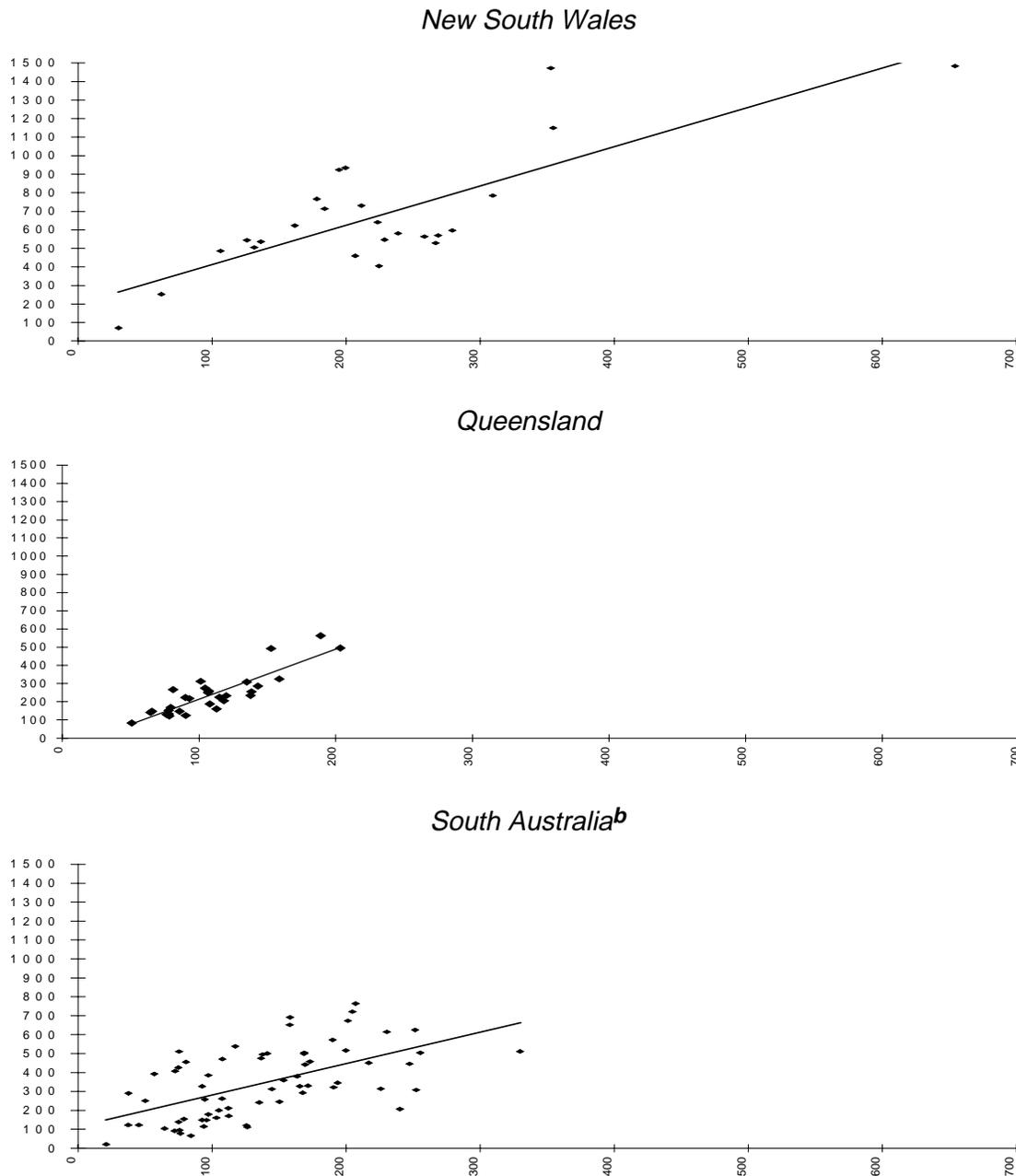
New South Wales

Queensland

South Australia[b]

a Data are unavailable to calculate *average annual expenditure on gaming machines* for Victoria. **b** Data for the City of Adelaide and Roxby Downs produce two outliers that have been removed from the analysis.

Data source: ABS (1996a), DGR (1996b) and QOGR (1998b).

Figure I.3 **Income and expenditure on gaming machines for selected states**[a]

Vertical axis – average annual expenditure on gaming machines per person in each region

Horizontal axis – median weekly income per person in each region

New South Wales

Queensland

South Australia[a]
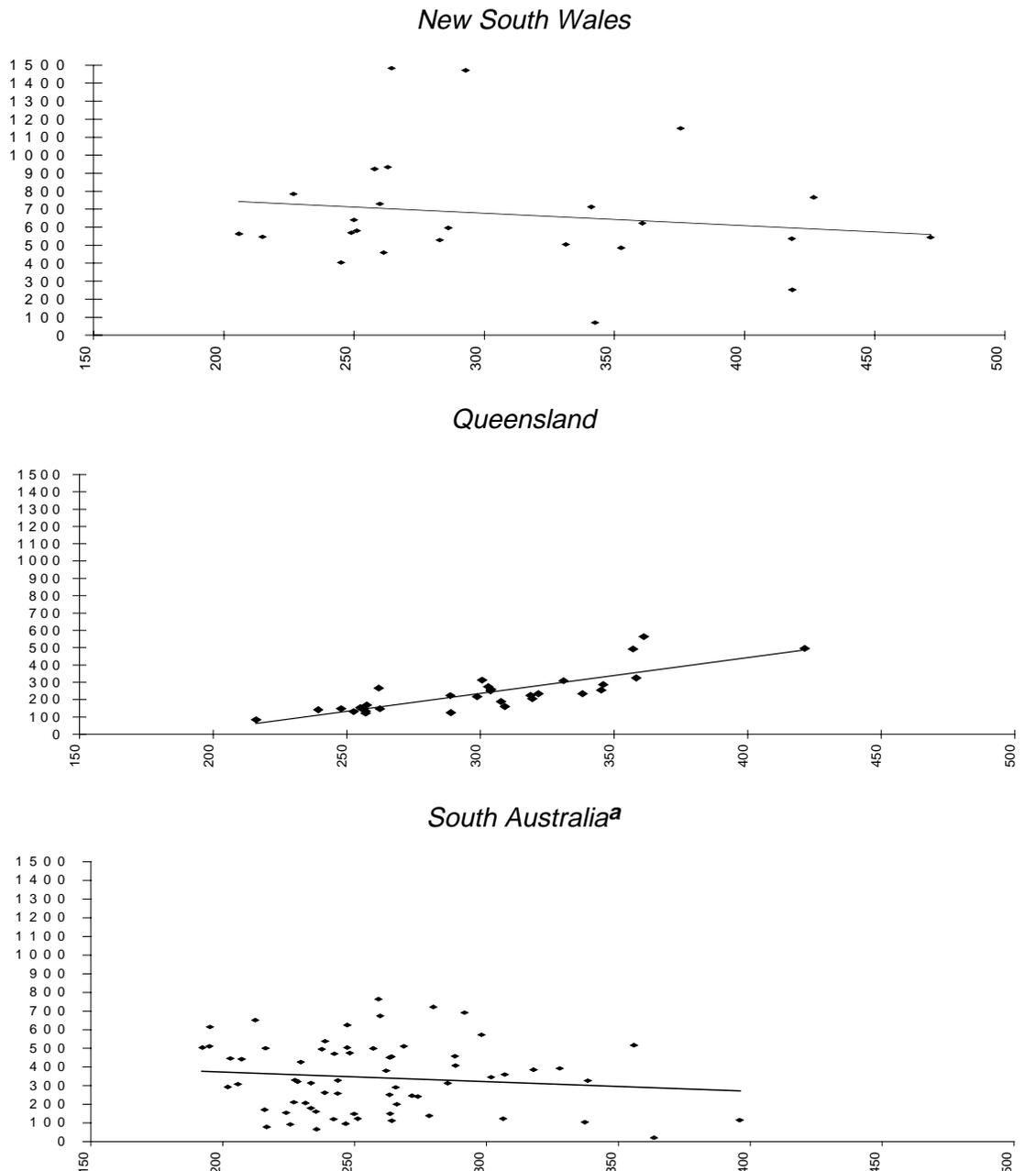
a Data are unavailable to calculate *average annual expenditure on gaming machines* for Victoria. **b** Data for the City of Adelaide and Roxby Downs produce two outliers that have been removed from the analysis.

Data source: ABS (1996a), DGR (1996b) and QOGR (1998b).

Weighted results

The Commission's *weighted* analysis shows that there is:

- a negative and statistically significant relationship between *median weekly income* and the *number of gaming machines,* in all states examined (except Queensland) — at lower income levels there were a greater number of gaming machines. In Queensland, there is no statistically significant relationship;

- a positive and statistically significant relationship between *average annual expenditure on gaming machines* and the *number of gaming machines* in all states examined — at higher levels of expenditure on gaming machines there were a greater the number of gaming machines; and

- a negative and significant relationship between *median weekly income* and *average annual expenditure on gaming machines* in South Australia — at lower income levels there were higher levels of the expenditure on gaming machines. In the remaining states, there is no statistically significant relationship (table I.5).

Table I.5   **Weighted results for selected states**[ab]

Relationship between	Weighted coefficient (t statistic)			
	NSW	*Vic* [cde]	*Qld*	*SA*[f]
Median weekly income and the number of gaming machines	Negative and significant -0.62 (-2.36)	Negative and significant -0.25 (-4.73)	No significant relationship -0.12 (-0.91)	Negative and significant -0.60 (-3.85)
Average annual expenditure on gaming machines and the number of gaming machines	Positive and significant 2.37 (5.98)	na	Positive and significant 2.43 (7.94)	Positive and significant 1.76 (6.04)
Median weekly income and average annual expenditure on gaming machines	No significant relationship -0.72 (-0.83)	na	No significant relationship -0.15 (-0.37)	Negative and significant -1.63 (-3.55)

na not available **a** The data used for *median weekly income*, the *number of gaming machines* and *average annual expenditure on gaming machines* are explained in section I.1. **b** The results are statistically significant at the 5 per cent level. **c** Data are unavailable on *average annual expenditure on gaming machines* in Victoria. **d** Data for the City of Melbourne produces an outlier that has been removed from the analysis. This region has a large number of gaming machines and high median incomes. Including the City of Melbourne yields the following results: *median weekly income* and the *number of gaming machines* -0.23 (-3.08). **e** Analysis was also undertaken for metropolitan and non-metropolitan regions. The results for metropolitan regions (excluding City of Melbourne) are -0.32 (-4.90) and for non-metropolitan regions are -0.40 (-1.63). **f** Data for the City of Adelaide and Roxby Downs produce two outliers that have removed from the analysis. These regions have a large number of gaming machines and high median incomes. Including the City of Adelaide and Roxby Downs yields the following results: *median weekly income* and the *number of gaming machines* -0.25 (-0.98), *average annual expenditure on gaming machines* and the *number of gaming machines* 1.93 (10.68) and *median weekly income* and *average annual expenditure on gaming machines* -0.62 (-1.01).

Table I.6   Summary of New South Wales regional data

Region	Adult population	Median weekly income per person	Venues	Gaming machines	Gaming machines per 10 000 adults	Average annual expenditure on gaming machines
	No.	$	No.	No.	No.	$
Sydney						
Canterbury-Bankstown	217 710	263	77	4 343	199	934
Central Western	202 720	293	138	7 149	353	1 472
Eastern Suburbs	188 395	427	98	3 356	178	766
Fairfield-Liverpool	215 058	258	65	4 190	195	924
Inner City	214 963	375	326	7 620	354	1 149
Inner Western	117 832	341	58	2 168	184	713
Lower Northern	214 443	471	80	2 702	126	544
Northern	125 286	245	205	2 813	225	404
Northern Beaches	166 798	418	55	2 276	136	536
North Western	80 920	249	167	2 174	269	570
Outer South Western	139 396	331	41	1 833	131	505
Outer Western	204 271	343	27	618	30	71
Saint George-Sutherland	302 139	361	110	4 885	162	622
South Eastern	132 000	286	183	3 686	279	596
Rest of NSW						
Blacktown-Baulkham Hills	247751	353	46	2 633	106	486
Central West	120 681	261	221	2 496	207	460
Far West	18 542	206	37	479	258	563
Gosford-Wyong	193 731	260	74	4 096	211	730
Hornsby-Kurringgai	175 814	418	41	1 093	62	253
Hunter	401 931	251	380	9 596	239	581
Illawarra	266 391	250	175	5 954	224	640
Mid North Coast	186 518	215	181	4 266	229	547
Murray	78 383	264	151	5 128	654	1 483
Murrumbidgee	99 402	283	172	2 651	267	529
Richmond-Tweed	143 045	227	125	4 426	309	784

Data source: ABS (1996a) and DGR (1999b).

Table I.7 Summary of Victorian metropolitan data by Local Government Area

Local Government Area	Adult population	Median weekly income per person	Venues	Gaming machines	Gaming machines per 10 000 adults
	No.	$	No.	No.	No.
City of Banyule	86 643	328	11	628	72
City of Bayside	64 274	379	10	294	46
City of Boroondara	115 135	401	7	261	23
City of Brimbank	107 376	249	15	787	73
City of Casey	98 466	351	10	726	74
City of Darebin	98 446	241	19	1 054	107
City of Frankston	77 086	303	9	545	71
City of Glen Eira	92 211	336	12	681	74
City of Greater Dandenong	95 244	245	15	1 156	121
City of Hobsons Bay	56 692	290	10	529	93
City of Hume	79 590	297	13	699	88
City of Kingston	96 743	303	16	938	97
City of Knox	93 656	346	12	911	97
City of Melbourne	33 049	326	23	1 129	342
City of Manningham	81 357	343	6	511	63
City of Maribyrnong	46 707	201	15	804	172
City of Maroondah	68 589	337	8	477	70
City of Monash	122 585	312	14	1 027	84
City of Moreland	104 936	244	17	800	76
City of Moonee Valley	83 845	304	18	848	101
City of Port Philip	63 135	392	10	482	76
City of Stonnington	70 678	434	8	391	55
City of Whittlesea	72 838	293	9	580	80
City of Wydham	50 523	348	9	511	101
City of Yarra	54 348	329	13	442	81
Shire of Cardinia	28 669	313	5	172	60
Shire of Melton	26 222	315	3	197	75
Shire of Mornington Peninsula	84 676	273	19	838	99
Shire of Nillumbik	37 870	397	4	147	39
Shire of Yarra Ranges	93 331	319	9	388	42

Data source: ABS (1996a) and VCGA (1998a).

Table I.8	**Summary of Victorian non-metropolitan data by Local Government Area**				

Local Government Area	Adult population	Median weekly income per person	Venues	Gaming machines	Gaming machines per 10 000 adults
	No.	$	No.	No.	No.
Alpine Shire	8 772	335	3	77	88
Bass Coast Shire	16 161	219	9	245	152
Borough of Queenscliff	2 633	263	1	35	133
City of Ballarat	56 703	242	15	638	113
City of Greater Bendigo	59 973	244	12	485	81
City of Greater Geelong	132 816	251	28	1 372	103
City of Greater Shepparton	37 878	268	7	323	85
City of Moorabool	15 230	278	2	60	39
City of Warrnambool	19 655	252	6	242	123
Rural City of Ararat	8 485	248	2	86	101
Rural City of Horsham	12 814	269	4	137	107
Rural City of Mildura	32 225	252	7	253	79
Rural City of Swan Hill	14 397	255	4	107	74
Rural City of Wangaratta	18 537	272	4	124	67
Rural City of Wodonga	20 627	300	4	162	79
Shire of Baw Baw	23 600	265	3	140	59
Shire of Campaspe	24 510	257	3	119	49
Shire of Central Goldfields	9 454	198	2	114	121
Shire of Colac Otway	14 611	253	5	121	83
Shire of Corangamite	12 585	266	2	49	39
Shire of Delatite	14 175	273	4	140	99
Shire of East Gippsland	28 077	218	12	351	125
Shire of Glenelg	14 723	257	5	121	82
Shire of Hepburn	9 982	203	3	75	75
Shire of La Trobe	48 909	232	18	685	140
Shire of Macedon Ranges	22 687	313	3	75	33
Shire of Mitchell	17 061	291	4	142	83
Shire of Moira	18 289	247	1	35	19
Shire of Mount Alexander	12 134	225	1	30	25
Shire of Murrindindi	9 120	257	1	20	22
Shire of Northern Grampians	9 638	242	3	88	91
Shire of South Gippsland	17 725	256	5	148	83
Shire of Southern Grampians	12 517	243	3	94	75
Shire of Strathbogie	6 856	210	1	30	44
Shire of Towong	4 634	241	1	20	43
Shire of Wellington	28 513	249	10	333	117
Surf Coast Shire	12 532	277	4	112	89

Data source: ABS (1996a) and VCGA (1998a).

Table I.9   **Summary of Queensland regional data**

Region	Adult population	Median weekly income per person	Venues	Gaming machines	Gaming machines per 10 000 adults	Average annual expenditure on gaming machines
	No.	$	No.	No.	No.	$
Brisbane						
Central	57 081	338	60	1 161	203	496
East Inner	59 792	346	19	606	101	313
East Outer	41 048	308	17	565	138	234
North Inner	87 502	358	28	682	78	133
North Outer	202 143	331	58	1 603	79	169
South Inner	45 783	319	14	300	66	148
South Outer	98 880	304	28	889	90	223
West Inner	49 899	319	15	322	65	141
West Outer	71 844	345	17	366	51	84
Rest of Queensland						
Caboolture	71 936	257	32	767	107	251
Cairns	74 843	361	39	1 036	138	255
Darling Downs district	79 571	253	65	719	90	124
Far North district	79 225	262	45	605	76	131
Fitzroy district	83 587	303	57	902	108	188
Gold Coast	256 390	289	94	2 748	107	259
Ipswich	92 223	299	42	856	93	218
Logan	153 543	301	34	1 243	81	267
Mackay	48 307	304	34	767	159	325
Mackay district	36 515	357	34	431	118	205
Moreton district	43 381	257	36	339	78	122
Mount Isa	15 613	421	10	295	189	564
Northern district	47 283	257	38	406	86	147
Redcliffe	38 164	239	15	590	153	493
Redland Bay	73 870	309	25	772	105	275
Rockhampton	42 095	255	28	602	143	287
South-West, Central-West and North-West districts	34 353	289	44	388	113	160
Sunshine Coast	155 021	248	90	2 092	135	309
Toowoomba	65 800	262	33	757	115	225
Townsville	92 076	322	40	717	78	153
Wide Bay	160 314	216	105	1 923	120	234

Data source: ABS (1996a) and QOGR (1998b).

J   Measuring costs

J.1   Introduction

This appendix outlines the way the Commission has estimated the dollar value equivalents of a range of adverse consequences that result from gambling for some people: adverse consequences for certain gamblers; for their families; and for the wider community. This involves collecting information on the prevalence of a range of adverse consequences (chapter 7) and then placing a dollar value against them. Some of these (such as job loss) are relatively easy to quantify, while others, such as the reduction in the quality of life of problem gamblers and their families, are inherently difficult. Nevertheless, as these intangible costs are a major element of the adverse consequences of gambling for some people, it is essential to gain some idea of their possible size, if only so that the costs can be compared with the benefits which are more readily quantified (see chapter 5).

The prevalence of adverse consequences resulting from gambling

In this inquiry, the Commission conducted two surveys which included questions about a range of possible adverse consequences from gambling:

- a national survey of the general population, (PC *National Gambling Survey*) including questions on adverse consequences asked of regular gamblers, together with the SOGS set of questions (appendix F); and

- a survey of problem gamblers currently undergoing counselling (PC *Survey of Clients of Counselling Agencies*). This survey asked a range of questions about the consequences of their gambling as well as the SOGS questions (appendix G).

Wherever possible, the Commission has used data from the PC *National Gambling Survey* as it more accurately reflects the prevalence of adverse consequences in the general population. By using information that relates to the general population of regular gamblers, the need to identify problem gamblers is avoided.

The information from the national survey has been supplemented in a few instances by data from the problem gambler group (PC *Survey of Clients of Counselling Agencies)*, but caution should be exercised in drawing inferences from this group as

it is likely to represent the more severe problem gamblers in the wider population of problem gamblers (box J.1).

Box J.1   **Estimating the cost from information from problem gamblers in treatment**

A number of studies have estimated the costs of problem gambling by looking at the prevalence of adverse consequences in the group of problem gamblers who are seeking treatment. These costs are then attributed to the wider group of problem gamblers.

This presents two problems. The *first* is that problem gamblers who seek treatment are a very small percentage of the number of people typically identified as problem gamblers, using measures, such as the SOGS. In addition, it is likely that the prevalence of adverse consequences for the group in treatment is much higher than for other problem gamblers, because problem gamblers typically seek treatment as the result of some traumatic event, or when the adverse consequences become unbearable.

Attributing the prevalence for this group to the much wider group of problem gamblers would thus be likely to overstate the costs for the wider group.

A *second*, but countervailing, problem derives from measuring the costs of problem gambling only for those identified as problem gamblers, using screening devices such as SOGS. This assumes that the rest of the population does not suffer from any adverse consequences from their own gambling.

In many cases this is unavoidable, as the information on the prevalence of adverse consequences is available only for the problem gambler group, and it would be dangerous to infer any level of cost from that group to the wider population. Nevertheless, there is a risk of severely understating the cost of gambling if only because, as the rest of the population is so large, even a very low incidence of gambling-related impacts may generate significant total costs.

The problem is compounded by some researchers choosing a very high SOGS score to establish the population of problem gamblers. This is often done to overcome the criticism that the SOGS generates an excessive number of false positives, that is, identifying people as problem gamblers when, in fact, they are not. However, when it comes to measuring costs, false positives are not of great concern as the measure of the prevalence of adverse consequences will automatically take this into account. That is, those in the group who are not really problem gamblers will not report adverse consequences, and as a result the prevalence will be (correctly) lower for the group. But a measure of problem gamblers that is too severe can mean that significant costs generated by others are not included.

Box J.1   continued

Where minimising false positives does matter in the Commission's analysis is when we consider whether problem gamblers are getting value for money from their expenditure on gambling. If we are to include part of that expenditure as a cost rather than being offset by satisfaction achieved, the accurate identification of the population of problem gamblers is more important. The Commission's analysis of the SOGS score and its relationship with adverse gambling consequences is presented in chapter 6.

Ideally, we would like information on the prevalence of adverse consequences from gambling from the total population. The prevalence of the adverse consequences in the general population is the important issue when measuring the extent of costs, not whether these costs are generated by those easily 'tagged' as problem gamblers using a measure such as SOGS. But this is rarely available. The costs of conducting a large scale survey where all respondents were asked the full range of questions would be prohibitive. The Commission's national survey asked questions on adverse consequences only from the group of 'regular' gamblers. These comprise 39 per cent of the adult population. The Commission has assumed that there are no adverse consequences for the rest of the population. While this, in principle, means an understatement of the level of costs, it is unlikely to be significant.

Whether these costs are concentrated in a particular identifiable group is nonetheless important (though not for measuring the extent of costs) as it can be used by government when targeting policy action. The distribution of reported adverse consequences by SOGS scores is discussed in chapter 6

In the few instances where the survey of problem gamblers in counselling has been used, the Commission has attempted to compensate for the expected tendency to overstate the prevalence rate by applying this to the smaller number of problem gamblers who most closely match the group in treatment — those scoring 10 or more on the SOGS (46 800 people), rather than the wider group of problem gamblers, scoring 5 or more (293 000 people).

The survey information on prevalence

The *National Gambling Survey* asks all regular gamblers questions on a range of adverse consequences of gambling. All questions were asked on the basis of 'in the last 12 months', and many also asked if the gambler had 'ever' experienced the adverse consequence as a result of their gambling. The *Survey of Clients of Counselling Agencies* comprised a similar range of questions, asking the gambler to relate the questions 'only to the time when you were experiencing problems with your gambling'. The results from the survey indicated that the average period of problem gambling was 8.9 years. The SOGS questions were asked on the basis of 'in the last 12 months'.

Table J.1 presents the information on the prevalence of a range of adverse consequences derived from the Commission's surveys.

Table J.1   **Information on prevalence from the Commissions surveys**

	National Gambling Survey — regular gamblers			Survey of clients of counselling agencies	
	ever	over last 12 months	over last 12 months	over the period of gambling problem	over last 12 months
	%[a]	% [a]	number[b]	%[c]	%[c]
Financial impacts					
Borrowed from loan sharks	na	0.1	17 000	na	8.4
Went bankrupt	0.03	0.02	2 900	8.4	na
Sold property to gamble	na	0.3	35 100	na	36.7
Pawned or sold possessions	0.4	0.2	31 200	na	na
Lost house	na	na	na	7.9	na
Lost superannuation	na	na	na	13.4	na
Productivity and employment					
Lost time from work or study	na	0.7	98 100	na	50.3
Reduced productivity	1.2	0.7	94 300	na	na
(sometimes to always)	na	0.4	49 200	na	na
(often to always)	na	0.1	7 000	na	na
Average level of productivity loss	na	na	na	7.88	na
Changed jobs	0.2	0.04	5 600	18.3	na
Been sacked	0.1	0	0	18.6	na
Crime and legal					
Any crime	0.5	0.2	20 900	44.1	na
Bounced cheques deliberately	na	0.1	13 600	na	21.2
Borrowed without permission	na	na	na	42.3	na
Obtained money illegally	0.3	0.02	3 400	na	na
Trouble with the police	0.2	0.04	6 300	18.3	na
Appeared in court	0.1	0.00	700	15.8	na
Jail sentence	na	na	na	6.4	na
Personal and family					
Suffered from depression	2.1	1.5	205 900	95.6	na
sometimes to always	na	1.0	142 400	89.2	na
often to always	na	0.50	70 500	60.1	na
Major adverse effect on partner	na	na	na	na	46.6
Major adverse effect on children	na	na	na	na	20.7
Argued with family over gambling	na	1.9	266 900	na	83.2
Breakup of relationship	0.4	0.3	39 200	na	na
Divorce or separation	0.3	na	na	26.0	na
Seriously considered suicide	0.3	0.1	12 900	57.8	na
Attempted suicide	na	na	na	13.6	na
Prevalence of violence	na	na	na	13.1	na

a per cent of regular gamblers reporting the consequence. **b** estimated number affected in the adult population in Australia. **c** per cent of problem gamblers in counselling reporting the consequence. **na**. Not available.

Source: PC *National Gambling Survey* 1999, and PC *Survey of Clients of Counselling Agencies* 1999.

Costs have not been attributed to all of the adverse consequences listed in table J.1 above. Some are too difficult to value or could be included in other categories, but they are listed above to indicate the extent of impacts of costs borne by people as a result of problem gambling.

In addition to information on the extent of adverse consequences, the questionnaires provided additional information that has assisted the Commission in placing values on some of the costs of gambling (table J.2). This includes, for example, the number of people in the household, which establishes a lower limit on the number of other people likely to be adversely affected by some of the problems relating to gambling.

Table J.2   **Other information gathered from Commission surveys**

	National Gambling Survey	*Survey of Clients of Counselling Agencies*
current gambling debt	na	$10 044
length of problem gambling	na	8.9 years
average number of people in household (problem gamblers)	3.3	2.6
number of children under 15 (problem gamblers)	0.62	0.58
current employment status (per cent employed)	69	75

Source: PC *National Gambling Survey* 1999, and PC *Survey of Clients of Counselling Agencies* 1999.

The survey questions were asked only of regular gamblers

The national survey asked questions on gambling related problems of the general population of *regular* gamblers. Regular gamblers are those who engage in some form of gambling, on average, once a week (other than those who are solely 'low level' regular lottery or lotto players). These questions were not asked of non-regular gamblers, as it is unlikely that group would suffer significant adverse consequences as a result of their own gambling activities. Nevertheless, the costs are understated to the extent that any of the non-regular gamblers do suffer some adverse consequences.

In most cases the Commission has used information on the prevalence of adverse consequences among regular gamblers from the *National Gambling Survey*. In a few areas (such as the level of debt, incidences of violence, and prevalence of jail terms) information was only available from the *Survey of Clients of Counselling Agencies*. As noted, because the prevalence of problems is likely to be much greater for those seeking counselling, the prevalence rate from the *Survey of Clients of Counselling Agencies* has been applied only to the population scoring 10 or more on SOGS (47 000 people). To the extent that those scoring 5 to 9 on the SOGS are likely to

suffer from some of the adverse consequences identified in the 10+ group, the Commission's estimate of the costs will be understated.

The information on adverse consequences from the *Survey of Clients of Counselling Agencies* is sometimes available only for the period of the duration of gambling problems rather than in the last year. Where they have been used, these 'duration of gambling problem' events have been estimated and converted to an annual basis using information on the average length of gambling problems (8.9 years) derived from the *Survey of Clients of Counselling Agencies*.

Measuring the counterfactual

In estimating the cost of problem gambling, the question of what the situation would have been without gambling, especially problem gambling, is important. As mentioned in chapter 10, the extent to which gambling is the primary cause of the problems we observe has been questioned. Problems with gambling may be only one of a number of inter-related problems that some people have. At the same time, such adverse consequences as divorce or separation, are going to happen to many people even without gambling.

The Commission's questionnaires asked respondents a range of questions relating to adverse consequences attributable to their gambling activities. This relies on the respondent accurately assessing that gambling is the principal contributing cause. Where an adverse consequence is recorded, the Commission has accepted the respondent's judgment that this is gambling related.

The NORC study (Gerstein et al 1999) recently released in the United States used a different approach. Briefly, they asked respondents questions on a whether they had suffered a range of adverse consequences for whatever reason. By including all adverse consequences, whether attributed to gambling or not, the US study was able to compare the prevalence of adverse outcomes for those identified as problem and pathological gamblers (using a variant of the DSMIV) with the prevalence among those who were not problem gamblers. The estimates were of the excess of costs experienced by problem and pathological gamblers.

The Commission has looked at the results of the NORC study and those from the Commission's surveys. Despite the differences in methodology and variations in the way questions were asked, where a comparison could be made, the prevalence rates generated by the NORC study relating to pathological gamblers are similar to those from the Commission's client survey. Table J.3 presents comparisons where the questions asked and the groups involved most closely matched.

Table J.3 **Prevalence rates, selected consequences, NORC and PC Survey of Clients of Counselling Agencies**

	NORC pathological gamblers	PC Survey of Clients of Counselling Agencies
	%	%
Job loss	8.0 (last 12 months)	18.1 (ever)
Bankruptcy (ever)	8.4	8.3
Divorced (ever)	20.1	23.4
Arrested (ever)	13.0	17.0
Incarceration (ever)	15.1	6.9

Source: Gerstein 1999 and PC *Survey of Clients of Counselling Agencies* 1999.

Following the draft report, the Commission held a meeting with a number of prominent academics and researchers in the field of problem gambling in Australia (Clive Allcock, Alex Blaszczynski, Jan McMillen, and Michael Walker). The participants were specifically asked their views on the extent to which problem gamblers would have problems in the absence of gambling. The consensus was that for a number of adverse consequences, particularly depression, divorce and separation, a reasonable rule of thumb is that some 15 to 20 per cent would have problems even in the absence of their gambling.

Where the adverse consequence was more directly financial, such as embezzlement, or bankruptcy, the view was that the gambling activity was generally the central and overwhelming problem, as the most immediate and direct adverse consequences of problem gambling are financial difficulties. This is consistent with overseas findings that gamblers who engaged in crime typically had no prior history of criminal activity.

Drawing on these judgements, the Commission has made an adjustment for 'causality' in its estimates of the personal and family impacts of problem gambling by discounting by 20 per cent the number of people estimated to be affected.

J.2   Measuring components of cost

The Commission has estimated the costs for a range of adverse consequences. These are:

- financial costs (debts and bankruptcy);
- productivity and employment (productivity loss and job change costs);
- crime and legal costs;
- personal and family costs; and

- costs of gambling counselling services.

The following sections outline the methodology for estimating the cost of each type of impact identified. In areas where either the prevalence is uncertain, or where the cost can vary significantly, and where there is sufficient information, the Commission has estimated a range of costs — a lower and a higher estimate. Even when estimating the higher costs in the range presented, the Commission has tended to be conservative.

Financial costs

Problem gamblers spend a considerable amount of money on their gambling, estimated to average $12 200 each per year across all problem gamblers. Severe problem gamblers spend significantly more, averaging an estimated $20 700 each per year.

Spending at these levels, problem gamblers can quickly get into financial difficulties. The information from the Commission's *National Gambling Survey* indicated that:

- 82 per cent of problem gamblers had borrowed money to pay for their gambling in the last year;

- 19 per cent (54 800 people) had borrowed without paying back;

- 6 per cent had borrowed from loan sharks; and

- 0.2 per cent (2900 people) had gone bankrupt in the last 12 months as the result of their gambling.

Of problem gamblers seeking help, the S*urvey of Clients of Counselling Agencies* indicated that 53 per cent had borrowed money without paying back, 13 per cent had lost their superannuation and 8 per cent had lost their house as a result of their gambling.

This section is concerned with the costs imposed on others by the debts of problem gamblers, and the costs associated with bankruptcy by problem gamblers. 'Costs' associated with the high level of spending by problem gamblers themselves, and the need to borrow money to finance this spending, are not included in the calculations in this section. In chapter 5, when estimating the benefit that gamblers gain from their spending, the Commission has discounted the gain that problem gamblers receive to take into account their 'excessive' spending and the assumption that they do not obtain full value for money for that excess spending.

Debts

What is the level of gambling-related debt of problem gamblers?

Problem gamblers typically accumulate considerable debts. They include debts to family and friends, debt with financial institutions, and sometimes significant debts with the 'informal' lending sector, including loan sharks.

Information from other studies indicate that the level of gambling related debt can be significant.

- Dickerson et al (1998, p. 80) reported that '… debts at the time of help-seeking, range from $150 000 - $240 000 (excluding those with debts over $1 million). Debts were owed to family (36%) major finance companies (37%) and credit cares (28%).'

- Lesieur (1992) was reported in Goodman (1994) as finding that the mean gambling-related debt of people in compulsive therapy in the United States ranged from about US$53 000 to US$92 000.

- Goodman (1995) also reported that a typical middle-income compulsive gambler who enters treatment usually owes about one to two years salary, while some higher-income people often owe several million.

Information on debt was not available from the *National Gambling Survey*. The Commission's S*urvey of Clients of Counselling Agencies*, however, found an average debt level of $10 044. This appears low considering both the level of spending by problem gamblers, the high rate of borrowing reported in the surveys, and the information from other studies. Feedback from those conducting this survey indicated that many respondents may have misunderstood this question. One comment was that where, for example, the respondent had increased the mortgage to finance gambling activities this was not considered by the respondent to be a gambling-related debt.

Does debt represent a cost?

In itself, debt does not represent a cost to society as, when money is borrowed, it is presumed to be used to generate an equivalent benefit (in terms of income if invested or satisfaction if used for consumption) at least as large as the cost of the debt, including any interest on repayment. Even bad debts do not represent a cost, as the money would have been used elsewhere in the economy — either for investment or consumption — to generate an equivalent benefit, irrespective of the source of the funds.

To the extent that borrowed money is not used to generate an equivalent benefit, this is already accounted for in chapter 5, where estimates have been made of the extent to which problem gamblers may not be getting 'value for money' on their expenditure on gambling.

The failure to repay debts does, however, involve a transfer of money from various members of the community, and even when debt is repaid, the burden is often borne by other members of the family (chapter 7). Lesieur (1998) commented:

> The pathological gambler's financial burden is chiefly borne by the family. Added debt may mean that fewer family expenditures are possible. The mortgage, rent, gas, electricity, telephone, and other bills may be late or overdue. In extreme cases, utilities are shut off, automobiles or furniture is repossessed, household items are sold, and there is the possibility of being evicted from an apartment experiencing a foreclosure on the mortgage.

To get some idea of the possible magnitude of this transfer, the Commission assumed that half of the debts of problem gamblers represent a transfer from other members of the family. As this does not include debt that may have been paid off prior to seeking treatment, the true cost could be higher.

How has the value of the debt transfer been calculated?

To estimate the extent of the transfer of gambling related debts the Commission has used the following information:

- the value of debt of $10 045 per problem gambler from the Commission's survey of problem gamblers in counselling;

- as the information on debt levels relates to gamblers in treatment, and these are generally those with the more extreme manifestations of problem gambling, the Commission has applied the average debt rates only to the number of people who are likely to be particularly severe problem gamblers — those scoring 10 or more in the SOGS — or 46 800 adults nationally; and

- it is assumed that half of the value of debt is borne by other members of the family.

As information was not available on the level of debt accumulation and repayment on an annual basis, this is an estimate of the extent of the transfer over the period of problem gambling — a 'lifetime' estimate. On the basis of the information from the S*urvey of Clients of Counselling Agencies* that gambling problems have lasted for an average of 8.9 years, this is estimated to be equivalent to $26 million annually.

Bankruptcy

How many gamblers have been made bankrupt by gambling?

The *National Gambling Survey* indicated that 2900 people nationwide declare bankruptcy each year as a result of their gambling activities. However, as noted in chapter 7, the proportion affected is so small that the estimate is unreliable statistically.

Official statistics on the causes of bankruptcy provide a lower number — some 317 bankruptcies a year attributed to 'gambling and speculation' in 1997-98 (appendix R). These figures need to be viewed with some caution as gambling and speculation which results in bankruptcy is an offence under bankruptcy law. Brading (1999) commented:

> Paragraph 271(a) provides that gambling or speculation up to 2 years before the presentation of the petition is an offence if it "materially contributed to, or increased the extent of, his insolvency."   .... Section 271 of the *Bankruptcy Act* has a surprising effect. It takes behaviour which is legal, namely "gambling" or "speculation" and retrospectively makes that behaviour into a crime. Gambling or speculation by a bankrupt only becomes a crime following bankruptcy if it can be proven that it was "*rash and hazardous having regard to his financial position at the time and any other material circumstances*."

While prosecutions are few in comparison with the numbers reporting gambling and speculation as the cause of their bankruptcy (see Brading 1999), it is likely that the possibility of prosecution results in significant under-reporting of gambling as a cause of bankruptcy.

What is the cost of bankruptcy proceedings?

Bankruptcy can basically occur in two ways: as the result of a creditors' petition, or as the result of a petition by the debtor. The vast majority of bankruptcies (93 per cent in 1997-98) are the result of a debtor's petition, lodged with the ITSA (Insolvency and Trustees Service Australia). A creditor's petition involves the costs of court proceedings.

The bankrupt's estate will be managed by a trustee, which can be the ITSA. Some 95 per cent of bankruptcies in 1997-98 are managed by the Official Receiver, (Inspector General in Bankruptcy 1998). The ITSA's fees are:

> … the whole of your bankruptcy estate up to $4,000. If your estate exceeds $4,000 the fees are $4000 plus a percentage on a sliding scale of moneys received in excess of $4,000.

This fee is only taken in estates where money is actually realised. All others are 'free' although there is a cost involved in terms of staff and administration. As most gambling related bankruptcies are 'consumer bankruptcies' it is likely that many do not attract a fee at all.

In their estimate of the costs of gambling-related bankruptcies in NSW, Dickerson et al (1998) used a cost of $6,600 per court case.

How has the cost of gambling-related bankruptcy been calculated?

The key data used to estimate the cost of gambling related bankruptcy are:

- the number of 'gambling and speculation' bankruptcies indicated by the official statistics (317); and

- a cost per bankruptcy of $4000. While many bankruptcies will not involve this cost being borne by the person involved because insufficient money can be recovered, there is nonetheless a cost involved in the process and this should be considered in the estimates.

The total cost of gambling related bankruptcies is estimated in this way to be $1.3 million each year.

Bankruptcy involves a range of other costs, and having been declared a bankrupt may well reduce earning capacity, or borrowing capacity into the future. The Commission has not attempted to estimate such future costs associated with having been declared bankrupt as a result of gambling.

Bad debts at bankruptcy

The Commission's surveys did not collect information on the level of bad debts at the time of bankruptcy. Nonetheless, it would be reasonable to expect the level of debt at bankruptcy to be at least as great as the average level of gambling-related debt at the time that problem gamblers seek treatment, and probably greater, as it is severe levels of debt that typically lead to bankruptcy.

- Ladouceur (1994) reported that problem gamblers in Gamblers Anonymous in Canada had debts at bankruptcy ranging from $75 000 to $150 000

As with other debt, bad debts represent a transfer from others to the gambler, rather than a net cost to society. The fact that the gambler may not subsequently get 'value for money' when consuming gambling products is accounted for in the analysis in appendix C and chapter 5, where the benefit that consumers gain from access to gambling products in reviewed and quantified.

While most of the money involved with bad debts is a transfer within society rather than a net cost, there are nonetheless some real costs. Bad debts involve effort and resources to recover debts, and this cost would typically be included in the general cost of loans to other borrowers. The Commission has no basis for estimating the extent of this cost.

Productivity loss

Problem gambling has a significant affect on all aspects of the problem gambler's life. This spills over into the work environment — time may be increasingly taken from work to gamble, and the depression that accompanies problem gambling can erode work performance. When Dickerson et al estimated the cost of problem gambling in NSW, the loss in work productivity was the largest single component of cost.

The Commission's *National Gambling Survey* indicated that some 94 300 people would have been less productive at work as a result of their gambling in the last 12 months. Some of this loss may be trivial. The survey indicated that lost productivity happened 'sometime to always' for 49 200 'often to always' for 7000 people.

In their responses to the *Survey of Clients of Counselling Agencies*, the gamblers indicated an average productivity loss of 7.9 per cent. This estimate is higher than those used elsewhere. For example, Dickerson et al (1998) assumed a productivity loss of 1 hour a week, a loss equivalent to 2.5 per cent of work time, while Ladouceur (1994) assumed a loss of 5 hours a month, a similar level of loss to that used by Dickerson et al. But these earlier estimates of the loss in productivity seem low. One hour a week of work time does not align with the comments that problem gamblers make about the extent of their obsession with gambling. In making its estimates of the loss in productivity, the Commission has used the average level reported by problem gamblers in its survey.

How has the cost of lost productivity been calculated?

The key data used to estimate the cost of lost productivity due to problem gambling are:

- for a lower estimate, the number of people from the national survey reporting an adverse effect on job performance 'often to always' in the last 12 months — 7000 adults nationwide.

- for a higher estimate, the number of people from the national survey reporting an adverse effect on job performance 'sometimes to always' in the last 12 months — 49 200 adults nationwide.

- for the extent of productivity loss, the 7.9 per cent reported in the survey of problem gamblers in counselling; and

- for the value of productivity the Commission has used average weekly earnings — equivalent to $38 600 per person per year.

The total cost of lost productivity as a result of problem gambling is estimated to be $21 million to $150 million each year.

The question in the *National Gambling Survey* related to an adverse effect on *job* performance. While this is likely to pick up those who are employed and self-employed, those who are at home are unlikely to have responded to this question. Yet a reduction in productivity for those at home, bringing up families etc, is just as real a loss as the decline in productivity of those employed. Some 30 per cent of regular gamblers were not employed, and if they were included with the same level of productivity loss, this would increase the value of lost productivity by $7 million to $50 million a year.

While some of the loss in productivity may be carried by the problem gambler in the form of lower remuneration (for example if they are self employed), some will be carried by the employer in the form of lower profits, by other employees in the form of lower wages overall and by the taxpayer in the form of lower tax receipts. Exactly who bears the cost does not, however, affect the estimate of the total cost involved.

Job change (unemployment) as a result of gambling

How many gamblers have had to change jobs as a result of their gambling?

The Commission's national survey indicated that over 28 000 people have changed their job as a result of their gambling, and almost 5600 in the last 12 months. While the survey indicated that some 10 200 have been dismissed from their job at some time as a result of their gambling, no respondents reported this as having happened in the last 12 months, and thus no estimate has been made of the number for the population as a whole.

What is the cost of job change?

There are essentially three costs involved in a change in job. The first is the loss in income over the period of unemployment before a new job is found. The second is the financial cost of the job search. The third is the cost to the employer of finding and training a replacement.

The loss of income, however, is not borne fully by the unemployed. Of the gross income, that part which is paid in tax is lost to the government, and to the extent that the unemployed receives unemployment benefits, some part of the loss in after-tax income is also transferred to the government.

Most job change costs will be the same whether the job change is voluntary or involuntary. However, other costs may be different. Job search costs and the prospects of new employment may be better if the job change is voluntary, as it would be reasonable to presume that the employee has a chance to prepare for the change. Where job change is involuntary, job search costs for the employee may be higher and the prospects of re-employment lower as good references are unlikely to be provided. Alternatively, if timing is at the discretion of the employer, the employer's job change costs may be lower. The extent to which these vary, however, is difficult to determine, and in the absence of any data on this matter, the Commission has not attempted the make any estimate of the differences in the costs of job change depending on whether the change is voluntary or not, with the exception of differences in the rate of assistance provided by government.

The level of government assistance varies depending on whether the job change was voluntary or not. Where the job change was as a result of a resignation, the Newstart Allowance is discounted by 18 per cent for the first 26 weeks.

Income loss when unemployed

For the Australian population as a whole, for any individual changing a job, the average duration of unemployment is some 6 weeks. However, this rate varies significantly. Some 50 per cent will find a job in a relatively short time (less than 2 weeks) and typically this does not result in the receipt of unemployment benefits. Some take longer to find a job and may receive unemployment benefits for a much longer period. The average duration of unemployment for any individual whose unemployment is greater than 2 weeks is some 11 weeks. In this study, the Commission has assumed that half of those who change their job have an average duration of unemployment of 11 weeks and receive unemployment benefits over 9 of those 11 weeks.

The Commission has assumed that the pattern of job change for those changing jobs as a result of gambling is the same as that for the general population — an average period between jobs of 6 weeks. On the basis of average weekly earnings of $743, this is a loss in income of some $4300 per job change which, for 5600 people results in an estimated annual total cost of $24 million.

Cost of job search for the gambler

The Commission has not come across any up-to-date information on the cost of job search for the employee. To calculate the cost, the Commission has used the estimate of $2357 used by Dickerson et al (1998). This was reported as "approximately half of the cost reported by major job search firms."

With an estimated 5377 people changing jobs as a result of their gambling in a year, job search by the employee represents a total cost of $13 million.

Cost of staff replacement for the employer

Information on the cost of staff replacement for the employer has been equally hard to find, particularly as relates to Australia. Layard et al (1991) (p. 343) said:

> ... in the USA, the sum of hiring and firing costs for white collar workers totals between two weeks' and two months' pay, whereas for blue-collar workers they are around one-fifth as great. In European countries, the legislative framework is rather stricter so the equivalent costs would be considerably higher.

Holzer (1989) put the time cost associated with hiring and training new staff as follows:

- Formal hours of training (8.991);
- Informal hours of training by management (45.118);
- Informal hours of training by co-workers (38.768); and
- hours spent hiring (12.225).

The NORC study (Gerstein et al 1999) study commented:

> Employers incur search and training costs assumed equal to 10 per cent of the annual salary for each employee replaced.

In this analysis, the Commission has similarly assumed that the employer search and replacement cost equals 10 per cent of annual salary (estimated on the basis of average weekly earnings), a cost per staff replacement of $3862. With 5600 people being replaced in a year, this is a total cost to the employer of $22 million.

Unemployment benefits are a transfer to the unemployed

The payment of unemployment benefits to those who change jobs as a result of their gambling represents a transfer of some of the cost of being unemployed from the unemployed to the taxpayer. It does not represent an additional cost above what the Commission has already estimated the loss on income as a result of unemployment.

The Commission has assumed that the pattern of job change for those changing jobs as a result of their gambling is the same as that of the general population. The average length of unemployment is estimated to be some 6 weeks, with half having a period of unemployment of 2 weeks or less and are thus not eligible for unemployment benefits. The average period of unemployment of the remainder is estimated to be 11 weeks, 9 weeks of which would be eligible for unemployment benefits. The rate of unemployment benefit varies depending on whether the job change was voluntary or involuntary. For those who resigned, Newstart payments are 18 per cent lower for the first 26 weeks. For those who were unemployed involuntarily, the full Newstart allowance is payable.

The Commission has estimated the amount of payment on the basis of eligibility for the Newstart allowance, partner allowance and rent assistance (a fortnightly payment of $402) for those who are unemployed for greater than 2 weeks (half of the number who change jobs), and on the basis that they receive payments for 9 weeks.

The Commission estimates that the annual cost of unemployment benefits for gamblers who change their jobs as a result of their gambling is $4.1 million. This compares with an estimated loss in income over the same period of $24 million.

Summary of key data used to estimate the cost of job change (unemployment) as result of gambling

The key data used to estimate the cost of unemployment due to gambling activities:

- an estimated 5600 people changed jobs as a result of their gambling in the last 12 months;

- no people identified themselves as having been dismissed from their job as a result of their gambling in the last 12 months. This is certainly an understatement, but in the absence of any information on this matter, the Commission has not included any estimate in this area;

- an expected average length of unemployment of 6 weeks for each person changing jobs;

- to estimate the income lost over the period of unemployment —average weekly earnings of $743;

- job search costs for the employee of $2357;

- staff replacement costs of $3862 for the employer (10 per cent of annual average earnings);

- average benefits of $1482 per person from government for half the people who change jobs, (being 9 weeks of payment for half the people who change jobs, at a Newstart and rent assistance payment of $402 per fortnight)

In this area, the Commission has not estimated a lower and higher cost estimate. Unlike other areas where the available information provided a basis for estimating a range of costs, this was not the case for job change. In summary, the Commission has estimated that job change as a result of gambling has, in each year:

- cost gamblers $24 million in lost income;

- involved $13 million in job search costs;

- cost employers $22 million in staff replacement costs; and

- transferred $4 million from taxpayers to those changing jobs via job start and related payments.

Crime and legal costs

The *National Gambling Survey* asked a number of questions on the extent of illegal activities undertaken by gamblers as a result of their gambling activities. Based on their responses, it is estimated that Australia wide, 13 600 had bounced cheques deliberately, while 9700 committed other crime relating to their gambling activities. In total, an estimated 20 900 people are estimated to have committed some form of gambling related crime in the last year.

As with bad debts, the value of money or goods stolen is a transfer within society, rather than a net cost. The real cost of crime is the effort that society must take to protect property together with the costs of the criminal justice system.

The Commission has made an estimate of the value of the money and goods stolen as a result of gambling-related crime — a measure of the transfers — as well as estimates of some of the net costs to society in the form of police incidents, court appearances and jail terms as a result of gambling related crime.

The Commission has not been able to estimate the private costs of gambling-related crime, such as the cost of protecting property, but such costs can be substantial. Walker (1997) commented:

> Estimates provided by the Australian Security Industry Association Ltd (ASIAL) (personal communication) suggest that the industry was worth $1250 million in 1991-92. This covers the principal areas of security industry activity; man-power (guards, surveillance, cash carrying etc), alarms (monitoring, responding etc) and electronics (access control, closed-circuit TV etc).

Information on the value of money obtained illegally was not obtained in the survey. More general information indicates that the average value of property stolen can be high. Walker (1996) reported the following estimates of the average property loss per incident:

- breaking and entering (commercial premises), Victoria: $1786;

- breaking and entering (non-commercial premises), Victoria: $2307;

- breaking and entering (commercial premises), National: $1413;

- fraud and misappropriation (deception), Victoria: $3225; and

- stealing from the person: $500.

How has the transfer as a result of crime been calculated?

The key data used to estimate the extent of the transfer as a result of gambling-related crime by gamblers are:

- 9700 people committing a gambling related crime (other than fraudulent cheques) in the last 12 months;

- for a lower estimate, a value of money and goods stolen of $500; and

- for a higher estimate, a value of money and goods stolen of $3225.

This represents a transfer of some $5 million to $31 million a year. The Commission has not attempted to estimate what the cost of managing and responding to this level of crime, but some component of that cost will be included in the following estimates of the cost of police incidents, court appearances and jail terms resulting from gambling.

The cost of police incidents

On the basis of the *National Gambling Survey*, it is estimated that 6300 people were involved in an incident with the police as a result of their gambling activities in the last 12 months. Dickerson et al (1998) used a cost per police incident of $510 and

the Commission has used this estimate in its analysis. This gives a cost of $3.2 million a year for Australia as a whole.

Court cases

The national survey results indicate that over 13 100 people have been involved in a court case as a result of their gambling at some time in their lives, and that for 700 people this occurred in the last 12 months. In comparison with earlier work in Australia, this appears low for the nation as a whole. Dickerson et al (1998) estimated 815 court cases a year for New South Wales alone and, in addition, this number was drawn from the population of problem gamblers only.

The costs of court proceedings can vary widely, depending on the complexity of the case and the extent to which it is contested. Szabo (1997) said:

> Contested cases involve two stages. The first is up to what is called the "pre trial hearing" at which directions are given. The second is the time after that hearing and up to the start of the final hearing. Costs for the first stage commonly range from $3,000.00 to $8,000.00 depending at which stage you settle. The second stage involves similar costs. Costs average around $4,000.00 for each day the matter takes during the final hearing, including a barrister's fee. Typically residence cases run for three to four days.

On this basis, full court proceedings would cost between $23 000 and $32 000.

Not all the cost is carried by the plaintiff in the case. In 1997-98 expenditure on courts amounted to $452 million (all Australian courts except the High Court) (Steering Committee 1999). Court fees recovered from the plaintiffs represent 42 per cent of expenditure in 1997-98. With over 1.7 million cases initiated, the cost averages $442 per case of which $237 is carried by the taxpayer.

In their NSW study, Dickerson et al (1998) used an average court case cost of $6600.

In this study, the Commission has used the following information:

- an annual number of gambling related court cases of 700; and

- a cost of $8000 for each case.

On this basis, the court cases involving problem gamblers cost $5.6 million per year.

The cost of jail sentences

Information on jail sentences as a result of problem gambling was available only from the S*urvey of Clients of Counselling Agencies*. This survey indicated that 6.4 per cent of those surveyed had, at some time, faced a jail sentence as a result of their problem gambling. However, problem gamblers in counselling are not typical of the problem gambler generally. The prevalence of particular problems is likely to be greater for this group. Consequently, to provide a lower estimate of the cost, the prevalence rate from the survey of problem gamblers in counselling has been applied to the much smaller number of people scoring 10 or more on the SOGS, (46 800 people) rather than the estimated total population of problem gamblers (293 000 people). This results in an estimated 3000 people who had been incarcerated as a result of their gambling during the period of their gambling problems. Using an estimated duration for gambling of 8.9 years, and assuming that incarceration occurs only once in the problem gambling cycle, the Commission has estimated an annual rate of incarceration as the result of gambling at 336 nationally. This compares with an estimate in Dickerson et al (1998) of 136 for New South Wales.

Information from the literature on problem gambling indicates that gamblers are typically involved in non-violent crime, and as a consequence the length of jail sentence is expected to be low.

Ladouceur (1994) said:

> As in other studies, the majority of offences committed by pathological gamblers in Quebec are non-violent.

Goodman (1995, p.52) said:

> People who engage in crime to support their compulsive gambling behaviour generally have no prior record of criminal behaviour.

From data collected by the ABS (1997) on the expected time to serve of sentenced prisoners, the Commission has estimated that the average expected prison sentence for a non violent crime (fraud and misappropriation and other theft) is some 3.4 months. This is considerably less than the 1.5 years used by Dickerson et al in their 1998 estimates for NSW but, the Commission considers that the lower rate is more appropriate given nature of the crime typically involved.

The cost of prisons is $52 983 per prisoner per year for Australia as a whole, based on average Australian data for 1997-98 on recurrent expenditure and user cost of capital per prisoner (Steering Committee 1999).

On the basis of the following data:

- 336 people receiving a jail sentence as a result of their problem gambling per year;

- an average sentence of 3.4 months; and

- an average annual cost per prisoner of $52 983;

the cost of prison terms relating to problem gambling is estimated to be $5.1 million each year.

Personal and family costs

Personal and family costs are amongst the hardest and most contentious to value against. Nonetheless, this is not a valid reason to avoid attempting to do so. Estimates, even those involving considerable judgment, can provide us with some idea of the extent of the cost involved. Leaving them out means that much of the, arguably more important, costs are ignored and an incorrect impression is given that the costs are minimal because they are not estimated. Not including such estimates, which in effect values the cost at zero is likely to involve greater error, even if there is a degree of uncertainty surrounding the estimate.

Measurement of these intangibles has concentrated on attempt to quantify the value of life. Typically they have been undertaken to estimate the costs and benefits of certain actions that will save or extend life. The two basic approaches to the valuation of life are the 'human capital' and the willingness to pay' techniques, Single et al (1996) said:

> The human capital approach estimates the discounted current value of the future stream of potential earnings of the victim. This approach undervalues life since it takes no account of the value of life to the victims over and above their earnings loss. ... The willingness to pay approach studies what people would be willing to pay for relatively small changes in the risk of death and from these figures produces estimates of the value of life. While this technique appears to have a much sounder theoretical basis, there still remain considerable difficulties in the accuracy and consistency of estimates using this approach.

These estimates can give values for the human life in the millions of dollars, but the Commission is reluctant to use such estimates in this contentious area. Consequently, more conservative values for a range of emotional costs associated with problem gambling have been used in these estimates.

The personal and family costs associated with problem gambling are most commonly manifested in psychological ways — such as depression — rather than as a more easily identifiable physical harm. There is, nonetheless, some evidence of impact on the physical aspects of quality of life. Problem gamblers and their family

have a higher rate of suicides, for example. The NORC study (appendix K) in the US found that pathological gamblers reported poor or fair health at a much higher rate than would be expected for their population group without problem gambling.

Similar information has not been available from the Commission's surveys, and as a consequence, the impact on the physical health of problem gamblers has not been estimated.

How many gamblers report personal and family costs?

The Commission's surveys have provided a range of information indicating the number of people reporting adverse personal and family impacts from their gambling activities (chapter 7). Some of the key impacts for which the Commission has made cost estimates are presented in table J.4 below.

Table J.4   **Estimated number of adults suffering adverse personal and family impacts from their gambling activities**

Problem	In the last 12 months	Ever
Break up of a relationship	39 200	59 500
Divorce and separation	3 200	na
Violence	na	13.1% of agency clients
Depression	205 900	289 900
sometimes to always	142 400	na
often to always	70 500	na
Thoughts of suicide	12 900	35 500
Attempted suicide	na	13.6% of agency clients
Moderate adverse effect on partner[a]	na	20.1% of agency clients
Major adverse effect on partner[a]	na	54.4% of agency clients
Moderate adverse effect on children[a]	na	18.8% of agency clients
Major adverse effect on children[a]	na	27.6% of agency clients
Moderate adverse effect on parents[a]	na	23.7% of agency clients
Major adverse effect on parents[a]	na	24.1% of agency clients

a Excluding those who answered 'not applicable'.

Source: Chapter 7.

While there are some direct financial costs that can be measured, such as the cost of separation or divorce, most of the cost can be seen as falling into the category 'pain and suffering'. This is much harder to put a dollar figure against.

How can we measure 'pain and suffering'?

There are a range of compensation arrangements in the various States and Territories for the victims of crime. Victims compensation legislation in a number of

states offer up to $50 000 each for serious harm (Queensland offers up the $75 000). Acute pain and suffering can also be compensated up to $50 000. For example, the New South Wales *Victims Compensation Amendment Act* 1998, offers compensation to the level of:

- chronic psychological or psychiatric disorder that is moderately disabling, $5000 to $15 000; and

- chronic psychological or psychiatric disorder that is severely disabling, $30 000 to $50 000.

In a discussion paper on compensation, the ACT Government (Humphries 1997) reported that the median award value for psychological injuries in New South Wales and the ACT in 1995-96 was $15 260. The discussion paper commented:

> As would be expected, applicants whose psychological injury was caused by sexual assault receive relatively large awards (median of nearly $30 000). Those whose psychological injury stems from assault generally receive lesser amounts (median $14 150). (p.8)

In the US, the Department of Justice (1996) reviewed jury award for those suffering as a result of crime. The study reported the following amounts (in 1993 $US):

- Child abuse: 52 371;

- Rape and sexual assault   81 400;

- Other assault or attempt with injury 19 300;

- Other assault or attempt without injury 1700;

- Robbery or attempt with injury   13 800;

- Robbery or attempt without injury   1300; and

- Burglary and attempt   300.

The study said:

> For nonfatal injuries, the research team estimated value of pain, suffering, fear, and lost quality of life by analysing jury awards to crime victims and burn victims. ... This study ignored jury award for punitive damages and instead focused solely on that portion of the jury verdict designed to "compensate" the victim for pain, suffering, and lost quality of life. ... In this manner, the researchers were able to estimate what the average jury award for pain and suffering would be for the typical crime in the project's data set. (p.15)

As with the information for Australia, rape and sexual assault and child abuse in the US results in the highest levels of payment.

Similarly, in a study of 843 awards for pain and suffering in the United States, Rodgers (1998) found the following range of values (table J.5).

Table J.5   **Awards for economic loss and pain and suffering, by injury category (1998 US dollars)**

Range for economic losses[a]	Mean economic loss	Mean pain and suffering	% of awards for pain and suffering	Number of cases
	$	$	%	No.
Category 1	7 048	35 678	83.5	139
Category 2	17 709	49 889	73.8	362
Category 3	20 747	76 939	78.8	315
Category 4	39 437	315 410	88.9	27
Average	17 782	66 157	78.8	843

a Categories 1 to 4 relate to the severity of the injuries for which the awards were made, with category 1 being the least severe, and category 4 being the most severe.

Source: Rodgers (1998)

As can be seen from the table from Rodger's analysis, the value of awards for pain and suffering is consistently and substantially higher than the value of economic loss involved.

Pain and suffering awards or payments relate to the emotional impact of an injury suffered by the person involved. In this analysis, the Commission is attempting to place a dollar value against emotional distress caused by problem gambling where there is typically no direct 'injury' involved. Consequently, in estimating the cost for the emotional harm of divorce and separation, depression, violence, and suicide, the Commission has not used data on award payments. The estimates are based predominantly on the lower range of payments for victims compensation in use in New South Wales and Queensland, and previously in use in Victoria[1]. These are outlined in table J.6.

A degree of judgment is inevitable in choosing any number for the range of costs associated with a particular condition. The Commission has been conservative, using the higher of the two compensation schedules only in the few cases where the condition leads to thoughts of suicide and attempted suicide. The Commission considers that it is reasonable to presume that serious thoughts of suicide and attempted suicide represent more severe forms of depression and thus warrant imputing the higher cost. In making these estimates, it must be acknowledged that more people are involved than the problem gambler themselves. Family and friends are invariably caught up in the emotional damage that problem gambling generates.

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[1] Victoria has replaced its compensation schedule with 10 free counselling sessions at a cost of some $1040 per person.

As indicated in table J.6, where practical, the Commission has included estimates for the impact of some of these adverse consequences on family members.

Table J.6 **Range of values assigned to the emotional costs associated with problem gambling (dollars per person)**

Adverse consequence identified	Lower cost	Higher cost
	$	$
Emotional costs for the immediate family		
of moderate problem gamblers	ne	ne
of severe problem gamblers	5 000	15 000
Emotional costs for the parents		
of moderate problem gamblers	ne	ne
of severe problem gamblers	0	5 000
Relationship breakdown	5 000	15 000
Divorce or separation	15 000	30 000
Violence	5 000	15 000
Depression		
rarely to sometimes	ne	ne
often to always	5 000	15 000
Seriously thought of suicide	15 000	30 000
Attempted suicide		
for the gambler	30 000	50 000
for the immediate family	15 000	30 000
for the parents	0	5 000
Successful suicides	ne	ne

ne: not estimated.

Annual or lifetime costs

In these estimates, the Commission has sought to estimate the cost of problem gambling in the single year 1997-98. The Commission has not attempted to estimate the net present value of adverse consequences that continue for a number of years as the result of an event that occurred in 1997-98.

This can be seen as assuming that the costs do not extend beyond 1997-98, or that, were the survey to be undertaken in the following year, those continuing to suffer from adverse consequences would be again identified and included in the relevant year. For some conditions such as depression and the general emotional distress for family members, this is a reasonable assumption as problem gambling episodes last for an average of almost 9 years. Thus, for these conditions, which comprise the bulk of the intangible costs, those suffering such costs would be included in data on prevalence in subsequent years.

For 'one-off' events such as divorce or suicide where the consequences may be felt many years into the future, but where the event does not occur each year, the Commission is understating the costs by excluding the net present value of future distress or other costs.

An adjustment for 'causality'

As mentioned in section J.1, on the basis of the collective judgements of a number of prominent academics and researchers in the field of problem gambling in Australia, the Commission has made an adjustment for 'causality' in its estimates of the personal and family impacts of problem gambling by discounting by 20 per cent the number of people estimated to be affected by costs relating to adverse consequences in this broad category.

An adjustment for 'double counting'

In a number of instances, some adverse consequences are likely to occur to people who report other conditions. For example, those reporting that they are depressed as a result of their gambling may also report serious thoughts of suicide or attempted suicide. To avoid any double counting, the Commission has excluded more severe manifestations of a problem from estimates for the less severe condition. Estimates for a more severe manifestation of distress thus include all the associated problems leading to the reported condition. Thus:

- the numbers estimated for divorce and separation have been excluded from the number estimated for breakup of a relationship;

- the numbers estimated for thoughts of suicide have been excluded from the number estimated for depression; and

- attempted suicide numbers have been excluded from the numbers estimated for thoughts of suicide.

The same exclusions has been followed where the impact on family members has been estimated.

The following sections outline the method the Commission has used in each category, followed by a summary of the results for personal and family costs.

Emotional distress of family members

Much of the burden of problem gambling falls on family members, and notwithstanding the views of some industry participants that such costs should be

seen as part of the informal contract system operating within the family, the Commission considers that they are of relevance when estimating the costs of the gambling industries to Australia. The *Survey of Clients of Counselling Agencies* provided some indication of the extent of the impact on other family members of more serious problem gambling (table J.7).

Table J.7   **Reported impact on others**
(adjusted to exclude those reporting the question as not applicable)

	Partner	Children	Parents	Friends	Colleagues
	%	%	%	%	%
No effect at all	12.6	24.2	27.5	36.6	57.1
Minor adverse effect	9.9	28.0	22.3	26.8	16.7
Moderate adverse effect	20.1	18.8	23.7	18.7	10.1
Major adverse effect	54.4	27.6	24.1	16.5	11,9
Do not know	3.0	1.5	2.3	1.4	4.2
Total	100.0	100.0	100.0	100.0	100.0

Source: PC *Survey of Clients of Counselling Agencies.*

The Commission has measured the cost to family members as follows:

- distinguishing moderate from severe problem gamblers (163 400 and 129 300 respectively);

- excluding the number identified as reporting a breakup of a relationship (39 200), as the impact on partners is encompassed in that category;

- excluding the number reporting attempted suicide (2935) as the impact on families of this adverse consequence is estimated in that category;

- adjusting the resulting numbers by the 'causality' adjustment factor (80 per cent);

- multiplying the number of problem gamblers by the average family size (excluding the problem gambler) (2.3);

- multiplying the number of problem gamblers by the average number of parents identified in the survey (1.8);

- adjusting the number of immediate family members (74.5 per cent reported partners as suffering a moderate or major adverse affect); and

- adjusting the number of parents to exclude those where 'no effect at all' and 'minor adverse effect' were reported (47.8 per cent reported parents as suffering a moderate or major adverse effect)

This yields an estimated number of people in the immediate family adversely affected of 190 900 for the category of moderate problem gamblers and 151 100 for

severe problem gamblers. For parents, the numbers are 168 200 for moderate problem gamblers and 133 200 for severe problem gamblers.

In valuing the emotional distress caused to immediate family members, the Commission has used the range of numbers from the lower of the two compensation schedules — $5000 to $15 000. For parents, the range used is zero to $5000. To be even more conservative, the Commission has applied dollar values only to the immediate families and parents of *severe* problem gamblers.

This generates a cost range of $756 million to $2.3 billion for the immediate family and zero to $666 million for parents (table J.8).

Table J.8   **Estimates of emotional distress of family members**

	Number of people affected	Per person cost assumption		Total cost	
		Low	High	Low	High
	Number	$	$	$ million	$ million
Immediate family					
Moderate	190 900	ne	ne	ne	ne
Severe	151 100	5,000	15 000	756	2 267
Parents					
Moderate	168 200	ne	ne	ne	ne
Severe	133 200	0	5 000	0	666

ne: not estimated.

Source: PC estimates

Financial costs of divorce or separation

The national survey indicated that, Australia-wide, some 59 500 gamblers suffered a break up of a relationship as a result of their gambling, and that for an estimated 39 200, this occurred in the last 12 months. Of the 59 500 who suffered a relationship breakup, 42 600 are estimated to have led to divorce or separation. The survey did not ask participants whether this divorce or separation had occurred in the last 12 months. Appendix T discusses the numbers relating to divorce and separation in Australia, and identifies the likely number attributable to problem gambling to range between 1600 and 4000 divorces a year (and around double this number for divorces and separations combined). The Commission has taken the lower of these numbers as the basis for estimating the cost of divorce and separation. Thus, the number of divorces and separations, following the causality adjustment, amounts to 2560 in 1997-98.

For the vast majority of divorce proceedings the direct financial cost is low. Szabo (1997) said:

Almost all divorce cases are uncontested and involve a simple procedure of filing and serving documents on the other party. There is a government filing fee of $500.00. Standard legal fees charged are $385.00 if there are no children under 18 years and $514.00 if there are children. In addition are any necessary disbursements such as a process server's fee (about $90.00) and the filing fee.

On this basis, the Commission has used a cost of divorce or separation of $1100. With 2560 incidents in the last 12 months, this results in an estimated total annual financial cost of $2.8 million nationally for divorce and separation as a result of gambling.

In offering this estimate, it is recognised that it is very conservative and that the financial cost of divorce and separation can extend well beyond the cost of the legal procedures involved. Professor Quiggin (sub. D269) commented:

> In the case of divorce, the only financial costs measured here are the legal costs of obtaining a divorce. It is clear, however, that substantially greater financial costs arise from financial settlements associated with divorce, e.g. costs of enforcing child support orders, transactions costs of house sales and ownership transfers and so on. The set up and operation costs of separate households are substantial. More significantly, there is ample evidence suggesting long-term adverse impacts on children's educational outcomes arising from divorce, and this translates into lower earnings. Human capital models therefore imply a financial loss which in present value terms would surely exceed the $30 000 upper bound used here [in the draft report for the emotional costs of divorce and separation], without even allowing for emotional costs.

Emotional costs of relationship breakdowns and divorce and separation

The emotional cost of relationship breakdowns and particularly divorce and separation is, in many ways much more significant than the financial costs involved. And because other family members are involved, the number of people affected is greater.

Relationship breakdown

The National Gambling Survey indicated that some 32 900 relationship breakdowns could be attributed to gambling in the last 12 months. In making the broad estimate of the impact on the immediate family earlier in this appendix, the Commission excluded the number of people estimated to have suffered a relationship breakdown. The cost of this breakdown is included in this section, with the exception of those that led to divorce and separation, which are dealt with in the next section.

The following data have been used to estimate the emotional cost of relationship breakdowns:

- the number of relationship breakdowns attributed to gambling in the last 12 months (39 200);

- less the number that led to divorce or separation (3200);

- adjusted using the causality adjustment (80 per cent); and

- then doubled to take account of the other party involved.

This results in an estimate of 57 600 people adversely affected by a relationship breakdown (excluding those involved in divorce and separation).

For a range of dollar values of the emotional distress caused by relationship breakdowns (other than divorce and separation), the Commission has used the range of numbers from the lower of the two compensation schedules — $5000 to $15 000.

This generates a lower estimate of the total costs of relationship breakdown of $288 million and a higher estimate of $864 million.

Emotional cost of divorce and separation

The following data have been used to estimate the emotional cost of divorce and separation:

- 3200 for the estimated number of divorce or separations resulting from gambling in the last 12 month (see above);

- adjusted using the causality adjustment (80 per cent);

- the average number of people in a household, based on survey results, of 3.3 people (including the gambler);

- for a lower estimate, a value of $15 000 for each person affected; and

- for a higher estimate, a value of $30 000 for each person affected as outlined above.

This results in an estimate of the annual cost of the emotional harm from divorce and separation resulting from gambling of $126 million to $253 million nationally.

Violence

Information on violence precipitated by problem gambling was only available from the survey of problem gamblers in counselling. This indicated that 13.1 per cent reported violence at some stage during their period of problem gambling. If this prevalence is applied to the number of people with a SOGS score of 10 or more, this indicates that nationally, some 6130 gamblers were involved in violence as a result

of their gambling during the period of their gambling problem. Using the average period of problem gambling of 8.9 years, there were estimated of 689 incidents of gambling-related violence in a year, and 551 incidents after the 80 per cent causality adjustment.

To estimate a lower value for the harm caused, the Commission has used $5000 per incident and for a higher estimate, the Commission has used $15 000. This results in a total cost of $2.8 million to $8.3 million nationally.

Depression

Many regular gamblers, and 96 per cent of problem gamblers in counselling reported suffering gambling-related depression at least some of the time. The *National Gambling Survey* indicates that some 49 400 people 'often' suffer from depression, and 21 200 are 'always' depressed in the last 12 months as a result of their gambling.

For those suffering depression 'often', the Commission has:

- taken the number of people estimated to suffer from depression 'often' (49 400);

- adjusted the number of gamblers using the causality adjustment (80 per cent); and

- for a lower estimate used a value of $5000 each and for a higher estimate a value of $15 000 each.

For those suffering depression 'always', the Commission has:

- taken the number of people estimated to suffer from depression 'always' (21 200);

- removed, from the number reporting that they were 'always' depressed, the number reporting serious thoughts of suicide (which are accounted for separately) (12 900).

- adjusted the number of gamblers using the causality adjustment (80 per cent); and

- for a lower estimate used a value of $5000 each and for a higher estimate a value of $15 000 each.

The range of values placed on depression based on the lower of the compensation schedules is — $5000 dollars each as a lower estimate, and $15 000 each for an upper estimate (table J.9).

Table J.9   **Estimates for depression, 1997-98**

	Number of people (survey data)	Adjusted number of people[a]	Per person cost assumption		Total cost	
			Low	High	Low	High
	Number		$	$	$ million	$ million
Rarely	63 500	50 800	ne	ne	ne	ne
Sometimes	71 900	57 520	ne	ne	ne	ne
Often	49 400	39 520	5 000	15 000	198	593
Always[b]	8 300	6 640	5 000	15 000	33	100
Total					231	692

a Includes causality adjustment.   **b** Excludes those reporting suicide ideation.

Source: PC estimates

This results in an estimated range for the costs of gambling-related depression of $231 million to $692 million in a year.

Depression can also involve a range of medical costs, either directly or indirectly, by affecting the health of the sufferer. The Commission has not attempted to estimate any of these additional costs.

Suicides

Thoughts of suicide and attempted suicides are considerably higher among the population of problem gamblers than for the population as a whole. This has been observed in other studies. In Canada, the National Council of Welfare (1996) said:

> Suicide attempts among pathological gamblers occur much more frequently than among the general population. A Quebec study of college students found that 26.8 per cent of pathological gamblers had attempted suicide, compared to 7.2 per cent of college students with no gambling problems. Among a sample of Gamblers Anonymous members in the United States, it was found that 48 per cent had considered suicide and 13 per cent had attempted it. In fact, compared to other addictive disorders, the rate of attempted suicide is highest among pathological gamblers.

Lesieur (1992) was reported in Goodman (1994) as finding that pathological gamblers have a suicide rate five to ten times higher than the rest of the population. Lesieur (1998) has also found that spouses of problem gamblers have suicide attempt rates that are three times higher than those reported by the general population.

Suicide ideation

The Commission's *National Gambling Survey* indicated that some 12 900 gamblers seriously contemplated suicide last year as a result of their gambling problems.

In estimating the costs, as before, the Commission adjusted the number for causality and excluded people estimated to have attempted suicide as a result of gambling in the last 12 months. This results in an estimate of almost 8000 gamblers.

Drawing on the information on compensation payments available in Australia for psychological or psychiatric disorders, the Commission has placed a range of values on suicide contemplation and attempted suicide of $15 000 (the upper lever of the lower range of compensation) for a lower estimate and $30 000 (the lower bound of the higher range of compensation payments) for an upper estimate. It again considers these to be conservative.

This results in an estimated annual cost for those seriously contemplating suicide of $120 million to $239 million.

Attempted suicide

Information on attempted suicides was not available from the *National Gambling Survey*, but the survey of problem gamblers in counselling indicated that 13.8 per cent had attempted suicide at some time in the course of their gambling problem. In Chapter 7, the Commission looks at the statistics concerning attempted suicides in Australia, and estimates that some 2935 suicides were attempted in 1997-98 as a result of gambling problems. Once adjusted for 'causality', this leaves 2348 suicide attempts. To place a cost on these attempts, including the associated depression leading up to the attempt, the Commission has used the range of compensations from the higher of the compensation schedules — $30 000 to $50 000.

This results in an estimated annual Australia-wide of $70 million to $117 million.

Impact on families of attempted suicide

Attempted suicides have considerable impacts on family members. The Commission has estimated a cost for other family members and for parents of gambling related suicide attempts. The following information was used:

- 2348 suicide attempts (including the causality adjustment);
- 2.3 immediate family members affected (other than the gambler);
- 1.8 parents;

- a range of costs for the immediate family members of $15 000 to $30 000; and

- a range of costs for the parents of zero to $5000 each.

This results in an estimate of costs for the immediate family of $81 million to $161 million, and an estimate of costs for the parents of zero to $21 million.

In chapter 7 the Commission estimated that there could be 35 to 60 effective suicides annually as a result of problem gambling. The Commission has not attempted to measure the cost to the families of these suicides, though it would be substantial.

Summary of intangible estimates

Table J.10 summarises the estimates of the intangible costs of problem gambling.

Table J.10 **Estimating the intangible costs associated with gambling, (1997-98)**

	People[a]	Per person cost assumption		Total cost	
		Low	High	Low	High
	No.	$	$	$ million	$ million
Emotional distress of immediate family members[a]					
Moderate PGs	190 901	ne	ne	ne	ne
Severe PGs	151 129	5 000	15 000	756	2 267
Emotional distress of parents[b]					
Moderate PGs	168 200	ne	ne	ne	ne
Severe PGs	133 200	0	5,000	0	666
Breakup of a relationship[c]					
Gambler	28 800	5 000	15 000	144	432
Other party	28 800	5 000	15 000	144	432
Divorce and separation					
Gambler and family	12 107	15 000	30 000	182	363
Violence	551	5 000	15 000	2.8	8.3

PG problem gambler. **ne** not estimated. **a** Excludes breakdown of a relationship, divorce and separation and attempted suicide numbers who are estimated separately. **b** Excludes attempted suicide group who are estimated separately, and parents for whom the gambler reported 'no effect at all'. **c** Excludes divorce and separation numbers. **d** Excludes subsequent suicide groups. **e** Excludes attempted suicide group. All numbers include the causality adjustment.

Source: PC estimates.

Table J.10   **continued**

	People[a]	Per person cost assumption		Total cost	
		Low	High	Low	High
	No.	$	$	$ million	$ million
Depression[d]					
Rarely to sometimes	108 320	ne	ne	ne	ne
Often to always	46 160	5 000	15 000	231	692
Seriously thought of suicide[e]					
Gambler	7 972	15 000	30 000	120	239
Attempted suicide					
Gambler	2 348	30 000	50 000	70	117
Immediate family	5 377	15 000	30 000	81	161
Parents	4 212	0	5 000	0	21
Effective suicides	35 – 60	ne	ne	ne	ne

PG problem gambler. **ne** not estimated. **a** Excludes breakdown of a relationship, divorce and separation and attempted suicide numbers who are estimated separately. **b** Excludes attempted suicide group who are estimated separately, and parents for whom the gambler reported 'no effect at all'. **c** Excludes divorce and separation numbers. **d** Excludes subsequent suicide groups. **e** Excludes attempted suicide group. All numbers include the causality adjustment.

Source: PC estimates.

Treatment and other costs

In addition to the costs borne by the problem gambler and his or her family, governments fund a range of services to assist problem gamblers. Chapter 16 reviews the provision of such services. The Commission estimated that in 1997-98, governments provided $20 million for gambling counselling services throughout Australia.

Other costs that have not been estimated include the costs of treatment provided by a range of voluntary agencies, and non-government contributions to the cost of treatment. In addition, governments are increasingly funding research into gambling and problem gambling, together with information for the general community on the risks of problem gambling. These costs have also not been included in the Commission's estimates.

Adding up the 'measurable' costs

In total, the above estimates of costs that problem gambling imposes annually amount to $1.8 billion to $5.6 billion (excluding the unmeasurable costs) (table J.11).

Transfers within society as a result of problem gambling are much smaller, at an estimated $35 to $62 million annually (table J.12).

Table J.11   **Costs of problem gambling**

	low	high
	$m	$m
Financial		
Bankruptcy	1.3	1.3
Productivity and employment		
Productivity loss at work	21	150
Productivity loss outside work	7.2	50
Job change		
earnings loss	24	24
employee job search	13	13
employer staff replacement cost	22	22
Crime and legal		
Cost of police incidents	3.2	3.2
Court cases	5.6	5.6
Jail costs	5.1	5.1
Personal and family		
Emotional distress of immediate family		
Moderate problem gamblers	ne	ne
Severe problem gamblers	756	2 267
Emotional distress of parents		
Moderate problem gamblers	ne	ne
Severe problem gamblers	0	666
Breakup of a relationship[a]	288	864
Financial cost of divorce	2.8	2.8
Emotional cost of divorce	126	253
Cost of violence	2.8	8.3
Depression[b]	231	692
Thought of suicide[c]	120	239
Attempted suicide	70	117
Impact on immediate family	81	161
Impact on parents	0	21
Treatment costs		
Gambling counselling services	20	20
TOTAL OF ABOVE	1800	5586

a Excluding those that lead to divorce or separation. **b** Excluding those reporting thoughts of suicide. **c** Excluding estimated attempted suicides.

Source: PC estimates.

Table J.12   **Value of annual transfers as a result of problem gambling**
($ million, 1997-98)

	low	high
Debts	26	26
Unemployment payments	4.1	4.1
Value of money obtained illegally	4.9	31
TOTAL	35	62

Source: PC estimates.

Social costs by mode of gambling

The social costs presented in table J.11 have been allocated to the different modes of gambling on the basis of significance of that mode in problem gamblers' expenditure (see chapter 5). Because gaming machines account for some 76 per cent of the total amount of money spent by problem gamblers in 1997-98, 76 per cent of the social costs have been allocated to that mode (table J.13).

Table J.13   **Social costs of gambling by mode of gambling (1997-98)**

	Share of expenditure in that mode accounted for by problem gamblers	Expenditure by problem gamblers	Social costs of gambling
	%	$ million	$ million
Wagering	33.1	529	267 — 830
Lotteries	5.7	68	34 — 106
Scratchies	19.1	47	24 — 74
Gaming machines	42.3	2 710	1 369 — 4 250
Casino gaming	10.7	96	48 — 150
Other	25.0	112	57 — 176
All gambling	**33.0**	**3 562**	**1 800 — 5 586**

Source: Commission estimates.

K   Recent US estimates of the costs of problem gambling

In June 1997, the United States Federal Government commenced an inquiry into gambling. The inquiry reported at the end of June 1999 (NGISC 1999). As part of that inquiry, the National Opinion Research Centre (NORC) conducted a national survey of gambling behaviour in the US population, including a set of questions focused on problem gambling (Gerstein et al 1999).

The survey asked questions about a range of adverse consequences. An important feature of that survey is that the questions were asked on the basis of whether these consequences had occurred at all (that is, as a result of any cause) rather than whether they had occurred as a result of gambling.

Respondents to the survey were classified as pathological, problem gamblers or low risk gamblers using a modified version of the DSM-IV rather than the SOGS. The prevalence of adverse consequences for each of these categories was calculated on the basis of survey responses.

A range of socio-demographic data was also collected, and this information was used to estimate the expected prevalence of adverse consequences for pathological and problem gamblers in the absence of their gambling problems.

The difference between the observed prevalence of adverse consequences for pathological and problem gamblers and the expected rates for those groups became the basis for estimates of the costs attributable to gambling. The report (Gerstein et al 1999, pp. 53–4) said:

> Specifically, the estimates of this study compare the rate of costly consequences for these gamblers relative to "predicted" or expected rates for individuals with similar characteristics, but who are low-risk gamblers (they have gambled, but never experienced any symptoms of problem gambling).

> Specifically, the analysis adjusts for a standard set of characteristics that are believed to be predictive of the behaviours and outcomes of interest in this report ... They include age, gender, ethnic identity, educational attainment, use/problems with alcohol and drugs, respectively, and region of the country in addition to variables representing the gambling type of the individual. The purpose of these calculations is to adjust for basic and systematic differences between different types of gamblers that might be related to the outcomes of interest, rather than simply take the difference in outcomes for

pathological and problem gamblers and compare them to those with no history of problems.

This yields a smaller or more conservative estimate than simple comparison of problem and pathological gamblers to the unadjusted rates for low-risk and non gamblers.

The following table presents the differences between the rate of adverse consequences for problem and pathological gamblers, the rate for low-risk gamblers, and the rate predicted for problem and pathological gamblers without gambling.

Table K.1   **Summary of estimated rate of consequences for problem, pathological, and low-risk gamblers**

	Rate of consequence per problem	Predicted rate for problem without gambling	Rate of problem for low-risk gamblers
Pathological gamblers	%	%	%
Job loss	13.8	5.8	4.0
Unemployment insurance	15.0	5.9	4.0
Welfare benefits	4.6	2.4	1.3
Bankruptcy	19.2	10.8	5.5
Divorced ever	53.6	33.5	29.8
Health poor or fair	31.1	15.7	13.9
Mental health utilisation	13.3	6.7	6.5
Arrested ever	32.3	19.3	11.1
Incarceration ever	21.4	6.3	4.0
Problem gamblers			
Job loss	10.8	5.5	4.0
Unemployment insurance	10.9	5.3	4.0
Welfare benefits	7.3	2.3	1.3
Bankruptcy	10.3	6.3	5.5
Divorced ever	39.5	32.1	29.8
Health poor or fair	16.4	ns	13.9
Mental health utilisation	12.8	5.6	6.5
Arrested ever	36.3	15.3	11.1
Incarceration ever	10.5	6.2	4.0

Source: Gerstein et al (1999), p. 55.

The study only included estimates of tangible financial costs, and identified costs and transfers in the following areas:

- job loss and lost wages from unemployment;
- bankruptcy;
- divorce;
- arrest and incarceration;

- poor health and mental health problems; and

- the cost of gambling treatment.

Briefly, the study found that:

- Pathological gamblers had relatively high employment (76.3 per cent) at the time of the survey. But they were significantly more likely to have lost/been fired from a job (13.8 per cent versus 4 per cent for low-risk gamblers). The mean household income for pathological gamblers was about 15 per cent lower than for low-risk gamblers, but this difference was not statistically significant.

- Problem gamblers were significantly more likely to have been unemployed or at least not working at the time of their interview (58.9 per cent, versus 73.3 per cent for low-risk gamblers). Their rate of having lost or been fired from a job was also higher (10.8 per cent compared to 2.6 per cent for non gamblers). Wage rates did not appear to be impaired in this group.

- Pathological gamblers have clearly elevated rates of indebtedness, both in an absolute sense and relative to their income. Pathological gamblers owe $1.20 for every dollar of annual income, while low-risk and non gamblers only owe $0.80 and $0.60 respectively. Pathological gamblers have significantly elevated rates of having ever declared bankruptcy: 19.2 per cent, versus 5.5 per cent and 4.2 per cent for low-risk and non gamblers.

- For problem gamblers, their average level of indebtedness is actually the lowest of any type of gambler; however, they still have an elevated rate of bankruptcy (10.3 per cent).

- Those with gambling symptoms have much higher rates of lifetime arrests and imprisonment. About one-third of problem and pathological gamblers reported having been arrested, compared to 10 per cent for low-risk gamblers and only 4 per cent for non gamblers. About 23 per cent of pathological gamblers and 13 per cent of problem gamblers have been imprisoned. Again, these rates are much higher than rates for low-risk gamblers and non gamblers (4 and 0.3 per cent, respectively).

- 33.8 per cent of pathological gamblers reported that they were in poor or only fair health, while only 14 per cent of low-risk gamblers reported poor or fair health.

- About 13 per cent of problem and pathological gamblers reported past-year use of mental health services while utilisation was just under 7 per cent for low-risk and non gamblers.

The quantification of the costs are summarised in table K.2.

Table K.2   **Summary of cost estimates, United States, 1999**

Type of cost	Annual or lifetime	Who pays the cost	Problem gamblers		Pathological gamblers	
			Lifetime $	past year $	Lifetime $	past year $
Costs						
Job loss	annual	employer	ne	200	ne	320
Arrests	lifetime	government	960	ne	1 250	ne
Corrections	lifetime	government	670	ne	1 700	ne
Divorce	lifetime	gambler/spouse	1 950	ne	4 300	ne
Health	annual	insurance	ne	ne	ne	700
Mental health	annual	insurance	ne	360	ne	330
Gambling treatment	annual	government	ne	ne	ne	30
Transfers						
Unemployment benefits	annual	government	ne	65	ne	85
Welfare benefits	annual	government	ne	90	ne	60
Bankruptcy	lifetime	creditors	1 600	ne	3 300	ne
Total costs			5 130	715	10 550	1 195
Costs minus transfers			3 580	560	7 250	1 050

ne: not estimated.

Source: Gerstein et al. (1999) p. 49.

The report (p. 49) said:

> We believe that the annual costs should be increased to incorporate some contribution
> from the lifetime costs. However, the basis for making such an allocation is weak at the
> present time. This study found that past-year prevalence rates are about one-half of that
> for lifetime prevalence, indicating that pathological and problem gambling is a chronic
> problem for many, with the disorder going into remission and later recurring.

The report (p. 51) concluded:

> While the conclusions of this analysis are relatively robust, they must be tempered by
> several factors. The small sample size was a limiting factor in the analysis. There were
> too few problem and pathological gamblers in the survey, even after the random digit
> dialling and the patron surveys were combined and weighted to generate cost estimates
> for consequences that were directly attributed by interviewees to "gambling problems."
> All of the costs that have been estimated are associated with excess rates of
> consequences that can be caused by factors in addition to problem and pathological
> gambling. Analyses have been done to adjust for selected other factors such as alcohol
> and drug use, age and educational attainment. Adjustment for these factors does result
> in smaller estimates of costs than would otherwise result simply by comparing problem
> and pathological gamblers to non gamblers and those with no problems.

> Finally, the costs that we measured are tangible and relatively amenable to economic
> analysis. However, many of the human burdens of pathological and problem gambling
> are not so readily quantifiable into dollars, for conceptual and practical reasons. For
> example, we calculated the cost of divorce in terms of the legal fees generated to

complete divorce actions through the court system. The cost in legal fees hardly begins to capture all of the social and psychological meaning of divorce for the partners and families directly involved, and for society as a whole. The economic costs that we calculated are a lower bound. Without a substantially greater research base on the characteristics and consequences of pathological and problem gambling, it is impossible to say with precision where the upper bound or midpoint of economic impact would lie.

L   Survey of Counselling Services

This appendix presents the results from the Commission's *Survey of Counselling Services* for people experiencing problems with their gambling. The purpose of the survey, methodology adopted and the response rate obtained are also outlined. A copy of the questionnaire is attached.

L.1   Purpose

As part of the terms of reference for the inquiry into Australia's gambling industries, the Commission was asked to gather information on the cost and nature of welfare support services of government and non-government organisations necessary to address the social impacts of the gambling industries.

Most States collect some information on support services for problem gamblers, either through independent surveys or through the collection and monitoring of data by State Government departments responsible for the administration of Break Even services for problem gamblers.

In a report to the Casino Community Benefit Fund, Walker (1998a) conducted a survey of support services for problem gamblers in New South Wales. Deakin Human Services Australia and the Melbourne Institute of Applied Economic and Social Research (1997) conducted a survey of help services for problem gamblers as part of a study into the social and economic effects of electronic gaming machines on non-metropolitan communities in Victoria. Comprehensive analyses of clients of the Break Even problem gambling services funded by the Victorian Government have been undertaken (Jackson et al. 1997, 1999b), and a review of the Tasmanian Government funded Break Even problem gambling services has also been conducted (Eckhardt 1998).

For this inquiry, however, much of the existing information was either not broad enough or not contemporaneous with the needs of the inquiry. The Commission therefore decided to conduct a survey of counselling services. Additional information on the cost and nature of support services for problem gamblers was also gathered in the Commission's *Survey of Clients of Counselling Agencies* (appendix G).

In conducting the *Survey of Counselling Services* information was sought on:

- the nature of the agencies;
- the number and characteristics of problem gambling clients;
- the number of clients affected by someone else's gambling;
- the number of 'hidden' problem gamblers;
- the number and characteristics of staff helping problem gambling clients;
- counselling methods and outcomes;
- expenditure and funding; and
- volunteer and in-kind contributions to gambling services.

L.2   Methodology

The objective was to gather information not previously compiled on a national basis, on the broad nature of counselling services, by means of a survey that was relatively short and simple.

Sample frame

The intention was to survey the principal organisations providing help services for problem gamblers. In most States the main organisations providing support services are government funded. There is also a small number of privately funded organisations which provide services for problem gamblers. However, they form only a small proportion of the total services available in most States.

For compiling the sample frame, the Addiction Research Institute (ARI) was the primary source of information on the main publicly funded support services for problem gamblers. The list provided by the ARI was supplemented by other sources, including government departments, inquiry submissions and other publicly available information.

Questionnaire development

The initial development of the *Survey of Counselling Services* was based largely on information the Commission was seeking to gather as well as some questions posed in similar surveys.

Several academics working in the area of problem gambling were consulted and asked to provide comments on the draft questionnaire. A number of counselling agencies providing help services for problem gamblers were also contacted and asked to provide comments.

In addition, the Commission sought and gained approval to conduct the survey from the Commonwealth Government Statistical Clearance House at the ABS.

Pilot testing of the questionnaire

Eight problem gambling counselling agencies were contacted to seek their participation in a pilot of the survey. All agreed to participate, and seven agencies returned the questionnaire.

After the pilot was completed, several agencies were contacted to discuss their responses to the survey. This exercise provided valuable insights into how agencies interpreted questions, thereby helping to clarify the wording.

Survey method

The initial form of contact with most agencies included in the sample frame was by way of a letter, which briefly outlined the gambling inquiry and reasons why the Commission intended to conduct the survey. It also gave a brief description of the survey and the outcomes the Commission hoped to achieve. Agencies were then informed that they would be contacted shortly to see if they could be of assistance.

Around a week later all agencies were contacted by phone, and asked if they were able to participate in the survey. The great majority expressed their willingness to participate and these were mailed a copy of the survey. Those agencies which were not willing to participate were asked a short set of questions with a view to determining whether there was any non-respondent bias.

Agencies which agreed to participate were asked to complete and return the questionnaire one week from when it was received. Agencies which had not returned the questionnaire in that time were contacted to check progress. A number of agencies reacted to this follow-up call by returning the questionnaire, but in the end the return of all completed questionnaires was spread out over a number of weeks.

L.3 Response rate

A total of 126 agencies were included in the Commission's sample of organisations contacted. Of these, 106 agreed to participate (table L.1). Completed returns were eventually received from 82 agencies (table L.2).

Table L.1   **Number of agencies included in the sample frame and those agreeing to participate in the survey**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Number included in the sample frame									
metropolitan	23	21	4	2	11	2	1	3	**67**
non-metropolitan	19	13	7	8	8	2	0	2	**59**
Total	**42**	**34**	**11**	**10**	**19**	**4**	**1**	**5**	**126**
Number agreeing to participate in the survey									
metropolitan	16	20	4	2	10	2	1	3	**58**
non-metropolitan	16	9	6	5	8	2	na	2	**48**
Total	**32**	**29**	**10**	**7**	**18**	**4**	**1**	**5**	**106**

na Not applicable.

Source: PC *Survey of Counselling Services.*

Table L.2   **Response rate**

	NSW	Vic	Qld	WA	SA	Other[a]	Total
Total survey returns (number)							
metropolitan	11	16	3	2	8	6	**46**
non-metropolitan	11	7	5	4	8	1	**36**
Total	**22**	**23**	**8**	**6**	**16**	**7**	**82**
Response rate for total survey returns (per cent)							
metropolitan	69	80	75	100	80	100	**79**
non-metropolitan	69	78	83	80	100	25	**75**
Total	**69**	**79**	**80**	**86**	**89**	**70**	**77**

a Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

L.4   Survey results

Nature of agencies

Agencies which specialise in helping problem gamblers — defined as those where the main purpose is helping people experiencing problems with gambling — are shown in table L.3. Agencies in Victoria, Queensland and South Australia are more likely to specialise. Only in Victoria did no agency report having operated for more than five years (table L.4).

Table L.3   **Agencies specialising in helping problem gamblers**

	NSW	Vic	Qld	WA	SA	Other[a]	Total
Number of agencies							
metropolitan	6	16	2	1	6	3	**34**
non-metropolitan	5	3	4	1	5	1	**19**
Total	**11**	**19**	**6**	**2**	**11**	**4**	**53**
Proportion of agencies[b]							
metropolitan	55	100	67	50	85	50	**76**
non-metropolitan	45	43	80	25	63	100	**53**
Total	**50**	**83**	**75**	**33**	**73**	**57**	**65**

a Tasmania, ACT and Northern Territory. **b** Agencies specialising in helping problem gamblers as a proportion of all agencies responding (table L.2).

Source: PC *Survey of Counselling Services.*

Table L.4   **Years of operation**
per cent

	NSW	Vic	Qld	WA	SA	Other[a]	Total
1 year	27	4	0	0	13	0	**11**
2 years	14	30	13	50	13	57	**24**
3-5 years	23	65	25	17	63	29	**43**
6-10 years	9	0	38	17	0	14	**9**
More than 10 years	27	0	25	17	13	0	**13**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Totals may not add due to rounding. **a** Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

Services provided

As expected, the main service provided was counselling for gambling dependence (table L.5). Nearly a quarter of the agencies surveyed provided services other than those listed. These included community education, support groups for gamblers and/or those affected by someone else's gambling, psychological assessments, and health services. At times, agencies refer gambling clients to other organisations (table L.6), nearly a third being to Gamblers Anonymous. 'Other services' clients are referred to financial counsellors, drug and alcohol groups, self help groups and employment services.

Table L.5   Types of services provided for gambling clients
per cent of agencies

Service	NSW	Vic	Qld	WA	SA	Other[a]	Average
Counselling for gambling dependence	95	100	100	67	93	86	**94**
Counselling for other co-morbidities	59	57	13	50	13	57	**44**
Legal advice	23	17	0	0	7	14	**14**
Financial counselling	50	65	75	17	87	43	**60**
Family counselling	82	91	63	67	73	71	**79**
Relationship counselling	77	87	100	67	87	71	**83**
Referral to other agencies/professionals	86	100	88	67	87	71	**88**
Emergency help (eg necessities, bill payment)	18	35	0	17	47	0	**25**
Other services	9	30	50	33	20	14	**23**

a Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services*.

Table L.6   Referrals of gambling clients by counselling agencies

Type of referral	NSW	Vic	Qld	WA	SA	Other[a]	Total
Psychiatrists/psychologists	71	130	20	1	42	2	**266**
Other medical	168	162	37	2	88	22	**479**
Gamblers Anonymous	900	97	74	16	71	0	**1158**
Another gambling counselling service	52	61	5	6	54	29	**207**
Legal aid	47	140	21	1	52	13	**274**
Service offering financial/material aid	176	358	12	19	133	35	**733**
Other referral	195	282	2	0	3	0	**482**
Total	**1609**	**1230**	**171**	**45**	**443**	**101**	**3599**

Totals may not add due to rounding. **a** Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services*.

Number of clients

The survey included several questions about the number of clients counselled. Table L.7 gives responses to questions about:

- the number of problem gamblers counselled in the last seven days;
- caseload 12 months before the survey;
- the number of new clients seeking help in the 12 months preceding the survey;
- caseload at the time of the survey; and
- total number of problem gamblers counselled in the last 12 months.

Caseloads increased over the year in all states, except Western Australia and the Northern Territory, the overall increase over the year being around 33 per cent. Of the total of 9606 individual gambling clients counselled in the 12 months preceding the survey, around 70 per cent were new clients,

Table L.7   **Problem gambling clients counselled**

	NSW	Vic	Qld	WA	SA	Other[a]	Total
Number counselled in last seven days							
metropolitan	195	269	65	15	112	43	699
non-metropolitan	95	119	61	0	60	15	350
Total	**290**	**388**	**126**	**15**	**172**	**58**	**1049**
Caseload 12 months ago (number)							
metropolitan	367	354	90	41	185	62	1099
non-metropolitan	108	86	104	7	113	25	443
Total	**475**	**440**	**194**	**48**	**298**	**87**	**1542**
Number of new clients in the last 12 months							
metropolitan	1399	1321	270	174	1184	429	4777
non-metropolitan	827	542	291	6	276	80	2022
Total	**2226**	**1863**	**561**	**180**	**1460**	**509**	**6799**
Current caseload (number)							
metropolitan	425	457	145	31	207	68	1333
non-metropolitan	328	116	126	4	117	35	726
Total	**753**	**573**	**271**	**35**	**324**	**103**	**2059**
Number of clients counselled in last 12 months							
metropolitan	2487	1756	626	174	1620	496	7159
non-metropolitan	961	685	343	6	332	120	2447
Total	**3448**	**2441**	**969**	**180**	**1952**	**616**	**9606**

a Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

Counselling services also provide help to those who are affected by someone else's gambling (table L.8). The total number counselled in the 12 months preceding the survey represented about 21 per cent of the total number of clients with gambling related problems counselled in the last 12 months.

Table L.8   **Clients affected by someone else's gambling**

	NSW	Vic	Qld	WA	SA	Other[a]	Total
Number currently being helped							
metropolitan	59	63	47	5	39	16	229
non-metropolitan	52	36	25	3	29	15	160
Total	**111**	**99**	**72**	**8**	**68**	**31**	**389**
Number helped in the last 12 months							
metropolitan	203	235	197	30	506	116	1287
non-metropolitan	281	206	109	2	75	40	713
Total	**484**	**441**	**306**	**32**	**581**	**156**	**2000**

[a] Tasmania, ACT and Northern Territory. **na** Not applicable.

Source: PC *Survey of Counselling Services.*

Waiting list

People seeking help for problems caused by gambling may not always be able to see a counsellor immediately they have decided to seek help (table L.9). Overall, more than one third of agencies indicated they had a waiting list, but in metropolitan New South Wales nearly two-thirds of agencies had a waiting list.

Table L.9   **Waiting lists**

	NSW	Vic	Qld	WA	SA	Other[a]	Average
Agencies who indicated they had a waiting list (per cent)							
metropolitan	64	44	33	50	38	17	43
non-metropolitan	36	0	40	0	50	0	28
Total	**50**	**30**	**38**	**17**	**44**	**14**	**37**

Totals may not add due to rounding.[a] Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

Characteristics of gambling clients

Overall, gambling clients are more likely to be male than female (table L.10), and the majority are of anglo-celtic origin (table L.11). Electronic gaming machines were the primary source of gambling problems (table L.12) and more than half of problem gambling clients initiated their own counselling or were referred by family or friends (table L.13). Others referring problem gamblers to counselling agencies included general practitioners, corrective services, probation officers and the courts.

Table L.10   **Gender of gambling clients**[a]

per cent

	NSW	Vic	Qld	WA	SA	Other[b]	Average
Metropolitan							
male	65	50	48	70	42	59	**54**
female	35	50	52	30	58	41	**46**
Non-Metropolitan							
male	53	39	55	58	41	52	**48**
female	47	61	45	42	59	48	**52**
Total							
male	62	47	50	70	42	58	**52**
female	38	53	50	30	58	42	**48**

a Weighted by the number of clients counselled over the 12 months preceding the survey. **b** Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

Table L.11   **Ethnicity of gambling clients**[a]

per cent

	NSW	Vic	Qld	WA	SA	Other[b]	Average
Anglo-celtic	77	79	82	69	81	79	**77**
Asian	7	4	6	10	11	8	**7**
Non-asian non-english speaking	12	15	9	19	4	3	**11**
Aboriginal/Torres Strait Islander	2	1	2	2	3	5	**2**
Other	3	1	1	0	1	2	**2**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Totals may not add due to rounding. **a** Weighted by the number of clients counselled over the 12 months preceding the survey. **b** Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

Table L.12 **Source of gambling problem**a

per cent

	NSW	Vic	Qld	WA	SA	Other*b*	Average
Electronic gaming machines	72	81	48	20	74	68	**71**
Racing	11	8	18	30	13	12	**12**
Casino table games	7	3	15	30	7	9	**7**
Lottery games	1	0	4	9	3	1	**2**
Other gambling	1	1	1	2	1	2	**1**
Mixture of gambling forms	9	7	13	10	2	9	**7**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Totals may not add due to rounding. **a** Weighted by the number of clients counselled over the 12 months preceding the survey. **b** Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

Table L.13 **Source of referral for gambling clients**a

per cent

	NSW	Vic	Qld	WA	SA	Other*b*	Average
Self initiated	31	27	50	79	20	19	**30**
Family or friends	26	8	27	5	31	12	**22**
G-Line	15	54	3	5	7	14	**21**
Another agency or referral service	15	6	14	7	33	47	**18**
Other	14	5	6	5	9	7	**9**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Totals may not add due to rounding. **a** Weighted by the number of clients counselled over the 12 months preceding the survey. **b** Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

Undisclosed problem gamblers

Some problem gamblers seeking help from counselling services may not disclose gambling as the source of their problems. The survey therefore asked agencies whether they provided help for people with problems other than those associated with gambling, and if so, how many clients presented with problems they suspected to be due to gambling. Forty-five agencies, including some which specialise in helping gamblers, said they provide services for people with problems other than those related to gambling (table L.14).

Thirty-five agencies said they didn't know how many hidden problem gamblers they helped. The ten agencies which provided an estimate said they might have helped a total of 156 undisclosed gamblers. The total number of people suspected of seeking

counselling because of someone else's gambling was 249. Asked what might lead them to believe a client's problems were due to gambling, agencies said that it might be a client's unwillingness to explain how financial difficulties had come about, or an apparent lack of honesty in explaining financial difficulties. Other indicators were hints, gossip, or choice of entertainment location.

Table L.14 **Agencies providing services for people with problems other than those associated with gambling**

	NSW	Vic	Qld	WA	SA	Other[a]	Total
Number of agencies							
metropolitan	5	6	1	2	6	5	**25**
non-metropolitan	8	5	0	4	2	1	**20**
Total	**13**	**11**	**1**	**6**	**8**	**6**	**45**
Proportion of agencies							
metropolitan	45	38	33	100	75	83	**54**
non-metropolitan	72	71	0	100	25	100	**56**
Total	**59**	**48**	**13**	**100**	**50**	**86**	**55**

a Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

Staff helping those affected by gambling

The Commission was interested in gathering information on the number and characteristics of staff helping problem gamblers. The number of full time and part time paid staff available to counsel problem gamblers are shown in table L.15. As not all staff spend all their time counselling problem gamblers, the proportion of time staff spend with problem gamblers in shown in table L.16, while the full time equivalent of paid staff providing help to problem gamblers is shown in table L.17.

Table L.15   **Paid staff**[a]

	NSW	Vic	Qld	WA	SA	Other[b]	Total
Number of full time staff							
metropolitan	22	7	2	0	7	4	42
non-metropolitan	13	5	4	13	2	1	38
Total	**35**	**12**	**6**	**13**	**9**	**5**	**80**
Number of full time staff per agency							
metropolitan	2.0	0.4	0.7	0.0	0.9	0.7	0.9
non-metropolitan	1.2	0.7	0.8	6.5	0.3	1.0	1.1
Total	**1.6**	**0.5**	**0.8**	**3.3**	**0.6**	**0.7**	**1.0**
Number of part time staff							
metropolitan	18	30	8	3	17	16	92
non-metropolitan	15	15	7	5	10	4	56
Total	**33**	**45**	**15**	**8**	**27**	**20**	**148**
Number of part time staff per agency							
metropolitan	1.6	1.9	2.7	1.5	2.1	2.7	2.0
non-metropolitan	1.4	2.1	1.4	2.5	1.3	4.0	1.7
Total	**1.5**	**2.0**	**1.9**	**2.0**	**1.7**	**2.9**	**1.9**

a Includes staff who also counsel clients for other than gambling related problems. **b** Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

Table L.16   **Proportion of time staff spend with gambling clients**[a]
per cent

	NSW	Vic	Qld	WA	SA	Other[b]	Average
More than 75% of their time	40	83	83	0	40	17	43
Between 50% and 75% of their time	7	17	0	17	20	0	9
Between 25% and 50% of their time	13	0	17	0	40	33	16
Less than 25% of their time	40	0	0	83	0	50	32
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Totals may not add due to rounding. **a** Unweighted data. **b** Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

Table L.17   **Full time equivalent paid staff**

	NSW	Vic	Qld	WA	SA	Other[a]	Total
Number of full time equivalent staff							
metropolitan	27.8	22.9	5.8	0.8	11.7	5.7	74.6
non-metropolitan	14.4	13.0	6.4	3.0	5.6	1.8	44.1
Total	**42.2**	**35.9**	**12.2**	**3.8**	**17.3**	**7.5**	**118.7**
Number of full time equivalent staff per agency							
metropolitan	2.8	1.4	1.9	0.4	1.5	0.9	1.7
non-metropolitan	1.3	1.9	1.3	3.0	0.7	1.8	1.3
Total	**2.0**	**1.6**	**1.5**	**1.3**	**1.1**	**1.1**	**1.5**
Caseload per full time equivalent staff[b]							
metropolitan	17	22	45	41	29	16	23
non-metropolitan	26	14	20	na	21	19	20
Total	**20**	**19**	**32**	**41**	**26**	**17**	**22**

[a] Tasmania, ACT and Northern Territory. [b] Weighted by current caseload. na Not applicable.

Source: PC *Survey of Counselling Services.*

More than 70 per cent of agencies required counsellors to have some form of accreditation and nearly 90 per cent required educational qualifications (table L.18). The most common forms of accreditation were training courses either in-house or courses offered by other agencies and membership or registration with professional bodies in financial counselling or psychology. The qualifications required were usually relevant tertiary qualifications in psychology or social work. Some agencies only required counsellors to attend a relevant training course or have on the job experience in addictions counselling.

Table L.18   **Counsellor accreditation and educational qualifications**
per cent

	NSW	Vic	Qld	WA	SA	Other[a]	Average
Agencies requiring accreditation (per cent)							
metropolitan	45	81	100	100	88	67	**74**
non-metropolitan	73	29	80	75	75	100	**67**
Total	**59**	**65**	**88**	**83**	**81**	**71**	**71**
Agencies requiring educational qualifications (per cent)							
metropolitan	73	100	100	100	75	83	**87**
non-metropolitan	91	100	100	75	88	100	**92**
Total	**82**	**100**	**100**	**83**	**81**	**86**	**89**

[a] Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

Counselling methods and outcomes

There are a number of ways in which agencies assess clients (table L.19). A number of agencies said they found both the South Oaks Gambling Screen (SOGS) and DSM-IV very useful as gamblers can relate to the questions and it gives them a measure of the severity of their gambling problems. 'Other formal diagnostics' used include the Marks Parkin general health questionnaire, the Beck depression index and a number of personality questionnaires. Some agencies use their own in-take forms.

Table L.19   Client assessment
per cent

Assessment tools	Never	Rarely	Some-times	Often	Always	Don't Know	Total
South Oaks Gambling Screen	35	8	18	18	17	4	**100**
DSM IV	21	14	16	12	35	3	**100**
G-Map assessment guide	68	10	14	4	0	4	**100**
Addiction Severity Index	79	13	3	1	0	4	**100**
GA 20 questions	55	20	17	4	3	3	**100**
Taylor-Johnson temperament analysis	91	3	3	0	0	4	**100**
Relationship questionnaire	61	5	17	8	6	3	**100**
Other formal diagnostics	45	3	18	20	13	1	**100**

Totals may not add due to rounding. **a** Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services*.

Agencies use a variety of approaches to help people with gambling problems (table L.20). Nearly half use methods or approaches other than those listed, including transactional analysis and narrative therapy. One agency said it uses hypnosis. The great majority of problem gamblers attend more than one counselling session, with more than half attending five or more (table L.21). Sixty three per cent of agencies said that the average length of a counselling session is an hour. Nearly one-fifth said the average length is between half an hour and one hour. Only 2 per cent of agencies said that counselling sessions can last 2 hours or more.

Table L.20 **Approaches used to help clients**

Methods/techniques	NSW	Vic	Qld	WA	SA	Other[a]	Total
Number of agencies							
Assessment/Referral	18	21	5	5	16	6	**71**
Supportive counselling	20	23	8	4	15	6	**76**
Cognitive approaches	19	23	8	4	13	6	**73**
Systemic therapies	13	16	6	2	11	5	**53**
Psychodynamic therapies	6	12	4	0	6	2	**30**
Other methods or approaches	7	13	2	3	12	2	**39**
Proportion of agencies							
Assessment/Referral	82	91	63	83	100	86	**87**
Supportive counselling	91	100	100	67	94	86	**93**
Cognitive approaches	86	100	100	67	81	86	**89**
Systemic therapies	59	70	75	33	69	71	**65**
Psychodynamic therapies	27	52	50	0	38	29	**37**
Other methods or approaches	32	57	25	50	75	29	**48**

Totals may not add due to rounding. [a] Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

Table L.21 **Number of counselling sessions**[a]
per cent

Number of sessions	NSW	Vic	Qld	WA	SA	Other[b]	Average
Only 1 session	14	19	16	21	9	25	**15**
2 sessions	9	8	16	19	8	10	**10**
3-4 sessions	12	28	29	51	13	12	**19**
5-6 sessions	42	11	19	4	18	9	**25**
7-10 sessions	10	13	12	3	27	19	**14**
11-15 sessions	7	9	4	2	18	13	**9**
16 or more sessions	6	12	2	1	6	12	**7**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Totals may not add due to rounding. [a] Weighted by the number of clients counselled over the 12 months preceding the survey [b] Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

The majority of agencies said they assess the outcome of counselling (table L.22). More than half said they assess the outcome of counselling immediately after the completion of treatment and/or after some months (table L.23). Slightly less than a third of agencies do multiple follow-ups. Assessment often takes the form of a detailed interview or a questionnaire.

Table L.22   **Agencies assessing outcomes**

	NSW	Vic	Qld	WA	SA	Other[a]	Total
Number of agencies who assess outcomes							
metropolitan	8	6	3	2	7	3	29
non-metropolitan	9	5	5	4	5	1	29
Total	**17**	**11**	**8**	**6**	**12**	**4**	**58**
Proportion of agencies who assess outcomes							
metropolitan	73	38	100	100	88	50	63
non-metropolitan	82	71	100	100	63	100	81
Total	**77**	**48**	**100**	**100**	**75**	**57**	**71**

Totals may not add due to rounding. [a] Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

Table L.23   **When is the outcome assessed?**

	NSW	Vic	Qld	WA	SA	Other[a]	Total
Immediate assessment (number)							
metropolitan	7	11	0	1	5	4	**28**
non-metropolitan	7	5	3	2	8	1	**26**
Total	**14**	**16**	**3**	**3**	**13**	**5**	**54**
Immediate assessment (per cent)							
metropolitan	64	69	0	50	63	67	**61**
non-metropolitan	64	71	60	50	100	100	**72**
Total	**64**	**70**	**38**	**50**	**81**	**71**	**66**
Assessment after a period of time (number)							
metropolitan	5	12	3	1	5	1	**27**
non-metropolitan	7	1	4	2	1	1	**16**
Total	**12**	**13**	**7**	**3**	**6**	**2**	**43**
Assessment after a period of time (per cent)							
metropolitan	45	75	100	50	63	17	**59**
non-metropolitan	64	14	80	50	13	100	**44**
Total	**55**	**57**	**88**	**50**	**38**	**29**	**52**

Totals may not add due to rounding. [a] Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

A satisfactory outcome — defined as one where gambling is no longer a source of significant problems — is thought to be achieved by more than half of all clients counselled (table L.24). Around 40 per cent of agencies reported that they did not know how many clients end counselling with unresolved problems. The responses given by those agencies who did provide an estimate are shown in table L.24.

Table L.24   Gambling clients ending counselling[a]
per cent

	NSW	Vic	Qld	WA	SA	Other[b]	Average
Proportion of clients ending counselling with satisfactory outcome							
metropolitan	67	50	40	40	36	48	**55**
non-metropolitan	54	63	42	100	72	50	**59**
Total	**63**	**54**	**41**	**42**	**52**	**49**	**57**
Proportion of clients ending counselling with unresolved problems							
metropolitan	18	17	29	35	17	27	19
non-metropolitan	16	36	38	na	13	25	24
Total	**17**	**20**	**33**	**35**	**16**	**26**	**21**

[a] Weighted by the number of clients counselled over the 12 months preceding the survey. [b] Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

Expenditure on services for people with gambling problems

Agencies were asked about their expenditure on services for problem gamblers and the sources of funding for their operations (tables L.25 and L.26 respectively). The great majority of agencies provided this information for the 1997-98 financial year. While total expenditure should logically be equal to total funding, this is not so for the information presented as some agencies provided data for expenditure and not for funding and others did vice versa.

Table L.25   The cost of providing gambling services, 1997-98
$'000

	NSW	Vic	Qld	WA	SA	Other[a]	Total[b]
Cost of providing gambling services							
Wage costs of direct service staff	334	1182	517	60	454	273	**2820**
Other wage costs	52	227	91	30	96	31	**527**
Material aid/Financial help	7	1	0	0	29	3	**40**
Overheads for gambling services	102	323	209	20	93	104	**850**
Other services	94	110	87	1	37	13	**343**
Total[b]	**936**	**2254**	**904**	**111**	**709**	**424**	**5337**

[a] Tasmania, ACT and Northern Territory. [b] Totals may not add due to rounding, and because a number of agencies provide data on total expenditure but not for individual categories. **na** Not available.

Source: PC *Survey of Counselling Services.*

Table L.26   **Source of funding, 1997-98**

	NSW	*Vic*	*Qld*	*WA*	*SA*	*Other*[a]	*Total*
Source of funding ($'000)							
State Government	718	1717	909	110	680	422	**4556**
The gambling industry	41	0	0	0	0	3	**44**
Clients	8	0	0	0	0	0	**8**
Agency's own funds	173	3	3	1	9	2	**191**
Other	17	4	0	0	0	0	**21**
Total	**957**	**1724**	**912**	**111**	**689**	**427**	**4820**
Proportion of funding from each source (%)							
State Government	75	99	99	99	99	99	**96**
The gambling industry	4	0	0	0	0	<1	**1**
Clients	<1	0	0	0	0	0	**<1**
Agency's own funds	18	<1	<1	<1	1	<1	**4**
Other	2	<1	<1	0	0	0	**<1**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Totals may not add due to rounding. [a] Tasmania, ACT and Northern Territory.

Source: PC *Survey of Counselling Services.*

Volunteer and in-kind contributions to gambling service

Twelve agencies only, or 15 per cent of those surveyed, reported they had unpaid volunteers providing direct help to gambling clients. The total number of unpaid direct service volunteers was 38, but only two agencies said that their volunteers made up to one full time equivalent (FTE).

Ten agencies or 12 per cent said they had unpaid volunteer back-up staff. Total volunteer back-up staff was 40 but only 3 agencies reported that their back-up staff made up to one FTE.

Nine agencies said they met some of the costs of providing services for problem gamblers from in-kind contributions by other people or organisations. Seven of these were in metropolitan areas, six in New South Wales. Only four agencies provided an estimate of the value of in-kind contributions, the total being $59 000 with one agency in New South Wales reporting to have received $30 000.

General comments

The survey asked agencies if they had any comments on any constraints which may be affecting the effectiveness of existing services for gamblers. The great majority of agencies which commented were concerned about what they saw as inadequate funding, inadequate training programs, and ineffective models of treatment.

More specifically, agencies said funding was insufficient for counsellors to be paid adequate salaries; one agency said its counsellors had to provide and pay for the mobile telephones which enabled clients to contact them as required. Another agency said it had to turn away at least 20 people per month for lack of funding. The uncertainty about the continuation of funding also caused problems, in particular for planning. Some agencies said they were forced to charge clients a fee which often they could not afford.

With regard to training, agencies said there were long waiting lists for the few training courses offered, and those which are offered are usually held in capital cities involving lengthy travel and high costs.

Some agencies commented on the need for more research and statistical information. In particular they said better treatment models need to be developed. Some also said there was no funding for adequate record keeping.

L.5 Agencies participating in the survey

New South Wales

Alcohol and Other Drug Services (Moree Hospital)
Centacare (Blacktown)
Central Coast Problem Gambling Service (Woy woy)
Family Support Services (Cessnock)
Creditworthy (Wollongong City Mission)
Cumberland Hospital
Ethnic Chinese Mission Inc (Revesby)
Freeman House (Society of St Vincent de Paul, Armidale)
Gambling Counselling & Support Service (West Ryde)
GAME (Society of St Vincent de Paul, East Sydney)
Integral Psychology Services (Lismore)
Lifeline (Coffs Harbour)
Lifeline Northern Rivers (Lismore)
Liverpool Hospital
Maryfield Day Recovery Centre (Campbelltown)
Newcastle City Mission
Northern Rivers Gambling Service (Bangalow)
NSW Indo-China Chinese Association (Canley Vale)
Relationships Australia, Wollongong
South Pacific Private Hospital (Harbord)
Sydney City Mission
Wesley Gambling Counselling Services (Chippendale)

Victoria

Western Region Alcohol & Drug Centre (Warrnambool)
Anglicare Victoria – Gippsland (Morwell)
Banyule Community Health Service (West Heidelberg)
Bethany Family Support (North Geelong)
Berwickwide Community Health Service
Colac Community Health Service
Cranbourne Community Health Centre
Dandenong Community Health Centre
Dandenong Migrant Resource Centre
East Bentleigh Community Health Centre
Frankston Community Health Centre
Good Shepherd Youth & Family Services (Hastings)
Mallee Family Care (Mildura)
Pakenham Community Health Service
Peninsula Youth & Family Services (Rosebud)
Relationships Australia Victoria Inc (Ballarat Centre)
Salvation Army (Melbourne CBD)
South Port Support Services (South Melbourne)
South Western Community Centre (Warrnambool)
Springvale Community Aid & Advice Bureau
Springvale Community Health Centre
St Kilda Migrant Resource Centre
Victorian Relief Committee (West Melbourne)

Queensland

Centacare Catholic Family Services (Townsville)
Lifeline (Bungalow)
Relationships Australia (Gold Coast)
Relationships Australia (Mackay)
Relationships Australia (Logan)
Relationships Australia (Rockhampton)
Relationships Australia (Spring Hill)
Relationships Australia (Strathpine, Sunshine Coast)

South Australia

Adelaide Central Mission
Anglicare ('Old Rectory', Salisbury))
Break Even Gambling Service (Mt Gambier)
Cambodian Australian Association (Angle Park)

Centacare (Whyalla)
Centre for Anxiety & Related Disorders (Bedford Park)
Overseas Chinese Association (Findon)
Port Augusta Family Centre
Port Pirie Central Mission
Relationships Australia (Metropolitan)
Relationships Australia (Rural)
Roxby Downs Medical Centre
Salvation Army (Woodville)
Wesley United Mission (Bowden)
West Coast Youth Services (Pt Lincoln)
Woomera Hospital

Western Australia

Break Even Centacare (Perth)
Centacare (Broome)
Centacare Family Services (Geraldton)
Goldfields Centacare (Kalgoorlie)
Kinway (Kununurra)
Mainchance (Subiaco East)

Tasmania

Anglicare (Hobart)
Relationships Australia (Hobart)
Relationships Australia (Launceston)

Northern Territory

Amity Community Services (Darwin)
Anglicare, Topend (Winnellie)
Centacare (Darwin)

ACT

Lifeline, Gambling and Financial Counselling Service (Canberra)

L.6 The questionnaire

Gambling Inquiry

00405-01

SURVEY OF COUNSELLING SERVICES 1997–98

← Please complete this
form for the agency
or person named on
this label

Purpose of collection

Your assistance is being sought by the Commonwealth Government and the Productivity Commission in a survey into Australia's gambling industries. The *Survey of Counselling Services* will frame findings about the social impacts of problem gambling and the services which try to deal with them. The terms of reference ask the Commission to examine and report on, among other things, the social impacts of gambling, the incidence of gambling abuse and the cost and nature of welfare support services of government and non-government organisations.

Confidentiality

Your responses will be confidential. Data will be published at an aggregate level only, with no disclosure of data from individual surveys. All participating agencies will receive a copy of the published report.

Due Date

Please complete the survey by ....

Help Available

If you have problems in completing the form, or feel you may have difficulties meeting the due date, please contact Robert Wells (02 6240 3266) or contact us by Fax (02 6240 3311) or Email (rwells@pc.gov.au).

Completed Survey Form

Please either fax back your answers or send the completed survey forms in the enclosed pre-paid envelope to Robert Wells, Productivity Commission, PO Box 80, Belconnen ACT 2616 .

Person at the counselling agency we should contact if any queries arise regarding this form.

Name		Date	/ /
Telephone number	( )		
Facsimile number	( )		

©Commonwealth Government   Commonwealth Government Statistical Clearinghouse Approval Number 00405-01

Please read this first

Expenditure information is requested for 1997–98, while other questions specify the relevant data period. If your agency collects information over a different reporting period (eg on a calendar year basis, or for a period shorter than 12 months because the agency is new), please indicate the period used in the relevant questions.

The survey should take about 30 minutes to an hour to complete. It should be filled in by the person with the best overall knowledge of the operation of gambling services in your agency.

If you are a private consultant who undertakes counselling work for a number of other organisations (eg as a consulting specialist for a public hospital or other agencies) please group *all* the counselling work you do in the one set of answers.

Where there are multiple choice boxes, please tick ☑ the appropriate box clearly.

Where numbers are requested, estimates are acceptable.

Please report all monetary amounts in dollars.

Part A — Nature of the agency

A1 Does your agency/branch specialise in the provision of services for people experiencing problems with gambling?

> A specialist agency/branch is one where the main purpose is helping people experiencing problems with gambling. The agency, *or its relevant branch*, is the one listed on the front page

tick one box

No ☐

Yes ☐

A2 What year did your agency/branch commence providing services for people experiencing problems with gambling?

19 ___

A3 What services does your agency provide for people experiencing problems with their gambling?

Tick appropriate boxes

Counselling for gambling dependence .. ..

Counselling for other co-morbidities (alcohol/drugs)

Legal advice ... ...

Financial counselling ... ...

Family counselling ... ...

Relationships counselling ... ...

Referral to other agencies/professionals ... ...

Emergency help such as provision of ... ...
necessities and payment of client's bills

Other (please specify below) ... ...

....
....
....
....

A4 Over the last 12 months, how many referrals of gambling clients have you made to each of the following?

> *Include* referral of *gambling* clients for problems such as poverty, depression, substance abuse, gambling therapies not offered here etc.
>
> *Exclude* family members of gamblers needing support.

Number of referrals

Psychiatrists/psychologists?

Other medical

Gamblers Anonymous

Another gambling counselling service

Legal Aid

Service offering financial/material aid

Other (please specify below)?

Total number of referrals

....
....

Part B — Number of clients with *DISCLOSED* gambling problems

For parts B, C and F we make the distinction between gamblers who have *disclosed* their problems and those whose problems are *undisclosed* or hidden.

> We would like to know how many people who DISCLOSED gambling problems sought counselling or other help from your agency for these problems. Include only gamblers receiving counselling or other help for their gambling problems. *Exclude* family members needing support.

B1 How many people with gambling problems were helped by your agency in the last 7 days?

place an entry in one box

Estimated number [ ] OR Don't know [ ]

B2 What is your current agency caseload of clients with gambling problems?

> Your caseload is the number of people with gambling problems who are currently receiving counselling by your agency/branch.

place an entry in one box

Estimated number [ ] OR Don't know [ ]

B3 What was your agency caseload of clients with gambling problems 12 months ago? (or indicate an alternative point in time if you do not have data on this basis)?

place an entry in one box

Estimated number [ ] OR Don't know [ ]

Point in time if not 12 months ago [ ]

B4 How many individual clients has your agency counselled in the last 12 months? (or indicate an alternative period if you do not have data on this basis)

> Note this will generally be larger than your current caseload because of completions and drop-outs during the year

place an entry in one box

Estimated number [ ] OR Don't know [ ]

Period if not in the last 12 months [ ]

B5 How many *new* clients have sought help for gambling problems in the last 12 months (or indicate an alternative period if you do not have information on this basis)?

> A new client is one which your agency has *never* helped before.

place an entry in one box

Estimated number [ ] OR Don't know [ ]

Period if not in the last 12 months [ ]

B6 How many clients left your agency with unresolved problems with their gambling in the last 12 months (or indicate an alternative period if you do not have information on this basis)?

place an entry in one box

Estimated number [ ] OR Don't know [ ]

Period if not in the last 12 months [ ]

B7 Is there a waiting list for clients with gambling problems seeking counselling by your agency?

tick one box

No [ ]

Yes [ ] ➔ The usual waiting time is: [ ] days

Part C – Characteristics of disclosed gambling clients

> Base your estimates on clients helped in the last 12 months. *Exclude* people affected by someone else's gambling.

C1 What percentage of people receiving help from your agency/branch for their gambling problems are:

	%
Anglo-Celtic	
Asian	
Non-Asian non-English speaking background	
Aboriginal /Torres Strait Islander	
Other	
Total	100%

C2 What percentage of people receiving help from you for their gambling problems are:

	%
Female	
Male	
Total	100%

C3 We are interested in the forms of gambling that cause most problems for people. Estimate the percentage of people with gambling problems helped by you who developed their problems mainly from:

	%
Electronic gaming machines?	
Racing?	
Casino table games?	
Lottery games?	
Some other gambling?	
A mixture of gambling forms?	
Total	100%

C4 We would like to know the *source of referral* for people receiving services from your agency for their gambling problems. Estimate the percentage who were referred by:

	%
Themselves (self-initiated)?	
Family or friends?	
G-line?	
Another agency or referral service?	
Other (please specify below)?	
Total	100%

....
....
....
....
....

Part D — Number of clients affected by someone else's gambling

D1 How many such people

	number
is your agency currently helping?	
has your agency helped in the last 12 months?	

Part E — Scope of agency's services

E1 Does your service provide help for people with problems other than those associated with gambling?

> For example, provision of food, clothing or shelter to the disadvantaged, and drug and alcohol counselling. Answer only for the branch or agency listed on the front page.

tick one box

No ☐ → Go to **Part G**

Yes ☐

Part F — 'HIDDEN' problem gamblers

F1 Estimate how many clients over the last 12 months have presented to your agency with problems you SUSPECTED to be due to gambling, but who did not disclose they had any gambling problems?

> Such a judgment might be based on personal knowledge of a client, information from others and the nature of their problems. This may indirectly suggest that a client has problems with gambling, even though they do not acknowledge this.
>
> *Include* gamblers and those affected by gamblers.

place an entry in one box on each line

Suspected number of people presenting who are *problem gamblers*   OR   Don't know ☐

Suspected number of people presenting who are *affected* by problem gamblers   OR   Don't know ☐

Period if not in the last 12 months

F2 If you reported any hidden problem gamblers above, how were you generally able to tell?

....
....
....

Part G — Staff helping gamblers

G1 How many *direct* service staff does your agency employ who help clients with gambling problems?

> Please *include*:
>
> • staff providing personal, financial, relationship, family, legal and other aid to people with gambling problems. Also include aid provided to people affected by someone else's gambling.
> • full and part time staff
>
> Please *exclude*:
>
> • unpaid staff

Number of staff

	Full time	Part time
Staff providing help to gamblers		

G2 What is the number of *full time equivalent* paid staff in this agency who provide help to people experiencing gambling problems?

> A full time equivalent (FTE) is the number of people who work the equivalent of around 35 hours a week. For example, say that Antonia works for 15 hours a week on problem gambling issues, Ellen for 5 hours and Paul for 3 hours, then the number of FTE staff providing direct assistance to gamblers is equal to 23/35 or about 0.7. Similarly, if you had 10 staff, each working about 7 hours on gambling issues, the number of FTEs would be 2.
>
> It is important to include both direct counselling time spent with gamblers and people affected by someone else's gambling, plus time spent on paperwork or other duties associated with helping gamblers with problems.
>
> Only *paid* staff should be included in this question.
>
> Time spent helping people with problems that are *unrelated* to gambling should be excluded.

	FTEs
Direct service staff	

G3 Do your agency's gambling staff work with other clients with problems *unrelated* to gambling?

tick one box

No ☐ → Go to Part H

Yes ☐

G4 Typically, staff in this agency who help people with gambling problems work with gambling clients for:

Tick one box

more than 75% of their time	☐
between 50% and 75% of their time	☐
between 25% and 50% of their time	☐
less than 25% of their time	☐

Part H — Counselling methods and outcomes

> A major way in which agencies provide help to gamblers is through counselling for gambling dependence. This part looks at just this aspect of your agency's services to gamblers.

H1 Does your agency require counsellors to have accreditation?

tick one box

No   ☐

Yes   ☐ → Please specify below

....

....

Does your agency require counsellors to have educational qualifications?

tick one box

No   ☐

Yes   ☐ → Please specify below

....

....

H2 Do you use any of the following in assessing clients?

Tick one box in each row

	Never	Rarely	Some-times	Often	Always	Don't know
South Oaks Gambling Screen	☐	☐	☐	☐	☐	☐
DSM IV	☐	☐	☐	☐	☐	☐
G-Map Assessment Guide	☐	☐	☐	☐	☐	☐
Addiction Severity Index	☐	☐	☐	☐	☐	☐
GA 20 questions	☐	☐	☐	☐	☐	☐
Taylor Johnson Temperament Analysis	☐	☐	☐	☐	☐	☐
Relationship Questionnaire	☐	☐	☐	☐	☐	☐
Other formal diagnostics (please specify below)	☐	☐	☐	☐	☐	☐

....

....

H3 Which of these diagnostics have been most useful and why?

....

....

....

....

H4 What are some of the methods, approaches or techniques used by your agency to help people with gambling problems?

Tick appropriate boxes

Assessment / referral. ... ...   ☐

Supportive counselling; allowing clients to ventilate feelings and other general supportive environment.   ☐

Cognitive approaches/CBT/RET, analysis of beliefs through pattern restructuring, behavioural advice   ☐

Systemic therapies: structural, strategic family therapy, psychodrama   ☐

Psychodynamic therapies; use of transferential relationship   ☐

Other (please specify below)   ☐

....

....

....

....

H5 We are interested in the number of counselling sessions received by different gamblers. Some come for only one or two sessions, others more than 20. Of gamblers who finished using your agency's services in the last 12 months, what percentage received counselling for:

> *Include* only gamblers receiving counselling and not people affected by someone else's gambling.

Share of gambling clients

Only 1 session ... ...   ☐

2 sessions ... ...   ☐

3 – 4 sessions ... ...   ☐

5 – 6 sessions ... ...   ☐

7 – 10 sessions ... ...   ☐

11 – 15 sessions ... ...   ☐

16 or more sessions ... ...   ☐

All gamblers   100%

H6 What is the average time length of a counselling session?

Average length of session (minutes)   ☐

6

H7 Does your agency assess the outcomes of your gambling counselling for each client?

tick one box

No ☐ Go to question **H8**

Yes ☐ See below

If Yes, please describe how

....
....
....
....
....

H8 How soon after the completion of counselling do you *usually* make an assessment of the outcome of counselling for a client?

Tick more than one box if you assess more than once

(a) Immediately ☐

(b) .... months after the completion of ☐
counselling (please specify months)

H9 What percentage of your agency's clients with gambling problems achieve a satisfactory outcome from the counselling provided ?

Note: A satisfactory outcome is one where
gambling is no longer the source of any
significant problems for the client.

Share [ ] %

Part I — Expenditure on services for people with gambling problems

I1 How many individual gambling clients did you help during the 1997–98 financial year?

Number [ ]

I2 How much did you spend in providing services to people with gambling problems in the 1997-98 financial year (if another time period please specify)?

Include the costs of providing services to clients
with confirmed and suspected gambling problems
and to people affected by someone else's
gambling.

Exclude the costs of providing services to clients
with problems unrelated to gambling. Also
exclude the value of unpaid counselling by
volunteers or in-kind contributions to running
costs by other organisations/people (such as free
office space). Part J deals with that issue.

	Value of spending (round to the nearest $'000)
Wage costs of direct service staff	$,000
Other wage costs (eg office staff)	$,000
Material aid/ financial help	$,000
Overheads for gambling services (eg rent)	$,000
Other (please specify below)	$,000
Total costs of gambling services	$,000
Accounting period if not 1997 -98	

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....
....

I3 What were the sources of funds for the spending indicated in I2?

	Value of spending (round to the nearest $'000)
Federal Government	$,000
State Government	$,000
Local Government	$,000
The gambling industry	$,000
Clients	$,000
Agency's own funds (eg trading revenue, bequests)	$,000
Other (please specify)	$,000
Total (should be equal to I2 total)	$,000

Part J — Volunteer and in-kind contributions to gambling services

Sometimes, what is actually *used* to provide services for people with gambling problems is greater than *recorded* expenditure on such services. This is because some counsellors and other workers may be unpaid volunteers. As well, some overheads of running the service may be met by in-kind contributions by other people or organisations (such as donated space in a building).

J1 What is the number, if any, of unpaid volunteers in this agency who provide direct help to people with gambling problems or help with back-up services (such as office work)?

See note on question **G2** for the definition of FTEs.

	Number	FTEs
Unpaid direct service staff		
Other unpaid 'back-up' staff		

J2 Are some of the costs of providing services for people with gambling problems met from in-kind contributions by other people or organisations?

tick one box

No ☐ Go to **Part K**

Yes ☐ ➔ *Value in 1997–98* $ _____ .000
(round to the nearest $'000)

Please describe any major in-kind contributions briefly:..
....
....
....

Part K — General comments

K1 Do you have any comments about constraints which may be affecting the effectiveness of existing services for gamblers?

You might comment on the adequacy of existing funding arrangements, coordination of services, the effectiveness of referral services, accreditation and training of counsellors, clinical knowledge about the efficacy of counselling or any other matter you think important. Please also include any policy changes you would like to see.

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Please provide an estimate of the time taken to complete this form. Please include the time actually spent reading the instructions, working on the questions and obtaining the information by all persons collecting and providing the information.

_____ hours   _____ minutes

Thank you for your help.

M   Gambling taxes

The taxation of gambling in Australia is complex. Tax arrangements vary greatly across states for the different gambling products. For some gambling activities, such as lotteries and racing, taxes are generally levied on gross *turnover*. For other products, such as poker machines and casinos, taxes are levied on *player loss* and, in some cases, *net profit*. In addition, gambling products are typically provided under some form of licensing arrangement for which licence fees are collected. The major forms of gambling taxes are summarised in table M.1. More details on the individual taxes in each jurisdiction on each of the major forms of gambling are presented in tables M.2 to M.5.

The same type of gambling may face various tax regimes within the same jurisdiction, with different tax rates or different tax bases for different operators. The most prominent of these is the contrasting taxation arrangements for gaming machines in clubs and hotels.

Some taxes are flat rate, but others have progressive scale structures which vary with the size of the operator. Moreover, the reference period for the payment of gambling taxes varies even on similar gambling products, with implications for compliance costs. For example, some gambling taxes are levied as up-front fees, but others are collected periodically — that is weekly, monthly, quarterly or annually.

Taxes on turnover persist in the older forms of gambling such as racing and lotteries. Newer forms of gambling are typically taxed on expenditure; that is, as a percentage of player loss. History plays an important part in the existence of turnover taxes, with government typically being the original owners of TABs and lottery providers. Governments set the amount that would be returned to players, retaining the remainder (in effect a turnover tax) out of which they pay for the cost of running the gambling operations.

Table M.1   **Major forms of gambling taxation by gambling type**

Forms of taxation	Gambling activity
Turnover tax	Bookmakers (racing)
	Bookmakers (sports betting)
	Totalisator wagering on racing
	Lottery subscriptions
	Draw card machines
	Keno
Tax on player loss	Totalisator wagering on racing
	Sports betting
	Poker machines in hotels, clubs, casinos
	Casinos
	TAB sports betting
	Keno
Net profits tax	Poker machines
	Off-course totalisator investment
Licence Fees	Casinos
	Poker machines
	Lotteries
	Racing
	Bookmakers
	Sports betting
	Minor gambling (bingo, raffles etc)

Where changes to existing taxes have been made, they have typically involved changing the base from turnover to expenditure.

- Taxes on turnover effectively act as a floor on the price of the gambling service — that is, by taking a share of the amount wagered, the government limits the amount that can be returned to those playing.

- Taxes on expenditure give gambling providers greater flexibility in setting the rate of return to the player.

The progressive tax structure in some jurisdictions is principally apparent in the taxation of clubs, where smaller clubs (those with less gaming machine revenue) are taxed at concessional rates.

Licence fees (other than those related to cost recovery for regulatory regimes) typically co-exist with exclusive marketing or other barriers to competition. Were such restrictions justified, a licence fee would have some merit. It enables the longer-term general tax structure to be set in place, while enabling the taxpayer to gain most, if not all of the (temporary) excess return available from restricted

competition. Competitive bidding for such licences also can provide governments with information on the expected impact of the restrictions that are put in place.

The following is a brief description of the key features of the taxes levied on different forms of gambling. This is followed by tables outlining the method and rate of taxation for each form of gambling in each jurisdiction.

Racing taxation

Totalisator racing

Taxes on totalisator racing are usually levied on the value of bets placed at TABs and are typically around 5 to 10 per cent of gross wagers. This is the net percentage that is retained by the government. If the proportion of revenue that is earmarked for the racing industry is included, gross deductions average 14 to 20 per cent of the amount wagered. The residual (net of these gross deductions) is distributed as winnings.

Gross deductions and government tax rates vary not only between on-course and off-course totalisator betting but often depend on the type of bet (such as, win/place, quinella, trifecta, superfecta etc) and whether a bet is in a combined totalisator pool scheme such as super TAB. Gross deductions and government tax rates are usually higher for quinella, trifecta, superfecta and other exotic bets.

Bookmaker's turnover tax

The tax on bookmakers' turnover on racing varies between states —ranging from one per cent in New South Wales and Queensland to two per cent in Victoria for most types of bets. However, in some jurisdictions tax rates vary depending on whether the bet is placed on a metropolitan or country race, local or interstate race and within or outside Australia. For example, in Victoria and South Australia the bookmaker's turnover tax is higher for bets placed on metropolitan than country races. Similarly, in South Australia and Tasmania the tax is higher for bets on interstate events than local events and, in the Northern Territory the tax rate is higher for bets within Australia than other bets. In New South Wales, Western Australia and the ACT the tax does not discriminate between courses.

There is also interstate variation in the allocation of revenue derived from bookmaker's turnover tax. For example, in Queensland revenue forms part of the consolidation fund while in states such as Victoria and South Australia some of the revenue is earmarked for specific purposes such as hospitals, charities, recreation

and sport development fund. In some cases, a proportion of the tax revenue is returned to racing clubs or sporting bodies holding the event.

Taxes on sports betting

The taxation of sports betting is similar to that of horse racing in that taxes apply to the amount wagered with the TAB. Gross deductions ranging from 17 per cent in Tasmania to 25 per cent in Queensland apply. The difference (net of these deductions) is paid out as winnings. The net percentage received by governments ranges from 4.5 in Tasmania to 10 per cent in Queensland. The remainder (gross deductions less government taxes) is usually divided between the TAB, the controlling sporting body and the Sport and Recreation Funds.

Bookmakers' tax for sports betting (that is, other than horse and greyhound racing) ranges from 1 per cent in Queensland to 2 per cent in Victoria and Western Australia. In Victoria, the tax rate is lower for country than metropolitan meetings. In Tasmania and the Northern Territory the tax rate is lower for bets from Australia and New Zealand than other bets.

Box M.1   **Payments to the racing industry**

All states and territories have arrangements for a proportion of the money spent on wagering to be paid to the racing industry. The arrangements in NSW and Victoria are outlined below.

New South Wales

In NSW, the TAB has, as a condition of its licence to run totalisator betting in NSW, entered into a Racing Distribution Agreement (RDA) with New South Wales Racing (NSWR) and the Racing Controlling Bodies. TAB is required to pay NSWR:

- a product fee (21.64 per cent of net wagering revenue. Net wagering revenue is essentially the total amount wagered less payouts of winnings)

- a Wagering Incentive Fee (25 per cent of wagering earnings. wagering earnings are essentially TAB's gross revenue from wagering less costs and state taxes but before commonwealth taxes); and

- a Gaming Incentive Fee (25 per cent of gaming earnings. gaming earnings are essentially TAB's revenues from gaming less costs and state taxes but before commonwealth taxes)

NSWR is also entitled to receive a contribution in respect of on-course totalizators. This contribution is 4.9 per cent of the total amount of wagers.

Box M.1   **continued**

Victoria

Tabcorp manages its wagering business on behalf of an unincorporated joint venture between Tabcorp Holdings Limited and VicRacing Pty Ltd (a company formed by the controlling bodies from thoroughbred, harness and greyhound racing in Victoria). The joint venture business has licences to conduct sports betting and Keno, and operates half of the electronic gaming machines (gaming machines) in Victoria (outside of the Casino).

VicRacing receives a 25 per cent share of the joint venture's total profit from gaming and wagering, described in the Tabcorp annual report as 25 per cent of all revenue and expenses, and Racing Products Victoria receives a product fee of 18.8 percent of net wagering revenue (basically the total amount wagered less winnings paid out), a $2.5 million marketing fee, indexed to increases in net wagering revenue, and a $50 million annual racing program fee for supplying the racing product. These funds are then distributed to the owners of these bodies, which are the controlling bodies of the three codes, the VCR, the HRB, and the GRCB.

Tabcorp's 1998 annual report said that $188.2 million was provided to the Victorian racing industry. This is in addition to the $444 million going to the State government in taxes. Unfortunately, the annual report does not divide this $444 million into its racing and gaming components.

Source: TAB (1998), CIE (1998), Tabcorp (1998)

Tax on lottery subscriptions

With the exception of Tasmania, the Northern Territory and the ACT, each state runs its own lottery games. In Victoria lotteries are conducted by a private organisation — Tattersall's, and taxed by the government. In other states, lotteries are either run by public organisations or jointly with private companies. Where the lottery is publicly operated the profit obtained is in effect an implicit tax.

Because Tasmania, the Northern Territory and the ACT do not have their own lotteries, by agreement with the lottery providers, they receive a share of tax paid for lottery sales made in their jurisdictions.

In most states such as Victoria, Western Australia and South Australia, revenue from lotteries is earmarked for various activities such as hospitals, charities, sports and the arts. (In Western Australia some of the revenue goes to the Australian Commercial Film Industry.) In Queensland and New South Wales revenue is allocated to the Consolidated Fund.

Tax on keno

In New South Wales, the tax is based on a two-tier structure — 18 per cent on player loss less than $86.5 million, thereafter taxed at 24 per cent. In South Australia, the tax averages 14 per cent of sales. In Queensland, keno held in casinos is taxed at the individual casino's rate and ranges from 11 to 21 per cent of gross gaming revenue (inclusive of community benefits levy). In Victoria, the tax of 33.33 per cent is based on player loss.

Taxes on poker machines

Taxes on poker machines in clubs and hotels are generally based on player loss (defined as poker machine revenue less amounts paid out in prize money). While jurisdictions will use different terms (gross profits, net cash balance, metered win, net gambling revenue, gross gaming machine revenue) they are essentially referring to the same thing. In all jurisdiction bar Victoria and the Northern Territory, taxes are based on a progressive scale structure, providing concessional tax treatment for smaller venues.

In most states, hotels pay higher taxes on poker machine revenue than clubs. For example, taxes of around 22 per cent of gross profit apply to clubs. Higher rates of around 30-50 per cent apply to hotel gaming machine profits. This is said to be justified by clubs' financial support for local charities or community projects and subsidised facilities for members. Community support levies are collected on all gaming machine operations in Tasmania, Queensland and Victoria, but apply only to clubs in Queensland and Tasmania.

Taxes on casinos

In addition to licence fees (see below) taxes are levied on the gross gaming revenue (player loss) of casinos derived from all gaming. Different rates of tax are typically levied on gaming machines at Casino venues.

The general casino tax for regular players ranges from 8 per cent of player loss in the Northern Territory to 20 per cent in New South Wales, Queensland, the ACT and 21.25 per cent in Victoria. However, different rates apply for commission-based or junket players except in Western Australia, Tasmania and the Northern Territory. These rates range from 8 per cent for Cairns and Townsville casinos in Queensland to 10 per cent in the ACT and Queensland Gold Coast casino. (In Western Australia

and Tasmania the same tax rate of 15 per cent of player loss applies to both regular and junket players.)

Net profit taxes

Taxes on net profit are not commonly applied to gambling activities. However, there are some instances where these taxes apply.

In Victoria Tattersall's pays an annual 30 per cent tax on net profit from poker machines located under licence in clubs and hotels, when its net profit exceeds $117 million. This arises as part of a minimum licence fee of $ 35 million (see below). In South Australia and the Northern Territory the TABs pay 45 and 50 per cent, respectively, of net profit on off-course totalisator racing expenditure.

Licence fees

Gambling is characterised by licensing arrangements that grant rights to operators with respect to specific gambling products and venues. For example, casinos, TAB, bookmakers, poker machine operators, lottery operators and minor gaming operators (eg bingo, calcuttas and raffles) pay licence fees to operate.

Casinos

All jurisdictions bar the Northern Territory impose casino licence fees. These fees are either paid as a once only lump-sum (such as $376 million for New South Wales casino licence) or periodically as is the case in other jurisdictions. For example:

- in Victoria, a licence fee of $200 million plus $23.3 million committed to infrastructure outlays was paid by Crown at licensing. A further $57.6 million was paid over two years up to 1996. A further licence fee of $100.8 million will be paid over three years for the right to run extra tables;

- in Western Australia and the ACT casino licence fees of $1.74 million and $564 000 (1998-99) respectively, are paid annually; and

- in Queensland, licence fees of $137 500 per casino are paid quarterly while in South Australia ($5000) and Tasmania ($60 800 per casino) licence fees are paid monthly.

Poker machines

In most states, licence fees for the granting or renewal of a poker machine licence are payable. For example, in Victoria Tattersall's pays a licence fee of $35 million if that amount is less than or equal to 30 per cent of its net profits. The licence fee is 30 per cent of net profits when the amount exceeds $35 million. Thus the licence fee is the combination of a fixed fee of $35 million plus a tax on net profit when 30 per cent of net profit exceeds $35 million. On privatisation, Tabcorp paid a value for the gaming licence estimated at $420 million.

Table M2:   Racing taxation by state

ON-COURSE TOTALISATOR

	NSW	VIC	QLD	WA	SA	TAS	NT	ACT
Gross deduction from amount wagered	Maximum of 16% over the year	Maximum of 16% over the year	Win/place, quinella, forecast, 60/40, stakes return – 15% Doubles, trifecta, trebles, trio – 18%	Win/place: Supertab – 14.25%; non Supertab – 15.6% Favourite numbers – 25% Others–20%.	Win/place – 14.25% Quinella – 14.5% Doubles – 16.5% Others – 20%	Win/place combined with Vic TAB – 15% Quinella – 15% Doubles, trifecta – 17% Quadrella – 19%	All pools combined with NSW TAB Win/Place - 14.25% Quinella – 15%; Trifecta – 19%; Doubles – 15%	Win/Place linked to Super TAB – 14.25% Trifecta - 19.00% Other - 15.00% Approximately 60% to 70% of Win/Place pools are Super TAB pools (ACT, NT, Vic, Tas, WA, SA).
Net % received by government	28.2% of player loss (minimum of 84% returned to players over the course of one year)	28.2% of player loss (minimum of 84% returned to players)	Win/place, quinella, forecast, 60/40, stakes return–3%; Other pools–6%	Abolished 28/6/96	Sliding scale, depending on the amount of bets placed. Range from 1% - 5.25%	Win/place: $10001-$50000 – 2.1%; >$50000 – 4.2% Quadrella – 6.5% Others – 4.5%	50% of TAB profits	All pools - 4.24% In addition clubs receive 3.5% and RDF 0.5%.

OFF-COURSE TOTALISATOR TAX

	NSW	VIC	QLD	WA	SA	TAS	NT	ACT
Gross deduction from amount wagered	As for on-course totalisators	As for on-course totalisators	Win/place, quinella – 15% Double, trifectas – 18% First four, trebles – 20% Others – 25%	As for on-course totalisators	As for on-course totalisators	As for on-course totalisators, except for win/place – 14.25%.	As for on-course totalisators	As for on-course totalisators
Net % received by government	As for on-course totalisators	As for on-course totalisators	Win/place, quinella – 6% Others – 7%	All pools – 5%	45% of TAB profits on racing investments.	Win/place – 4.2%, others as for on-course totalisators.	As for on-course pools	As for on-course pools

BOOKMAKER'S TURNOVER TAX – Net % received by government:

	NSW	VIC	QLD	WA	SA	TAS	NT	ACT
Racing	All courses – 1%	Metro – 2% of turnover. Country – 1.5% of turnover	All courses – 1%	Racing – nil Sports – 0.25%	Metro: SA* – 1.57%, interstate – 2.17% Country: SA* – 1.4%, interstate – 1.97%. *1.4 per cent of turnover is subsequently returned to clubs	On-course: state events – 0.15%, interstate events – 0.3%.	All courses 1.55% for bets within Aus. Bets from overseas – 0.5%	All courses – 1.00%

Table M3: **Gaming machine taxation by state**

	NSW	VIC	QLD	WA	SA	TAS	NT	ACT
(Referred to in some states as "Poker Machine" tax.)		Tattersall's is required to pay annually for the duration of its licence (ending April 2012) 30% of its net profit or $35m, whichever is higher. State limit of 27,500 machines. 50% to be allocated to clubs and 50% to hotels. 50% provided by Tattersall's and 50% provided by TABCORP		No gaming machines in clubs or hotels. Taxes on gaming machines in the Casino are included in casino taxation		Federal Hotels Ltd has exclusive rights to operate gaming machines. Tax is based on total annual gross profit from all gaming machines. From 1.1.97: 25% profits up to $30m: plus 30% on profits between $30m - <$35m plus 35 per cent of profits in excess of $35m: Federal Hotels must pay a minumum of $21.4 million on gross profits on gaming machines in the casinos. A minimum of 1250 machines must be placed outside the casinos.	Government ownership of gaming machines. A limit of 350 machines to be introduced in the first year (1996-97) and an additional 330 machines in the second year (1997-98).	

Table M3:   **(continued)**

	NSW	VIC	QLD	WA	SA	TAS	NT	ACT
Clubs:	From 1.2.98: Levied on annual profits derived from gaming machines: 0% on profits between 0-$100,000 plus: 1% on profits between $100,001-$200,000 plus: 20% on profits between $200,001-$1m plus: 26.25% on profits greater than $1m (paid quarterly) No limit on the number of machines	33.33% of gross profit (net cash balance). Maximum of 105 machines per venue	Based on monthly metered win: 10% of profits between $0-$10,000: plus 27% of profits between $10,001-$75,000 plus 30% of profits between $75,001-$150,000 plus 33% of profits between $150,001-$300,000 plus 35% of profits between $300,001-$1.4m plus 45% of profits in excess of $1.4m Of the money collected, 8.5% goes to a Community Benefit Fund. Maximum of 270 machines per venue to be increased to a maximum of 300 by 2001.	No gaming machines	Tax based on annual net gambling revenue in a financial year: $0-$399,000: 30%; $399,001-$945,000: $119,700 + 35% of excess; >$945,000: $310,800 + 40% of excess. In addition, a 0.5% surcharge is imposed on each of the above percentage tax rates. Maximum of 40 machines per venue.	In addition to the tax paid by Federal Hotels Ltd, a community support levy of 2% of gross profit is levied. Maximum of 25 machines per venue. From 1 July 2000: 30 from 1 July 2001: 35 from 1 July 2002: 40	47% of gross profit of poker machines.\ Draw Card Machine Community Benefit Levy of 3% of turnover. No limit on the number of machines per venue.	1% of first $8,000 gross monthly club gaming machine revenue. 22.5% of revenue from $8,000 to $25,000 and 23.5% thereafter. No limit on the number of machines per venue.

Table M3:   **(continued)**

	NSW	VIC	QLD	WA	SA	TAS	NT	ACT
Hotels:	Levied on annual profits derived from gaming machines. 15% on profits between $1-$25,000 plus 25% on profits between $25,001-$400,000 plus 35% on profits between $400,001-$1m plus 40% on profits in excess of $1m (paid quarterly) Maximum of 15 poker machines per venue. This can be increased to 30 if a permit is obtained (purchased). In October 1998 2,300 permits were issued (auctioned) at a price of $50,000 per permit.	41.67% of gross profit (net cash balance), of which 8.33% is allocated to a CSF. Maximum 105 machines per venue.	50% of metered win. From 1 July 1998, 45% of metered win 8.5% of the money collected goes to Community Benefit Fund. Maximum machines per venue: 30 from 1 July 1999: 35 from 1 July 2000: 40 from 1 July 2001: 45 .	No gaming machines	Tax based on annual net gambling revenue in a financial year: $0-$399,000: 35% $399,001-$945,000: $139,650 + 43.5% of excess >$945,000: $377,160 + 50% of excess In addition, a 0.5% surcharge is imposed on each of the above tax rates. Maximum of 40 machines per venue	In addition to the tax paid by Federal Hotels Ltd, a community support levy of 4% of gross profit is levied. Maximum of 15 machines per venue. From 1 July 2000: 20 from 1 July 2001: 25 from 1 July 2002: 30	47% of gross profit and a Community Benefit Levy of 25% of gross profit. Draw Card Machine – 6% of turnover (of which 3% is paid to charities and sporting clubs). Limit of 6 machines per venue.	35% of monthly gaming machine revenue (gross profit). Number and type of machines per venue depends on the number of residential rooms in the hotel.
Reference Period:	Quarterly payments relating to the previous 3 months' transactions.	Weekly payments relating to the transaction of 2 weeks prior.	Monthly payments relating to previous months turnover.		Monthly payments relating to previous month's activity.	Payments relate to previous month's gross profit.	Quarterly payments relating to the previous 3 month's transactions.	Monthly payments related to transactions in the previous month.

Table M4: **Casino taxation by state**

	NSW	VIC	QLD	WA	SA	TAS	NT	ACT
Licence fee:	A once only non-refundable lump sum payment of $376m.	Upfront payment of $200m, plus an additional tax of $57.6m in '95 and 96. Crown agreed to pay a further $100.8 million beginning Jan 1996 over 3 years, as an additional licence fee payment in return for the Government agreeing to increase the number of tables, lower rates of tax on Commission players and approval for expansions to the development proposals.	$137,500 per quarter for each of the four casinos.	$1.74 million p.a (indexed to CPI).	$5,000 per month	$60,800 per month, indexed to annual CPI changes.	Not imposed	Indexed annual licence fee. 1998-99, $563,860

Table M4:   (continued)

	NSW	VIC	QLD	WA	SA	TAS	NT	ACT
Tax Rate:	**Regular Players:** 20% of gross revenue from table gaming and 22.5% of gross revenue from slots plus super tax on table revenue above $225.6m pa at 1% per each $5.64m to a maximum of 45%. **Commission Players:** 10% of gross commission revenue, or $6m per annum, whichever is higher.	**Regular Players:** 21.25% of gross gaming revenue plus super tax of 1% for each $20m of gross gaming revenue above $500m (CPI adjusted from 1994) up to a maximum of 20% on gross gaming revenue over $880m. The maximum total tax on marginal revenue is 41.25%. **Commission Players:** 9% plus a super tax (extra 1% for every $20m) on gross gaming revenue above $160m (CPI adjusted from 1994). The max tax on gross gaming revenue oiver $380m is 21.25%.	**Regular Players:** 20% of gross revenue for Gold Coast and Brisbane casinos and 10% of gross revenue for Townsville and Cairns casinos. **Commission Players:** 10% of gross gaming revenue for Gold Coast and Brisbane casinos and 8% for Cairns and Townsville casinos.	15% of gross revenue.	Table games at 10% of net gambling revenue, and gaming machines taxed at a single rate of 43.5% of net gambling revenue (equivalent to hotel EGM rate).	Federal Hotels Ltd has exclusive rights to conduct casino operations and operate gaming machines in Tasmania. The tax is based on Federal Hotels' total gross profit earned in a financial year. Poker machines: <$30m – 25%; $30m-$35m – 30% of excess; >$35m – 35% of excess. Until 1999/2000 government revenue from gaming machines in the casinos is guaranteed at a minimum of $21.4m. Keno and table gaming – 15% of gross revenue. Admirals Casino operates gaming on Bass Strait ferrys. Tax are levied on gross profits: 17% for keno 27% for gaming machines.	General casino tax of 8% of gross profit derived from all gaming other than gaming machines. EGM tax from July 97 to Jun 99 at the rate of 17.5% on gross profit.	**Regular Players:** 20% of gross revenue **Commission Players:** 10% of gross revenue
Other state Charges:	Community benefit levy of 2% of gross non-commission gaming revenue.	1% of gross revenue (Community Benefit Levy).	1% of gross revenue to Community Benefit Fund.	1% of gross revenue (or $1m, whichever is the greater) for upkeep of Burswood Park.				

Table M5:   **Lottery and other gambling taxation by state**

LOTTERY TAXES

	NSW	VIC	QLD	WA	SA	TAS	NT	ACT
(Unless otherwise indicated, the balance of subscriptions, after prizes is transferred to Consolidated revenue)	15% of subscriptions plus a fixed fee based on 14.7% of subscriptions in 1996-97 with the amount thereafter indexed to CPI.	35.55% on turnover (revenue paid from Consolidated Fund to Hospitals and Charities Fund and Mental Hospitals Fund.) Ticket Levy: 10c per card transaction (excl. instant lotto, Tatts 2, Super 66 and Soccer Pools).	62% of gross revenue for declared lotteries. 55% of gross revenue for Instant Scratch-its. 45% of gross revenue for Golden Casket lotteries.	State Lottery, Lotto, Oz Lotto, Powerball and Instants: 40% of net income to Hospitals, 5% to the arts, 5% to sport and 12.5% to charities. Up to 5% in total to Festival of Perth and Aus commercial film industry	Lotto, Powerball and Super 66: Net operating surplus (@ 33% of gross sales) is paid to Hospitals Fund. Instant Scratchies: Net operating surplus (@ 19% of gross sales) is paid to Hospitals Fund.	No state lotteries. Tas. Receives a share of duty paid to the Vic. Gvt for Tas subscriptions to Tattersall's lotteries: Lotto - 100% of duty received from Tas subscriptions; TattsKeno - 90%; other - 75%.	No state lotteries. Tas. Receives a share of duty paid to the Vic. Gvt for Tas subscriptions to Tattersall's lotteries: Lotto – 35% of sale; instants – 75% of 35% of sales (as well as Super 66). Territorian Lottery 10 per cent of sales	No state lotteries, participate in NSW and Vic lotteries: **VIC:** Tattslotto /Tatts extra/Oz Lotto/ Powerball – 32.5% of subscriptions; Super 66/Tatts 2/Instant: 24.375%.; Vic Keno: 29.95% **NSW:** Lotto/Oz Lotto/Lotto Strike/ Powerball – 31.7% of subsriptions; draw lotteries – 26.3%; instant lotteries – 28.3%
Soccer Pools:	15% of subscriptions plus a fixed fee based on 14.7% of subs in 1996-97 and based, indexed to CPI thereafter	34% of turnover.	59% of gross revenue	as above	42.5% of net sales transferred to Dept of Recreation and Sport	34% of sales from Tas subscriptions.	34% of subscriptions to Tattersall's payable by the Vic gvt.	34% from both Victorian and NSW collections.

Table M5:   **(continued)**

OTHER GAMBLING TAXES

	NSW	VIC	QLD	WA	SA	TAS	NT	ACT
Sports betting	FootyTAB, Soccer TAB, SportsTAB. Sweepstakes: 28.2% of player loss (All of this to Sport and Recreation Fund). Sydney SportsTAB – 20% of gross win Head-to-head – 2% Off-course bookmakers – 1%	Totalisator sports betting – 28% of player loss. Fixed odds sports betting – 20% of player loss.	Bookmakers: 1%, with athletic betting exempt. FootyTAB: Amounsts wagered combined with NSW pools. Gross commission of 25% deducted on QLD pools and paid as follows: 10% to QLD Govt; 14% to QLD TAB and 1% to NSW Sport and Recreation Fund. Qld Tab pays NSW 2% on amalgamated pools with NSW.	Tax to govt – 5%. 75% of sport betting receipts are dividends and the Minister makes the remainder (ie. net of the sports betting tax and after admin. expenses) available for allocation for Sport and Recreation. Bookmakers – 0.25%, for Sports and Recreation, Prof. foot racing – 2%	AFL & other sporting events – 20%. TAB admin. costs paid first, then 0.5% to Capital Fund and 0.5% to RIDA and the balance divided between the Rec and Sport Fund (RSF) and the SA. Football League, or to the body conducting the event and the RSF. Bookmakers: 1.75%	Footypunt – 17%, of which: - 10% to TAB - 4.5% to Govt. - 2.5% to Controlling Authority. Bookmakers: Telephone on-course – 0%, off-course Aus & NZ – 0.3%	0.5% bets from Australia and NZ. 0.25% bets from overseas	1.25% of which 0.25% distributed to clubs.
Keno:	Club Keno: Taxed at 18% on player loss of <$86.5 m; 24% on player loss >$86.5m.	Club Keno: 33.33% of player loss subject to a minimum player return of 75%	Jupiters Keno –20% of gross revenue + 50% tax on profit. Brisbane and Gold Coast receive 25% commission on Jupiters Keno & pay 21% tax, incl. 1% CBL. Townsville & Cairns pay 11%, incl. 1% CBL	Keno is restricted to Burswood Casino. Tax on Keno is included in the casino tax.	(operated by Lotteries Commission). Of total gross sales, 9% commission to agent, 72.8% return in prize money, 4.2% for operating costs, remainder (@ 14%) transferred to the Hospital Fund.	Tax Keno 15% of gross revenue	NT Keno 8% of gross profit (received through casino taxes)	Keno: refer to VIC Keno.

Source: NSW Treasury 1999.

N Gaming machines: some international comparisons

The world gaming machine market is highly complex and segmented. There are a host of different machines in terms of technology, winnings, payout rates and the range of bets and losses. In addition, the regulatory environment in which these machines operate often conditions their accessibility and operating characteristics. This situation parallels other commodities, such as alcohol, where variations in the product (taste, alcohol content) together with different market preferences, cultural norms and regulatory environments create similarly complex world markets.

This appendix presents evidence on this complex world gaming machine market, examines relevant market segments, and seeks to estimate the number of gaming machines. Common gaming machine terms are explained in box N.1.

Box N.1   Gaming machine glossary

AWPs — amusement with prizes machines. Three reel slot machines with 'skill stops' at the front of the machines to stop the reels. Most have an initial game that includes an opportunity to proceed to a more complex game.

Club or jackpot machines — similar to AWPs but with 4 reels and higher stakes and prizes.

Draw card machines — gaming machines on which card games are played, usually blackjack or poker. After the game is started the player must decide whether to keep or discard cards.

Pachinko — Japanese pinball machine. Players turn a handle which shoots small steel balls into a machine. The balls bounce off steel nails and into catchers, or trigger reel spins, which give winners a stream of balls which can be exchanged for non-cash prizes. These prizes can then be swapped for cash at a nearby independent outlet.

Pachislo (or pachisuro) — Japanese slot machine with reels and skill stops.

Pokies — an Australian term for multi-line and/or multi-credit video gaming machines.

Slot machines — gaming machines with three or more reels. Games involve starting the reels spinning and prizes are paid according to the final combinations of pictures on the reels. Reel spins stop automatically after the game is started. Note: some jurisdictions define 'slot machines' as all gaming machines (including machines with reels, video poker, blackjack and keno machines).

VLTs — video lottery terminals. VLTs are similar to slot machines in appearance, but give winners a cash value ticket which can be redeemed for cash, have a faster speed of play, and are more accessible.

N.1 Characteristics of machines of relevance to problem gambling

Gaming machines can differ in many ways, including:

- technology (the types of games played on machines and the speed of play);

- the nature of winnings (cash or prizes, maximum limits on prizes, the distribution of wins, the availability of jackpots and progressives);

- payout rates;

- the range of bets and losses (cash or tokens used in play, numbers of lines and credits, maximum play cost);

- accessibility (the number of machines and where they are located, venue and global machine caps); and

- the availability of harm minimisation schemes.

Unfortunately, international empirical evidence on the influence of these factors on problem gambling is not currently available. Such evidence would require measurement of the prevalence of problem gambling for each country using consistent methodology, identification of the causal factors of problem gambling, and statistical analysis using comparable data from each country.

In the absence of systematic international empirical evidence, some reasonable assumptions can be made about the impact of these factors on problem gambling. Take the following example. If two types of gaming machine environments exist:

- one where machines are widely accessible, have bill acceptors, with games that only require the player to push buttons with no skill element, with high numbers of lines and credits so that players can lose large amounts of money on low denomination machines in a short space of time, where wins are credited on the machine and progressive jackpots are available; and

- one where machines are less accessible, with games that require players to choose strategies, with low numbers of lines and credits and a slower speed of play, and wins are automatically cashed out;

then it is reasonable to assume that the former environment will lead to a higher prevalence of problem gambling (see chapters 6–8 and 16).

In reality, the likely prevalence of problem gambling cannot usually be determined so easily — most countries have a mix of both high and low risk factors.

Policy makers in Australia already draw distinctions between different types of machines. For example, ACT hotels cannot operate multi-coin slot machines. In Western Australia, only Burswood casino can operate gaming machines and these must emulate casino games (that is, no 'pokies' are allowed).

Available information on the gaming machine environments in Australia, Japan, the United States, Canada, New Zealand and the United Kingdom is briefly summarised in table N.1. The variety of gaming machine environments within the United States is shown in table N.2.

Some comments on international information and sources are provided in box N.2.

Box N.2   Some comments on international information and sources

Detailed information about the complex design of all international gaming machines and regulatory environments is difficult to obtain.

As a result, in this appendix, more in depth information is provided only for selected countries: Japan, the United States, the United Kingdom, Australia, Canada and New Zealand. These countries amount to a large proportion of the world's total gaming machines and information was more readily available on them.

The following sources were used in compiling information:

- submissions to the inquiry (in particular, helpful submissions from Professor Marfels (sub. D222), the Australian Casino Association (sub. D234), the Australian Gaming Machine Manufacturer's Association (sub. D257) and Aristocrat (sub. D266);

- international regulators and government organisations;

- international industry associations and gambling providers;

- internet sites (of gambling providers and players); and

- other sources (including industry journals).

The information elicited from these sources was of variable quality. In particular it was difficult to separate typical characteristics from those representing the market extremes. However, the Commission believes the information presented here is a fair representation of the general gaming machine environment for these countries. Where otherwise, this is noted.

In the future, it would be useful to have a more systematic analysis of machine design and regulatory environment by jurisdiction, involving co-operative work by regulatory agencies.

Table N.1   Australia, Japan, United States, Canada, New Zealand, United Kingdom, 1997-98[1,2]

	Australia		Japan	
Adult population	13 831 000	a	98 957 428	j
No. of machines[3]	184 526	b	3 686 066 pachinko machines and 1 004 642 pachislo machines	k
Total expenditure (A$)	$5.9 billion	c	$36.5 billion	l
Gaming machines per 10 000 adults	133		474	
Average weekly earnings (A$)	$740	d	$1100	m
Expenditure per adult (A$)	$420		$370	
Expenditure per machine (A$)	$32 000		$7 880	
Number of venues with gaming machines	5866 venues (including clubs, hotels and casinos).	e	17 418 parlours	n
Range of possible bets per game (local currency and A$)	Denominations 1c to $2. Maximum bet in many pubs and clubs is $10. Up to 10 credits and 9 lines.	f	Pachinko (Japanese pinball) – minimum of around Y500 (A$6) for around 100–125 balls (5–6 cents per ball). Prepaid card costs from Y1000–10 000 (A$12–120). Pachislo – players insert up to three tokens per game (usually 50 tokens for Y1000 (A$12) or around Y20 (A23c) per token).	o
Duration of game	All games played by button pushes. Average of 5 seconds per game.	g	Pachinko – speed of play is 100 balls per minute. Pachislo – players start reels spinning and use three 'skill stop' buttons to stop the reels in a winning combination.	p
Maximum average loss per hour (A$)	$720		$52 (pachinko)	
Other	Can use money to wager. Bill acceptors.	h	Some parlours display payout data for individual machines. Pachislo is seen as a 'lower stakes game'.	q
Range of prizes (local currency and A$)	Cash prizes and progressive jackpots available	i	Pachinko – Balls won from machine are swapped for non-cash prizes such as biscuits. Prizes can be swapped for cash at a nearby independent outlet. Players (indirectly) receive around 3–4 cents per ball. Pachislo machine credits winners.	r

[1]Local currencies converted to 1997-98 Australian dollars (using exchange rates from dX database, RBA 1999). [2] Some information is more recent than 1997-98 (this is indicated where possible). [3] Machines are apportioned where this information was available, unfortunately, information was insufficient to apportion into drawcard and reel machines.

Australia — [a] TGC 1999; [b, e] ch. 12 (1999 estimate); [c] TGC 1999; [d] appendix J; [f] table 12.3; [g] table 15.1; [h, i] ch. 12, ch. 15.

Japan — [j] Population 20 and over (data grouping constraints) US Bureau of the Census 1999b; [k] Heiwa 1998, p. 5; [l] Leisure Development Centre (MITI) 1998 quoted by Costin, R. DFAT, Japan, pers. comm., 20 September 1999; Heiwa 1995, profile; Heiwa 1997, p. 2 [m] Japan Institute of Labour 1999 ;[n] Heiwa 1998, p. 5; [o] Akatsuka, N. DFAT, Japan, pers. comm., 5 October 1999, Fresco-Shinjuku 1999, Hatano 1996, p. 3, Masaru, T. 1999; [p] Schauwecker 1999, Heiwa 1995; [q] Hatano 1996, Heiwa 1998; [r] Fresco-Shinjuku 1999, Akatsuka, N. DFAT, Japan, pers. comm., 5 September 1999, Hatano 1996.

	US	Canada	New Zealand	UK
	200 426 465 [a]	22 567 492 [j]	2 540 352 [s]	43 934 626 [bb]
	582 605 [b]	38 000 VLTs and 20 000 slots [k]	14 311 machines outside casinos, 1440 in casinos. [t]	220 000 AWPs, 33 000 jackpot/club machines, 13 200 pinball/pusher/crane grab [cc]
	$29.43 billion [c]	$1.87 billion (VLT only) [l]	$411 million [u]	$3.87 billion [dd]
	29	26	62	59
	$650 [d]	$540 [m]	$550 [v]	$930 [ee]
	$150	$80 (VLT only)	$160	$90
	$50 500	$32 200 (VLT only)	$26 100	$14 500
	States differ in terms of venues. 203 Indian casinos [e]	Global caps apply in some provinces. VLTs in (or moving to) licensed areas. Slots (and some VLTs) in casinos. [n]	Gaming machines in licensed areas and casinos. [w]	Some (low stake) AWPs in cafes and shops. Other machines in licensed venues [ff]
	Denominations US5c to US$500 (A7c to A$735), but most are US25c (A37c). Multiple coins and lines available, but more limited than Australia. [f]	Slot denominations C5c to C$100 (A5c to A$103). Maximum bet on VLT is C$2.50. Multiple line bets available. [o]	Maximum NZ$2.50 (A$2.17) bet for machines outside casinos. Casino machines no limit. [x]	Maximum bet 30p (A73c) for AWPs and 50p (A$1.20) for club or jackpot machines. Machines accept coins from 2p to £1 (A5c to $2.42). Money inserted cannot be withdrawn, must be played. [gg]
	Due to lever pull and automatic pay out of winnings, games likely to be slightly longer than Australian games. [g]	Average speed 5 sec. VLTs have faster games, slots have slower. Eg: experienced VLT players can complete games in 2 secs. [p]	Similar to Australian machines. [y]	Initial game can be over quickly, but if the player wins the chance to progress the total game time can be up to a minute or more. [hh]
	$705	$186 (VLT)	$156 (outside casino)	$130 (jackpot machine)
	States differ. [h]	Bill acceptors [q]	Bill acceptors [z]	No bill acceptors (but industry is seeking this). [ii]
	Progressive jackpots available. Some machines automatically pay out winnings. [i]	VLTs and slots credit wins. Progressive jackpots available. For VLTs, payout button gives winners a receipt which is redeemable for cash. [r]	Cash prizes (non casino machines limit of NZ$2.50 (A$2.17), casino machines no limit). Wins are credited. Progressive jackpots. [aa]	Automatic pay out of wins. No progressive jackpots. AWPs pay up to £15 (A$36). Club machines pay up to £1000 (A$2417) (casinos), £500 (A$1209) (bingo clubs), or £250 (A$604) (other clubs). Crane grab pays soft toy. [jj]

[a] Population 18 and over US Census Bureau 1999a; [b] sub D257; [c] Commission rough estimate only (underestimate, as this is the result of an addition of 1997 casino slot win from Klatzkin et al (1998) and 1996 VLT expenditure from Dept of Business (Hawaii) (1997, p. 71)); [d] Bureau of Labor Statistics (US) 1999; [e] GAO (US) 1998, p. 4; [f] table N.2 ; Casino International 1999b. [j] Population 20 and over (data grouping constraints) US Census Bureau 1999b; [k, l, n, o, p, q, r] sub. D222, Azmier J., Canada West Foundation, pers. comm. 9 and 10 Nov 1999; Azmier and Smith 1998, McNabb, W., Alberta Gaming and Liquor Commission, Canada, pers. comm., 2 and 4 Nov 1999, Bear Claw Casino 1999, Casino Regina 1999, Casino Windsor 1999, Casino Rama, Casino Niagara 1999, Palace Casino 1999, [m] Statistics Canada 1999. [s] Population 20 and over (data grouping constraints) US Census Bureau 1999b; [t] 1999 rough estimate [u] rough indicative expenditure estimate only (casino machine expenditure is estimated thus: Sky City machine win per day x 363 days x 1440 machines) [w, x, y, z, aa,] Osmond, M., Department of Internal Affairs (NZ), pers. comm., 5 and 8 Nov 1999; [v] Statistics New Zealand 1999. [bb] Population 20 and over (data grouping constraints) US Census Bureau 1999b; [cc] (rough estimate only)' [dd, ff, gg, hh, ii, jj] White, J. BACTA, pers. comm. 15 and 22 Nov 1999; sub. D222; Kavanaugh, T. Gaming Board for Great Britain, pers. comm., 9 Nov 1999; Lockyer, A. ,UK Home Office, pers. comm, 29 Oct 1999, Casino International 1999a, Clegg 1999; [ee] UK National Statistics Online 1999.

Table N.2 Australia, Indiana, Connecticut, Missouri, Nevada, Colorado, 1997-98.

	Australia[a]	Indiana		Connecticut	
Adult population	13 831 000	4 381 829	b	2 483 354	h
No. of machines[1]	184 526	15 169	c	8 512	i
Expenditure ($ local currency)	A$5.9 billion	US$1.03 billion	d	US$1.04 billion	j
Expenditure per machine ($ local currency)	A$32 000	US$67 800		US$122 700	
No. of venues with gaming machines	5866 venues.	9 riverboats (no Native American casinos).	e	2 Native American casinos	K
Range of possible bets per game ($ local currency)	Denominations A1c to A$2. Maximum bet in many pubs and clubs is A$10. Up to ten credits and nine lines.	Denominations US5c to US$100. Almost all (94%) of machines are US$1 denomination or below, half (48%) are US25c machines.	f	Denominations US25c to US$500. Multi-game video machines in US25c and US$1 denominations.	l
Other ($ local currency)	Can use money to wager. Bill acceptors.	Must use tokens/credits to wager. Average loss of US$30 per person per riverboat excursion on slot machines.	g	Can use money to wager, most machines have bill acceptors.	m

[1] Information was insufficient to apportion into drawcard and reel machines. [a] For references, see table N.1. Indiana — [b] US Bureau of the Census 1999a; [c] IGC 1998, ch. 6; [d] IGC 1998, ch. 6; [e] IGC 1998, GAO (US) 1998, p. 6; [f] IGC 1998, ch. 6; [g] Office of Code Revision IC 4-33-9-11, IGC 1998, ch. 6.

Connecticut — [h] US Bureau of the Census 1999a; [i] Division of Special Revenue 1998, p. 8; [j] Division of Special Revenue 1998 p. 5; [k] Division of Special Revenue 1998; GAO (US) 1998, p. 6; [l] Foxwoods Casino 1999, Mohegan Sun Casino 1999; [m] Mohegan Sun Casino 1999.

Missouri	Nevada[g]	Colorado
4 031 943 [a]	1 279 791 [h]	2 930 391 [n]
14 990 [b]	198 232 [i]	114 736 [o]
US$607 million [c]	US$ 5.06 billion [j]	US$311 million [p]
US$40 600	US$25 500	US$2 700
11 riverboats (no Native American casinos) [d]	2453 licences issued. Venues include casinos, small bars, restaurants and grocery stores. Plus 4 Native American casinos. [k]	Three towns with 49 casinos. Two Native American casinos. [q]
Denominations US5c to US$100. Almost all (98%) are US$1 or below, two thirds (66%) are US25c machines. [e]	Denominations US5c to US$500. Almost all (95%) are US$1 or below, half (55%) are US25c denomination. Some have multiple coins and lines. [l]	Denominations US5c to US$5 ($US1c slots introduced in Jan 1999). US$5 maximum bet [r]
Wins are automatically paid out unless credit mode is activated. Must use tokens/credits to wager. Average loss of $15 per person per excursion on slot machines. [f]		

Missouri — [a] US Bureau of the Census 1999a ; [b] MGC 1999c; [c] MGC 1999a; [d] MGC 1999a, GAO (US) 1998, p. 6; [e] MGC 1999b; [f] President Casino 1999, MGC 1999a.

Nevada — [g] Nevada statistics do not include confidential Native American gaming revenue (GAO (US) 1998, p. 46); [h] US Bureau of the Census 1999a; [i] NGCB 1999a, p. 2; [j] NGCB 1999a, p. 3; [k] NGCB 1999a, p. 2, GAO (US) 1998, p. 6; [l] NGCB 1999a, p. 2; MGM Grand 1999, Westward Ho Casino 1999, Casino International 1999b, p. 12.

Colorado — [n] US Bureau of the Census 1999a; [o, p] Colorado Division of Gaming 1999b; [q] Colorado Division of Gaming 1999a, pp. 2, 13; [r] Colorado Division of Gaming 1999a, p. 2, 1999b.

The following discussion of gaming machine characteristics is centred around their expected effects on the prevalence of problem gambling. It is important to note that where these characteristics increase the entertainment value of gaming machines, they are also expected to increase the benefits of gambling for the vast majority of gamblers.

Technology

Where technology increases the efficiency by which machines collect money from gamblers — say, by increasing the number of lines and credits and the speed of games and by accepting notes — this can allow some players to spend more than they may have initially intended. For the majority of recreational gamblers this is not a problem. But in a minority of cases, this can lead to problematic behaviour such as loss chasing, which can develop into problem gambling (this is also discussed in chapter 16).

As a result, if such technology has any effect on the prevalence of problem gambling, it is expected to increase its prevalence (industry views on this are presented in the discussion on bets and losses).

Australia

Australian gaming machines are all operated by button push, regardless of the game being played (figure N.1 depicts one type of Australian machine). Gambling on these machines can be continuous — machines accept and pay out cash (so no breaks are required to cash out tokens) and machines credit wins, which can then be cashed out at a button push. Most slot machines have a choice of up to ten credits and nine lines per game, and most video poker machines go up to ten credits. Most modern Australian gaming machines have bill acceptors. The average speed of play in Australian machines is around 5 seconds per game (table 16.1).

United States

Most US slot machines have the option of lever pull and play buttons (figure N.2). All US video poker machines are operated by electronic button push. In terms of lines and credits, US machines appear to generally have less options than Australian machines (Casino International 1999b, p. 12; various casino websites). Some US states allow gambling with tokens only, which puts breaks into play where gamblers can assess their gambling and whether they wish to continue. Additionally, some US machines automatically pay out wins, which also slows down the speed of play (although a credit option is also available).

Figure N.1   **Australian gaming machine**

Data source: Aristocrat 1999 (http://www.aristocrat.com.au/fmach.htm, accessed November 1999)

As a result, it appears likely that US machines have a marginally longer average speed of play per game than Australian machines (maybe in the order of around 1 second). Some anecdotal evidence for this exists: an estimate from a players website puts the average speed of play at 7.5 seconds for a video poker game (Kelly 1998).

Figure N.2   **US slot machine**

Source: International Game Technology 1999 (http://www.igtgame.com/products/, accessed November 1999)

Canada

Broadly speaking, Canada has two main types of gaming machine — slots and video lottery terminals (VLTs), both of which are similar to US slot machines in appearance. The main differences between the two are:

- VLTs give winners a cash value ticket which can be redeemed for cash, whilst slot machines give cash prizes to winners;

- VLTs have a faster speed of play than slots — once a player becomes adept at operating a VLT machine, a game cycle can be completed in 2 seconds;

- VLTs are more accessible than slots — VLTs are able to be placed in bars and other licensed venues as well as casinos (New Brunswick currently allows VLTs in non age restricted venues although this will be removed by 2000), whilst slots are limited to casinos; and

- VLTs have either 'touch screen' technology or buttons, whilst slots generally have a handle and buttons (National Council of Welfare 1996, p. 6; Azmier and Smith 1998, p. 7; McNabb, W., Alberta Gaming and Liquor Commission, Canada, pers. comm., 2 and 4 November 1999; Azmier, J., Canada West Foundation, pers. comm., 9 November 1999).

As a result, the average speed of play for Canadian machines appears to be roughly the same as Australian machines at 5 seconds, although there is a wider range of speeds: VLTs are faster than the average and slots are slower (Azmier and Smith 1998, p. 7; Azmier, J., Canada West Foundation, pers. comm., 9 November 1999; McNabb, W., Alberta Gaming and Liquor Commission, Canada, pers. comm., 2 and 4 November 1999).

Both types of Canadian machines have multiline and multicredit play, and many machines have bill acceptors (see previous sources).

Japan

A Japanese pachinko machine is illustrated in figure N.3. Players turn a handle that shoots individual small steel balls into the machine (Heiwa 1995). Two major types of play are possible:

- When a ball lands in one of the catchers situated on the face of the machine, the player is rewarded with more balls.

- When a ball enters a starter slot in the centre of the screen, the centre slot windows begin to spin similarly to a slot machine. If the windows come up

matching (either numbers or pictures) the player wins more balls — typically around 2300, but a large jackpot can pay out up to 10 000 (Fresco-Shinjuku 1999).

The nature of the pachinko game does not appear to enable multiple credits or lines to be played. The average speed of play is 100 balls per minute (Heiwa 1995; Schauwecker 1999).

Figure N.3   **Japanese pachinko machine**

Windmill
LCD panel
Light indicating when balls fall into designated holes or slot
Uppermost scoring slot
Nails
Lock
Starter slot
Scoring slot
Scoring slot
Loading tray
Lever for flowing balls to lower tray
Lower tray for when the loading tray is full
Handle for stroke

Data source: Heiwa 1996, p. 4.

Although Japanese pachislo (or pachisuro) machines are electronic and are similar in appearance to US slot machines (figure N.4), a major difference between the two is that pachislo is a low stakes game:

> Unlike pachinko, however, which has been criticised for its high-stakes gambling element, pachislo has never become a focus of social concern, since it is a low-stakes game by nature (Heiwa 1998, p. 5).

A pachislo player inserts three tokens (usually Y20 per token) into the machine to start the reels spinning, and tries to stop the reels in the correct formation for a jackpot by using three buttons, or skill stops, located on the front panel of the machine. As a result, it is likely that this results in a slower game than in Australian slot machines.

Figure N.4   **Japanese pachislo machine**

Data source: e-slot.com 1999 (http://www.e-slot.com/store/sunset.html)

United Kingdom

Several types of gaming machines operate in the United Kingdom, including amusement with prizes (AWP) machines, all-cash AWPs, and jackpot or 'club' machines (figures N.5 and N.6). Pinball, pusher and crane grab machines also qualify as gaming machines under UK legislation (Gaming Board for Great Britain 1999, ch. 5).

Most machines have skillstops at the front of the machine to stop the reels, like Japanese pachislo machines (White, J., BACTA, pers. comm., 17 November 1999). AWP machines have three reels and club or jackpot machines have four, and there is generally only one line per game (White, J., BACTA, pers. comm., 15 November 1999). Most machines play an initial game which includes an opportunity to advance to a more complex game. Although the initial game may be over quickly, if the player wins the chance to progress, the total game time can be up a minute or more (Kavanaugh T., Gaming Board for Great Britain, London, pers. comm., 9 November 1999; White, J., BACTA, pers. comm., 15 November 1999).

Currently, UK machines are required to pay out wins automatically and do not accept denominations above £1 coins (A$2.42) — although proposals to relax these regulations are under preliminary assessment by the UK Home Office (Clegg 1999, p. 40).

As a result, it appears likely that, similar to Japanese pachislo machines, UK gaming machine technology results in longer games than Australian gaming machines.

Figure N.5   **UK AWP screen**

Data source: Barcrest 1999 (http://www.barcrest.co.uk/m-htm/setup.htm)

Figure N.6   **UK jackpot machine screen**

Data source: JPM International Ltd (http://www.jpm.co.uk/).

Winnings

Progressive jackpots are prize pools which accumulate with play and usually must be paid out during a specified period. Machines linked to these types of prizes offer higher rewards than the norm, and hence encourage gamblers to either choose these machines in preference to other machines and/or to spend more time playing them (chapter 16). If they have any effect on the prevalence of problem gambling, they would be expected to increase its prevalence.

Jackpots and progressive prizes are available in Australia, New Zealand, and the United States. No progressive jackpots are allowed in the UK (Clegg 1999, p. 40)

Where machines automatically credit wins, gambling can be fast and continuous. In addition, gamblers are more likely to play through the credits on the machines, and thus increase their losses. As a result of these influences, automatic crediting of wins is likely to increase the prevalence of problem gambling.

Where gamblers must go through a convoluted process in order to receive winnings, this may also increase the likelihood of playing through their winnings. However, for gamblers who do go through the process of cashing in their winnings, their speed of play is slower and the decision to gamble further can be made away from the machine.

Most countries pay cash prizes (or pay tokens that are fairly easily convertible to cash). UK prizes are limited by the type of machine and its location: £5 (A$12) cash or £8 (A$19) tokens for traditional AWPs, £15 (A$36) for all-cash AWPs, £1000 (A$2417) for jackpot machines in casinos, £500 (A$1209) for jackpot machine in bingo clubs, and £250 (A$604) for jackpot machines in all other clubs. Crane grabs give winners soft toys (Lockyer, A., UK Home Office, pers. comm, 29 October 1999).

Many US machines appear to automatically pay out wins, although a credit option is available. UK machines are required to automatically pay out wins (Clegg 1999, p. 40). Canadian VLTs and Australian gaming machines automatically credit wins. In Australia these credits can be directly converted to cash but in Canadian VLTs a receipt is issued that is redeemable by a cashier (Azmier and Smith 1998).

Japanese pachinko machines give winners a stream of small steel balls, which are then taken to a counter and used as currency to buy prizes. The retail value of each prize is limited — in 1996 the limit was Y10 000 (around A$116) per prize (Hatano 1996). Prizes can then be taken to a separate outlet which exchanges the prizes for money. Interestingly, while pachinko players pay the equivalent of 5 Australian cents per ball to bet on the machine, winners (indirectly) receive only 3

to 4 cents per ball (Fresco-Shinjuku 1999; Akatsuka, N., Department of Foreign Affairs and Trade, Japan, pers. comm., 5 October 1999).

Payout rates

The payout rate is the average amount won by players as a share of the cumulative amount staked. This rate is critical in determining player losses.

The Australian Gaming Machine Manufacturers Association noted that payout rates are lower outside Australia and that regulation plays an important role:

> … the 'return to player' in both unregulated jurisdictions and certain regulated jurisdictions overseas is considerably lower than it is in Australia; the critical point is that in Australia, the return to player is fixed by regulation and is monitored and enforced by regulatory authorities (sub. D257, annexure 3).

While most gaming machines across the world have a payout rate of over 80 per cent, Australian machines do compare favourably, having one of the highest payout rates in the group of identified countries.

US payout rates range more widely than Australian rates, although they appear to converge on average. For example, in Colorado, slot machines must pay out between 80 and 100 per cent (Colorado Division of Gaming 1999, p. 15). However, most pay out around 90 per cent, similar to Australian machines.

Canadian VLTs pay out at a 92 per cent rate, the highest among the identified countries (Azmier and Smith 1998; McNabb, W., Alberta Gaming and Liquor Commission, pers. comm., 2 November 1999).

Payout rates in Japan appear to be slightly lower, at around 80 to 90 per cent (Heiwa 1995, profile).

There are no statutory controls on the payout rates for UK machines, although the Gaming Board for Great Britain has agreed voluntary minima of (in effect) 70 per cent for most machines, and 80 per cent for casino machines with £1000 prizes (Kavanagh, T., Gaming Board for Great Britain, London, pers. comm, 9 November 1999). Industry sources put the range of payout rates from 76–96 per cent depending on location and game design (White, J., BACTA, pers. comm., 15 November 1999; JPM International Ltd. 1999).

Bets and losses

Bets and losses on gaming machines depend on many factors, including maximum bet regulation, technology (including the speed of play and the availability of lines and credits), the nature of winnings, and payout rates.

For example, where the initial cost of play on a gaming machine is low, with only a low amount of credits and lines available, and the speed of play is relatively slow, it would be expected that gamblers using these machines could either not spend more than they initially anticipated, or it would take a long time to lose a large amount of money.

However, where the machine denomination is low, but a high amount of credits and lines are available to gamblers, and the speed of play is high, this could result in gamblers inadvertently losing a large amount of money within a short space of time on a seemingly low value machine.

Thus, if the latter type of environment has any effect on the prevalence of problem gambling, it could be expected to increase its prevalence.

The Australian Gaming Machine Manufacturers Association does not share this view:

> AGMMA disagrees with [the] view … that the ability of a player to spend money more quickly (by selecting a multi-line combination) makes the machine inherently 'riskier' than a machine which a player must play for a longer period to spend the same amount of money …
>
> [AGMMA believes that]
>
> - the 'return to player' is far more important than the number of combinations that may be chosen in terms of 'risk' assessment …
>
> - it is entirely up to the player to choose a multi-line combination or to play a machine for a longer period;
>
> - it is not sensible to compare multi-line casino style machines to, say, pachislo machines in Japan because the machines are unique to their respective jurisdictions.

As rigorous empirical evidence on the relative influence of lines and credits and payout rates on problem gambling is not currently available, especially across countries, it is not possible to state with certainty which is the most important. Nevertheless, all relevant factors should be considered when looking at risk to problem gamblers — and the ability of a gambler to lose money more quickly is certainly relevant to risk (technology, the nature of winnings, and the payout rate are relevant in working out how quickly this can happen).

Most Australian gaming machines in pubs and clubs can take bets up to a maximum of $10 ($5 in some states and territories) (table 12.3). Machine denominations vary from 2c to $2 in pubs and clubs, with up to nine lines and ten credits available to gamblers. For a $10 bet, a speed of play of 5 seconds per game, and a payout rate of 90 per cent, the maximum average loss rate is around $720 per hour.

Bet limits vary across US states. Machine denominations range from US5c to US$100, with even the odd US$500 machine. However, in states where information is available, almost all machines are US$1 denomination or below, and the single most popular is the US25c machine (NGCB 1999a; IGC 1998, ch. 6; MGC 1999b). Multiple credits and/or lines can usually be played, but are generally more limited than in Australia. However, in the future, US machines may more closely resemble Australian machines:

> In Nevada, the multi-coin games are generating higher incomes on the states 1 500 nickel ($5c) machines. However, executives also say they are considering using them in their dollar and five dollar games (Casino International 1999b).

For a US$8 bet,[1] with an average speed of 6 seconds per game, and an average payout rate of 90 per cent, the maximum average loss rate is US$480 ($A705) per hour.

Some US states have limited bet sizes. In Colorado, a maximum of US$5 can be placed on any single bet.

Canadian slots have a range of machine denominations similar to US machines. The maximum bet on a VLT is C$2.50 (Azmier, J., Canada West Foundation, pers. comm., 9 November 1999). For a C$2.50 bet, an average speed of 4 seconds per VLT game, and an average payout of 92 per cent, the maximum average loss rate is C$180 (A$186) per hour.

AWP and all-cash AWPs in the UK have a maximum bet of 30p, and jackpot machines have a bet limit of 50p (Lockyer, A., UK Home Office, pers. comm, 29 October 1999). More complex games and the use of skill stops means that the average speed of play is likely to be slower than Australian games. For a 50p bet, and using the average speed of play for an Australian game of 5 seconds (which is likely to be faster than the more complex UK games) and a payout rate of around 80 per cent, a maximum average loss rate would be around £72 (A$131) per hour.

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[1] As the overwhelming majority of machine denominations in the identified US states are US$1 or below (with the 25c machine being most popular) and there are usually less options in terms of lines and credits in the US than in Australia, US$8 was taken to be a rough approximation of a realistic maximum bet. However, higher denominations are possible, but relatively rare.

In Japan, the minimum amount required to play pachinko is Y500 (A$6), which buys around 100 balls. At an average speed of play of around 100 balls per minute, not including the time required to exchange balls for prizes and consequently for money, and a payout rate of 85 per cent, the maximum average loss rate is Y4500 (A$52) per hour.

On pachinko machines, the Australian Casino Association (sub. D234, p. 5) noted:

> Modern pinball style Pachinko machines in Japan are a far cry from the traditional pinball machines of the past – pinballs used in the machines can activate an EGM style screen similar to traditional EGMs and prizes are won depending on what combinations appear on the screen. High value prizes can be won.

Although pachinko machines have developed technologically over the years, the style of play on these machines does keep the maximum average loss rate much lower than Australian gaming machines.

The maximum average loss rate for Japanese pachislo machines is expected to be below that for pachinko.

Accessibility

If gaming machines are more accessible, all other things being equal, this is expected to increase the prevalence of problem gambling (chapter 15).

All the identified countries limit (or intend to limit) access to gaming machines to adult venues, apart from the UK for AWPs. These UK machines (limited to 30p bet maximums and maximum £5 wins) are allowed in cafes, fish and chip shops, as well as pubs (Lockyer, A., UK Home Office, pers. comm, 29 October 1999). Other UK machines are less accessible: up to 2 all-cash AWPs are allowed per venue (pubs and clubs, betting offices and adult arcades), and a maximum of 3 jackpot machines are allowed in clubs, 4 in bingo halls, and 10 in casinos.

In Australia, gaming machines are limited to licensed venues and casinos, and caps apply in many states and territories (section 12.2). Around 184 526 machines are currently in operation and they are spread across 5866 venues — including clubs and pubs in all states and territories (apart from Western Australia) and all casinos (apart from the ACT).

Similarly, in New Zealand gaming machines are limited to licensed venues and casinos. Non-casino sites have a 18 machine limit (Osmond, M., Department of Internal Affairs (NZ), pers. comm., 5 November 1999)

In Japan, 4 690 708 pachinko and pachislo machines are located in 16 764 parlours, giving an average of 280 machines per parlour (Heiwa 1998, p. 5).

In Canada, accessibility to VLTs is being restricted to adult areas and slots are limited to casinos. In New Brunswick in 1996, VLTs were operating in non-licensed sites such as pool halls, restaurants and bowling alleys (Department of Finance (New Brunswick) 1997, app. b). By the year 2000, New Brunswick will only allow VLTs in licensed premises (Azmier and Smith 1998).

In the identified US states, the notable exception being Nevada, most gaming machines are located in specific destinations such as casinos (box N.3).

Box N.3   **Accessibility in some US states**

In Indiana and Missouri, gambling is only allowed on licensed riverboat casinos.

In Indiana, gambling can only take place whilst the riverboats are cruising on the river, and during a half hour docking period where passengers can get on or off the boat (Office of Code Revisions 1999, ch. 9). In practice, the riverboats dock for a half hour period every two hours, and most people tend to stay on board for two excursions before disembarking (IGC 1998, chs. 6, 7).

In the US state of Connecticut, slot machines are only available in the two Native American casinos operating in that state (Division of Special Revenue 1998). A large number of machines operate in each casino — 5 495 in Foxwoods Casino and 3017 in the Mohegan Sun Casino (Division of Special Revenue 1998, p. 8).

In South Carolina until recently, video poker was available in convenience stores, bars and restaurants. However, a recent Supreme Court decision outlawing video poker means that accessibility is to be wound back (Plotz 1999).

In Colorado, gambling may only take place in three mountain towns (Black Hawk, Central City and Cripple Creek) and single bets may only go up to US$5 (Colorado Division of Gaming 1999a, p. 2). In June 1998, 49 casinos were in operation in Colorado (Colorado Division of Gaming 1999a, p. 9). To change the location of gaming in Colorado, to increase the betting limits or to change the types of games allowed would require a change in the Constitutional amendment through a statewide vote of the people. Six initiatives to expand gaming to other locales have appeared on the ballots since 1992 and each of those has been defeated (Colorado Division of Gaming 1999a, p. 2). Two Indian tribes conduct casinos under compacts with the State of Colorado. They are not subject to taxation and are not required to report their revenues to the State. The tribes agreed to conduct limited stakes gaming with US$5 limits (Colorado Division of Gaming 1999a, p.13).

In contrast to the other identified US states, Nevada's 198 232 gaming machines are located in casinos as well as small bars, grocery stores and restaurants (NGCB 1999a, 1999b; Dunstan 1997, ch. 6). Around 90 per cent of the slot machines in Nevada in September 1998 were operated under 428 casino-type licences, which allow any number of table games and slot machines (NGCB 1999a). The remaining ten per cent were under 2 025 licences which allow only 15 machines or less. On average, there were 421 machines per casino-type licence, and 9 machines per smaller, restricted licence.

N.2   Market segments

As with many other products, the international gaming machine market is complex. Many different types of machines exist within the broad definition of machines used for gaming purposes where the potential return on a single game is greater than the amount risked on that game (sub. D257, annexure 1).

Also, the gaming machine 'market' is blurred at the edges. Around 1.5 million Australian households have internet access at home and these computers are potential gaming machines (ch. 18). Studies indicate that few gamblers use the internet at present, although this is expected to increase markedly in the future. Other examples of blurring are the inclusion of crane grabs (which dispense soft toys to winners), and illegal machines. As data was insufficient to make international comparisons on internet and illegal gaming machines, these were excluded from the following discussion of market segments.

As a result of the broad definition of gaming machines and the blurring at the edges of the market, it is important to ensure that the purpose of market examination is made clear. Otherwise, combining 'apples and oranges' can be misleading or even meaningless.

In this appendix, the purpose of examining the international gaming machine market is to inform policy responses to problem gambling.

For machines that lie more squarely within the definition of gaming machines, a subjective analysis of risk factors gives some indicative market segments based on risk for problem gamblers (figure N.7):

- *high intensity machines* — where maximum spending per game and the speed of play are comparatively high (these include Australian machines, US slots and other machines, Canadian slots and VLTs, as well as machines in France, New Zealand and South Africa);

- *AWP-style machines* — where maximum spending per game is low and the speed of play is slower (these include UK AWP and jackpot/club machines, German and Spanish AWPs and Japanese pachislo machines); and

- *pachinko and UK crane grab machines* — where the stakes and speed of play are the lowest of all and where the prizes awarded are toys (for crane grabs) and biscuits, cigarettes and magazines for pachinko (although these prizes can be subsequently exchanged for cash).

Figure N.7   World gaming machine market segments[a,b]

Pachinko 59%

High intensity machines 14%

AWP-style 27%
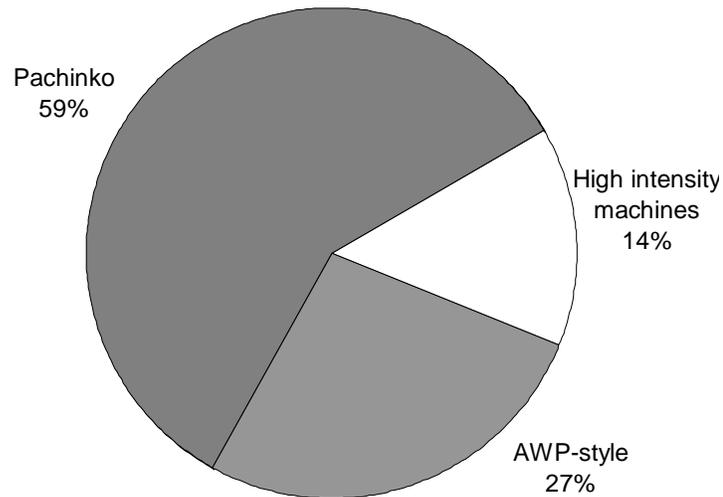
a Indicative only, excludes roughly 12 per cent of the world's gaming machines on which information was insufficient to apportion into market segments. The addition of these machines may change the relative shares of market segments, or add new market segments. **b** Not including internet or illegal machines.

Data source: table N.3.

The country shares of some of these indicative market segments are shown in table N.3 (some alternative market segments and figures are outlined in box N.4). The share of the world's gaming machines located in Australia is estimated at 20 per cent for high intensity machines. But if other AWP-style machines and Japanese pachinko machines are included, Australia's share of machines falls to 2.6 per cent.

Table N.3   Country shares of selected market segments

	Number of gaming machines **a**	*High intensity machines (per cent)*	*AWP-style machines (per cent)*	*Pachinko (per cent)*	*Total (per cent)*
Australia	184 526	20.4	0.0	0.0	2.6
United States	582 605	64.4	0.0	0.0	8.2
Canada	58 000	6.4	0.0	0.0	0.8
France	53 250	5.9	0.0	0.0	0.7
New Zealand	15 751	1.7	0.0	0.0	0.2
South Africa	11 222	1.2	0.0	0.0	0.2
United Kingdom	266 200	0.0	14.8 **d**	0.4 **f**	3.7
Germany	227 000 **b**	0.0	13.3	0.0	3.2
Spain	220 000 **b**	0.0	12.9	0.0	3.1
Japan	4 690 708 **c**	0.0	58.9 **e**	99.6 **g**	65.8 **c**
Other	822 900	na	na	na	11.5
Total (machines)	7 132 162	100.0	100.0	100.0	100.0

a Not including illegal or internet machines. **b** AWPs only. **c** Pachislo and pachinko machines. **d** 253 000 AWP-style (220 000 AWPs and 33 000 jackpot machines). **e** 1 004 642 pachislo machines. **f** 13 200 UK crane grab, pinball and pusher machines. **g** 3 686 066 pachinko machines. na information was insufficient to apportion into segments. *Source:* table N.1; sub. D222, p. 6; sub. D257; Rouyer, Ch., Casinos de France, pers. comm., 9 Nov 1999; Bell, A. National Gambling Board of South Africa, pers. comm., 11 Nov 1999; White, J., BACTA, pers. comm., 23 Nov 1999.

Box N.4   **Comments on market segments and country shares**

Other sources segment the market differently to the Commission. For example, after the Commission's draft report was released, Aristocrat defined the world gaming machine market figures in its 1998 Annual Report as machines of a certain type:

> [The figure in] Aristocrat's 1998 annual report … refers only to *the types of gaming machines Aristocrat produces* in regulated gaming jurisdictions. It is not an estimate of the total number of machines worldwide (sub. D266, p. 2) (emphasis added by Commission).

Australia had 21 per cent of this market segment, as defined by Aristocrat.

This appendix takes a broader approach, identifying the main characteristics of machines in certain countries, and grouping machines into three market segments relevant to risk for problem gambling:

- high intensity machines (including Australian gaming machines, US slots and other machines, Canadian slots and VLTs, as well as machines in France, New Zealand and South Africa);
- AWP-style machines (including UK AWP and jackpot machines, German and Spanish AWPs, and Japanese pachislo machines); and
- Japanese pachinko and UK crane grab machines (and the UK pinball and pusher machines).

A feel for the variety of figures available on market segments is given below (figures in italics are regional subtotals which add to totals). The Commission drew extensively from these and other sources — in particular, where no further information on a country's gaming machine numbers was available from regulators or industry sources, and information was sufficient to apportion into market segments, this appendix generally used the highest estimate from either Professor Marfels (sub. D222) or AGMMA (sub. D257).

	Aristocrat (Aust-style)	Prof. Marfels (all machines)		AGMMA (all machines)	Commission (all exc. illegal and internet)	Commission (high intensity)
Aust and NZ	*183 449*	*193 000*		-	-	-
Australia	170 123	180 000		172 764	184 526	184 526
New Zealand	13 326	13 000		-	15 751	15 751
North America	*446 088*	*554 000*		-	-	-
United States	-	496 000		582 605	582 605	582 605
Canada	-	58 000		53 877	58 000	58 000
Europe	*58 895*	*950 000*	a	-	-	-
France	-	-		53 250	53 250	53 250
UK	-	260 000	c	250 000	266 200	-
Germany	-	227 000	c	220 593	227 000	-
Spain	-	220 000	c	228 877	220 000	-
Italy	-	-		351 400	-	-
Asia	*12 314*	*4 746 000*		-	-	-
Japan	-	4 734 000	b	4 690 708	4 690 708	-
Africa	*12 025*	*12 000*	a	-	-	-
South Africa	-	-		64 974	11 222	11 222
South America	*85 536*	*86 000*	a	-	-	-
Other	-	-		463 114	822 900	-
Total	**798 307**	**6 541 000**	a	**7 132 162**	**7 132 162**	**905 354**

a estimate. b Pachinko and pachislo machines. c AWPs only.
Source: subs D222, D234, D257, D266, tables N.1 and N.3.

The gaming environment in countries with high intensity machines also tends to have other characteristics that may be associated with elevated risks for problem gambling — such as higher numbers of credits and lines, progressive jackpots, credited wins and high accessibility. On Australian machines, an article in *Casino International* noted:

> The Australian market is based on 'pokie' machines, the famed multi-line multipliers that have come to be known all over the world as Australian machines. They are as sophisticated as slot machines get. They have to be: almost all of them are to be found in clubs where repeat play is measured in visits per week rather than visits per year as in resort destinations. And while such machines may be holding a steady 20 per cent of the market in other parts of the world, in Australia they count for just shy of the full 100 per cent (Sorrill 1999, p. 20).

This suggests that Australia has a relatively high concentration of higher risk machines, which — given the large proportion of gambling expenditure directed to gaming machines — may partly explain the apparently higher prevalence of problem gambling in Australia.

Of course, the relevant issue for policy makers is not Australia's portion of any given market segment of the world gaming machine market, as Clubs Victoria noted:

> … it's quite irrelevant how many of the world's EGMs are in Australia. What is relevant is how many of the world's problem gamblers are in Australia, and we could end up with half the worlds EGMs to no detriment if the product was delivered responsibly and so as to minimise harm …

> … the issue is how can the product be delivered in the most beneficial way to the vast majority of those who enjoy it, while minimising the costs to those who don't (trans., p. 1304).

The relevant issue for Australian policy makers is whether there are regulatory or other measures which can preserve the entertainment value of the machines for recreational gamblers, while lowering the risks for problem gamblers (this is discussed in detail in chapter 16).

O Displacement of illegal gambling?

As discussed in chapter 2, there has been significant growth in legal gambling over recent decades. Some proportion of this growth is likely to have 'crowded out' illegal gambling. This is relevant to the assessment of the costs and benefits of liberalisation in a number of ways:

- One of the benefits of liberalisation is that it may have displaced illegal gambling, and thereby reduced some of its adverse social costs (associated with corruption, organised crime, intimidation and violence);

- Some of the people with gambling problems associated with legally available gambling may have developed these problems with illegal gambling anyway.

However, the notion that legal and illegal forms are substitutes is not always accepted. For example, Hybels (1998) has suggested that legal and illegal modes of gambling may be complements. That is, when gambling is legalised, people may develop a greater taste for it and engage in more illegal gambling too. Hybel presents data to show that the proportion of people engaged in illegal gambling is higher in certain US states that allow three or more forms of legal gambling, compared with states that do not allow legal gambling. While the Commission has concerns about aspects of Hybel's analysis, the theoretical point is that there may be a degree of complementarity between illegal and legal modes of gambling.

There have been two major forms of illegal gambling in Australia — off-course SP bookmaking and illegal casino gaming (table O.1). Of the two, SP bookmaking has been the larger and more widespread across the country. This appendix briefly examines evidence on how illegal gambling may have changed with the introduction of legal gambling, and the qualitative benefits and costs associated with these changes. It is hard to obtain accurate figures on some aspects of legal gambling, let alone illegal gambling, and so the estimates are necessarily uncertain.

Illegal bookmaking

Participants at the Commission's Roundtable on crime and gambling considered that illegal bookmaking had not vanished with the TABs:

> In NSW … it is believed that there are some SP bookmakers operating but they cannot be specifically named.

In South Australia, the TAB cut out a lot of SP bookmakers but it is naive to say that they no longer exist. We are aware of a couple … They exist because of better odds, no tax records, and there's money in it. Now it is more organised. The TAB has taken away the bottom end of the market.

Table O.1   **The estimated value of illegal gambling turnover and player losses**

Year	Gambling type	Turnover	Estimated player losses[a]	Jurisdiction	Source
		$ million (1997-98 prices)	$ million (1997-98 prices)		
1950-51	SP bookmakers	2 686	269	VIC	NSW racing officials (McCoy 1980, p. 178)
1950-51	SP bookmakers	5 373	537	NSW	NSW racing officials (McCoy 1980, p. 178)
1961-62	SP bookmakers	4 894	489	NSW	Kinsella Royal Commission 1962 (McCoy 1980, p. 180)
1982-83	SP bookmakers	3 545	355	NSW	Connor Casino Inquiry (Hickie 1985, p. 364)
1982-83	SP bookmakers	1 970	197	VIC	Connor Casino Inquiry (Hickie 1985, p. 364)
1982-83	SP bookmakers	7 879	788	Australia	Connor Casino Inquiry (Hickie 1985, p. 364)
1979-80	SP bookmakers	52	5	QLD	Queensland (1989)
1988-89	SP bookmakers	255	26	QLD	Queensland (1989)
1994-95	SP bookmakers	1 060	106	NSW	McMillen and Kerr (1996, p. 3)
1994-95	SP bookmakers	318	32	VIC	McMillen and Kerr (1996, p. 3)
1973-74	Casinos	3 131	125	NSW	Hickie (1985, p. 178)
1976-77	Casinos	2 233	89	NSW	McCoy (1980, p. 200)

a McCoy (1980, p. 253) estimated that illegal bookmakers made an average 10 per cent profit on turnover so this factor is applied to estimate player losses. The casino games have relatively high player rates of return (eg around 97.5 per cent for roulette). An estimated player loss rate of 4 per cent has been applied — this is somewhat more than used by Hickie (1985, p. 178). All data is in 1997-98 prices (based on the implicit price deflator for private final consumption expenditure from the National Accounts – ABS Cat. no. 5204.0).

It may seem plausible that the overall decline in illegal bookmaking was due to the introduction of legal TABs in the 1960s, and the fact that, over time, these became highly accessible throughout the community.

However, this is not altogether certain. There was limited change in the estimated value of illegal bookmaking from 1961-62 to 1982-83, well after legal TABs had flourished.[1] McCoy (1980) considers that these illegal and legal forms could

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[1] Another difficulty in trying to assess the impact of legal on illegal gambling is estimating what the counterfactual would have been. For example, some might have supposed that illegal

survive together because they catered to different markets and because illegal bookmakers became far more organised with the onset of legal competition. Moreover, TABs did not cater for people who wished to place fixed odds or starting price bets.

There is also some question about the magnitude and nature of the social gains realised through legalisation. It appears that prior to the introduction of the legal TAB, illegal bookmakers were not considered as criminals, but as part of a suburban service (Charlton 1987). The 1984 *Royal Commission on the Activities of the Federated Ship Painters and Dockers Union* (Commonwealth Government and the Victorian Government 1989) found that, by the 1980s, the SP bookmaker was quite different to the small operator of the pre-TAB era. With the introduction of the TAB and increased law enforcement, SP bookmaking had become a highly organised operation throughout Australia. In major cities, territories were marked and distributed among organisations. Most transactions were conducted via the telephone, and violence was sometimes employed to ensure the operation of the system.

Illegal casinos

According to Hickie's (1985, p. 59) account of the New South Wales experience, most of Sydney's illegal casinos began as baccarat schools or clubs, with the transition to illegal casinos beginning after the end of a gang war in 1967-68, and aided by corruption in NSW politics and in the NSW police.

The casinos were often equipped with roulette wheels, dice tables, bar equipment and hostesses in scanty uniforms. They operated openly and, in some instances, a sign on the street marked the locations of the casinos. Celebrities, leading athletes and politicians, as well as a substantial walk-in clientele frequented these casinos. The expenditure (player losses) associated with these illegal casinos appeared to be relatively significant (at around $100 million in 1997-98 prices — table O.1).

Sydney's illegal casinos went through a boom in the 1970s (Hickie 1985), but started to decline during the late 1970s as a result of increased law enforcement. Illegal casinos were no longer able to protect their immovable assets, and several shut down while others returned to the style of baccarat schools.

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gambling, with all of its costs, may have grown very substantially over time if the TAB had not been introduced. Not to take this into account would then underestimate the benefits of liberalisation. However, there is some evidence that the illegal market was relatively stable prior to introduction of the TAB. Thus illegal bookmaking turnover barely changed from 1950-51 to 1961-62 (table O.1).

It is understood that illegal casinos have almost entirely disappeared from Australia. Some 'schools' could possibly still exist, but their turnover would be relatively small. Part of the reduction is probably due to the existence of legal alternatives in all jurisdictions, which have driven customers from the illegal to the legal venues. It also appears that tougher policing has been a prime factor in the curtailment of illegal activity.

The implications of displacement of illegal gambling

Trying to quantify the benefits of the displacement of illegal gambling through liberalisation is very difficult:

- the benefits of displacement is *not* the value of player losses, but of the social costs of corruption and crime associated with the illegal gambling;

- factors other than liberalisation seem also to have played a role in the decline of illegal gambling;

- an apparent response to the availability of legal gambling has been the greater penetration of organised crime into the remnant of illegal gambling; and

- the form where the greatest displacement has occurred is probably racing, which is a relatively minor component of overall legal gambling.

However, overall the liberalisation of gambling is likely to have generated benefits by displacing some illegal activity. It is also likely that some of the people who currently experience problems on legal forms would have experienced problems on illegal forms previously — principally on racing.

But the magnitude of these benefits are more a footnote to the true source of gains from the liberalisation of gambling — the substantial consumer benefits from the increased legal availability and diversity of gambling products (which is discussed in chapter 5).

P Spending by problem gamblers

The amount of spending accounted for by problem gamblers is relevant on several grounds. It provides:

- an insight into the financial consequences of gambling problems for problem gamblers and their immediate family;

- key data for examining the level of consumer surplus for problem gamblers from their consumption of gambling (chapter 5); and

- evidence on whether gambling providers are likely to have strong incentives to ameliorate problem gambling.

This appendix sets out the methodology for estimating the problem gambling expenditure shares and provides detailed data.

Section P.1 sets out some of the differing definitions of expenditure that are often used in gambling, while section P.2 describes aggregate spending on gambling in Australia and its distribution among consumers.

Section P.3 then calculates the share of expenditure derived from problem gamblers for individual gambling modes. It also tests whether these share estimates are significantly affected by problem gamblers who may spend something in a given mode, but whose real gambling problem lies elsewhere.

Section P.4 then calculates the average expenditure of problem gamblers and their overall share of the commercial gambling market. However, since the Commission's *National Gambling Survey* both over and underestimates some parts of the gambling market (like all other surveys of this kind), it is important to adjust the data for these biases. The adjusted data provide the best picture of expenditure by problem gamblers and a reader wishing to see the bottom line should look at tables P.6 and P.7.

Problem gamblers are a heterogenous group. Some have moderate problems only, while others have severe difficulties the resolution of which may require direct intervention. Section P.5 sets out the expenditure shares of these two sub-groups of problem gamblers and the methodology used to estimate them.

P.1   Definitions of spending

A variety of definitions are used to describe the amount of consumer spending on gambling. Each is useful, but they should not be confused with each other:

- *Outlays* are the amount of money that a gambler brings to a gambling venue (or takes from an ATM or borrows from someone) and uses to gamble during a gambling session. For example, if someone bets $50 on a race then this represents an outlay of $50. Similarly, the purchase of a $2 lottery ticket represents an outlay of $2. Outlays must always be positive.[1]

- *Turnover* is the sum of all stakes, including those derived from winnings during a gambling session. Turnover will typically be many times bigger than player losses, and is an inappropriate measure of the amount of money that consumers spend on gambling. Turnover is probably best seen as a quantity measure of gambling, in that the price of gambling (the average player loss rate) times turnover is equal to total expenditure measured as player losses.

- *Player losses* (also sometimes referred to as spend, net outlays or gross revenue to the gambling provider) is equal to the initial outlay, less any final winnings. It is also equal to turnover less cumulative wins. For example, if someone made bets equal to $300 at the races and won back $200, then the player losses are equal to $100. Player losses will obviously be negative for gamblers who win more than they lose in a gambling session. Overall, player losses is the most appropriate measure of expenditure — and conceptually matches measures of expenditure for other goods.

Table P.1 illustrates the three concepts for a person playing on a gaming machine.

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[1] In some contexts, this facet of outlays makes it a more useful spending measure than actual losses. For example, say that there are 10 males and 10 females playing an identical game of pure chance and spending the same amount each. The spending shares based on outlays are equal. However, say that, by chance, enough males win so that player losses among this group are zero, while all of the females lose. The spending shares based on player losses would suggest that females accounted for 100 per cent of player losses. While that may be true in this hypothetical case, it is not the expected outcome and would be unlikely to occur again in repeated cases. The outlay share provides, in this instance, a more realistic view of player losses. In games of repeated play and high frequency low prize wins, such as gaming machines and scratchies, shares of player losses are the best measure. But for lotteries, in particular, outlay shares can sometimes be more appropriate.

Table P 1 **Outlays, player losses and turnover**[a]

An example based on a gaming machine

Sequence of button presses	Amount of gambling funds	Staked	Turnover (cumulative stake)	Win	Cumulative win	Player losses (cumulative net position)
	$	$	$	$	$	$
0	60	..	..	..	..	..
1	50	10	10	0	0	10
2	90	10	20	50	50	-30
3	80	10	30	0	50	-20
4	70	10	40	0	50	-10
5	80	10	50	20	70	-20
6	70	10	60	0	70	-10
7	80	10	70	20	90	-20
8	70	10	80	0	90	-10
9	60	10	90	0	90	0
10	50	10	100	0	90	10

a The outlay in this case is equal to $60, which is the amount that the gambler takes from her purse to gamble, and is equal to initial value of money that the gambler puts into the gaming machine. The turnover is equal to the cumulative amount staked (including recycled winnings), which in this case is equal to $100. The player losses are equal to the amount brought to gamble at the start ($60) less the amount left at the end ($50), which equals $10. Alternatively, the player losses can be seen as turnover less cumulative wins.

Source: Commission calculations.

P.2 Some stylised facts about gambling expenditure

Australians lost around $10.8 billion on commercial gambling in 1997-98, with foreign visitors losing around another $540 million (table P.2). With a population of around 14.1 million adults, that represents average expenditure per adult of around $760.

However, around 20 per cent of Australians did not participate in commercial gambling last year (although some of these participated in non-commercial gambling such as sweeps, raffles and private games). This implies that average losses per *gambler* are around $940 per year.

Even so, many gamblers spend very little on gambling, sometimes buying a lottery or scratch ticket, occasionally placing a bet on the races, going to a casino or trying their luck on the 'pokies'. The Commission's *National Gambling Survey* suggests that the median commercial gambling spend is around one third of the average, which indicates that there is a 'tail' of big spenders who have a significant influence on the recorded average (table P.3 and figure P.1). This is even more pronounced

for some gambling categories, such as gaming machines, wagering and casino table games.

Table P 2   The Australian gambling market, 1987-98

Gambling mode	ABS 1997-98	Tasmanian Gaming Commission 1997-98	PC National Gambling Survey March 1998 - March 1999	Hybrid measure
	$ million	$ million	$ million	$ million
Gaming machines	6400.8	5867.0[a]	3719.8	6400.8
Total wagering (excluding sportsbetting)	1600.2	1663.9[g]	901.4	1600.2
Total sportsbetting	23.4	24.5	50.6	23.4
Lotteries, lotto style and pools	1179.1	988.1	1679.7	1179.1
Scratchies	246.4	224.8	130.6	246.4
Keno				
Club keno	175.7	170.9[h]	..	175.7
Casino keno	33.4	..	..	33.4
Total keno	209.1	..	315.1	209.1
Casino table games				
Table games including foreigners	1431.6	2232.0[b]	..	1431.6
Foreign losses	536.5	..	..	536.5
By residents	895.1		747.2	895.1
Internet casino games	..	..	27.4	27.4[d]
Other commercial (bingo etc)	..	194.9[c]	189.3	189.3[e]
Private games	..	..	178.2	178.2
Commercial gambling involving Australian residents	10554.1	..	7761.1	**10770.8**[f]
Total gambling by Australian residents	..	..	7939.3	10949.0
Commercial gambling total	11090.6	11366.1[i]	..	**11090.6**

a This excludes gaming machines in casinos. **b** This includes gaming machines in casinos and casino keno. **c** This includes minor gaming forms such as bingo and some raffles. **d** This is included in the hybrid measure because the official statistics will have failed to pick up data on such internet gambling. **e** This is the preferred measure of 'other' for the hybrid measure because the Commission's *National Gambling Survey* did not include raffles. **f** This is the definitionally appropriate measure of gambling when calculating the magnitude of gambling expenditure by Australian residents. It excludes foreign gambling in casinos and private games and raffles. It is not perfect. It fails to subtract tourist spending on gambling outside of casinos (but this is believed to be small), and in the case of internet gaming and 'other' the hybrid measure combines data from April 1998 to April 1999 with other data for 1997-98. **g** This updates the published Tasmanian Gaming Commission data to take account of a slight underestimation of the expenditure through the Tasmanian TAB. **h** This updates the published Tasmanian Gaming Commission data to include club keno from Queensland. **i** This updates the total expenditure data published by the Tasmanian Gaming Commission (see notes g and h).

Sources: Australian Bureau of Statistics 1999, *1997-98, Gambling Industries, Australia*, Cat. no. 8684.0, June; Tasmanian Gaming Commission Database 1997-98 (including unpublished updates) and PC *National Gambling Survey*.

Table P 3   **Concentration of outlays on commercial gambling, Australia**[a]

Gambling type	Top 10% of spenders share of aggregate outlay	Top 5% of spenders share of aggregate outlay	Ratio of median to mean	Mean outlay of the top 10% of spenders
	%	%	ratio	$
Gaming machines	76.7	62.8	0.24	7 750
Wagering	82.1	64.6	0.16	10 011
Scratchies	56.3	41.7	0.33	409
Lotteries	39.0	33.1	0.63	1 498
Casino table games	78.7	64.8	0.13	12 532
All commercial gambling	72.9	59.4	0.33	10 377

a Based on outlays of gamblers, not player losses.

Source: PC *National Gambling Survey.*

Figure P 1   **Distribution of commercial gambling outlays**
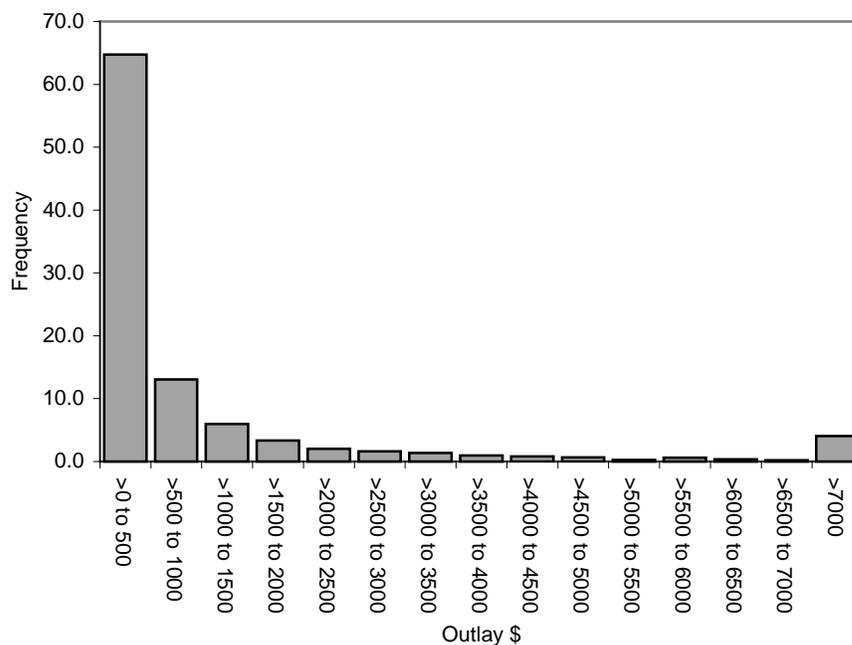
a These data are outlays on commercial gambling (not player losses) from the PC *National Gambling Survey*, and exclude private games for money and raffles. These data have **not** been adjusted to take account of under enumeration of gambling expenditure.

Data source: PC *National Gambling Survey.*

One view is that gambling is like other consumer goods in showing such a pattern of concentrated consumer spending. Some data on US lotteries was provided to the Commission to support this and to infer that such a pattern would be similar for other gambling products. According to this view, the concept of problem gambling

— based on excessive expenditure — is questionable, when concentrated spending seems to be a recurrent pattern across many consumer goods.

However, lotteries (and to a lesser extent scratchies) show a quite different pattern to other gambling products. They exhibit some concentration of spending — as in all consumer goods — but nothing as extreme as that applying to other gambling forms. The top 10 per cent of spenders in Australian lotteries account for just under 40 per cent of total expenditure. In contrast, such a group accounts for around 80 per cent of total outlays for wagering, gaming machines and casino table games. Furthermore, the average annual outlay of heavy lottery players (the top 10 per cent) is about $1 500, which is not prohibitive as a share of most average incomes, whereas the average spends for the top 10 per cent of spenders in modes such as gaming machines ($7 750) and wagering ($10 011) looms much larger.[2] Accordingly, while expenditure concentration is characteristic of many consumer products, it appears to be more extreme and to involve large absolute amounts in some gambling forms.

Problem gamblers, as diagnosed using the SOGS, are strongly represented among heavy gamblers (figure P.2), and people with higher SOGS scores tend to spend more on average than those with lower scores (figure P.3). Problem gamblers account for about 0.4 per cent of gamblers who outlay less than $500 a year on gambling, but for around 40 per cent of those who outlay more than $4 500 annually. Of course, this does not mean that heavy spending equates with excessive spending or with problem gambling — indeed it is still true that a majority of heavy gamblers are not problem gamblers (using the SOGS criterion of 5+).

P.3   Problem gambling expenditure by gambling mode

Using the methodology described in box P.1, the Commission calculated the expenditure levels and shares of problem gamblers in Australia by gambling mode (table P.4). Problem gamblers figure prominently in the overall expenditure of gaming machines, wagering and 'other' commercial gambling, but are much less significant for lotteries and casino table games.

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[2] Although note that this is outlay, not player losses. Absolute values of player losses will tend to be smaller. On the other hand, these estimates have not been corrected for the sampling bias — all estimates would rise, bar lotteries, after such adjustment.

Figure P 2   **Distribution of outlay by problem and recreational gamblers**

Legend:
- ■ Problem gamblers
- □ Non-problem gamblers

Y-axis: Frequency (%), 0.0 to 70.0
X-axis: Outlay ($) — >0 to 500, >500 to 1000, >1000 to 1500, >1500 to 2000, >2000 to 2500, >2500 to 3000, >3000 to 3500, >3500 to 4000, >4000 to 4500, >4500 to 5000, >5000 to 5500, >5500 to 6000, >6000 to 6500, >6500 to 7000, >7000
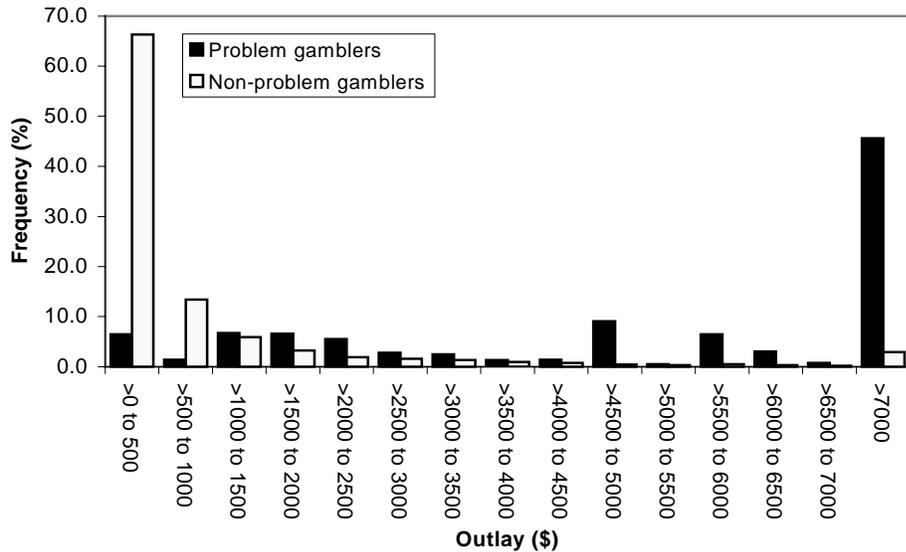
aSee note for above figure.

Data source: PC *National Gambling Survey*.

Figure P 3   **Average annual outlays by SOGS score**

Y-axis: Gross outlay ($), 0 to 30000
X-axis: SOGS score — NC, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10+
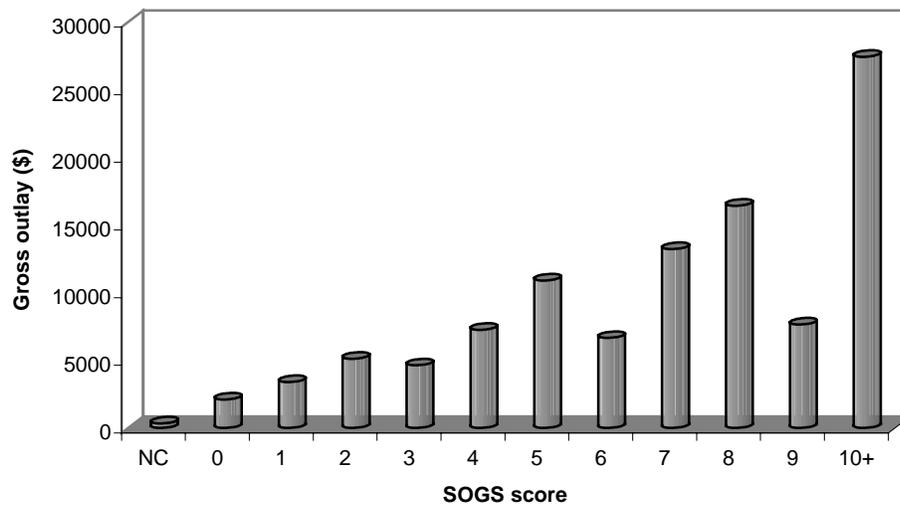
aThese data are not adjusted so that they are consistent with aggregate gambling expenditure data. That would tend to increase the average spending amount, but by a variable amount for each SOGS grouping depending on the areas where the people concerned were gambling (see section P.3). NC denotes the group of non-regular gamblers who were not asked the SOGS.

Data source: PC *National Gambling Survey*.

> **Box P 1   Calculating the problem gambling expenditure share**
>
> The Commission sought to examine the share of expenditure accounted for by problem gamblers (α) in Australia by calculating:
>
> $$\alpha = \sum_{i=1}^{N} w_i E_i P_i \Big/ \sum_{i=1}^{N} w_i E_i \qquad \{1\}$$
>
> where w_i is the weight associated with the ith observation, E_i is the expenditure measure (typically losses) for the ith person on gambling and P_i is an indicator variable which is equal to 1 for problem gamblers and 0 otherwise.
>
> Equation {1} above can be re-written in a way that provides further insight into patterns of expenditure by problem gamblers. As noted by Volberg, Moore, Lamar, Christiansen, Cummings and Banks (1998, p. 354), another way of defining α is as:
>
> $$\alpha = \frac{PREV \times PLF}{PREV \times PLF + (1 - PREV)} \qquad \{2\}$$
>
> where PREV is the prevalence rate of problem gambling and PLF is the Proportional Loss Factor (equal to the ratio of losses made by problem gamblers to those made by non-problem gamblers). This expression reveals that a high value for α is obtained if PREV or/and PLF is high. For example, if the prevalence rate of problem gamblers among a group of people who gamble is 2 per cent, and problem gamblers spend 10 times more per year on average than non-problem gamblers, then this implies an expenditure share by problem gamblers of just under 17 per cent. Since the most clearly distinguishable feature of problem gambling is high expenditures on gambling, equation {2} is suggestive immediately that problem gambling shares of expenditure are likely to be appreciable.

Adjusting for the source of problem gambling

Data from people seeking help from counselling services (chapter 17) reveals that some forms of gambling, particularly gaming machines and wagering, appear to pose higher levels of risk for problem playing. Once it is recognised that a problem gambler's problems may stem from just one form of gambling, it raises the question of whether all other forms they may play should be tarred with the same brush. After all, consider someone who feels they have impaired control over their gaming machine play and spends $100 a week. They also play bingo once a week with friends, spending only $5 each time — rather less than the average. In one sense it seems legitimate to include the expenditure on bingo as part of this problem gambler's expenditure on gambling. However, if it is in no way a source of their problem it is not clear why this expenditure should be treated differently to any other form of expenditure, such as money spent on a movie or a meal.

Table P 4 Expenditure shares of problem gamblers by mode[a]
Australia 1999

	Outlay			Player loss		
	PLF mean	PLF median	Expenditure share (mean-based)	PLF mean	PLF median	Expenditure share (mean-based)
	Ratio	Ratio	%	Ratio	Ratio	%
Gaming machines	10.6	21.8	34.5	14.5	39.0	42.3
Wagering	6.8	9.1	23.6	10.8	10.0	33.1
Scratchies	3.1	2.3	8.5	8.0	2.2	19.1
Lotteries	1.7	1.3	4.5	2.1	1.4	5.7
Casino table games	1.6	4.0	9.9	1.7	8.0	10.7
Other (non-raffle)[b]	4.2	2.3	21.1	5.3	2.5	25.0

a PLF is the proportional loss factor — the ratio of expenditure by problem gamblers in any mode to that of non-problem gamblers.

b This includes keno, bingo, sports betting, internet games, and other, but excludes private games for money and raffles. Of these gambling types, keno contributed most to the relatively high expenditure share of problem gamblers in this gambling mode.

A number of possible adjustments to the data are possible, albeit all being somewhat arbitrary:

- the favourite form of gambling for the problem gambler is sometimes regarded as the source of the problem. Expenditure shares could then be calculated for the favourite form only. The conceptual difficulty with this is that a favourite game may not always be the source of the problem. More critically, a player may experience problems with a number of gambling modes;

- the gambling form on which most is spent. While this is likely to be a source of a gambling problem, it also fails to deal with people who experience problems with multiple forms of gambling; and

- another possible adjustment could be based on the ratio of problem player to non-problem player losses (the PLF). If the PLF is relatively high (say two standard errors higher than the mean PLF) then that gambling form could be seen as problematic.[3] The results (figure P.4) suggest that much the same pattern emerges as apparent in table P.4. This suggests that taking smaller spending problem gamblers in any given mode out of the calculations makes very little difference to the overall contribution by problem gamblers to expenditure.

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[3] A possible difficulty with this is that a problem gambler might spend small amounts on any individual gambling mode, but participate in so many that the collective expenditure constitutes a problem. Or it could be that a gambling mode is a problem for a person, even though the PLF is close to unity, because the expenditure is high relative to personal income.

Figure P 4   **Problem gambling share of outlays by gambling mode —
adjusted for low spending problem gamblers**
Australia 1999
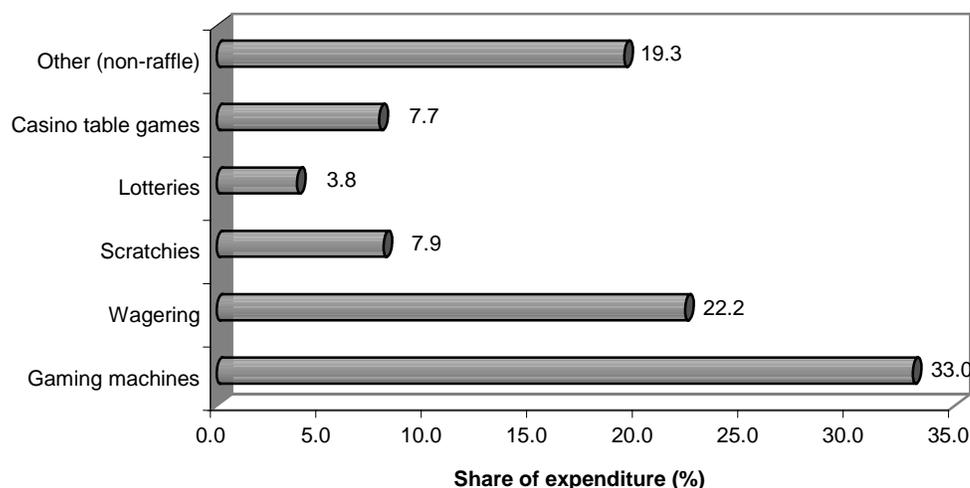
a For each problem gambler and for every gambling form, the expenditure was tested to see if it was two standard errors above the mean spending for that mode. If it was, then it was counted as spending by a problem gambler. If it was not, it was regarded as non-problem gambling spending. Figures are lower than the unadjusted data because problem gamblers who spent under two standard deviations from the mean will have their expenditure excluded.

Data source: PC *National Gambling Survey.*

P.4   Estimating the overall share of expenditure accounted for by problem gamblers

The Commission's survey (using unadjusted data) suggested that problem gamblers lose around 15 times as much, on average, as non-problem gamblers (table P.5).[4] If the median (the middle number) is used as the measure of central tendency, instead of the mean, then the ratio of spending is even greater, at around 20 times.

A revealing feature of the data is that the ratio of player losses to outlay is higher for problem gamblers than for non-problem gamblers. This is consistent with problem gamblers recycling their winnings more often than non-problem gamblers.

The overall implication of these data is that problem gamblers account for about 29 per cent of total gambling losses. However, if the PC *National Gambling Survey*

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[4] The existence of false positives (people who are wrongly categorised as problem gamblers) and false negatives (people who are wrongly categorised as non-problem gamblers) is likely to lead to an underestimate of the relative spending of these two groups.

is adjusted for biases in its estimates of overall gambling in each of the major gambling modes a different picture emerges, as we examine below.

Table P 5   **Annual expenditure by problem gamblers – unadjusted figures[a]**

	Outlays	*Player losses*
Average per year		
Problem gamblers ($)	11 620	7 631
Non-problem gamblers ($)	1 155	505
All gamblers ($)	1 424	689
Median per year		
Problem gamblers ($)	7 280	3 941
Non-problem gamblers ($)	414	199
All gamblers ($)	469	218
Proportional loss factors [b]		
PLF mean	10.1	15.1
PLF median	17.6	19.8
Share of expenditure (%)	21	28.6

a The data are from the PC *National Gambling Survey* and are unadjusted for the under-enumeration of total gambling. **b** The ratio of expenditure by problem gamblers to those of non-problem gamblers.

Source: PC *National Gambling Survey*.

Some qualifications and adjustments

The results above are based on a survey of the general population. The aggregate expenditures predicted by such surveys are often biased measures of the actual expenditures recorded by governments (based on tax data). The ABS *Household Expenditure Survey* underestimates spending by about 70 per cent.[5] Delfabbro (1998, p. 183) finds that the South Australian survey data on poker machine expenditure is roughly half of that recorded by the gambling industry and the government. Other Australian gambling surveys also tend to underestimate losses.[6] The Productivity Commission's *National Gambling Survey* also underestimates spending, by about 25 per cent (table P.2).

Furthermore, the degree of bias in the Commission's survey varies by the type of gambling mode. For example, the Commission's survey suggested that total lottery spending in Australia was about 40 per cent higher than the official data

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[5] The Maribyrnong City Council (sub. D181, pp. 16-25) provides a very extensive and useful analysis of the darwbacks of the HES.

[6] The problem is not isolated to Australia. The recent US national survey found that Americans *won* a net US $2 billion from casino tables and poker machines, when they in fact *lost* around US $20 billion net (Gerstein et al. 1999 pp. 31–32). A similar story was apparent for wagering;[6] Americans also spent around US $3.3 billion on lotteries, about one fifth of the actual aggregate spending (which is about US $15 billion).

(table P.2)[7], while under-enumerating spending on gaming machines and wagering. The fact that the bias in expenditure estimates varies by gambling mode has an important implication for trying to estimate the overall share of expenditure accounted for by problem gamblers. In some gambling modes, problem gamblers account for a significant share of expenditure, while in others, much less so. If the Commission's survey has under-enumerated spending in those gambling modes where problem gamblers make a small (large) contribution to spending in that mode, then the aggregate share of spending by problem gamblers will be overestimated (underestimated).

To derive an adjusted aggregate share of gambling expenditure (table P.6) the Commission combined:

- the problem gambling shares of player losses from the PC *National Gambling Survey* for each of the relevant gambling modes (from table P.4);

- with the shares of each mode in aggregate Australian resident commercial gambling derived from table P.2.

Table P 6   **Problem gambling player losses per year**
Adjusted for expenditure biases, 1997-98

Gambling form	Value $ million	Share of gambling mode in total[a]	Problem gambling share of player losses[b]	Unadjusted problem gambling expenditure	Adjusted problem gambling expenditure
	$ million	%	%	$ million	$ million
Gaming machines	6 400.8	59.4	42.3	1 575.0	2 707.5
Wagering	1 600.2	14.9	33.1	298.1	529.7
Scratchies	246.4	2.3	19.1	25.0	47.1
Lotteries	1 179.1	10.9	5.7	96.5	67.2
Casino table games	895.1	8.3	10.7	79.9	95.8
Other commercial	449.2	4.2	25.0	145.4	112.3
Total	**10 770.8**	**100.0**	**33.0**	**2 219.9**	**3 559.6**

a The adjusted problem gambling spending share (s) is derived as:

$$s = \sum_{i=1}^{6} \left(\frac{E_i}{\sum_{i=1}^{6} E_i} \times \frac{PG_i}{E_i^*} \right)$$

where E_i is the spending from the aggregate data (the 'hybrid' data in table P.2), PG_i is the problem gambling spending in mode i from the PC *National Gambling Survey* and E_i^* is the total spending in mode i from the PC *National Gambling Survey*.

Source: Table P.2 and PC *National Gambling Survey*.

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[7] This is not a surprising result. Australian lotteries provide a significant share of the prize to just one winning combination. It would be rare for a survey to find such a winner and, accordingly, reported player losses will tend to be higher than actual losses.

ACIL (sub. D233. p. 48) claimed that the Commission had (inappropriately) used different scale-up factors for problem gamblers than non-problem gamblers when taking account of the biases in spending categories from the survey.[8] This represents a misunderstanding of the method used. Problem gamblers were treated no differently to other gamblers in making the adjustment. In each gambling mode the Commission assumed that total spending for any gambler is biased by some *constant* factor. In some expenditure categories, for example, lotteries and other commercial gambling, the Commission's aggregate estimates of spending were higher than official statistics. After adjustment for expenditure biases, the estimate of absolute spending accounted for by problem gamblers *fell* in these cases. However, because the Commission's data under-enumerated spending in gaming machines and wagering significantly, the absolute amount of expenditure accounted for by problem gamblers increased overall. On the basis of these adjustments, **the Commission estimates that problem gamblers account for one third of total gambling losses by Australians.**

The implication of the adjusted data is that a problem gambler spends around $12 200 per year compared to about $650 for a non-problem gambler — or around 16 times as much (table P.7).

Table P 7   **Annual average player losses by mode**
Adjusted for expenditure biases

Gambling mode	Mean losses by problem gamblers	Mean losses by non-problem gamblers	Overall losses
	$	$	$
Gaming machines	10 674	711	1 174
Wagering	3 727	325	466
Scratchies	256	31	38
Lotteries	295	135	139
Casino table games	1 099	584	615
Other commercial	628	107	135
Total	12 237	645	938

a These estimates are obtained by dividing the estimated problem gambling player losses in table P.6 by the estimated number of problem gamblers given by the Commission's prevalence estimates.

Source: PC *National Gambling Survey* and table P.6.

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[8] The expert testimony attached to the ACIL submission made a number of other comments regarding methodologies for estimating spending, and especially warned against using the median as a basis for estimating overall expenditure. The Commission agrees that medians would be an inappropriate basis for calculating the total expenditure, and did not base any estimates of overall gambling expenditure on medians (in either the final or draft report).

It should be emphasised that the estimated expenditure share of problem gamblers could be somewhat higher or lower than one third, and that the number should be seen as indicative rather than an exact measure:

- In each gambling mode, the survey estimates of expenditure diverge somewhat from the official statistics (though not as badly as most other surveys of this kind). We have assumed that the degree of over or understatement is the same for problem and non-problem gamblers.

    - However, if problem gamblers understate their spending by more than others, then the figures in the tables above would show an even greater concentration of player losses among problem gamblers — with corresponding greater financial impacts on the affected individuals and their families. This could be the case if, for example, problem gamblers, do not want to acknowledge their losses, out of embarrassment or other motivations. This is consistent with some of the underlying behaviour that characterises problem gambling (such as concealing evidence of gambling).

    - On the other hand, if recreational gamblers understate their spending by a proportionately greater amount, then the above estimate of the problem gambling spending share would be biased upwards. For example, as ACIL noted (sub. D233, p. 48), recreational gamblers may tend to forget small losses, which are relatively minor compared to everyday expenses and more likely to be remote in time, whereas problem gamblers may be more aware of the large amounts that they spend regularly. However, according to the Commission's *National Gambling Survey*, regular non-problem-gambler heavier spenders account for a significant share of total spending. If it is argued that high spending and regularity are likely to lead to more accurate recollection of gambling losses, then this group should not have substantially biased spending. That means that the missing money would have to be largely accounted for by notionally light spenders, but the adjustment of their mean losses needed to account for the major part of the understatement would be implausibly large. It seems likely that all groups have some difficulty in trying to assess or divulge their spending accurately, and without concrete evidence there is no basis assuming the level of understatement is higher or lower for problem gamblers compared to other groups of gamblers.

- The data are derived from a survey, and inevitably, sampling and non-sampling errors may affect the reliability and accuracy of the data.

The fact that player perceptions of expenditure vary so significantly from the real amounts lost should be subject to further research to see if improvements in survey or other data collection methods provide more accurate answers.

P.5 Estimating the expenditure share of moderate versus severe problem gamblers

The Commission has emphasised that, just as gambling products are heterogeneous, so are problem gamblers. From a public health angle there is interest in people who do not need treatment, but who nevertheless exhibit some of the behaviours and problems of those who do (as in obesity, diabetes and a range of orthodox public health concerns). This group is termed moderate problem gamblers (or what Shaffer et al. term type level 2 problem gamblers). It is useful to know the spending share of this group relative to the severe, 'need treatment', group for the analysis of the consumer surplus in chapter 5.

Unfortunately, there are a number of difficulties in trying to estimate the relative spending shares of these two groups of problem gamblers. The Commission has used Dickerson's definition of severe problem gambling, which involves a weighted sum of gamblers across the different SOGS scores. For example, Dickerson assumes that one in five people with a score of 5 on the SOGS is a severe problem gambler. This raises the difficulty of determining which of the SOGS 5 gamblers will be counted as severe and which as moderate for the purpose of allocating expenditure to each of these problem gambling categories:

One method would be to assume that mean expenditure in each SOGS category is equal between the two groups, but that is contrary to evidence that those who need treatment tend to spend more than those who do not.

Another method would be to presume that the severe problem gamblers always spend more than any moderate problem gambler in any SOGS score category. That, however, ignores the fact that many heavy gamblers do not face big problems.

The Commission adopted another approach. In any given SOGS score category and for each gambling mode, the population of gamblers are sorted by their HARM scores, starting with those who scored the highest. The Dickerson quota (for example, 20 per cent in the case of SOGS 5) is allocated to the those with the highest HARM scores, until the quota is depleted. All gamblers classified as severe problem gamblers using this method had at least a score of one on the HARM criterion. Inevitably, it is rare that the data provides the expenditure share for exactly the Dickerson quota — that is achieved through interpolation. While being complex to implement, the advantage of this method is that at least it uses a criterion of harm to try to identify the severe cases within each SOGS category.

This method produces expenditure shares for severe and moderate problem gamblers in each gambling mode. As before these are then weighted by the official

data to derive an overall estimate of the shares of commercial gambling accounted for by the two groups of problem gamblers (table P.8).

Table P 8 **Shares of player losses by severe and moderate problem gamblers**

Gambling type	Severe share	Moderate share	Problem gambling share
	%	%	%
Gaming machines	33.7	8.7	42.3
Wagering	23.5	9.5	33.1
Scratchies	7.8	11.3	19.1
Lotteries	2.1	3.7	5.7
Casino table games	2.5	8.2	10.7
Other commercial	16.5	8.5	25.0
Total	24.8	8.3	33.0

Source: PC *National Gambling Survey* and table P.6.

Interestingly, the data suggests that severe gamblers account for the bulk of expenditure by problem gamblers in gaming machines and wagering. They account for rather less in the remaining gambling forms, where the evidence from both the prevalence and treatment data suggest gambling problems are much less extreme.

P.6   Standard errors

The Commission's survey uses a complex design, with a two phase selection process for asking expenditure and SOGS questions. This means that conventional standard errors will tend to suggest a higher level of precision than is actually the case. In order to provide an estimate of the standard errors corrected for the complex design, the Commission used a re-sampling approach (the 'bootstrap'). This involves using a computer to draw many repeated samples from a 'master' data set, replicating all the features of the complex survey design in each replication. Then the outcomes from the replications provide an idea of the extent to which the design and sampling variability affect the precision of the estimates.

The Commission undertook a simulation, with 5 000 replications, to examine the expenditure shares of each of the major gambling modes as above. For each replication, a weighted average of the expenditure shares across the modes was calculated, using the weights from table P.6. These weighted averages were then sorted in ascending order. The 125th observation in the list of values then represents the estimate of the lower 2.5% tail of the 95 per cent confidence interval. Other values from the list represent other significance cutoff points. The confidence intervals for each of the gambling modes and for the weighted average of gambling

expenditures shares are shown in table P.9. These data suggest that our inference that problem gamblers account for an economically significant share of overall gambling expenditure is not affected by the sampling and design effects in our survey.[9]

Results for individual gambling modes are less reliable, particularly where the survey has relatively small samples for those playing that mode (such as table games), or where there is considerable variability in player amounts (such as race betting). For example, the 95 per cent confidence interval for the share of expenditure accounted for by problem gamblers in race betting is from 10 per cent to 64 per cent, while it is 2.1 per cent to 23.3 per cent for table games. On the other hand, the confidence interval for gaming machines is relatively narrow.

Table P 9   **Confidence intervals on shares of player losses by problem gamblers by mode**

Bootstrap estimates[a]

Threshold	Gaming machines	Wagering	Scratchies	Lottery	Table games	Other	Total
	%	%	%	%	%	%	%
2.5% lower tail	32.6	9.8	4.9	1.0	2.1	12.1	25.2
5% lower tail	34.1	13.4	6.6	1.8	3.2	13.8	26.7
10% lower tail	36.0	17.0	8.7	2.6	4.5	15.9	28.0
10% upper tail	48.5	49.8	30.8	8.9	17.8	34.5	38.1
5% upper tail	50.3	56.3	35.1	10.1	20.5	37.1	39.5
2.5% upper tail	51.8	63.6	39.6	11.5	23.3	39.6	40.8
Mean	42.3	33.1	19.1	5.7	10.7	25.0	33.0

a Based on 5 000 replications. The estimate for the confidence intervals for total gambling expenditure is based on calculating the weighted average of the expenditure shares and then sorting these from low to high, and selecting the values corresponding to the appropriate confidence thresholds. The confidence intervals for each of the other modes are calculated with a separate sort for each mode.

Source: Commission estimates and PC *National Gambling Survey*.

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[9] Although these calculations cannot take account of any other effects, such as non-response error and other non-sampling errors.

Q   Who are the problem gamblers?

Q.1   Introduction

This appendix looks at the characteristics of 'at risk' and problem gamblers, drawing on findings from other Australian and overseas studies. Data from the Commission's surveys are presented in chapter 6.

Examining these characteristics is useful for several reasons:

- First, they provide indications of vulnerable groups, which may usefully be the target for help services or promotional campaigns geared at raising awareness.

- Second, they provide information about the patterns of gambling problems, which may be useful in identifying causes of problem gambling prevalence. For example, until the advent of EGMs, females have tended to gamble less than males, and therefore been less exposed to possible problems. The fact that their representation in the problem gambling statistics has risen is suggestive of a causal link to the availability of a gambling mode attractive to women.

- Third, the socioeconomic profile of problem gamblers, combined with other information, may be a guide to more efficient screens of problem gambling.

It is important to distinguish two major sources of data. Because problem gambling is relatively rare amongst the general population, it is hard to obtain large samples of affected people from population surveys. For example, the 1997 gambling prevalence survey in Victoria (Market Solutions and Dickerson 1997) identified only 15 people with a SOGS score of 5 or more, while the two NSW gambling surveys (Dickerson, Allcock, Blaszczynski, Nicholls, Williams and Maddern 1996a, 1998) yielded 36 and 38 people respectively people with a SOGS score of 5 or more. Because of the much larger size of the Commission's *National Gambling Survey*, a reasonable number of problem gamblers were identified (140 people with a SOGS score of 5 or more) allowing more reliable statistical analysis.

An alternative source of information are surveys of, or records from, clients of gambling help services, such as Break Even or Gamblers Anonymous. It is possible to get very much larger numbers of problem gamblers in this group than in general population surveys. However, it should not be assumed that information on clients

of counselling agencies is necessarily representative of people who either have problems but do not seek help, or seek help but do not disclose personal information. As noted by Jackson, et al. (1997, p. 8), educated middle class people are more likely to contact help services than working class ones. Also, some cultural groups are more tolerant of gambling than others, and will accept problem gambling as a problem, rather than a moral failing.

Q.2   Socio-economic patterns among problem gamblers

Income

Many assessments of the demographic profile of problem gamblers have indicated that they come disproportionately from the disadvantaged (Select Committee on Gambling, ACT, 1999, p. 15). Blaszczynski (1998, pp. 33-34) indicates that it is not surprising that people on lower incomes and unemployed persons have a higher risk of gambling problems:

> As a result, problems emerge at a much earlier stage in proceedings and tend to persist over as longer period... For example, consider two individuals, one with fifty pounds disposable income a fortnight and the other with two hundred pounds. Assume both spend 20 pounds gambling. For one, this represents 40 per cent of his income; for the other, 10 per cent. Should both establish a debt of five hundred pounds and begin to pay it back at the same rate of 40 pounds a week, the person on lower income will struggle to meet repayments, thus immediately facing the temptation to gamble more in order to try to ease the financial pressure. In addition, the person on the lower income is likely to find it much more difficult to borrow funds. In these circumstances, there is a greater risk of the person turning to illegal means to obtain money to supplement living expenses.

However, the evidence for a marked difference in the income levels of problem gamblers compared with other adults is equivocal. Jackson et al. (1999b), for example, find that the income profile of a large group of problem gamblers in counselling — the most severe group — resembles that of the general population (chapter 6). The Commission's surveys (chapter 6) also reveal relatively modest differences in the average income levels of problem gamblers compared with other adults. Nevertheless, it should be noted that:

- Problem gamblers tend not to be old, and old people tend to have lower incomes. Once the age structure of problem gamblers is taken into account, it is possible that they may have lower income than similarly aged peers.

- It is still the case that many problem gamblers have low income (table Q.1).

Table Q.1   **Incomes of problem gamblers**

Study	Percentage on low income[a]	Nature of group	Location and time period
Jackson et al. (1997)	48.2% had incomes below $20 000 per year; 27.5% had incomes below $10 000.[b] 37.5% were on fixed incomes.[c]	Clients of Break Even services	Victoria, 1996-97
Jackson et al. (1999b)	57% reported incomes of less than $20,800 per year; and 33% were in receipt of pensions or benefits. But the income distribution of clients is similar to that of all Victorians.	Clients of Break Even services	Victoria, 1997-98
Elliot Stanford and Associates (1998)	57.8% earned less than $20 000 per annum; 28.3% earned less than $10 000.	Clients of problem gambling counselling services	South Australia, November 1996 to March/May 1998
Dickerson, Allcock, Blaszczynski, Nicholls, Williams and Maddern (1996a)	33.3% of those scoring 5+ on the SOGS earned less than $20 000 and 14.8% had incomes below $10 000.	General population survey	NSW 1995
Eckhardt (1998)	49% earned less than $20 000 and 18% less than $10 000.	Clients of gambling counselling services	Tasmania July 1997 – Sept 1998
Relationships Australia Queensland (sub. 62)	37% of gambling clients had income below $10 000 and 57% were below $20 000.	Clients of gambling counselling services	Break Even Gold Coast May 1993 - Oct 1998
Lorenz and Politzer (1990)	27% reported incomes of less than US$10 000 and another 21.8% between US$10 000 and $20 000.	Patients of 3 Maryland problem gambling treatment centres	Maryland, US, 1983–1989
National Council of Welfare (1996)	28% of household income under $25 000 cf 20% for non-problem groups	General population	Alberta Canada
Gerstein et al. (1999)	Found that people earning less than US $24 000 had a 40% higher risk of being a 'pathological' gambler	General population	US 1998

a Note, however, that *household* income might be higher than this. **b** Jackson, et al. 1999a (pp. 15–16) found that problem gamblers are apparently under-represented among the lowest income group when compared with Victorians as a whole. However, the researchers emphasised that many problem gamblers did not disclose their income, and that the concepts of income used were vague and so could severely bias the results. **c** Fixed incomes include pensions and benefits (eg unemployment benefits).

Source: See column 1 for the sources of data.

Employment status

Delfabbro (1998, p. 180) conjectures that the unemployed are more likely to gamble problematically because it allows them an escape from their worries and raises the possibility of a win to supplement their benefit income.

Table Q.2   **Employment status of problem gamblers**

Study	Link to employment status	Nature of group	Location and time period
Jackson et al. (1997)	14.8% were unemployed (cf Victoria rate of 9.1%), 52.5% were employed	Clients of Break Even services	Victoria, 1996-97
Jackson, et al. (1999b)	16.9% were unemployed (cf Victoria rate of 8.5%), 59.7% were employed	Clients of Break Even services	Victoria, 1997-98
Abbott and Volberg (1991)	Unemployed were over-represented among those betting on instant lotteries (18% play weekly), horses/dogs and gaming machines. One in 5 people unemployed had had a gambling problem at some time.	General population	New Zealand 1991
Elliot Stanford and Associates (1998)	15.4 per cent were unemployed and 48.5% were employed.	Clients of problem gambling counselling services	South Australia, November 1996 to March/May 1998
Dickerson, Allcock, Blaszczynski, Nicholls, Williams and Maddern (1996a)	None unemployed; 64.5 per cent employed	General population survey	NSW 1995
Eckhardt (1998)	10.6% unemployed and 64.7% employed	Clients of problem gambling counselling services	Tasmania 1997–98
Relationships Australia Queensland (sub. 62)	10.8% unemployed	Clients of problem gambling counselling services	Break Even Gold Coast May 1993–October 1998
Lorenz and Politzer (1990)	13% unemployed and 80 per cent employed.	Patients of 3 Maryland problem gambling treatment centres	Maryland, US, 1983–1989

Source: See column 1 for the sources of data.

Age

Delfabbro (1998, pp. 176–180) finds that young people, are more likely to be problem gamblers. Dickerson et al. (1994, 1995, 1996) has also shown gambling problems are most common in young people. US studies (eg Volberg 1997) shows this pattern is not unique to Australia.

Table Q.3   **Age of problem gamblers**

Study	Average age	Other aspects of age	Nature of group	Location and time period
Jackson et al. (1997)	38 years	Females much more represented among older clients; there are far fewer problem gamblers aged 60 or more than would be predicted by Victoria's population structure	Clients of Break Even services	Victoria, 1996-97
Jackson et al. (1999b)		Compared with the age distribution of the general population, problem gamblers are over-represented in the 30-39 and 40-49 years age groups	Clients of Break Even services	Victoria, 1997-98
Abbott and Volberg (1991)		Two thirds of current 'pathological' gamblers were aged 18-29 years.	General population	New Zealand, 1991
Problem Gambling Committee (1997)	36 years	32 per cent of problem gamblers were aged from 15 to 29 years. Only about 7 per cent of problem gamblers were aged over 55 years.	Clients of problem gambling counselling services	New Zealand, 1997
Problem Gambling Committee (1998)	37 years	Majority are aged between 20 and 49 years	Clients of problem gambling counselling services	New Zealand, 1998
Elliot Stanford and Associates (1998)	40 years		Clients of problem gambling counselling services	South Australia, November 1996 to May 1998
Dickerson, Baron, Hong and Cottrell (1996)		Majority of problem gamblers were men aged 19 to 29 years	General population, but criterion for problem gambler is a gambler scoring SOGS 10+	Sydney, Melbourne, Adelaide and Brisbane, Australia 1991

continued

Table Q.3   continued

Study	Average age	Other aspects of age	Nature of group	Location and time period
Walker (1998a)	38 years	Males seeking help are on average 6 years younger than females	Clients of problem gambling counselling services	NSW August-Sept 1998
Dickerson, Allcock, Blaszczynski, Nicholls, Williams and Maddern (1996a)		35.6% of SOGS5+ (57.2% of 10+) were between 18 and 29 years	General population	NSW 1995
Eckhardt (1998)		31.2% were under 29 years; 5.5% were over 60 years	Clients of problem gambling counselling services	Tasmania 1997–98
Lorenz, Politzer and Yaffee (1990)	42 years	15% were in their 20s and 32% in their 30s. 7% were over 60 years old.	Members of Gamblers Anonymous	Maryland US 1989
Gerstein et al. (1999)		Found that people aged 50–64 had a 1.83% times greater risk of being a 'pathological' gambler, but those aged over 65 had a 1/3 risk	General population	US 1998
Stinchfield and Winters (1996)	39 years		In treatment programs	Minnesota US 1992-1996
LADIS (1998)	30.1-30.9 years	56.3% were aged 15 to 29 years, 25 per cent were aged 30-39 years and 18.7 per cent aged over 39. The age profile is much younger than alcohol or drug dependency.	People seeking help for gambling problems	Netherlands 1997-98
National Council of Welfare (1996)	40% under 30	cf 24% for non-problem respondents	General Population	Alberta Canada

Source: See column 1 for sources.

Cultural and ethnic background

Table Q.4   **Culture and ethnicity of problem gamblers**

Study	Born overseas?	Other aspects of ethnicity	Nature of group	Location and time period
Jackson et al.(1997)	23.1% born overseas	This is consistent with the demographics of Victoria as a whole	Clients of problem gambling counselling services	Victoria, 1996-97
Jackson et al. (1999b)	24.4 % born overseas		Clients of Break Even services	Victoria, 1997-98
Abbott and Volberg (1991)	Pacific islanders and Maoris had, respectively, a prevalence 6 and 3 times higher than the NZ European rate.		Population	New Zealand
Problem Gambling Committee (1998)		Marked overrepresentation of NZ Maori clients and minor overrepresentation of Pacific Nations clients	Clients of problem gambling counselling services	New Zealand, 1998
Elliot Stanford and Associates (1998)	15.5% of problem gamblers were from NESB. 25.1% had a father and 23.8% had a mother from a NESB.	4.8 % of problem gamblers were Aboriginal and Torres Strait Islanders, though comprising 1.4% of the general population.	Clients of problem gambling counselling services	South Australia , November 1996 to May 1998
Walker (1998a)	14.9% NESB non-Asian; 3.2% Asian		Clients of problem gambling counselling services	NSW August-Sept 1998
Dickerson, Allcock, Blaszczynski, Nicholls, Williams and Maddern (1996a)	35.5% of SOGS5+ and 57.1% of SOGS10+	No ATSI	General population survey	NSW 1995
Relationships Australia Queensland (sub. 62)	28% born overseas, Asians were 2.5% of clients		Clients of gambling counselling services	Break Even Gold Coast May 1993 - Oct 1998
LADIS (1998)	23% non-Dutch born (much higher than for alcohol dependency)		Clients of counselling services	Netherlands

Note: NESB denotes non-English speaking background

Source: See column 1 for sources.

Relationship status

The greater involvement of single people is echoed in other studies (Abbott and Volberg 1991; Dickerson et al. 1994, 1995, 1996a; Lesieur 1984, Sommers 1988; Volberg and Steadman 1992).

As Delfabbro (1998, p. 179) notes some care has to be taken in understanding why this connection holds. It may be that single people have more leisure time, greater income and less chance of being criticised for excessive gambling. They may be more likely to be bored and lonely, seeking gambling as a solace. Or, reversing the causality, it may be that people who are problem gamblers find it difficult to establish or maintain relationships *because* of their gambling habits.

The smaller share of married problem gamblers may also be linked to the average younger age of problem gamblers — many may not have yet formed relationships. However, Delfabbro's analysis controls for other variables, so it is clear that age is still a relevant risk factor in problem gambling.

Table Q.5 **Marital status of problem gamblers**

Study	Percentage who are married	Other aspects of relationships	Nature of group	Location and time period
Jackson et al. (1997)	36%	This is much lower than that of Victorians as a whole. Far more male problem gamblers had never married — consistent with the age profile of male problem gamblers.	Clients of Break Even services	Victoria, 1996-97
Jackson et al. (1999b)	41% married and 10% de facto	Male problem gamblers almost twice as likely as their female counterparts *not* to have married	Clients of Break Even services	Victoria, 1997-98
Elliot Stanford and Associates (1998)	38.1%		Clients of problem gambling counselling services	South Australia, Nov.1996 to March/May 1998
Dickerson, Allcock, Blaszczynski, Nicholls, Williams and Maddern (1996a)	48.4% of SOGS5+ are partnered		General population survey	NSW 1995

Table Q.5   continued

Study	Percentage who are married	Other aspects of relationships	Nature of group	Location and time period
Eckhardt (1998)	37.5% are married; and 19.2% defacto		Clients of problem gambling counselling services	Tasmania 1997–98
Relationships Australia (SA) (sub. 118)	44% in a relationship	Lower than population	Clients of problem gambling counselling services	SA
Gerstein et al. (1999)		Married people had a slightly lower risk of being a 'pathological' gambler; Divorced/separated had a 150% higher risk	General population	US 1998
Lorenz, Politzer and Yaffee (1990)	60%	This is much higher than the general population.	Members of Maryland Gamblers Anonymous	Maryland, US, 1989
Volberg (1997)	42.2% married	57.7% of non-problem respondents were married	General population	Oregon, US 1997
National Council of Welfare (1996)	52%	cf 63% of non-problem respondents		Alberta Canada

Source: See column 1 for sources.

Gender

Divergent results are obtained on the gender of problem gamblers. In the 1996 survey for South Australia, Delfabbro (1998, p. 179) found that problem gambling prevalence is no greater in males than females in the South Australian population. Ohtsuka, Bruton DeLuca and Borg (1997) found no significant difference in the proportion of problem gambling amongst male and female gaming machine players in Victorian venues. Jackson et al. (1997, p. 3) found that in Victoria in 1996-97 there were slightly more men (54 per cent of clients) than women who sought help from counselling agencies. However, the situation was reversed in the following year — in 1997-98, 54 per cent of new clients attending Victorian Break Even problem gambling counselling services were women.

Dickerson, Baxter et al. (1995, pp. 92–96) analysed the clients of Queensland Break Even services. They found most clients were men, but the evaluation period was early in the process of gaming machine liberalisation, which has brought many more women into gambling problems.

Table Q.6 **Gender of problem gamblers**

Study	Percentage of problem gamblers who are male	Other aspects	Nature of group	Location and time period
Jackson et al. (1997)	54%		Clients of Break Even services	Victoria, 1996-97
Jackson et al. (1999b)	46%	Women are slightly overrepresented relative to general population	Clients of Break Even services	Victoria, 1997-98
Walker (1998a)	65%		Clients of problem gambling counselling services	NSW, August-September 1998
Abbott and Volberg (1991)	80%	One in ten men had had a gambling problem at some time.	General population	New Zealand 1991
Committee on Problem Gambling Management New Zealand (1997)	74%	But only 14% of significant others asking for help are male	Clients of problem gambling counselling services	New Zealand 1997
Problem Gambling Committee (1998)	67%	Most problem gamblers who attend are male, but most family members who attend are female.	Clients of problem gambling counselling services	New Zealand, 1998
Dickerson, Baron, Hong and Cottrell (1996)	86%		General population (but criterion for problem gambler is a gambler scoring SOGS 10+	Sydney, Melbourne, Adelaide and Brisbane, Australia 1991
Ohtsuka, Bruton DeLuca and Borg (1997)	48% for EGMs		Based on a small-scale survey of patrons of clubs and hotels	Melbourne 1997
Elliot Stanford and Associates (1998)	50.6%	39.6 per cent of non-gamblers approaching help services were male	Clients of problem gambling counselling services	South Australia November 1996 to May 1998
Stinchfield and Winters (1996)	61% male		In treatment programs	Minnesota US 1992-1996

continued

Table Q.6   continued

Study	Percentage of problem gamblers who are male	Other aspects	Nature of group	Location and time period
Lorenz, Politzer and Yaffee (1990)	85% of problem gamblers were male	..	Patients of 3 Maryland problem gambling treatment centres	Maryland, US, 1983–1989
Lorenz, Politzer and Yaffee (1990)	81% of problem gamblers were male	..	Members of Maryland Gamblers Anonymous	Maryland, US, 1989
Shaffer, Hall and Bilt (1997, p. 40)	68.3% (64%)[a] of adult problem gamblers; 75.2% (77.1%) of adolescent problem gamblers,		Based on meta analysis of general populations	North America from 1977 to 1997
Volberg (1997)	55.9% male		General Population	Oregon US 1997
Dickerson, Allcock, Blaszczynski, Nicholls, Williams and Maddern (1996a)	77.4% of SOGS5+ were male		General population survey	NSW 1995
Eckhardt (1998)	78% male		Clients of problem gambling counselling services	Tasmania 1997–98
Relationships Australia Queensland (sub. 62)	64.5% male	Female share rising over time - from 29.7% in 1993–94 to 40% in 1997–98	Clients of problem gambling counselling services	Break Even Gold Coast May 1993-Oct 1998
Gerstein et al. (1999)	Males have 2.1 times higher risk of being a pathological gambler than females	Found that people aged 50–64 had a 83% higher risk of being a 'pathological' gambler	General population	US 1998
National Council of Welfare (1996)	62% cf 45% of non-problem respondents		General population	Alberta Canada
LADIS	90.7 per cent males		Clients of treatment services	Netherlands 1998

a Numbers not in parentheses are based on lifetime prevalence rates. Numbers in parentheses are based on the past year. The studies relate to people with level 3 gambling problems (deemed 'clinical' in nature).

Source: See column 1 for sources.

The pattern of an increased feminisation of problem gambling (Select Committee on Gambling, ACT, 1999, p. 16), reflects the spread of EGMs.

> Two out of every three problem gamblers are male, who typically start gambling in adolescence and who show gambling problems by age 30. Typically, he is unmarried and less educated, and gambles on horse racing, poker machines and at casinos. On the other hand, female problem gamblers commence in the mid 20s to 30s, with problems occurring after age 30. She prefers poker machine venues. (Mental Health Association of Australia, Sub. 51, p. 9)

Similarly, Tyler (1996, p. 6) showed that while female casino goers in Adelaide were under-represented at the tables, they were very much the majority among the machine players.

These trends are also observed overseas. For example, women's participation in gambling increased in Canada with the expansion of legalised gambling in the 1970s. A study of problem gambling in Alberta (reported in National Council of Welfare 1996) found that women were as likely as men to be current problem gamblers.

Occupational status

Problem gamblers come from all walks of life and occupational backgrounds.

Table Q.7   **Occupational background of problem gamblers**[a]

Occupational category	Tasmania 1997-1998	Queensland Gold Coast May 1993 to October 1998	South Australia, November 1996 to May 1998
	%	%	%
Managerial/Administrative	18.2	10.6	9.0
Professional/Para-professional	10.9	19.0	21.8
Tradesperson	10.9	14.8	12.3
Clerical	32.7	8.7	11.2
Sales/Personal Service	10.9	23.8	18.0
Plant and machine operator	1.8	5.6	14.3
Labourer	14.5	11.9	13.4
Other	0.0	5.6	0.0
Total	100.0	100.0	100.0

a Based on survey responses from clients of help services. The data relate only to those people for whom a clear orthodox occupational status is defined. For example, it excludes from the total, people who are self-employed, students, retired, on home duties or pensioners.

Source: Eckhardt (1998) for Tasmania, Relationships Australia, Queensland (sub. 62) for Queensland and Elliot Stanford and Associates (1998) for South Australia.

Q.3 What are the general patterns that emerge?

Comparisons of problem gambling prevalence and profiles in different countries show varying patterns. The data reveal some general characteristics of problem gamblers which are consistent with the results of the Commission's surveys:

- single and young people are over-represented;

- problem gambling varies with ethnicity;

- while males typically still account for a greater share of problem gamblers, feminisation of problem gambling is a world-wide phenomenon; and

- the people who are found to be problem gamblers in general population studies are somewhat different from those in treatment groups, with implications for service delivery.

R   Bankruptcy and gambling

This appendix begins by examining the number of bankruptcies in Australia by cause, age, state and territory and over time. It then looks at the prosecution of bankrupts for gambling related offences under section 271 of the *Bankruptcy Act 1966*. Finally, participants criticisms of section 271 are examined to assess whether the section should be revoked.

Background

Over 24 000 new business and non-business bankruptcies were declared in 1997-98. Less than 2 per cent, or 317 bankrupts stated that the main cause for bankruptcy was gambling or speculation (box R.1).

- The main self-attributed causes of business bankruptcies were economic conditions, excessive interest and lack of business ability.

- Unemployment, domestic discord and excessive use of credit were the major causes stated for non-business bankruptcies (table R.1).

Table R.1   **Number of new bankruptcies by self attributed cause 1997-98**

Cause	Number	Per cent
Business bankruptcies		
Lack of capital	518	11
Lack of business ability	569	12
Failure to keep proper books	111	2
Economic conditions	720	15
Seasonal conditions	92	2
Excessive interest	520	11
Inability to collect debts	128	3
Excessive drawings	198	4
Gambling or speculation	94	2
Other causes	1 896	39
Total	**4 846**	**100**
Non-business bankruptcies		
Unemployment	7 082	36
Domestic discord	2 611	13
Excessive use of credit	2 274	12
Ill health	1 326	7
Adverse litigation	720	4
Liabilities on guarantees	239	1
Gambling or speculation	223	1
Other causes	5 052	26
Total	**19 527**	**100**

Data source: Inspector-General in Bankruptcy (1998).

> **Box R.1   Data qualifications**
>
> The bankruptcy data used in this appendix is that reported in the Annual Reports of the Bankruptcy Act of 1966 by the Inspector-General in Bankruptcy. There are two major deficiencies in the data series on bankruptcies caused by gambling.
>
> A number of inquiry participants said that anecdotal evidence suggests that the number of bankruptcies caused by gambling is significantly higher than that reported in the official data. For example, in 1997-98, 57 non-business and 5 business bankruptcies were classified as caused by gambling or speculation in South Australia. The Adelaide Central Mission (sub. 108, p. 3) suggests that the actual number is significantly higher:
>
>> During the last twelve months as one financial counsellor in a smaller State I have been involved in 20 petitions for personal bankruptcy totalling $1.25M which can be directly attributed to the petitioners problem gambling addiction…
>>
>> I believe that bankruptcy statistics are extremely conservative concerning problem gambling and difficult to identify while the present legislation is in place.
>>
>> Problem gambling as a reason for personal bankruptcy is often not indicated and reasons given refer to health issues, loss of job, other criminal acts, breakdown in relationship and poor money management.
>
> Reasons suggested by participants, as to why people fail to list gambling as a cause of bankruptcy include fear of prosecution under section 271 of the Bankruptcy act (discussed later) and the stigma attached to being labelled a bankrupt from gambling.
>
> Results from the Commission's *National Gambling Survey* also suggested that there were 2900 people nationwide who were declared bankrupt each year as a result of their gambling activities — significantly more than the 317 reported in the 1997-98 annual report of the Inspector-General in Bankruptcy. However, the standard error on this item of the Commission's *National Gambling Survey* is sufficiently large that it provides an imprecise indicator of bankruptcy levels.
>
> A second problem with the data for gambling research is that it does not distinguish between bankruptcies caused by gambling and those caused by speculation (for example speculation on stock markets).
>
> Despite qualifications the data is the best time series collected on bankruptcies caused by gambling in Australia.

In 1997-98 the majority of new business bankruptcies, both gambling and non-gambling related, were declared by people aged between 35 and 44. For new non-business bankruptcies people aged between 25 and 34 accounted for the majority of gambling and other bankruptcies (table R.2).

At the national level, New South Wales and the ACT recorded the largest number of gambling and non-gambling bankruptcies in 1997-98 (table R.3). However in per capita terms South Australia recorded the largest number of bankruptcies caused by gambling in 1997-98 (table R.4).

Table R.2   **Age profile of bankrupts, (official trustee matters[a]) 1997-98**

Age	Business bankruptcies		Non-business bankruptcies		Total bankruptcies	
	Gambling number (%)	Other causes number (%)	Gambling number (%)	Other causes number (%)	Gambling number (%)	Other causes number (%)
<25	6 (7)	246 (4)	33 (15)	2 511 (13)	39 (12)	2 757 (11)
25 to 34	26 (29)	1 521 (26)	86 (38)	7 132 (37)	112 (35)	8 653 (35)
35 to 44	29 (32)	1 907 (33)	58 (26)	5 032 (26)	87 (28)	6 939 (28)
45 to 54	23 (25)	1 525 (26)	32 (14)	2 732 (14)	55 (17)	4 257 (17)
>54	7 (8)	597 (10)	16 (7)	1 679 (9)	23 (7)	2 276 (9)
Total	**91 (100)**	**5 796 (100)**	**225 (100)**	**19 086 (100)**	**316 (100)**	**24 882 (100)**

a Bankruptcy data by age is only available for official trustee matters, bankruptcies administered by registered trustees are not included in the table — in 1997-98 5 per cent of new bankrupcies were administered by registered trustees.

Source: Inspector-General in Bankruptcy (1998).

Table R.3   **New bankruptcies by state, 1997-98**

Jurisdiction	Business bankruptcies		Non-business bankruptcies		Total bankruptcies	
	Gambling number (%)	Other causes number (%)	Gambling number (%)	Other causes number (%)	Gambling number (%)	Other causes number (%)
New South Wales & ACT	64 (68)	1 495 (31)	75 (34)	5 632 (29)	139 (44)	7 127 (30)
Victoria	22 (23)	898 19)	24 (11)	4 039 (21)	46 (15)	4 937 (21)
Queensland	1 (1)	1 351 (28)	35 (16)	4 918 (25)	36 (11)	6 269 (26)
South Australia	5 (5)	353 (7)	57 (26)	1 983 (10)	62 (20)	2 336 (10)
Northern Territory	0 (0)	45 (1)	0 (0)	82 (1)	0 (0)	127 (1)
Western Australia	1 (1)	472 (10)	29 (13)	1 747 (9)	30 (9)	2 219 (9)
Tasmania	1 (1)	138 (3)	3 (1)	903 (5)	4 (1)	1 041 (4)
Total	**94 (100)**	**4 752 (100)**	**223 (100)**	**19 304 (100)**	**317 (100)**	**24 056 (100)**

Source: Inspector-General in Bankruptcy (1998).

Table R.4   **New bankruptcies per million adults, by state, 1997-98**

| Jurisdiction	Business bankruptcies		Non-business bankruptcies		Total bankruptcies	
	Gambling	Other causes	Gambling	Other causes	Gambling	Other causes
New South Wales & ACT	13	303	15	1 143	28	1 446
Victoria	6	259	7	1 164	13	1 423
Queensland	0	538	14	1 959	14	2 498
South Australia	4	314	51	1 766	55	2 080
Northern Territory	0	349	0	636	0	984
Western Australia	1	356	22	1 318	23	1 675
Tasmania	3	397	9	2 595	12	2 991
Total	**7**	**344**	**16**	**1 396**	**23**	**1 739**

Source: Inspector-General in Bankruptcy (1998).

Growth in bankruptcies

Total bankruptcies and bankruptcies caused by gambling have increased significantly over time.

- In 1972-73 about 2500 new bankruptcies were declared, or about 300 for every million adults. In 1997-98 the number of new bankruptcies increased to 24 000, nearly 1800 per million adults.

- Over the same period, new gambling related bankruptcies increased from 61, or 7 per million adults to 317, or 23 per one million adults (figure R.1 and table R.5).

- Non-business bankruptcies share of total bankruptcies has increased gradually over time. In 1972-73 non-business bankruptcies accounted for 44 per cent of total bankruptcies compared with 80 per cent in 1997-98. For bankruptcies caused by gambling there is no clear trend. In 1972-73 non-business bankruptcies accounted for 67 per cent of total gambling related bankruptcies. In 1996-97 this share had risen to 90 per cent but in 1997-98 the share was much lower at 70 per cent.

Figure R.1 **New bankruptcies per million adult population, 1972-73 to 1997-98, Australia**
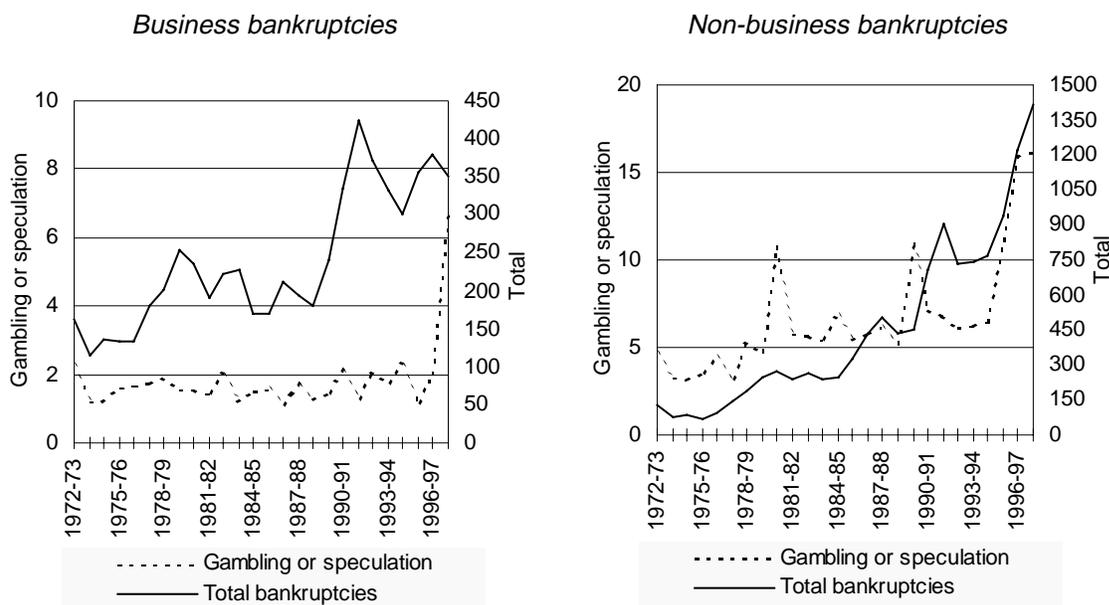
Source: Inspector-General in Bankruptcy (various years).

Table R.5 **New bankruptcies per million adult population, 1972-73 to 1997-98, Australia**

Year	Business bankruptcies		Non-business bankruptcies		Total bankruptcies	
	Gambling	All causes	Gambling	All causes	Gambling	All causes
1972-73	2.3	162.9	4.7	127.2	6.9	290.1
1973-74	1.2	115.0	3.3	75.2	4.6	190.1
1974-75	1.2	136.7	3.2	88.3	4.4	225.0
1975-76	1.6	133.4	3.5	70.5	5.2	203.9
1976-77	1.7	134.1	4.4	97.8	6.1	231.9
1977-78	1.8	181.7	3.2	143.3	5.0	325.0
1978-79	1.9	202.1	5.3	190.4	7.2	392.6
1979-80	1.6	252.7	4.8	244.6	6.4	497.4
1980-81	1.6	235.8	10.7	269.0	12.2	504.8
1981-82	1.4	192.0	5.7	240.1	7.2	432.0
1982-83	2.0	223.3	5.7	268.1	7.7	491.3
1983-84	1.2	227.6	5.4	237.8	6.6	465.4
1984-85	1.5	169.8	6.8	249.4	8.3	419.2
1985-86	1.6	170.5	5.5	321.8	7.1	492.3
1986-87	1.1	213.0	5.8	434.7	7.0	647.7
1987-88	1.7	192.7	6.1	500.3	7.8	693.0
1988-89	1.3	181.8	5.3	437.5	6.5	619.3
1989-90	1.5	240.6	10.9	452.6	12.3	693.2
1990-91	2.1	336.2	7.2	710.9	9.3	1 047.1
1991-92	1.3	423.8	6.8	904.2	8.0	1 328.0
1992-93	2.1	371.5	6.1	733.8	8.2	1 105.3
1993-94	1.8	331.6	6.2	741.5	8.0	1 073.1
1994-95	2.3	302.0	6.5	765.3	8.8	1 067.2
1995-96	1.2	355.5	11.1	937.6	12.3	1 293.1
1996-97	2.1	380.5	15.9	1220.6	18.0	1 601.1
1997-98	6.8	350.4	16.1	1411.8	22.9	1 762.2

Source: Inspector-General in Bankruptcy (various years).

Figure R.2 and table R.6 show trends in bankruptcy at the state/territory level.

- The number of new bankruptcies have increased in all states and territories over the period 1982-83 to 1997-98.

- In New South Wales/ACT, Victoria, Queensland and South Australia sharp increases in bankruptcies caused by gambling were observed from the early or mid 1990s, corresponding to increases in gambling expenditure (chapter 3).

- No trend is apparent in the Northern Territory, Tasmania and Western Australia — the number of bankruptcies caused by gambling in these states and territory has varied considerably from year to year.

Figure R.2   **New bankruptcies per million adults, 1982-83 to 1997-98, by state**


Australia

New South Wales and ACT

Victoria

Queensland

South Australia

Northern Territory

- - - - - Gambling/speculation
——— Total

Western Australia   *Tasmania*

- - - - - Gambling/speculation
———— Total
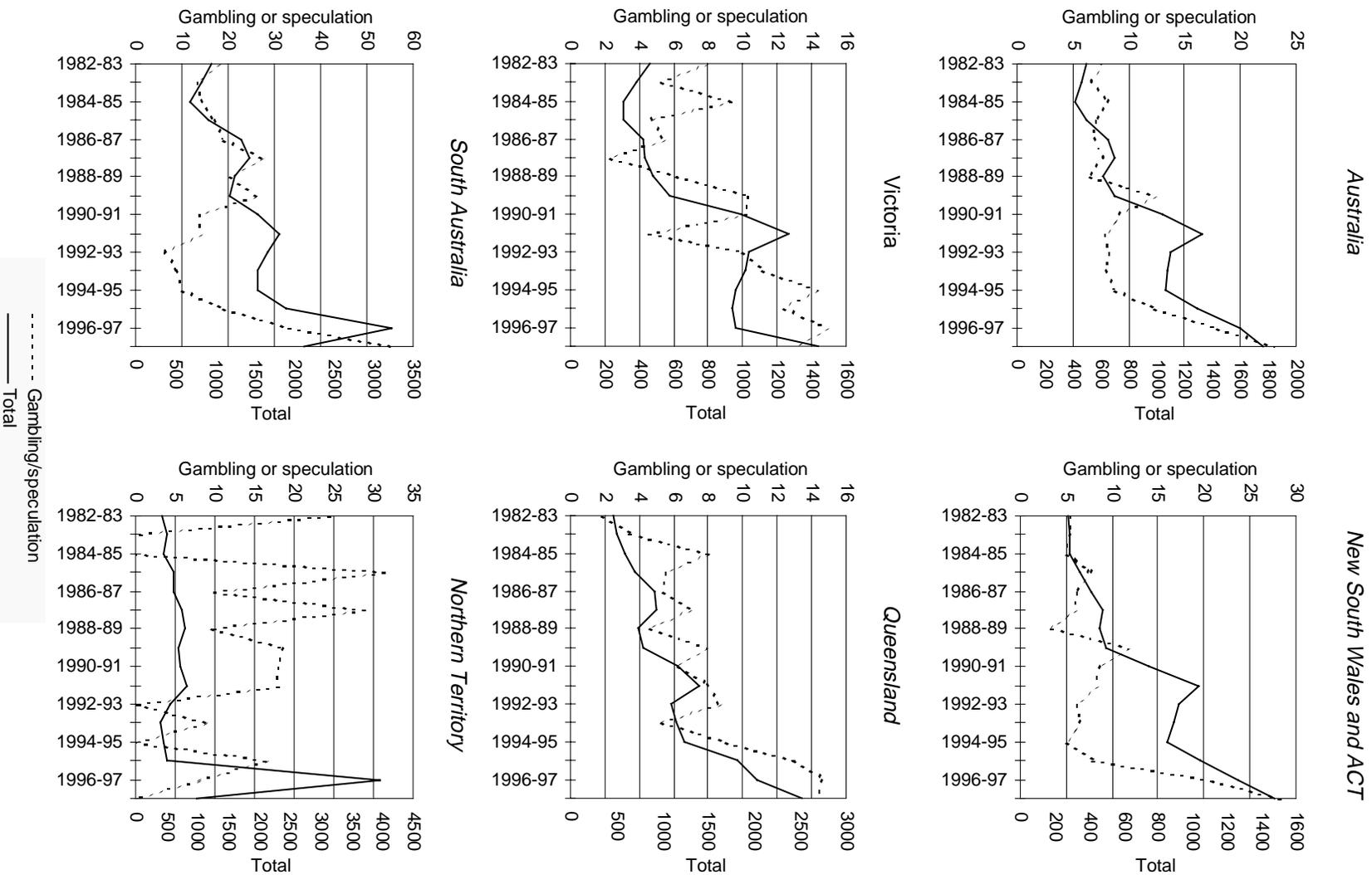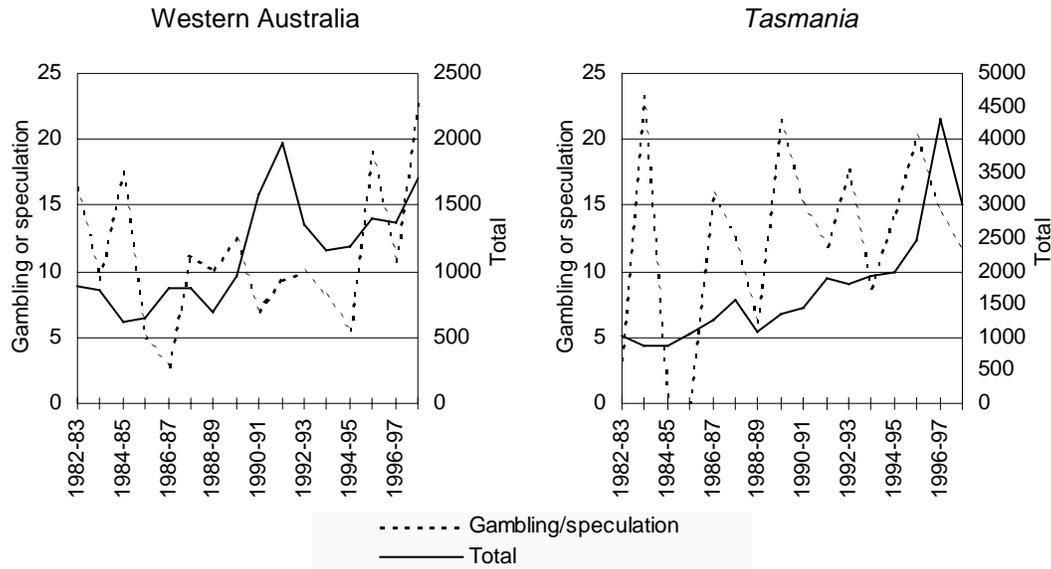
Source: Inspector-General in Bankruptcy (various years).

Table R.6   **New bankruptcies per million adults, 1982-83 to 1997-98, by state**

	1982-83	1985-86	1988-89	1991-92	1994-95	1997-98
Bankruptcies caused by gambling						
New South Wales & ACT	5.6	7.5	3.4	8.3	5.1	28.2
Victoria	7.8	4.7	6.1	4.6	14.3	13.3
Queensland	1.8	5.6	4.6	7.9	9.0	14.3
South Australia	17.8	17.0	20.2	13.8	9.9	55.2
Northern Territory	24.4	31.3	9.5	17.9	0.0	0.0
Western Australia	16.2	5.0	10.1	9.3	5.6	22.6
Tasmania	3.4	0.0	6.2	11.9	14.5	11.5
Total	7.7	7.1	6.5	8.0	8.8	22.9
Total bankruptcies						
New South Wales & ACT	279.4	346.5	461.6	1 035.0	855.1	1 474.1
Victoria	460.2	310.7	476.5	1 260.7	960.7	1 436.4
Queensland	460.0	694.1	728.2	1 397.0	1247.9	2 512.0
South Australia	960.2	924.9	1 257.7	1 804.6	1550.1	2 135.4
Northern Territory	426.8	625.0	809.5	821.4	466.1	984.5
Western Australia	892.0	643.9	699.3	1 971.2	1191.6	1 697.4
Tasmania	1 030.2	1 057.9	1 071.4	1 908.0	2002.9	3 002.9
Total	491.3	492.3	619.3	1 328.0	1067.2	1 762.2

Source: Inspector-General in Bankruptcy (various years).

Prosecutions for bankruptcies caused by gambling

Section 271 of the *Bankruptcy Act, 1966* states that 'rash and hazardous' gambling or speculation up to two years before the presentation of a bankruptcy petition is an offence if it materially contributed to or increased the extent of the insolvency. The offence is punishable by up to one year's imprisonment.

Nearly 100 prosecutions have been made under section 271 since its inception (table R.7).

Table R.7 **Number of prosecutions by state and penalty, 1968-69 to 1998-99**

	1968-69 to 1972-73	*1973-74 to 1977-78*	*1978-79 to 1982-83*	*1983-84 to 1987-88*	*1988-89 to 1992-93*	*1993-94 to 1997-98*	*Total*
State							
New South Wales & ACT	2	12	2	7	1	1	**25**
Victoria	2	6	4	1	5	3	**21**
Queensland	2	4	3	2	-	-	**11**
South Australia & Northern Territory	2	6	14	5	1	-	**28**
Western Australia	2	1	-	2	3	1	**9**
Tasmania	-	1	-	-	2	1	**4**
Total	**10**	**30**	**23**	**17**	**12**	**6**	**98**
Major penalty							
Letter of caution	-	-	-	-	-	2	**2**
Good behaviour bond	5	24	17	17	8	3	**74**
Imprisonment	5	4	4	-	2	-	**15**
Fine	-	-	-	-	1	-	**1**
Not convicted/withdrawn	-	2	2			1	**5**
Not stated	-	-	-	-	1	-	**1**
Total	**10**	**30**	**23**	**17**	**12**	**6**	**98**

Source: Inspector-General in Bankruptcy (various years).

- Over the 30 year period there have been an average of 3 prosecutions a year.

- The number of prosecutions has decreased over time— between 1993-94 and 1997-98 six prosecutions were made under section 271 compared with 12 and 17 in the previous two periods.

- The majority, over 28 per cent of prosecutions were in South Australia and the Northern Territory. New South Wales and the ACT and Victoria also accounted for a large number of prosecutions.

- In over 75 per cent of prosecutions the major penalty was a good behaviour bond and in 15 per cent of cases the penalty was imprisonment.

- The penalty has become less severe over time. In the first half of the 30 year period 13 prosecutions or 21 per cent involved prison sentences compared with 2 prosecutions, or 6 per cent between 1983-84 and 1997-98.

Section 271 — is it needed?

It is difficult to know how many people are deterred from reckless spending by section 271. On the one hand, it has been claimed that very few people are aware of the provision — in which case it can scarcely have a deterrent effect.

> Very few people are aware of this section. If it were vigorously enforced there would be public outcry, but the reality is that the bankruptcy authorities regard it as an embarrassment and are sparing in its application, only prosecuting those who blatantly gamble in anticipation of bankruptcy. The fact is that very few gamblers gamble in anticipation of bankruptcy. They gamble with the belief they will win (Wesley Community Legal Service, sub.46, p.8).

On the other hand, it has also been claimed that the number of bankruptcies caused by gambling are understated, reflecting the concern of the bankrupts to avoid prosecution (box R.1).

Of course these two apparently opposing views could be reconciled if some gamblers were aware of the provisions, while many were not. Either way it appears likely that most gamblers are not deterred by the provision or seek to circumvent it when bankruptcy is imminent. This suggest that the provision is likely to be relatively ineffective in reducing reckless behaviour.

While section 271 may produce few benefits, does it entail large costs? A weak deterrent to recklessness may be superior to none. This is especially relevant when the burden of any asset losses fall on a few individuals — such as a partner. It would be unfortunate if the consequence of a well meaning revocation of section 271 was to further weaken the controls problem gamblers have over their spending (noting that they do exert some control).

However, the view of some participants was that the provision is fundamentally unjust, in that it seeks to punish people with an addiction. Springvale Legal Service (sub. 17, p.10) for example, said that section 271:

> … is unjust and anachronistic because it serves to punish and not treat or rehabilitate. It disguises possible statistical links between gambling and bankruptcy. Imprisonment is unlikely to offer any rehabilitation options and so serve little effective purpose other than to keep gamblers out of venues. This section clearly fails to recognise that some gamblers gamble because they have an uncontrollable addiction which will probably recur once they are released from prison.

Even so the Commission understands that imprisonment typically only occurs when gambling related bankruptcy involve another breach of the law — such as fraud — which would have resulted in a criminal penalty regardless of whether section 271 existed. Accordingly, the apparent severity of some sentences relating to section 271 is overstated.

Some participants commented that section 271 is outdated — introduced in 1966 when the proliferation of gaming machines was not foreseen. Others argued that it is inconsistent with the treatment of other problems, most notably drug addiction.

> Why is gambling treated differently to other forms of addiction? Heroin addiction is a very expensive habit and is the cause of some bankruptcies but it does not warrant a special offence under the Bankruptcy Act (Brading, 1999, p.35).

The Wesley Community Legal Service (sub. D215, p. 2) commented that bankruptcy had the potential to alleviate some of the drivers and adverse consequences of problem gambling by cutting off likely sources of access to debt finance. They argued that the potential for criminal prosecution served as an obstacle to problem gamblers seeking bankruptcy.

Overall, then a judgement about the value of section 271 needs to weigh up its:

- benefits — the potential gains from reducing moral hazard;
- against its costs — its adverse treatment of people who have a dependency and the fact that it may deter them from taking an action that may substantially reduce their access to finance.

The fact that section 271 is relatively obscure suggests that it will not have large benefits from reducing moral hazard. And in any case the authorities can usually apply other sanctions for clearly fraudulent behaviour associated with gambling. On the cost side, the section may have significant adverse impacts.

In light of these considerations, there may be value in the Commonwealth reviewing the section. It could also examine whether there were grounds for requiring mandatory attendance by a problem-gambling bankrupt to appropriate counselling.

S   State and territory gambling data

This appendix presents a summary of state and territory gambling data, sourced from the Tasmanian Gaming Commission (1999). For each state and territory the following data is provided:

- real gambling turnover;
- real gambling expenditure;
- real gambling expenditure per capita; and
- real government revenue.

The data is provided by racing and gaming subdivision for the years 1972-73, 1982-83, 1992-93 and 1997-98.

Australia

Table S.1   **Real gambling turnover, Australia, $ million**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	5 735.592	5 842.084	8 805.054	9 116.479
On-course totalisators	1 014.107	1 227.979	1 177.571	900.260
On-course bookmakers	5 549.043	4 907.391	2 155.773	1 595.131
Off-course bookmakers	230.369	73.203	6.650	1.768
Sports betting	-	-	46.005	265.738
Total racing	**12 529.111**	**12 050.656**	**12 191.052**	**11 879.376**
Gaming				
Lotteries	683.752	288.384	193.155	161.853
Lotto	71.214	1 446.243	2 025.427	2 316.449
Instant lotteries	-	517.887	723.561	585.102
Pools	-	74.726	23.475	15.256
Casino	57.932	290.152	3 569.215	20 942.398
Minor gaming	20.614	296.876	648.791	373.358
Keno	-	-	262.476	701.348
Gaming machines	8 360.659	9 987.598	21 273.769	57 676.190
Sports betting	-	-	4.981	72.943
Total gaming	**9 194.171**	**12 901.867**	**28 724.850**	**82 844.897**
Total gambling	**21 723.282**	**24 952.523**	**40 915.902**	**94 724.273**

a Real values represent 1997-98 values; Casino turnover is measured as casino handle, the value of money exchanged for gaming chips; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.2   Real gambling expenditure, Australia, $ million[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	865.439	908.602	1 395.286	1 437.444
On-course totalisators	152.702	189.747	186.022	142.989
On-course bookmakers	304.723	270.056	118.609	83.336
Off-course bookmakers	18.546	6.071	0.434	0.150
Sports betting	-	-	7.140	20.261
Total racing	**1 341.409**	**1 374.476**	**1 707.491**	**1 684.180**
Gaming				
Lotteries	254.739	107.499	69.527	56.943
Lotto	28.486	577.776	803.279	923.422
Instant lotteries	-	196.527	281.166	224.839
Pools	-	47.077	11.851	7.700
Casino	10.307	56.045	728.884	2 232.036
Minor gaming	10.307	143.761	343.009	194.907
Keno	-	-	60.908	170.898
Gaming machines	1 086.886	1 298.388	2 649.834	5 866.966
Sports betting	-	-	0.393	4.210
Total gaming	**1 390.725**	**2 427.073**	**4 948.850**	**9 681.921**
Total gambling	**2 732.134**	**3 801.550**	**6 656.340**	**11 366.101**

a Real values represent 1997-98 values; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.3   Real gambling expenditure, Australia, per capita[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	98.312	85.051	108.086	103.914
On-course totalisators	17.347	17.762	14.410	10.338
On-course bookmakers	34.616	25.279	9.188	6.024
Off-course bookmakers	2.107	0.568	0.034	0.011
Sports betting	-	-	0.553	1.465
Total racing	**152.377**	**128.665**	**132.272**	**121.752**
Gaming				
Lotteries	28.938	10.063	5.386	4.116
Lotto	3.236	54.084	62.226	66.755
Instant lotteries	-	18.396	21.781	16.254
Pools	-	4.407	0.918	0.557
Casino	1.171	5.246	56.463	161.356
Minor gaming	1.171	13.457	26.571	14.090
Keno	-	-	4.718	12.356
Gaming machines	123.468	121.538	205.270	424.128
Sports betting	-	-	0.030	0.304
Total gaming	**157.979**	**227.198**	**383.367**	**699.917**
Total gambling	**310.357**	**355.863**	**515.639**	**821.669**

a Real values represent 1997-98 values; Per capita represents persons over 18; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.4   **Real government revenue from gambling, Australia, $ million**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	333.701	380.897	570.226	491.781
On-course totalisators	81.898	107.120	124.063	62.054
Bookmakers	96.646	74.440	26.799	17.857
Sports betting	-	-	2.307	3.143
Total racing	**512.245**	**562.457**	**723.396**	**574.835**
Gaming				
Lottery products	np	np	955.133	1 003.813
Casino	np	np	128.907	459.734
Minor gaming	np	np	19.730	8.434
Gaming machines	np	np	607.148	1 791.496
Sports betting	np	np	-	0.644
Total gaming	**479.468**	**1 036.502**	**1 710.765**	**3 264.121**
Total gambling	**991.714**	**1 598.959**	**2 434.161**	**3 838.956**

a Real values represent 1997-98 values; Lottery products include lotteries, lotto, instant lotteries and pools; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos and includes keno in hotels and clubs.

Source: Tasmanian Gaming Commission (1999).

New South Wales

Table S.5   **Real gambling turnover, New South Wales, $ million**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	2 257.134	2 411.399	3 575.084	3 554.474
On-course totalisators	433.875	551.456	536.486	394.923
On-course bookmakers	2 221.778	2 085.605	964.696	610.658
Off-course bookmakers	-	-	-	-
Sports betting	-	-	21.562	50.625
Total racing	**4 912.787**	**5 048.460**	**5 097.828**	**4 610.680**
Gaming				
Lotteries	378.840	145.190	153.582	134.338
Lotto	-	451.637	448.213	626.544
Instant lotteries	-	265.687	193.489	171.288
Pools	-	26.029	6.568	7.145
Casino	-	-	-	2 635.039
Minor gaming	-	-	-	-
Keno	-	-	193.204	384.400
Gaming machines	8 360.659	9 734.818	15 683.346	30 540.143
Sports betting	-	-	-	-
Total gaming	**8 739.499**	**10 623.361**	**16 678.401**	**34 498.897**
Total gambling	**13 652.286**	**15 671.821**	**21 776.229**	**39 109.577**

a Real values represent 1997-98 values; Casino turnover is measured as casino handle, the value of money exchanged for gaming chips; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.6   **Real gambling expenditure, New South Wales, $ million**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	302.456	354.475	541.647	533.852
On-course totalisators	58.139	81.064	81.281	59.896
On-course bookmakers	122.198	114.708	53.058	33.586
Off-course bookmakers	-	-	-	-
Sports betting	-	-	2.159	5.069
Total racing	**482.793**	**550.247**	**678.145**	**632.403**
Gaming				
Lotteries	136.383	52.482	54.336	46.554
Lotto	-	180.655	179.285	250.285
Instant lotteries	-	95.647	70.816	62.691
Pools	-	16.399	3.284	3.573
Casino	-	-	-	446.200
Minor gaming	-	-	-	
Keno	-	-	48.301	96.100
Gaming machines	1 086.886	1 265.526	2 010.236	2 989.084
Sports betting				
Total gaming	**1 223.268**	**1 610.709**	**2 366.258**	**3 894.487**
Total gambling	**1 706.061**	**2 160.956**	**3 044.403**	**4 526.890**

a Real values represent 1997-98 values; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.7   **Real gambling expenditure, New South Wales, per capita**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	93.432	93.865	122.438	113.586
On-course totalisators	17.960	21.466	18.373	12.744
On-course bookmakers	37.748	30.375	11.994	7.146
Off-course bookmakers	-	-	-	-
Sports betting	-	-	0.488	1.079
Total racing	**149.140**	**145.706**	**153.293**	**134.554**
Gaming				
Lotteries	42.130	13.897	12.283	9.905
Lotto	-	47.837	40.527	53.252
Instant lotteries	-	25.327	16.008	13.339
Pools	-	4.342	0.742	0.760
Casino	-	-	-	94.936
Minor gaming	-	-	-	-
Keno	-	-	10.918	20.447
Gaming machines	335.751	335.112	454.410	635.975
Sports betting	-	-	-	-
Total gaming	**377.881**	**426.517**	**534.888**	**828.614**
Total gambling	**527.020**	**572.222**	**688.181**	**963.168**

a Real values represent 1997-98 values; Per capita represents persons over 18; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.8 **Real government revenue, New South Wales, $ million**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	141.975	178.170	270.440	231.161
On-course totalisators	34.143	54.186	75.425	46.506
Bookmakers	32.329	26.976	9.676	6.207
Sports betting	-	-	1.948	1.583
Total racing	**208.447**	**259.332**	**357.489**	**285.457**
Gaming				
Lottery products	np	np	240.079	271.851
Casino	np	np		101.500
Minor gaming	np	np	0.808	1.570
Gaming machines	np	np	422.686	689.770
Sports betting	np	np	-	-
Total gaming	**371.437**	**585.387**	**663.513**	**1 064.691**
Total gambling	**579.884**	**844.719**	**1 021.002**	**1 350.148**

a Real values represent 1997-98 values; Lottery products include lotteries, lotto, instant lotteries and pools; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos and includes keno in hotels and clubs.

Source: Tasmanian Gaming Commission (1999).

Victoria

Table S.9 **Real gambling turnover, Victoria, $ million**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	1,901.353	1,630.154	2,475.790	2,371.919
On-course totalisators	333.436	376.098	315.890	224.496
On-course bookmakers	1,348.397	1,089.031	414.549	384.155
Off-course bookmakers	-	-	-	-
Sports betting	-	-	1.910	1.312
Total racing	**3,583.185**	**3,095.283**	**3,208.138**	**2,981.882**
Gaming				
Lotteries	97.771	14.003	14.305	13.034
Lotto	63.610	629.653	713.670	672.039
Instant lotteries	-	127.943	120.898	59.174
Pools	-	15.151	4.152	2.488
Casino	-	-	-	10,571.165
Minor gaming	-	143.017	266.704	-
Keno	-	-	-	28.505
Gaming machines	-	-	3,013.435	18,097.817
Sports betting	-	-	4.981	33.415
Total gaming	**161.382**	**929.767**	**4,138.145**	**29,477.637**
Total gambling	**3,744.566**	**4,025.050**	**7,346.283**	**32,459.519**

a Real values represent 1997-98 values; Casino turnover is measured as casino handle, the value of money exchanged for gaming chips; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.10   **Real gambling expenditure, Victoria, $ million**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	323.230	260.825	387.408	379.507
On-course totalisators	56.684	60.176	49.430	35.919
On-course bookmakers	74.162	59.897	22.791	17.338
Off-course bookmakers	-	-	-	-
Sports betting	-	-	0.114	0.394
Total racing	**454.076**	**380.897**	**459.743**	**433.158**
Gaming				
Lotteries	39.109	5.601	5.722	5.214
Lotto	25.444	251.861	285.468	268.815
Instant lotteries	-	51.177	48.359	23.670
Pools	-	9.545	2.076	1.244
Casino	-	-	-	742.292
Minor gaming	-	71.508	149.842	-
Keno	-	-	-	6.870
Gaming machines	-	-	283.263	1,711.290
Sports betting	-	-	0.393	2.389
Total gaming	**64.553**	**389.693**	**775.123**	**2,761.784**
Total gambling	**518.628**	**770.590**	**1,234.866**	**3,194.942**

a Real values represent 1997-98 values; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.11   **Real gambling expenditure, Victoria, per capita**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	133.338	92.612	116.833	109.400
On-course totalisators	23.383	21.367	14.907	10.354
On-course bookmakers	30.593	21.268	6.873	4.998
Off-course bookmakers	-	-	-	-
Sports betting	-	-	0.034	0.114
Total racing	**187.314**	**135.246**	**138.647**	**124.865**
Gaming				
Lotteries	16.133	1.989	1.726	1.503
Lotto	10.496	89.429	86.090	77.491
Instant lotteries	-	18.172	14.584	6.823
Pools	-	3.389	0.626	0.359
Casino	-	-	-	213.979
Minor gaming	-	25.391	45.189	-
Keno	-	-	-	1.980
Gaming machines	-	-	85.425	493.309
Sports betting	-	-	0.118	0.689
Total gaming	**26.629**	**138.370**	**233.758**	**796.133**
Total gambling	**213.943**	**273.616**	**372.405**	**920.998**

a Real values represent 1997-98 values; Per capita represents persons over 18; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.12 Real government revenue from gambling, Victoria, $ million[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	99.939	105.348	153.259	110.449
On-course totalisators	35.863	40.517	37.156	9.465
Bookmakers	30.527	23.461	8.852	7.568
Sports betting	-	-	-	-
Total racing	**166.329**	**169.327**	**199.267**	**127.482**
Gaming				
Lottery products	np	np	321.869	285.874
Casino	np	np	-	174.584
Minor gaming	np	np	10.781	1.058
Gaming machines	np	np	113.212	706.726
Sports betting	np	np	-	0.644
Total gaming	**54.334**	**262.866**	**445.822**	**1168.886**
Total gambling	**220.663**	**432.193**	**645.090**	**1,296.368**

a Real values represent 1997-98 values; Lottery products include lotteries, lotto, instant lotteries and pools; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos and includes keno in hotels and clubs.

Source: Tasmanian Gaming Commission (1999).

Queensland

Table S.13 Real gambling turnover, Queensland, $ million[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	754.277	764.865	1,245.998	1,474.400
On-course totalisators	88.306	133.160	177.052	129.600
On-course bookmakers	1,069.089	966.201	425.214	234.000
Off-course bookmakers	-	-	-	-
Sports betting	-	-	-	2.600
Total racing	**1,911.672**	**1,864.225**	**1,848.264**	**1,840.600**
Gaming				
Lotteries	120.271	82.570	17.424	5.800
Lotto	-	145.824	324.192	402.557
Instant lotteries	-	-	250.586	236.684
Pools	-	22.936	6.729	3.002
Casino	-	-	1,042.801	4,257.300
Minor gaming	-	-	188.662	235.303
Keno	-	-	-	152.595
Gaming machines	-	-	1,832.343	4,058.130
Sports betting	-	-	-	-
Total gaming	**120.271**	**251.330**	**3,662.736**	**9,351.371**
Total gambling	**2,031.942**	**2,115.556**	**5,511.000**	**11,191.971**

a Real values represent 1997-98 values; Casino turnover is measured as casino handle, the value of money exchanged for gaming chips; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.14   Real gambling expenditure, Queensland, $ million[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	113.141	125.438	213.689	249.000
On-course totalisators	13.246	21.838	30.364	21.900
On-course bookmakers	58.800	53.141	23.387	12.900
Off-course bookmakers	-	-	-	-
Sports betting	-	-	-	0.600
Total racing	**185.187**	**200.417**	**267.440**	**284.400**
Gaming				
Lotteries	44.500	30.551	6.447	2.030
Lotto	-	58.329	129.677	161.023
Instant lotteries	-	-	100.234	94.673
Pools	-	14.450	3.364	1.501
Casino	-	-	215.860	468.300
Minor gaming	-	-	103.764	129.417
Keno	-	-	-	38.591
Gaming machines	-	-	265.690	601.403
Sports betting	-	-	-	-
Total gaming	**44.500**	**103.330**	**825.036**	**1,496.938**
Total gambling	**229.687**	**303.747**	**1,092.476**	**1,781.338**

a   Real values represent 1997-98 values; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.15   Real gambling expenditure, Queensland, per capita[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	91.811	74.849	96.846	99.203
On-course totalisators	10.749	13.031	13.762	8.725
On-course bookmakers	47.714	31.709	10.599	5.139
Off-course bookmakers	-	-	-	-
Sports betting	-	-	-	0.239
Total racing	**150.274**	**119.589**	**121.207**	**113.307**
Gaming				
Lotteries	36.111	18.230	2.922	0.809
Lotto	-	34.805	58.771	64.153
Instant lotteries	-	-	45.427	37.718
Pools	-	8.622	1.525	0.598
Casino	-	-	97.830	186.574
Minor gaming	-	-	47.027	51.561
Keno	-	-	-	15.375
Gaming machines	-	-	120.414	239.603
Sports betting	-	-	-	-
Total gaming	**36.111**	**61.657**	**373.916**	**596.390**
Total gambling	**186.385**	**181.247**	**495.123**	**709.696**

a   Real values represent 1997-98 values; Per capita represents persons over 18; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.16 **Real government revenue from gambling, Queensland, $ million**[a]

	1972-73	*1982-83*	*1992-93*	*1997-98*
Racing				
TAB	44.262	40.181	67.167	73.100
On-course totalisators	3.281	4.476	5.860	4.200
Bookmakers	16.845	14.128	4.275	2.300
Sports betting	-	-	-	0.200
Total racing	**64.388**	**58.785**	**77.302**	**79.800**
Gaming				
Lottery products	np	np	144.663	199.924
Casino	np	np	43.824	80.383
Minor gaming	np	np	4.333	2.875
Gaming machines	np	np	52.564	185.650
Sports betting	np	np	-	-
Total gaming	**28.424**	**71.421**	**245.361**	**468.832**
Total gambling	**92.812**	**130.206**	**322.663**	**548.632**

a Real values represent 1997-98 values; Lottery products include lotteries, lotto, instant lotteries and pools; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos and includes keno in hotels and clubs.

Source: Tasmanian Gaming Commission (1999).

South Australia

Table S.17 **Real gambling turnover, South Australia, $ million**[a]

	1972-73	*1982-83*	*1992-93*	*1997-98*
Racing				
TAB	283.507	312.612	558.422	590.304
On-course totalisators	56.737	64.200	62.246	51.063
On-course bookmakers	474.468	343.900	108.688	76.880
Off-course bookmakers	12.893	8.561	6.650	1.768
Sports betting	-	-	2.265	5.079
Total racing	**827.605**	**729.273**	**738.271**	**725.094**
Gaming				
Lotteries	38.873	10.469	-	-
Lotto	-	72.034	183.782	180.407
Instant lotteries	-	35.632	53.300	25.833
Pools	-	5.582	1.509	0.566
Casino	-	-	507.881	282.400
Minor gaming	20.614	123.263	108.536	57.300
Keno	-	-	69.272	71.818
Gaming machines	-	-	-	3291.676
Sports betting	-	-	-	-
Total gaming	**59.487**	**246.980**	**924.281**	**3910.000**
Total gambling	**887.092**	**976.253**	**1662.553**	**4635.094**

a Real values represent 1997-98 values; Casino turnover is measured as casino handle, the value of money exchanged for gaming chips; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.18 Real gambling expenditure, South Australia, $ million[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	40.825	47.830	89.381	91.655
On-course totalisators	8.170	10.144	9.963	7.989
On-course bookmakers	25.621	18.914	6.152	3.737
Off-course bookmakers	1.147	0.933	0.434	0.150
Sports betting	-	-	0.421	0.773
Total racing	**75.764**	**77.821**	**106.350**	**104.304**
Gaming				
Lotteries	15.549	4.188	-	-
Lotto	-	28.093	66.621	67.516
Instant lotteries	-	14.253	19.641	8.343
Pools	-	3.516	0.714	0.267
Casino	-	-	111.425	76.080
Minor gaming	10.307	61.632	54.268	28.900
Keno	-	-	12.608	13.071
Gaming machines	-	-	-	394.629
Sports betting	-	-	-	-
Total gaming	**25.856**	**111.681**	**265.276**	**588.806**
Total gambling	**101.620**	**189.502**	**371.626**	**693.110**

a Real values represent 1997-98 values; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.19 Real gambling expenditure, South Australia, per capita[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	50.920	50.148	81.607	81.616
On-course totalisators	10.190	10.635	9.097	7.114
On-course bookmakers	31.957	19.831	5.617	3.328
Off-course bookmakers	1.431	0.978	0.396	0.134
Sports betting	-	-	0.384	0.688
Total racing	**94.498**	**81.593**	**97.100**	**92.880**
Gaming				
Lotteries	19.394	4.391	-	-
Lotto	-	29.455	60.826	60.121
Instant lotteries	-	14.943	17.933	7.429
Pools	-	3.687	0.652	0.238
Casino	-	-	101.733	67.747
Minor gaming	12.856	64.619	49.548	25.735
Keno	-	-	11.511	11.639
Gaming machines	-	-	-	351.406
Sports betting	-	-	-	-
Total gaming	**32.250**	**117.094**	**242.202**	**524.315**
Total gambling	**126.748**	**198.687**	**339.302**	**617.195**

a Real values represent 1997-98 values; Per capita represents persons over 18; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.20 **Real government revenue from gambling, South Australia, $ million**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	17.717	13.942	26.624	23.591
On-course totalisators	3.045	2.754	1.925	1.585
Bookmakers	6.320	4.204	1.246	0.451
Sports betting	-	-	-	-
Total racing	**27.081**	**20.899**	**29.795**	**25.627**
Gaming				
Lottery products	np	np	94.166	77.932
Casino	np	np	22.423	20.331
Minor gaming	np	np	1.606	0.721
Gaming machines	np	np	-	160.676
Sports betting	np	np	-	-
Total gaming	**11.585**	**39.640**	**118.185**	**259.660**
Total gambling	**38.667**	**60.539**	**147.980**	**285.287**

a Real values represent 1997-98 values; Lottery products include lotteries, lotto, instant lotteries and pools; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos and includes keno in hotels and clubs.

Source: Tasmanian Gaming Commission (1999).

Western Australia

Table S.21 **Real gambling turnover, Western Australia, $ million**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	461.010	542.948	576.028	733.455
On-course totalisators	90.197	86.620	57.730	70.420
On-course bookmakers	264.525	247.458	144.055	182.708
Off-course bookmakers	-	-	-	-
Sports betting	-	-	1.939	8.875
Total racing	**815.731**	**877.027**	**779.752**	**995.458**
Gaming				
Lotteries	47.996	27.653	0.647	-
Lotto	-	67.089	250.642	327.847
Instant lotteries	-	63.212	77.279	74.145
Pools	-	-	2.720	1.585
Casino	-	-	1,382.784	1,708.705
Minor gaming	-	-	57.463	60.026
Keno	-	-	-	-
Gaming machines	-	-	-	-
Sports betting	-	-	-	-
Total gaming	**47.996**	**157.954**	**1,771.536**	**2,172.308**
Total gambling	**863.727**	**1,034.981**	**2,551.288**	**3,167.766**

a Real values represent 1997-98 values; Casino turnover is measured as casino handle, the value of money exchanged for gaming chips; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.22   **Real gambling expenditure, Western Australia, $ million**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	75.606	91.758	103.861	126.177
On-course totalisators	14.792	13.946	10.415	12.112
On-course bookmakers	14.549	13.610	7.928	9.135
Off-course bookmakers	-	-	-	-
Sports betting	-	-	0.270	0.838
Total racing	**104.947**	**119.314**	**122.474**	**148.262**
Gaming				
Lotteries	19.199	11.062	0.137	-
Lotto	-	26.835	100.257	135.638
Instant lotteries	-	25.285	30.912	29.512
Pools	-	-	1.514	0.835
Casino	-	-	290.460	358.828
Minor gaming	-	-	24.709	25.811
Keno	-	-	-	-
Gaming machines	-	-	-	-
Sports betting	-	-	-	-
Total gaming	**19.199**	**63.182**	**447.989**	**550.624**
Total gambling	**124.145**	**182.496**	**570.462**	**698.886**

a Real values represent 1997-98 values; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.23   **Real gambling expenditure, Western Australia, per capita**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	108.558	99.131	86.465	95.228
On-course totalisators	21.240	15.066	8.671	9.141
On-course bookmakers	20.890	14.704	6.600	6.894
Off-course bookmakers	-	-	-	-
Sports betting	-	-	0.225	0.632
Total racing	**150.688**	**128.902**	**101.960**	**111.896**
Gaming				
Lotteries	27.566	11.951	0.114	-
Lotto	-	28.992	83.465	102.368
Instant lotteries	-	27.316	25.734	22.273
Pools	-	-	1.261	0.630
Casino	-	-	241.810	270.814
Minor gaming	-	-	20.571	19.480
Keno	-	-	-	-
Gaming machines	-	-	-	-
Sports betting	-	-	-	-
Total gaming	**27.566**	**68.259**	**372.954**	**415.565**
Total gambling	**178.254**	**197.161**	**474.914**	**527.461**

a Real values represent 1997-98 values; Per capita represents persons over 18; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.24 **Real government revenue from gambling, Western Australia, $ million**[a]

	1972-73	*1982-83*	*1992-93*	*1997-98*
Racing				
TAB	29.025	34.389	34.562	36.670
On-course totalisators	5.124	4.652	2.858	-
Bookmakers	3.605	3.198	1.626	-
Sports betting	-	-	0.062	0.168
Total racing	**37.754**	**42.239**	**39.107**	**36.838**
Gaming				
Lottery products	np	np	109.351	125.715
Casino	np	np	43.573	53.824
Minor gaming	np	np	0.572	0.500
Gaming machines	np	np	-	-
Sports betting	np	np	-	-
Total gaming	**9.777**	**29.804**	**153.481**	**180.039**
Total gambling	**47.531**	**72.044**	**192.589**	**216.877**

a Real values represent 1997-98 values; Lottery products include lotteries, lotto, instant lotteries and pools; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos and includes keno in hotels and clubs.

Source: Tasmanian Gaming Commission (1999).

Tasmania

Table S.25 **Real gambling turnover, Tasmania, $ million**[a]

	1972-73	*1982-83*	*1992-93*	*1997-98*
Racing				
TAB	-	122.718	223.212	204.832
On-course totalisators	8.405	12.133	12.511	12.626
On-course bookmakers	123.109	82.758	37.061	14.891
Off-course bookmakers	217.476	-	-	-
Sports betting	-	-	-	-
Total racing	**348.991**	**217.609**	**272.784**	**232.349**
Gaming				
Lotteries	-	0.956	1.189	1.315
Lotto	7.604	50.856	57.763	47.100
Instant lotteries	-	16.289	15.667	9.023
Pools	-	4.016	0.540	0.237
Casino	57.932	176.312	259.688	949.784
Minor gaming	-	29.115	27.425	20.729
Keno	-	-	-	64.030
Gaming machines	-	-	-	206.549
Sports betting	-	-	-	3.442
Total gaming	**65.536**	**277.543**	**362.272**	**1302.209**
Total gambling	**414.527**	**495.152**	**635.055**	**1534.558**

a Real values represent 1997-98 values; Casino turnover is measured as casino handle, the value of money exchanged for gaming chips; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.26   **Real gambling expenditure, Tasmania, $ million**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	-	19.267	33.166	29.273
On-course totalisators	1.261	1.905	2.011	1.758
On-course bookmakers	6.771	4.552	2.038	0.819
Off-course bookmakers	17.398	-	-	-
Sports betting	-	-	-	-
Total racing	**25.430**	**25.723**	**37.215**	**31.850**
Gaming				
Lotteries	-	0.382	0.475	0.345
Lotto	3.042	20.342	23.105	16.140
Instant lotteries	-	6.516	6.267	2.368
Pools	-	2.530	0.270	0.080
Casino	10.307	35.021	53.755	75.642
Minor gaming	-	9.881	10.425	10.779
Keno	-	-	-	16.266
Gaming machines	-	-	-	23.666
Sports betting	-	-	-	0.016
Total gaming	**13.349**	**74.673**	**94.298**	**145.302**
Total gambling	**38.779**	**100.396**	**131.514**	**177.152**

a Real values represent 1997-98 values; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.27   **Real gambling expenditure, Tasmania, per capita**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	-	64.720	97.304	84.118
On-course totalisators	4.947	6.399	5.901	5.052
On-course bookmakers	26.569	15.290	5.980	2.353
Off-course bookmakers	68.268	-	-	-
Sports betting	-	-	-	-
Total racing	**99.784**	**86.409**	**109.185**	**91.523**
Gaming				
Lotteries	-	1.285	1.395	0.991
Lotto	11.935	68.333	67.788	46.379
Instant lotteries	-	21.887	18.386	6.805
Pools	-	8.499	0.793	0.230
Casino	40.444	117.642	157.712	217.362
Minor gaming	-	33.191	30.586	30.974
Keno	-	-	-	46.741
Gaming machines	-	-	-	68.006
Sports betting	-	-	-	0.046
Total gaming	**52.379**	**250.837**	**276.659**	**417.534**
Total gambling	**152.163**	**337.246**	**385.845**	**509.057**

a Real values represent 1997-98 values; Per capita represents persons over 18; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.28 Real government revenue from gambling, Tasmania, $ million[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	-	5.521	10.652	8.840
On-course totalisators	0.412	0.286	0.362	0.298
Bookmakers	7.021	0.729	0.285	0.036
Sports betting	-	-	-	-
Total racing	**7.433**	**6.536**	**11.299**	**9.174**
Gaming				
Lottery products	np	np	24.317	18.891
Casino	np	np	10.020	23.304
Minor gaming	np	np	1.162	0.847
Gaming machines	np	np	-	10.361
Sports betting	np	np	-	-
Total gaming	**3.911**	**28.917**	**35.496**	**53.403**
Total gambling	**11.344**	**35.454**	**46.795**	**62.577**

a Real values represent 1997-98 values; Lottery products include lotteries, lotto, instant lotteries and pools; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos and includes Keno in hotels and clubs.

Source: Tasmanian Gaming Commission (1999).

ACT

Table S.29 Real gambling turnover, ACT, $ million[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	78.311	57.388	91.904	113.000
On-course totalisators	3.151	4.223	8.559	4.900
On-course bookmakers	47.678	67.325	37.910	18.203
Off-course bookmakers	-	-	-	-
Sports betting	-	-	-	42.727
Total racing	**129.141**	**128.936**	**138.373**	**178.830**
Gaming				
Lotteries	-	2.021	3.399	2.937
Lotto	-	21.911	26.615	30.099
Instant lotteries	-	5.606	7.321	5.465
Pools	-	0.838	0.171	0.181
Casino	-	-	102.433	83.478
Minor gaming	-	-	-	-
Keno	-	-	-	-
Gaming machines	-	252.780	695.029	1249.467
Sports betting	-	-	-	36.086
Total gaming	**-**	**283.155**	**834.967**	**1407.713**
Total gambling	**129.141**	**412.092**	**973.340**	**1586.543**

a Real values represent 1997-98 values; Casino turnover is measured as casino handle, the value of money exchanged for gaming chips; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.30 Real gambling expenditure, ACT, $ million[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	10.180	9.010	15.083	16.223
On-course totalisators	0.410	0.663	1.405	1.469
On-course bookmakers	2.622	3.703	2.085	1.121
Off-course bookmakers	-	-	-	-
Sports betting	-	-	-	2.137
Total racing	**13.212**	**13.376**	**18.573**	**20.950**
Gaming				
Lotteries	-	0.727	1.224	1.028
Lotto	-	8.764	10.646	12.063
Instant lotteries	-	2.242	2.928	2.186
Pools	-	0.528	0.085	0.179
Casino	-	-	23.663	17.280
Minor gaming	-	-	-	-
Keno	-	-	-	-
Gaming machines	-	32.861	86.690	127.163
Sports betting	-	-	-	1.805
Total gaming	**-**	**45.123**	**125.237**	**161.704**
Total gambling	**13.212**	**58.499**	**143.809**	**182.654**

a Real values represent 1997-98 values; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.31 Real gambling expenditure, ACT, per capita[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	101.895	58.331	71.154	70.843
On-course totalisators	4.100	4.293	6.626	6.415
On-course bookmakers	26.246	23.972	9.836	4.895
Off-course bookmakers	-	-	-	-
Sports betting	-	-	-	9.332
Total racing	**132.242**	**86.596**	**87.616**	**91.485**
Gaming				
Lotteries	-	4.710	5.773	4.489
Lotto	-	56.741	50.222	52.677
Instant lotteries	-	14.518	13.815	9.546
Pools	-	3.416	0.403	0.782
Casino	-	-	111.629	75.459
Minor gaming	-	-	-	-
Keno	-	-	-	-
Gaming machines	-	212.746	408.961	555.297
Sports betting	-	-	-	7.882
Total gaming	**-**	**292.130**	**590.803**	**706.131**
Total gambling	**132.242**	**378.726**	**678.419**	**797.616**

a Real values represent 1997-98 values; Per capita represents persons over 18; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.32　**Real government revenue from gambling, ACT, $ million**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	0.783	3.344	5.514	5.580
On-course totalisators	0.029	0.247	0.477	-
Bookmakers	-	-	0.474	0.203
Sports betting	-	-	-	0.600
Total racing	**0.813**	**3.591**	**6.466**	**6.383**
Gaming				
Lottery products	-	np	11.410	11.920
Casino	-	np	6.362	3.456
Minor gaming	-	np	0.468	0.863
Gaming machines	-	np	18.259	28.173
Sports betting	-	-	-	-
Total gaming	-	**11.510**	**36.495**	**44.412**
Total gambling	**0.813**	**15.102**	**42.961**	**50.795**

a Real values represent 1997-98 values; Lottery products include lotteries, lotto, instant lotteries and pools; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos and includes keno in hotels and clubs.

Source: Tasmanian Gaming Commission (1999).

Northern Territory

Table S.33　**Real gambling turnover, Northern Territory, $ million**[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	-	-	58.616	74.095
On-course totalisators	-	0.089	7.098	12.232
On-course bookmakers	-	25.113	23.599	73.636
Off-course bookmakers	-	64.642	-	-
Sports betting	-		18.329	154.520
Total racing	**-**	**89.844**	**107.643**	**314.483**
Gaming				
Lotteries	-	5.521	2.609	4.429
Lotto	-	7.240	20.551	29.856
Instant lotteries	-	3.518	5.021	3.490
Pools	-	0.174	1.086	0.052
Casino	-	113.841	273.628	454.527
Minor gaming	-	1.482	-	-
Keno	-	-	-	-
Gaming machines	-	-	49.616	232.408
Sports betting	-	-	-	-
Total gaming	**-**	**131.775**	**352.511**	**724.762**
Total gambling	**-**	**221.619**	**460.154**	**1039.245**

a Real values represent 1997-98 values; Casino turnover is measured as casino handle, the value of money exchanged for gaming chips; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.34   Real gambling expenditure, Northern Territory, $ million[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	-	-	11.052	11.757
On-course totalisators	-	0.012	1.153	1.946
On-course bookmakers	-	1.531	1.170	4.700
Off-course bookmakers	-	5.138	-	-
Sports betting	-	-	4.176	10.450
Total racing	**-**	**6.681**	**17.551**	**28.853**
Gaming				
Lotteries	-	2.505	1.186	1.772
Lotto	-	2.896	8.220	11.942
Instant lotteries	-	1.407	2.008	1.396
Pools	-	0.110	0.543	0.021
Casino	-	21.024	33.721	47.414
Minor gaming	-	0.741	-	-
Keno	-	-	-	-
Gaming machines	-	-	3.954	19.731
Sports betting	-	-	-	-
Total gaming	**-**	**28.682**	**49.633**	**82.276**
Total gambling	**-**	**35.363**	**67.184**	**111.129**

a Real values represent 1997-98 values; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.35   Real gambling expenditure, Northern Territory, per capita[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	-	-	97.463	91.140
On-course totalisators	-	0.144	10.166	15.085
On-course bookmakers	-	18.572	10.315	36.434
Off-course bookmakers	-	62.330	-	-
Sports betting	-	-	36.826	81.008
Total racing	**-**	**81.046**	**154.770**	**223.667**
Gaming				
Lotteries	-	30.386	10.462	13.736
Lotto	-	35.131	72.490	92.574
Instant lotteries	-	17.072	17.709	10.822
Pools	-	1.329	4.790	0.163
Casino	-	255.045	297.360	367.550
Minor gaming	-	8.986	-	-
Keno	-	-	-	-
Gaming machines	-	-	34.869	152.953
Sports betting	-	-	-	-
Total gaming	**-**	**347.948**	**437.680**	**637.798**
Total gambling	**-**	**428.994**	**592.450**	**861.465**

a Real values represent 1997-98 values; Per capita represents persons over 18; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes casinos.

Source: Tasmanian Gaming Commission (1999).

Table S.36 Real government revenue from gambling, Northern Territory, $ million[a]

	1972-73	1982-83	1992-93	1997-98
Racing				
TAB	-	-	2.009	2.390
On-course totalisators	-	0.002	-	-
Bookmakers	-	1.744	0.365	1.092
Sports betting	-		0.297	0.592
Total racing	**-**	**1.746**	**2.671**	**4.074**
Gaming				
Lottery products	-	np	9.279	11.706
Casino	-	np	2.706	2.352
Minor gaming	-	np	-	-
Gaming machines	-	np	0.427	10.140
Sports betting	-	np	-	-
Total gaming	**-**	**6.955**	**12.411**	**24.198**
Total gambling	**-**	**8.702**	**15.082**	**28.272**

a Real values represent 1997-98 values; Lottery products include lotteries, lotto, instant lotteries and pools; Casino gaming includes wagers on table games, gaming machines, and keno systems; Gaming machine data excludes gaming machine data from casinos and includes keno in hotels and clubs.

Source: Tasmanian Gaming Commission (1999).

T   Divorce and separations

There are four common ways to assess the extent to which gambling problems may be associated with divorce and separations:

- undertake a survey of gamblers, determine which of them have gambling problems and ask self-assessment questions relating to the extent to which gambling may contribute to relationship problems, including divorce and separation. This was the method used by the Commission in its *National Gambling Survey* and *Survey of Clients of Counselling Agencies*;

- undertake a survey of people who are divorced or separated, and ask them general questions about why they divorced or separated and assess the prominence of gambling among these reasons;

- undertake quantitative assessments of the probability of divorce among a sample of individuals, given a problem gambling diagnosis, holding all other variables constant; and

- undertake quantitative assessment of the extent to which regional or time series divorce rates are associated with gambling expenditure, accounting for confounding variables.

This appendix sets out the key evidence on the likely impact of gambling problems on divorces, using evidence from all of the above methods.

T.1   The Commission's data

The Commission's *National Gambling Survey* suggested that there were:

- 59 500 relationship break ups *ever* as a result of gambling (of which 39 200 were in the last 12 months); and

- 42 600 separations or divorces *ever*.

However, these numbers do not provide the numbers of current year separations and divorces, which are useful for estimating the cost impacts in chapter 9. A number of possible methods can be used to derive current year estimates.

Dickerson et al (1998, p. 79) for example, uses a range of annualisation ratios to convert lifetime events into annual rates. For divorce he applies a ratio of 20, which would suggest around 2 130 annual divorces.[1] Given the average younger age profile of problem gamblers, 20 appears a relatively high adjustment factor. The average age of people saying that they have ever been divorced or separated due to gambling is 32.6 years in the *National Gambling Survey*. This suggests that a more reasonable annualisation rate might be significantly less than 20 years (but rather more than was applied in the Commission's draft report[2]).

However, some definitional and methodological issues suggest care in using the raw survey numbers. In particular, there is some ambiguity about the word separation. While the word 'separation' can mean the formal separation of a couple as a legal pre-requisite to divorce, it also has a popular meaning that people physically split up from a relationship even if they were not married. It is apparent from both the Commission's *National Gambling Survey* and the *Survey of the Clients of Gambling Counselling Services* that some people saw a separation as the physical split-up of people in a non-married relationship. The evidence for this is two fold. Of the people who said that they were ever divorced or separated as a result of gambling, only 14 800 recorded their current marital status as divorced or separated (and 1 700 said they were married, which could include re-marriages). Secondly, there were a number of comments by clients of counselling services indicating that they had split up from a de facto relationship, and had described this as a separation.

This suggests that the data does not relate purely to separations and divorces as they are recorded by the ABS, but to a wider set of occasions when partners separate from relationships. While this might be thought to bias the data upwards as a source of information on officially defined divorce and separation, there are offsetting factors that suggest that the data underestimates the *lifetime* prevalence of gambling-related divorce:

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[1] It is presumed that the 'ever' figure is dominated by divorces (since most separations proceed to divorce), so that it is legitimate to make no adjustment for separations in calculating the annualised divorce figure.

[2] In chapter 9 of its draft report, for its costing of impacts, the Commission converted the 'ever' divorced number into divorced 'in the last year' by taking the ratio of relationship break ups last year to break ups ever (a ratio of 0.66). This provides a large number, which would account for about 25 per cent of current year legally defined 'separations and divorces'. The Commission received advice from a number of experts and participants, including the Chairman of the Policy Committee on Family and Community Services, Kevin Andrews (who chaired the report *To Have and To Hold*), and the AHA (sub. D231), that these seemed significantly out of step with other research on the causes of divorce. Accordingly, the Commission has re-examined the data on divorce and separations, and in particular, looked more closely at estimates of annual gambling-related divorces.

- The ratio of 'last 12 months' prevalence of relationship breakdowns to 'ever' is implausibly high. It seems reasonable to suppose that a greater share of relationship breakdowns due to gambling would have occurred in the past (although people who had serial relationship breakdowns might say yes to a past breakdown and yes to a current one with this referring to two or more actual relationship breakdowns).

- This survey question was not asked of all respondents, but only of regular gamblers. It seems possible that many of the people whose past relationships have broken down due to gambling, would, over time, have changed their pattern of gambling to irregular — and thus have been excluded from the survey and its estimate of past relationship breakdowns.

For these reasons, while the data probably captures the relative degree of relationship instability between *current* problem and non-problem gamblers reasonably well, it is probably not a sound basis on which to estimate the number of divorces and separations that have *ever* taken place— in the technical legal sense of these terms — due to gambling.

However, by looking more closely at the current marital status of respondents, the *National Gambling Survey* may provide some insights into the numbers of people seeking divorce or separations in the last 12 months due to gambling. The Commission survey data base reveals that there were an estimated 4 500 people who had a relationship breakdown in the last 12 months, where the relationship breakdown had led to divorce or separation and where they were currently divorced or separated.[3] Since it takes one year to obtain a divorce after separation, this would imply annual gambling-related divorces of 2 250. However, the standard error of this estimate is large and it provides a questionable basis for costing current year impacts in chapter 9.

T.2   Surveys of divorcees

There are, however, a number of other possible sources of data on the causes for divorce. Wolcott and Hughes (1999) from the Australian Institute of Family Studies provides one source on the general causes of divorce, and used a survey involving 650 respondents. Their study points to *no* divorces as a result of gambling at all, though it appears that gambling was cited as a contributing factor by one person (AHA, sub. D231, p. 27).

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[3] Some people may presumably get a divorce and re-marry or record their status as 'single' rather than as 'divorced or separated', but this seems unlikely if the divorce or separation has been within the last 12 months.

However, the survey used a set of pre-coded categories (Wolcott and Hughes 1999 p. 7) — such as communication problems, incompatibility, affair, alcohol/drug abuse, physical violence, financial problems, physical/mental health, work issues and work and family time, and emotional/verbal abuse — from which a respondent was to tick one as the main cause of marital breakdown. Gambling was not included as a separate category. But many of these possible reasons for marriage breakdown are symptoms of other underlying causes — for example, financial problems, physical violence, physical/mental health, and emotional/verbal abuse are all adverse impacts that can be associated with problem gambling. Because of this, such a survey strategy does not enable the data to shed much light on the issue at hand. Nevertheless, it appears highly likely that gambling-related divorce would figure relatively slightly in aggregate divorces.

Moreover, the survey is composed of two samples that, by their nature, will tend to under-represent cases of gambling related divorce. The samples were divorcing couples with a child under 18 years at the time of separation (a sample of 513 respondents) and people who had been married for 15 years or longer and with a wife whose age at separation was between 45 and 65 years (Behrens and Smyth 1999, p. 4). As gambling problems tend to emerge more frequently in young people, it seems likely that they would be more highly represented in a sample of divorcing younger couples without children — precisely the group omitted from the study.

Even with its limitations for the matter at hand, the AIFS study provides some circumstantial evidence that the prevalence of gambling-related divorce is likely to be relatively modest. The survey reveals that alcohol and drug problems accounts for 7.4 per cent of divorce cases, though it is also noted that some of these problems may be subsumed under the heading 'physical/mental health' (which accounts for a further 4.7 per cent of cases). Given that there is substantial evidence that the prevalence of alcohol and drug abuse is significantly higher than gambling problems, it would appear reasonable to suppose that gambling would have to contribute to some fraction of 7.4 per cent of divorces to reflect its relative prevalence.

Another key relevant study is a telephone survey conducted in September 1998 by Relationships Australia among 1 402 Australians. Across the whole sample, around 4.1 per cent nominated gambling as a source of a relationship problem with a partner — which is consistent with a prevalence rate of gambling problems of around 2 per cent (close to the estimate provided by the Commission). Among divorcees, however, gambling figured more prominently, and was mentioned by 7 per cent of people as a contributing factor to problems. Since, however, people typically nominated more than one factor, it is necessary to reduce the share of divorces and separations due to gambling to a smaller number that accounts for this

double counting. In this case, a reasonable adjustment may be the share of total mentions of all possible causes — which reduces the importance of gambling to 3.1 per cent. ABS data[4] suggests that there were 51 370 divorces in 1998. This implies that there were around 1 600 gambling-related divorces in Australia in 1998 and another 1 600 separations (next year's divorces) that might be ascribed to gambling, or 3 200 divorces and separations altogether.[5]

Of course these numbers will ignore the breakdown of relationships outside of marriage. There are likely to be a significant number of these, particularly since the highest risk group for problem gambling are the young.

Table T.1   **Reasons for relationship problems**
September 1998

	Divorced or separated			Other marital status			Total		
	NM	SNM	SS	NM	SNM	SS	NM	SNM	SS
	No.	%	%	No.	%	%	No.	%	%
Loss of a job	20	6.9	15.5	170	7.3	13.4	190	7.3	13.6
Work or study demands	28	9.6	21.7	323	13.9	25.4	351	13.4	25.0
Having or bringing up children	34	11.7	26.4	301	13.0	23.6	335	12.8	23.9
An accident or traumatic events	32	11.0	24.8	266	11.5	20.9	298	11.4	21.3
Financial difficulties	54	18.6	41.9	345	14.9	27.1	399	15.3	28.5
Serious illness or disabilities	24	8.2	18.6	252	10.8	19.8	276	10.6	19.7
Gambling	**9**	**3.1**	**7.0**	**48**	**2.1**	**3.8**	**57**	**2.2**	**4.1**
An affair	20	6.9	15.5	80	3.4	6.3	100	3.8	7.1
Alcohol or drug abuse	24	8.2	18.6	142	6.1	11.2	166	6.4	11.8
Violence	13	4.5	10.1	49	2.1	3.8	62	2.4	4.4
No major difficult times	19	6.5	14.7	297	12.8	23.3	316	12.1	22.5
Some other cause	12	4.1	9.3	45	1.9	3.5	57	2.2	4.1
Don't know/can't recall	2	0.7	1.6	5	0.2	0.4	7	0.3	0.5
Total	291	100.0	225.6	2323	100.0	182.5	2614	100.0	186.4

a φ NM is the number of times the factor was mentioned by a respondent. Respondents could mention more than one factor as a contributor to relationship problems. SNM is the share of total mentions for each category, and will sum to 100. SS is the share of the total sample (which was 129 for people who were divorced or separated and 1 402 altogether). SS will sum to more than 100.

Source: Data provided by Relationships Australia and Bateman and Conroy (1999).

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[4] ABS, 1999e, *Marriages and Divorces, Australia*, Cat. No. 3310.0.

[5] Another possible *indicative* method of estimating the share of divorces is to examine the ratio of problems caused by gambling to alcohol and drugs in the Relationships Australia survey and apply that to the AIFS study. This yields an estimate of gambling related divorce share as 3.1/8.2 x 7.4 = 2.8%.

T.3   The logistic approach

The NORC study (Gerstein et al 1999) for the US National Gambling Impact Study Commission undertook logistic analysis of its sample respondents to examine the extent to which the odds for divorce increased with a diagnosis of problem gambling. They found that once confounding variables had been taken into account, 'pathological' gamblers had 2.3 times the odds of getting divorced. If these heightened odds were also roughly relevant to Australian problem gamblers then this would imply that the annual divorce rate per 1000 problem gamblers would be around 29 people per 1000 marriages (ie 2.3 times 12 per thousand[6]). Among the 293 000 current problem gamblers there are about 140 000 who are married (in the overwhelming number of cases to a non-problem gambler), and thus about 140 000 couples in which one party is a problem gambler.[7] Using the US odds would imply annual gambling-related divorces of around 4 000 in Australia.

The Commission also undertook its own logistic analysis of respondents to the *National Gambling Survey* to see what factors might determine whether a person recorded their marriage status as divorced or separated. Problem gambling, age and unemployment were all statistically significant factors in explaining divorce (based on 3 463 observations). Overall, the analysis suggested that a problem gambler had 1.7 times the odds of being divorced compared to others, controlling for other risk factors. Using the above methods, this would imply annual gambling-related divorces in Australia of around 2 900.

Table T.2   **Summary of divorce prevalence comparisons between 'pathological', problem and low-risk gamblers**
US NORC study

	Rate of divorce ever per gambler	Odds ratio relative to low risk	Predicted rate for divorce without gambling	Rate of divorce for low-risk gamblers
	%	ratio	%	%
Problem gamblers	39.5	1.38	32.1	29.8
Pathological gamblers	53.5	2.29	33.5	29.8

a φThe term 'pathological' gambler is closest to the terminology 'problem gambler' used by the Commission. People termed as 'problem' gamblers in most US studies are not categorised as having gambling problems using the thresholds applied in Australia.

Source: Gerstein et al (1999 p. 55).

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[6] 12.4 per thousand is the annual divorce rate given by ABS data for 1998 (Cat. No. 3310.0).

[7] Around 47 per cent of problem gamblers report being married. The *National Gambling Survey* also asked people if they knew someone who was a problem gambler. Using this as the basis there were around 125 000 couples in which one was problem gambler.

T.4   Regional studies

Nichols et al (1999) examined divorce rates in a group of eight casino communities in the US compared to five matching control non-casino communities. They found no evidence that divorce rates were higher in casino communities than non-casino communities.

However, models of aggregate divorce rates tend to explain relatively little of the variation of divorce (across regions or time[8]) because so many idiosyncratic hard-to-observe factors are at work. As noted by McAllister (1999, p. 2):

> Aggregate statistics and quantitative surveys are poor instruments for measuring the process of marital breakdown and the changes accompanying different stages of it

To illustrate this, suppose that the recent rapid growth in gambling in Australia had roughly doubled the number of problem gamblers who are in marriages in the last decade. Assuming a fixed risk of divorce of 1.7 times that of other marriages (as in the previous sub-section), this implies that there would have been about an additional 1 500 divorces in 1998 compared to a counterfactual of a static gambling environment. But 1 500 divorces is only 2.9 per cent of divorces in 1998, and in this case would represent a gradual increase in divorces due to gambling of 0.29 per cent per annum over the decade. Picking that up in an econometric method is probably beyond the capacity of the data — an issue that it discussed more generally in chapter 7.

T.5   Summary

Anecdote and data on problem gamblers (whether from general populations or help groups) leave little doubt that problem gambling is instrumental in the breakdown of some marriages and relationships. But measuring the aggregate number of gambling-related Australian divorces with precision and separating gambling problems from other factors that may be present is difficult. Using methods that have some capacity to uncover the contribution of problem gambling suggests that problem gambling is connected with something between 1 600 and 4 000 divorces a year (and therefore around double this number of annual divorces and separations).

In its analysis of the costs of problem gambling, the Commission has taken the least of these numbers — or around 1 600 gambling-related divorces per year.

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[8] If the influence of lagged dependent variables are taken into account.

Table T.3   Various estimates of gambling-related divorces per annum

Method	Estimated annual gambling-related divorces
	Number
Annualising the 'ever' divorces	2 130
Last year relationship breakdowns that resulted in divorce or separations.	2 250
The Relationships Australia data	1 600
Using the NORC logistic odds	4 000
Using the Commission logistic odds	2 900

Source: Commission estimates.

U   How gaming machines work

This appendix sets out how gaming machines work. This is important because the technology and how it works is at the heart of some gamblers' cognitive errors about their gambling. Moreover, the technology can play a role in harm minimisation, but appropriate measures require an understanding about how the machines function. As Global Gaming Services noted:

> Most forms of venue gambling are technology based. I observe with interest that no-one involved in the problem gambling industry reference groups (eg NSW) would appear to have any appreciation of the design theory and technology behind the gambling devices. Probably most know that the devices make money, but do they know why? (sub. D189, pp. 1-2).

The appendix also describes some of the consequences of differing playing styles, and how the playing styles adopted by problem gamblers are likely to affect the outcomes.

It also considers the persistent myth that the history of outcomes affects future game results — the so-called 'gambler's fallacy'.

Finally, as some industry representatives have questioned whether the Commission's calculations in respect of *Black Rhino* (in chapter 16) are correct, it sets out the calculations for assessing the likelihood of the highest jackpot on this game.

U.1   How do poker machines work?

Modern poker machines are electronic 'chance' machines. Their central component is a program embedded in a chip. This program uses random numbers to generate random outcomes, which in turn determines the outcomes visible to the player. Most Australian machines have five 'reels' and three visible rows. These are displayed on a video unit. Each 'slot' on each reel depicts some icon, such as a tree, a card, or some other readily identifiable symbol. Certain combinations of symbols generate payoffs for the player.

Machines in widespread use in Australia employ virtual reels, rather than electro-mechanical reels as used in older machines, and still often used in some countries,

such as France and the US (Casino International 1999, p. 35). The use of virtual reels has a range of attractions. Mechanical reels have major limitations. In particular, on a spinning reel there are only so many symbols that can be fitted (and still be readily visible to the player). In the US, the Telnaus system used reel mapping to overcome some of these physical limitations.[1] But video reels, as used in Australian machines, presents a more transparent and simple way of overcoming the limitations of physical reels. Any number of symbols can be fitted to a video reel, allowing a great deal of flexibility.[2]

Most Australian gaming machines allow for multiple lines. A 'line' in such a display is a series of five outcomes from each of the five reels. The first line is the second row, the second is the top row, while the third is the bottom row. Other lines can be formed by moving from row to row across the reels (table U.1). For example, line 4 is like a shallow 'V'. Multiple lines allow the player to play a set of games simultaneously. *Black Rhino*, for example, allows up to nine lines per button push. Other games, such as *Black Panther* allow only three lines while *Cash Crop* and *Cash Chameleon* allow 20 lines.

Table U.1   **Lines in poker machines**[a]

Reel1	*Reel2*	*Reel3*	*Reel4*	*Reel5*
Line numbers	Line numbers	Line numbers	Line numbers	Line numbers
2,4,6	2,6,9	2,5,9	2,6,9	2,4,6
1,8,9	1,4,5	1,6,7	1,4,5	1,8,9
3,5,7	3,7,8	3,4,8	3,7,8	3,5,7

a Based on the Aristocrat *Black Rhino* game.

Source: Venue observations by the Commission.

An example may be useful in explaining how the machines work. Suppose someone is playing just one line and one credit per line on a *Black Rhino* machine. People

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[1] This mapping system worked as follows. A random number would be sought between 1 and a large number (say 128), which identifies a position on a virtual reel (in this case, one with 128 stops). Then each of the stops on the large virtual reel are mapped onto a smaller reel. It is this smaller reel that is used to display the symbols on the gaming machine and which is visible to the player. Because the large virtual reel has many more stops than the smaller visible reel, many different stops on the big virtual reel can be mapped to one stop on the small reel. Thus non or low paying symbols on the visible reel will be represented by many stops on the virtual reel, while high paying symbols may be represented by single stops. In this way, the probability of selection of any given stop on the reel visible to consumers will no longer be the same, but will depend on the number of associated stops on the virtual reel.

[2] Aristocrat Leisure Industries provided advice on the workings of modern Australian machines.

usually play more than one line, but it is easier to explain how the machines work by looking at the most simple style of play.[3]

When the player pushes the machine button, the random number generator in the machine randomly determines the stopping point of each of the five reels. The reels are like lists of symbols. The symbols on any given reel are always in the same relative position in every game. Thus on reel one of *Black Rhino*, a king always follows the rhino symbol, then a queen, a ten and so on. Once the stopping point on line one for any given reel is determined, then that determines what symbols appear on that reel for the other lines. The stopping point for each reel is determined *entirely* randomly and no single position on any reel has a higher probability of selection than any other position. The outcome on each reel is also *entirely* independent. A physical analogy to the gaming machine is a set of five wheels on which symbols are etched. Each of the wheels is separately rotated and allowed to come to rest.

The payoffs associated with each winning combination are displayed on the machine. For example, five rhinos pays 5 000 times the credits bet (plus a scatter). However, much more frequently, the winning combinations return lower amounts, such as 3 scatter trees or two nines (which pay 2 times the credits staked) or three tens (5 times the credits staked). But mostly no winning combination occurs.

For example, one possible outcome from the *Black Rhino* game is shown in table U.2. This scenario would pay out 3 kings on line 1 (since rhinos also substitute for other symbols) which, on a 10 cent machine would be a payout of 10 x 10 cents or $1. Because scatters[4] are paid regardless of the number of lines being played, and rhinos are substitute symbols for the scatter symbol (a tree), a scatter payout would also be paid. This provides an additional payout of 50 x total credits staked = $5. So in this case, the total payout would be $6. This is just one of many possible outcomes on the machine.

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[3] The player selects the lines and credit options at the start of play and can then repeat that style of play with a single button push (or a touch of the screen on some of the newer machines). They can, of course, change their lines/credits options at any time during play.

[4] Scatter wins occur when the 'scatter' symbol appears enough times anywhere in the 15 available spots on the video screen, regardless of the number of lines actually being played.

Table U.2   An example of an outcome on *Black Rhino*

	Reel 1	Reel 2	Reel 3	Reel 4	Reel 5
	Symbols	Symbols	Symbols	Symbols	Symbols
Line 2	Rhino	Queen	Ten	Rhino	Ten
Line 1	King	Rhino	Rhino	Queen	King
Line 3	Queen	Ten	Nine	King	Rhino

If the gambler had been playing five lines and ten credits per line (with line 4 being the pathway shown by the bold line and line 5 being the pathway shown by the other line) then the win would have been $265, comprising:

- $10 on line 1 (10 x 10 credits per line x credit value);

- $250 in the scatter win; and

- $5 on line 4 (based on 2 rhinos[5]).

U.2   Game returns and the 'price' of gambling

As noted in chapter 16, gaming machines have statutory minimum player return rates. These minimum player return rates are usually exceeded by gambling venues. Returns of around 90 per cent are common. Player returns on gaming machines have tended to increase over time in Australia.

The player return rate is defined as the average amount won by players as a share of the cumulative amount staked. The 'price' of gaming machines is therefore one minus this rate. For example, if a machine offers an average player return of 90 per cent this means that the average loss is 10 per cent of the accumulated amount staked (which is the turnover of the machine).

The amount of expected losses vary with the playing style of the gambler. It should not be assumed that low denomination machines, such as the now common one and two cent machines (chapter 16), necessarily involve low player losses. They instead allow a large amount of player choice about the intensity of playing. For example, the expected player losses per hour of continuous play on a two cent *Cash Chameleon* machine (with an 85.15 per cent return) is between a very modest $2.14 for one line, one credit per line to $1 069 per hour at maximum intensity — a difference in spending rates of 500 times (table U.3).

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[5] While the rhinos substitute for nines, three nines provides the same prize as two rhinos, and other than when a scatter rhino occurs with a payline rhino win, the highest win only is paid.

Table U.3 Expected hourly losses on *Cash Chameleon*[a]
Results for different playing styles

Credits\lines	1 credit per line	5 credits per line	10 credits per line	20 credits per line	25 credits per line
Player return=92.13%	$	$	$	$	$
1 line	1.13	5.67	11.33	22.67	28.33
5 lines	5.67	28.33	56.66	113.33	141.66
10 lines	11.33	56.66	113.33	226.66	283.32
15 lines	17.00	85.00	169.99	339.98	424.98
20 lines	22.67	113.33	226.66	453.31	566.64
Player return = 87.78%					
1 line	1.76	8.80	17.60	35.19	43.99
5 lines	8.80	43.99	87.98	175.97	219.96
10 lines	17.60	87.98	175.97	351.94	439.92
15 lines	26.40	131.98	263.95	527.90	659.88
20 lines	35.19	175.97	351.94	703.87	879.84
Player return = 85.15%					
1 line	2.14	10.69	21.38	42.77	53.46
5 lines	10.69	53.46	106.92	213.84	267.30
10 lines	21.38	106.92	213.84	427.68	534.60
15 lines	32.08	160.38	320.76	641.52	801.90
20 lines	42.77	213.84	427.68	855.36	1069.20

[a] The formula for the expected (or average) dollar value of losses from playing one hour continuously is:

$$Expected\ loss = D \times C \times L \times (1 - r) \times \frac{3600}{BPT}\ \text{where}$$

C is the number of credits staked per line, L is the number of lines played per button push, r is the player return (for example, 0.9213), D is the denomination of the machine (such as 1 or 2 cents, and in the above examples a 2 cent machine), BPT is the time elapsed between button pushes (here set at 5 seconds). *Cash Chameleon* comes with four return options for the venue/jurisdiction (87.78%, 85.15%, 90.42% and 92.13%). The table above shows the player loss outcomes associated with three of these return rates.

Source: Commission calculations.

The expected losses also vary by the machine denomination and the player return rate. Clearly, the one cent *Cash Chameleon* with the same return rate as above, has half the expected player loss per hour for the same playing style. Far less obvious is the influence of the player return on the expected player losses. The *Cash Chameleon* machine has a number of variants, offering returns as low as 85.15 per cent and as high as 92.13 per cent. As noted in chapter 16, both the maximum and minimum return rates on these variants appear to be high returns, and many people would think the difference slight. However, different player return rates — which are produced by usually making a few simple changes to the symbols on one or two reels — can have a large impact on expected player losses. Thus playing at top

intensity on the 85.15 per cent *Cash Chameleon* will set back the gambler an expected $1 069 per hour but nearly halves this to $567 per hour on the 92.13 per cent version.

Gaming machines are entertaining precisely because of interesting game features and the unpredictability of the outcomes. The complex payoff distributions in gaming machines mean that the returns that gamblers make from games vary significantly in the short run. The corollary to this is that the return rates realised by players will vary considerably from playing session to session. As noted by the AGMMA (sub. D257) and in chapter 16, this implies that players will not be able to readily determine the 'price' of single machine, except after many trials.

Figure U.1, which shows the player returns from 100 000 simulations of a gaming machine, confirms gaming manufacturers' statements about the extreme volatility of actual outcomes on poker machines.[6]

For example, while the expected net losses from playing on a 10 cent *Black Rhino* at maximum intensity (nine lines and ten credits per line) are around $780, there is around a 30 per cent chance that the losses will be $1 300 or more per hour. Similarly, there is around a 2.3 per cent chance that the gambler will make a net $1 300 win in an hour long session at this maximum intensity. The odds of breaking even or better are around 17 per cent.

U.3 Game volatility

Even while all styles of play involve highly unpredictable returns over a reasonable session time, the player can decide whether they wish to increase this unpredictability further by choosing certain playing styles. For example, a *Black Rhino* player could:

- choose a 10 cent machine and play one line with 10 credits per line (staking $1 per button push) — playing style 1; or

- also stake $1 a button push by choosing a 2 cent machine and playing 5 lines and 10 credits per line — playing style 2.

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[6] These data and other simulations of a gaming machine in this appendix are based on software developed by the Commission. The program, which runs on MS Windows 95+ platforms, is available on request from the Commission.

Figure U.1   **Player returns from a gaming machine**a

Black Rhino return distribution from one hour of play
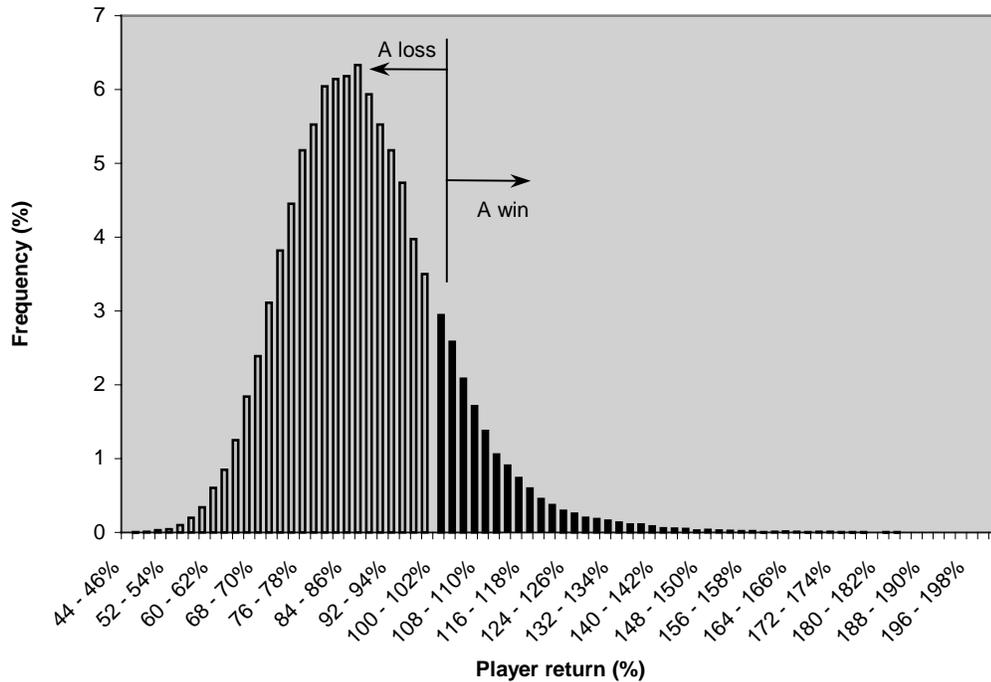
a This is based on a particular poker machine game, *Black Rhino*, whose details were provided by Aristocrat. The player price results are based on 100 000 simulations of a gambler making 720 button pushes (playing nine lines). 720 button pushes amounts to around 1 hour of continuous play. The consumer return rate of the version of *Black Rhino* simulated is 87.84 per cent (with the simulation average being 87.82 per cent, within 0.02 per cent of the actual price).

Data source: Commission estimates.

The rate of return is equal for each playing strategy, but the variance — the spread of results — is much greater for the first strategy than the second. The person who plays gaming machines the first way has a higher probability of a bigger win (because payouts for a line win are a multiple of the credits bet on that line), but also a higher probability of losing more. The distribution of returns from playing for one hour for each playing style is illustrated in figure U.2, based on the results of 10 000 gaming machine simulations in each case. For example, for around 21 per cent of occasions the hourly returns are below 70 per cent using player style 1 compared to less than 10 per cent of occasions for player style 2. On the other hand, for around 15 per cent of occasions the hourly returns are *above* 110 per cent using player style 1 compared to 6 per cent of occasions for player style 2.

The example also illustrates the point that the likelihood of having a net win can vary significantly over the shorter run, depending on play style, even though the expected return is the same. However, as noted in chapter 16, the Commission still

considers that the machine price — one minus the player return — is a useful summary measure of the expected cost of playing the game. It is an especially good guide over the longer run, as demonstrated next.

The volatility in returns is a function of the number of games played. Over a year the numbers of games played, even by a regular recreational gambler, tends to run into the hundreds of thousands.

Figure U.2   **Differences in the distribution of returns from differing playing styles**[a]
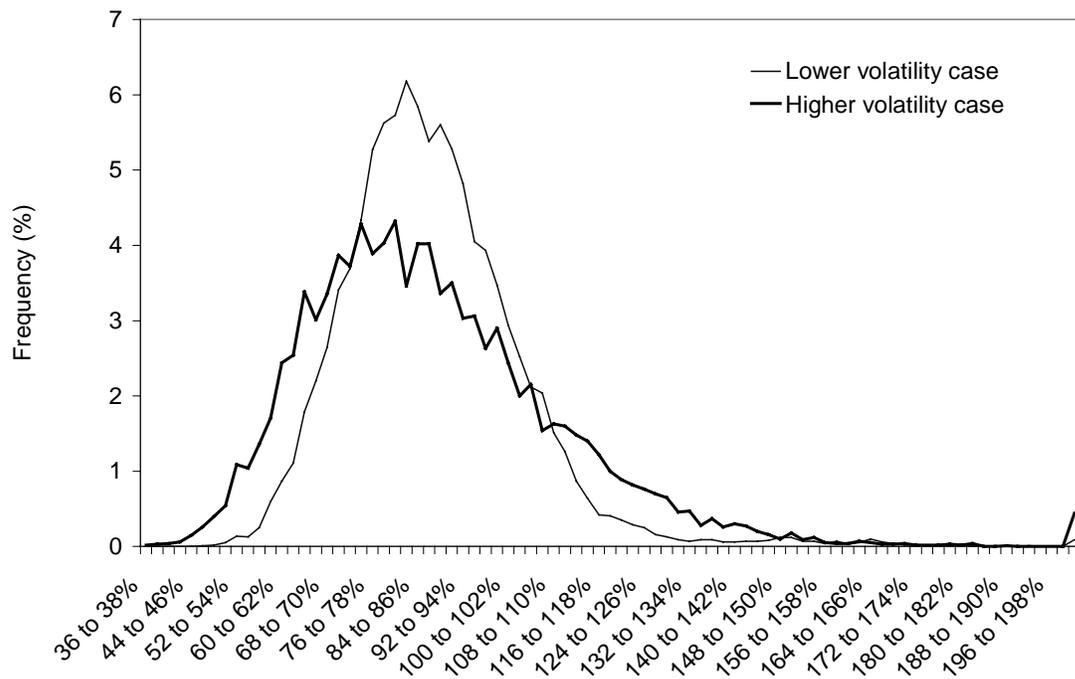
a The higher volatility case is associated with player style 1 (10 credits per line, 1 line only on a 10 cent machine), while the lower volatility case is associated with player style 2 (10 credits per line, 5 lines on a 2 cent machine). The results are based on 10 000 simulations in each case. The coefficient of variation was 0.326 for player style 1 and 0.183 for player style 2 — indicating the substantial difference in the volatility of returns.

Data source: Commission calculations using a poker machine simulation program.

For example, if a player bet on 3 lines a button push (each line best seen as a separate game) then they would be playing around 2 160 games an hour. If they played once a week for the year, they will have played 112 320 games. Over a thirty year period, they would have played around 3.4 million games. The volatility is much reduced over a large number of games and will tend to be concentrated around the expected player return. This has some interesting implications.

A once a week hourly session of gambling will produce significant differences in returns from week to week. It would not be unusual to win $100 in one week and lose $100 in the next. In the game simulated by the Commission, around one in five are net winners in any given hourly session (figure U.3).

Figure U.3   **Distribution of player losses associated with different periods of play**a
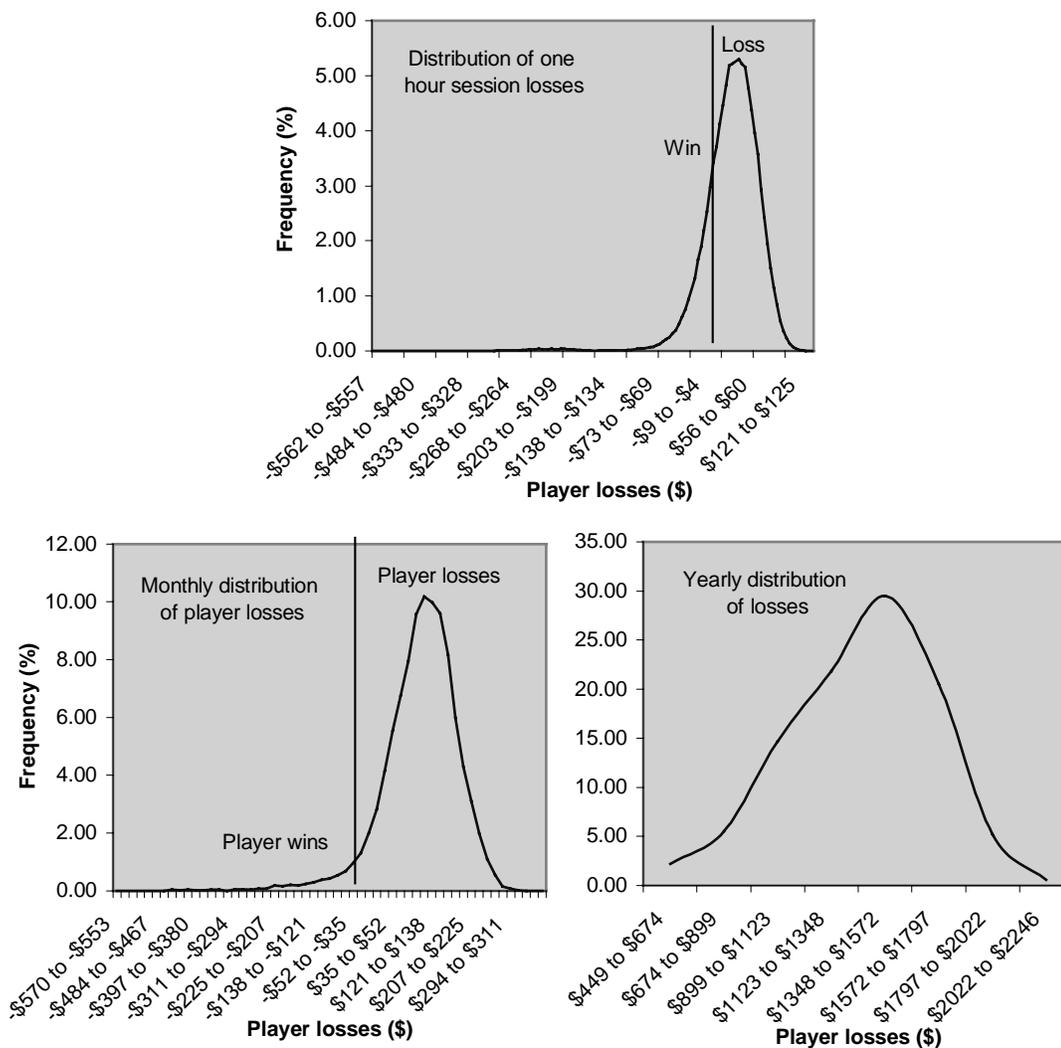
a Based on varying simulations of a gaming machine as noted in the accompanying table. A minus value indicates a win (ie a negative cost).

Data source: Commission simulations.

Over a month, however, returns are much less volatile, with significantly reduced probabilities of being a winner overall. Now only 7 per cent are net winners in any given month. And over the year none won in 1000 simulations undertaken. The average recorded a loss of $1365 and the least loss was $484. Over a lifetime of

regular playing (30 years) the probability of winning overall on the type of machine simulated is so remote that it may as well be regarded as impossible.[7] The average loss in our simulation of this was $41 000 and the least lifetime cost was $35 500 (table U.4). The degree of variation is very low relative to the mean for the 30 year period, but high for an hour long session. The measure of relative variance — the coefficient of variation — shrinks by around a factor of 40 as the time span increases.

Table U.4   **The impact of regular play on the distribution of gaming machine losses**[a]

	Hourly sessions	Monthly	Yearly	30 years
Average cost ($)	26.26	105.04	1 365.52	40 965.60
SD ($)	39.88	81.1	302	1574
Coefficient of variation	1.52	0.77	0.22	0.04
Least cost ($)	-559.60	-559.60	483.80	35 574.30
Share making a profit (%)	19.2	6.7	0	0
Simulations	1.56 million sessions	13 000 months	1 000 years	1 000 30 year periods

a Based on a person playing a 2 cent machine with 3 lines and 5 credits per line (ie a stake per button push of 30 cents). The machine 'price' is 12.16 per cent (ie expected losses from a stake) and they play for a one hour session, once per week. A minus number indicates a win. Someone playing at higher levels of intensity could expect to make proportionately higher overall losses. Thus someone who plays at around 90 cents a button push, would expect to lose around $123 000 over the 30 year period.

Source: Commission calculations.

Of course, for many people such 'losses' are merely the form of payment for a well-enjoyed entertainment. The cost of attending other forms of entertainment, such as movies, is not termed a loss. A survey of 262 gaming machine players at 5 Victorian venues (Tabcorp, sub. D286, p. 21) suggests that 52 per cent of people who *lost* in a session of play at gaming machines still considered the outcome had met or even exceeded expectations. However, for many it also appears that they expect to win from playing gaming machines. This is a goal that can be frequently achieved in separate gaming sessions, but is *inevitably* elusive for any prolonged period of regular play.

U.4   Game duration

It is relatively easy, as in the case of player losses, to calculate the expected duration of a game associated with any given style of play. Modern Australian machines give

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[7] The distribution of losses after 30 years can be approximated as a normal distribution. To make a win would require a shift 26 standard deviations away from the mean — a probability of effectively zero.

players a large amount of choice about how much time is purchased on the machine. Someone willing to spend $50 on the 2 cent *Diamond Touch* gaming machine (a typical machine) can expect to sit there for an average of over 28 hours if they stake only one credit per line and hit only one line (table U.5). Most people would never play this long of course, but it demonstrates that the machines do not necessarily involve large losses even over enduring periods of play. On the other hand, someone who elects to bet at the maximum intensity can expect this 2 cent game to last under 4 minutes for a $50 initial stake.

Table U.5 **How much time is $50 expected to buy on the *Diamond Touch* gaming machine?[a]**
Results for different playing styles

Credits\ lines	1 credit per line	5 credits per line	10 credits per line	20 credits per line	25 credits per line
Player return=87.79%	Hours of play	Hours of play	Hours of play	Hours of play	Hours of play
1 line	28.438	5.688	2.844	1.422	1.138
5 lines	5.688	1.138	0.569	0.284	0.228
10 lines	2.844	0.569	0.284	0.142	0.114
15 lines	1.896	0.379	0.190	0.095	0.076
20 lines	1.422	0.284	0.142	0.071	0.057

[a] The formula for calculating the expected duration in hours is:

$$Duration = \frac{T}{(D \times C \times L)} \times \frac{1}{(1-r)} \times \frac{BPT}{3600}$$

where T is the initial amount of money the player outlays on the machine (in this case a $50 note), C is the credits per line, D is the machine denomination (in this case 2 cents), L is the lines per button push, r is the player return rate and BPT is the time elapsed between button pushes (here set at 5 seconds). The expression above is derived by dividing the initial amount of money the player puts into the machine by the expected hourly loss (as in the previous table).

Source: Commission calculations.

The distribution of time purchased, is, however, highly skewed towards shorter duration sessions for a given amount of money (figure U.4). For example, in 10 000 simulations of someone who puts $30 into a ten cent *Back Rhino* machine and plays 3 lines and 5 credits per line, the average duration is 13 minutes and 4 seconds. But on fifty percent of occasions the money runs out and the session is over in less than 4 minutes. On other occasions, the game could, in theory, last several hours.

The notable feature of the distribution is its skewness — this reflects the situation in which someone makes periodic wins and keeps playing. It is this characteristic that makes the Commission wary about using expected player duration as a proxy for the cost of playing the machine. After all, 50 per cent of the time a player will play

for an amount of time that is less than one third of the expected duration — and this may fuel excessive player suspicion and disputes.

Figure U.4   **The distribution of duration**[a]
              A *Black Rhino* example
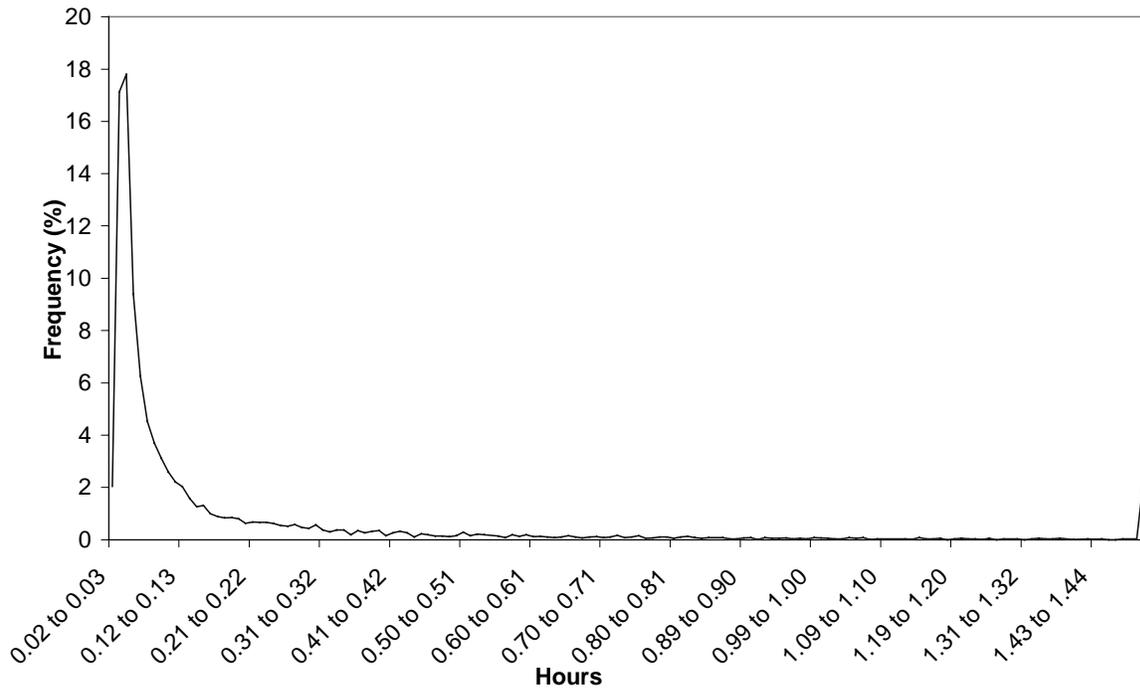
a This is based on someone who puts $30 into a 10 cent machine and plays 3 lines and 5 credits. The simulation assumes that If they have a win of $100 or more on a single button push they stop playing. Otherwise they play until their money has gone. The simulation suggests that the mean is 13 minutes and 4 seconds (with a standard deviation of 35 minutes). On fifty per cent of occasions, the game is finished within 48 button pushes (about 4 minutes).

Data source: Commission simulations of a poker machine.

U.5   The impact of recycling wins

Gaming machines tend to produce most of their prizes as small wins, and many players will recycle or re-'invest' these winnings. However, problem gamblers are much more likely to recycle big wins (table U.6). For example, problem gamblers are 4 times more likely to re-invest a prize of $100 than non-problem infrequent gamblers.

Since every game (bar some temporary features) has a house advantage, the impact of re-investment has a significant impact on overall player losses, and also tends to prolong gambling sessions.

Table U.6   **Percentage of people who reinvest $20, $50 and $100 wins into gaming machine play**

Nova Scotia VLT players

	Problem players	Frequent non-problem players	Infrequent players
$20 win	74	34	26
$50 win	58	29	17
$100 win	48	21	13

Source: Focal Research (1999, pp. 3-57).

The Commission examined the impact on duration and player losses of two different styles of gambling behaviour. In both cases, the gambler bet on 3 lines with 5 credits per line using a five cent machine (ie a button push cost of 75 cents). Each started with a stake of $30. In one case, the gambler stopped playing if they won a prize of over $50 or an hour had elapsed. In the other, the gambler stopped playing if they won a prize of over $250 (recycling all other smaller wins) or after three hours had elapsed. The average share of the initial outlay lost in the former case was about 70 per cent, while it was 86 per cent for the latter (table U.7).

Table U.7   **The impact of differing playing styles on expected returns from a given outlay**[a]

	Plays up to one hour and stops on a prize of $50	Plays up to 3 hours and stops on a prize of $250
Initial outlay ($)	30.00	30.00
Average number of button pushes (number)	224.7	287.9
Average session time (minutes)	18.7	23.98
Standard deviation of session time (minutes)	17.4	34.2
Average loss (gain) ($)	20.74	25.79
Share of initial outlay lost (%)	69.1	86.0

a The results are based on 10 000 simulations in each case. The gambler plays 3 lines and 5 credits per line on a 5 cent machine (*Black Rhino*). In one case, the gambler will stop playing if they get a prize of $50 or if they exceed one hour, whichever comes first. In the other, the gambler will stop playing if they get a prize of $250 or if they exceed three hours, whichever comes first. The latter is behaviour typical of someone who recycles their wins.

Source: Commission calculations.

The Commission observed in its *National Gambling Survey* that the ratio of overall player losses to outlays tended to be higher in problem gamblers than recreational players — and it is this behaviour that most readily explains this pattern.

U.6   The gambler's fallacy

Gamblers and others have many misconceptions about gaming machines (and indeed other gambling forms). The 'gambler's fallacy' (also called the 'Monte Carlo effect') refers to the spurious belief that pure games of chance have memories and that the probability of future events is affected by the history of the game (Wildman, 1998, pp. 40ff). Thus people think that a machine that has not paid off for a while has a much higher chance of paying off in the future, and that similarly, a machine that has suddenly paid off is 'exhausted' and is not likely to pay off quickly in the future. This has the unfortunate consequence for problem gamblers that they believe they can make up past losses on a machine by playing a bit longer, since the machine must be ready to pay up. Or, by not believing that each button push is an independent event they believe that they can exert some control over the outcome:

> Players have spent years trying to beat slot machines for big money by devising schemes to influence the reel outcome. They alternate between pushing the button and pulling the handle to confuse the random number generator. They think the 'rhythm' of handle-pulling will lead to winnings. They heat up coins with a lighter. They freeze coins in a cooler. They think the RNG will pick a different result because they bet three instead of two coins. They pull the handle harder or slower. Save your strength. Put the lighter away. Leave the cooler at home. None of it maters. The RNG is going to pick a random reel result no matter how hard you heave the handle, and whether you play two coins, play three coins, push, pull or stand on your head (Legato, 1999).

In fact, the outcome on each new game is independent of past games. People then wonder how it is possible that a gaming machine can guarantee a given rate of return, as required by regulators, if they do not 'tighten' up after jackpots or 'loosen' up after a sequence of low or no payouts. The regulated return rate is naturally achieved, even with independence, by the sheer number of games that are played. The concept is similar to throwing a coin. A fair coin has a 50 per cent chance of a head. But there is a 3 per cent chance that a coin will show 5 heads in a row, and an even higher chance that it will be significantly biased towards heads or tails. But after a million tosses, the observed odds will converge to 50 per cent heads and tails. No memory in the coin throws is required to achieve this, just an abundance of trials.

U.7   The case of *Black Rhino*

A number of industry groups suggested that the Commission's calculations of the probability of winning the top jackpot on the *Black Rhino* gaming machine revealed a misunderstanding of random number generators or the laws of probability (box U.1). Aristocrat Leisure Industries, the maker of the machine, have confirmed that

the Commission's calculations are correct, but did point out that many people play *Black Rhino* and similar modern games in expectation of their frequent 'scatter' wins, rather than for the jackpot prize (a point also made subsequently by the Australian Casino Association in sub. D289).

Box U.1   **Random number generators and *Black Rhino***

A number of industry representatives argued that the Commission's representation of *Black Rhino* showed a poor understanding of how gaming machines actually worked:

> It **could** take 6.7 million button presses … but it **could** be any quantum short of this (or longer than this), including one button press. The Commission appears not to understand the working of random number generators (Star City Casino, sub. D217, p. 18);

> The description of the *Black Rhino* is misleading. If fails to adequately reflect the laws of probability and an understanding of random number generation. In talking about the alleged number of times a player would need to press the button to win, the PC contradicts its earlier claim that the odds of winning are the same for every push of the button (ACIL, sub. D233, p. 9).

> Our impression is that you are labouring under a number of misunderstandings about … how poker machines work (Australian Casino Association, sub. D289, p. 1).

> … the PC suggests that consumers could be told that in order to get a 50 per cent chance of getting 5 rhinos it will take 6.7 millions button presses … This conveniently overlooks the fact that random numbers are involved and the jackpot could be achieved with just one press of the button … Later … the PC has a description of the chances of winning on an EGM which seems to contradicts its discussion … it is acknowledged that any press of the button is independent of previous wins … This is an acknowledgment of the random numbers. What does the PC really believe? (Australian Casino Association, sub. D234, p. 7).

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Below, the Commission sets out the calculations that were used to illustrate the odds of winning the top jackpot and its likely cost.

Black Rhino is a game in which there are five (virtual) reels. On each reel there are 25 symbols. There is only one black rhino on each reel. The internal computer in the gaming machine generates a random number to determine the stopping point of each reel. Each reel is 'spun' independently. The probability of getting 5 rhinos on a single button push, playing one line at a time, on the *Black Rhino* gaming machine is, therefore, $(1/25)^5$, which is one in 9,765,625.

This does not mean that a person cannot win on any given button push. Indeed, that is precisely what we took account of when making our calculations. They *could* win on the next button push as Star City Casino noted (sub. D217, p. 18) and the likelihood of doing so is exactly one in 9 765 625 as above.

However, many people find one in 9 765 625 a daunting number. So how can one provide a picture of what one in 9 765 625 means? One — quite common way of explaining low probability outcomes in statistics — is to calculate how many *cumulative* trials (or button pushes in this case, given the example is based on a person playing one line per button push[8]) would be needed to increase the probability to 50 per cent of winning the jackpot (instead of the roughly one in ten million represented by a single trial).

This is a straightforward statistical problem. The probability of winning the jackpot is p. Therefore the probability of not winning is $(1-p)$. The odds, therefore, of **never** winning the jackpot in n trials is $(1-p)^n$. Therefore, the odds of winning the jackpot (at least once) in n trials is $1-(1-p)^n$. We can then ask how big is **n** in order that the expression $1-(1-p)^n = 0.5$. Some simple mathematical manipulation shows that:

$n = \ln 0.5 / \ln (1-p)$

Now substituting $p = (1/25)^5$, then the number of button pushes (n) required is 6 769 015.[9] This has the implications that:

- assuming each button push takes 5 seconds, this suggests that, at 17 280 button pushes per day, it will take 392 days to have a 50 per cent probability of winning the top jackpot;

- data from the VCGA (1999) suggests that the average player spends less than 50 hours playing per year. At that rate of normal play, the gambler can expect to play for 188 years to have the 50 per cent probability;

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[8] As noted in section U1, this assumption is adopted for ease. The Australian Casino Association (sub. D289, p. 3) says that a different time spent would be obtained had the calculations been based on multiple lines. Of course, since playing multiple lines increases the number of games being played per minute, a fewer number of *button pushes* and therefore a reduced time would be required to achieve the fifty per cent chance. But that in no way affects the correctness of the calculations using the assumptions used by the Commission. The point of the calculation is to illustrate the remoteness of the probability of winning the top prize. Nothing put to the Commission suggests that our calculation under or over-estimates this remote probability.

[9] The binomial formula suggests that this 50 per cent probability of winning at least one jackpot consists of the following: there is a 34.7 per cent chance of winning just one jackpot over the 6.7 million trials, a 12 per cent chance of exactly two jackpots, a 2.8 per cent chance of winning exactly three jackpots over the trials, and a 0.5 per cent chance of winning exactly four jackpots. The probability of winning other multiples of jackpots are so negligible that they are not worth noting.

- assuming that the gambler is on a 10 cent machine running one line and 4 credits per line on average[10] (which roughly equates with the industry average loss rate) then they will outlay 40 cents per button push. With a machine 'price' of 0.1216 (one of the settings on *Black Rhino*), the consumer will lose an expected 4.864 cents per button push. This implies *net* player losses of $329 245 to have this 50 per cent probability. This expected cost fully *factors in* any wins made by achieving any jackpots (and all other wins — including scatters— which are, of course, quite frequent[11]).

The above calculations rely on independent randomly generated numbers, and the possibility that on any button push a win is possible. Of course, this does not mean that the gambler will be *guaranteed* a jackpot win in 6 769 015 trials (as was implied in some popular stories, as noted by sub. D289, p. 3) — to the contrary, this many trials simply provides a fifty-fifty probability of making at least one jackpot win.

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[10] *Black Rhino* has a number of options for playing multiple credits, but 4 is not one of them. However, this appears to be the average amount wagered, as suggested by the VCGA. Our calculations rely on playing an average of 4 credits per line (which could be achieved by a player who plays 3 credits half the time and 5 credits half the time).

[11] The Australian Casino Association (Sub. D289, p. 3) says that the Commission's dollar figure does not 'cover returns from the higher-probability minor prizes that a player could be expected to win on the way'. This is simply not correct. The Commission has applied the full game return of 87.84 per cent when calculating player wins.

V   Use of the SOGS in Australian gambling surveys

V.1   Australian gambling surveys

In the absence of better tests of the number of gamblers who are adversely affected by their gambling, Australian studies have used the South Oaks Gambling Screen (SOGS) as the problem gambling measurement instrument.

Up to the time of this inquiry, there were 11 Australian gambling surveys that have used the SOGS. The only 'national' study, carried out in 1991-92 (Dickerson et al. 1996), was national in a limited sense:

- it covered the capital cities of Sydney, Melbourne, Adelaide and Brisbane (representing 84 per cent of Australian adults who live in an urban setting); but

- there was no coverage of rural populations.

Since that time, a number of statewide surveys have been carried out, covering metropolitan and country populations. They include:

- two studies for Tasmania — Dickerson and Baron (1994) and Dickerson and Maddern (1997);

- two studies for New South Wales — Dickerson et al. (1996a) and Dickerson et al. (1998);

- two studies for Victoria — Market Solutions and Dickerson (1997) and Roy Morgan Research (1999);

- studies for Western Australia (Dickerson, Baron and O'Connor 1994); and South Australia (Delfabbro and Winefield 1996); and

- specific studies of particular gambling modes or venues:

  - a Queensland study looking at the relationship between gambling related problems and EGMs (Dickerson, Boreham and Harley 1995);

  - a study of EGMs in Sydney registered clubs (Prosser et al. 1997).

The main interest in this appendix is to outline how the SOGS has been used in previous Australian prevalence surveys, noting in particular the timeframe used and the number and wording of individual questions.

V.2   Use of the SOGS in Australian surveys

Shaffer et al. (1997) have urged researchers who use a particular problem gambling screening instrument to do so with care and caution:

> If you select an existing instrument, do not make significant modifications to the survey [instrument]; instead, consider adding questions relevant to your particular data needs. In this way, the psychometric properties of the original survey instrument will be maintained (p. 114).

Timeframes for the SOGS

The original SOGS was famed as a 'lifetime' screen, with questions posed in terms of whether the respondent had 'ever' undertaken a particular behaviour. Such a lifetime SOGS measure may therefore detect whether people have at *some time* in their life had problems with their gambling.

But clearly a lifetime screen has limitations as a measure of current prevalence of problems. For that reason, a current SOGS measure was devised which posed questions in terms of behaviour over the past 12 months. Reflecting a concern over the potentially high false positive rate for the current measure, Australian studies (other than the Commission's) ask respondents about possible behaviours or problems experienced over the last 6 months.

This diverges from most international studies which tend to use a 12 month period.[1] The false negative rate in a 6 month SOGS appears to be considerably higher than in the 12 month SOGS, while the false positive rates appear to be very similar. Moreover, there is interest in trying to measure the annual prevalence rate and the associated annual costs of problem gambling, which would suggest a year rather than 6 months as the appropriate unit of time for all measures.

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[1] Shaffer et al. (1997, pp. 107-8) reviewed all major prevalence surveys of problem gambling in the US. Among 43 studies of adult populations using the SOGS they found that 16 used lifetime SOGS only, 17 used the lifetime SOGS and a 12 month SOGS, 8 used a 12 month SOGS, and 2 used a lifetime SOGS and a 6 month SOGS. In other words, no US adult study reviewed by Shaffer et al. used a 6 month SOGS as the *only* test of prevalence rates.

Differences in question wording and survey contexts

The SOGS has been subject to considerable testing of its validity and reliability (Lesieur and Blume 1987; Lesieur 1994, Abbott and Volberg 1992). However, in many of its Australian manifestations, researchers have altered the wording or context of the test, usually without specific acknowledgment of the variation. Some changes may improve a test, especially where it is being applied in a different cultural context. For example, the question, 'Have you lost time from work or *school* because of gambling?' is routinely and appropriately changed in Australia to 'Have you lost time from work or *study* because of gambling?' reflecting the different understanding of the term 'school' in Australia compared to the United States. But other question differences may lead to biases.

As well, where different studies use different sets of words or different questions, comparisons between the studies have to be undertaken with greater care.

Some of the differences between Australian studies have been:

- In some studies (the Tasmanian and New South Wales studies), the SOGS questions were changed from a simple question to a statement and a question. For example, instead of 'Have you felt guilty about the way you gamble or what happens when you gamble?' the survey asks 'When I have finished gambling I have felt guilty. In the last 6 months how often has that applied to you?' This re-phrasing has unknown impacts on bias.

- Some studies repeat the time period relevant for each SOGS question (the 1996 Tasmanian study and the 1997 Sydney Registered Clubs study), while others only state the relevant period just once, prior to implementing the SOGS (for example, the 1996 South Australian survey). The former approach appears more likely to elicit appropriate current measures of prevalence than the latter. This is because after several questions, some respondents may well forget that the relevant time period is 6 months rather than a longer period.

- In some surveys (the Tasmanian and New South Wales surveys) respondents are asked to rate the frequency that a behaviour applies to them (never, rarely, sometimes, often or always). This clearly provides additional useful information over the original SOGS instrument, which mainly requests yes/no responses. However, it seems possible that people who say 'no' to the original SOGS might say 'rarely' to this revised version (which would be scored as a yes), leading to higher average SOGS scores.

- A number of studies avoid the term 'loan sharks' in the question on borrowing for gambling, and instead adopt the terminology 'high interest rate finance companies' (for example, the Victorian 1997 and the South Australian 1996 surveys). This is problematic. While some people or organisations which provide

loans at usurious rates may be finance companies, many will not be. Secondly, 'loan sharking' connotes the combination of a penal interest rate, and implies a sense of desperation in the borrower and a more threatening context for the loan. The questions may both have usefulness in identifying problem gamblers, but they may often relate to divergent behaviours.

- In some cases, (for example, the Tasmanian and New South Wales studies) the question 'Have you ever claimed to be winning money when you really had lost?' was re-worded as 'When I have lost at gambling I have bragged about winning. How often has that applied to you?' 'Bragged' is an emotive term with pejorative overtones, and could lead to a possible downward bias in answers.

- In the 1996 Tasmanian study, the original SOGS question 'Did you ever gamble more than you intended to?' was amended to 'When I have gambled I have gone on longer than planned. In the last 6 months how often has that applied to you?' The first question can relate to both expenditure and time, whereas the second only relates to time.

- Also in the Tasmanian study, there are omissions and additions to questions relating to borrowing money for gambling. No question is asked on loan sharks, nor is there a question about writing cheques knowing there was no money in the account (passing bad cheques). Instead there is a question about borrowing from friends and another about borrowing from other sources. 'Household' money is rendered as the narrower term 'housekeeping' money. These alterations have unknown impacts on the specificity and sensitivity of the test.

- The placement of the SOGS within the surveys has been different. In the New South Wales studies, the SOGS questions are interspersed among a range of other questions about the harmful and beneficial impacts of gambling, rather than appearing as a bloc.

- In some cases, for example the 1997 Victorian study, the SOGS appears near the end of a very long survey, while in others, such as the 1996 Tasmanian study, the overall survey length is short and undemanding, probably improving the accuracy of responses.

In summary, there have been significant differences in both the wording and placement of the SOGS in surveys implemented in Australia. This means that the variations in the prevalence rates observed will inevitably reflect an amalgam of real differences, random sampling errors and differences in test instruments and contexts.

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