



Australian Government
Productivity Commission

Workforce Participation Rates – How Does Australia Compare?

Staff Working Paper

*Joanna Abhayaratna
Ralph Lattimore*

December 2006

The views expressed in
this paper are those of the
staff involved and do not
necessarily reflect those of
the Productivity Commission

© Commonwealth of Australia 2006

ISBN-13 978-1-74037-220-6

ISBN-10 1-74037-220-4

This work is subject to copyright. Apart from any use as permitted under the *Copyright Act 1968*, the work may be reproduced in whole or in part for study or training purposes, subject to the inclusion of an acknowledgment of the source. Reproduction for commercial use or sale requires prior written permission from the Attorney-General's Department. Requests and inquiries concerning reproduction and rights should be addressed to the Commonwealth Copyright Administration, Attorney-General's Department, Robert Garran Offices, National Circuit, Canberra ACT 2600.

This publication is available in hard copy or PDF format from the Productivity Commission website at www.pc.gov.au. If you require part or all of this publication in a different format, please contact Media and Publications (see below).

Publications Inquiries:

Media and Publications
Productivity Commission
Locked Bag 2 Collins Street East
Melbourne VIC 8003

Tel: (03) 9653 2244
Fax: (03) 9653 2303
Email: maps@pc.gov.au

General Inquiries:

Tel: (03) 9653 2100 or (02) 6240 3200

An appropriate citation for this paper is:

Abhayaratna, J. and Lattimore, R. 2006, *Workforce Participation Rates — How Does Australia Compare?*, Productivity Commission Staff Working Paper, Canberra.

JEL code: F, J

The Productivity Commission

The Productivity Commission, an independent agency, is the Australian Government's principal review and advisory body on microeconomic policy and regulation. It conducts public inquiries and research into a broad range of economic and social issues affecting the welfare of Australians.

The Commission's independence is underpinned by an Act of Parliament. Its processes and outputs are open to public scrutiny and are driven by consideration for the wellbeing of the community as a whole.

Information on the Productivity Commission, its publications and its current work program can be found on the World Wide Web at www.pc.gov.au or by contacting Media and Publications on (03) 9653 2244.

Preface

With population ageing and the associated shift in the age structure of the population towards older groups with lower workforce participation rates, Australia's future labour supply growth will decline in the absence of offsetting increases in participation rates. International comparisons which show that Australia's overall participation rate falls well short of some OECD countries are often used as a benchmark to highlight the scope for Australia to lift its participation rate.

However, there are significant differences across the OECD in the statistical practices used to report workforce participation rates. This study finds that, after adjusting for the effects of some of these varying statistical practices, Australia's position looks better, though there remain significant differences in participation rates for key age groups. This implies scope to lift Australia's participation rates and economic growth.

The Commission is undertaking further research to identify the reasons for participation rate differences and the scope for policy reforms to lessen them for three distinct labour market segments — prime aged men, women of child-bearing age and females nearing retirement. Reports focused on these areas will be released shortly.

Acknowledgments

This paper was prepared under the general direction of Rosalie McLachlan and Ian Monday. The development of the study benefited from comments and suggestions from Garth Pitkethly, Bernie Wonder and Jonathon Pincus.

Contents

Preface	III
Acknowledgments	IV
Abbreviations	VIII
Summary	IX
1 Why does workforce participation matter?	1
1.1 Population ageing heightens interest in participation	2
1.2 Scope for improving workforce participation	3
1.3 A guide to the paper	4
2 Australia’s workforce participation experience	7
2.1 A snap-shot of Australia’s workforce	7
2.2 Trends in workforce participation	9
2.3 Underutilised labour	15
3 International comparisons based on published data	23
3.1 Australia’s participation rate — how does it compare?	23
3.2 Recent history of Australia’s relative ranking	30
4 Deriving more meaningful comparisons	33
4.1 Data discrepancies – real or statistical differences?	33
4.2 Age structures and participation rates	39
5 Adjusting the data – what does it mean for participation gaps?	43
5.1 The impact of adjusting for statistical differences	43
5.2 Country-specific adjustments	52
6 Some implications	55
A Supporting statistics	61
B GDP per capita and the participation gap	71
References	73

BOXES

2.1	ABS definitions of the components of underutilised labour	16
-----	---	----

FIGURES

1	OECD total workforce participation rates, 2005	X
2	Adjusted total workforce participation rates, 2005	XII
3	Country-specific workforce participation rate gaps by key labour market segments, 2005	XIII
1.1	The ‘three Ps’ of economic growth	1
1.2	Economic growth in Australia — a 40 year projection, 2005-06 to 2044-45	3
2.1	Australia’s workforce composition, 2005	8
2.2	Share of full-time and part-time employees, 2005	9
2.3	Workforce participation rates by sex, 1980 to 2005	9
2.4	Lifespan of workforce participation rates, 1980 and 2005	10
2.5	Married and non-married women’s workforce participation rates, 1980 to 2005	11
2.6	Part-time workers as a proportion of people employed, 1985 to 2005	12
2.7	Share of full-time and part-time work, 1985 to 2005	13
2.8	Hours worked per employee, 1985 to 2005	14
2.9	Distribution of hours worked per week by sex, 1985 to 2005	15
2.10	Labour force underutilisation rate, by sex and age, September 2005	18
2.11	Labour force underutilisation, September 1994 to September 2005	18
2.12	Underemployed part-time workers, preferred number of extra hours by sex and age, September 2005	19
2.13	Unemployed persons, September 2005	20
3.1	OECD total workforce participation rates, 2005	24
3.2	OECD average annual hours worked per employee, 2005	24
3.3	OECD total workforce participation rates by age, 2005	26
3.4	OECD male workforce participation rates by age, 2005	28
3.5	OECD female workforce participation rates by age, 2005	29
3.6	Percentage point change in aggregate participation rate for total population, 1996 to 2005	31
4.1	The impact of old age-structure on age-standardised estimates, 2005	41
5.1	Adjusted total workforce participation rates, 2005	46

5.2	Adjusted total workforce participation rates by age, 2005	47
5.3	Adjusted male participation rates by age, 2005	50
5.4	Adjusted female participation rates by age, 2005	51
5.5	Country-specific workforce participation rate gaps, 2005	53
5.6	Country-specific workforce participation rate gaps by key labour market segments, 2005	53
6.1	Labour underutilisation rates by component, 2005	57

TABLES

4.1	Adjustments for defence personnel, 2005	35
4.2	Adjustments to the older age bracket, 2005	36
4.3	Adjustments to the younger age bracket, 2005	36
4.4	Adjustments for paid maternity leave, 2005	38
4.5	Age-standardised total workforce participation rates, 2005	40
5.1	Contribution of adjustments to the change in Australia's workforce participation rate, 2005	44
5.2	Contribution of adjustments to the change in workforce participation rates, 2005	44
5.3	Net impact of adjustments on overall participation rates, 2005	45
A.1	Australia's workforce composition, 2005	61
A.2	OECD workforce participation rates, 2005	62
A.3	OECD workforce participation rates by age groups, 2005	63
A.4	OECD male workforce participation rates by age groups, 2005	64
A.5	OECD female workforce participation rates by age groups, 2005	65
A.6	Adjusted workforce participation rates, 2005	66
A.7	Adjusted workforce participation rates by age groups, 2005	67
A.8	Adjusted male workforce participation rates by age groups, 2005	68
A.9	Adjusted female workforce participation rates by age groups, 2005	69

Abbreviations

ABS	Australian Bureau of Statistics
BLS	Bureau of Labor Statistics
CIA	US Central Intelligence Agency
COAG	Council of Australian Governments
EOWA	Equal Opportunity for Women in the Workplace Agency
GDP	Gross domestic product
IISS	International Institute for Strategic Studies
OECD	Organisation for Economic Co-operation and Development
PC	Productivity Commission
PR	Participation rate
UN	United Nations
USCB	US Census Bureau

Summary

Policy interest in differences in workforce participation rates between OECD countries has heightened in recent years against the backdrop of population ageing. Over the next 30 to 40 years, population ageing is expected to reduce workforce growth and constrain future economic growth of OECD countries, including Australia. The Council of Australian Governments (COAG), announcing a new national reform agenda earlier this year, recognised that:

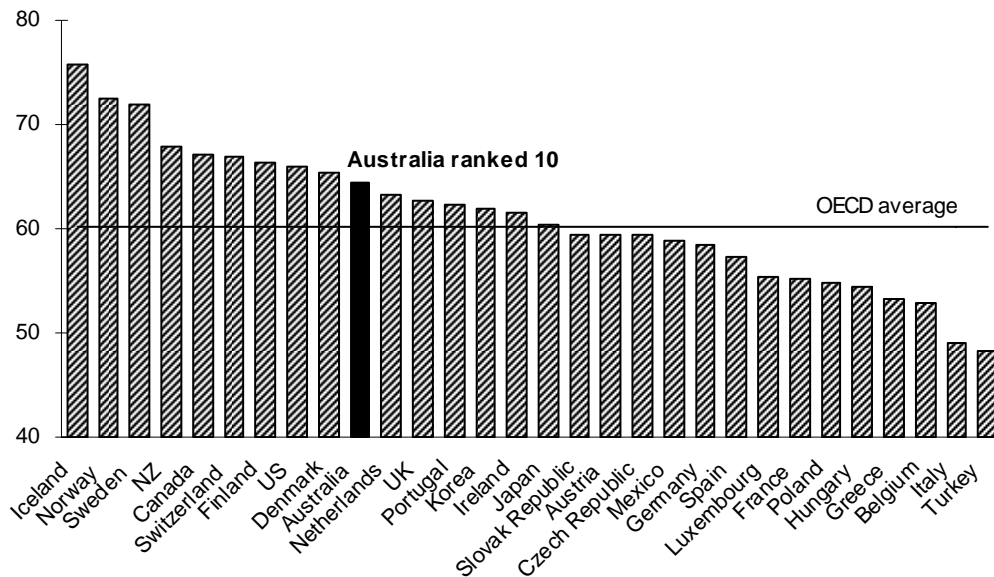
... with an ageing population there will be relatively fewer Australian's of working age. To avoid putting too great a burden on those already in work, more Australians need to realise their potential by entering or rejoining the workforce. (COAG 2006a, p. 1)

International comparisons are often used to highlight the scope for Australia to lift its workforce participation rates. However, significant differences across the OECD in statistical practices impair the comparability of published data. This raises a question about the extent to which differences in published participation rates are real as opposed to reflecting different statistical practices across countries. This paper seeks to answer this question and to provide a better basis to assess the scope for policy reform to lift participation rates. The paper also provides information on recent trends in Australia's workforce participation experience and comparisons of Australia's labour utilisation performance relative to comparable OECD countries.

What does the published international data tell us?

According to published data, Australia's overall workforce participation rate has increased over the last 25 years — from 61.3 per cent in 1980 to 64.4 per cent in 2005. While Australia's participation rate in 2005 (the latest year for which international data are available) exceeded the average for OECD countries (60.2 per cent), it fell below that of nine other OECD countries, including Iceland, Norway, Sweden, New Zealand, Canada, Switzerland, Finland, the US and Denmark (figure 1).

Figure 1 **OECD total workforce participation rates, 2005**
Per cent



The published data also show that while Australia’s overall participation rates for males and females were above the OECD average in 2005, relatively low participation rates were recorded for:

- prime aged males (25 to 54 years), where Australia ranked 6th lowest among 30 OECD countries;
- child-bearing aged women (25 to 44 years), where Australia ranked 8th lowest; and
- older men and women (55 to 64 years), where Australia ranked 13th within the OECD.

In contrast, for youths (15 to 24 years), Australia ranked 2nd highest among OECD countries.

Based on OECD data, Australia’s overall workforce participation ranking has remained in 10th place for the past eleven years (except in 1997 and 1998 when Australia was ranked 11th). Australia’s participation rate ranking for males and females has also been relatively stable over this period.

Participation rate differences — real or statistical noise?

Closer analysis of the published OECD data indicates that some of the observed differences in participation rates arise from variations in statistical practices between countries. In all, there are seven main sources of data discrepancies reflecting differences in the treatment of:

- seasonality in labour force data;
- defence personnel;
- institutionalised populations;
- missing data for some age brackets;
- paid maternity leave;
- definitions of unemployment; and
- temporary residents.

This paper made adjustments in four areas — defence personnel, institutionalised populations, missing data for some age brackets and paid maternity leave. Because data constraints limited the adjustments that could be made, there may continue to be some statistical noise in the data. What is apparent, however, is that adjusting for differences in statistical practices in these four areas lifts Australia's participation rate relative to other OECD countries.

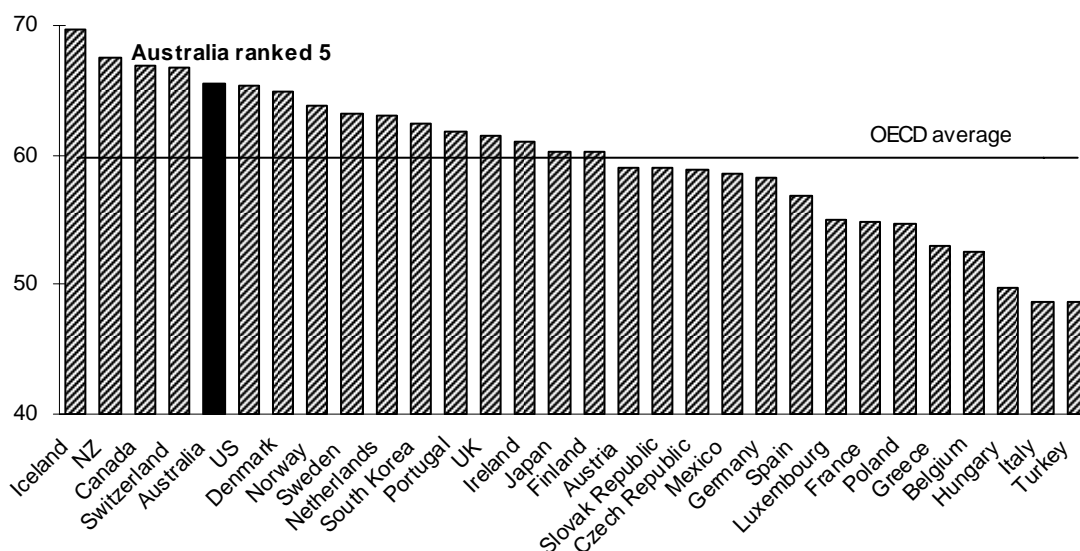
What does the adjusted international data tell us?

On an adjusted basis, Australia's overall workforce participation rate in 2005 increases to 65.5 per cent, raising Australia's ranking within the OECD from 10th to 5th place (figure 2). Australia ranked behind Iceland, New Zealand, Canada and Switzerland.

The adjusted data also increase the participation rate for Australian males and females, by 1.1 and 1.0 percentage points respectively. Australia's overall ranking for male participation rises from 12th to 7th place, while for female participation, Australia's ranking rises from 10th to 8th place. The adjustments also shifted Australia to 1st place for young males (15 to 24 years).

Figure 2 **Adjusted total workforce participation rates, 2005**

Per cent



But, even with the revised data, large international participation gaps continue to exist for several segments of Australia’s labour market. The most notable being:

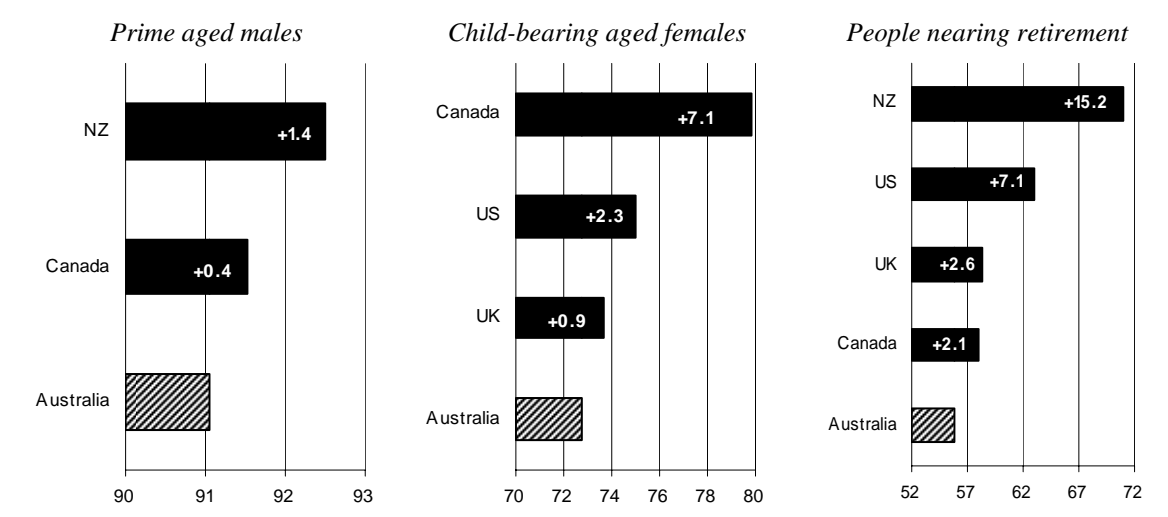
- prime aged males (25 to 54 years). While Australia’s ranking for this segment improved slightly — from 6th lowest to 8th lowest — Australia remained behind New Zealand and Canada;
- for child-bearing aged females (25 to 44 years), Australia ranked 11th lowest, with participation rates higher in Canada, the US and the UK; and
- for people nearing retirement — Australia ranked 13th for men and women aged 55 to 64 years, behind New Zealand, the US, the UK and Canada (figure 3).

Taken together, these segments represented almost 70 per cent of Australia’s labour market in 2005.

Abstracting from the issue of inter-country differences in work preferences, closing Australia’s participation gap in 2005 relative to the *highest performing comparable OECD country* for each of these labour market segments would have increased the number of people participating in the workforce by 5.7 per cent to 11.2 million and increased Australia’s aggregate participation rate by almost 4 percentage points to 69.2 per cent.

Figure 3 Country-specific workforce participation rate gaps by key labour market segments, 2005

Per cent



The notional increases in participation rates and resulting increases in the workforce for each segment are:

- for prime aged males, an increase of 1.4 percentage points (to New Zealand's rate), expanding the workforce by around 60 000;
- for child-bearing aged females, an increase of 7.1 percentage points (to Canada's rate), expanding the workforce by some 209 000; and
- for people nearing retirement (55 to 64 years) an increase of 15.2 percentage points (to New Zealand's rate), expanding the workforce by around 331 000. The participation gap for females within this segment was 17.7 percentage points compared with 13.0 percentage points for males.

The Commission is undertaking further research to identify the scope for improving the participation rate of people in these labour market segments. This research, the results of which will be released shortly, should assist in promoting more informed debate about the potential for Australia to improve workforce participation outcomes.

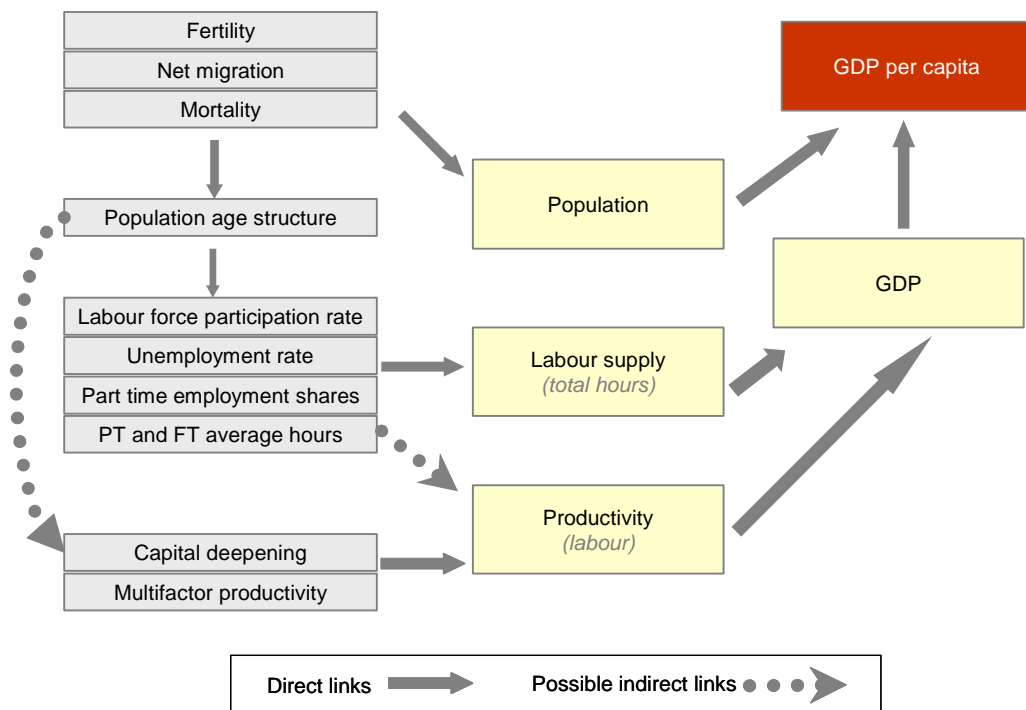
1 Why does workforce participation matter?

Workforce participation refers to the share of the working age population who are either in a job or actively looking for one. It ‘matters’ because it affects Australia’s economic growth potential. As the Treasurer recently observed:

...we have now got unemployment at 30 year lows. To boost capacity in this country we need to encourage a higher proportion of people to engage in the workforce (Costello 2006, p. 1).

Three key factors that impact on economic growth, often referred to as the three P’s, are population, participation (or labour supply) and productivity (figure 1.1).

Figure 1.1 **The ‘three Ps’ of economic growth**
Population, participation and productivity



Data source: PC (2005).

The higher the number of people participating in the workforce, or the more hours worked, the higher the potential output produced and, assuming everything else unchanged, the higher the potential level of GDP per capita (figure 1.1). As Argy (2005, p. 79) put it, joblessness (or non-participation) ‘represents a big waste of national economic potential’.

But, economic growth is not the only reason why participation matters. Higher workforce participation can also reduce the fiscal pressures associated with providing welfare support and serve social inclusion and equity goals (OECD 2003).

1.1 Population ageing heightens interest in participation

Policy interest in workforce participation has heightened in recent years against the backdrop of population ageing reducing labour supply growth and diminishing future growth prospects. The OECD, for example, argues that:

... population ageing requires urgent action to better mobilise under-represented groups. Unless their participation rates are increased, population ageing will lead to a significant slowdown in labour force growth, with adverse consequences for future growth prospects. In sum, the economic and social returns to fostering greater participation are very high. (OECD 2003, p. 12)

And, in the Australian context, the Australian Treasury recently warned that:

The ageing of the population will slow the growth in living standards in coming decades unless productivity growth and labour force participation rates increase. (Australian Treasury 2005, p. 4–21)

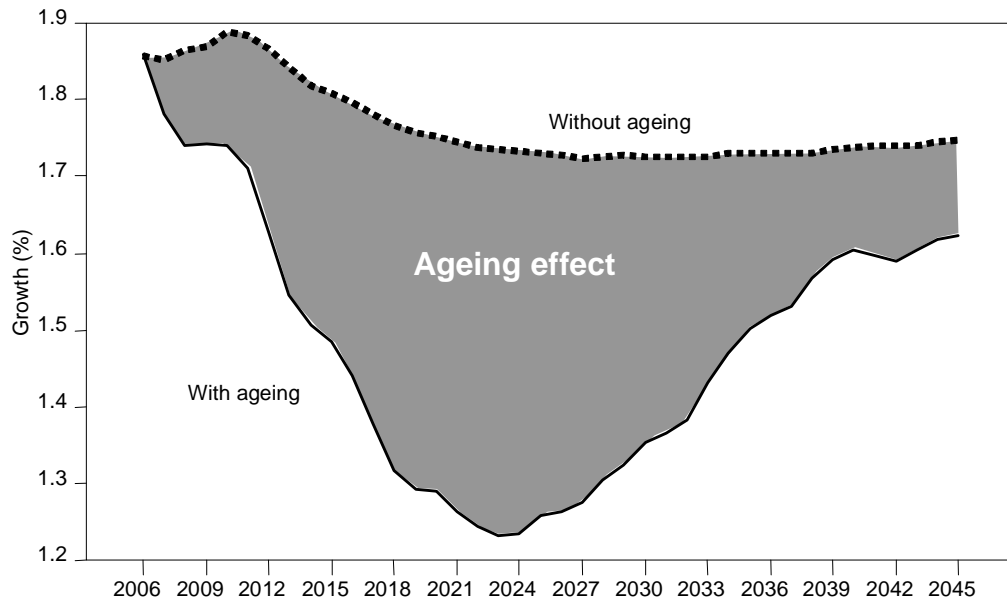
The Council of Australian Governments (COAG) also recently recognised the importance of workforce participation in the context of future economic growth. It is committed to delivering a new National Reform Agenda aimed at boosting Australia’s workforce participation and productivity. As COAG noted:

Our future prosperity will depend on the ability of all governments — Commonwealth, State, Territory and local — to embrace reforms that address the key areas of productivity and participation. (COAG 2005, p. 4)

Recent projections by the Productivity Commission, estimate that the aggregate workforce participation rate will fall from 63.5 per cent in 2003-04 to 56.3 per cent by 2044-45 (PC 2005). Had there been no change in the age structure of Australia’s population, the estimated participation rate would have increased by around 2.5 percentage points over this period. Working on a productivity growth rate of 1.75 per cent per annum (the average of the past 30 years), the Commission projects

that ageing demographics will reduce per capita income growth by about half its recent rate by the mid-2020s to around 1.25 per cent a year (figure 1.2).

Figure 1.2 **Economic growth in Australia — a 40 year projection, 2005-06 to 2044-45**
Per capita GDP



Data source: PC (2005).

1.2 Scope for improving workforce participation

While workforce participation decisions reflect individuals' choices about whether to work and, if to work, the number of hours to work, there is a question about how well the available supply of labour (that is, the working age population) is being utilised.

One approach to assessing the scope for improving workforce participation is to examine working preferences and actual participation. Australian data suggest that there are some discrepancies between actual and preferred participation patterns. For example, there is evidence to suggest that many women with a preference for working between 20 and 35 hours per week, actually work fewer than 15 hours or over 45 hours (Tseng and Wooden 2005).

International comparisons provide another benchmark for assessing the scope for increasing workforce participation. As this study highlights, while Australia's overall workforce participation rate is above the OECD average, it lags behind some comparable countries, which indicates the potential to achieve higher participation

rates. Furthermore, international comparisons hide relatively larger gaps in participation rates for specific groups. For example, the participation rate for Australian prime aged men lies below the OECD average. And, for Australian mothers and people aged over 55, Australia's participation rates are well below the OECD's high participation countries. As the OECD recently observed:

Even though above the OECD average, the employment rate for [Australian] women lags behind the leading countries, particularly for women with children aged under 6. Effective labour supply is even lower than these figures suggest since part-time work accounts for over 40 per cent of total female employment, which is one of the highest in the OECD. (OECD 2006a, p. 134)

Also:

... there is still a marked decline in participation from age 55, well before the age pension eligibility of 65 years (for men) and 63 for women. Australia therefore remains below the OECD's leading countries in terms of participation for those aged over 55. (OECD 2006a, p. 142)

That said, there is a question about the extent to which these workforce participation gaps are 'real' as opposed to reflecting statistical noise (that is, differences in statistical practices across countries). An understanding of this issue is required to allow policy makers to assess the scope for reform to lift participation rates beyond current levels. As COAG recently observed, policies can create disincentives to participate in the workforce:

While the nature and extent of labour force participation is largely a matter of individual choice, features of the policy environment may distort such choices. To grow the economy will require policies that support and encourage greater participation. (COAG 2006b, p. 9)

1.3 A guide to the paper

This paper examines the comparability of international workforce participation rates and seeks to better understand the magnitude of the gap between Australia's workforce participation rates and those of other OECD countries. Published OECD data on workforce participation rates cover some 30 countries, including Australia. While the paper reports on participation rates for each of these countries, particular attention is given to countries that are broadly comparable to Australia in the sense of having similar cultural attitudes and institutional settings — for example, Canada, New Zealand, the UK and the US.

The next chapter considers Australia's workforce participation experience over the last 25 years, while chapter 3 looks at how Australia's workforce participation rates compare internationally using the published data. Chapter 4 works through a range

of adjustments that need to be made to the published data to take account of statistical practices that reduce the comparability of participation rates across countries. Chapter 5 presents adjusted workforce participation rates, while chapter 6 looks at the implications of the adjusted data for raising Australia's workforce participation rates.

2 Australia's workforce participation experience

This chapter presents some facts about Australia's workforce participation experience over the last 25 years. Section 2.1 provides a snapshot of the workforce in 2005.¹ Section 2.2 examines trends in workforce participation, while section 2.3 explores Australia's labour utilisation performance.

2.1 A snap-shot of Australia's workforce

In 2005, there were 10.5 million Australians of working age (those aged 15 years and over) participating² in the workforce. Around 5.8 million or 55 per cent were male, while 4.7 million (45 per cent) were female.

Not surprisingly, Australians of prime working age (25 to 54 years) make-up the vast majority of the workforce, accounting for some 67 per cent of all participants in 2005. Participation in other age groups is lower reflecting lifecycle factors such as education and retirement. In 2005, persons aged:

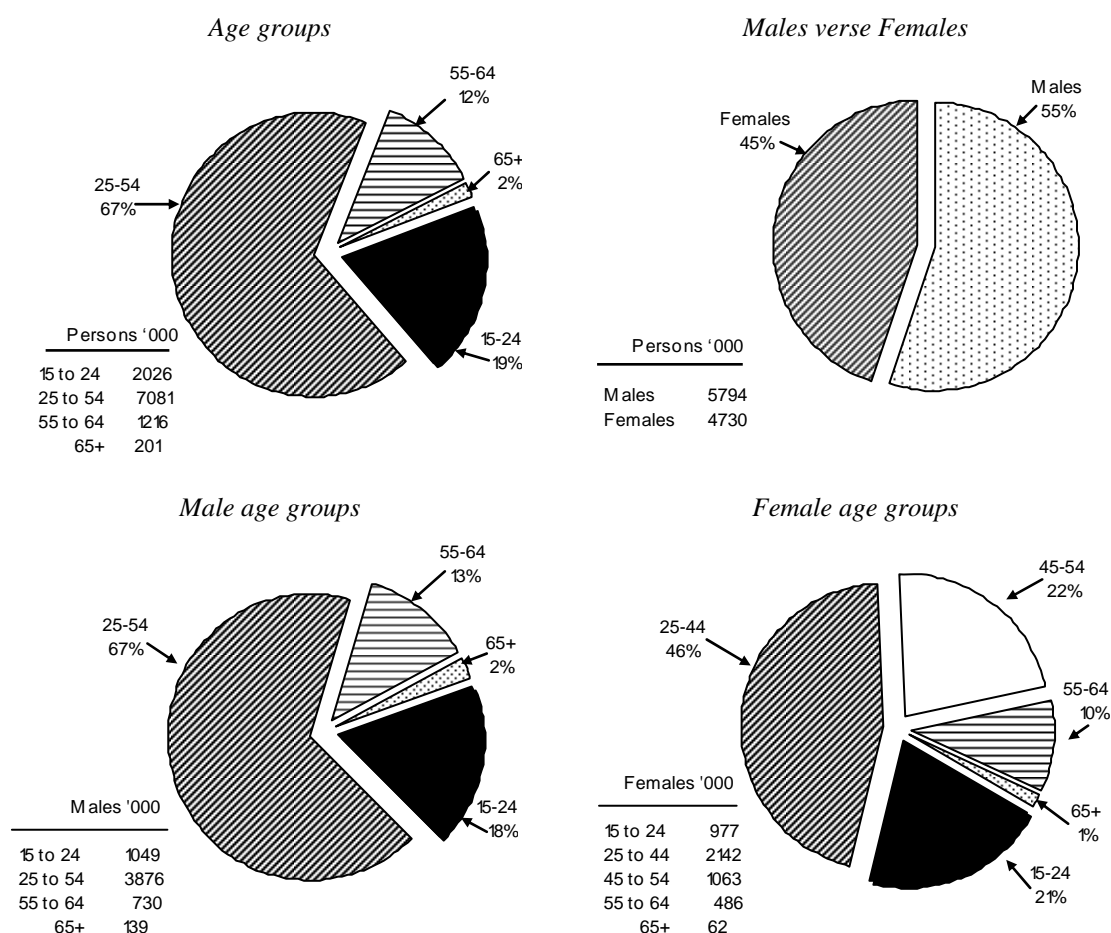
- 15 to 24 years accounted for 19 per cent of the workforce;
- 55 to 64 years accounted for 12 per cent; and
- 65 years and over accounted for 2 per cent (figure 2.1 and table A.1 in appendix A).

A breakdown of the workforce by age and gender reveals broadly similar results for males and females (figure 2.1).

¹ The latest available year for data covering the international comparisons reported in subsequent chapters.

² Workforce participation is a measure of the proportion of economically active individuals within an economy. It is defined as the ratio of the employed and unemployed (or the workforce) to the working age population (those aged 15 years and over).

Figure 2.1 Australia's workforce composition, 2005

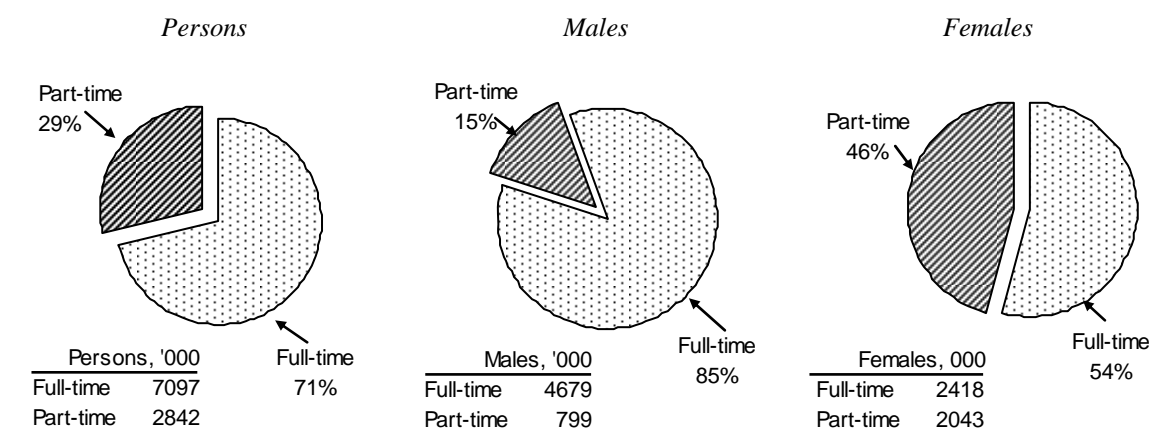


Data source: ABS (2006d).

The workforce is characterised by a high prevalence of part-time work. In 2005, 2.8 million Australians or around 29 per cent of the workforce were employed part-time (figure 2.2). And, most part-time workers were female — 72 per cent in 2005.

Around 46 per cent of female employees and 15 per cent of male employees participate on a part-time basis (figure 2.2). The different structure of the female workforce compared with the male workforce in part reflects the influence of family commitments on female participation.

Figure 2.2 Share of full-time and part-time employees, 2005



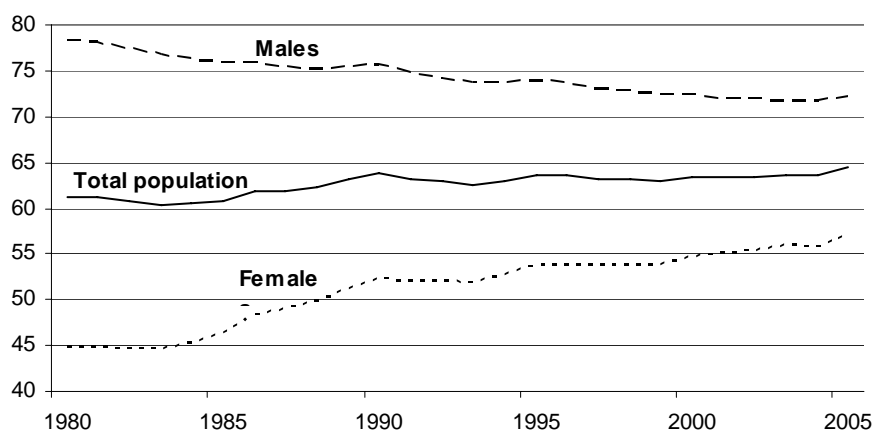
Data source: ABS (2006d).

2.2 Trends in workforce participation

Over the last 25 years, both the size and make-up of the Australian workforce has changed. Australia's aggregate workforce participation rate increased from 61.3 per cent in 1980 to 64.4 per cent in 2005. The rise in the participation rate, however, masks divergent trends between participation rates for males and females. The participation rate of males declined over the last 25 years, while the female participation rate increased (figure 2.3).

Figure 2.3 Workforce participation rates by sex, 1980 to 2005^a

Per cent



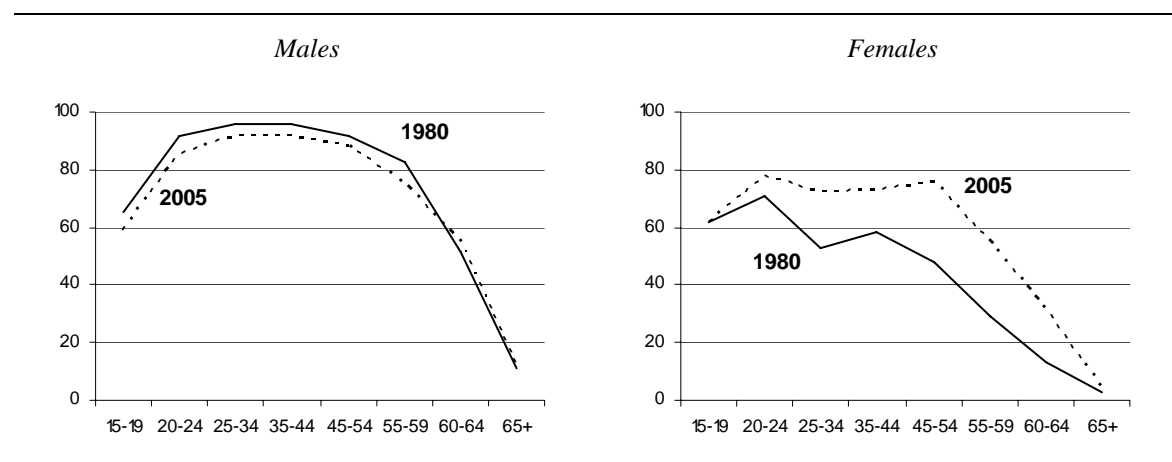
^a Workforce participation rate defined as the workforce (employed and unemployed) as a percentage of the working age population (i.e. those aged 15 years and over).

Data source: ABS (2006d).

Movements in workforce participation rates are influenced, to some extent, by cyclical movements in economic activity and employment growth. Strong economic growth in the 1980s, for example, was associated with higher workforce participation rates, while the recession of the early 1990s was associated with weaker rates of participation (Australian Treasury 1999). And, as discussed in the previous chapter, the age-structure of the population also has an impact on the overall workforce participation rate.

Over the period 1980 to 2005, the overall workforce participation rate for males declined from 78.3 to 72.1 per cent. There was, however, variable changes in participation rates across the age groups. The largest decline occurred in the 55 to 59 age group — a decline of 7.5 percentage points, whereas for men aged between 60 and 64 years, participation increased by 3.1 percentage points (figure 2.4).

Figure 2.4 Lifespan of workforce participation rates, 1980 and 2005
Per cent



Data source: ABS (2006d).

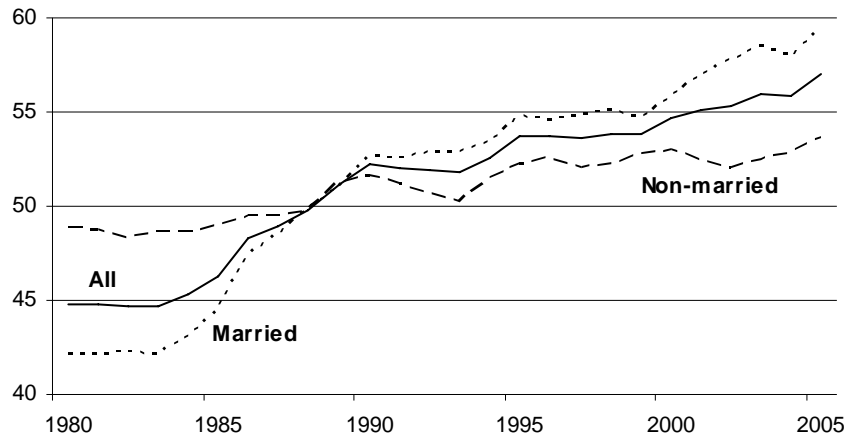
Factors underlying the trend toward lower participation rates in men over 50 include:

- slower employment growth in industries traditionally employing full-time male workers, such as utilities, mining and manufacturing industries (Australian Treasury 1999); and
- a trend towards early retirement, although since 2002 there has been some moderation in the decline (ABS 1995, Kennedy and Hedley 2003, Lattimore forthcoming).

In contrast, over the same period, the female participation rate increased by 12.3 percentage points to reach 57.0 per cent in 2005. Growth in female participation since the 1980's has largely been driven by growth in the participation

of married women, with the participation rate for married women increasing from around 42 per cent in 1980 to nearly 60 per cent in 2005, overtaking the participation rate of non-married women (figure 2.5).

Figure 2.5 Married and non-married women's workforce participation rates, 1980 to 2005
Per cent



Data source: ABS (2006d).

Over the period, female participation rates increased across all age groups, with the largest increase occurring in the 45 to 54 age group — around 28 percentage points (figure 2.4).

The changes in female workforce participation have been influenced by a range of factors, including:

- increased levels of educational attainment among women;
- greater social acceptance of working mothers;
- declining fertility rates;
- better access to childcare services and part-time work; and
- more flexible working arrangements (Australian Treasury 1999, Evans and Kelley 2004).

The characteristic 'M' shaped participation curve of Australian women (reflecting women exiting the workforce to start a family) has lessened considerably over the last 25 years. As illustrated in figure 2.4, the 'dip' in female participation during childbearing years (25 to 44 years) is far less pronounced in 2005 than it was in 1980 (Kennedy and Hedley 2003).

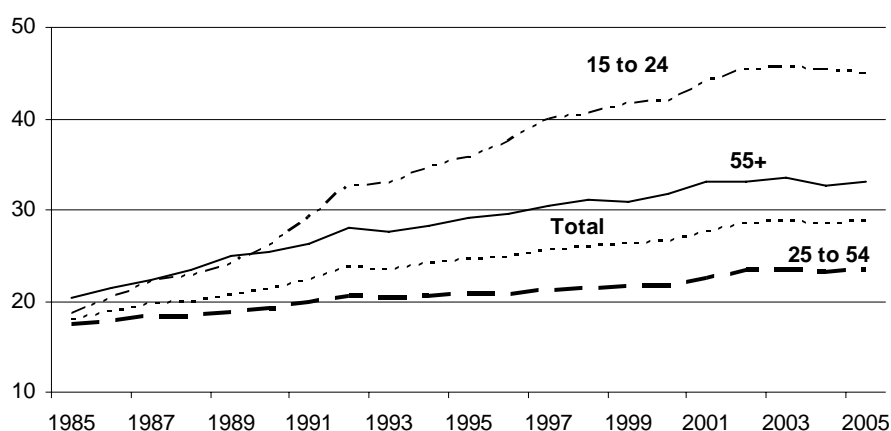
Trends in full and part-time employment

Over the past 20 years there has been a shift away from traditional full-time employment towards part-time employment. The proportion of males employed full-time declined from 94 per cent in 1985 to 85 per cent in 2005 and the proportion of females from 63 to 54 per cent. Over the same period, the share of full-time male and female employees decreased across all age groups, except for females aged 25 to 34 years, where a small increase in the share of full-time employees was recorded.

The most significant increase in the proportion of those employed working part-time over the last two decades has been for employees aged 15 to 24 years, increasing from nearly 19 per cent in 1985 to 45 per cent in 2005 (figure 2.6). This trend reflects an increasing number of young people delaying the commencement of full-time work in order to study full-time or to combine study and part-time work.

Figure 2.6 **Part-time workers as a proportion of people employed, 1985 to 2005**

Per cent



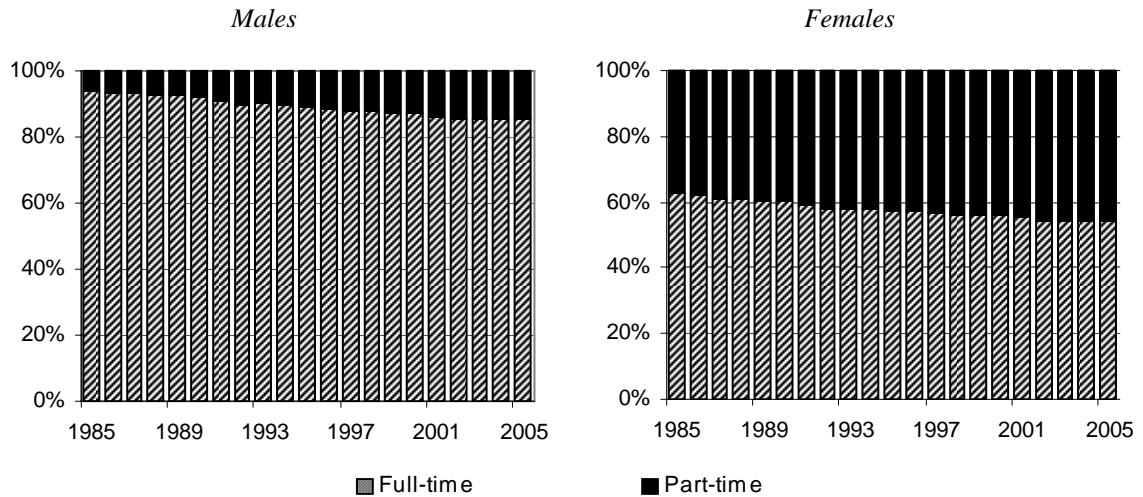
Data source: ABS (2006d).

The proportion of people aged 55 years and over employed part-time also increased considerably — 12.8 percentage points over the period. This shift reflects a greater use of part-time work in the transition to retirement (ABS 2006b).

Between 1985 and 2005, the percentage of females working part-time rose from 37.1 to 45.8 per cent. This increase may partly reflect the use of part-time work to help women balance paid work and family or caring commitments. Growth in part-time employment has been more pronounced for males. The share of males working

part-time increased by over 130 per cent, from 6.2 per cent in 1985 to 14.6 per cent in 2005 (figure 2.7).

Figure 2.7 Share of full-time and part-time work, 1985 to 2005



Data source: ABS (2006d).

Hours worked

Average hours worked per employee, defined as the total numbers of hours worked divided by the average number of people in employment, is an alternative way of looking at workforce participation. The workforce participation rate provides a head count of people either employed or seeking work, whereas hours worked captures the extent to which labour is utilised.

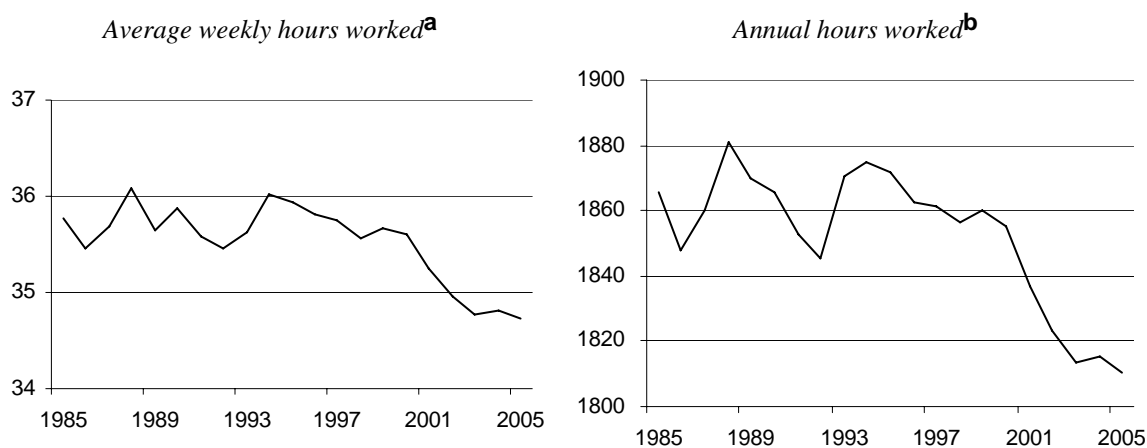
As a result of the growing proportion of part-time workers, average hours worked in Australia declined slightly over the last two decades — from an average of 35.8 hours per week in 1985 to 34.7 hours per week in 2005 (figure 2.8). The average number of hours worked declined by 0.4 hours per week for males and by 0.3 hours per week for females.

Interestingly, the decline in average hours worked occurred despite an increase in the average number of hours worked by full-time and part-time employees. Between 1985 and 2005 average weekly hours worked increased:

- from 41.3 to 43.3 hours per week for men working full-time and from 37.6 to 39.3 hours per week for women working full-time; and
- from 15.8 to 16.4 hours per week for men working part-time and from 15.5 to 16.9 hours per week for women working part-time.

Figure 2.8 Hours worked per employee, 1985 to 2005

Hours worked



^a Average weekly hours worked is the total actual hours worked, divided by the total number of workers.

^b Average annual hours worked per employee is defined as the total number of hours worked in a year, divided by the average number of persons in employment for that year.

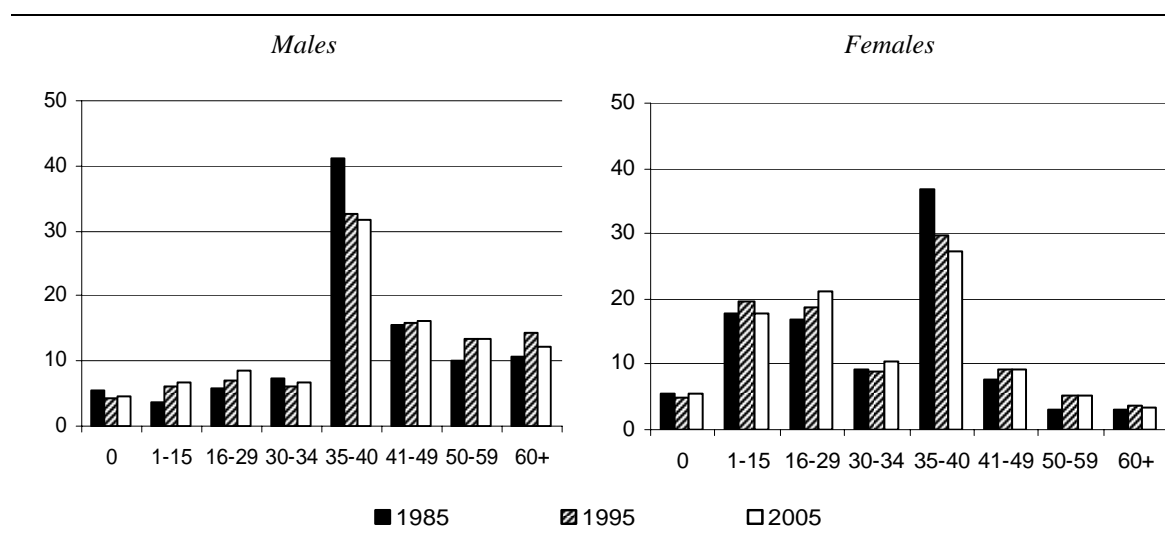
Data sources: ABS (2006e) and OECD (2006e).

An examination of changes in the distribution of hours worked since 1985 also shows some divergent trends (figure 2.9). For full-time workers:

- the proportion of employees working 35 to 40 hours per week decreased from 39.5 per cent in 1985 to 29.8 per cent in 2005; and
- the proportion of employees working over 40 hours per week increased from 13.6 per cent in 1985 to 17.6 per cent in 2005 for females and from 36.3 to 41.6 per cent for males.

For part-time workers, the proportion of people working between 1 and 29 hours per week increased (reflecting the growth in part-time employment) from 9.5 to 15.3 per cent for males and from 34.6 to 39.0 per cent for females between 1985 and 2005.

Figure 2.9 **Distribution of hours worked per week by sex, 1985 to 2005**
Per cent



Data source: ABS (2006e).

2.3 Underutilised labour

When considering the potential for increasing workforce participation, an important aspect is the extent to which labour is underutilised. Underutilised labour covers people not working but who would like to work and those working, but not working as many hours as they would like. More specifically, underutilised labour is made up of three components: underemployed workers; unemployed persons; and individuals marginally attached to the workforce (box 2.1).

The proportion of labour not being utilised can be expressed using the *extended labour force underutilisation rate*. The ABS (2002) defines the extended labour force underutilisation rate as unemployed and underemployed workers plus two groups of people marginally attached to the workforce, as a percentage of the workforce augmented by the two marginally attached groups (the potential labour supply). The two groups making up the ‘marginally attached’ are:

- persons actively looking for work, not available to start work in the reference week, but available to start work within four weeks; and
- discouraged jobseekers — persons wanting to work who are available to work within four weeks, and whose main reason for not looking for work was that they believed they would not find a job for labour market related reasons.

Box 2.1 ABS definitions of the components of underutilised labour

Underutilised labour is made up of three components: underemployed workers, unemployed persons and marginally attached persons.

Underemployed workers

Underemployed workers are employed persons who want, and are available for, more hours of work than they currently have, including:

- persons employed part-time who want to work more hours and are available to start work with more hours, either in the reference week or in the four weeks subsequent to the survey (*part-time underemployed workers*); and
- persons employed full-time who worked part-time (less than 35 hours) in the reference week for economic reasons (such as, being stood down or insufficient work being available) (*full-time underemployed workers*). It is assumed that these people wanted to work full-time in the reference week and would have been available to do so.

Unemployed persons

Unemployed persons are defined to include persons aged 15 years and over who were not employed during the reference week, and:

- had actively looked for work at any time in the four weeks up to the end of the reference week and were available for work in the reference week; or
- were waiting to start a new job within four weeks from the end of the reference week and could have started in the reference week if a job had been available then.

Marginally attached persons

Persons not in the workforce can be divided into those who are marginally attached to the workforce, and those who are not. Persons who are marginally attached to the workforce may satisfy some, but not all, of the criteria required to be classified as unemployed. Persons not in the workforce are considered to be marginally attached to the workforce if they:

- want to work and are actively looking for work, but are not available to start work in the reference week — including persons available to start work within four weeks and those not available to start within four weeks; or
- want to work and are not actively looking for work, but are available to start work within four weeks — including *discouraged jobseekers* (not looking for work as they believed they would not find a job for labour market related reasons) and persons not looking for other reasons.

Sources: ABS (2005b, 2006a).

These two groups of marginally attached individuals share similar characteristics with unemployed workers and are, arguably, close enough to be effectively classified as unemployed. Other groups are not as strongly attached to the workforce. For instance, some individuals may want to work and be available to work, but are not actively looking for work because they are looking after children or a family member. Hence the ‘availability’ of these individuals is conditional on future changes to their personal circumstances. So, while the two selected groups only represent a small proportion of all marginally attached persons (13.6 per cent), they have a strong labour market attachment.

In September 2005, close to 1.2 million Australians were defined as underutilised, representing over 11 per cent of the potential supply of labour.³ Most of these individuals were in the workforce (that is, underemployed or unemployed). They comprised around:

- 567 000 underemployed workers;
- 547 000 unemployed persons; and
- 114 000 with a strong marginal attachment to the workforce.

Overall, women and those in younger age groups were the most likely to be underutilised (figure 2.10). The rate of underutilisation was highest for people aged 15 to 19 years. A higher proportion of the potential female labour supply, in each age group, was underutilised compared to males — 14 per cent of all females as opposed to 10 per cent of all males.

Labour underutilisation rates have fallen over the last decade from 15.5 per cent in 1994 to 11.4 per cent in 2005 (figure 2.11). This decline primarily reflects a fall in the unemployment rate over this period (ABS 2006a). Until September 2000, unemployment accounted for over half of all underutilised individuals.

When considering trends in labour underutilisation, it is important to recognise that the underutilisation rate and its components, especially unemployment, are sensitive to the underlying strength of the economy. For example, Kennedy and Hedley (2003, p. 3) noted that ‘females have tended to withdraw from the labour force rather than become unemployed during economic downturns, whereas males have tended to stay in the labour force’. However, the extent to which these women become marginally attached to the workforce is unknown.

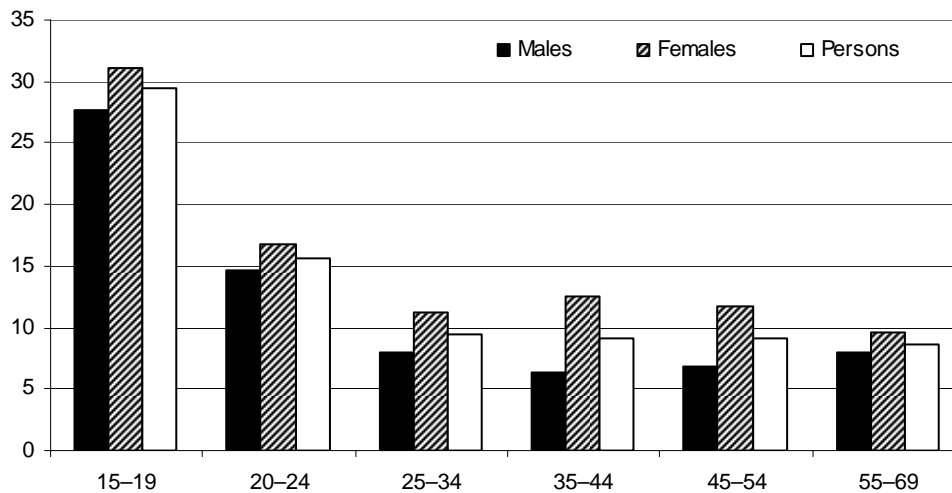
Not all of those classified as underutilised are willing to work full-time. Indeed, it is possible that the desired work hours of those underutilised do not fit current work

³ Potential labour supply includes persons in the workforce and persons with a strong marginal labour market attachment.

opportunities, and thus, the extent to which this underutilised labour can be exploited is constrained. The remainder of this section examines the preferred work hours of individuals in each component of underutilised labour.

Figure 2.10 Labour force underutilisation rate, by sex and age, September 2005

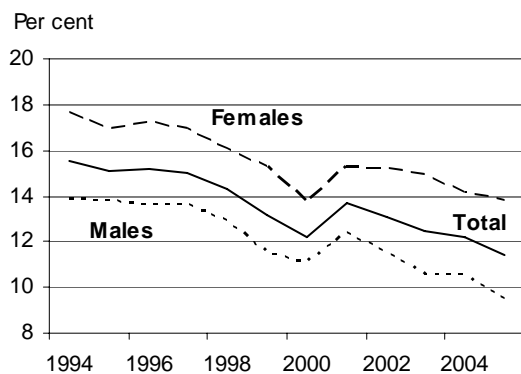
Per cent



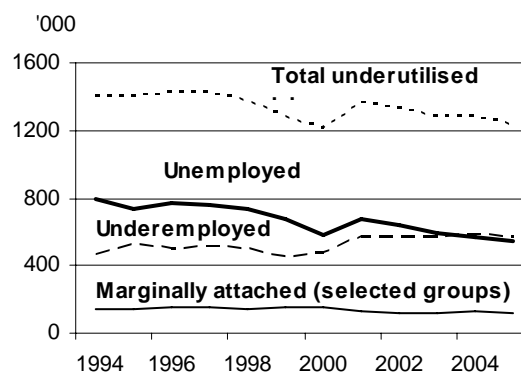
Data source: ABS (2006a).

Figure 2.11 Labour force underutilisation, September 1994 to September 2005

Labour underutilisation rate, by sex



Labour underutilisation components



Data source: ABS (2006a).

Underemployment

Of the 10 million persons (15 years and over) employed in September 2005, 5.7 per cent were underemployed, including:

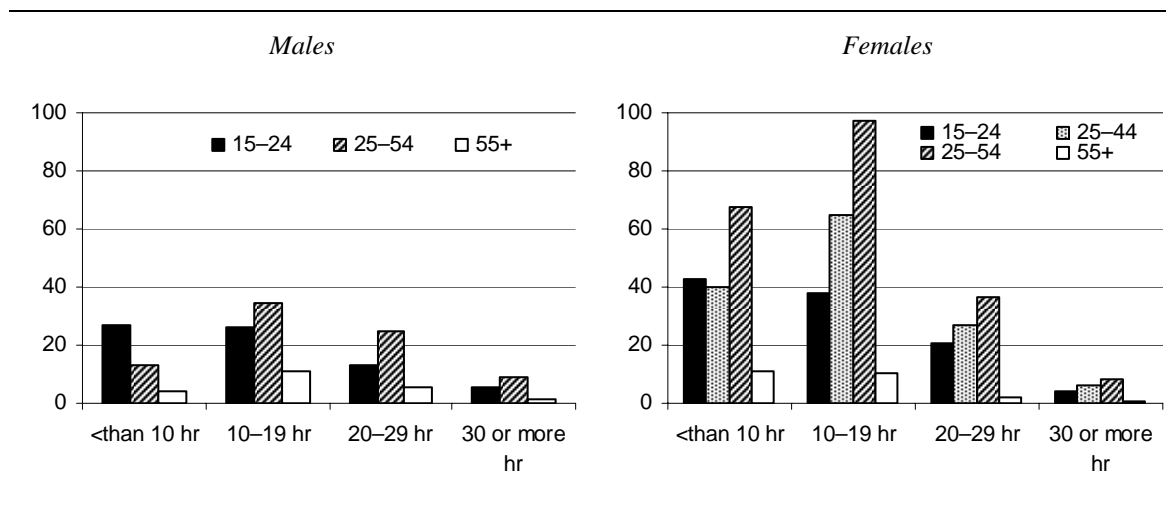
- 49 800 full-time workers; and
- 516 800 part-time workers (see box 2.1 for definitions).

In line with the prevalence of part-time work amongst women, the bulk of underemployed workers were women. In September 2005, women accounted for 62.0 per cent of underemployed workers — up from 57.9 per cent in September 2004.

In September 2005, around 65 per cent of men employed part-time stated that they would prefer to work full-time, compared to only 41 per cent of women employed part-time. The mean number of extra hours sought by underemployed workers was 14.4 hours per week — 16.3 extra hours per week for men and 13.3 extra hours for women (ABS 2005d). Examining the preferred number of extra hours for those who were underemployed shows that:

- most individuals would prefer an additional 10 to 19 hours per week; and
- those aged between 15 to 24 years were most likely to prefer more hours, with nearly 10 per cent of all employed persons in this age group preferring more hours. This compares with less than 5 per cent for both the prime age (25 to 54 years) and older age (55 years and over) groups (figure 2.12).

Figure 2.12 **Underemployed part-time workers, preferred number of extra hours by sex and age, September 2005**
'000



Data source: ABS (2005d).

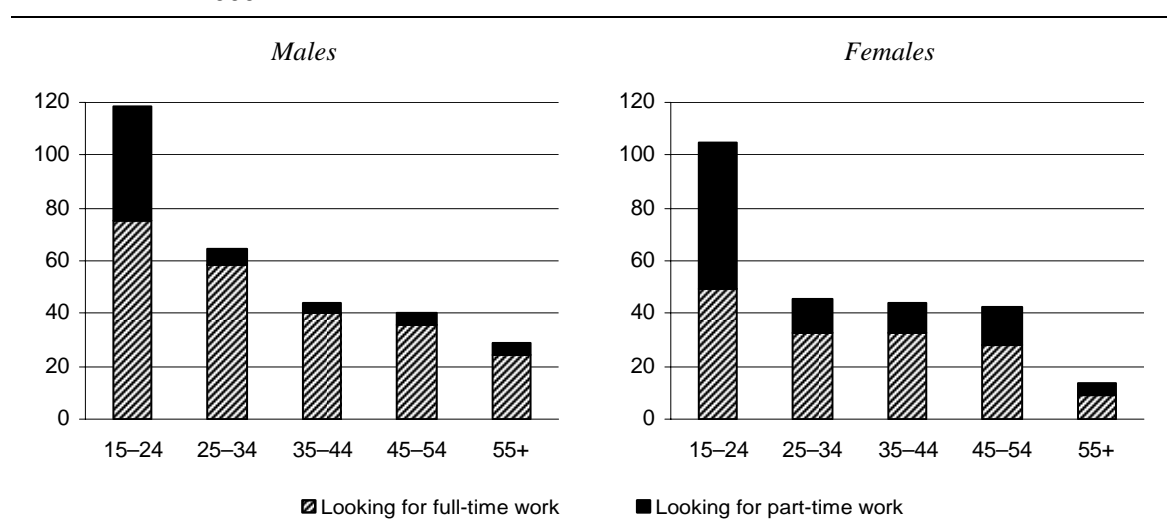
Unemployment

In September 2005, there were 547 000 unemployed people in Australia, 296 000 males and 251 000 females. The majority (70 per cent) were seeking full-time work — 79 per cent of unemployed males and 60 per cent of unemployed females. Those in the youngest age group (15 to 24 years) represented the largest group of unemployed persons, accounting for around 40 per cent of all unemployed persons (figure 2.13). This group also had the highest proportion of persons seeking part-time employment (ABS 2006d).

The mean number of hours of work sought by unemployed people was 30.1 hours per week in September 2005 (ABS 2006a). Of those looking for full-time work, unemployed men, on average, preferred more hours than unemployed women — 37.2 hours per week compared to 32.7 hours per week, respectively. In contrast, women looking for part-time work preferred, on average, more hours than men — 18.8 hours per week compared to 15.8 hours per week, respectively.

Figure 2.13 **Unemployed persons, September 2005**

'000



Data source: ABS (2006d).

Marginally attached

In September 2005, 15.4 per cent of Australians not in the workforce (840 300 individuals) were recognised as having a marginal attachment to the workforce. Of these:

- 51 000 would have liked to work and were actively looking for work but were not available to start in the reference week, although they were available to start work within four weeks; and

-
- 63 100 were discouraged jobseekers.

Most of those with some form of marginal attachment were women (67 per cent) and there was a strong preference for part-time work (72 per cent of females and 49 per cent of males) (ABS 2005c). This contrasts with the majority (70 per cent) of unemployed persons who sought full-time work (ABS 2006d).

Experimental volume measure of labour underutilisation

The ABS (2006a) has recently developed an experimental volume measure of labour underutilisation, covering the number of additional hours sought by unemployed and underemployed workers.

The *volume labour force underutilisation rate* is defined as the additional hours sought by unemployed and underemployed workers as a percentage of the total hours of potential labour in the workforce (equal to hours sought by unemployed persons, plus the hours of labour offered by underemployed workers (both utilised and unutilised) and the hours of labour usually provided by employed persons who are not underemployed). This experimental estimate does not cover individuals marginally attached to the workforce. In September 2005, persons with a strong marginal attachment to the workforce accounted for less than 10 per cent of the head count of all underutilised persons. As such, the experimental measure may provide a reasonable indicator of the total hours of underutilised labour.

In September 2005, the estimated volume of underutilised labour was around 25 million hours per week (13 million hours per week for males and 12 million for females), or around 6.4 per cent of the total volume of potential labour supply. This is lower than the 29 million hours per week (7.7 per cent of the volume of potential labour supply) estimated in September 2002 (ABS 2006a). The volume of underutilised labour would be higher if hours sought by marginally attached persons were included in the estimate.

Given that labour is currently underutilised, there would appear to be scope for increasing workforce participation and hours worked in Australia, especially for part-time workers.

The next chapter looks at international comparisons of workforce participation rates using published OECD data.

3 International comparisons based on published data

International comparisons based on published data provide a ‘first take’ on the scope for Australia to lift its workforce participation rate. This chapter draws on the published OECD data to compare workforce participation in Australia with other OECD countries. It also briefly tracks Australia’s participation rate relative to other OECD countries over the last decade.

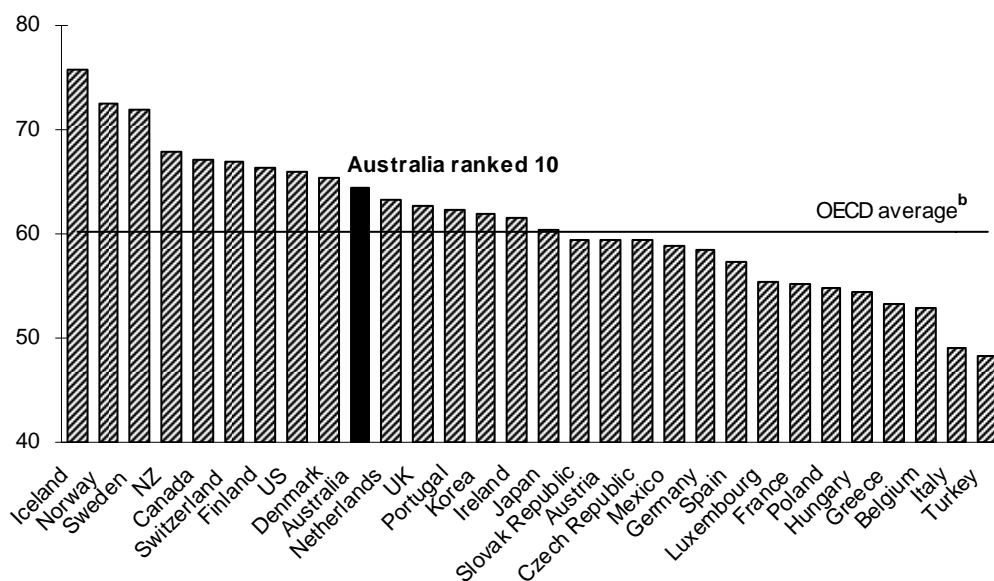
3.1 Australia’s participation rate — how does it compare?

While Australia’s workforce participation rate has risen slightly over the past two decades, it remains below that of a number of OECD countries. In 2005, Australia’s total workforce participation rate (based on published data compiled by the OECD) was above the OECD average — 64.4 per cent compared with an OECD average (unweighted basis) of 60.2 per cent. But, Australia’s participation rate was below that of nine other OECD countries including Iceland (75.7 per cent), Norway (72.4 per cent), Sweden (71.9 per cent), New Zealand (67.8 per cent), Canada (67.2 per cent), Switzerland (67.0 per cent), Finland (66.4 per cent), the US (66.0 per cent) and Denmark (65.3 per cent) (figure 3.1).

Hours worked captures differences in the utilisation of labour between countries, but data are only available at the aggregate level for most OECD countries. Australia ranks more highly by this measure. In 2005, Australia (averaging 1 811 hours of work per employee per year) ranked 8th among 30 OECD countries (figure 3.2). This was above New Zealand (1 809 average hours worked), the US (1 804 average hours worked), Canada (1 737 average hours worked) and the UK (1 672 average hours worked), but well behind Korea (2394 average hours worked).

Figure 3.1 **OECD total workforce participation rates, 2005^a**

Per cent

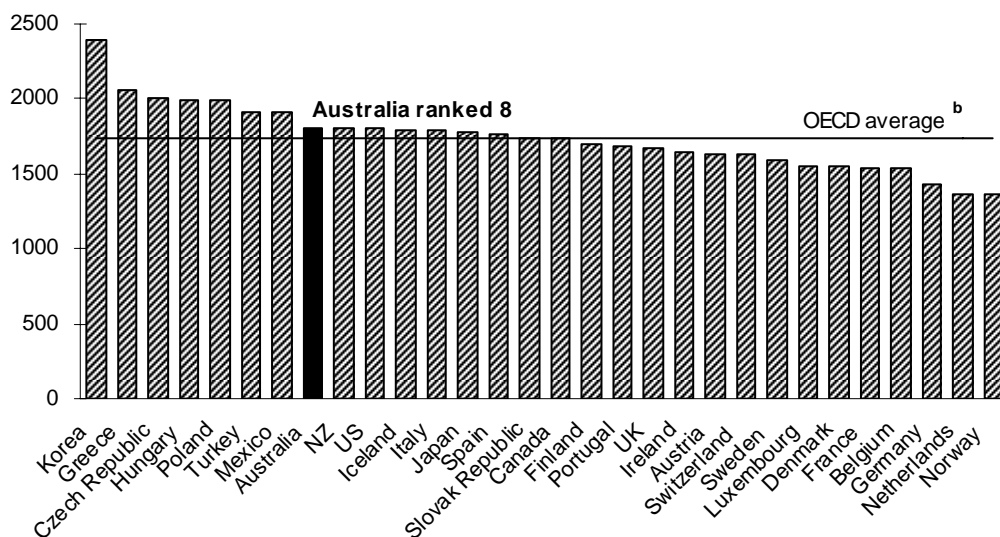


^a Workforce participation rate defined as the workforce (employed and unemployed) as a percentage of the working age population (i.e. those aged 15 years and over). ^b OECD unweighted average.

Data source: OECD (2006c).

Figure 3.2 **OECD average annual hours worked per employee, 2005^a**

Hours worked



^a Average annual hours worked per employee defined as the total number of hours worked in a year, divided by the average number of persons in employment for that year. Data for Korea, Switzerland and Turkey are 2004 data. ^b OECD unweighted average.

Data source: OECD (2006e).

Arguably, effective labour supply should be measured in terms of hours worked rather than a simple head count indicator of participation. But, that said, the OECD

has warned that the data are ‘... intended for comparisons of trends over time; they are unsuitable for comparisons of the level of average annual hours of work for a given year, because of differences in their sources’ (OECD 2006e). Further, the data are not available for comparisons across age groups. The subsequent examination focuses on the head count measure as examining participation through this lens allows comparisons across age groups.

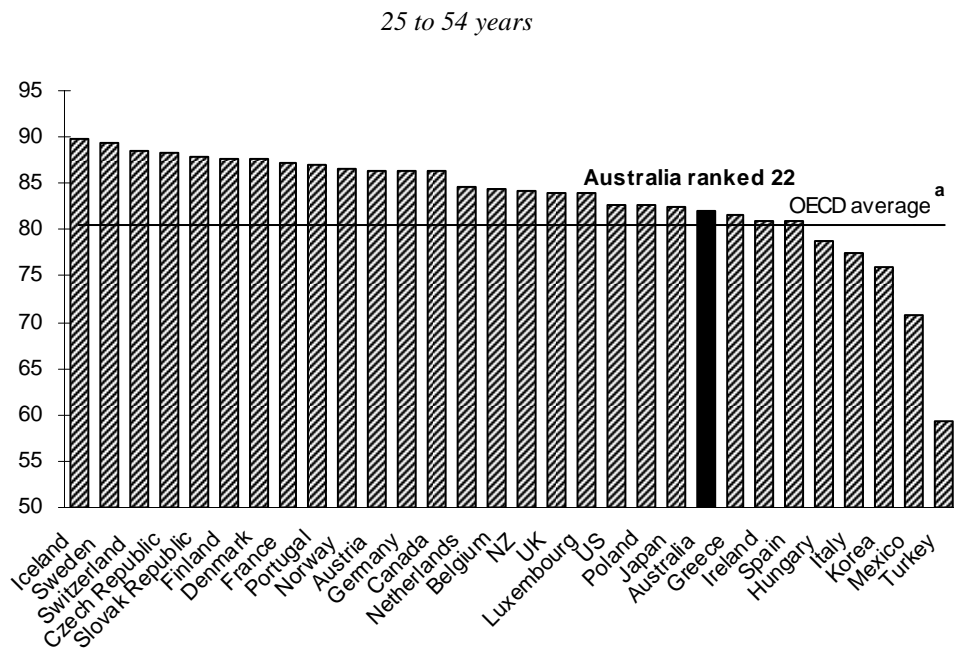
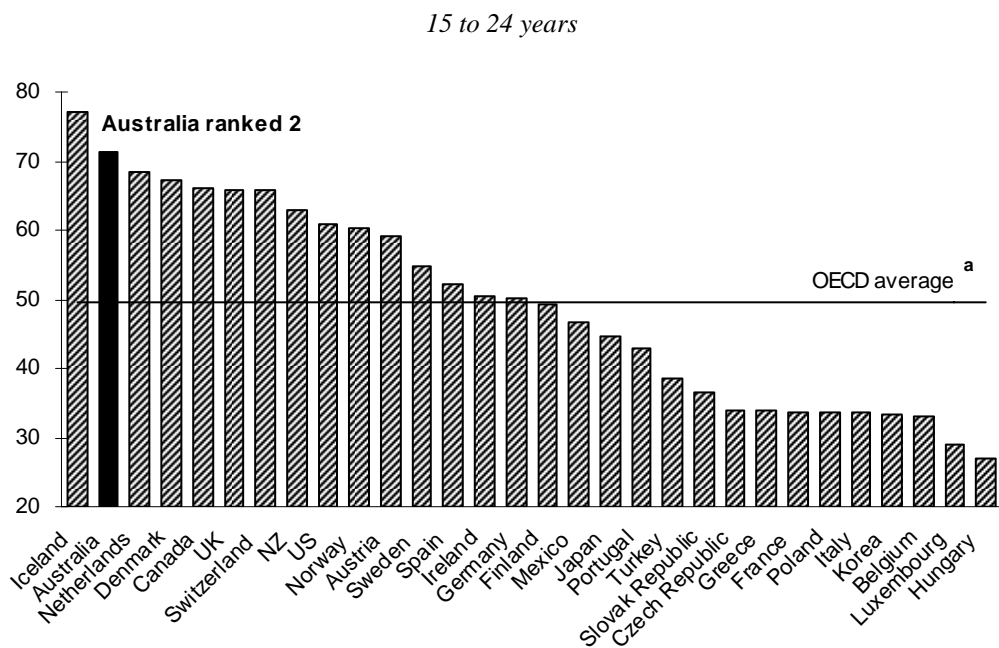
Workforce participation rates by age and sex

Looking at Australia’s participation rates by age and sex compared with other OECD countries reveals a more variable picture (figure 3.3, see also table A.2 and table A.3 in appendix A). In 2005, using published OECD data, Australia’s:

- youth participation rate (15 to 24 years) was higher than in most other OECD countries and well above the OECD average (71.3 per cent compared with the OECD average of 49.4 per cent). For this age category, Australia ranked second behind Iceland;
- prime age group (25 to 54 years) participation rate was lower than that in most other OECD countries. For this age category, Australia ranked 22nd among 30 OECD countries. Australia’s participation rate of 82.0 per cent was above the OECD average of 80.6 per cent, but somewhat lower than Canada (86.3 per cent), New Zealand (84.2 per cent) and the UK (84.1 per cent);
- older age group (55 to 64 years) participation rate was just above the OECD average — 55.5 per cent compared with 54.5 per cent (ranking 13th in the OECD) — but well behind Iceland (86.1 per cent), New Zealand (71.0 per cent) and Japan (66.6 per cent); and
- 65 plus age group ranked well below the OECD average — 7.6 per cent compared with 11.3 per cent (ranking 13th among 30 OECD countries) — and significantly below Korea (30.0 per cent), Mexico (29.2 per cent), the US (15.1 per cent) and New Zealand (11.7 per cent).

While the overall male participation rate was only slightly above the OECD average — placing Australia in 12th place in 2005 — there was some variation in the relative position of different age groups (figure 3.4, see also table A.2 and table A.4 in appendix A). For prime aged males (25 to 54 years), Australia’s participation rate was the 6th lowest among 30 OECD countries in 2005, over 5 percentage points below the top three ranking OECD countries (Japan, Switzerland and Luxembourg). For men aged 15 to 24 years, however, Australia was the second highest ranking OECD country with a participation rate of 72.5 per cent, well above the OECD average of 54.0 per cent.

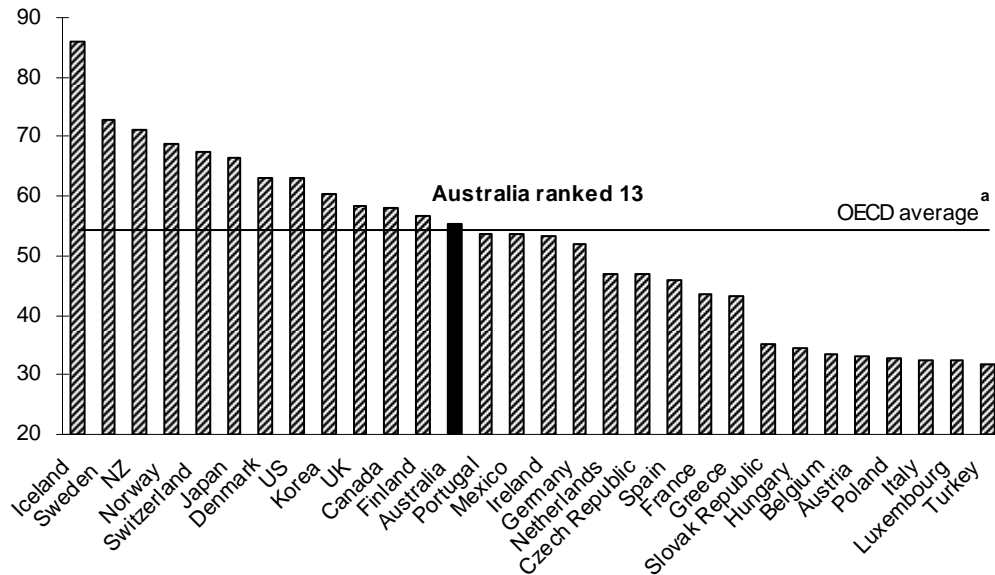
Figure 3.3 OECD total workforce participation rates by age, 2005
Per cent



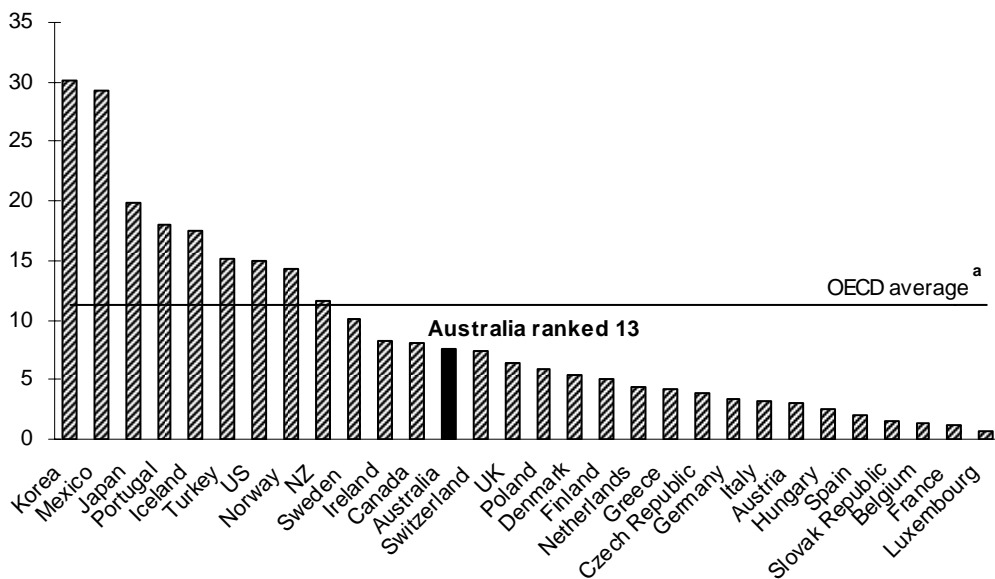
(continued on next page)

Figure 3.3 (continued)

55 to 64 years



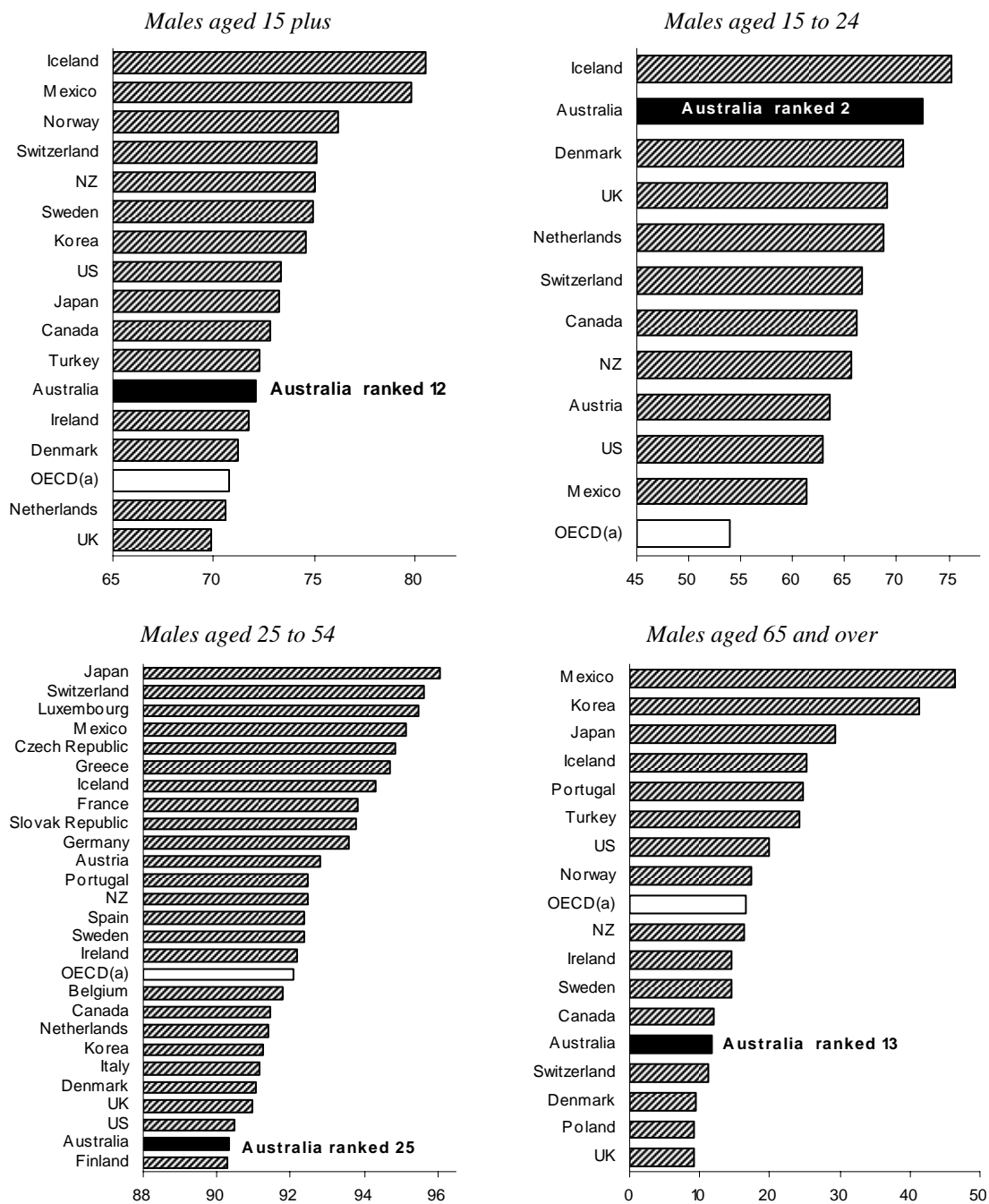
65 years and over



^a OECD unweighted average.

Data source: OECD (2006c).

Figure 3.4 OECD male workforce participation rates by age, 2005
Selected OECD countries. Per cent

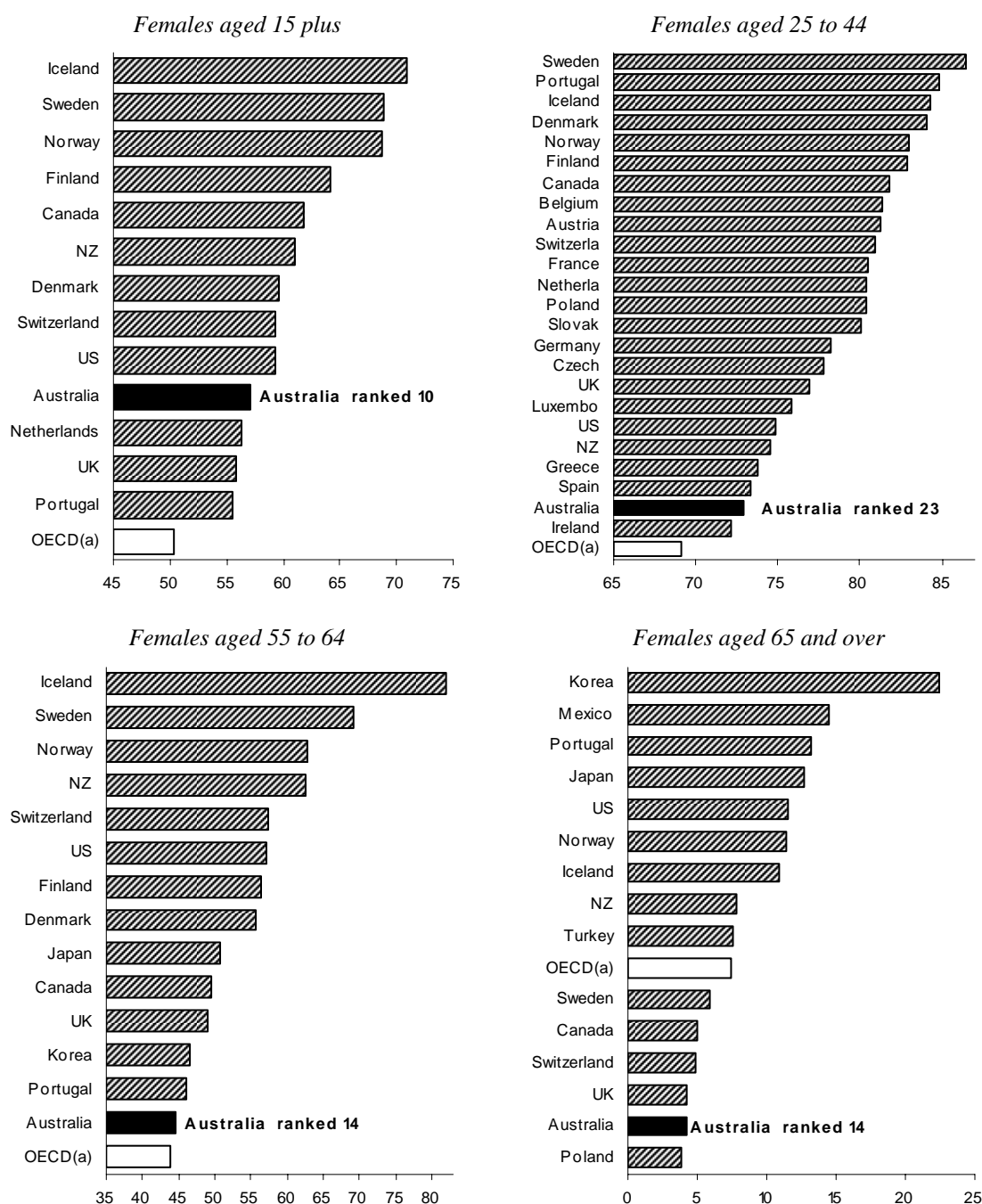


^a OECD unweighted average.

Data source: OECD (2006c).

Australia's overall female participation rate has increased considerably over the last twenty years and at 57.0 per cent comfortably exceeds the OECD average (50.3 per cent) and places Australia in 10th place among OECD countries in 2005 (figure 3.5, see also table A.2 and table A.5 in appendix A).

Figure 3.5 OECD female workforce participation rates by age, 2005
Selected OECD countries. Per cent



^a OECD unweighted average.

Data source: OECD (2006c).

Much of the gap between Australia and OECD countries with high female participation rates appears to reflect relatively low participation rates among women of child-bearing age (25 to 44 years) and women in the 55 to 64 age group. The low workforce participation rate of 72.9 per cent for Australian women in the child-bearing age group was the 8th lowest in the OECD, lagging well behind Sweden (86.4 per cent), Portugal (84.8 per cent) and Canada (81.8 per cent). Females in the older age group, with a participation rate of 44.6 per cent, ranked 14th in the OECD, well behind Iceland (81.9 per cent), Sweden (62.9 per cent) and New Zealand (62.5 per cent).

3.2 Recent history of Australia's relative ranking

The international comparisons presented above are based on a single years data. Comparisons over the last ten years, however, yield similar results, indicating that 2005 was not an 'atypical' year.

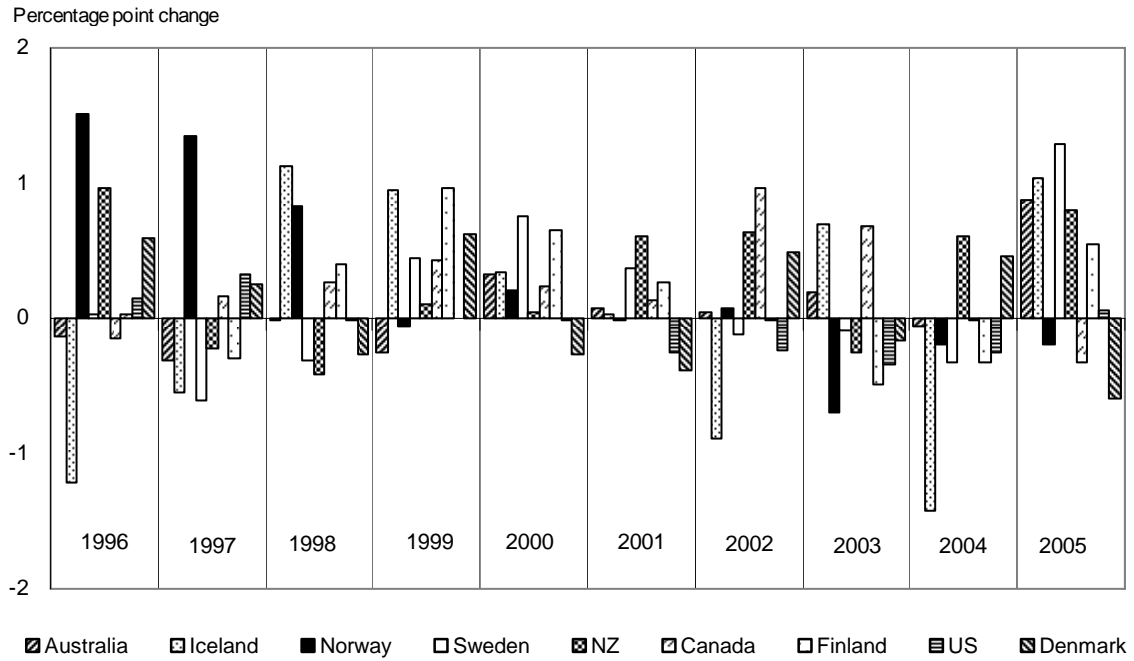
Australia's overall workforce participation ranking has remained in 10th place for the past eleven years (except in 1997 and 1998 when Australia was ranked in 11th place). And, over this period Canada, Denmark, Finland, Iceland, New Zealand, Norway, Sweden, Switzerland and the US have consistently ranked above Australia.

Fluctuations in the aggregate participation rate for these high ranking countries has also not been significant over the decade. The annual percentage point change in the published aggregate participation rate for these countries has been less than 2 percentage points per year (figure 3.6). This suggests that 2005 provides a reasonable indication of the relative size of the gap between Australia's workforce participation rate and that of other OECD countries.

The equivalent analysis for the aggregate male and female workforce participation rates produces broadly similar results. Australia's ranking for aggregate male participation rates has, however, declined from 10th place in 1995 to 12th place in 2005.

Closer analysis of the published data used in the comparisons presented in this chapter indicates that differences in statistical practices across countries may contribute to these observed differences in participation rates between Australia and other OECD countries. The next chapter explores the nature of these statistical differences and their likely significance.

Figure 3.6 Percentage point change in aggregate participation rate for total population, 1996 to 2005^a
 Selected OECD countries



^a Switzerland is not included as in 2002 there is a series break in the published OECD data.

Data source: OECD (2006c).

4 Deriving more meaningful comparisons

While the published OECD data provides broadly accurate perspectives on participation rates, their trends and composition, they can provide a biased measure of Australia's relative international standing. This is because there are differences in the statistical practices used for measuring workforce participation rates across countries.

This chapter examines the source and magnitude of some of these statistical differences, as well as the role of demography in explaining variations in international participation rates.

4.1 Data discrepancies – real or statistical differences?

Some of the observed differences in published participation rates between Australia and other OECD countries reflect variations in statistical practises inherent in cross-country comparisons, and, in particular, the treatment of:

- seasonality in labour force data;
- defence personnel;
- institutionalised populations;
- missing data for some age brackets;
- paid maternity leave;
- definitions of unemployment;
- temporary residents; and
- other factors.

The effect of diverging statistical practices is to disguise, to some degree, the real differences in workforce participation rates between countries. From a policy perspective, it is desirable to try to net out the effect of variations in statistical practices.

Seasonality

For most OECD countries, the participation data are based on averages of biannual, quarterly or monthly data, thus overcoming biases associated with seasonality. However, prior to the most recent update of published OECD data, the data for Australia were based on workforce status in August, a month that tends to have lower participation rates than the average for the year, particularly for the younger age group. For example, in the OECD database, the Australian participation rate for those aged 15 to 19 years in 2004 was 56.6 per cent (based on the August 2004 ABS labour force data). Were the average over the calendar year to be used, the corresponding participation rate would be 60.4 per cent. Accordingly, the choice of August data results in an understatement in the participation rate of about 7 per cent (or 3.8 percentage points).

Applying the predominate OECD approach to Australia increases its aggregate participation rate in 2005 by around 0.4 of a percentage point.

Seasonality has been corrected for by the ABS in the latest update of the OECD published data for 2005. This improvement in the Australian data was made after the discrepancy was brought to the attention of the ABS and the OECD by the Productivity Commission.¹

Defence personnel

The OECD workforce database for Australia by age and sex is based on ABS labour force statistics and conventions. The denominator of the participation rate is the civilian population aged 15 years and over (thereby excluding defence personnel), while the numerator is the civilian workforce. In contrast, labour force surveys for most other OECD countries include career defence personnel (and sometimes conscripts).

Five other OECD countries — Canada, New Zealand, South Korea, Turkey, and the US — follow the same statistical practice as Australia and do not include defence personnel in participation rate calculations. It is estimated that, were defence personnel included in the calculation of Australia's participation rates, the participation rate for persons aged 25 to 34 years would increase by around 0.3 of a percentage point (table 4.1). The aggregate effect on all persons aged 15 years and over would be an increase of around 0.1 of a percentage point.

¹ Although seasonality has been corrected for in the OECD published data, this change has not been noted in the supporting OECD documentation.

Table 4.1 Adjustments for defence personnel, 2005

Total population aged 25 to 34 years

	<i>Published OECD PR^a (excluding defence personnel)</i>	<i>Adjusted PR^a</i>	<i>Impact of adjustment on PR^a</i>
	%	%	% point
Australia	81.9	82.2	+0.3
Canada	86.5	86.7	+0.2
New Zealand	81.3	81.6	+0.3
South Korea	72.9	75.0	+2.1
Turkey	62.5	63.9	+1.4
US	82.8	83.4	+0.6

^a Participation rate.

Sources: Based on CIA (2006); IISS (2006) and OECD (2006c).

Institutionalised populations

The Australian labour force survey deems institutionalised populations (such as persons in boarding schools, prisons, age care facilities and hospitals) as not participating in the workforce, although they are included in the working age population with which the workforce is compared. Most other OECD countries exclude institutionalised populations from the working age population. This has the effect of raising their participation rates relative to Australia's. If the predominant OECD approach is used for Australia, the aggregate participation rate in 2005 increases by around 1.1 percentage points.

Missing data for some age brackets

The participation rate for people aged 65 years and over in Australia is based on the civilian workforce and population over an open-ended interval from age 65. The participation rate for the 65 plus age group for Finland, Hungary, Iceland, Norway and Sweden includes only those aged 65 to 74 — that is, the 65 plus participation rate is based on the workforce aged 65 to 74 divided by the population aged 65 to 74. Since activity rates decline markedly after age 74, it can be expected that, were these countries to adopt the method employed by the majority of OECD countries (that is, an open-ended interval from age 65), the participation rate for the 65 plus age category would fall.

This expectation is confirmed following the application of a data adjustment to derive participation rates for the above mentioned countries using a basis similar to the predominant OECD approach. The exception is Iceland, as its workforce is restricted to persons below age 75, yet the population covers the open-ended

interval from age 65. The adjustment for Iceland increases the 65 plus workforce participation rate, as those age 75 and over participating in the workforce are now included in the participation rate (table 4.2).

Table 4.2 Adjustments to the older age bracket, 2005

Total population aged 65 plus

	<i>Published OECD PR^a (65 to 74 years)</i>	<i>Adjusted PR^a (65 plus)</i>	<i>Impact of adjustment on PR^a</i>
	%	%	% point
Finland	5.1	3.2	-1.9
Hungary	2.6	1.7	-0.9
Iceland	17.4	19.3	+1.9
Norway	14.3	7.7	-6.6
Sweden	10.1	5.8	-4.3

^a Participation rate.

Sources: Based on OECD (2006c) and USCB (2005).

Labour force surveys for six OECD countries (Iceland, Norway, Spain, Sweden, the UK and the US) exclude 15 year olds from their scope. Consequently, the published participation rates for these countries overstate the actual participation rate for the 15 to 19 years age bracket. For example, the published participation rate for young persons in the UK was 56.5 per cent in 2005. This rate covered 16 to 19 year old persons in the UK rather than 15 to 19 year old persons. Assuming the age profile of participation in the UK has the same shape as in Australia, then it is estimated that the corrected participation rate for the UK would be 51.0 per cent — a decline of 5.5 percentage points (table 4.3). This compares with a rate of 60.6 per cent for Australia.

Table 4.3 Adjustments to the younger age bracket, 2005

Total population aged 15 to 19 years

	<i>Published OECD PR^a (16 to 19 years)</i>	<i>Adjusted PR^a (15 to 19 years)</i>	<i>Impact of adjustment on PR^a</i>
	%	%	% point
Iceland	74.0	66.3	-7.7
Norway	45.8	41.9	-3.9
Spain	28.9	27.5	-1.4
Sweden	36.7	32.8	-3.9
UK	56.5	51.0	-5.5
US	43.7	39.3	-4.4

^a Participation rate.

Sources: Based on OECD (2006c) and USCB (2005).

Paid maternity leave

Differences in participation rates between countries for women of child-bearing age (25 to 44 years) may reflect, in part, differences in the availability of paid maternity leave and in the treatment of maternity leave in labour force surveys.

Generally, a woman on paid maternity leave is treated as being attached to a job, and therefore employed, while a woman on unpaid maternity leave is treated as not being attached to a job, and thus not in the workforce. Australia and the US are the only OECD countries without a legislated minimum paid maternity leave provision across the workforce, although paid maternity leave may still be included in the leave arrangements of some employees.

To make the data comparable, it is necessary to adjust for the difference in the number of females on paid maternity leave. Females on paid maternity leave are not involved in producing employment-related output and consequently are not included in the workforce. To ensure that females on paid maternity leave are afforded the same treatment as females on unpaid maternity leave, they are included in the population.

Adjusting for paid maternity leave improves Australia's ranking for child-bearing aged females slightly from 23rd to 20th place in 2005 (table 4.4).

Definitions of unemployment

The ABS's definition of unemployment depends on the person being available for work in the reference week of the survey, whereas it is typical among European countries for the 'availability test' to extend to two weeks. Accordingly, some Australians looking for a job are classified as not in the workforce, when they would be classified as unemployed, and therefore in the workforce, using European statistical thresholds.

Table 4.4 Adjustments for paid maternity leave, 2005
Females aged 25 to 44 years. Selected OECD countries

	<i>Published OECD PR^a</i>	<i>Adjusted PR^a</i>	<i>Impact of adjustment on PR^a</i>
	%	%	% point
Australia ^b	72.9	72.6	-0.3
Canada	81.8	79.8	-2.0
Czech Republic	77.8	75.3	-2.5
Denmark	84.1	81.5	-2.6
France	80.5	78.2	-2.3
Hungary	71.1	68.9	-2.2
Ireland	72.1	69.8	-2.3
NZ	74.5	72.5	-2.0
Norway	83.0	76.3	-6.7
Slovak Republic	80.1	77.5	-2.6
UK	76.9	73.6	-3.3

^a Participation rate. ^b Although Australia does not have a national paid maternity leave scheme, it is estimated that 41 per cent of Australian women were entitled to an average of seven weeks paid maternity leave in 2005 (ABS 2006c; EOWA 1998).

Sources: Based on ABS (2006c); EOWA (1998); OECD (2006c) and UN (2005a, 2005b).

Temporary residents

The Australian workforce participation estimates exclude persons who are usually resident in other countries and are temporarily (usually for 12 months or less) residing in Australia. This means that most backpacker workers and other foreigners working in Australia (for example, business people and consultants) are excluded from counts of the employed. Many other countries include non-permanent residents in the scope of their labour force surveys — including, for example, Finland, Switzerland and Luxembourg.

Other factors

A number of other factors also affect the comparability of participation rates between countries. In general, these factors apply to only a relatively small proportion of OECD countries — hence relative to the other factors already discussed they are not expected to have a widespread impact across countries. For example, some countries:

- record military conscripts as being employed (for example, Norway), rather than excluding them from the scope of their labour force surveys (with the effect of increasing recorded participation rates); and

-
- exclude certain remote areas from the scope of their labour force surveys (for example, Canada and the US), which tends to increase recorded participation rates.

4.2 Age structures and participation rates

The participation rates of both older workers (55 years and over) and younger workers (15 to 24 years) are generally lower than the participation rates of other working age cohorts. Hence, differences in the age structure of different countries, particularly variations in the onset of ageing, may in part explain differences in aggregate participation rates.

The age-standardised participation rate measures the overall participation rate that would prevail were all countries to share the same age structure as Australia, but retained their current age-specific participation rates. As shown in table 4.5, the age-standardised estimates only slightly alter Australia's ranking, from 8th to 9th place for total workforce participation in 2005.²

Figure 4.1 plots the share of the working age population aged over 55 against the difference between the published OECD participation rate and age-standardised rate.

Using 2005 data, trend analysis suggests that a significant proportion (around 90 per cent) of the difference between the observed and age-standardised participation rates may be attributed to the (typically) low participation of older age groups. Such that:

- for countries with a smaller share of their working age population aged 55 years and over than Australia — for example, Turkey, Korea, Ireland and Slovak Republic — the age-standardised participation rate is considerably lower than the published rate; and
- for countries with a higher share of their working age population aged 55 years and over relative to Australia — including, Germany, Sweden, Japan, France and Italy — the age-standardised participation rate is substantially higher than the published rate.

² The published OECD data were adjusted for missing data for older and younger age brackets before the age-standardised estimates were calculated. Therefore, the OECD participation rates and rankings in table 4.5 are not directly comparable with those presented in chapter 3.

An exception to this is Mexico which has a relatively low proportion of its working age population aged 55 years and over, however, the age-standardised participation rate is only slightly lower than the published OECD rate. This is largely due to the high participation rates of the older population in Mexico — 29.2 per cent for the 65 plus age group compared with an OECD average of 11.3 per cent in 2005.

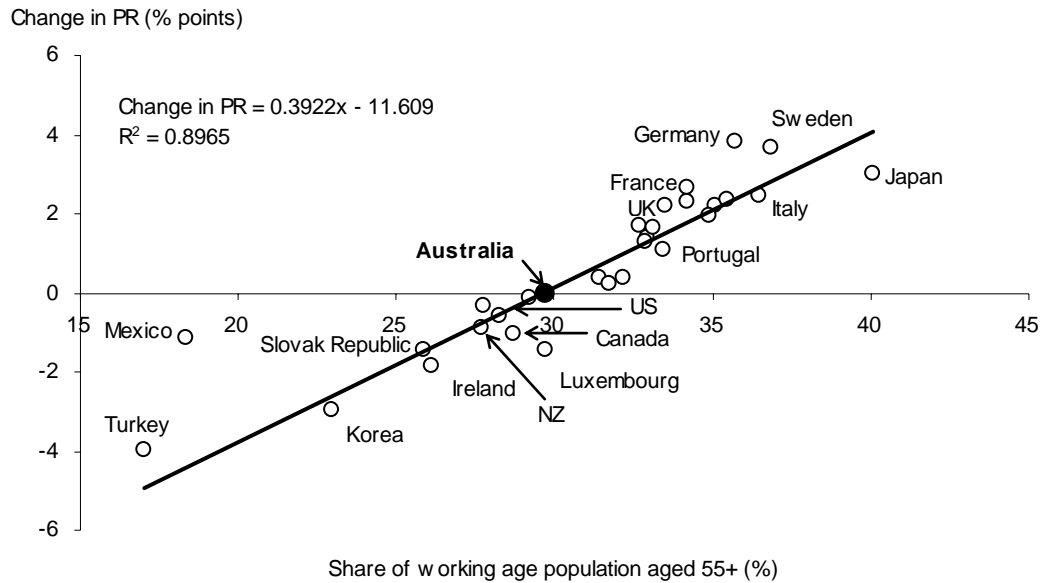
Table 4.5 Age-standardised total workforce participation rates, 2005

	<i>PR^a (%)</i>		<i>Impact of adjustment on PR (% point)</i>	<i>Rank^d</i>	
	<i>OECD^b</i>	<i>Age-standardised^c</i>		<i>OECD</i>	<i>Age-standardised</i>
Australia	64.4	64.4	+0.0	8	9
Austria	59.4	61.1	+1.7	18	16
Belgium	52.8	55.2	+2.4	27	25
Canada	67.2	66.2	-1.0	3	7
Czech Republic	59.4	59.8	+0.4	19	17
Denmark	65.3	67.5	+2.2	5	3
Finland	60.5	62.9	+2.4	15	14
France	55.2	57.9	+2.7	24	21
Germany	58.5	62.3	+3.8	21	15
Greece	53.3	55.2	+1.9	26	24
Hungary	50.2	51.5	+1.3	28	28
Iceland	75.3	74.9	-0.4	1	1
Ireland	61.5	59.6	-1.9	14	18
Italy	49.0	51.5	+2.5	29	29
Japan	60.4	63.4	+3.0	16	12
Korea	62.0	59.0	-3.0	13	19
Luxembourg	55.4	53.9	-1.5	23	27
Mexico	58.8	57.7	-1.1	20	22
Netherlands	63.4	63.7	+0.3	10	11
NZ	67.8	66.9	-0.9	2	5
Norway	65.0	66.3	+1.3	7	6
Poland	54.9	54.8	-0.1	25	26
Portugal	62.2	63.3	+1.1	11	13
Slovak Republic	59.4	58.0	-1.4	17	20
Spain	57.1	57.4	+0.3	22	23
Sweden	63.5	67.2	+3.7	9	4
Switzerland	67.0	68.6	+1.6	4	2
Turkey	48.3	44.4	-3.9	30	30
UK	62.1	64.2	+2.1	12	10
US	65.2	64.6	-0.6	6	8
OECD average ^e	59.8	60.3	+0.5		

^a Participation rate. ^b The OECD estimates include adjustments for missing data for older and younger age brackets. ^c Age-standardised estimates were produced using Australia's 2005 age structure for the civilian population aged 15 years and over to weight age-specific participation rates. ^d Rankings are from highest participation rate (1) to lowest (30). ^e OECD unweighted average.

Sources: Based on OECD (2006c) and USCB (2005).

Figure 4.1 **The impact of old age-structure on age-standardised estimates, 2005^a**



^a Mexico is an outlier, therefore it is not included in trend line.

Data sources: Based on OECD (2006c) and USCB (2005).

The following chapter looks at the impact of adjustments to the published data to take account of the differences in statistical practices (including those applied for defence personnel, institutionalised populations, missing data from some age brackets and paid maternity leave) on Australia's participation gap with other OECD countries.

5 Adjusting the data – what does it mean for participation gaps?

This chapter looks at the impact of adjusting the published data for statistical-based differences on the gap between Australia and other OECD high participation rate countries. The adjustments to the published data for some of the more important differences in statistical practices discussed in the previous chapter enhances the comparability of the data. This, in turn, improves our understanding of the magnitude of the gap between Australia's workforce participation rates relative to those of other OECD countries and the potential for lifting Australia's participation rate(s).

5.1 The impact of adjusting for statistical differences

The published data were adjusted to take into account some of the more important differences in statistical practice in compiling workforce statistics discussed in the previous chapter. Adjustments were made for defence personnel, institutionalised populations (only applied to Australia), missing data for some age brackets (did not apply to Australia) and paid maternity leave. This list of adjustments is smaller than the range of statistical practice differences discussed in the previous chapter due to limitations created by data constraints.

The most significant adjustment to the published data for Australia is the exclusion of institutionalised populations from the general population — increasing Australia's participation rate by 1.1 percentage points in 2005 and accounting for around 96 per cent of the total adjustment to Australia's workforce participation rate. Adjustments for defence personnel increased Australia's participation rate by around 0.1 of a percentage point, while paid maternity leave decreased the participation by 0.1 of a percentage point (table 5.1).

Table 5.1 Contribution of adjustments to the change in Australia's workforce participation rate, 2005

<i>Factor</i>	<i>Impact of factor on PR^a</i>	<i>Contribution of factor to total change in PR^a</i>
	% point	%
Defence personnel	0.1	9.6
Institutionalised populations	1.1	95.8
Paid maternity leave	-0.1	-5.4
Total impact	1.1	100.0

^a Participation rate.

Sources: Based on ABS (2006c, 2006d); CIA (2006); EOWA (1998); IISS (2006); OECD (2006c); UN (2005a, 2005b) and USCB (2005).

For most other OECD countries, the adjustments for defence personnel, missing data for some age brackets, and paid maternity leave have a negative effect on participation rates. The most significant downward adjustments made were for Sweden (8.7 percentage points), Norway (8.6 percentage points), Finland (6.2 percentage points), Iceland (6.0 percentage points) and Hungary (4.7 percentage points). The main adjustment for these countries related to missing data for some age brackets, especially for the older age bracket (table 5.2).

Table 5.2 Contribution of adjustments to the change in workforce participation rates, 2005

Selected OECD countries

<i>Country</i>	<i>Defence personnel^a</i>	<i>Older age bracket</i>	<i>Younger age bracket^a</i>	<i>Paid maternity leave</i>
	%	%	%	%
Finland	-	94.4	-	5.6
Hungary	-	91.6	-	8.4
Iceland	-	81.6	12.7	5.7
Norway	-	76.3	9.0	14.7
Sweden	-	83.9	12.4	3.7

^a '-' denotes that this adjustment is not applicable to this country.

Sources: Based on ABS (2006c, 2006d); CIA (2006); EOWA (1998); IISS (2006); OECD (2006c); UN (2005a, 2005b) and USCB (2005).

The net impact of the above adjustments on overall participation rates for OECD countries in 2005 are presented in table 5.3. Using the adjusted data, South Korea and Turkey recorded a modest increase in their participation rate (0.5 and 0.3 of a percentage point respectively). This increase is mainly due to the inclusion of defence personnel in their workforce and population — contributing around 139 per cent to the upward adjustment to South Korea's participation rate and

202 per cent to the upward adjustment for Turkey's participation rate (the upward adjustment from the inclusion of defence personnel was partly offset by a downward adjustment for paid maternity leave).

Table 5.3 Net impact of adjustments on overall participation rates, 2005

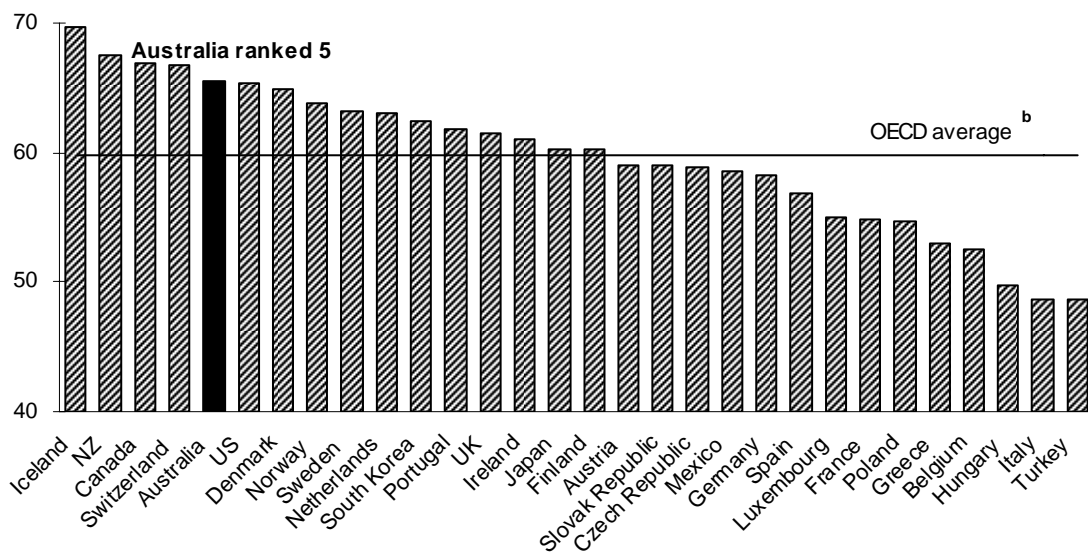
	<i>Published OECD</i>		<i>Standardised estimate^a</i>		<i>Impact of adjustment on PR^b</i>
	PR ^b (%)	Ranking ^c	PR ^b (%)	Ranking ^c	(% point)
Australia	64.4	10	65.5	5	+1.1
Austria	59.4	18	59.0	17	-0.4
Belgium	52.8	28	52.5	27	-0.3
Canada	67.2	5	66.9	3	-0.3
Czech Republic	59.4	19	58.9	19	-0.5
Denmark	65.3	9	64.9	7	-0.4
Finland	66.4	7	60.2	16	-6.2
France	55.2	24	54.8	24	-0.4
Germany	58.5	21	58.3	21	-0.2
Greece	53.3	27	53.0	26	-0.3
Hungary	54.5	26	49.8	28	-4.7
Iceland	75.7	1	69.7	1	-6.0
Ireland	61.5	15	61.0	14	-0.5
Italy	49.0	29	48.7	29	-0.3
Japan	60.4	16	60.2	15	-0.2
Luxembourg	55.4	23	55.0	23	-0.4
Mexico	58.8	20	58.5	20	-0.3
Netherlands	63.4	11	63.0	10	-0.4
NZ	67.8	4	67.5	2	-0.3
Norway	72.4	2	63.8	8	-8.6
Poland	54.9	25	54.6	25	-0.3
Portugal	62.2	13	61.8	12	-0.4
Slovak Republic	59.4	17	59.0	18	-0.4
South Korea	62.0	14	62.5	11	+0.5
Spain	57.4	22	56.8	22	-0.6
Sweden	71.9	3	63.2	9	-8.7
Switzerland	67.0	6	66.7	4	-0.3
Turkey	48.3	30	48.6	30	+0.3
UK	62.6	12	61.5	13	-1.1
US	66.0	8	65.4	6	-0.6
OECD average ^d	60.2		59.7		-0.5

^a Adjusted for the treatment of defence personnel, institutionalised populations, missing data for some age brackets, and paid maternity leave. ^b Participation rate. ^c Rankings are from highest participation rate (1) to lowest (30). ^d OECD unweighted average.

Sources: Based on ABS (2006c, 2006d); CIA (2006); EOWA (1998); IISS (2006); OECD (2006c); UN (2005a, 2005b) and USCB (2005).

Overall, the adjustments lift Australia's workforce participation rate in 2005 from 64.4 to 65.5 per cent and raise Australia's ranking within the OECD from 10th to 5th place (figure 5.1). Using the adjusted participation rates, Australia remains behind only Iceland (by 4.2 percentage points), New Zealand (by 2.0 percentage points), Canada (by 1.4 percentage points) and Switzerland (by 1.2 percentage points).

Figure 5.1 **Adjusted total workforce participation rates, 2005^a**
Per cent



^a Adjusted for the treatment of defence personnel, institutionalised populations, missing data for some age brackets, and paid maternity leave. ^b OECD unweighted average.

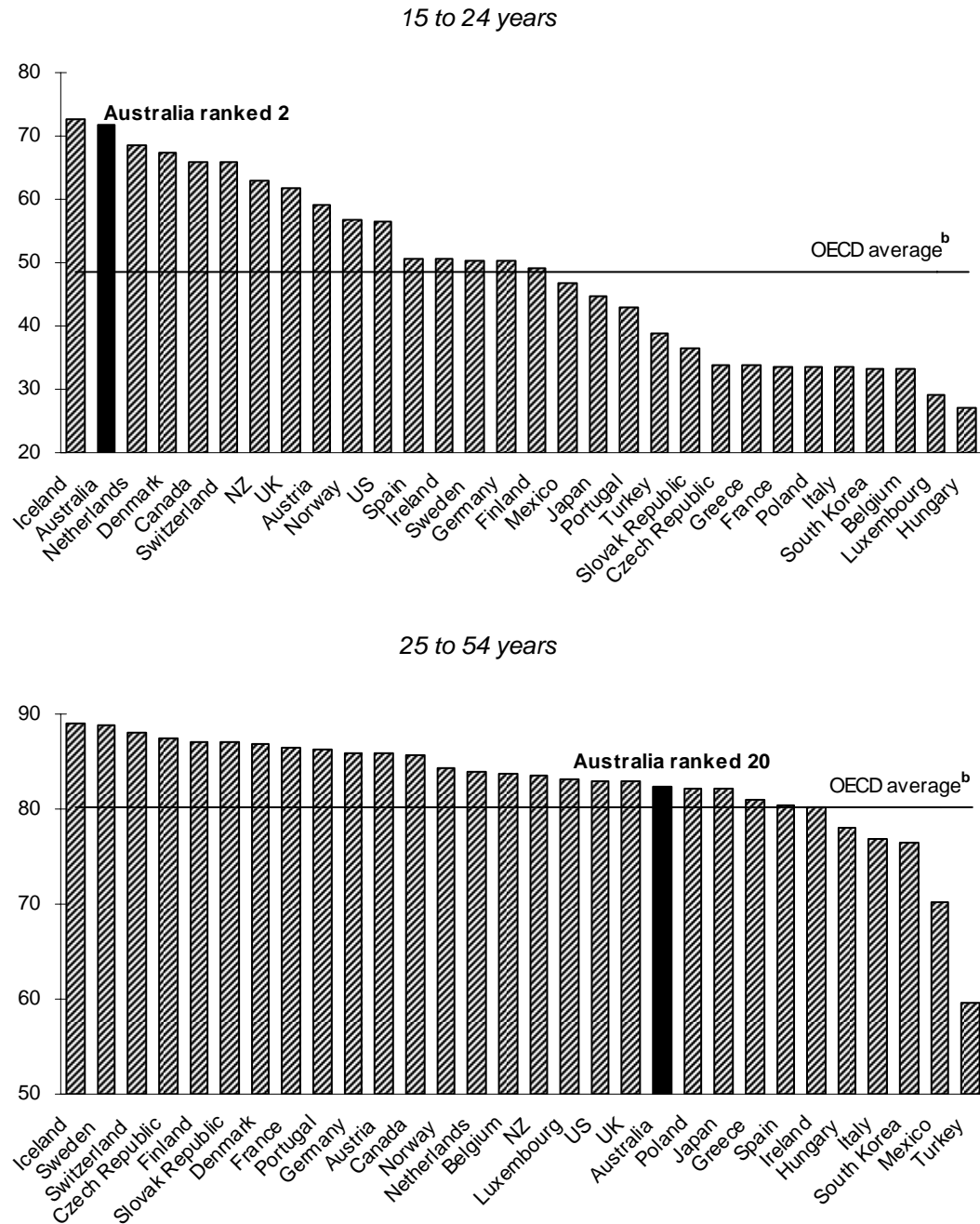
Data sources: Based on ABS (2006c, 2006d); CIA (2006); EOWA (1998); IISS (2006); OECD (2006c); UN (2005a, 2005b) and USCB (2005).

The adjustments for the statistically-based differences in the workforce data also lift Australia's ranking in 2005 for:

- the prime age group (25 to 54 years), from 22nd to 20th place; and
- the 65 plus age group, from 13th to 10th place. While the adjustments slightly increase the participation rate for this group (by around 0.6 of a percentage point), Australia remains 3.0 percentage points below the OECD average.

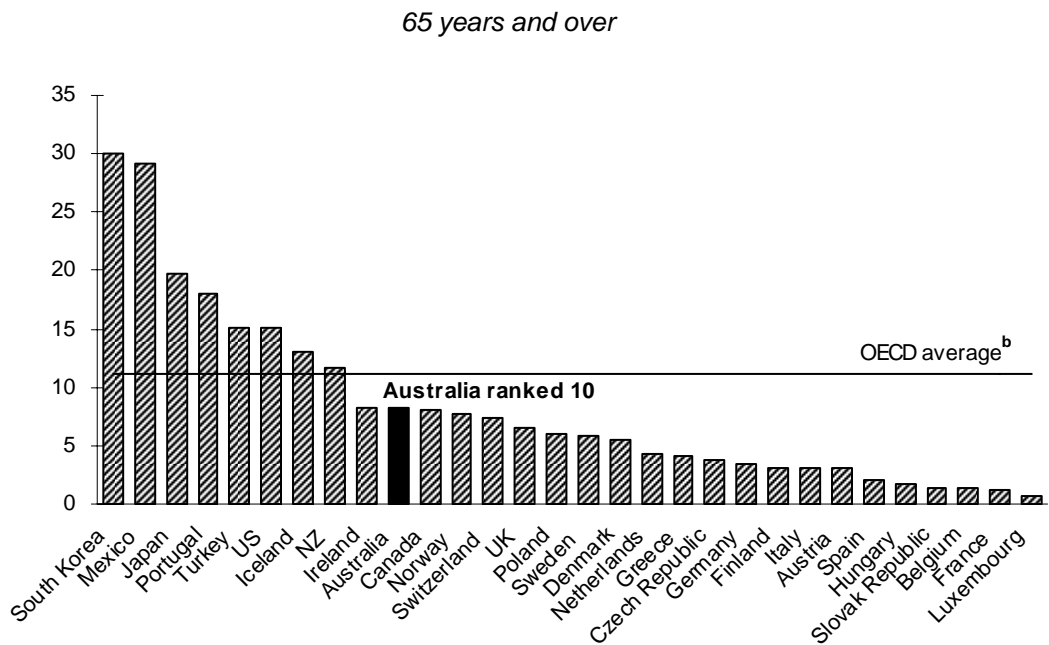
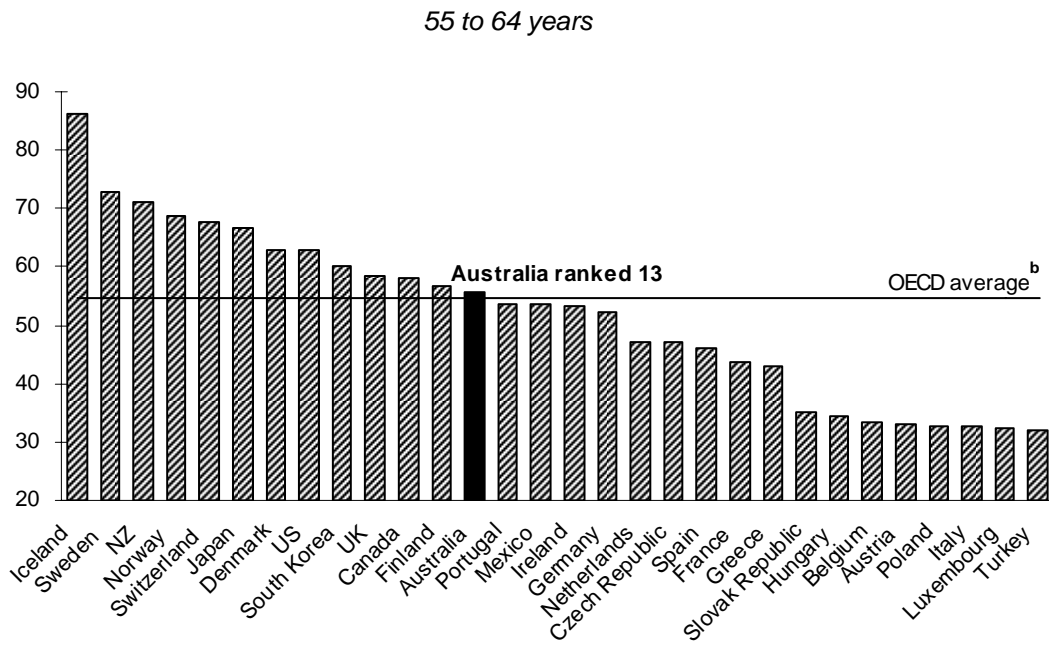
The adjustments did not alter the ranking for Australia's youth (15 to 24 years) and the older age group (55 to 64 years) (figure 5.2, also see table A.7 in appendix A).

Figure 5.2 **Adjusted total workforce participation rates by age, 2005^a**
Per cent



(continued on next page)

Figure 5.2 (continued)



^a Adjusted for the treatment of defence personnel, institutionalised populations, missing data for some age brackets, and paid maternity leave. ^b OECD unweighted average.

Data sources: Based on ABS (2006c, 2006d); CIA (2006); EOWA (1998); IISS (2006); OECD (2006c); UN (2005a, 2005b) and USCB (2005).

Adjustments close Australia's participation gap for men and women

The statistical adjustments raise the participation rate for Australian males (aged 15 years and over) to 2.7 percentage points above the adjusted average for OECD countries, lifting Australia's ranking from 12th to 7th place in 2005 (figure 5.3, see also table A.6 and table A.8 in appendix A).

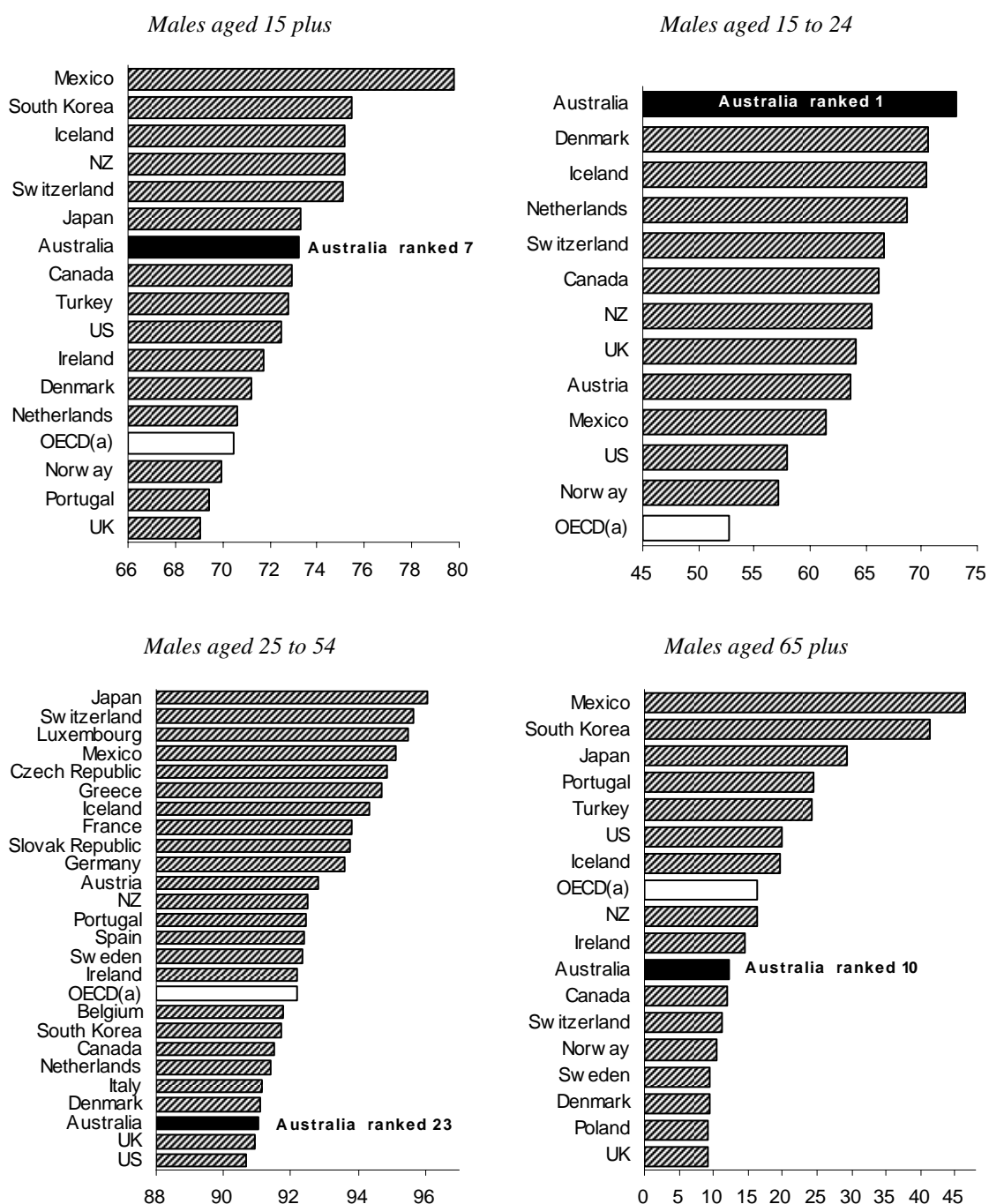
After adjustments, Australia's male youth participation rate increases by 0.6 of a percentage point (lifting Australia's ranking from 2nd to 1st place), while the prime age male participation rate increases by 0.8 of a percentage point (lifting Australia's ranking from 25th to 23rd place). Australia's participation rate for prime age males, however, continues to fall short of Japan (by 4.9 percentage points), New Zealand (by 1.4 percentage points) and Canada (by 0.4 of a percentage point).

Using the adjusted data, Australia's ranking for aggregate female participation improves from 10th to 8th place (figure 5.4, see also table A.6 and table A.9 in appendix A). For females of child-bearing age (25 to 44 years), the revised data improve Australia's relative position from 23rd to 20th position. Australia's participation rate for older females (55 to 64 years) increases by 0.2 of a percentage point, but the adjustments did not alter the ranking from 14th place.

Even with the revised figures, there continues to be a gap between female participation rates in Australia and those in other OECD countries. For example, participation rates for child-bearing aged females are higher in Canada (by 7.1 percentage points) and the US (by 2.3 percentage points). Also, for older females, participation rates are well below New Zealand (by 17.7 percentage points), the US (by 12.2 percentage points), Canada (by 4.6 percentage points) and the UK (by 4.3 percentage points).

Figure 5.3 Adjusted male participation rates by age, 2005

Selected OECD countries. Per cent

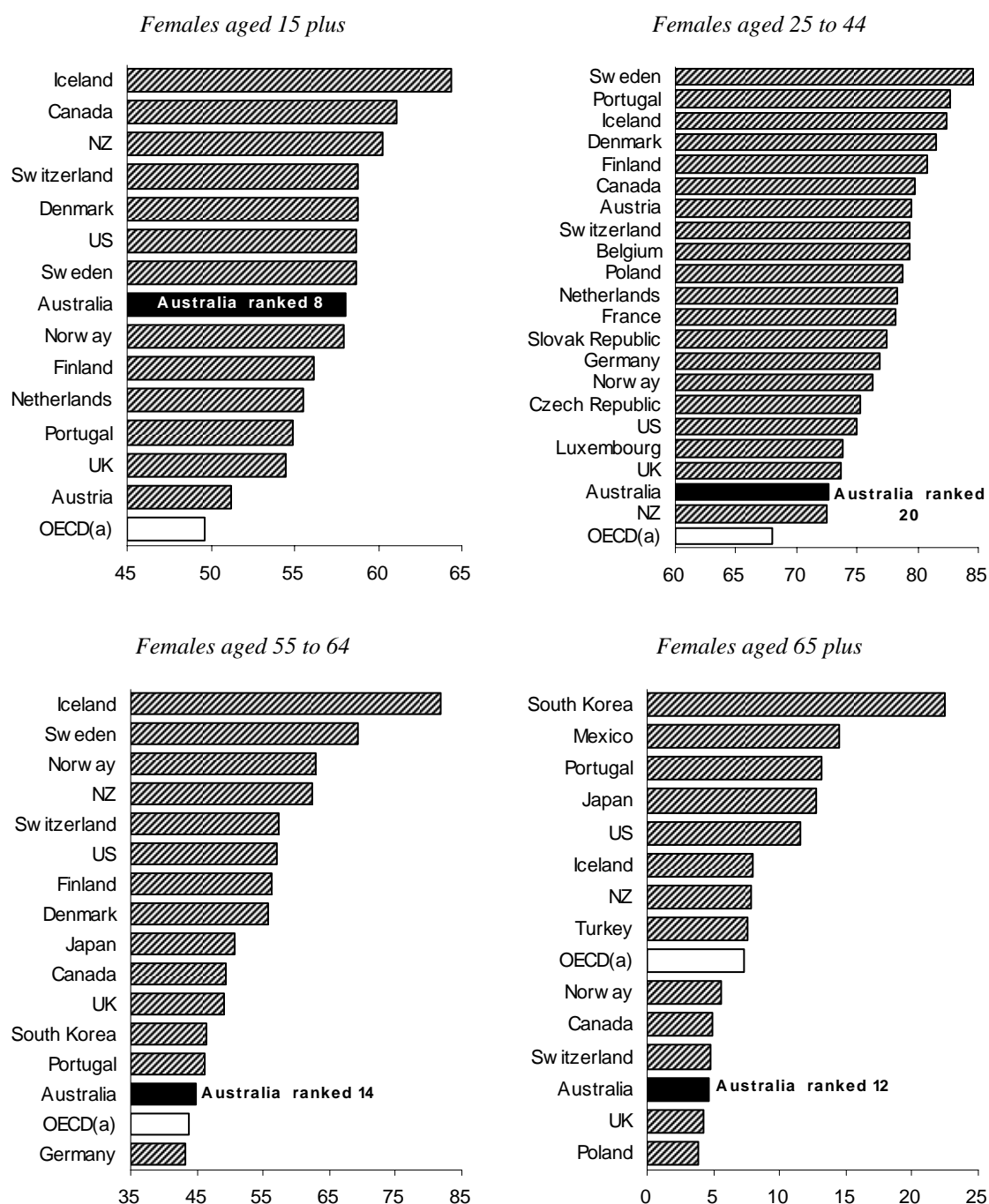


^a OECD unweighted average.

Data sources: Based on ABS (2006c, 2006d); CIA (2006); EOWA (1998); IISS (2006); OECD (2006c); UN (2005a, 2005b) and USCB (2005).

Figure 5.4 Adjusted female participation rates by age, 2005

Selected OECD countries. Per cent



^a OECD unweighted average.

Data sources: Based on ABS (2006c, 2006d); CIA (2006); EOWA (1998); IISS (2006); OECD (2006c); UN (2005a, 2005b) and USCB (2005).

5.2 Country-specific adjustments

When comparing Australia's workforce participation with other OECD countries, consideration needs to be given to the influence of inter-country differences in social, cultural and institutional conditions. Differences in cultural attitudes across countries, such as in attitudes to working mothers and older persons, affect decisions by individuals as to whether they participate in the workforce and, if so, the number of hours of work. Similarly, there are substantial differences in the taxation and social spending profiles of OECD countries.

A relatively crude, albeit effective, way of seeking to take the conditioning influence of these factors into account is to seek to compare 'like' countries, that is, countries with broadly similar social, cultural and institutional conditions. As noted in chapter 1, the US, the UK, New Zealand and Canada are often judged to have many social, cultural and institutional features in common with Australia.

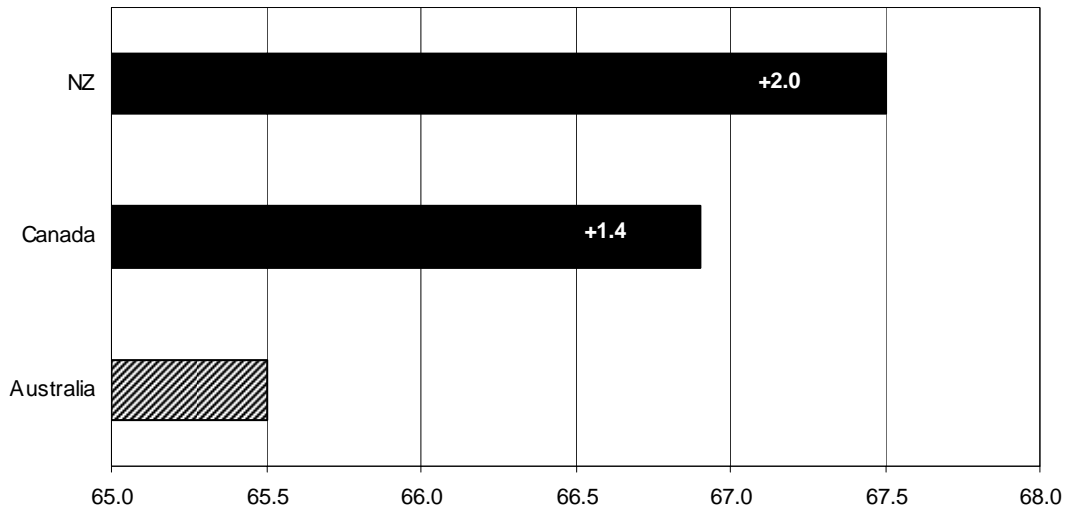
Using the adjusted aggregate workforce participation rates reported in figure 5.1, Australia's participation rate of 65.5 per cent in 2005 was 2.0 percentage points below New Zealand and 1.4 percentage points below Canada (figure 5.5). Hence, there may be scope for Australia to catch-up to the workforce participation rates of these broadly comparable countries. A 2.0 percentage point increase in Australia's workforce participation rate in 2005 would have increased the size of the workforce by 322 000 persons, an overall increase of 3.1 per cent.¹

Comparisons with these 'like' countries also reveal large participation rate gaps for specific labour market segments. In 2005, Australia's participation rates for:

- prime aged males (25 to 54 years) was 1.4 percentage points below New Zealand;
- child-bearing aged females (25 to 44 years) was 7.1 percentage points below Canada; and
- people nearing retirement (55 to 64 years) was 15.2 percentage points below New Zealand (figure 5.6).

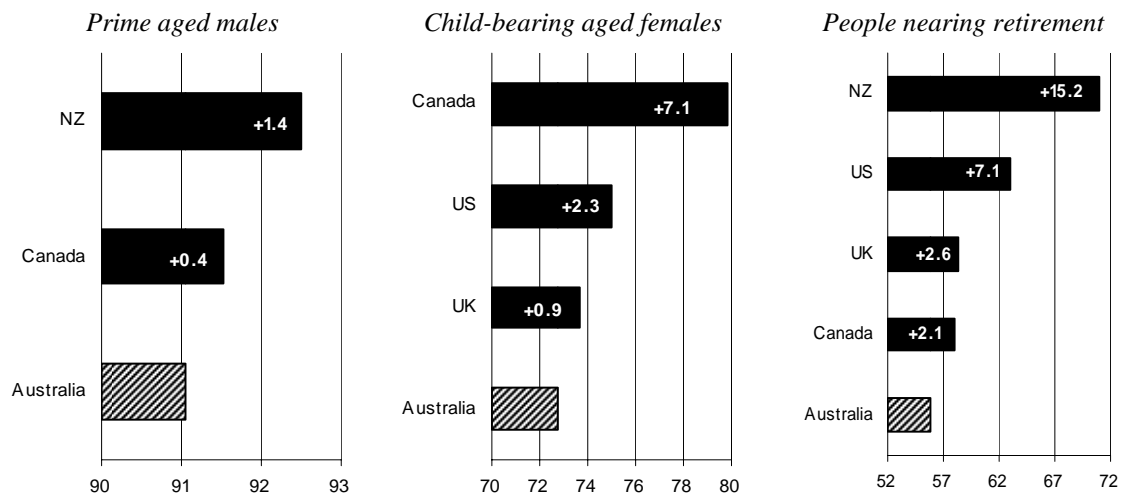
¹ Using the adjusted data, Australia's workforce in 2005 was 10.6 million.

Figure 5.5 Country-specific workforce participation rate gaps, 2005
Per cent



Data sources: Based on ABS (2006c, 2006d); CIA (2006); EOWA (1998); IISS (2006); OECD (2006c); UN (2005a, 2005b) and USCB (2005).

Figure 5.6 Country-specific workforce participation rate gaps by key labour market segments, 2005
Per cent



Data sources: Based on ABS (2006c, 2006d); CIA (2006); EOWA (1998); IISS (2006); OECD (2006c); UN (2005a, 2005b) and USCB (2005).

Summing up

Adjustments to the published OECD data for some important differences in statistical practice increase Australia's overall workforce participation rate in 2005 from 64.4 to 65.5 per cent and lift Australia's ranking within the OECD from 10th to 5th place. Comparing Australia with 'like' countries, our overall workforce participation rate remained 2.0 percentage points below New Zealand and 1.4 percentage points below Canada, indicating scope for raising Australia's workforce participation rate.

The adjusted data continue to show even larger variations in participation rates between Australia and other OECD countries for some age groups, covering men and women alike. For example, Australia's participation rate for child-bearing aged females (25 to 44 years) was 7.1 percentage points below Canada.

The next chapter explores some of the implications of the adjusted participation rates for raising participation in Australia's workforce.

6 Some implications

Workforce participation outcomes are a reflection of individual work preferences. These preferences are influenced by cultural and social attitudes, as well as a wide array of government policies and institutional arrangements, such as rules applying to welfare benefits and labour market regulations (COAG 2006b, OECD 2006a). The challenge for policy makers is to ensure that participation decisions are not distorted by policies that artificially discourage or encourage participation.

As discussed in chapter 1, population ageing is expected to reduce labour supply growth and constrain future economic growth. Against this backdrop, policy interest in differences in workforce participation rates between OECD countries has heightened. In the Australian context, the Secretary of the Australian Treasury has described participation, along with population and productivity, as being the key drivers of economic growth, and considers that:

Pro-growth policies, focused on participation and productivity, offer the best prospects of meeting the looming fiscal challenge without compromising the living standards of future generations. (Henry 2004, p. 81)

Comparisons of Australia's workforce participation rates with other OECD countries provides some indication of the scope for Australia to lift workforce participation.

International comparisons

In 2005, Australia's total workforce participation rate (based on data published by the OECD) was above the OECD average — 64.4 per cent compared with an OECD average (unweighted basis) of 60.2 per cent. However, Australia's participation rate was below that of nine other OECD countries including Iceland (75.7 per cent), Norway (72.4 per cent), Sweden (71.9 per cent), New Zealand (67.8 per cent), Canada (67.2 per cent), Switzerland (67.0 per cent), Finland (66.4 per cent), the US (66.0 per cent) and Denmark (65.3 per cent) (figure 3.1).

Closer analysis of the published data used in these comparisons indicates that some of the observed differences in participation rates arise from differences in statistical practices across countries (see chapter 4). This study shows that adjustments to the published data for some of the more important differences in statistical practices

lifts Australia's overall workforce participation rate in 2005 from 64.4 to 65.5 per cent, and Australia's ranking within the OECD from 10th to 5th place. On this adjusted basis, Australia's overall participation rate remains behind Iceland, New Zealand, Canada and Switzerland by 4.2, 2.0, 1.4 and 1.2 percentage points, respectively (figure 5.1).

Relative to countries with broadly similar labour market structures and institutional arrangements to Australia, there is evidence of large participation rate gaps in several segments of the labour market. The most notable apply to prime aged males (25 to 54 years), child-bearing aged females (25 to 44 years) and people nearing retirement (55 to 64 years) (figure 5.6).

Using the adjusted data, in 2005 there were 10.6 million Australians participating in the workforce (aged 15 years and over), of which:

- 37.1 per cent or 3.9 million were prime aged males;
- 20.2 per cent or 2.1 million were child-bearing aged females; and
- 11.5 per cent or 1.2 million were people nearing retirement.

If Australia was able to close the participation gap with the highest ranking comparable OECD country in these key labour market segments, the participation rate for:

- prime aged males would have increased by 1.4 percentage points (to New Zealand's rate), increasing the size of the workforce by 60 000;
- child-bearing aged females would have increased by 7.1 percentage points (to Canada's rate), increasing the size of the workforce by 209 000; and
- people nearing retirement would have increased by 15.2 percentage points (to New Zealand's rate), increasing the size of the workforce by 331 000. The participation gap for females within this segment was 17.7 percentage points compared with 13.0 percentage points for males.

Collectively, these improvements would have increased the number of people participating in the workforce by 5.7 per cent to 11.2 million in 2005. This is equivalent to an increase in the aggregate participation rate of 3.7 percentage points to 69.2 per cent.

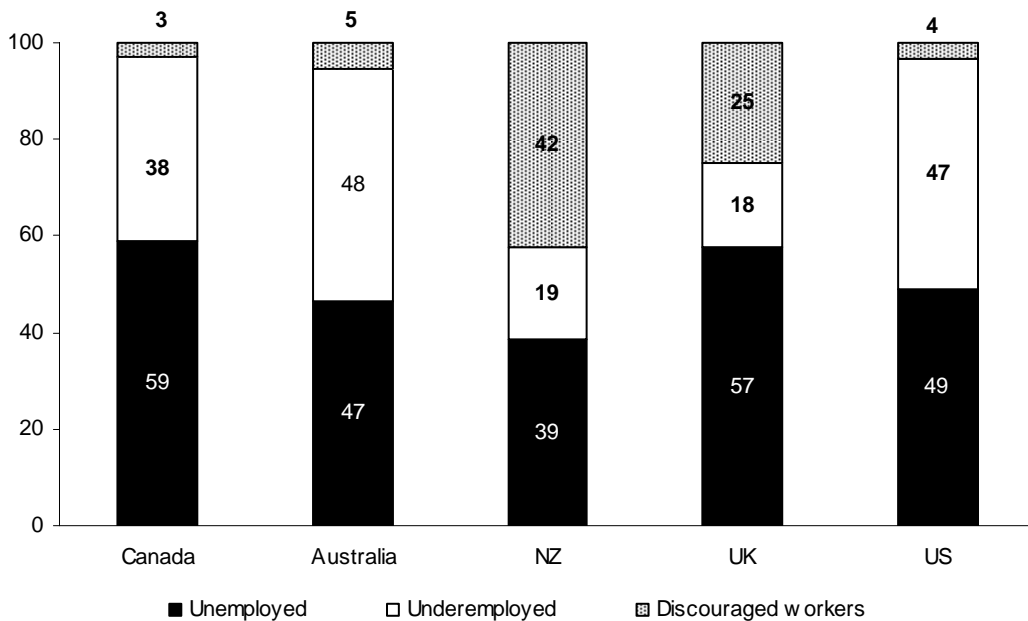
Australia's labour utilisation performance also falls behind that of comparable OECD countries.¹ Relative to comparable OECD countries, there was a high

¹ International comparisons of underutilisation are based on a number of different data sources, and the definition used to measure underemployment is not harmonised. As such, the data presented in figure 6.1 should be regarded as indicative only. Also, due to the lack of detailed information,

proportion of Australians who did not work in 2005, but would have liked to work (unemployed and discouraged workers), as well as individuals who worked but did not work as many hours as they would have liked (underemployed workers). Australia's rate of labour underutilisation in 2005 was above the UK (by 4.8 percentage points), New Zealand (by 3.6 percentage points), the US (by 2.6 percentage points) and below Canada (by 0.3 of a percentage point).

The importance of each of the components of labour underutilisation — underemployed, unemployed and people marginally attached to the workforce — varies by country (see chapter 2 for a detailed discussion). In 2005, underemployed workers accounted for the majority of underutilised labour in Australia (figure 6.1). This is in contrast to most other comparable OECD countries where the majority of underutilised labour were unemployed or discouraged workers.

Figure 6.1 Labour underutilisation rates by component, 2005^a
Selected OECD countries. Per cent



^a In the absence of detailed information, discouraged workers are assumed to represent the total number of people with a strong marginal attachment to the workforce.

Data sources: ABS (2006a); BLS (2006); OECD (2006c, 2006d, 2006f) and Statistics New Zealand (2006).

In summary, international comparisons suggests that there is considerable potential for Australia to increase participation rates, especially for people nearing retirement. In the case of labour utilisation there would also seem to be considerable scope for

the comparisons assume that discouraged workers represent those with a strong marginal attachment to the workforce.

improving our relative performance, particularly by addressing factors which cause underemployment of workers.

Policy settings can influence participation and utilisation rates

There is growing evidence to suggest that differences in participation and utilisation rates among countries are, in part, a reflection of different policy and institutional settings. In this context, policy settings in a range of areas, such as taxation, superannuation, aged and disability support pensions, child-care payments, workforce regulation, education and training are relevant. For instance:

- There is evidence to suggest that access to the aged pension can have a significant influence on the participation decisions of mature aged individuals.

- The OECD notes:

Studies based on micro-data at the individual country level (Gruber and Wise 1999 and 2004; Schils 2005) as well as cross-country studies using aggregated national data (Blondal and Scarpetta 1998; Burniaux, Duval and Jaumotte 2003; Duval 2003) concur that financial incentives embedded in both public pensions and in other formal and informal early retirement schemes play an important role in determining retirement decisions. These decisions will be influenced by the age at which (early) retirement benefits can be first accessed, the generosity of replacement rates and the implicit tax on continuing to work in terms of changes in the present value of net pension wealth from working an additional year (Cremer and Pestieau 2003). Early retirement schemes and other de facto early retirement schemes such as unemployment and long term sickness and disability benefits have also played an important role in some countries in facilitating early retirement. ... a number of studies point to the importance of joint retirement decisions among couples, thereby leading to some coordination in the timing of retirement of each partner (Gustman and Steinmeier 2004; Blau and Riphahn 1999; Jimenez-Martin, Labeaga and Granado 1999). (OECD 2006b, p. 54)

- International experience indicates that changes to these factors can have significant and rapid impacts on mature age participation. For example, between 1991 and 2001, New Zealand increased the eligible pension age from 60 to 65 years for men and women. Over this period, the participation rate of males aged 60 to 64 years increased by more than 20 percentage points and increased considerably for females. The participation rates of people aged 55 to 59 also increased (COAG 2006b).

- Jaumotte (2003) examined the determinants of female workforce participation — with a particular focus on married women — in 17 OECD countries (including Australia) over the period 1985 to 1999. Jaumotte found that certain policies have a positive influence on female participation, including:

- a *more neutral tax treatment* of second income earners relative to single earners lifts female participation by improving the return on a married women's

market work and by increasing incentives to share market work between spouses;

- *childcare subsidies* improve participation, especially if they are conditional on female workforce participation, as they increase the return on market work; and
- *paid maternity and parental leave* help females to reconcile work and family life and strengthen workforce attachment.²

Jaumotte also found that a female's education, well-functioning labour markets (which translates into low unemployment) and cultural attitudes remain major determinants of female participation.

These findings suggest there is significant scope to increase participation rates by making changes to policy settings that inadvertently discourage or create barriers to participation. Such changes have the potential to contribute to higher growth and improved living standards (although some of the improvement will be an illusion if non-market work, such as child rearing, caring for the aged or volunteer work is crowded-out by increased participation). For instance, if Australia were to lift its aggregate participation rate to the same level as New Zealand in 2005 (from 65.5 per cent to 67.5 per cent), it is estimated that Australia could improve GDP per capita growth by some 1.75 per cent (appendix B).

The benefit to living standards of removing constraints or barriers to higher workforce participation has been recognised by Australian Governments. Indeed, reforms to encourage and support workforce participation form part of COAG's National Reform Agenda. The *work incentive* reforms associated with this agenda are focused on improving the activity rate of those on welfare, the mature aged and woman (COAG 2006a,b).

The Productivity Commission is undertaking further work to identify the scope for improving the participation rate of people in three key segments of the Australian labour market, namely prime aged men, child-bearing aged females, and females nearing retirement. This research is likely to be helpful in promoting more informed debate about the potential to improve workforce participation outcomes.

² The Jaumotte study suggests that Australia's second income earners are generally taxed higher than single earners (and this is broadly in line with the average experience across the OECD), while public expenditure in Australia on formal day care and pre-primary education and the total quantity of maternity and parental leave are well below the OECD average.

A Supporting statistics

Table A.1 **Australia's workforce composition, 2005**

<i>Age group</i>		<i>Males</i>	<i>Females</i>	<i>Persons</i>
15 to 24	Number ('000)	1048.6	977.2	2025.8
	Proportion of workforce (%)	18.1	20.7	19.2
25 to 34	Number ('000)	1298.8	1036.3	2335.1
	Proportion of workforce (%)	22.4	21.9	22.2
35 to 44	Number ('000)	1358.0	1105.6	2463.6
	Proportion of workforce (%)	23.4	23.4	23.4
45 to 54	Number ('000)	1218.9	1063.4	2282.3
	Proportion of workforce (%)	21.0	22.5	21.7
55 to 64	Number ('000)	730.3	485.6	1215.9
	Proportion of workforce (%)	12.6	10.3	11.6
65 plus	Number ('000)	139.0	62.3	201.3
	Proportion of workforce (%)	2.4	1.3	1.9
Total	Number ('000)	5793.5	4730.5	10524.0

Source: ABS (2006d).

Table A.2 **OECD workforce participation rates, 2005**

	<i>Males 15+</i>		<i>Females 15+</i>		<i>Persons 15+</i>	
	<i>PR^a (%)</i>	<i>Ranking^b</i>	<i>PR^a (%)</i>	<i>Ranking^b</i>	<i>PR^a (%)</i>	<i>Ranking^b</i>
Australia	72.1	12	57.0	10	64.4	10
Austria	67.5	22	51.8	14	59.4	18
Belgium	60.5	30	45.6	26	52.8	28
Canada	72.8	10	61.8	5	67.2	5
Czech Republic	68.7	19	50.6	18	59.4	19
Denmark	71.2	14	59.7	7	65.3	9
Finland	68.6	20	64.2	4	66.4	7
France	61.7	28	49.3	20	55.2	24
Germany	66.3	23	51.1	17	58.5	21
Greece	64.9	25	42.3	27	53.3	27
Hungary	61.7	27	47.8	22	54.5	26
Iceland	80.5	1	71.0	1	75.7	1
Ireland	71.8	13	51.4	15	61.5	15
Italy	61.0	29	37.9	29	49.0	29
Japan	73.3	9	48.4	21	60.4	16
Korea	74.6	7	50.1	19	62.0	14
Luxembourg	65.1	24	46.1	25	55.4	23
Mexico	79.8	2	40.5	28	58.8	20
Netherlands	70.6	15	56.3	11	63.4	11
NZ	75.0	5	61.0	6	67.8	4
Norway	76.2	3	68.7	3	72.4	2
Poland	62.8	26	47.7	23	54.9	25
Portugal	69.4	17	55.6	13	62.2	13
Slovak Republic	68.3	21	51.3	16	59.4	17
Spain	68.8	18	46.4	24	57.4	22
Sweden	74.9	6	68.8	2	71.9	3
Switzerland	75.1	4	59.3	8	67.0	6
Turkey	72.2	11	24.8	30	48.3	30
UK	69.8	16	55.9	12	62.6	12
US	73.3	8	59.3	9	66.0	8
OECD average ^c	70.7		50.3		60.2	

^a Participation rate. ^b Rankings are from highest participation rate (1) to lowest (30). ^c OECD unweighted average.

Source: OECD (2006c).

Table A.3 **OECD workforce participation rates by age groups, 2005**

	15 to 24		25 to 54		55 to 64		65+	
	<i>PR</i> ^a (%)	Ranking ^b	<i>PR</i> ^a (%)	Ranking ^b	<i>PR</i> ^a (%)	Ranking ^b	<i>PR</i> ^a (%)	Ranking ^b
Australia	71.3	2	82.0	22	55.5	13	7.6	13
Austria	59.2	11	86.4	11	33.0	26	3.0	24
Belgium	33.2	28	84.4	15	33.5	25	1.4	28
Canada	65.9	5	86.3	13	57.9	11	8.1	12
Czech Republic	33.9	22	88.3	4	47.0	19	3.8	21
Denmark	67.2	4	87.7	7	62.9	7	5.4	17
Finland	49.2	16	87.7	6	56.6	12	5.1	18
France	33.7	24	87.2	8	43.6	21	1.3	29
Germany	50.2	15	86.4	12	52.1	17	3.4	22
Greece	33.9	23	81.6	23	43.1	22	4.2	20
Hungary	27.1	30	78.8	26	34.3	24	2.6	25
Iceland	77.1	1	89.7	1	86.1	1	17.4	5
Ireland	50.5	14	81.0	24	53.2	16	8.3	11
Italy	33.5	26	77.4	27	32.6	28	3.1	23
Japan	44.6	18	82.5	21	66.6	6	19.8	3
Korea	33.3	27	76.0	28	60.2	9	30.0	1
Luxembourg	29.0	29	83.9	18	32.4	29	0.6	30
Mexico	46.8	17	70.7	29	53.6	15	29.2	2
Netherlands	68.4	3	84.6	14	47.0	18	4.3	19
NZ	62.8	8	84.2	16	71.0	3	11.7	9
Norway	60.2	10	86.6	10	68.8	4	14.3	8
Poland	33.5	25	82.8	20	32.8	27	6.0	16
Portugal	43.0	19	87.1	9	53.8	14	18.0	4
Slovak Republic	36.5	21	87.9	5	35.0	23	1.4	27
Spain	52.1	13	80.9	25	45.9	20	2.0	26
Sweden	54.7	12	89.5	2	72.8	2	10.1	10
Switzerland	65.7	7	88.5	3	67.5	5	7.4	14
Turkey	38.7	20	59.3	30	31.9	30	15.2	6
UK	65.9	6	84.1	17	58.4	10	6.4	15
US	60.8	9	82.8	19	62.9	8	15.1	7
OECD average ^c	49.4		80.6		54.5		11.3	

^a Participation rate. ^b Rankings are from highest participation rate (1) to lowest (30). ^c OECD unweighted average.

Source: OECD (2006c).

Table A.4 **OECD male workforce participation rates by age groups, 2005**

	15 to 24		25 to 54		55 to 64		65+	
	<i>PR</i> ^a (%)	Ranking ^b	<i>PR</i> ^a (%)	Ranking ^b	<i>PR</i> ^a (%)	Ranking ^b	<i>PR</i> ^a (%)	Ranking ^b
Australia	72.5	2	90.3	25	66.3	14	11.6	13
Austria	63.6	9	92.8	11	43.0	28	5.0	24
Belgium	34.8	27	91.8	17	43.2	27	2.2	28
Canada	66.1	7	91.5	18	66.7	13	12.1	12
Czech Republic	38.7	22	94.8	5	62.2	17	6.3	21
Denmark	70.6	3	91.1	22	70.2	9	9.4	15
Finland	47.9	18	90.3	26	56.8	21	7.3	19
France	37.3	24	93.8	8	47.1	24	1.7	29
Germany	53.5	15	93.6	10	61.3	18	5.1	23
Greece	37.1	26	94.7	6	60.7	19	6.9	20
Hungary	30.3	29	85.5	30	42.4	29	4.2	25
Iceland	75.2	1	94.3	7	90.1	1	25.2	4
Ireland	53.3	16	92.2	16	67.8	12	14.6	10
Italy	38.1	23	91.2	21	44.3	25	6.0	22
Japan	44.2	20	96.0	1	83.1	2	29.4	3
Korea	26.7	30	91.3	20	74.5	8	41.2	2
Luxembourg	32.4	28	95.5	3	39.4	30	1.0	30
Mexico	61.4	11	95.1	4	79.3	4	46.4	1
Netherlands	68.7	5	91.4	19	57.9	20	7.4	18
NZ	65.6	8	92.4	13	79.7	3	16.2	9
Norway	61.0	12	90.1	27	74.6	7	17.4	8
Poland	37.2	25	88.9	29	43.3	26	9.3	16
Portugal	46.9	19	92.4	12	62.4	16	24.6	5
Slovak Republic	40.6	21	93.8	9	55.0	22	2.4	27
Spain	57.2	13	92.4	14	63.2	15	3.2	26
Sweden	53.9	14	92.4	15	76.4	6	14.6	11
Switzerland	66.6	6	95.6	2	77.8	5	11.1	14
Turkey	52.9	17	89.4	28	47.3	23	24.2	6
UK	69.0	4	91.0	23	68.1	11	9.2	17
US	62.9	10	90.5	24	69.3	10	19.8	7
OECD average ^c	54.0		92.1		65.7		16.6	

^a Participation rate. ^b Rankings are from highest participation rate (1) to lowest (30). ^c OECD unweighted average.

Source: OECD (2006c).

Table A.5 **OECD female workforce participation rates by age groups, 2005**

	15 to 24		25 to 44		25 to 54		55 to 64		65+	
	<i>PR</i> ^a (%)	Ranking ^b	<i>PR</i> ^a (%)	Ranking ^b	<i>PR</i> ^a (%)	Ranking ^b	<i>PR</i> ^a (%)	Ranking ^b	<i>PR</i> ^a (%)	Ranking ^b
Australia	70.0	2	72.9	23	73.8	20	44.6	14	4.2	14
Austria	54.8	12	81.2	9	79.9	12	23.6	26	1.7	23
Belgium	31.5	22	81.3	8	76.8	16	24.0	25	0.8	29
Canada	65.8	4	81.8	7	81.1	10	49.4	10	5.0	11
Czech Republic	28.8	26	77.8	16	81.6	8	33.1	19	2.3	19
Denmark	63.9	6	84.1	4	84.1	4	55.7	8	2.4	18
Finland	50.5	13	82.9	6	85.1	2	56.4	7	3.2	17
France	29.9	24	80.5	11	80.7	11	40.2	16	0.9	27
Germany	46.7	16	78.2	15	79.1	13	43.2	15	2.2	20
Greece	30.6	23	73.8	21	68.3	26	26.9	23	1.9	22
Hungary	23.8	30	71.1	25	72.2	21	27.7	22	1.6	24
Iceland	79.2	1	84.3	3	85.1	3	81.9	1	10.9	7
Ireland	47.6	14	72.1	24	69.6	23	38.4	17	3.3	16
Italy	28.7	27	66.7	27	63.6	27	21.5	28	1.1	26
Japan	45.0	17	67.6	26	68.8	25	50.8	9	12.7	4
Korea	39.0	18	60.1	28	60.4	28	46.5	12	22.5	1
Luxembourg	25.5	28	75.8	18	72.2	22	25.0	24	0.4	30
Mexico	33.2	20	51.0	29	49.9	29	30.6	20	14.5	2
Netherlands	68.1	3	80.4	12	77.8	14	36.0	18	2.0	21
NZ	60.0	8	74.5	20	76.4	18	62.5	4	7.9	8
Norway	59.4	9	83.0	5	83.0	5	62.9	3	11.5	6
Poland	29.8	25	80.3	13	76.7	17	23.5	27	3.9	15
Portugal	38.8	19	84.8	2	81.8	7	46.1	13	13.2	3
Slovak Republic	32.3	21	80.1	14	82.1	6	18.2	29	0.9	28
Spain	46.8	15	73.4	22	69.0	24	29.6	21	1.1	25
Sweden	55.6	11	86.4	1	86.5	1	69.2	2	5.9	10
Switzerland	64.9	5	80.9	10	81.3	9	57.5	5	4.8	12
Turkey	25.1	29	30.0	30	28.5	30	17.0	30	7.6	9
UK	62.7	7	76.9	17	77.4	15	49.1	11	4.3	13
US	58.6	10	74.9	19	75.3	19	57.0	6	11.5	5
OECD average ^c	44.9		69.1		69.3		43.9		7.5	

^a Participation rate. ^b Rankings are from highest participation rate (1) to lowest (30). ^c OECD unweighted average.

Source: OECD (2006c).

Table A.6 **Adjusted workforce participation rates, 2005^a**

	<i>Males 15+</i>		<i>Females 15+</i>		<i>Persons 15+</i>	
	<i>PR^b (%)</i>	<i>Ranking^c</i>	<i>PR^b (%)</i>	<i>Ranking^c</i>	<i>PR^b (%)</i>	<i>Ranking^c</i>
Australia	73.2	7	58.0	8	65.5	5
Austria	67.5	21	51.2	14	59.0	17
Belgium	60.5	29	45.0	25	52.5	27
Canada	72.9	8	61.1	2	66.9	3
Czech Republic	68.7	17	49.8	18	58.9	19
Denmark	71.2	12	58.8	5	64.9	7
Finland	64.5	25	56.2	10	60.2	16
France	61.7	27	48.5	20	54.8	24
Germany	66.3	22	50.7	15	58.3	21
Greece	64.9	24	41.7	27	53.0	26
Hungary	58.4	30	42.4	26	49.8	28
Iceland	75.1	3	64.4	1	69.7	1
Ireland	71.8	11	50.5	16	61.0	14
Italy	61.0	28	37.4	29	48.7	29
Japan	73.3	6	48.0	21	60.2	15
Luxembourg	65.1	23	45.3	24	55.0	23
Mexico	79.8	1	39.9	28	58.5	20
Netherlands	70.6	13	55.6	11	63.0	10
NZ	75.1	4	60.3	3	67.5	2
Norway	70.0	14	57.9	9	63.8	8
Poland	62.8	26	47.2	22	54.6	25
Portugal	69.4	15	54.9	12	61.8	12
Slovak Republic	68.3	19	50.4	17	59.0	18
South Korea	75.5	2	49.8	19	62.5	11
Spain	68.5	18	45.7	23	56.8	22
Sweden	67.8	20	58.7	7	63.2	9
Switzerland	75.1	5	58.8	4	66.7	4
Turkey	72.8	9	24.3	30	48.6	30
UK	69.0	16	54.4	13	61.5	13
US	72.5	10	58.7	6	65.4	6
OECD average ^d	70.5		49.6		59.7	

^a Adjusted for the treatment of defence personnel, institutionalised populations, missing data for some age brackets, and paid maternity leave. ^b Participation rate. ^c Rankings are from highest participation rate (1) to lowest (30). ^d OECD unweighted average.

Sources: Based on ABS (2006c, 2006d); CIA (2006); EOWA (1998); IISS (2006); OECD (2006c); UN (2005a, 2005b) and USCB (2005).

Table A.7 **Adjusted workforce participation rates by age groups, 2005^a**

	15 to 24		25 to 54		55 to 64		65+	
	<i>PR^b</i> (%)	<i>Ranking^c</i>	<i>PR^b</i> (%)	<i>Ranking^c</i>	<i>PR^b</i> (%)	<i>Ranking^c</i>	<i>PR^b</i> (%)	<i>Ranking^c</i>
Australia	71.7	2	82.3	20	55.8	13	8.2	10
Austria	59.2	9	85.8	11	33.0	26	3.0	24
Belgium	33.2	28	83.7	15	33.5	25	1.4	28
Canada	65.9	5	85.7	12	57.9	11	8.1	11
Czech Republic	33.9	22	87.5	4	47.0	19	3.8	20
Denmark	67.2	4	86.8	7	62.9	7	5.4	17
Finland	49.2	16	87.1	5	56.6	12	3.2	22
France	33.7	24	86.4	8	43.6	21	1.3	29
Germany	50.2	15	85.9	10	52.1	17	3.4	21
Greece	33.9	23	81.0	23	43.1	22	4.2	19
Hungary	27.1	30	78.1	26	34.3	24	1.7	26
Iceland	72.7	1	89.1	1	86.1	1	13.1	7
Ireland	50.5	13	80.1	25	53.2	16	8.3	9
Italy	33.5	26	76.8	27	32.6	28	3.1	23
Japan	44.6	18	82.1	22	66.6	6	19.8	3
Luxembourg	29.0	29	83.2	17	32.4	29	0.6	30
Mexico	46.8	17	70.1	29	53.6	15	29.2	2
Netherlands	68.4	3	83.9	14	47.0	18	4.3	18
NZ	62.8	7	83.6	16	71.0	3	11.7	8
Norway	56.7	10	84.4	13	68.8	4	7.7	12
Poland	33.5	25	82.3	21	32.8	27	6.0	15
Portugal	43.0	19	86.3	9	53.8	14	18.0	4
Slovak Republic	36.5	21	87.1	6	35.0	23	1.4	27
South Korea	33.3	27	76.4	28	60.2	9	30.0	1
Spain	50.6	12	80.3	24	45.9	20	2.0	25
Sweden	50.3	14	88.9	2	72.8	2	5.8	16
Switzerland	65.7	6	88.0	3	67.5	5	7.4	13
Turkey	38.7	20	59.6	30	31.9	30	15.2	5
UK	61.9	8	82.9	19	58.4	10	6.4	14
US	56.6	11	83.0	18	62.9	8	15.1	6
OECD average ^d	48.5		80.3		54.5		11.2	

^a Adjusted for the treatment of defence personnel, institutionalised populations, missing data for some age brackets, and paid maternity leave. ^b Participation rate. ^c Rankings are from highest participation rate (1) to lowest (30). ^d OECD unweighted average.

Sources: Based on ABS (2006c, 2006d); CIA (2006); EOWA (1998); IISS (2006); OECD (2006c); UN (2005a, 2005b) and USCB (2005).

Table A.8 **Adjusted male workforce participation rates by age groups, 2005^a**

	15 to 24		25 to 54		55 to 64		65+	
	<i>PR^b</i> (%)	<i>Ranking^c</i>	<i>PR^b</i> (%)	<i>Ranking^c</i>	<i>PR^b</i> (%)	<i>Ranking^c</i>	<i>PR^b</i> (%)	<i>Ranking^c</i>
Australia	73.1	1	91.1	23	66.7	14	12.2	10
Austria	63.6	9	92.8	11	43.0	28	5.0	24
Belgium	34.8	27	91.8	17	43.2	27	2.2	28
Canada	66.1	6	91.5	19	66.7	13	12.1	11
Czech Republic	38.7	22	94.8	5	62.2	17	6.3	20
Denmark	70.6	2	91.1	22	70.2	9	9.4	15
Finland	47.9	18	90.3	26	56.8	21	5.1	22
France	37.3	24	93.8	8	47.1	24	1.7	29
Germany	53.5	14	93.6	10	61.3	18	5.1	23
Greece	37.1	26	94.7	6	60.7	19	6.9	19
Hungary	30.3	29	85.5	30	42.4	29	2.9	26
Iceland	70.4	3	94.3	7	90.1	1	19.6	7
Ireland	53.3	15	92.2	16	67.8	12	14.6	9
Italy	38.1	23	91.2	21	44.3	25	6.0	21
Japan	44.2	20	96.0	1	83.1	2	29.4	3
Luxembourg	32.4	28	95.5	3	39.4	30	1.0	30
Mexico	61.4	10	95.1	4	79.3	4	46.4	1
Netherlands	68.7	4	91.4	20	57.9	20	7.4	18
NZ	65.6	7	92.5	12	79.7	3	16.2	8
Norway	57.1	12	90.1	27	74.6	7	10.6	13
Poland	37.2	25	88.9	29	43.3	26	9.3	16
Portugal	46.9	19	92.4	13	62.4	16	24.6	4
Slovak Republic	40.6	21	93.8	9	55.0	22	2.4	27
South Korea	26.7	30	91.7	18	74.5	8	41.2	2
Spain	55.5	13	92.4	14	63.2	15	3.2	25
Sweden	49.1	17	92.4	15	76.4	6	9.4	14
Switzerland	66.6	5	95.6	2	77.8	5	11.1	12
Turkey	52.9	16	89.7	28	47.3	23	24.2	5
UK	64.2	8	91.0	24	68.1	11	9.2	17
US	58.0	11	90.7	25	69.3	10	19.8	6
OECD average ^d	52.7		92.2		65.7		16.5	

^a Adjusted for the treatment of defence personnel, institutionalised populations, missing data for some age brackets, and paid maternity leave. ^b Participation rate. ^c Rankings are from highest participation rate (1) to lowest (30). ^d OECD unweighted average.

Sources: Based on ABS (2006c, 2006d); CIA (2006); EOWA (1998); IISS (2006); OECD (2006c); UN (2005a, 2005b) and USCB (2005).

Table A.9 **Adjusted female workforce participation rates by age groups, 2005^a**

	15 to 24		25 to 44		25 to 54		55 to 64		65+	
	<i>PR</i> ^b (%)	Ranking ^c	<i>PR</i> ^b (%)	Ranking ^c	<i>PR</i> ^b (%)	Ranking ^c	<i>PR</i> ^b (%)	Ranking ^c	<i>PR</i> ^b (%)	Ranking ^c
Australia	70.2	2	72.7	20	73.7	20	44.8	14	4.7	12
Austria	54.8	11	79.5	7	78.7	11	23.6	26	1.7	23
Belgium	31.5	22	79.3	9	75.5	16	24.0	25	0.8	29
Canada	65.8	4	79.8	6	79.8	9	49.4	10	5.0	10
Czech Republic	28.8	26	75.3	16	79.9	8	33.1	19	2.3	18
Denmark	63.9	6	81.5	4	82.4	4	55.7	8	2.4	17
Finland	50.5	13	80.9	5	83.9	2	56.4	7	1.8	22
France	29.9	24	78.2	12	79.1	10	40.2	16	0.9	27
Germany	46.7	15	76.8	14	78.1	13	43.2	15	2.2	19
Greece	30.6	23	72.2	22	67.3	26	26.9	23	1.9	21
Hungary	23.8	30	68.9	25	70.8	21	27.7	22	0.9	26
Iceland	75.2	1	82.4	3	83.8	3	81.9	1	8.0	6
Ireland	47.6	14	69.8	24	67.9	25	38.4	17	3.3	15
Italy	28.7	27	65.0	27	62.4	27	21.5	28	1.1	25
Japan	45.0	17	66.4	26	68.0	23	50.8	9	12.7	4
Luxembourg	25.5	28	73.8	18	70.8	22	25.0	24	0.4	30
Mexico	33.2	20	49.6	29	48.8	29	30.6	20	14.5	2
Netherlands	68.1	3	78.3	11	76.4	14	36.0	18	2.0	20
NZ	60.0	7	72.6	21	75.1	19	62.5	4	7.9	7
Norway	56.2	9	76.3	15	78.5	12	62.9	3	5.6	9
Poland	29.8	25	78.7	10	75.7	15	23.5	27	3.9	14
Portugal	38.8	19	82.7	2	80.3	6	46.1	13	13.2	3
Slovak Republic	32.3	21	77.5	13	80.4	5	18.2	29	0.9	28
South Korea	39.0	18	59.3	28	59.8	28	46.5	12	22.5	1
Spain	45.4	16	71.9	23	68.0	24	29.6	21	1.1	24
Sweden	51.7	12	84.6	1	85.3	1	69.2	2	3.0	16
Switzerland	64.9	5	79.4	8	80.3	7	57.5	5	4.8	11
Turkey	25.1	29	28.8	30	27.6	30	17.0	30	7.6	8
UK	59.6	8	73.6	19	75.2	18	49.1	11	4.3	13
US	55.1	10	75.0	17	75.3	17	57.0	6	11.5	5
OECD average ^d	44.3		67.9		68.4		43.9		7.4	

^a Adjusted for the treatment of defence personnel, institutionalised populations, missing data for some age brackets, and paid maternity leave. ^b Participation rate. ^c Rankings are from highest participation rate (1) to lowest (30). ^d OECD unweighted average.

Sources: Based on ABS (2006c, 2006d); CIA (2006); EOWA (1998); IISS (2006); OECD (2006c); UN (2005a, 2005b) and USCB (2005).

B GDP per capita and the participation gap

A somewhat stylised assessment of the impact of Australia's workforce participation rate gap on changes in GDP per capita (economic growth) provides a useful measure of the potential economic significance of the participation gap.

GDP per capita prior to any increase in the workforce (Y_A) can be defined as:

$$Y_A = \left(\frac{GDP}{POP} \right) \equiv \frac{WF}{CPOP15} \times \frac{EMP}{WF} \times \frac{HOURS}{EMP} \times \frac{CPOP15}{POP} \times \frac{GDP}{HOURS}$$

$$\equiv \text{Participation rate } (p) \times \text{Employment rate } (e) \times \text{Average hours } (h)$$

$$\times \text{Potential workforce share } (s) \times \text{Productivity } (g)$$

where WF is the workforce, CPOP15 is the civilian population aged 15 years and over, EMP is employment, HOURS are total annual hours worked, and POP is the population.

If the workforce participation rate for Australian's aged 15 year and over was to increase by 2.0 percentage points, it would correspond to New Zealand's participation rate in 2005 (the highest country-specific participation rate — see figure 5.5).

Assuming that the employment rates, average hours worked and labour productivity of existing workers remains unchanged, a new value of GDP (Y_B) associated with new entrants to the workforce can be estimated as:

$$Y_B = Y_A + \Delta p \times (\alpha \times e) \times (\beta \times h) \times s \times (\gamma \times g)$$

where α , β and γ are the factors by which employment rates, average hours worked and labour productivity, respectively, of the entrants to the workforce vary from the average of existing workforce participants. Consequently, the proportional increase in GDP per capita ($\% \Delta$ in Y) is:

$$\% Y = \frac{\Delta p \times (\alpha \times e) \times (\beta \times h) \times s \times (\gamma \times g)}{Y_A} = \frac{\Delta p \times (\alpha \times e) \times (\beta \times h) \times s \times (\gamma \times g)}{p \times e \times h \times s \times g} = \alpha \cdot \beta \cdot \gamma \frac{\Delta p}{p}$$

In general, it could be expected that the employment rates, average hours and productivity of entrants to the workforce are likely to be lower than those observed for the existing workforce. This reflects the fact that additional individuals entering the workforce are likely to have lower skill levels, lower educational attainment rates, less work experience, and occupational profiles that favour lower wage rates and part-time or casual jobs.

There is evidence to support these judgements. For example, in 2005 persons in the workforce were 14 per cent more likely to hold a bachelor degree or above relative to persons not in the workforce; and 96 per cent of the work related training courses completed in the preceding 12 months, were completed by persons in the workforce. Furthermore, in 2005, the highest level of educational attainment for the majority of persons (69 per cent) not in the workforce was Year 12 or below; whereas under half of those participating in the workforce had an educational attainment of Year 12 or below (46 per cent) (ABS 2005a).

The assumed employment rates, average hours worked, and average productivity for new workforce entrants is based on demographic analysis undertaken for the 'business as usual' scenario in the Productivity Commission national reform agenda (PC forthcoming).

Accordingly, it was assumed that:

- average employment rates of new workforce entrants are 90 per cent of the rate applying to the existing workforce ($\alpha = 0.90$);
- average hours worked per week of entrants are 85 per cent of those for the existing workforce ($\beta = 0.85$); and
- average hourly productivity rates of entrants are 75 per cent of those for the existing workforce ($\gamma = 0.75$).

The increase in GDP per capita from Australia lifting its total participation rate to the New Zealand participation rate would then be:

$$\%Y = 0.90 \times 0.85 \times 0.75 \times \frac{2.0}{65.5} = 1.75\%$$

Under these assumptions, a ten year transition period to attain the 2005 New Zealand participation rate of 67.5 per cent would result in a trend growth rate in GDP per capita of about 0.175 per cent per annum above what it otherwise would have been over the transition period (and zero afterwards).

References

- ABS (Australian Bureau of Statistics) 1995, 'Recent trends in labour force participation', *Australian Economic Indicators*, Cat. no. 1350.0, Canberra.
- 2002, *Measures of Labour Underutilisation*, Cat. no. 6296.0, Canberra.
- 2005a, *Education and Training Experience, Australia*, Cat. no. 6278.0, Canberra.
- 2005b, *Job Search Experience*, Cat. no. 6222.0, July, Canberra.
- 2005c, *Persons Not in the Labour Force*, Cat. no. 6220.0, September, Canberra.
- 2005d, *Underemployed Workers*, Cat. no. 6265.0, September, Canberra.
- 2006a, *Australian Labour Market Statistics*, Cat. no. 6105.0, various issues, Canberra.
- 2006b, *Australian Social Trends 2006*, Cat. no. 4102.0, Canberra.
- 2006c, *Employee Earnings, Benefits and Trade Union Membership Australia, August 2005*, Cat no. 6310.0, Canberra.
- 2006d, *Labour Force, Australia, Detailed — Electronic Delivery*, Cat. no. 6291.0.55.001, Canberra.
- 2006e, *Labour Force, Australia, Detailed – Electronic Delivery, quarterly*, Cat. no. 6291.0.55.003, August, Canberra.
- Argy, F. 2005, 'An analysis of joblessness in Australia', *Economic Papers (Economic Society of Australia)*, March 2005, vol. 24, no. 1, pp. 75-96.
- Australian Treasury 1999, *Recent Movements in the Labour Force Participation Rate*, Economic Roundup, Summer, Canberra.
- 2005, *Statement 4: Prosperity and Sustainability*, Budget Paper no. 1, Commonwealth of Australia, Canberra.
- BLS (Bureau of Labor Statistics) 2006, *Household Data Annual Averages*, Current Population Survey, <http://www.bls.gov/cps/cpsaat22.pdf> (accessed 15 November 2006).

-
- CIA (US Central Intelligence Agency) 2006, *The World Factbook*, (Data updated 8 August 2005), <https://www.cia.gov/cia/publications/factbook/index.html> (accessed 10 April 2006).
- COAG (Council of Australian Governments) 2005, *Council of Australian Governments' meeting 3 June 2005, Communique*, Canberra.
- 2006a, *Council of Australian Governments' meeting 10 February 2006, Communique*, Canberra.
- 2006b, *Human Capital Reform: Report by the COAG National Reform Initiative Working Group*, Canberra.
- Costello, P. 2006, Media transcripts no. 142, Wednesday 4 October 2006, <http://www.treasurer.gov.au/tsr/content/tr/transcripts/2006/142/asp> (accessed 20 November 2006).
- EOWA (Equal Opportunity for Women in the Workplace Agency) 1998, *International Labour Organization Maternity Leave statistics for Selected Countries*, Sydney, http://www.eowa.gov.au/about_equal_opportunity/key_agenda_items/work_life_balance/Paid_Maternity_Leave/Industry_And_International_Comparisons.asp (accessed 25 September 2006).
- Evans, M. and Kelley, J. 2004, *Trends in Women's Labour Force Participation in Australia: 1984-2002*, Melbourne Institute Working Paper no. 23/04, September, Melbourne.
- Henry, K. 2004, 'The economic impact of Australia's aging population', *SAIS Review*, vol. XXXIV, no. 2, Summer-Fall.
- IISS (International Institute for Strategic Studies) 2006, 'International tables of comparison', *The Military Balance*, vol. 106, no. 1, June, pp. 397–410, [http://taylorandfrancis.metapress.com/\(mssdm445oitlrobpw3mc11vk\)/app/home/journal.asp?referrer=searchresults&id+111407&backto=searcharticleresults1,1000](http://taylorandfrancis.metapress.com/(mssdm445oitlrobpw3mc11vk)/app/home/journal.asp?referrer=searchresults&id+111407&backto=searcharticleresults1,1000) (accessed 24 August 2006).
- Jaumotte, F. 2003, 'Female labour force participation: Past trends and main determinants in OECD countries', *OECD Economics Department Working Papers*, no. 376.
- Kennedy, S. and Hedley, D. 2003, 'A note on educational attainment and labour force participation in Australia', *Treasury Working Paper 2003*, no. 03, November, Canberra.
- Lattimore, R. *Men Not at Work*, Productivity Commission Staff Working Paper, Canberra, forthcoming.
- OECD (Organisation for Economic Co-operation and Development) 2003, *OECD Employment Outlook 2003, Towards More and Better Jobs*, OECD, Paris.

-
- 2006a, *Economic Surveys Australia 2006*, vol. 2006/12, Paris.
- 2006b, *Live Longer, Work Longer*, OECD, Paris.
- 2006c, *OECD Labour Force Statistics by Age and Sex*, <http://stats.oecd.org/wbos/default.aspx> (accessed 10 August 2006).
- 2006d, *OECD Labour Force Statistics Discouraged workers*, <http://stats.oecd.org/wbos/default.aspx> (accessed 15 November 2006).
- 2006e, *OECD Labour Force Statistics Hours worked*, <http://stats.oecd.org/wbos/default.aspx> (accessed 3 October 2006).
- 2006f, *OECD Labour Force Statistics Involuntary part-time workers*, <http://stats.oecd.org/wbos/default.aspx> (accessed 15 November 2006).
- PC (Productivity Commission) 2005, *Economic Implications of an Ageing Australia*, Research Report, Canberra.
- *Assessment of the Potential Benefits of the National Reform Agenda*, Research Report, Canberra, forthcoming.
- Statistics New Zealand 2006, *Household Labour Force Survey, September 2006 quarter*, <http://www.stats.govt.nz/products-and-services/hot-off-the-press/household-labour-force-survey/household-labour-force-survey-sep06qtr-hotp.htm?page=para022Master> (accessed 15 November 2006).
- Tseng, Y. and Wooden, M. 2005, *Preferred vs Actual Working Hours in Coupled Households*, Melbourne Institute Working Paper no. 7/05, Melbourne.
- UN (United Nations), 2005a, *Table 2b, Indicators on Childbearing*, Statistics and Indicators on Women and Men, United Nations, <http://unstats.un.org/unsd/demographic/products/indwm/ww2005/tab2b.htm#top> (accessed 10 May 2006).
- 2005b, *Table 5c, Maternity leave benefits*, Statistics and Indicators on Women and Men, United Nations, <http://unstats.un.org/unsd/demographic/products/indwm/ww2005/tab5c.htm> (accessed 10 May 2006).
- USCB (US Census Bureau) 2005, *Table 094, Midyear Population, by Age and Sex*, International Database, (Data updated 26 April 2005), <http://www.census.gov/ipc/www/idbacc.html> (accessed 10 April 2006).