

OECD ECONOMIC SURVEYS

AUSTRALIA

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1993-1994



AUSTRALIA

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BASIC STATISTICS OF AUSTRALIA

THE LAND

Area (1 000 sq. km)	7 682.3	Population of major cities, 1990 (1 000):	
Agricultural area, 1986-87, per cent of total	61	Sydney	3 657
Urban population, 1990, per cent of total (cities over 100 000)	71	Melbourne	3 081
		Brisbane	1 302
		Perth	1 193
		Adelaide	1 050

THE PEOPLE

Population, June 1992 (1 000)	17 529	Civilian employment, 1992 (1 000)	7 670
Number of inhabitants per sq. km	2.3	<i>of which:</i> Agriculture	409
Natural increase, 1992 (1 000)	135	Industry ¹	1 829
Net migration, 1992 (1 000)	102	Other activities	5 432

PARLIAMENT AND GOVERNMENT

Composition of Parliament following latest elections:

Party	Senate	House of Representatives
Australian Democrats	8	-
Australian Labor Party	30	80
Independent	3	2
Liberal Party of Australia	30	49
National Party of Australia	5	16
	<hr style="width: 50%; margin: 0 auto;"/>	<hr style="width: 50%; margin: 0 auto;"/>
Total	76	147

Present government: Australian Labor Party

Next general elections for House of Representatives: March 1996

PRODUCTION

Gross domestic product, 1992 (A\$ million)	395 308	Gross fixed capital formation, 1992: Percentage of GDP	19.6
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GENERAL GOVERNMENT SECTOR, PER CENT OF GDP, 1992

Current disbursement	36.6	Current revenue	33.6
Current transfers	14.2	<i>of which:</i> Direct taxes	16.2

FOREIGN TRADE

Main exports, 1992, per cent of total:		Main imports, 1992, per cent of total:	
Agricultural products and basic materials	43.3	Food, beverages and tobacco	4.8
<i>of which:</i> Wool	8.4	Basic materials and fuels	8.2
Fuels	19.7	Chemicals (incl. plastic)	10.9
Metals and metal manufactures	9.7	Metals and metal manufactures	4.9
Machinery and transport equipment	9.1	Machinery and transport equipment	43.1
Other manufactured products	18.2	Other manufactured products	28.1

THE CURRENCY

Monetary unit: Australian dollar

Currency unit per US dollar, average of daily figures:

Year 1993		1.3622	
December 1993		1.4849	

1. Including mining, electricity, gas and water, and construction.

Note: An international comparison of certain basic statistics is given in an Annex table.

This Survey is based on the Secretariat's study prepared for the annual review of Australia by the Economic and Development Review Committee on 17th December 1993.

•

After revisions in the light of discussions during the review, final approval of the Survey for publication was given by the Committee on 13th January 1994.

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The previous Survey of Australia was issued in April 1992.

Introduction

The economic recovery in Australia is now entering its third year. In the face of subdued growth in world activity and weak world commodity prices, output growth has strengthened only moderately, and unemployment is stubbornly high at near post-war record levels. But inflation is close to its lowest level in 30 years and inflation expectations and economic behaviour are adjusting accordingly. A drop in the effective exchange rate combined with low inflation has resulted in a large “real” depreciation which has, in turn, sustained strong growth in exports of manufactures and services. However, because of worsening terms of trade, the current-account deficit rose over the past year to around 3³/₄ per cent of GDP.

Chapter I of this Survey analyses the early stages of the recent recovery compared with past business cycles. Macroeconomic policy settings are reviewed in Chapter II. These are assessed in the context of the policy debate over:

- the presentation of the Government’s FY 1993/94 budget within the framework of a four-year fiscal consolidation plan;
- the need to raise the level of national saving; and
- the Reserve Bank’s goal of locking-in low “underlying” inflation over the cycle.

This discussion is followed by an assessment of short-term economic prospects.

Chapter III discusses the “productivity challenge” facing Australia in the global competitive environment of the 1990s. Living standards in Australia have slipped relative to other OECD countries over the post-war period. This has mainly reflected lower productivity growth in Australia than elsewhere. As in other OECD countries, labour productivity growth has slowed since the early 1970s, mainly due to a fall in total factor productivity (TFP) growth. Microeconomic reforms which could contribute to the challenge of improving

productivity are discussed in the remainder of the chapter. Recent reforms in industrial relations, which could impact significantly on productivity trends, are discussed in Chapter IV. The chapter concludes with a discussion of recent labour market policy initiatives to reduce long-term and youth unemployment, especially through the expansion of vocational education and training. Conclusions to the Survey are presented in Chapter V.

I. Economic developments

Overview

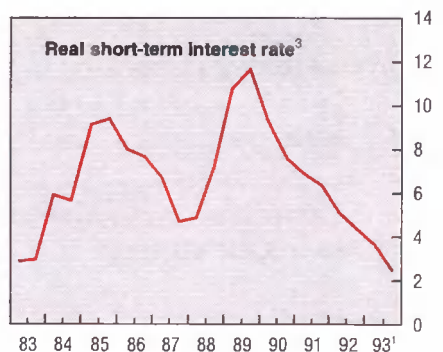
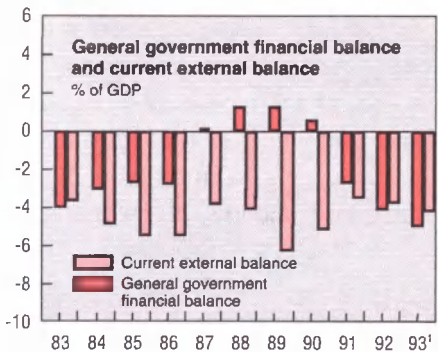
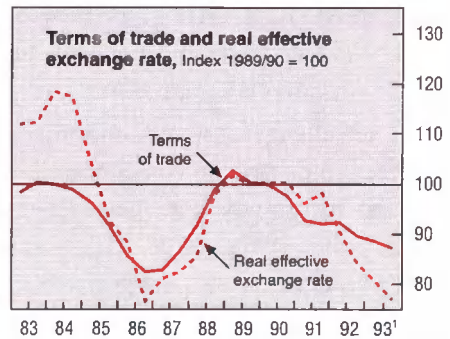
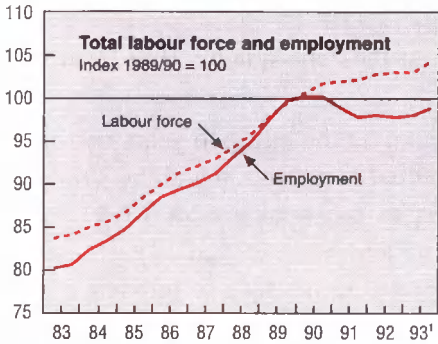
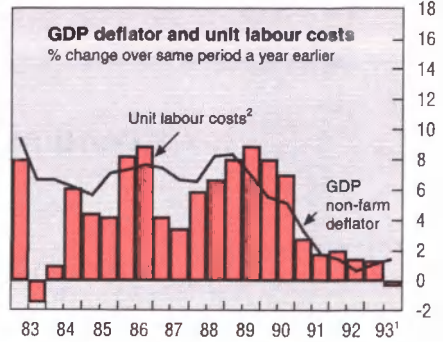
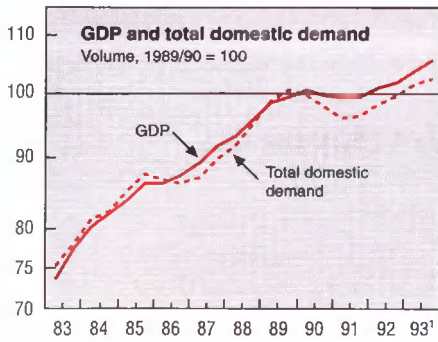
The Australian economy has finished two years of modest recovery supported by a large and continuing fall in real interest rates and a real exchange rate depreciation. Real GDP (A)¹ grew by 2.7 per cent in annual average terms in FY 1992/93 and was 3.5 per cent higher in the June quarter 1993 than a year earlier² (fiscal years start 1 July).

The salient feature of economic growth over the past two years has been its dependence on private consumption, residential construction and the strong contribution to growth from net exports, despite the weakness of world activity. Higher public spending on infrastructure and a boost in redundancy payments by State governments also supported the recovery. In the face of ongoing balance-sheet adjustments in the business sector and low world commodity prices, stronger private investment has been the major missing ingredient to a stronger recovery, although the first signs of a turnaround have occurred recently. Employment has begun to recover quite strongly in recent months, but unemployment in November remained around 11 per cent of the labour force because of the rise in the participation rate. "Headline inflation" in the 12 months to September 1993 was some 2.2 per cent (with underlying inflation around 2½ per cent). The current account deficit in the first nine months of 1993 averaged ¾ per cent of GDP (Diagram 1).

Recent economic developments

The September quarter national accounts indicate that output is growing in the range of 3 to 3½ per cent. Private consumption, private investment and exports contributed strongly to growth, and underlying labour market conditions

Diagram 1. KEY ASPECTS OF ECONOMIC ACTIVITY



Note: GDP estimates shown are income-based.

1. Estimates for second half of 1993.

2. Total economy.

3. 90-days commercial paper rate, deflated by the private consumption deflator.

Source: OECD, National Accounts, Main Economic Indicators, and estimates.

firmed. Australian Bureau of Statistics (ABS) and private business expectations surveys suggest that firms intend a modest increase in plant and equipment investment through FY 1993/94, with further falls expected in non-residential construction expenditure.

Sustained consumer demand

As private consumption accounts for roughly two-thirds of GDP, consumer behaviour is the key to the timing and the resilience of the recovery (Table 1). Private consumption growth was broadly maintained through the recession, in marked contrast to some other English-speaking countries (especially the United Kingdom), where consumer retrenchment in the face of falling asset prices, high nominal interest rates and the need to reduce excessive debt levels delayed recovery. Australian households, as a group, did not experience either the same degree of asset price inflation or the consequent need to adjust balance sheet positions.^{3,4} In the event, the growth of consumption was broadly in line with previous cyclical experiences and led the economy out of recession, albeit moderating significantly six quarters into the recovery in response to stagnant employment and real disposable income growth (Diagram 2). Retail trade sales increased in September and October, while new car sales remained weak.

Consumer spending made a large contribution to GDP growth in the early phases of the recovery from mid-1991 to mid-1992, boosted by a recovery in the housing cycle (Diagram 3). Consumer spending has grown modestly since the second half of 1992. On balance, consumer spending has been well sustained in the face of stagnant disposable income growth. The household savings ratio fell to a 15-year low in the June and September quarters of 1993; recent declines are, however, probably overstated by measurement conventions which treat savings as a residual and do not adjust for inflation⁵ (Diagram 4). Assessing the future course of saving is key to the short-term economic outlook, the more so as relatively low real disposable income growth is projected to continue. Despite continuing high rates of unemployment, consumer confidence strengthened in November to its highest level in five years, and recent surveys report that consumers believe now is the best time to buy consumer durables since January 1989.

As in other OECD countries, swings in the propensity to consume are dominated by the consumer durables cycle. The latter is in turn (with the excep-

Table 1. Demand and output
 Percentage changes, FY 1989/90 prices

	From previous year				From previous period, seasonally adjusted annual rate			
	1991	1992	1991/92	1992/93	1992		1993	1993 ²
	Calendar years		Fiscal years ¹		I	II	I	Q 3
Consumption								
Private	0.6	3.4	2.3	2.7	3.9	2.3	2.0	2.0
Public	3.2	2.2	4.3	3.0	1.1	1.2	9.1	1.6
Gross fixed investment	-10.5	0.1	-6.5	2.3	2.0	3.0	1.0	5.2
<i>of which:</i>								
Government	3.8	0.1	1.3	1.6	-0.3	3.1	1.1	5.8
Private								
Total	-11.9	1.5	-8.2	4.6	2.5	9.9	-3.8	5.1
Dwellings ³	-5.0	9.6	1.4	10.0	10.2	14.3	1.7	5.3
Other construction	-20.8	-9.1	-18.5	-7.0	-5.2	-3.6	-15.6	3.8
Equipment	-12.7	-0.6	-11.0	5.0	-1.0	12.5	-3.9	14.4
Public enterprises	-12.6	-7.1	-3.6	-8.2	1.2	-27.5	32.7	-10.1
Final domestic demand	-1.5	2.5	0.7	2.7	3.0	2.3	3.0	2.6
Change in stockbuilding ⁴	-1.1	0.7	-0.3	0.6	-0.5	-0.1	0.1	0.3
Total domestic demand	-2.6	2.9	0.5	3.3	3.6	3.0	3.5	2.9
Exports of goods and services	13.1	4.8	9.1	5.3	-0.1	9.6	2.6	8.7
Imports of goods and services	-2.7	7.2	3.4	6.3	7.1	8.1	1.8	5.1
Change in foreign balance ⁴	2.7	-0.3	1.1	-0.1	-0.6	0.2	0.1	0.8
GDP (expenditure-based estimates)	0.2	2.5	1.5	3.2	2.2	3.3	3.7	3.6
Statistical discrepancy ⁴	-1.1	0.0	-0.9	-0.5	0.5	-0.8	-0.1	0.0
GDP (income-based)	-0.9	2.5	0.6	2.6	3.2	1.7	3.5	3.5
<i>of which:</i>								
Farm	-6.6	6.8	-5.3	7.1	5.4	12.8	-2.1	-2.0
Non-farm	-0.7	2.3	0.9	2.5	3.1	1.3	3.8	3.8
GDP (average measures) ⁵	-0.8	1.9	0.5	2.7	2.5	2.4	3.4	3.4

1. Fiscal years begin 1st July.

2. From previous year.

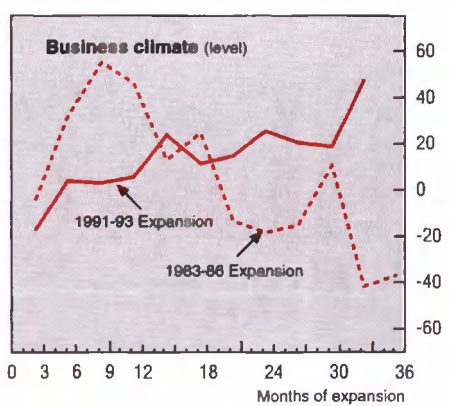
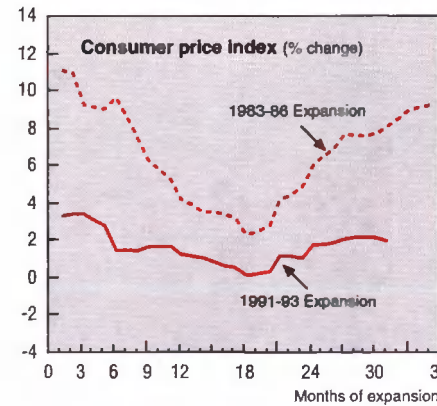
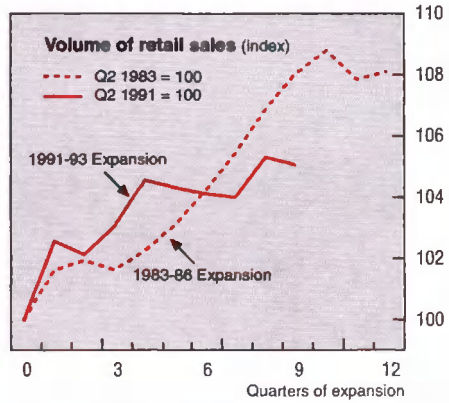
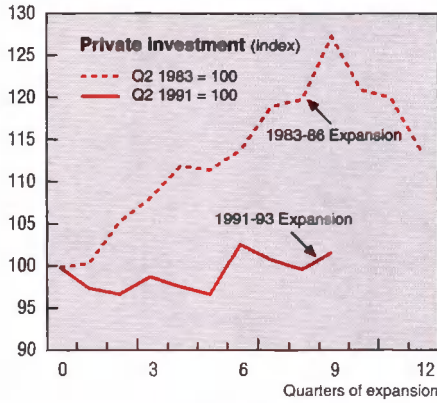
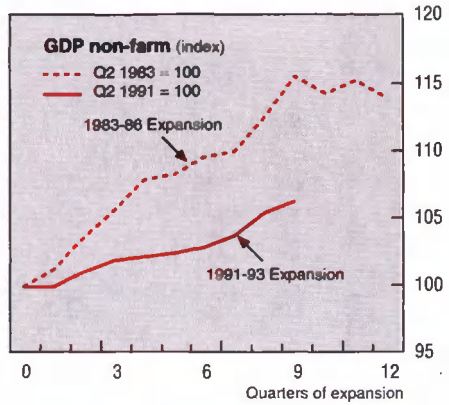
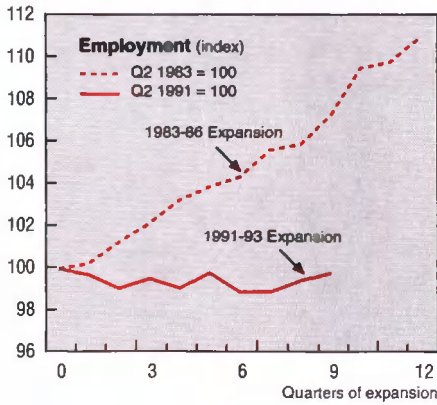
3. Including real estate transfer expenses.

4. As per cent of GDP in the previous period.

5. Average of the expenditure, production and income measures of GDP.

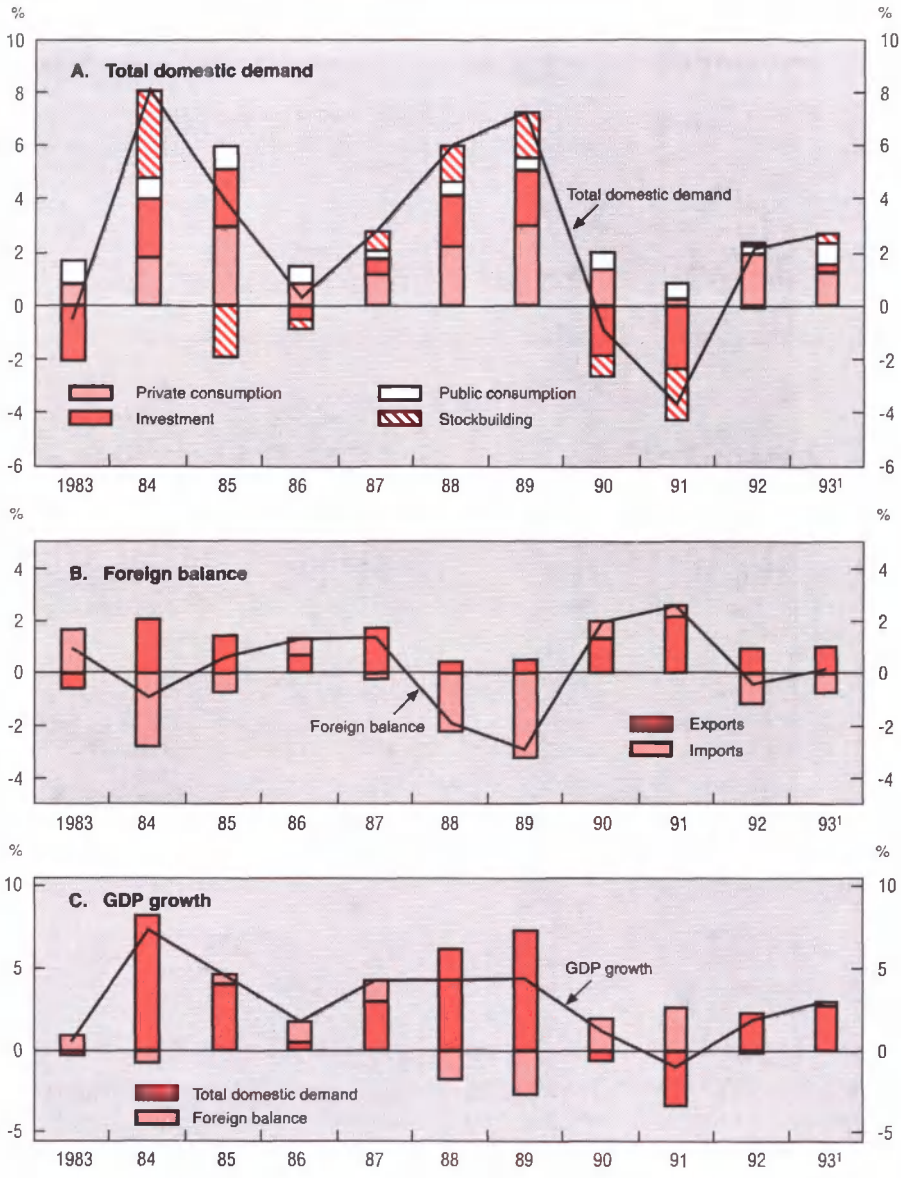
Source: Australian Bureau of Statistics and OECD estimates.

Diagram 2. THE CURRENT EXPANSION COMPARED



Source: Australian Bureau of Statistics, National Accounts, and OECD, Main Economic Indicators.

Diagram 3. **CONTRIBUTION TO GDP GROWTH**
As a percentage change of GDP in previous year



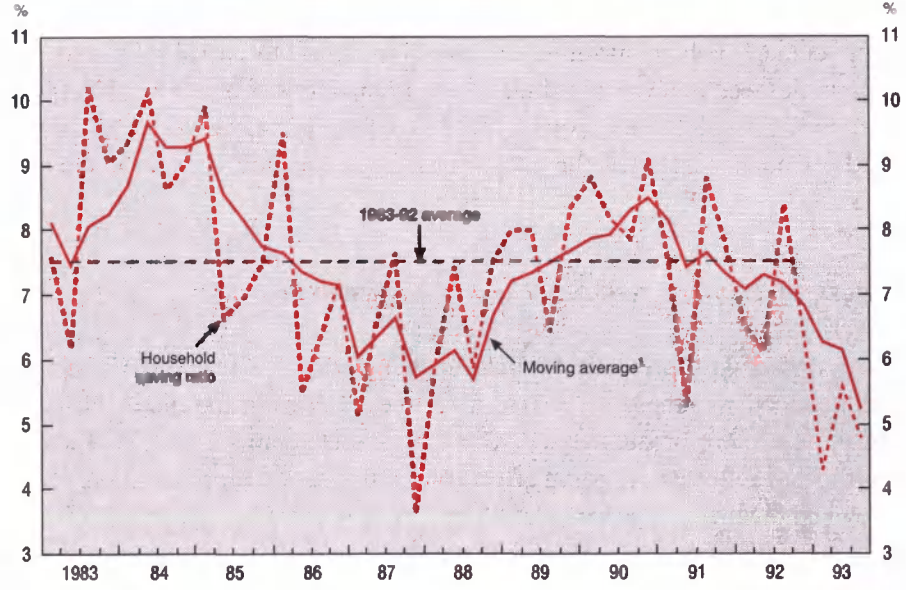
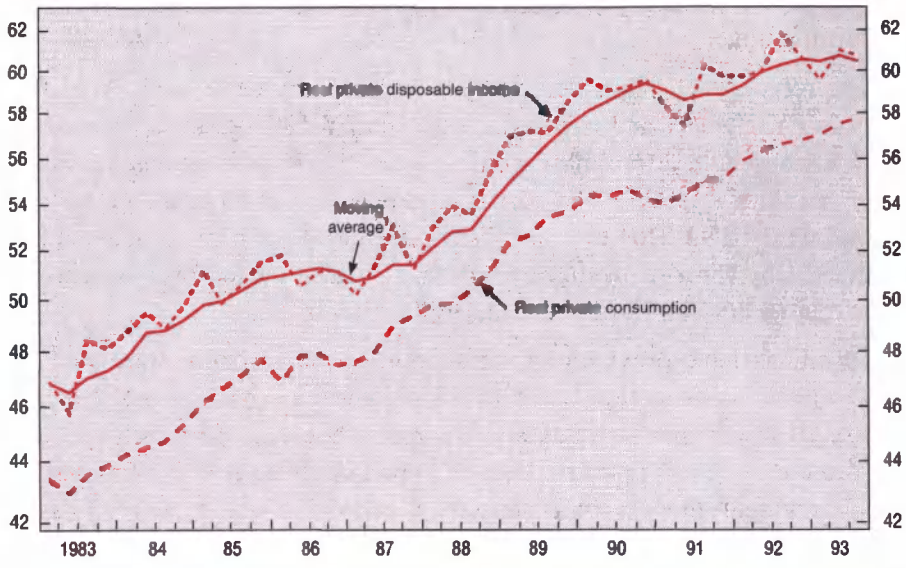
1. OECD estimates.

Source: Australian Bureau of Statistics, *National Accounts*.

Diagram 4. CONSUMPTION AND SAVINGS

A\$ billion 1989/90 prices
semi-log scale

A\$ billion 1989/90 prices
semi-log scale



1. Four quarter moving average.

Source: Australian Bureau of Statistics and OECD.

tion of motor vehicles) strongly correlated with investment in dwellings. Spending on consumer durables (excluding vehicles) rose strongly in FY 1991/92 and FY 1992/93 (by 5 and 6 per cent respectively) along with the sharp recovery in housing investment.

The recovery of motor vehicle sales has been more delayed. After falling steeply in FY 1990/91 and to a lesser extent in FY 1991/92 in response to slow growth in household disposable income, motor vehicle registrations increased by 3.9 per cent in FY 1992/93 and continued this pattern of moderate growth in the third quarter of 1993. However, a considerable degree of pent-up demand exists, as indicated by the rise in the proportion of vehicles aged over 5 years from 64 per cent in 1982 to 75 per cent in 1991.

Dwellings have provided strong support to the recovery since mid-1991, with residential construction rising by 14 per cent in volume in FY 1992/93 in response to lower interest rates and improved housing affordability.⁶ After a small drop in building approvals in the first half of 1993, growth increased again in the second half, though not as strongly as in 1992. Dwelling activity has been growing strongly for two years but is expected to slow through the course of 1994. To a large extent, this expected slowdown reflects the satisfaction of the pent-up demand which accumulated over the mid- to late 1980s and lower demographic needs due to the drop in net immigration from some 125 000 per annum in FY 1988/89 to around 50 000 currently. However, the gathering strength of other sectors of the economy may sustain the housing cycle longer than usual.

Business investment remains the key to faster growth

Compared with previous cyclical upswings (FY 1983/85 and FY 1986/89), the pronounced weakness of private investment has been the major obstacle to establishing a more broadly based recovery (see Diagrams 2 and 3). To a great extent this has reflected on-going efforts of the business sector (and more recently state-owned business enterprises and State governments) to adjust their cash-flow and balance-sheet positions. Stock and manning levels have been down-sized and investment slashed or re-oriented towards rationalisation and cost cutting. Investment intentions indicate quite modest increases in real machinery and equipment outlays in the coming year.

As a proportion of GDP, business investment has fallen by more than one-third from its peak in mid-1989. Non-dwelling construction halved from 5 per cent of GDP in 1989 to 2½ per cent of GDP in FY 1992/93. Plant and equipment investment as a share of GDP reached a 40 year low in FY 1991/92 and the average age of the capital stock is increasing. Indeed, gross investment in plant and equipment up until recently was below depreciation based on estimated service lives, implying a run-down in the net plant and equipment capital stock.

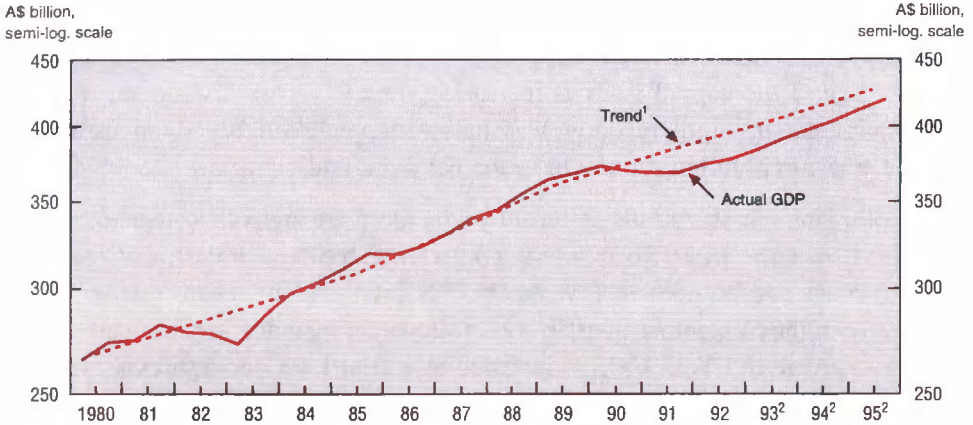
Following the sharp falls of recent years, there are signs that investment has stabilised over the past two quarters. Underlying business investment, particularly in plant and equipment investment, has increased in recent quarters, and especially in the September quarter. This follows an increase in plant and equipment investment in FY 1992/93 as revealed by recently revised figures. Corporate sector financial deficits are being reduced, and supply-side factors favour a continued recovery in investment in plant and equipment, especially in the mining and manufacturing sectors,⁷ although its eventual strength is uncertain. These factors include *inter alia*:

- a marked improvement in business operating profits (since 1991) and of cash flow, driven by lower interest rates;
- a possible end to the process of balance-sheet restructuring, with the debt/equity ratio in the corporate sector being reduced to levels comparable to those of the mid-1980s;⁸
- the need to reduce costs and to improve productivity in response to structural change.

The main factors inhibiting investment are the large degree of spare capacity, weak business confidence and the uneven nature of the world economic recovery. The output gap, although closing somewhat recently, remains above average and substantially larger than in the late 1980s (Diagram 5).⁹ Although business failures have dropped and business surveys indicate a moderate improvement in business confidence, these are only slowly being translated into higher investment intentions. Uncertainties about primary commodity prices, environmental regulations and native land rights claims may also be factors holding back an investment recovery.

Excess capacity in office buildings and hotels, in the aftermath of the speculative asset price boom of the late 1980s, is another factor restraining a

Diagram 5. **THE OUTPUT GAP**
1989/90 prices



1. Estimates, for details see text.
 2. Estimates and projections.
- Source: OECD.

more vigorous investment recovery, with repercussions on the profitability of the financial system (see Chapter II). By the second quarter of 1992, office rents in Sydney had fallen by 15 per cent from their 1990 highs. (This drop compared with declines of 56 per cent in London and around 40 per cent in the Nordic countries.)¹⁰ Excess supply and high vacancy rates will constrain recovery for some time.¹¹ Nonetheless, refurbishing of existing buildings and falling vacancy rates are consistent with a slowing in the rate of decline of non-residential construction. Furthermore, construction activity in the retail sector has picked up, and building intentions are rising in the manufacturing and especially in the mining sectors.

Finally, the swing in the stock cycle appears to have contributed far less to GDP growth compared with previous business cycles (see Diagram 3). This may reflect *inter alia*: cash-flow constraints, cautious business attitudes following unrealised expectations from overly optimistic forecasts and on-going balance-sheet restructuring. Tighter delivery times and inventory control practices have contributed to a steady secular decline in stock to sales ratios, while moderate output growth has been reflected in lower work in progress.

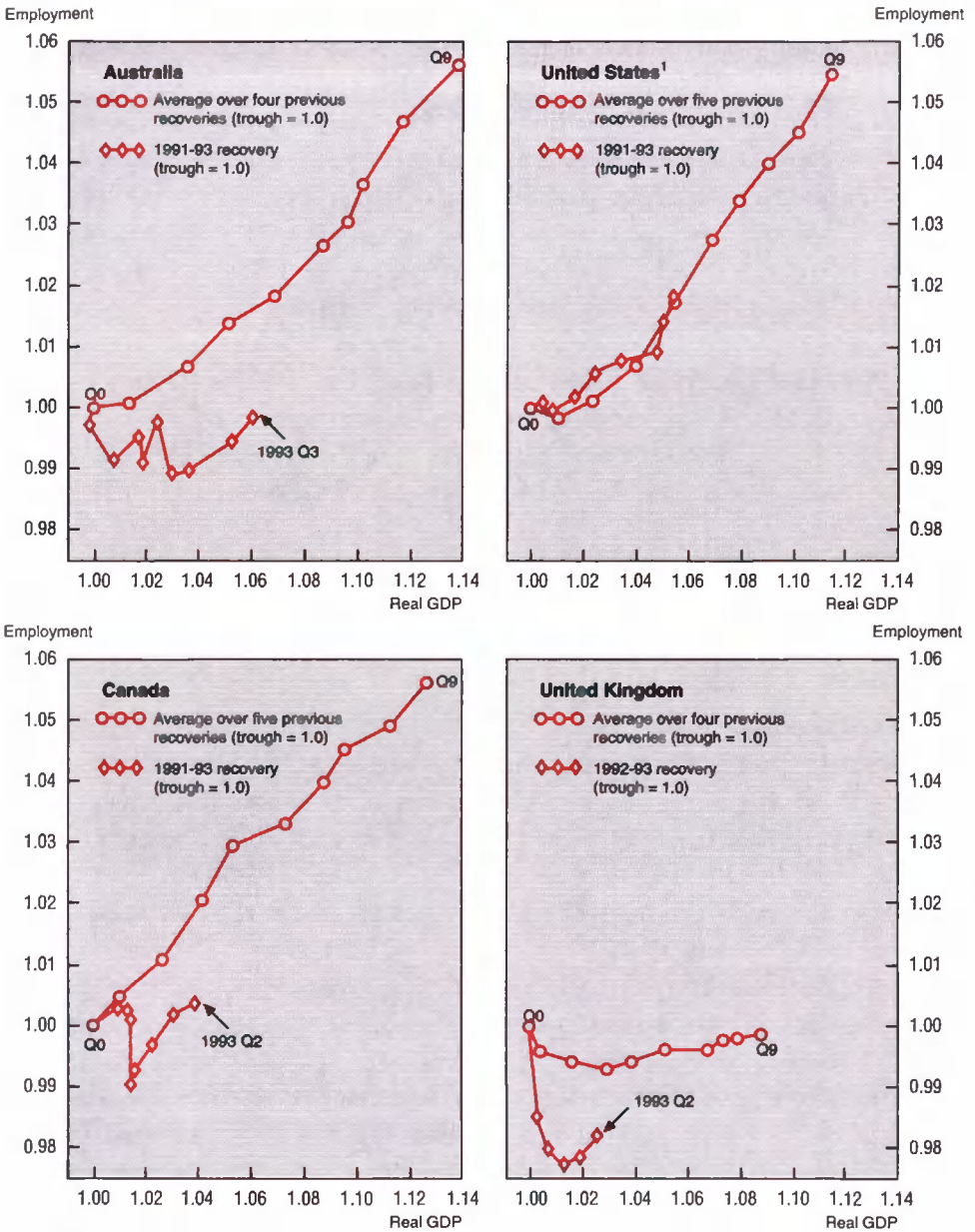
Output growth by industry

The industry composition of the recovery gradually became more broadly based in FY 1992/93, with most sectors experiencing positive output growth. After significant falls in FY 1991/92, both the manufacturing and construction industries recorded above average growth over the year to the September quarter 1993. The primary sector has expanded modestly despite weak terms of trade. The service sector, however, has had a mixed experience, in contrast to previous cyclical downturns when output and employment in this sector were highly resistant. Communications, transport and storage activities have grown strongly; but finance, property, business services, and public administration have been weak. A number of service-sector activities have seen sizeable labour shakeout. Cost cutting and labour shedding by State governments have been a recent phenomenon. (see below). These have both been driven by budget constraints and the desire not to see State debt downgraded by the independent rating agencies.¹²

Labour markets are improving gradually

The phenomenon of “jobless” growth has received considerable popular attention. The issue is whether there has been an upward shift in trend productivity growth so that any given rate of output growth creates fewer jobs – and unemployment is structurally higher – or whether high current rates of unemployment are largely due to weak growth of output. Although productivity growth in this recovery has been relatively high, there is no firm statistical evidence of a “structural shift” in total hours worked at the aggregate level, despite widespread anecdotal evidence of improved work and management practices.¹³ This is unsurprising as structural change and microeconomic reforms usually have only small incremental effects on aggregate total factor productivity (TFP) over time, even though sector-specific labour productivity performance may well be radically changed (see Chapter III). On the other hand, simple graphical analysis does suggest that the split between jobs and output growth appears to have shifted in the current recovery in contrast to the experience in the United States and perhaps Canada (Diagram 6). And, those in work appear to be working longer hours.

Diagram 6. **HAS THIS BEEN A JOBLESS RECOVERY?**



1. Household basis.

Source: OECD.

A novel feature in this recovery has been the large number of sectors and job categories touched by labour shakeout. Finance and banking and community services have for example seen major restructuring and a big shakeout following rapid job growth in the late 1980s. Global competition has also prompted the downsizing of business via out-sourcing and the adoption of flatter management structures. More recently, State governments have made major efforts to improve efficiency and reduce budgetary costs through labour shedding, as have Government Business Enterprises (GBEs).

The labour market is weak, but has been improving since early 1993. Over the period from the peak in employment in June 1990 until its trough in January 1993, there was a significant deterioration in the labour market. Employment fell by 2.9 per cent from June 1990 until September 1991, and then was virtually flat until early 1993. After touching a post-war high of around 11¼ per cent in late 1992, the unemployment rate fluctuated at around 11 per cent through 1993. But this stability masks the actual degree of labour market slack. Labour force participation fell from a peak of 64 per cent in mid-1990 to just over 62 per cent in mid-1993, reflecting the discouraged worker effect (Table 2). Part-time workers who would like to work longer hours increased significantly. Long-term unemployment (unemployed more than 52 weeks) increased over the past three years to over 35 per cent of total unemployment (Diagram 7). As in other OECD countries, numbers on invalidity and sickness benefit also increased significantly, thereby lowering registered unemployment. Since early 1993, there has been a gradual strengthening of labour demand, with employment, average hours worked, overtime and job vacancies all rising. From January 1993 until November 1993, trend employment increased by 1.7 per cent or 132 000 persons. The increase in employment over this period has contributed to a higher participation rate. This has resulted in the unemployment rate remaining around 11.0 per cent in late 1993.

One characteristic of the present recovery is the atypical pattern of full-time employment. In both the FY 1982/83 and FY 1990/91 recessions full-time employment fell sharply, while part-time employment was relatively resistant (Diagram 8). The long-term trend towards part-time work in Australia has been more pronounced than in other OECD countries over the past decade. Until recently the current recovery saw full-time employment continue to fall gradually, in contrast to the FY 1983/84 recovery, reflecting shifts in labour supply and

Table 2. **The labour market**
Seasonally adjusted

	1990	1991	1992	1992	1993	1993		
				II	I	August	Sept.	Oct.
Civilian labour force ¹	2.7	0.9	1.1	1.3	0.5	0.3	1.1	1.3
<i>of which:</i>								
Males	2.0	0.6	0.8	1.0	0.4	0.1	0.8	0.7
Females	3.7	1.3	1.5	1.7	0.5	0.5	1.5	2.1
Employed persons ¹	1.9	-2.0	-0.3	0.2	0.1	0.1	1.1	1.3
<i>of which:</i>								
Full-time	1.1	-3.4	-1.9	-1.5	0.3	0.8	1.0	1.7
Part-time	4.9	3.1	5.7	6.3	-0.7	-2.2	1.3	0.0
Unemployment rate ²	6.9	9.6	10.8	11.1	10.9	11.1	10.9	11.2
<i>of which:</i>								
Males	6.8	9.9	11.4	11.7	11.7	11.6	11.3	11.5
Females	7.2	9.2	10.0	10.2	9.8	10.4	10.3	10.7
Juniors looking for full-time work	18.6	27.0	32.8	32.8	31.7	32.5	32.4	32.3
Participation rate ²	63.8	63.3	63.0	63.0	62.5	62.6	62.7	63.1
<i>of which:</i>								
Males	75.7	74.8	74.4	74.3	73.8	73.7	73.8	74.0
Females	52.2	52.0	51.9	51.9	51.4	51.8	52.0	52.6
Overtime, all industries (hours) ²	1.3	1.1	1.1	1.1	1.2	1.2	..	..
Average weekly hours worked ^{2,3}	35.9	34.4	34.7	35.3	33.5	35.8	35.4	34.1
Job vacancies (thousand)	48.3	26.2	27.3	28.5	30.3	37.3	..	..

1. Percentage change from corresponding period of previous year.

2. Levels.

3. Not seasonally adjusted.

Source: Australian Bureau of Statistics, *Labour Force Australia*, and Reserve Bank of Australia, *Bulletin*.

in the composition of demand. In FY 1991/92, growth of part-time jobs offset full-time employment losses, as service-sector output was relatively strong. Since the beginning of 1993, employment, average hours worked, overtime and job vacancies have risen, indicating a gradual strengthening of labour demand. Full time and part-time employment have both risen, with full time employment growing strongly in recent months.

Another recent phenomenon has been the divergence in job creation by firm size, with all job growth “statistically” accounted for by firms employing fewer than 20 persons.¹⁴ Such diverse sectoral and employment shifts have centred job

Diagram 7. **STRUCTURE OF UNEMPLOYMENT**

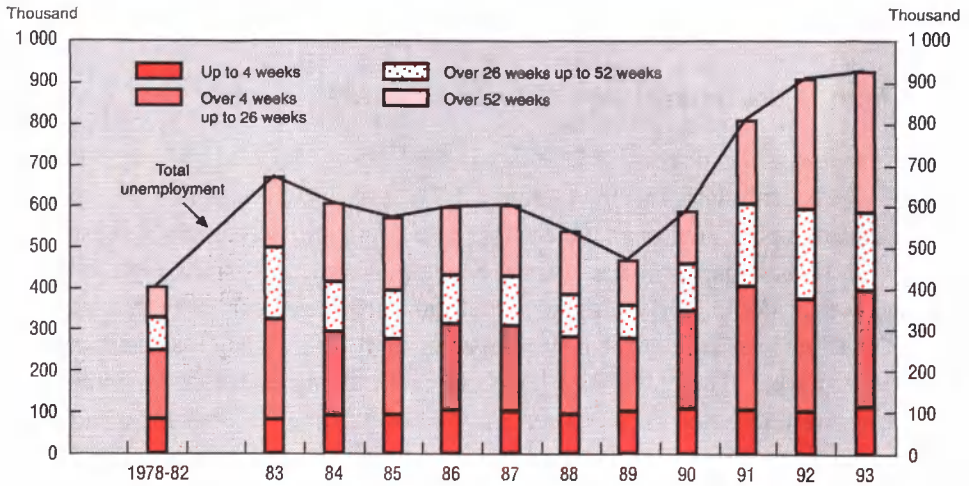
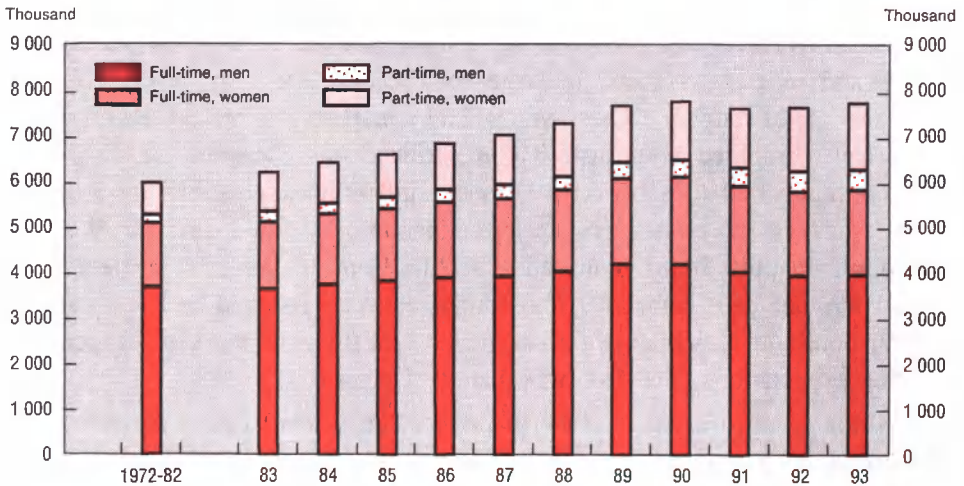


Diagram 8. **PATTERNS OF EMPLOYMENT**



Note: August data.

Source: Australian Bureau of Statistics, and OECD.

losses particularly hard on Victoria, South Australia and New South Wales, exacerbating budget positions there.

How high is the natural rate of unemployment?

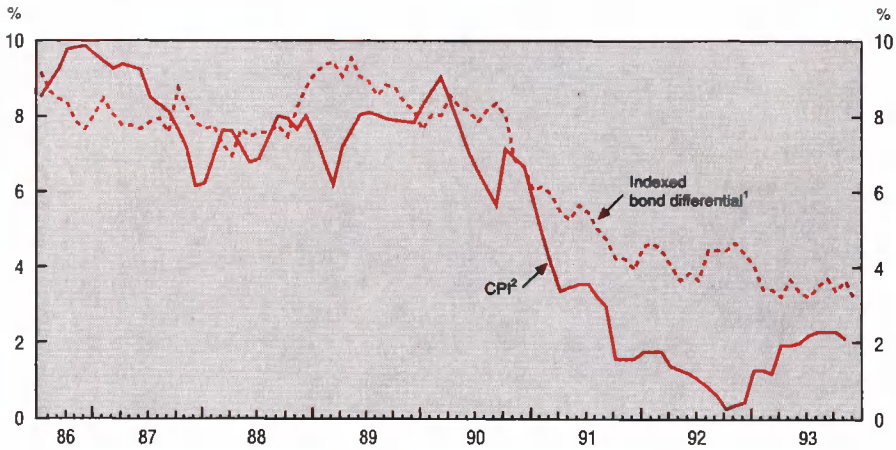
A critical issue for economic policy is the level of the “natural rate” and the degree of cyclical slack in the economy.¹⁵ There is little doubt that current and projected unemployment over the coming two years still represents a substantial degree of labour-market slack. But a concern is that persisting high rates of unemployment could lead to higher structural unemployment through “hysteresis” effects, as job skills of the unemployed atrophy and/or they lose contact with the labour market. The authorities have targeted training, subsidies and counselling programmes to stop such a deterioration (see Chapter IV) but have had little success to date in checking rising long-term unemployment in a context of moderate economic growth.

Cost and price developments

In September 1993, consumer prices were some 2.2 per cent higher than a year earlier – a second year of inflation below the OECD average. The speed of disinflation over the past two years or so has exceeded virtually all mainstream private and official forecasts, in large part because the drop in the effective exchange rate of roughly 20 per cent has had remarkably muted effects on wages and prices compared with historical experience (see Diagram 2). Such low inflation finally led to a break in stubborn inflation expectations towards late 1990. Surveys of consumers’ price expectations based on the Westpac Melbourne Institute index indicated a decline from 10 per cent in 1990-91 to around 4½ per cent currently. The spread between indexed and non-indexed 10-year bond yields, which is a good indicator of financial markets’ longer-term inflation expectations, also fell significantly (Diagram 9).

Although Australia is a “world price taker”, retail prices for wholly or predominantly imported items appear to have reflected less than one-half of the rise in import prices over the past year.¹⁶ This phenomenon has also been observed in other countries experiencing depreciating currencies (the United Kingdom, Canada, Spain and Italy) implying a squeeze on retail margins

Diagram 9. INFLATION AND THE INDEXED BOND DIFFERENTIAL



1. The difference between the weighted average real yield of indexed Treasury bonds and nominal 10 year Treasury bond yields.

2. Percentage change over same month of previous year.

Source: Reserve Bank of Australia and OECD, *Main Economic Indicators*.

on imported goods, differential pricing on the part of exporters¹⁷ and/or lags due to price smoothing for volatile exchange rate changes.

While weak flow-on effects of depreciation have been important, the key element in ongoing low inflation has been the absence of nominal wage pressures. Although the volatility of recent data makes interpretation difficult, wages and salaries (national-accounts basis) increased by some 2.6 per cent in the year to September 1993, while average weekly earnings for full time workers rose by around 2.8 per cent (Table 3).

Such low wage increases reflect depressed labour market conditions and low inflation. The spread of enterprise bargaining, which increasingly links wage outcomes to productivity gains, has been limited to only 12 per cent of wage and salary earners, largely in the public sector. Workers who have not negotiated enterprise agreements have faced a virtual wage standstill since April 1991. Mark VII of the Wage Accord was recently presented by the Commonwealth Government in a National Wage Case submission before the Australian Industrial Relations Commission (AIRC). It requested *inter alia*: an A\$8 a week safety-net

Table 3. Costs and prices
Percentage change from corresponding period of previous year

	1990	1991	1992	1993		
				Q1	Q2	Q3
National accounts deflators¹						
Private consumption	5.9	3.5	1.7	1.8	1.8	1.7
Total domestic demand	5.0	3.1	1.5	1.5	2.0	1.8
GDP	4.5	1.8	1.2	0.9	0.9	1.1
Exports of goods and services	1.1	-5.1	2.0	3.1	1.6	1.6
Imports of goods and services	4.0	1.2	3.4	6.4	7.1	4.6
Non-farm GDP	5.3	2.4	1.0	1.1	1.0	1.4
Consumer price index	7.3	3.2	1.0	1.2	1.9	2.2
Wage cost						
Average weekly earnings, all employees	6.6	3.8	2.5	2.0	2.6	3.3
Award rates of pay: adults	6.0	3.7	2.4	0.9	0.9	0.8

1. Derived from seasonally-adjusted series.

Source: Australian Bureau of Statistics and OECD.

pay increase (roughly 1.4 per cent of average weekly earnings) for all employees who have attempted, but failed, to achieve enterprise-based increases. The AIRC agreed in October 1993, to a safety-net wage increase of A\$8 per week, but applying mainly to those workers on minimum award rates (*i.e.* essentially low paid workers).¹⁸

In most OECD countries, inflation pressures have been strong in the service sector. This situation prevailed in Australia from early 1988 to mid-1991. Since then, service prices (excluding mortgage interest charges) have increased less than goods prices; 1.8 per cent and 3.0 per cent respectively in the 12 months to September 1993. Deregulation and greater competition have significantly restrained price increases in such diverse areas as telecommunications, electricity generation and domestic air travel. By contrast, higher import prices due to depreciation have affected goods prices more than services.

“Underlying inflation” appears to be running at around 2½ per cent, boosted in part by higher indirect taxes. Low inflation has been consistent with a significant rise in the share of national income accruing to non-wage incomes over the past two years as unit labour costs have virtually stagnated.¹⁹

External trade and balance of payments

The current account recorded a deficit of some A\$15¼ billion (all data at annual rates) in the first nine months of 1993, representing about 3¾ per cent of GDP, compared with A\$14¾ billion in the first nine months of 1992. This widening mainly reflects stronger imports and terms of trade effects (Table 4). The increase in the current-account deficit reflects the stronger relative cyclical position of the economy: Australia was among the first OECD countries to emerge from recession (in mid-1991) and output growth, albeit moderate, has been above the OECD average. By contrast, stagnant world output growth has depressed world commodity prices and Australian export prices to record lows in September 1993.

Low wage inflation over the past two years has been instrumental in transforming a large nominal exchange-rate depreciation into a large "real" depreciation. Notwithstanding depressed markets for industrial raw materials and persistent barriers to trade in agricultural products, of which Australia is one of the world's most efficient producers, overall export performance has been good (Diagram 10). The major success in opening-up the economy to international

Table 4. **Current account trends**¹

A\$ billion

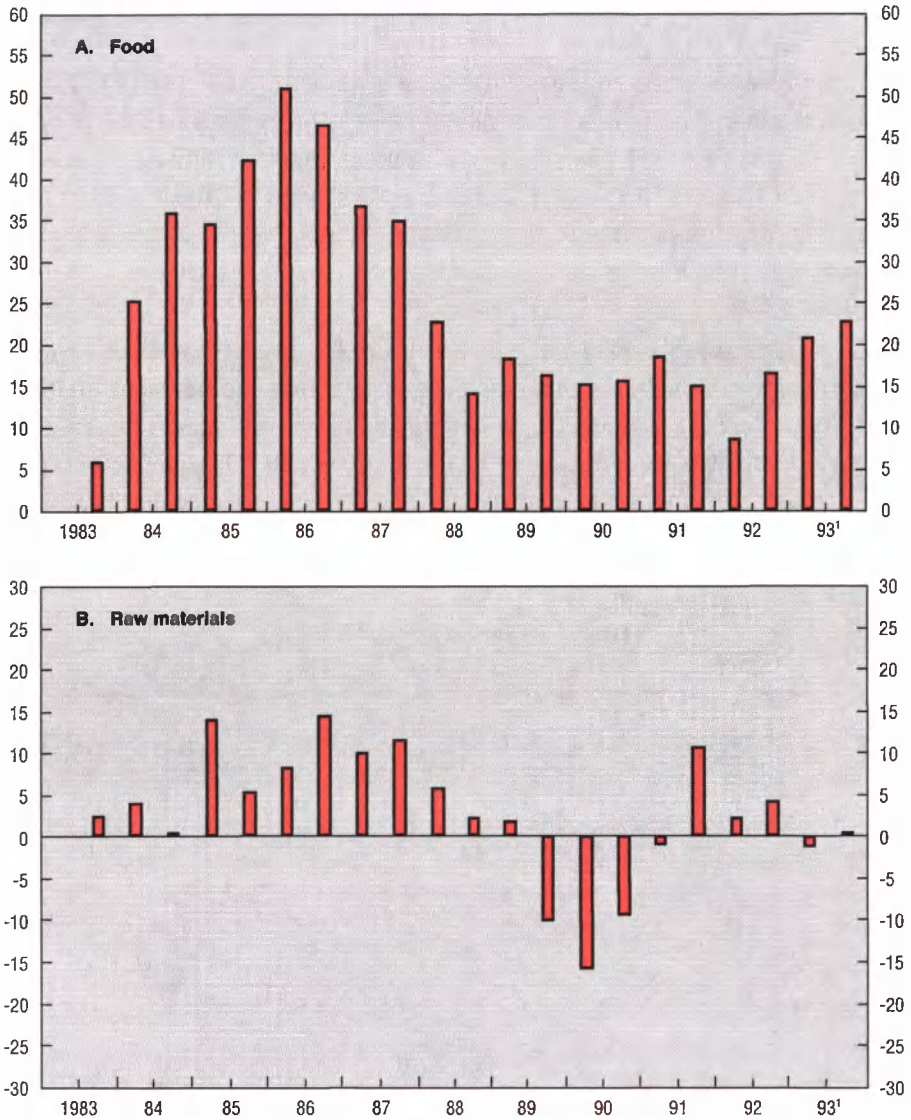
	1988	1989	1990	1991	1992	1993		
						Q1 ²	Q2 ²	Q3 ²
Exports	42.3	46.7	50.4	53.9	57.8	14.9	15.1	15.8
Imports	43.1	51.0	49.9	49.4	55.7	14.7	15.5	16.2
Trade balance	-0.8	-4.4	0.5	4.5	2.1	0.2	-0.4	-0.4
Services, net	-14.2	-20.5	-22.2	-20.0	-18.3	-3.7	-4.2	-3.5
Investment income, net	-10.7	-14.4	-17.0	-15.9	-13.8	-2.8	-3.2	-2.8
Non-factor services, net	-3.5	-6.1	-5.2	-4.1	-4.5	-0.9	-1.0	-0.7
Private transfers	2.2	2.7	2.5	2.6	2.0	0.3	0.3	0.2
Official transfers	-0.3	-0.2	-0.2	-0.3	-0.5	-0.2	-0.2	-0.1
Invisibles, net	-12.3	-18.0	-19.9	-17.7	-16.8	-3.6	-4.1	-3.4
Current balance	-13.1	-22.4	-19.4	-13.2	-14.6	-3.3	-4.4	-3.8

1. OECD definitions.

2. Seasonally adjusted.

Source: OECD.

Diagram 10. **EXPORT MARKET GAINS OR LOSSES**
 Cumulative % change from first half 1983, gains (+), losses (-)



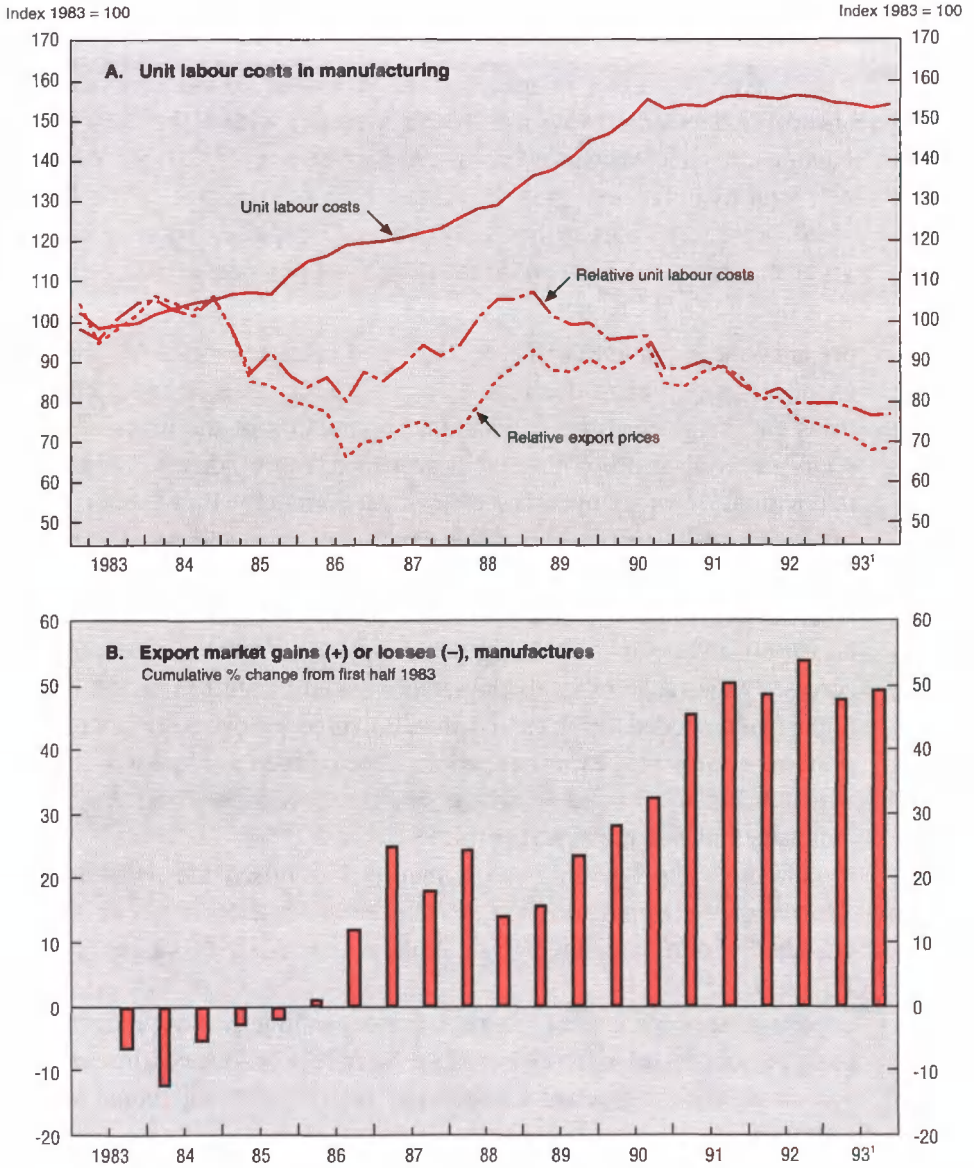
competition has been the remarkable growth of exports of manufactures and the increasing ability of Australian companies to develop export opportunities in the fast growing Asian region (Diagram 11).

Growth in export volumes of manufactures averaged 10 per cent over the seven years to FY 1992/93 (twice the OECD average) with elaborately transformed manufactures (ETMs) growing at an annual rate of 20 per cent. In FY 1992/93, total manufactures grew by 12½ per cent in volume, while ETMs grew by 15½ per cent. Tourism has also expanded rapidly. These successes reflect significant structural improvements in the supply-side of the economy over the past decade (see Chapter III):

- pre-announced phased tariff reductions and microeconomic reforms (for example, in ports and domestic transport) have lowered input costs to firms and heightened the international orientation of the manufacturing sector, as well as promoting rapid growth of intra-industry trade;
- international cost competitiveness, as measured by unit labour costs, improved by 20 per cent over the past three years and by 30 per cent over the past ten years, reflecting the success in translating a large nominal depreciation of the Australian dollar into a real depreciation;
- an export culture is developing, with some 700 “emerging exporters” across a wide range of industrial sectors leading a shift in export mix to higher value-added services and manufactured products. In contrast to previous experience, export growth has been driven not by low domestic demand, but by a trend in which small and medium-sized Australian companies play a much larger role;²⁰
- proximity to the booming Asian market has raised the awareness of Australia’s geographic advantages. Currently some 57 per cent of merchandise exports are directed to Asia, compared with 48 per cent in FY 1981/82;
- exports of services, notably tourism, are expanding quickly, reflecting in part the success of introducing more flexible working conditions, deregulation, and heightened competition in transport and other service industries.

In FY 1991/92 and FY 1992/93, import volumes increased by some 4½ and 8½ per cent respectively, despite sluggish output growth and exchange-rate

Diagram 11. UNIT LABOUR COSTS AND INTERNATIONAL COMPETITIVENESS



1. Estimates for the second-half of 1993.

Source: OECD estimates.

induced shifts in relative prices in favour of domestically produced goods. Adjusting for lumpy import items (*e.g.* oil platforms, aircraft, ships) and computers, import penetration has increased since mid-1990 despite modest growth in the domestic economy.²¹

To a large extent, rising import penetration is a natural consequence of increasing intra-industry specialisation as well as increasing internationalisation which raises both the import and export shares of GDP. Indeed, a substantial part of Australian exports of pharmaceuticals and motor vehicles are based on imported ingredients and parts. Lower tariffs and anecdotal evidence that local distributors and retailers of imported goods have absorbed part of the recent

Table 5. Trade volumes and prices
Percentage changes from previous period

	1989	1990	1991	1992	1993 S1 ¹
Export volumes					
Total goods	4.1	8.0	15.3	4.7	0.3
Food	6.6	6.3	5.6	1.5	6.2
Manufactures	12.7	15.2	19.2	9.7	5.9
Energy	0.4	17.8	11.8	6.5	2.4
Raw materials	-0.9	0.0	21.0	1.8	-10.3
Export prices					
Total goods	5.7	-0.1	6.9	2.1	-0.1
Food	11.8	-0.8	-8.8	8.5	2.1
Manufactures	2.6	-2.1	-3.4	2.5	2.7
Energy	12.3	15.5	2.6	-0.7	-2.4
Raw materials	-2.8	-3.5	-13.8	-0.9	-2.2
Import volumes					
Total goods	19.9	-4.7	-1.4	9.0	1.6
Food	11.9	0.6	0.6	2.9	-1.1
Manufactures	24.3	-4.3	-2.7	7.3	1.8
Energy	39.7	-17.6	18.8	13.6	10.2
Raw materials	10.2	-3.4	-0.8	14.4	2.5
Import prices					
Total goods	-1.7	2.7	0.5	3.2	1.6
Food	-1.5	-0.3	2.9	3.9	1.5
Manufactures	-2.1	1.7	2.0	5.6	3.4
Energy	11.1	26.4	-9.6	-3.7	-3.1
Raw materials	-2.6	1.8	2.9	1.5	0.5
<i>Memorandum item:</i>					
Term of trade					
Total goods	7.6	-2.7	-7.4	-1.0	-1.6

1. Seasonally-adjusted annual rate over previous half-year.

Source: Australian Bureau of Statistics.

depreciation of the Australian dollar into profit margins to preserve market share (see above) may also account for the resiliency of import growth.

The visible trade balance swung into small deficit starting in June 1993, ending 3 years of trade surpluses (Diagram 12, panel A). To a large extent, this change reflected adverse term-of-trade developments: from mid-1991 to mid-1993, Australia's terms of trade dropped by roughly 4 per cent (down some 15 per cent from the level in early 1989) (Table 5). Depressed terms of trade have lowered the 'purchasing power' of exports by an equivalent of 2 per cent of GDP over the two years to the September quarter 1993.

National savings-investment balances

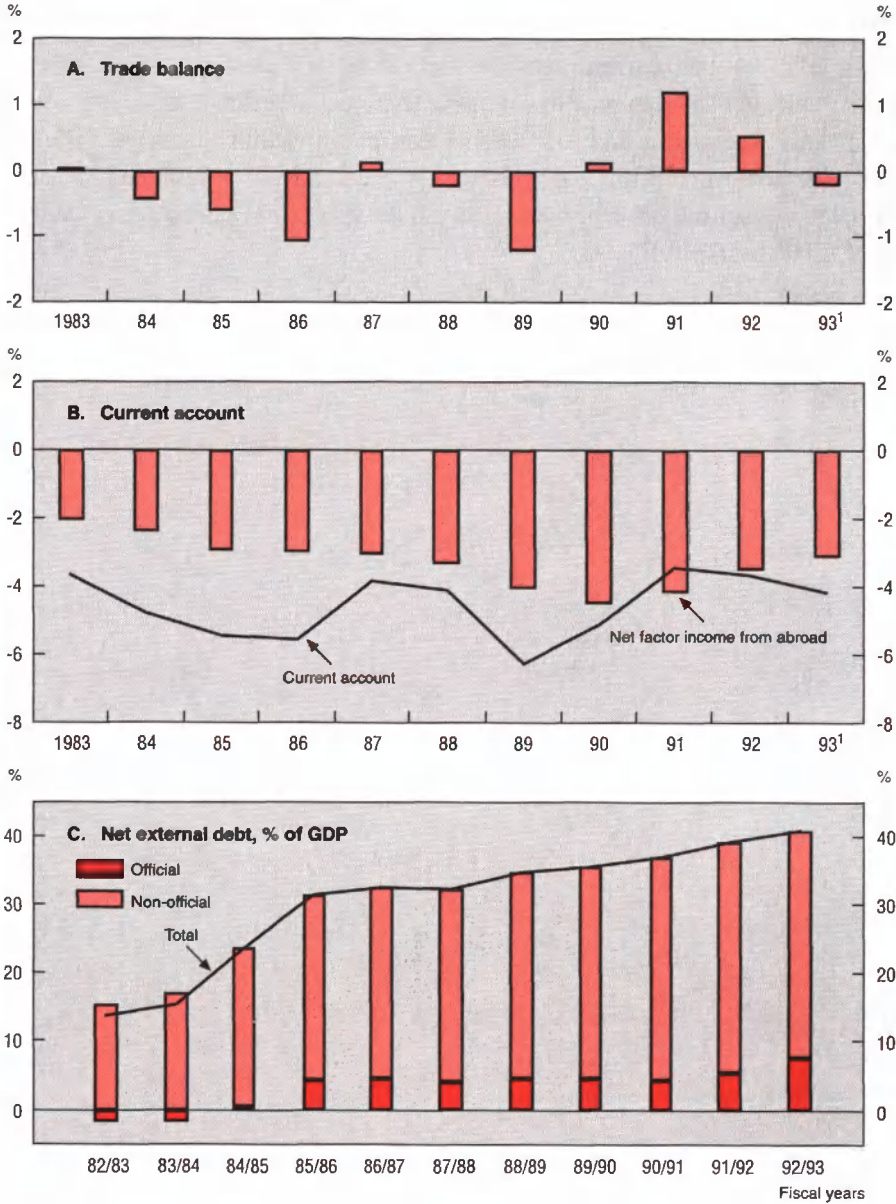
Australia's current-account deficit is dominated by a large deficit on factor incomes, reflecting the servicing of accumulated foreign liabilities (Diagram 12, panel B). In FY 1981/82, total net foreign liabilities and net debt were equivalent to roughly 23 and 6 per cent of GDP respectively. These ratios jumped to 58.9 and 43.8 per cent of GDP by September 1993, notwithstanding a small fall in early 1993. In September 1993, private-sector net foreign debt was over 75 per cent of the total.

The sharp rise in foreign debt/GDP ratios in the late 1980s raised concerns over the sustainability of large current-account deficits and/or perceived exchange rate risk.²² These concerns have been tempered by the subsequent sharp fall in Australian and world interest rates, with interest on foreign debt dropping from a peak of some 3.4 per cent of GDP in FY 1990/91 to 2.3 per cent in September 1993. Debt service as a share of exports dropped from 19.6 to 11.9 per cent over the same period.

Given Australia's rich natural resource endowment and sparse population, higher foreign debt is not necessarily an undesirable development, insofar as it reflects the exploitation of investment opportunities which generate sufficient returns to cover service costs. Indeed, as private investment picks up in the coming years, the current-account deficit may well widen again (see below).

Nonetheless, it appears that the link between income generating investment and the current-account deficit weakened in the 1980s – and the build-up of external private debt was not always associated with viable investment opportunities in the tradeables sector.²³ However, it is unclear how public policy should or

Diagram 12. **CURRENT ACCOUNT AND EXTERNAL DEBT**
As per cent of GDP



1. Estimates.

Source: Australian Bureau of Statistics, *International Investment Position Australia*; OECD, *National Accounts*.

could address poor private-sector investment decisions. Furthermore, while high foreign (private) debt levels can make a currency vulnerable to shifts in international investor sentiment, it is unclear how important this factor is.

Finally, as the current-account deficit is arithmetically the difference between national savings and investment, there are legitimate concerns over the lack of domestic saving and the need to end public-sector dissaving. The Commonwealth government has recognised this need and has announced a medium-term fiscal consolidation programme to reduce its budget deficit to around 1 per cent of GDP by FY 1996/97.²⁴

II. Economic policy settings and short-term prospects

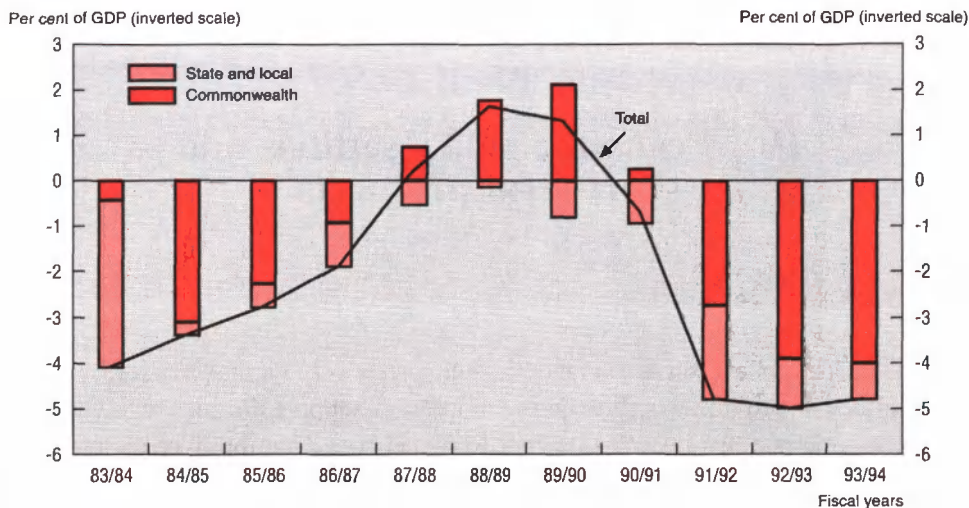
Overview

The Government's macroeconomic policies are set in a medium-term framework aimed at providing a short-term stimulus to support the recovery while at the same time establishing a framework for fiscal consolidation over the medium term as a basis for sustainable low inflation growth. The August 1993 budget provided for a small additional stimulus in FY 1993/94 and also announced a four-year consolidation plan to reduce the Commonwealth deficit to around 1 per cent of GDP by FY 1996/97 through a combination of tax and outlays measures. Monetary conditions have been eased but, with inflation past its trough and the flow-on effects of the drop in the exchange rate yet to be felt, the scope for a further easing in monetary policy has been reduced.

Fiscal policy

Fiscal policy has actively supported economic recovery in recent years. As a consequence, the substantial reductions in budget deficits – and actual surpluses – achieved during the 1980s have now been reversed. The general government's net lending deteriorated from a surplus of 1.6 per cent of GDP in FY 1988/89 to a deficit of 5 per cent of GDP in FY 1992/93 (Diagram 13). Most of the increase occurred at the Commonwealth level of government, where the budget is more sensitive to the economic cycle; the Commonwealth's net lending moved from a surplus of around 2 per cent of GDP in FY 1988/89 and FY 1989/90 to a deficit of 3.9 per cent of GDP in FY 1992/93. Although State government deficits also increased, they generally remained around 1 per cent of GDP or less, except in FY 1991/92; in that year, the costs of rescuing failing

Diagram 13. **NET BORROWING REQUIREMENT**
General government



Source: Budget Statements 1993/94, No 1.

state-owned-financial institutions pushed the State/local government deficit up to 2.1 per cent of GDP.

The FY 1992/93 Commonwealth budget outturn

The 1992 budget forecast a substantial increase in the Commonwealth's Net Borrowing Requirement (NBR) to A\$14.9 billion (3.7 per cent of GDP) in FY 1992/93 (Table 6). The forecast increase was accounted for by higher outlays, especially for personal benefit payments (in large part unemployment benefit), final consumption expenditure and grants to State governments for capital expenditure. In the event, the outcome for FY 1992/93 was a general government NBR of A\$15.7 billion, mainly reflecting weaker than expected activity which reduced revenue from individual income tax collections. Budget sector outlays were A\$0.4 billion lower than forecast, mainly due to lower interest payments.

The FY 1993/94 Commonwealth budget

The August 1993 budget forecast a FY 1993/94 Commonwealth general government NBR of A\$16.9 billion (4.0 per cent of GDP), up from the

Table 6. Commonwealth general government sector developments^{1,2}

A\$ billion

	FY 1991/92		FY 1992/93		FY 1993/94
	Budget forecast	Outturn	Budget forecast	Outturn	Budget forecast
Outlays					
Final consumption expenditure ³	22.1	21.9	23.6	23.1	24.6
Personal benefit payments	39.8	41.0	43.7	44.5	47.5
Interest	6.4	5.7	6.5	5.4	6.7
Subsidies	2.7	2.5	2.7	2.6	2.8
Grants to other governments	26.1	25.9	27.1	27.0	28.3
Other current payments	2.6	2.7	3.2	3.1	3.5
Total current outlays	99.7	99.7	106.8	105.7	113.4
Gross investment	1.8	1.6	1.5	1.1	1.3
Capital grants to other governments	3.6	3.7	5.2	5.2	3.8
Other	-2.7	-1.4	-2.4	-2.2	-3.2
Total outlays	102.4	103.6	111.1	109.8	115.4
Revenue					
Individual income	49.9	46.5	49.4	47.3	48.5
Company income	13.5	13.4	12.1	13.1	12.8
Other income	4.2	4.3	4.7	5.0	5.0
Total income tax	67.5	64.2	66.2	65.4	66.4
Indirect tax	22.0	21.9	22.6	22.3	24.2
Other ⁴	2.2	2.1	2.2	2.0	2.1
Total tax revenue	91.7	88.3	91.0	89.6	92.7
Non-tax revenue	5.9	5.8	6.3	5.8	6.9
Total revenue	97.6	94.0	97.2	95.4	99.6
Increase in provisions	-1.1	-1.1	-1.0	-1.3	-1.3
Net financing requirement⁵	6.0	10.6	14.9	15.7	16.9
Per cent of GDP	1.5	2.7	3.7	3.9	4.0
Asset sales	0.6	-0.3	1.6	0.8	2.4

1. Figures may not add due to rounding.

2. No adjustment for classification changes has been made to the forecasts. Therefore, the forecast and outturn numbers are classified on different bases, and are not consistent. The magnitude of this inconsistency is small however.

3. Includes privatisation proceeds as negative expenditure.

4. The main item in this category is fees and fines. Also includes an adjustment for the difference between Commonwealth-Budget-sector and general-government-sector total taxation.

5. After privatisation proceeds.

Source: Budget Statements, No. 1, 1991/92-1993/94.

A\$15.7 billion outcome in FY 1992/93.²⁵ Outlays were projected to increase 2.5 per cent in real terms to A\$115.3 billion (27.3 per cent of GDP, approximately the same as in FY 1992/93) and revenues to increase 1.8 per cent in real terms to A\$99.6 billion (23.5 per cent of GDP, slightly below the level in FY 1992/93). The projected growth in outlays and revenues reflected existing policies. Measures taken by the government since the 1992 budget decreased

estimated outlays by a net A\$0.3 billion and revenue by A\$0.8 billion in FY 1993/94. This reduction in outlays reflected increased expenditure, principally for labour market programmes, assistance to State governments and social security and welfare, which were more than offset by a A\$1.3 billion increase in net asset sales.²⁶ With respect to revenue, the reduction reflected the proposed bringing forward of the first tranche of personal income tax cuts to 15 November 1993 (from 1 July 1994) and the cut in the corporate tax rate to 33 per cent (announced in the February 1993 policy statement, *Investing in the Nation*) from the FY 1993/94 income year.²⁷ These tax cuts were only partially offset by increases in excise duties on petroleum products and in wholesale tax.

The medium-term fiscal outlook

The National Fiscal Outlook (NFO), released at the Premiers' Conference on 5 July 1993, provided medium-term fiscal projections for both the Commonwealth and the States/Territories on an unchanged policies basis. The Commonwealth budget deficit was projected to decline to between 3.4 per cent and 1.9 per cent of GDP by FY 1996/97, depending on whether a low or high growth scenario was realised.²⁸ In light of these projections, the Commonwealth Government's commitment to reduce its budget deficit to around 1 per cent of GDP by FY 1996/97 implies that significant reductions in the structural deficit will be required. However, the modest pace of the recovery to date has militated against precipitous deficit reductions. With these factors in mind, the Government announced, in the FY 1993/94 budget, measures which will come into effect in future years and result in progressive reductions in the budget deficit from FY 1994/95 onwards. Based on budget time projections and changes to the budget negotiated to achieve passage through the Senate, the Commonwealth deficit is expected to fall to 1.2 per cent of GDP by FY 1996/97. Outlays are expected to decline from 27.3 per cent of GDP in FY 1993/94 to 25.5 per cent in FY 1996/97 while revenue is projected to rise slightly to 24.3 per cent of GDP (Table 7).

The measures announced in the FY 1993/94 budget, following post-budget changes negotiated to achieve passage of the budget through the Senate, are expected to increase revenue by A\$6.9 billion and reduce outlays by A\$1.6 billion by FY 1996/97 compared with a "no policy change" baseline.²⁹ The principal measures include the deferral of the second tranche of personal income tax

Table 7. **FY 1996/97 budget outlook**
Per cent of GDP

	1992-93	1993-94	1994-95	1995-96	1996-97
Before 1993/94 budget					
Outlays	27.3	27.3	26.6	26.5	25.8
Revenue	23.6	23.5	23.2	23.1	22.9
Deficit	3.6	3.8	3.4	3.3	2.9
After amended 1993/94 budget measures					
Outlays	27.3	27.3	26.6	26.3	25.5
Revenue	23.6	23.5	23.7	24.1	24.3
Deficit	3.6	3.8	2.8	2.3	1.2

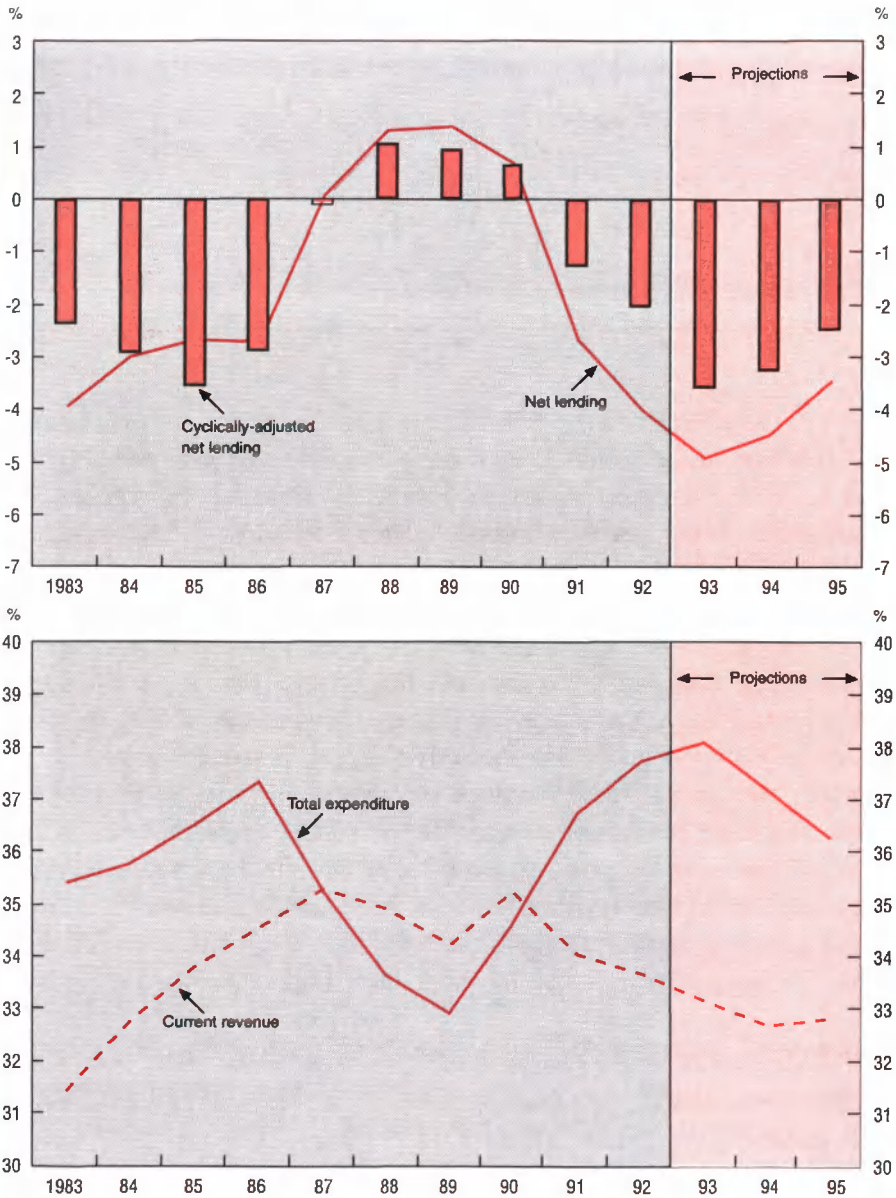
Source: Australian Treasury.

cuts (which had been scheduled for 1 January 1996 and were estimated to amount to A\$3.6 billion in FY 1996/97) until fiscal conditions permit (probably 1998), phased increases in excise duties on petroleum products and tobacco and a 1 percentage point increase in wholesale sales tax for most goods in the base to apply from 1 July 1995 (in addition to the immediate 1 percentage point increase provided for in the budget). The narrow and eroding base for indirect taxation limits the scope for raising revenue from this source. Moreover, although measures have been taken to alleviate the cascading effects of the wholesale sales tax, it continues to have some effects on exports (though only a secondary effect because the exported goods are themselves exempt) and investment. A shift towards a more broadly-based indirect tax may offer gains in efficiency and increase the scope for raising revenue from indirect taxes, but distributional, adjustment and compliance costs would also have to be considered. A programme of expenditure reviews has also been announced which will cover primarily areas that have been subject to rapid outlays growth in recent years or which are seen as offering scope for programme improvements.

The stance of fiscal policy

OECD estimates indicate that approximately 60 per cent of the deterioration in the general government budget balance since calendar 1990 has been structural.³⁰ The cyclically-adjusted (or "structural") budget deficit deteriorated by around 4 per cent of GDP between calendar 1990 and 1993, leaving a structural deficit of perhaps some 3.3 per cent of GDP (Diagram 14); this

Diagram 14. **GENERAL GOVERNMENT FINANCES**
As per cent of GDP



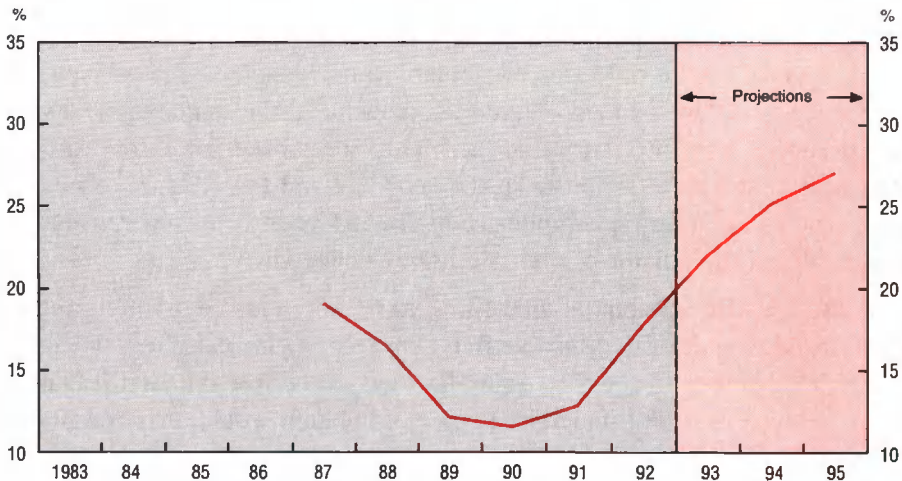
Source: OECD, National Accounts, and estimates.

structural deficit is approximately the same as the average for OECD countries. Most of the increase in the structural deficit is estimated to have resulted from higher expenditure, especially public consumption. The small estimated reduction in cyclically-adjusted revenue (as a per cent of GDP) reflects lower household and corporate income taxes and an erosion in the indirect tax base. On present policies, the structural deficit is projected to decline to around 2½ per cent of GDP by 1995, reflecting both an increase in revenue, and a decline in outlays, as a percentage of GDP.

Government debt

The trend decline in general government debt as a percentage of GDP during the late 1980s has been reversed since 1991 (Diagram 15). Net general government debt is estimated to have increased from its low point of 11.6 per cent of GDP at 30 June 1990 to 22.1 per cent of GDP at 30 June 1993. The current level of net debt is still low relative to other OECD countries, where the average in 1993 is estimated to be 39.4 per cent. On present policies and growth projections, net government debt is projected to rise to 30 per cent of GDP in

Diagram 15. **NET GENERAL GOVERNMENT DEBT**
As per cent of GDP



Source: OECD, *National Accounts*, and estimates.

1997 and stabilise around that level; with Commonwealth general government debt projected to stabilise at around 20 per cent of GDP.

Monetary policy

The 1990-93 business cycle has differed from previous episodes in Australia in that monetary policy has given high priority to achieving and keeping low inflation. Inflation expectations are still somewhat above “headline inflation”. But they have clearly fallen substantially since 1990 with long-term inflation expectations dropping from around 8 per cent in 1989-90 to a recent record low of around 3½ per cent (see Diagram 9). Surveys show a similar drop in price expectations of consumers. Notwithstanding the need to finance a general government net PSBR of around 5 per cent of GDP, the world bond market rally, lower domestic short-term interest rates and lower domestic inflation expectations led to a significant fall in Australian bond yields and lower long-term real interest rates in 1993. Australian bond yields fell by more than yields in major countries during 1993, and long-term interest differentials with the United States, Germany and Japan narrowed.

This is in contrast to past experience. In the 1970s and 1980s inflation expectations remained persistently high, despite low inflation at cyclical troughs. Entrenched inflation expectations were a result of Australia’s mediocre past inflation record, itself a reflection of a combination of factors with varying levels of influence at different times. These factors included the frequency and size of external shocks affecting Australia, the highly specialised nature of Australia’s export sector, structural rigidities in the economy and the conduct of monetary policy which was, at times, complicated by the lack of effective instruments prior to the float and the pursuit of multiple policy objectives.³¹

Although the monetary authorities have not adopted explicit inflation targets, the Governor of the Reserve Bank has recently indicated that the authorities were determined to see that Australia stays in the low inflation league, and that he believed that the “underlying” rate of inflation would, therefore, be held at around 2 to 3 per cent.³²

The achievement of low inflation and lower inflationary expectations has been facilitated by stronger-than-anticipated domestic disinflationary forces. A

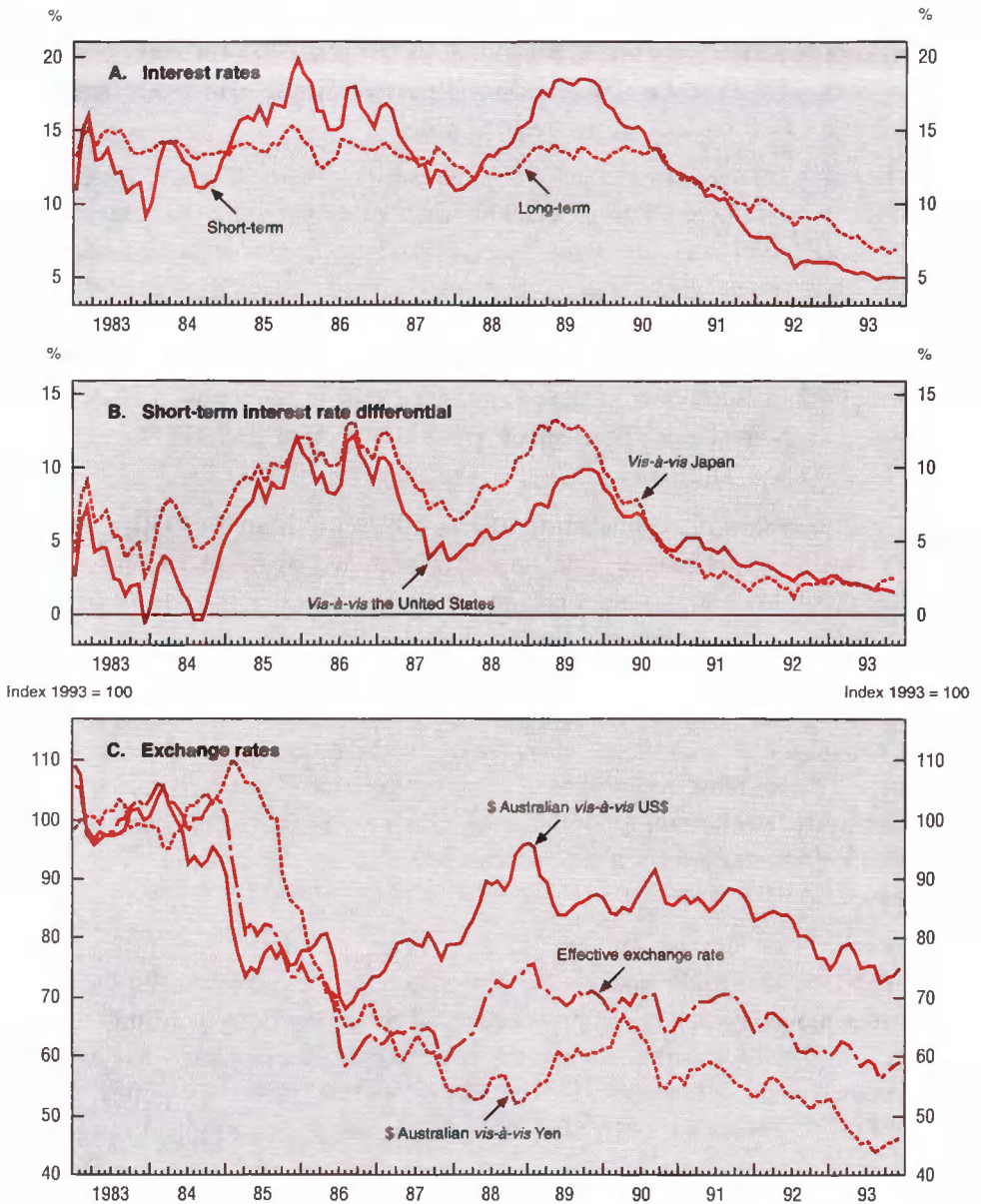
low inflation environment and the concomitant slow growth in nominal GDP (and in the monetary aggregates) have allowed steady cuts in interest rates to support economic recovery while continuing the process of disinflation. But with the low point of the inflation cycle probably passed towards end-1992, monetary policy has focused on locking in inflation gains.

Interest rate declines came in two episodes. From January 1990 until mid-1992, with inflation falling quickly, cash rates were cut 13 times (with broadly parallel effects on banks' prime lending and mortgage rates). By mid-1992 cash rates were about 12 percentage points lower than in 1990, and short rates had been brought down to below long-term bond yields (Diagram 16, Panel A). The drop in the trade-weighted exchange rate during this period was surprisingly limited, in view of the extent of the falls in the terms of trade and a narrowing in interest rate differentials *vis-à-vis* the yen and US dollar (Diagram 16, Panels A and B).

Cash rates were held constant from July 1992 until March 1993, and subsequently cut by $\frac{1}{2}$ percentage point in late March and again in late July 1993, bringing these down to $4\frac{3}{4}$ per cent. The level of cash rates probably overstates the degree of monetary ease. Bank prime lending rates (at 9 per cent in July 1993), which are most relevant to small and medium-sized businesses, were around 4 to $4\frac{1}{2}$ points higher than cash rates. Although the margin between the cash rate and the prime rate has increased over the recent cycle, there has been relatively little increase in the spread between the banks' average cost of funds and their average return on funds.³³ Survey results suggest that the current levels of bank lending rates are not a major factor constraining the demand for credit by businesses.

Quicker cuts in cash rates might have been considered during the period from mid-1992 due to the uneven and slow nature of the recovery. But the scope for further monetary policy easing was limited by strong downward pressure on the exchange rate, which threatened the objective of maintaining good inflation performance, as well as overall confidence in the thrust of policy. From June 1992 to September 1993, the effective exchange rate dropped by around 15 per cent. At the times of most severe exchange rate pressures, the Reserve Bank undertook exchange market intervention, at times in substantial quantities. It also considered the possibility of raising interest rates to support the exchange rate. An increase was not implemented, although the authorities have made it

Diagram 16. **INTEREST AND EXCHANGE RATES**¹



1. All interest rates are nominal rates.
Source: OECD, *Main Economic Indicators*.

clear that higher interest rates would be implemented if necessary to defend the gains made on inflation. The Australian dollar rose following the passage of the FY 1993/94 budget through the Senate in early October 1993, and has since traded at a level around 5 per cent above its trough in September 1993.³⁴

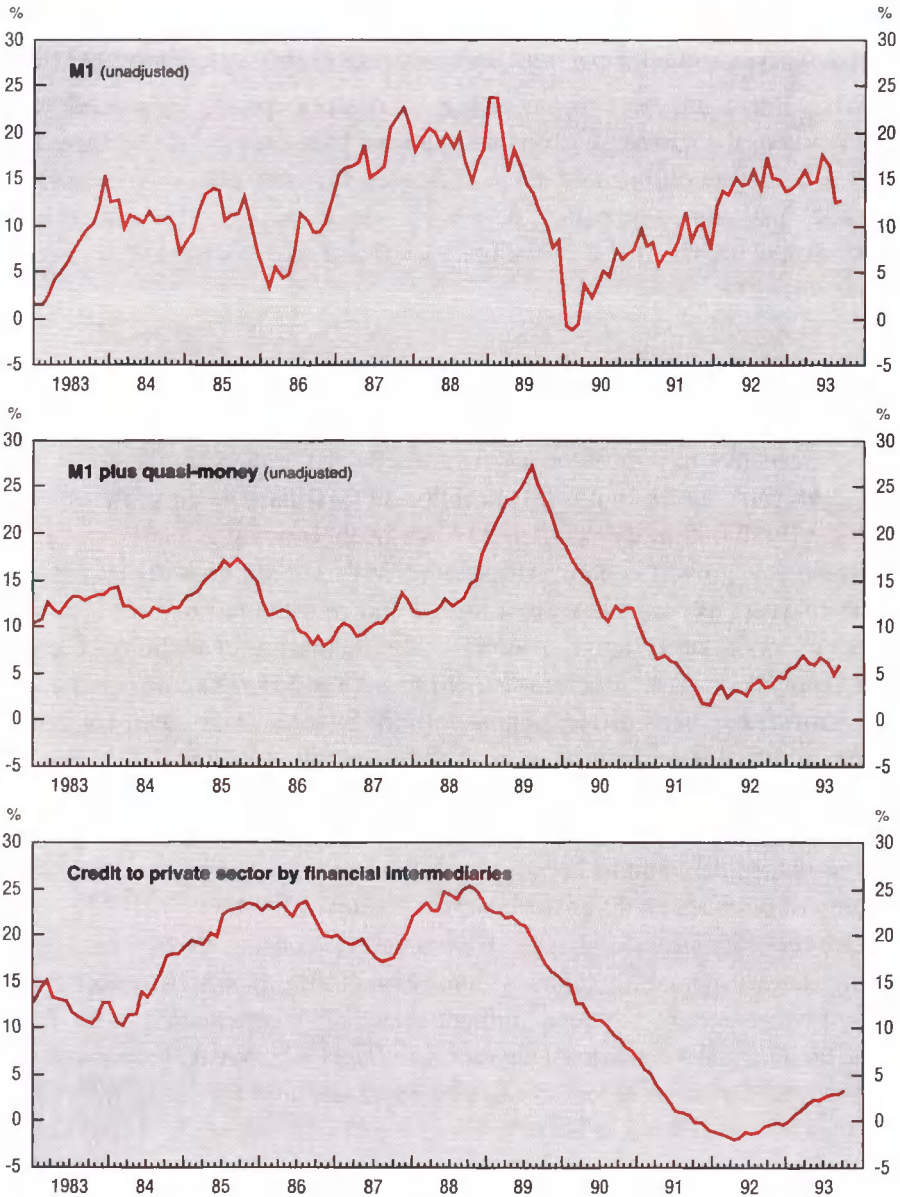
While there has been some increase in import prices as a result of the depreciation of the currency, strong competitive pressures mean that there has so far been little flow-through of these increases to retail prices. The authorities have said that monetary policy will be set so as to limit the effects of the depreciation to a one-off rise in the price level and an associated shift in relative prices.

Trends in money and credit aggregates

The modest nature of the current economic recovery and the changes in balance sheets that have been occurring are reflected in the various monetary and credit aggregates which, with the exception of M1, have been growing slowly. M3, currency, broad money and credit have been growing at rates equivalent to or a little below growth in nominal spending. M1 has been growing strongly for a number of years as banks have reclassified and restructured deposit accounts to give depositors a larger range of options; the increasing availability of cheque-linked accounts, in particular, has boosted growth in M1 (Diagram 17, Panel A). Credit growth has been driven almost entirely by growth in credit for housing. Personal and business credit have generally been flat or falling. To some extent, this reflects the divergent balance-sheet positions of households and firms (see Chapter I). The legacy of highly leveraged corporate balance sheets has prompted action to reduce debt and to improve cash flow and this has been reflected in the weakness of business credit growth. However, borrowing by households – whose balance sheets are in good shape – for residential housing investment has been growing quickly. Ongoing balance-sheet restructuring has been reflected in the weak growth of credit provided through financial intermediation, with flow-on effects on the real economy (Diagram 17, Panel C). Weak growth of broad money appears to have reflected weak business demand for credit rather than a reluctance to lend – Reserve Bank research found no evidence of a credit crunch.

In 1990-91, a number of financial failures focused attention on the financial system and the adequacy of prudential supervision. Economic recovery and an apparent end to the slump in asset prices have improved the balance-sheet

Diagram 17. **MONEY AND CREDIT GROWTH**
 Percentage change over twelve months earlier



Source: Reserve Bank of Australia and OECD, *Main Economic Indicators*.

positions of financial institutions over the past year. The profit situation of financial institutions, though improving, remains mixed. The stock of banks' non-performing loans fell from a peak of about A\$30 billion in March 1992 to a little over A\$19 billion in September 1993 (from 6 per cent to 3½ per cent of total assets). The banking system remains well capitalised, with the aggregate risk-weighted capital ratio around 11.5 per cent in September 1993. All banks had risk-weighted capital ratios above the 8 per cent BIS Basle guidelines, with the majority above 10 per cent.

Short-term economic prospects

Against this macroeconomic policy background, the economic outlook for the Australian economy over the coming two years is sketched out below. The projections embody information available at 2 November 1993 and are based on the following technical assumptions:

- "real" non-oil commodity prices have reached a trough and will remain unchanged in 1994 and 1995, reflecting the subdued and uneven nature of the world economic recovery;
- growth of Australian export markets for manufactures is projected to remain in the range of 6½ to 7 per cent;
- nominal exchange rates remain unchanged from their levels of 2 November 1993, implying a drop of around 3½ per cent (actual rate) in the second half of 1993 from the previous half year;
- oil prices average US\$15 a barrel in the last half of 1993 and remain constant in real terms thereafter;
- fiscal policy provides a small element of stimulus in FY 1993/94, and the Government's four-year fiscal consolidation plan is realised;
- monetary policy remains aimed at maintaining low inflation.

The OECD projects output growth to rise to around 3½ to 4 per cent over the coming two years. Private consumption is projected to pick up gradually over this period, in response to rising disposable incomes, firming labour-market conditions, improving consumer confidence and a small decline in the household savings rate. Housing activity may, however, peak at a high level in late 1993, reflecting the satisfaction of pent-up demand and a sharp drop-off in immigration.

Business investment is projected to recover gradually as profitability and corporate financial positions continue to improve. Stockbuilding is expected to play a minor role (Table 8).

With output growing modestly, relatively fast labour-force growth may leave the unemployment rate at around 10½ per cent in the near future, although

Table 8. **Short-term prospects**
Percentage changes

	Percentage share of GDP 1991 Current prices	Calendar year			
		1992	1993	1994	1995
A. Demand and output at constant 1989/90 prices					
Consumption					
Private	60.8	3.4	2.1	3.0	3.2
Public	18.1	2.2	4.6	1.8	2.1
Gross fixed investment	20.3	0.1	1.8	4.2	5.8
<i>of which:</i>					
Government	2.3	0.1	2.0	3.4	3.2
Private					
Total	18.0	1.5	1.8	4.3	6.1
Dwellings ¹	5.6	9.6	6.3	3.0	3.0
Other construction	3.2	-9.1	-9.9	3.1	6.5
Equipment	6.1	-0.6	0.7	6.5	9.5
Public enterprises	3.1	-7.1	6.1	3.5	5.5
Final domestic demand	99.2	2.5	2.5	3.0	3.5
Change in stock building ²	-0.7	0.7	0.5	0.1	0.3
Total domestic demand	98.6	2.9	3.0	3.1	3.8
Exports of goods and services	17.6	4.8	5.4	6.8	7.1
Imports of goods and services	17.2	7.2	4.3	7.3	8.0
Change in foreign balance ²	0.4	-0.3	0.3	-0.0	-0.1
Statistical discrepancy ²	0.9	0.0	-0.1	0.4	0.0
GDP(I) at constant prices ³	100.0	2.5	3.1	3.4	3.7
GDP(A) at constant prices ⁴		1.9	3.1	3.4	3.7
B. Other items					
Private consumption deflator		1.7	2.1	3.1	2.7
Employment		-0.3	0.5	1.7	1.8
Unemployment rate (per cent)		10.8	10.9	10.5	10.1
Current balance (A\$ billion)		-14.6	-15.4	-16.6	-17.3
Current balance ⁵		-3.7	-3.8	-3.8	-3.8

1. Including real estate transfer expenses.

2. Contributions to growth.

3. Income measures. Includes statistical discrepancy.

4. Average of the expenditure, production and income measures of GDP.

5. Per cent of GDP.

Source: OECD.

starting to decline in the course of 1994. Growth in average earnings (including superannuation) is expected to be moderate in FY 1993/94 reflecting a fall in the contribution of superannuation and the continuing slow spread of workplace bargaining across the workforce. In view of ongoing structural reform, good productivity performance is expected to be sustained.

The relatively large drop in the effective exchange rate over the past year will ultimately have some impact on the price level, as will planned increases in indirect taxes. All in all, in view of the large element of slack in the economy, a smooth absorption of higher import prices and indirect tax increases is projected. Measured year on year, "headline" inflation might rise to slightly more than 3 per cent from current rates of 2.2 per cent, but "underlying inflation" is likely to remain slightly below 3 per cent over the coming two years.

Notwithstanding solid export growth, especially of manufactures and tourism, on-going import penetration and a pick-up in investment (which has a high import content) are projected to neutralise the external sectors contribution to growth. This, with weak terms of trade and falling world interest rates, could keep the current account deficit at around 4 per cent of GDP.

The risks surrounding this forecast appear evenly balanced. In the event that investment remains weak, other elements of demand could maintain output growth at around 3 per cent. The major downside risk is a further delay in world recovery and an associated fall in world commodity prices. A possible upside risk is that private consumption, business investment and residential housing could be stronger, as confidence strengthens in line with firmer employment prospects.

Weak investment over the past two years has resulted in little growth in the capital stock – thereby indicating substantial pent-up investment demand at some point in time. The actual magnitude of the recovery in business investment currently underway, is of course, uncertain but will ultimately determine the strength and durability of the recovery. Over the medium term, making durable inroads into unemployment will require maintaining Australia's currently favourable competitive cost position and keeping inflation low. Ultimately, this will depend on improving productivity performance and opening up all sectors of the economy to greater competition. These issues are addressed in the next two chapters.

III. The productivity challenge

Introduction

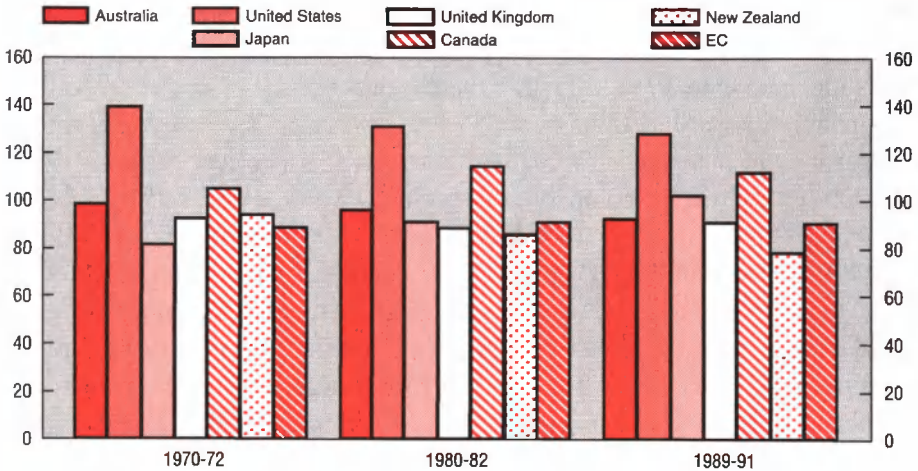
Living standards in Australia relative to those in other OECD countries have declined steadily throughout the post-war period. While it is difficult to make precise international comparisons, it appears that GDP per head (converted to a common currency at purchasing power parities [PPPs])³⁵ fell from among the five highest in the OECD area in the 1950s to tenth by the early 1970s and sixteenth by the early 1990s. This performance, which was reflected in lower labour productivity growth in Australia than in other OECD countries, was a result of influences set in train in earlier decades, such as excessive protection, little export orientation and a lack of domestic product market competition. It was also a consequence of the decline in Australia's terms of trade. After examining salient trends in productivity, this chapter discusses measures which have been taken to improve productivity and those which could be taken.

The record

GDP and labour productivity levels

For much of its history, Australia was one of the richest countries in the world.³⁶ This wealth was not based on productivity leadership in a broad range of industries, as in the United States, but rather on an exceptionally rich natural resource endowment and very efficient primary export industries. As the population expanded, natural resource rents per head of population declined, and GDP per head fell relative to that in other countries. By the early 1970s, Australian GDP per head (at PPPs) had fallen to just below the average of OECD countries (Diagram 18).

Diagram 18. **GDP PER HEAD AT PPPs**
 OECD = 100



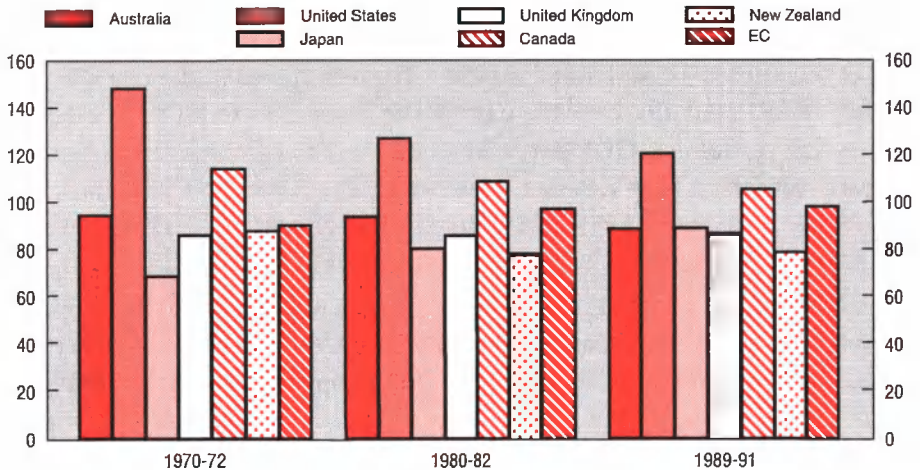
Source: OECD.

Australian GDP per head has since continued to fall relative to other OECD countries and by the early 1990s was some 93 per cent of the OECD average. Much of this decline occurred in the 1980s. The experience of the other English-speaking OECD countries over the past two decades is mixed. Of the other two resource-rich economies, GDP per head relative to the OECD average increased in Canada but fell in New Zealand. Meanwhile, the European Community (EC) improved its relative position slightly, to some 91 per cent of the OECD average, while Japan soared to some 102 per cent of the OECD average.

Levels of GDP per head reflect not only productivity, but also the proportion of the population working. Compared with the OECD area, Australia has had an above average proportion of its population in employment generally throughout the past twenty years. Although this proportion has increased in line with the OECD average between 1970-72 and 1989-91 – it rose by 7 per cent – the increase in Australia was much more concentrated on the 1980s. Labour productivity, as indicated by GDP per worker, has been somewhat lower relative to the OECD

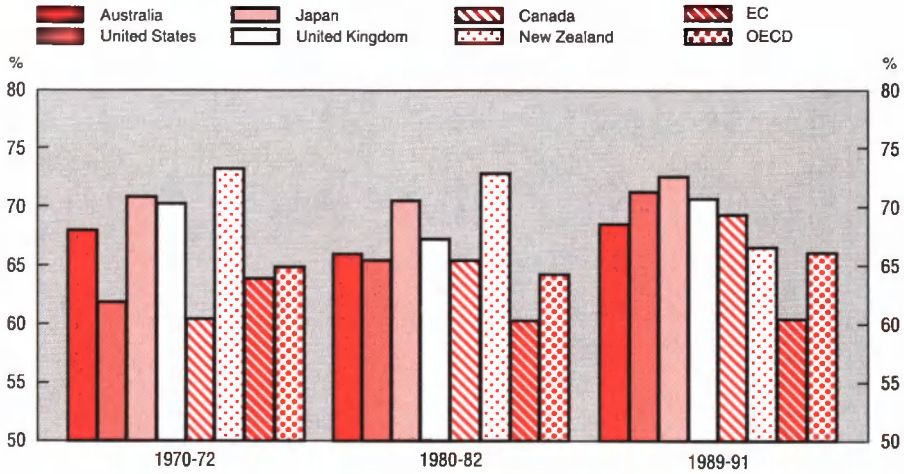
average – it was 89 per cent in 1989-91 – than GDP per head (Diagram 19), but has declined to a similar extent. As in most other OECD countries, the level and increase in the proportion of the Australian population working mainly reflect developments in its employment ratio (defined as employment divided by the population aged 15 to 65 years) rather than its dependency ratio (the proportion of the population aged 0 to 15 or over 65 years). Australia's employment ratio fell by 3 per cent in the decade to 1980-82 but rose by 4 per cent between 1980-82 and 1989-91; by way of comparison, the OECD average declined by 1 per cent between 1970-72 and 1980-82 but rose by 3 per cent between 1980-82 and 1989-91 (Diagram 20). The employment ratio in Australia over 1989-91 was lower than in Japan and the other English-speaking countries, except New Zealand, but much higher than in the EC, where this ratio fell by 5 per cent between 1970-72 and 1989-91. The North American economies, in particular, have been more successful in generating jobs during the past two decades while the EC has been much less successful in this respect.

Diagram 19. GDP PER EMPLOYEE AT PPPs
OECD = 100



Source: OECD.

Diagram 20. **EMPLOYMENT RATIO**¹



1. Employment divided by population aged 15-65 years.
 Source: OECD.

Productivity growth³⁷

Productivity comparisons are difficult to make, but it appears that Australia's performance has been broadly in line with the OECD average. As in most other OECD economies, labour productivity growth in the business sector has slowed since the early 1970s (Table 9). Australian labour productivity growth fell markedly from 3.0 per cent per annum in 1961-73 to 1.3 per cent per annum over 1980-92. This slowdown was in line with that of the OECD average, leaving Australian labour productivity growth at around 80 per cent of the average.

A small part of the slowdown was attributable to less capital deepening;³⁸ the contribution of capital deepening to labour productivity growth declined from 0.6 percentage points in 1961-73 to 0.4 percentage points in 1980-92. Proportionately, this decline was less than that in the OECD average. However, this still leaves Australia with a contribution of capital deepening to labour productivity growth below the average for the OECD. Part of the reason for the low rate of capital deepening in the 1980s was the wage restraint exercised in the period,

Table 9. **Trend productivity growth**^{1,2}

Percentage changes at annual rates

	Labour productivity ³					=	Contribution of capital deepening					+	TFP ⁴				
	1961-73 ⁵	1974-79	1980-86	1987-92	1980-92		1961-73 ⁵	1974-79	1980-86	1987-92	1980-92		1961-73 ⁵	1974-79	1980-86	1987-92	1980-92
Australia	3.0	2.1	1.6	0.9	1.3		0.6	0.9	0.6	0.2	0.4		2.5	1.2	1.0	0.7	0.8
United States	1.9	0.3	0.6	0.8	0.7		0.7	0.5	0.4	0.3	0.3		1.3	-0.2	0.2	0.5	0.3
Japan	8.2	3.7	2.8	2.9	2.9		2.7	1.7	1.1	1.0	1.0		5.5	2.0	1.8	1.9	1.9
United Kingdom	3.3	2.3	2.4	1.6	2.0		1.4	1.1	0.7	0.3	0.5		2.0	1.2	1.8	1.2	1.5
Canada	2.7	1.7	1.4	1.1	1.3		0.8	0.8	1.0	1.0	1.0		1.9	0.9	0.4	0.0	0.2
New Zealand	1.2	0.2	1.1	1.1	1.1		0.8	0.7	0.8	1.2	1.0		0.5	-0.5	0.3	-0.1	0.1
EC ^{6,7,8}	4.9	3.0	2.2	2.0	2.1		1.7	1.3	0.8	0.5	0.7		3.2	1.7	1.4	1.5	1.4
Total OECD ^{6,7,8,9,10}	4.0	1.9	1.6	1.6	1.6		1.3	1.0	0.7	0.5	0.6		2.6	0.9	0.9	1.1	1.0

1. Business sector.

2. Trend productivity has been calculated by running actual productivity data through a Hedrick-Prescott filter.

3. Output per employed person.

4. TFP growth is equal to a weighted average of the growth in labour and capital productivity. The sample-period averages for capital and labour shares are used as weights.

5. Or earliest available year, *i.e.* 1962 for the United Kingdom, 1963 for Japan and New Zealand, and 1967 for Canada.

6. Excluding Eastern Germany and Portugal.

7. Aggregates were calculated using country-weights based on 1990 GDP for the business sector expressed in 1990 purchasing power parities.

8. Excluding Belgium, Luxembourg and the Netherlands before 1971, Spain before 1965, France before 1964 and the United Kingdom, Greece and Ireland in 1961.

9. Excluding Iceland and Turkey.

10. Also excluding Canada and Norway before 1967, Sweden before 1964, Japan and New Zealand before 1963 and Finland in 1961.

Source: OECD.

resulting in real wage reductions largely associated with the operation of the Accord.³⁹

In line with the experience in most other OECD countries, the major factor accounting for the slowdown in labour productivity growth was a fall in Total Factor Productivity (TFP) growth.⁴⁰ Trend TFP growth in the business sector slowed from 2.5 per cent per annum over 1961-73 to 0.8 per cent per annum over 1980-92.^{41,42} This decline reduced Australia's TFP growth rate from above the OECD average over 1961-73 to slightly below the average over 1980-92.⁴³

The pattern of the slowdown in TFP growth in Australia contrasts with that in most other OECD countries (see Table 9). Whereas TFP growth for the OECD area as a whole slowed abruptly in the early 1970s and has since shown no further deterioration, TFP growth in Australia has progressively declined – so much so that it was only around 60 per cent of the OECD average over 1987-92. The available statistics cannot, however, yet adequately reflect the productivity improvements engendered by microeconomic reforms already introduced. Substantial microeconomic reform was introduced during this latter period,⁴⁴ and this is likely to be reflected in improvements in measured productivity growth as the economy emerges from recession. The challenge facing Australia is to build on the reforms already in place to bring about further productivity improvements.

Reasons for the productivity slowdown

The slowdown in TFP growth in most OECD countries since the early 1970s reflects the phasing out of special circumstances in the post-war era which supported high TFP growth. These included a large potential for “catch-up” to the productivity leader (the United States), the rapid expansion of international trade and post-war reconstruction.⁴⁵ The large productivity gap between the United States and the rest of the world gave other countries with educated workforces the opportunity to achieve rapid productivity growth by imitating American production and organisation methods. Meanwhile, the rapid expansion of international trade permitted other countries to exploit scale economies which had previously been available only to the United States. Moreover, post-war reconstruction meant that an unusually high proportion of the capital stock in many countries was relatively new, and, therefore, embodied new technology. TFP growth in OECD countries, including Australia, since the early 1970s has been more in line with long term historical trends.⁴⁶

In the case of Australia, the TFP growth slowdown may have been accentuated by some special factors. First, there was a mining boom in the 1960s and early 1970s. This would have boosted TFP growth by increasing resource rents and by updating the technology embodied in the capital equipment used in this sector. Second, the terms of trade have fallen substantially since the 1960s. To the extent that this decline was not foreseen, it would have resulted in investments being made which subsequently proved to be uneconomic. Because such capital investments are not written down in capital stock calculations, the resulting under-utilisation of capital would tend to depress TFP. Finally, for the same reason, the accelerated pace of structural change since the 1980s may have reduced measured TFP growth in the short term, even though this change will increase TFP growth in the medium term.

Factors contributing to TFP growth

An important focus of economic research in recent years has been to understand better the determinants of TFP growth. The main factors addressed in this literature, and their relevance to improving Australian TFP growth, are considered in the remainder of this chapter.

Education and human capital

Education can have an important influence on productivity. Because labour inputs to production are not quality-adjusted in the calculations, output attributable to human capital inputs is accounted for as TFP. Hence, countries with a highly-educated workforce tend to have higher productivity for a given physical capital stock. Naturally, education will only boost productivity if it is relevant to work and if there are incentives to use human capital efficiently. Education, especially general education, could also raise TFP growth by increasing workers' ability to adapt to new technologies and organisational methods.

Positive and robust correlations between average growth rates in GDP per capita and 1960 education enrolment rates are found by Levine and Renelt (1992) for a sample of 104 countries. For the OECD sub-sample, however, this correlation is not robust. Education participation rates at primary and university levels are not significant either.⁴⁷

These results do not demonstrate that education is irrelevant to productivity growth. Basic scholastic skills are obviously a necessary condition to implement technology, as demonstrated by the significance of secondary enrolment rates for the sample of 104 countries. Rather, they cast doubt on the marginal value-added of additional schooling in countries where the average length of schooling is already high. Moreover, they say nothing about the importance of the type and quality of education received; unfortunately, these dimensions of education are difficult to test empirically.

Educational attainment, participation and expenditure

The level of educational attainment of the Australian working-age population is broadly in line with that in other OECD countries (Table 10). The

Table 10. **Educational attainment of the population**
25 to 64 years of age; as percentages, 1991

	Pre-primary, primary, lower secondary ¹	Upper secondary ²	Higher education (non-university) ³	Higher education (university) ⁴
North America				
Canada	24	36	23	17
United States	17	47	13	24
Pacific area				
Australia	44	25	21	10
New Zealand	44	33	13	10
European Community				
Belgium	57	24	10	10
Denmark	39	43	6	13
France	49	35	5	10
Germany (Western)	18	60	11	11
Ireland	60	24	8	8
Italy	72	22	x	6
Netherlands	44	37	13	6
Portugal	93	3	1	3
Spain	78	12	x	10
United Kingdom	35	49	7	10
Other Europe – OECD				
Austria	33	61	x	7
Finland	40	42	8	10
Norway	21	54	12	12
Sweden	33	44	11	12
Switzerland	19	60	13	7
Turkey	82	11	x	6
Country mean	45	36	9	10

1. International Standard Classification for Education (ISCED) 0, 1, 2.

2. ISCED 3. Includes technical/vocational programmes, such as apprenticeships.

3. ISCED 5. Education at the third level, first stage, of the type that leads to an award not equivalent to a first university degree.

4. ISCED 6, 7. Education at the third level which leads to first or postgraduate university degrees or equivalent.

Source: OECD, *Education at a Glance*, 1993.

proportion of the population with upper secondary level education⁴⁸ or higher is the same as the mean of twenty OECD countries. But the proportion with non-university tertiary education appears to be relatively high in Australia while that for upper secondary relatively low. However, this is partly due to the way Australian data have been integrated into the OECD classification system: all Australian certificates/diplomas have been allocated to non-university tertiary education whereas some equivalent qualifications in other countries have been classified as upper secondary. Correcting for this factor would reduce the extent to which Australian educational attainment appears to be relatively skewed towards non-university tertiary education at the expense of upper secondary education.

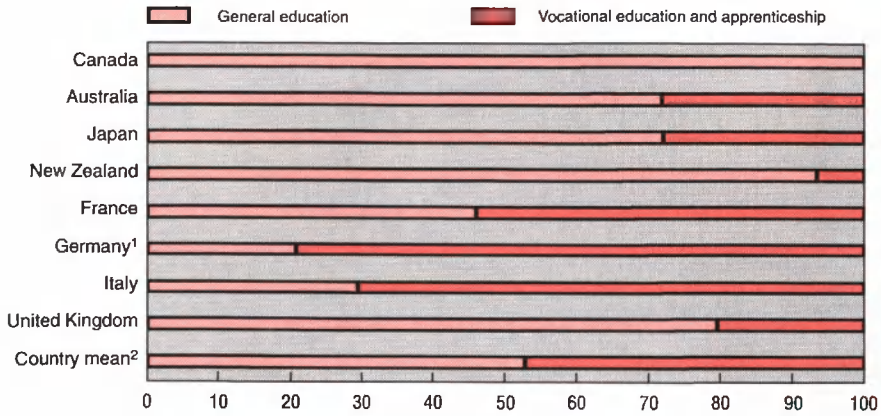
Participation in upper secondary education in Australia has expanded considerably in recent years. The retention rate through to the final year of secondary school was 77 per cent in 1992, more than double the rate of a decade earlier. Data for other OECD countries are not available (and, in any case, may not be comparable, especially for countries with a strong emphasis on vocational education) but data on full-time enrolment rates in upper secondary education suggest that the Australian retention rate is high.⁴⁹ In common with other English-speaking countries and Japan, most students at the upper secondary level in Australia do general as opposed to vocational programmes (Diagram 21).

Enrolment rates in non-university post-compulsory education are relatively high in Australia, but university enrolment rates are in line with other OECD countries (Diagram 22). Australia shares a high emphasis on non-university higher education relative to university education with North America, Japan and Scandinavian countries; in part, this reflects the fact that education for some careers is higher education in Australia but vocational education in some other countries. Nevertheless, a relatively low earnings premium for non-university tertiary education (males aged 25-34) (Table 11) and relatively high unemployment (Table 12) (both sexes, 25-64 years of age) suggest that the emphasis in Australia on this kind of education may be excessive.

Education expenditure in Australia was 5.5 per cent of GDP in 1991,⁵⁰ slightly below the OECD average of 6.5 per cent (Table 13). However education effort, which measures expenditure per student relative to per capita GDP, was significantly below the OECD average. The distribution of Australian education expenditure also differs markedly from that in other OECD countries (Table 14).

Diagram 21. **ENROLMENTS IN UPPER SECONDARY EDUCATION, 1991**

As a percentage of secondary students



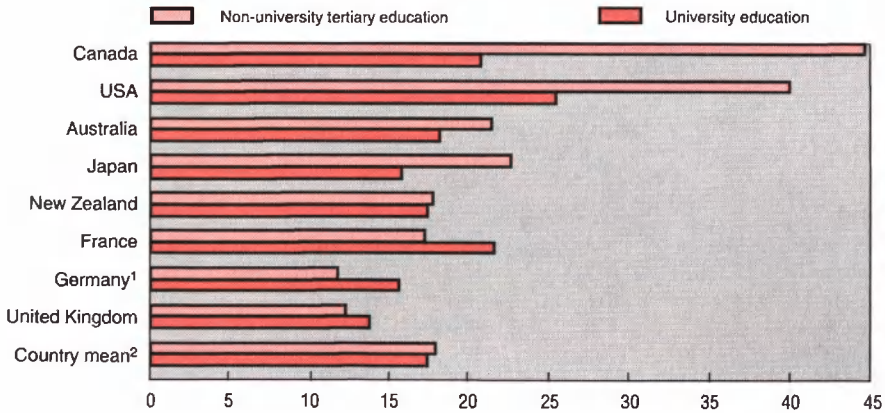
1. Western Germany.

2. Mean of 20 OECD countries. Data are unavailable for the United States, Greece, Luxembourg and Iceland.

Source: OECD, *Education at a Glance*, 1993.

Diagram 22. **ENROLMENT RATES IN TERTIARY EDUCATION, 1991**

Full-time equivalents (%)



1. Western Germany.

2. Mean of 19 OECD countries. The countries excluded are: Greece, Ireland, Italy, Luxembourg and Iceland.

Source: OECD, *Education at a Glance*, 1993.

Table 11. **Earnings by level of educational attainment**^{1,2}

	Year	Men			Women		
		ISCED 0/1/2 ³	ISCED 5 ⁴	ISCED 6/7 ⁵	ISCED 0/1/2	ISCED 5	ISCED 6/7
Australia	1991	85	106	141	82	119	168
Canada	1990	77	109	117	70	117	155
New Zealand	1991	90	102	133	81	99	136
United States	1990	71	118	148	61	126	176
Country mean ⁶		86	114	138	77	119	155

1. Ratio of mean annual earnings by level of educational attainment to mean annual earnings at the upper secondary level (times 100).

2. In population aged 25-34 years.

3. International Standard Classification for Education (ISCED) 0/1/2 corresponds to pre-primary, primary and lower secondary respectively.

4. ISCED 5 is non-university higher education. Such education is at the third level, first state, and does not lead to an award equivalent to a first university degree.

5. ISCED 6/7 is university education.

6. The other countries included in the mean are: Denmark, Finland, Netherlands, Norway, Portugal, Sweden and Switzerland.
Source: OECD, *Education at a Glance*, 1993.

Table 12. **Unemployment rate by level of educational attainment, 1991**

Per cent¹

	Early childhood education, primary lower secondary ²	Upper secondary education ³	Non-university tertiary education ⁴	University education ⁵	Total
Canada	14.1	9.5	7.8	5.1	9.1
United States	12.4	7.3	5.6	3.6	6.8
Australia	9.1	6.0	6.6	4.2	7.1
New Zealand	10.9	7.4	5.3	4.2	8.1
France	10.6	6.6	3.6	3.8	7.8
Germany (Western)	10.5	6.6	4.6	4.5	6.6
United Kingdom	10.4	6.5	3.7	3.1	7.1
Country mean ⁶	9.3	6.2	3.9	3.5	6.8

1. In population aged 25 to 64 years.

2. International Standard Classification for Education (ISCED) 0/1/2.

3. ISCED 3. Includes technical/vocational programmes such as apprenticeships.

4. ISCED 5. Tertiary education not leading to an award equivalent to a first university degree.

5. ISCED 6/7.

6. Mean of 21 OECD countries. Countries not included in the mean are: Japan, Luxembourg, Iceland.

Source: OECD, *Education at a Glance*, 1993.

Table 13. Expenditure for education, 1991

	Public ¹	Private ¹	Total ¹	Effort ²
Canada	6.7	0.7	7.4	32.2
United States	5.5	1.5	7.0	29.9
Australia	4.7	0.8	5.5	22.2
Japan	3.7	1.3	5.0	23.1
France	5.4	0.6	6.0	23.7
Germany (Western)	4.0	1.5	5.4	28.7
United Kingdom	5.3	—	—	—
OECD Total	5.2	1.4	6.4	27.1

1. Percentage of GDP.

2. Expenditure per student relative to per capita GDP.

Source: OECD, *Education at a Glance*, 1993.

Relative to enrolments, an unusually large amount of expenditure is allocated to higher education. The counterpart of this is relatively low expenditure on secondary education. To some extent this distribution could result from some vocational education (which is more expensive than general education) being undertaken as higher education in Australia but secondary education in some other countries. This factor, however, is unlikely to provide a complete explanation as other countries which also undertake little vocational education at the upper secondary level, such as the United States and the United Kingdom, still allocate to higher education a smaller proportion of expenditure relative to enrolments.

With respect to education outputs, data are rather limited for Australia as it did not participate in the international tests of achievement recently administered

Table 14. Percentage shares of total education expenditure and enrollments,¹ 1991

	Primary		Secondary		Tertiary	
	Enrollments	Expenditure	Enrollments	Expenditure	Enrollments	Expenditure
United States	43.5	30.3	37.6	33.3	18.9	36.5
Australia	42.5	31.2	45.5	31.9	12.0	35.9
Japan	40.8	34.4	47.8	43.4	11.4	22.0
France	35.4	22.2	49.8	58.0	14.8	19.8
Germany (Western)	24.8	11.6	58.0	68.9	17.2	19.6
United Kingdom ²	43.2	29.3	47.6	49.2	9.2	21.5
OECD Total	40.5	28.3	43.4	42.0	16.1	29.5

1. Excluding early childhood education.

2. Public sector only.

Source: OECD, *Education at a Glance*, 1993.

in many OECD countries. Australia did, however, participate in the 1983 mathematics study. Australian 13-year olds had a higher mean score than students in the United States but a lower score than students in England, Scotland and Japan.⁵¹ Australia has also participated in two science studies. In the first one, undertaken in 1970, Australian students ranked third out of ten countries at both the 14-year old and Year 12 levels. In the second study, held in 1983, students from countries other than Australia and the United States improved their performance. Australia's ranking fell from third to sixth relative to the ten other countries taking part in both studies.

The preceding comparisons of education statistics serve to focus attention on areas where Australia differs significantly from the mean for OECD countries. They suggest that Australian expenditure effort is below average and that a relatively high proportion of expenditure is for non-university higher education. To the extent that educational outputs are related to inputs, there would appear to be scope for Australia to devote more resources to education and to re-balance public education expenditures in favour of secondary education, especially vocational education. Participation in the international achievement studies would also be desirable, as it would enable the educational authorities to focus attention on areas of weakness.

TAFE and apprenticeship training

Vocational education is publicly provided by Technical and Further Education institutions (TAFEs).⁵² TAFE courses vary in length and cover a mix of subjects, including recreational and leisure topics. Australian governments have in recent years made a priority of expanding vocational education.⁵³ Numbers enrolled in vocational education have grown at an average rate of 3.6 per cent per annum over the decade to 1992, compared with 5.1 per cent growth for higher education. However, numbers in TAFE increased by 5.7 per cent in 1992, compared with 4.6 per cent in higher education. The apprenticeship system has shown very modest growth over the past decade. Apprenticeships are sensitive to the economic cycle and a downturn in numbers reflects a response to weak economic conditions.

To some extent, the weak growth of TAFE institutions may reflect compressed wage structures, their perceived second class status and the absence until recently (see below) of mutual recognition of vocational education qualifications

across States. Expansion of vocational education may well call for labour market reform and a change in social attitudes, which as in some other English-speaking countries, place a premium on more advanced higher-education qualifications.

Training

Another means to achieve higher productivity could be to increase training expenditure. The Australian private sector has a weak commitment to training, especially for older workers. Firms may be reluctant to invest in "generic or general training" for fear of losing skilled labour to competitors or because turnover is too high to justify such expenditure. This often results in lower general skills and out-dated technologies being utilised all around.⁵⁴ To address this externality, the Government introduced the Training Guarantee in 1990 (similar to the French levy) to tax firms for not training, while having a neutral effect on firms which do train.⁵⁵ (However, the smallest firms, which do the least training, are exempt.) The success of the levy in achieving its objectives is not clear. An evaluation of the scheme, using both quantitative and qualitative measures, is to be completed in 1994. Between 1989 and 1990 (the first year of the Training Guarantee) industry expenditure on training rose from the equivalent of 2.2 per cent of the wages bill to 2.6 per cent.⁵⁶

Experience in other OECD countries shows that the most effective forms of training are undertaken on a personal basis. Despite compressed wage structures, there appears to be a considerable amount of private and individual expenditure on training. A large-scale survey of employees carried out by the Australian Bureau of Statistics in 1989, *How Workers Get Their Training*, indicated that almost one in three respondents who had undertaken external training in the previous 12 months did so without any form of employer support. Similarly, one in every three who had enrolled for a formal educational course had employer support for their studies.

The Australian Government is seeking to strengthen and expand the formal work entry-level training system. It aims to improve the flexibility and quality of the training provided and to involve industry more effectively in determining the content of training. Funds have been provided in the FY 1993/94 Budget under the Vocational Education and Training Programme to develop and implement the proposed Australian Vocational Certificate Training System (AVCTs). Over \$A11.0 million is included for a series of pilot programmes to test all aspects of

the AVCTs. In addition, \$A12.5 million has been provided over three years to FY 1994/95 as a contribution to the delivery and teacher release costs on in-service courses to prepare TAFE teachers and private trainers for the implementation of AVCTs. The opportunity is also being taken to review the terms and conditions, including the wages structure, under which trainees are employed.

Management skills

Management skills can make a vital contribution to boosting productivity. It is striking, for example how successful Japanese firms have been in transferring improved work ethics and practices to transplant factories in the United Kingdom.⁵⁷ Assessing management skills is difficult. An attempt is made in the World Competitiveness Report 1993⁵⁸ which places Australia 17th in the OECD, behind all the other English-speaking countries (based on factors such as time to bring new products to market, customer orientation, quality of products, price/quality ratios, etc.); these results need to be interpreted with care.⁵⁹ This ranking is consistent with evidence that the ratio of Australian managers with formal or higher education qualifications is not much higher than that of the total labour force. In the past, "business" may not have attracted the best talent. Indeed, a world-class management culture may have been slow to develop in Australia, due to the slow opening-up of the economy to world competition. Hence, while the move to decentralised bargaining provides new opportunities to raise work-place productivity, much still depends on management's human resource and bargaining skills to exploit these opportunities. There are, however, signs of change. The McKinsey Report on Emerging Exporters finds that Australian managers are becoming much more outward oriented, and can perform well in overseas (less protected) environments. These improvements may also reflect changes in incentives, which in the past caused managers to focus on influencing the Government and owning channels of distribution. Better entrepreneurial skills and the ability to exploit innovation, particularly in overseas markets, are also critical training issues for managers.

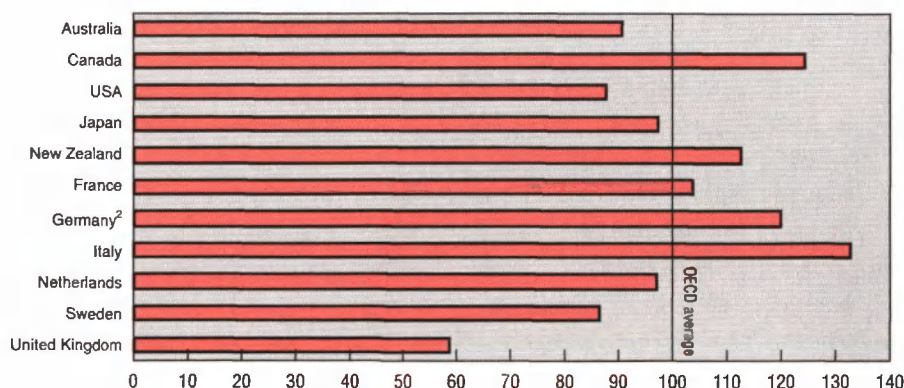
Investment and physical capital

A positive correlation (over time and across countries) has been observed between capital deepening and TFP growth, although it has generally weakened since 1973. Such a correlation may appear reasonable as a large part of new

technology is embodied in capital equipment – the cross-country correlation between productivity and structures investment is not as great as for equipment. De Long and Summers (1992) found a positive correlation between business-sector labour productivity growth and the ratio of machinery and equipment investment to GDP for a sample of 25 high productivity countries, although this correlation becomes insignificant when the sample is restricted to the OECD countries in their study.⁶⁰ New growth-theorists interpret these results as proof of large positive externalities on investment. This led some to argue that government should subsidise higher levels of investment. But empirical studies do not indicate unusually high returns from investing in equipment relative to human capital or research and development, for instance (Auerbach *et al.*, 1992; and Heston, 1993). Moreover, the correlation between growth and investment could also result from autonomous technical progress raising capital productivity and hence the optimal capital intensity of production. In this case, there are no grounds for the government to subsidise investment.

Business-sector capital per worker in Australia is around 90 per cent of the OECD average (Diagram 23), as is GDP per worker (see Diagram 19). This suggests that capital productivity in Australia is broadly in line with the OECD

Diagram 23. CAPITAL STOCK PER WORKER,¹ 1990



1. Double declining balance estimates. Converted to US dollars at 1990 PPPs exchange rates.

2. Western Germany.

Source: Heston (1993) for national currency estimates; and OECD.

average. But there is considerable variation around this average. Some countries have much higher capital productivity (e.g. the United States, Japan and the United Kingdom), while many others, especially in Europe, have lower capital productivity.

The fact that capital productivity has been well below that in some OECD countries is in part a legacy of past rigid work practices in Australia. These practices were encouraged by the policy of industry protection and its corollary of extensive labour market regulation through the craft-based award-wage system. This was reflected in less intensive utilisation of the capital stock and narrow and rigid job classifications causing demarcation disputes between unions. "Multi-skilling" and "broad-banding" of tasks were virtually unheard of until five years ago.⁶¹ The move towards more decentralised labour market arrangements since 1987, including linking wage increases to productivity at the industry/enterprise level and making the structure of awards more flexible to improve work practices, should help to boost capital productivity in coming years.

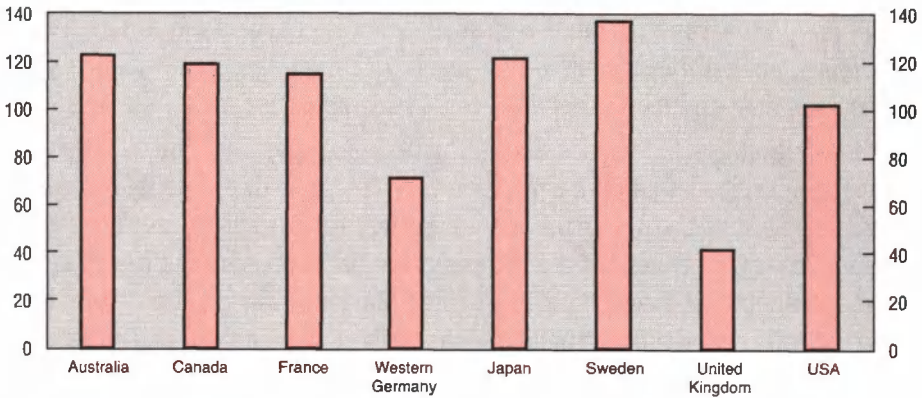
Infrastructure capital

A link between public infrastructure and private-sector productivity has been subject to extensive empirical work since the appearance of a well-publicised study by Aschauer (1989) which reported a substantial impact. The size of the estimated returns on infrastructure investment reported by subsequent studies has been much smaller;⁶² and there is a wide consensus that the causality can run in either direction, *i.e.* high levels of infrastructure investment could be caused by high TFP rather than the other way around.

Australia has a large infrastructure capital stock (Diagram 24). Infrastructure⁶³ capital as a proportion of GDP is similar to that in Japan, France and Canada, but higher than in most other OECD countries. In part, Australia's large investment in infrastructure capital reflects the country's size and low population density. Nevertheless, despite Australia's large infrastructure capital stock, its support to overall competitiveness only ranks 14th amongst OECD countries in the 1993 World Competitiveness Report.

This rating reflects in part past low levels of infrastructure efficiency and the scope for improvements beyond those achieved in recent years. The Industry Commission has suggested a range of reforms many of which are being adopted to differing degrees by the relevant governments, although considerable scope

Diagram 24. **INFRASTRUCTURE IN OECD COUNTRIES**^{1, 2}
As a percentage of GDP



1. Defined as the sum of capital stocks of producers of government services, structures in transport and communications and capital stock in electricity, gas and water

2. 1989 data, 1984 for Sweden.

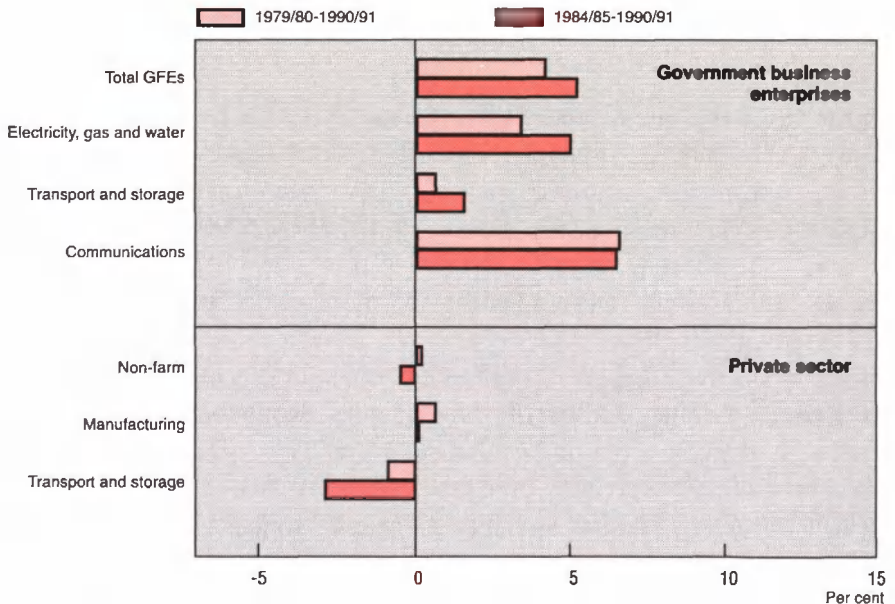
Source: OECD, Analytical Data Bank, and *Flows and Stocks of Fixed Capital*.

exists for further improvements in efficiency.⁶⁴ Productivity levels in the major Government Business Enterprises (GBEs), which supply most of the nation's basic infrastructure services, appear to have been about 30 per cent below achievable⁶⁵ international best practice in the early 1990s.^{66,67} In the electricity sector, a 30 per cent shortfall in TFP levels was estimated using US investor-owned utilities as the relevant benchmark; this shortfall was, however, a substantial improvement on the 50 per cent difference calculated for the mid-1970s.⁶⁸ A larger productivity shortfall has been calculated in telecommunications, where it is estimated that the adoption of "best practice" would increase output by 11 per cent with Telecom's existing capital stock and 29 per cent less labour than that used by Telecom – giving a potential increase in labour productivity of 40 per cent.⁶⁹ In rail freight, rail consultants Travers Morgan estimate that Australian systems would need to reduce their FY 1991/92 operating costs by about 27 per cent to match achievable world best practice.⁷⁰ Finally, waterfront productivity, as measured by crane rate output per hour, indicates that Australia's performance has improved rapidly in recent years but still only remains in the middle range of

world best practice for containers. Many Australian bulk ports (such as coal and wheat ports), however, are at world best practice in terms of labour productivity and loading rates. While shipping reform has seen crew sizes reduced from 28 to 21 over the period 1989 to 1992, with further reform expected to reduce average crews to 16, competition is limited as access to foreign shipping is not possible under the cabotage policy unless there is no Australian flagged vessel available.⁷¹

These productivity levels, though still relatively low, are a substantial improvement on the situation a decade earlier. TFP growth for GBEs is estimated to have averaged 4.2 per cent per annum between FY 1979/80 and FY 1990/91 (Diagram 25), far in excess of the 0.2 per cent rate estimated for the private non-farm market sector.⁷² Success in this sector illustrates the potential for “catch-up” by adopting world best practice technology and organisational practices.

Diagram 25. **TFP GROWTH FOR GBEs**
Average annual growth



Source: EPAC, *Profitability and Productivity of Government Business Enterprises*, Research Paper No. 2, 1992.

TFP growth for Australian GBEs picked up in the latter part of the 1980s, to 5.2 per cent between FY 1984/85 and FY 1990/91.⁷³ The “electricity, gas and water” group recorded TFP growth in line with the GBE average over this period. The “communications” group (comprising Telecom and Overseas Telecommunications Corporation (OTC), now AOTC, and Australia Post) recorded annual average TFP growth of 6.5 per cent. However, the “transport and storage” sector (comprising rail transport, airlines, buses and other public transport, and harbour authorities) achieved TFP growth of only 1.6 per cent per year.



The main reason for low productivity in GBEs, at least until the 1980s, has been a lack of competition and their capacity to survive without producing a market rate of return on capital. Since the 1980s, a number of governments have initiated a process of GBE reform with the core objective of improving GBE efficiency and service quality. This has involved the introduction of more commercial management approaches, in some cases corporatisation and required rates of return more in line with those in the private sector. Government involvement in day to day operations has been reduced with a more strategic role being exercised through devolved decision-making and setting management clear objectives and responsibilities including community service obligations. By FY 1990/91, GBE profitability had increased to an average rate of return on assets of 5.5 per cent, compared with a long term average for companies listed on the stock exchange of around 10 per cent.⁷⁴ GBEs have, in some instances, also been exposed to greater actual or prospective competition than in the past.⁷⁵ In addition, the increase in competition in many product markets has raised the pressure from business for better government-provided services at lower prices.

The most effective way to continue to raise GBEs’ productivity would be to expose them to more competition. Although competitive pressures have increased, much remains to be done, for example, by removing regulatory restrictions which prohibit or limit competition. Despite many GBEs having significant monopoly power, a number of GBEs are exempt from the ambit of competition law (the Trade Practices Act (TPA), see below).

Separation of GBEs’ regulatory and commercial functions, as recommended in the Hilmer Report (see below), would further enhance competition. Whether regulatory functions should be carried out on an industry (*e.g.* the United Kingdom) or on an economy-wide basis (*e.g.* New Zealand) is an open question. Industry regulators are likely to understand better their industry but to be at

Diagram 26. OWNERSHIP OF INDUSTRIES IN SELECTED OECD COUNTRIES
MAY 1992

	Postal services	Railways	Telecom- munications	Electricity	Gas production	Airlines	Coal production	Steel production	Oil production	Ship building	Car manufacture
Australia	More than 75%	More than 75%	More than 75%	More than 75%	Between 25% and 75%	Between 25% and 75%	Less than 25%	Less than 25%	Less than 25%	Less than 25%	Less than 25%
Canada	More than 75%	Between 25% and 75%	Between 25% and 75%	More than 75%	Less than 25%	Between 25% and 75%	Less than 25%	Less than 25%	Less than 25%	Less than 25%	Less than 25%
United States	More than 75%	Between 25% and 75%	Less than 25%	Between 25% and 75%	Less than 25%	Less than 25%	Less than 25%	Less than 25%	Less than 25%	Less than 25%	Less than 25%
New Zealand	More than 75%	More than 75%	Less than 25%	More than 75%	Less than 25%	Less than 25%	Between 25% and 75%	Less than 25%	Less than 25%	Less than 25%	Less than 25%
United Kingdom	More than 75%	More than 75%	Less than 25%	Between 25% and 75%	Less than 25%	Less than 25%	More than 75%	Less than 25%	Less than 25%	More than 75%	Less than 25%
Japan	More than 75%	Between 25% and 75%	Between 25% and 75%	Less than 25%	Less than 25%	Less than 25%	Less than 25%	More than 75%	Nil or little production	Less than 25%	Less than 25%
Austria	More than 75%	More than 75%	More than 75%	More than 75%	More than 75%	Between 25% and 75%	More than 75%	More than 75%	More than 75%	Less than 25%	Between 25% and 75%
France	More than 75%	More than 75%	More than 75%	More than 75%	More than 75%	Between 25% and 75%	Between 25% and 75%	Between 25% and 75%	More than 75%	More than 75%	Between 25% and 75%
Norway	More than 75%	More than 75%	More than 75%	Between 25% and 75%	Between 25% and 75%	Between 25% and 75%	More than 75%	Between 25% and 75%	Between 25% and 75%	More than 75%	More than 75%
Italy	More than 75%	More than 75%	More than 75%	More than 75%	More than 75%	More than 75%	More than 75%	Between 25% and 75%	More than 75%	Between 25% and 75%	Less than 25%
Switzerland	More than 75%	More than 75%	More than 75%	More than 75%	More than 75%	Between 25% and 75%	More than 75%	More than 75%	More than 75%	More than 75%	More than 75%
Denmark	More than 75%	More than 75%	More than 75%	Less than 25%	Less than 25%	Less than 25%	More than 75%	More than 75%	Less than 25%	Less than 25%	More than 75%
Western Germany	More than 75%	More than 75%	More than 75%	Less than 25%	Less than 25%	Between 25% and 75%	Between 25% and 75%	Less than 25%	Less than 25%	Less than 25%	Less than 25%
Netherlands	More than 75%	More than 75%	More than 75%	More than 75%	Between 25% and 75%	Between 25% and 75%	More than 75%	Less than 25%	Less than 25%	Less than 25%	Between 25% and 75%
Sweden	More than 75%	More than 75%	More than 75%	Between 25% and 75%	More than 75%	Less than 25%	More than 75%	Less than 25%	More than 75%	Between 25% and 75%	Less than 25%
Spain	More than 75%	More than 75%	Between 25% and 75%	Between 25% and 75%	Between 25% and 75%	More than 75%	Between 25% and 75%	Between 25% and 75%	Less than 25%	Between 25% and 75%	Less than 25%
Belgium	More than 75%	More than 75%	More than 75%	Between 25% and 75%	Between 25% and 75%	Less than 25%	Between 25% and 75%	Between 25% and 75%	More than 75%	Less than 25%	Less than 25%

Note:  More than 75% government ownership.
 Between 25% and 75% government ownership.
 Less than 25% government ownership.
 Nil or little production in the country concerned.

Source: EPAC, *Profitability and Productivity of Government Business*, Research Paper No. 2, 1992.

greater risk of industry capture. The risk of inconsistent industry regulation is reduced with economy-wide regulators. The Hilmer Report favoured economy-wide regulators.

Privatisation has been used in many OECD countries, including Australia, to improve the efficiency of services previously delivered by GBEs. The pace of privatisation has picked up in recent years in Australia, including decisions for the full or partial privatisation of Qantas and the Commonwealth Bank. The size and scope of this sector is not large compared to most OECD countries, and will fall as the announced privatisations are carried out (Diagram 26).

Whether privatisation would further improve efficiency can depend on whether competitive market conditions are put in place prior to privatisation. Experience to date suggests that much can be done to improve productivity without privatisation, especially by clearly defining commercial objectives for GBEs and exposing them to a competitive environment. (And until relatively recently, a number of State governments opposed privatisation on political grounds.) Nevertheless, the financial constraints faced by a GBE are not identical to those of a private business. GBEs do not face the same risks of bankruptcy or takeover (except on the verge of bankruptcy). In addition, GBEs cannot generally profit to the same extent from the transfer of technology and organisational know-how as when private owners of an enterprise are industry leaders.⁷⁶

Research and development (R&D) and technology

Although technical progress is clearly at the root of economic growth, its determinants are not well understood. The traditional neo-classical view, represented by the Solow (1956) growth model, takes technical progress to be exogenous. This view was challenged by Romer (1986) who argued that TFP growth is linearly related to the rate of capital accumulation.⁷⁷ Romer (1989) subsequently developed this thesis, arguing that R&D, or knowledge production, contributes to TFP growth. Moreover, given the non-appropriability of the returns from private R&D,⁷⁸ the private sector will tend to under-invest in R&D from a social viewpoint. According to this view, government should support R&D to the extent required to equate marginal social benefits and costs.

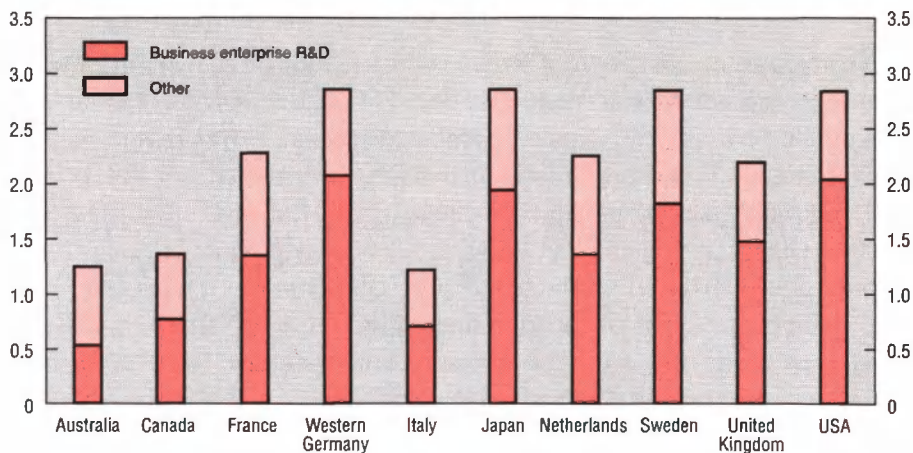
At least for the United States, an overall consensus value for the elasticity of TFP with respect to the stock of R&D is about 0.1 to 0.15 (Amable and Boyer, 1992). Average private returns on R&D are believed to be about the same as for

tangible capital, but social returns are believed to be at least double those rates (Bernstein and Nadiri, 1991). For a country such as Australia, which is a technology-follower, the elasticity of TFP growth with respect to R&D is likely to be even higher: R&D expenditure can be focused on integrating and adopting state-of-the-art techniques bought ‘‘off the shelf’’. This is clearly a much less expensive way of acquiring new technology than actually inventing it, as the leaders must.

Yet Australia’s total R&D expenditure has historically been low by world standards, particularly in the business sector (Diagram 27). Business sector R&D expenditure in the late 1980s was lower than in all G7 countries and well below that in some other medium-sized economies, such as the Netherlands and Sweden. The private sector financed a smaller proportion of R&D in Australia than in many other OECD countries.

Australia’s weak capacity to integrate foreign technology is reflected in its small technology payments in the balance of payments relative to other small OECD economies (Diagram 28).⁷⁹ These payments (mainly patents, royalties and

Diagram 27. **RESEARCH AND DEVELOPMENT EXPENDITURE¹**
As a percentage of GDP

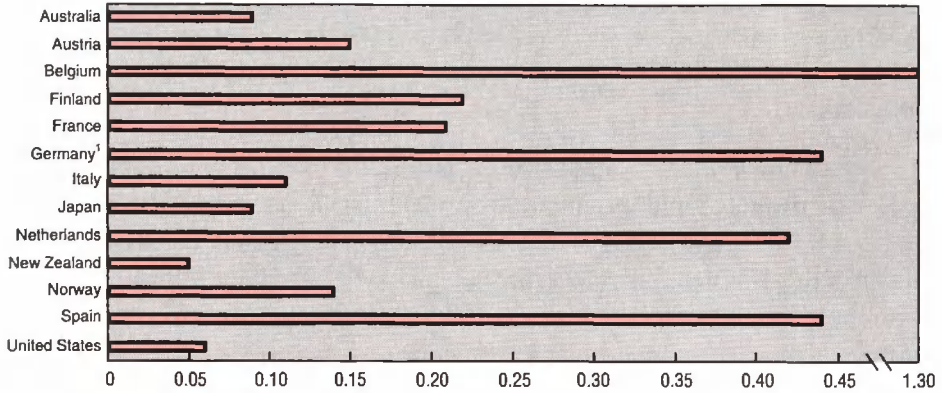


1. 1988 data, 1989 for Sweden.

Source: OECD, *Main Science and Technology Indicators*, 1993.

Diagram 28. **TECHNOLOGY BALANCE OF PAYMENTS: PAYMENTS, 1990**

As per cent of GDP



1. Western Germany.

Source: OECD, *Main Science and Technology Indicators*, 1993.

licences) only amounted 0.09 per cent of GDP in 1990, compared with 0.14 per cent in Norway, 0.15 per cent in Austria, 0.22 per cent in Finland and 0.42 per cent in the Netherlands. To a great extent, this reflects the legacy of border protection. The highly protected manufacturing industry had few pressures to compete or to export through adopting world technologies.

The Government has introduced a number of measures aimed at stimulating R&D. A 150 per cent tax concession for R&D was introduced in 1985 and reconfirmed in 1992; in 1991 the Government announced the formation of up to 62 Co-operative Research Centres designed to promote joint research by universities, government and industry; and the major Government research body, the CSIRO, has been re-oriented to take greater account of commercial development opportunities. While it is too early for most of these initiatives to have had a major impact, Australia's business sector R&D expenditure is now growing rapidly – 13.1 per cent per annum since 1981 compared to the OECD average of 6.7 per cent. Moreover, Australian business has been active in promoting Australian technology overseas. Australia's average total external patents grew at

17.5 per cent per year over the period 1981-89, compared with the OECD average of 9.2 per cent. In addition, the Business Council of Australia's recent report "Managing the Innovation Enterprise", finds that many enterprises in Australia are developing systematic approaches to innovation based on understanding customer requirements and making consequent improvements in supply.

Competition

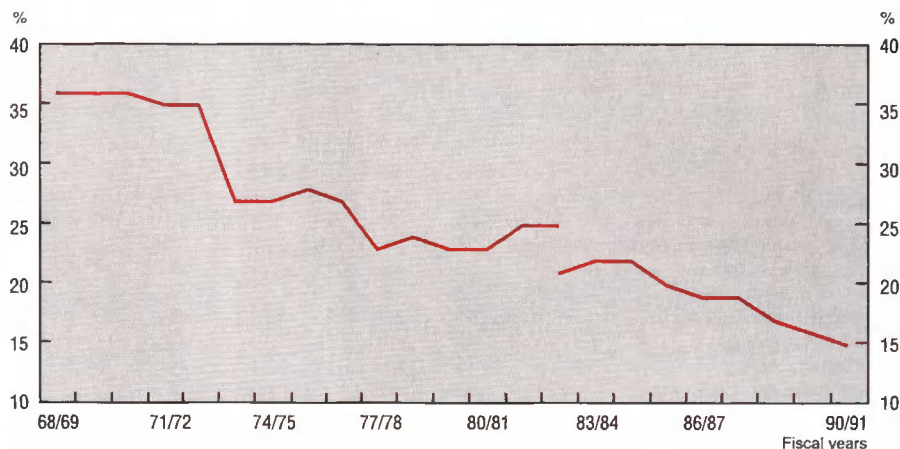
Increasing competition has been manifestly present in those societies which have experienced rapid productivity growth (such as most OECD countries during the 1950s and 1960s and, more recently, many Asian countries) and was absent in those which have not (such as the ex-Soviet Union). It is a major spur to innovation and improved productivity.⁸⁰ Australia's record and room for improvement in three policy areas affecting competition – border protection,⁸¹ barriers to internal trade and competition policy – are examined in the remainder of this chapter.

Border protection

Trade is by far the most powerful source of competition. For most of the 20th century, Australia severely restricted this avenue of competition by erecting high import barriers to protect its manufacturing sector and ancillary industries (transport, insurance, banking, etc.). Since the 1970s, the onerous dead-weight costs of these policies have been acknowledged and a priority of policy has been to reduce import protection steadily.

The first major reductions in import protection occurred in the early 1970s, when a round of tariff cuts reduced average effective rates of protection in manufacturing from 35 per cent to 27 per cent (Diagram 29). After a hiatus during the subsequent decade, industry protection started to fall significantly again from the early 1980s. In fact, Australia is one of only four OECD countries to reduce tariffs unilaterally in the 1980s. It is also the only country to have a separate organisation⁸² dedicated to making industry assistance transparent, including through the regular publication of effective rates of assistance calculations. As part of this focus on reducing protection, the majority of non-tariff barriers were converted to tariff equivalents. By FY 1990/91 the average effective rate of assistance in manufacturing had fallen to 15 per cent, from 25 per cent in FY 1982/83.

Diagram 29. **EFFECTIVE RATE OF PROTECTION**
Manufacturing sector¹



1. The discontinuity in 1982/83 reflects the rebasing of the estimates to account for changes in the structure of the manufacturing sector.

Source: Industry Commission.

Reductions in import protection have been uneven across industries. Indeed, the already highly protected textiles and footwear and clothing industries have received substantial increases in effective protection even though nominal rates of protection have been reduced. Moreover, the motor vehicle industry, which is also highly protected, now enjoys an effective rate of assistance more than twice the average (Table 15); it should be noted, however, the effective rate of protection enjoyed by the motor vehicle industry peaked in FY 1984/85 and has been in decline ever since, and is now about one-third of the rate it was at its peak. Special treatment for these industries (which represent around 25 per cent of manufacturing) has reduced the overall drop in import protection achieved.

Further tariff cuts are scheduled for the 1990s. The government announced in 1991 a programme of tariff cuts which will reduce nominal rates of protection to 0 or 5 per cent by 1996 for all manufacturing other than textiles, clothing and footwear, and passenger motor vehicles. The average effective rate of assistance for all manufacturing will fall to 5 per cent by the year 2000. Although large annual reductions in effective rates of assistance in the textiles, footwear and

Table 15. **Effective rates of assistance in manufacturing**
1968-69 to 1990-91 and end March 1991 programme

	1968-69	1970-71	1975-76	1980-81	1985-86	1990-91	2000-01 (March 1991 programme)
Food, beverages and tobacco	16	18	20	10	5	3.1	2
Textiles	43	42	50	55	72	68	22
Clothing and footwear	97	91	99	140	148	176	50
Wood, wood products and furniture	26	26	19	15	18	13	4
Paper, paper products, printing and publishing	52	50	30	25	17	7.0	2
Chemical, petroleum and coal products	31	31	23	15	12	10	4
Non-metallic mineral products	15	15	10	4	4	3.0	1
Basic metallic mineral products	31	28	16	10	9	7.9	4
Fabricated metal products	61	60	38	31	22	17	5
Transport equipment	50	51	59	63	61	33	12
Other machinery and equipment	43	43	25	20	24	15	4
Miscellaneous manufacturing	34	32	26	28	26	20	6
Total manufacturing	36	36	28	23	20	15	5

Source: IAC (Industries Assistance Commission) 1985, "Assistance to Manufacturing Industries 1977-78 to 1982-83", Information paper, AGPS, Canberra; IAC 1987, "Assistance to Agricultural and Manufacturing Industries", Information Paper, AGPS, Canberra; IAC 1989, *Annual Report 1988-89*, AGPS, Canberra; IC 1992, *Annual Report 1991-92*, AGPS, Canberra.

motor vehicle industries are programmed, these rates will, however, still be high, at 22 per cent, 50 per cent and 25 per cent respectively by the year 2000.⁸³ Nevertheless, the average level of assistance for the manufacturing sector will finally be close to that received in most OECD countries.

Australia provides a small element of assistance to its highly efficient agricultural sector. Producer Subsidy Equivalents (percentage PSE) averaged around 13 per cent over the July 1990 to 1993 period. This is about one quarter of the OECD average; hence, Australian agricultural export markets and prices are adversely affected by the high levels of assistance given to agriculture in most other OECD countries and the consequent dumping of their surpluses on international markets. As in the case of Australian manufacturing, assistance is highly uneven. The major beneficiaries are the milk industry, wool growers (in 1991), egg producers, various forms of horticulture and sugar growers. Major reforms have been initiated in the wool and milk industries. With regard to the wool industry, the Commonwealth Government abolished the former Australian Wool Corporation's reserve price scheme in July 1991 and established the Australian

Wool Realisation Commission to take responsibility for the stockpile, other assets and debt (with the latter to be repaid by 30 June 1999). In September 1993, the Government announced new marketing arrangements for wool, including the establishment of a new body, Wool International (WI), which will be responsible for stock disposal (according to a fixed sales schedule) and the wool industry's debt. WI is planned to be privatised in July 1997. New dairy marketing arrangements took effect on 1 July 1992. A key change in policy was the termination of the Commonwealth's underwriting scheme, which had helped to cushion average returns earned on exports of manufactured milk products against severe downturns in border prices. Export subsidies for manufactured milk, which are financed by a levy on producers, will be progressively reduced over the next seven years, and will be eliminated by 1 July 2000. Tariffs on sugar have been reduced in recent years, but no further measures are planned.

Barriers to internal trade

Competition within Australia has also been restricted by barriers to inter-state trade. While formal tariff barriers are prohibited by the Federal Constitution, State governments have been able to restrict inter-state trade through non-tariff barriers. Regulations and standards have not, until recently, been recognised in other States and, in the case of utilities, the lack of access to "essential facilities"⁸⁴ – such as the electricity transmission network and rail tracks – has limited inter-state trade. Trade in agricultural products has also been restricted by the activities of primary product marketing boards, for example in the cases of milk and honey.

Progress has been made towards lowering inter-state trade barriers. At the Special Premiers Conference in 1991, heads of State governments agreed to work towards mutual recognition of regulations and standards. To this end, the Commonwealth Mutual Recognition Act 1992 was passed and corresponding state legislation is expected to be passed by the end of 1993; all States except Western Australia had passed this legislation at the time of writing (Western Australia is currently drafting the relevant Bill). This legislation will allow:

- goods sold lawfully in one state to be sold freely in other States or Territories;⁸⁵
- a person registered to carry out an occupation in one State or Territory to have equivalent status in any other State or Territory;

- negotiated uniform standards where necessary in the interests of public health or safety or environmental protection.

To facilitate the smooth operation of mutual recognition, it was agreed to establish national competency standards for occupations and professions, review partially registered occupations (registered in some but not all jurisdictions) and develop uniform standards for occupational health and safety and dangerous goods. The processes dealing with partially recognised occupations have resulted in a report (including recommendations) which is due to be considered by a joint meeting of Commonwealth and State representatives in February 1994. Legislation to ensure a nationally uniform approach to the certification requirements for those occupations subject to current State Occupational Health and Safety legislation is expected to be introduced in 1994, as is legislation dealing with the handling of dangerous goods. The process of establishing national competency standards for occupations and professions is well underway and implementation of these standards will be undertaken after they have been developed. Other barriers to inter-state trade were addressed in the review of national competition policy recently completed by a Committee of Inquiry (see below).

Competition policy

Competition policy, as in most other OECD countries, aims to ensure that competition is not undermined by anti-competitive behaviour of firms. Existing law prohibits agreements or arrangements which increase the market power of firms and prohibits firms which possess substantial market power from using it for an anti-competitive purpose (Part IV of the Trade Practices Act [TPA], 1974). There are, however, a number of important sectors which are excluded in whole or in part from the prohibitions on anti-competitive conduct contained in Part IV of the Act. These sectors include:

- certain State and Territory government businesses which are exempt through the "shield of the crown" doctrine;⁸⁶
- businesses which are not trading or financial corporations and do not engage in interstate or overseas trade or commerce, such as some State and Territory government businesses, some professions, some agricultural producers and certain other businesses;

- some activities or businesses which are regulated by legislation and that legislation specifically exempts (in whole or in part) those activities or businesses from the Act. For example, this exemption applies to some statutory marketing authorities.⁸⁷

The recent report of the Committee of Inquiry into National Competition Policy, known as the Hilmer Report, recommends the following reforms to enhance competitive practices, especially in these sectors:

- that coverage of the TPA be extended to all parts of the economy;
- that statutes and regulations which significantly restrict competition should lapse after five years unless they are shown to be in the public interest, similarly, new restrictions should not be permitted unless they meet the same criterion;
- that before competition is introduced to a public monopoly sector, regulatory responsibilities be separated from commercial functions; a rigorous, open and independent study be held into the costs and benefits of structurally separating the natural monopoly and potentially competitive elements of the business (with a presumption in favour of separation in the case of vertically integrated monopolies); and rigorous, open and independent study be held into the costs and benefits of separating potentially competitive segments into smaller units;⁸⁸
- that a new legal regime be established under which firms could in certain circumstances be given a right of access to "essential facilities";
- that governments adopt a set of principles aimed at ensuring that government-owned businesses comply with certain competitive neutrality requirements when competing with private firms (including cases where firms are not monopolies but have substantial market power);
- that a carefully targeted prices monitoring and surveillance process be established for cases of monopoly pricing.

Implementation of the Hilmer reforms would ensure that business activities which are currently exempt from the TPA were brought within its ambit. Government action following reviews of anticompetitive regulations may terminate various legislated monopolies for public utilities, statutory marketing authorities and occupations. Implementation of the recommendations would help to ensure that government businesses enjoy no net competitive advantage when competing

with private firms. There would also be greater scope for prices surveillance where monopoly pricing power remains.

The Hilmer Report proposed that its recommendations be implemented through Commonwealth-State co-operation. The State governments have jurisdiction over most of the relevant statutes and regulations and own most of the public-sector monopolies. But State governments face strong incentives to maintain the status quo. Apart from the power of state lobby groups, States may be concerned that increased competition may reduce the profitability of their monopoly public enterprises. In the event that implementation of the report proves difficult following the co-operative approach suggested by the Committee, other possibilities could be explored. One could be the establishment of a joint federal-state authority (along the lines of the National Food Authority) with power to implement an agreed agenda.⁸⁹ Whatever the means found, it is vital that these reforms proceed.

Foreign investment

There has also been extensive liberalisation of foreign investment policy. Restrictions now are applied in very few areas; exceptions are for developed residential real estate (where the Government considers that the net benefits to the Australian community from foreign investment are smaller) and in the sensitive media, banking and civil aviation areas. Whereas previously in the case of the resources sector, intending foreign investors were expected to demonstrate net economic benefits to Australia as well as to have 50 per cent Australian equity, investors now can expect that approval will not be withheld from proposals in the resources and most other sectors on national interest grounds, other than in unusual circumstances affecting Australia's vital interests and development.

IV. Progress in labour market reform

Industrial relations

Labour market institutions affect productivity growth by influencing the efficiency with which labour is used and the incentives they give to improve workers' skills. Arrangements which restrict the capacity of employers and employees to negotiate advantageous changes in work practices constrain productivity. In a fast-changing economic environment, this disadvantage will be important. Similarly, arrangements which restrict wage flexibility can discourage skill acquisition. An externally imposed flat earnings profile will discourage employers from training staff because the possibilities for employees (whose earnings potential will rise) to share in the costs through low near-term earnings are limited.

By the mid-1980s, Australia's social partners had recognised that the industrial relations system had to change to promote productivity growth. Employers, employees and their unions have since negotiated many important changes. Incentives to change have increased but potential improvements have not yet been fully exploited. Reforms in recent years, as well as features of Australia's unique institutional labour market arrangements (see Box), are discussed below.

Recent reforms

The focus of the wage fixing system has shifted in recent years from wage restraint to raising productivity. Central to this change have been reforms aimed at shifting wage bargaining from centralised institutions to the level of the enterprise. Centrally-determined award rates of pay (see Box) have been an impediment to raising productivity because they have limited the flexibility of employers and employees (or their representatives) to negotiate mutually advantageous changes in working conditions and pay. Enterprise bargaining is intended

Institutional arrangements

Australia has a system of wage awards which specifies minimum wages and conditions of work for most categories of labour; there is, thus, a myriad of minimum wage rates, each depending on the kind of work concerned. It is illegal to hire someone at a below-award wage or on other terms which fall below those in the relevant award, regardless of whether or not they belong to a union – for example, it is illegal to pay lower penalty rates (for work outside normal working hours) than those specified in the award. Consistent with the “labour-type” basis of awards, unions are organised along occupational/craft lines. In May 1990, 80 per cent of all employees were covered by awards (federal and state), while in August 1992, 40 per cent of all employees were union members. Awards are registered by the Australian Industrial Relations Commission (AIRC) and six State Industrial Relations Tribunals. In May 1990, around 31 per cent of workers were covered by federal awards and 46 per cent by state awards.

The Federal Government’s recent legislative amendments provide a framework for a greater devolution of decision-making about wages and working conditions to the workplace level, within a framework of minimum standards provided by awards and various International Labour Organisation (ILO) conventions (minimum wages, equal pay, parental leave and termination of employment). While some enterprise agreements are likely to be supplements to awards, the Government intends that wage increases associated with enterprise agreements will not flow into award rates. The AIRC will have responsibility for ensuring this does not happen in practice. In addition, arbitration by the AIRC will be focused mainly on the award safety net, with an emphasis on conciliation in settling disputes in relation to bargained agreements.

The Government is committed to ensuring that awards remain “relevant” over time, to protect the living standards of weaker sections of the workforce. To this end, the Government and the Australian Council of Trade Union (ACTU) in their Accord VII agreement foreshadowed three safety net wage increases between 1993 and 1996, primarily for lower paid workers; these increases are A\$8 per week, available after 1 July 1993, and between A\$5 and A\$10 per week from 1 July 1994 and 1 July 1995. Following submissions from the Government and ACTU and employer representatives, the AIRC in its Review of Wage Fixing Principles decision of October 1993 effectively accepted the concept of “safety net” wage increases and granted an A\$8 increase in supplementary payments (which will increase minimum award rates). This increase is expected to flow to only around one third of the workforce.

The Australian industrial relations system is marked by strong wage-wage links. This has favoured the retention of incomes policies long after they have been discarded in other OECD countries. Before 1983, however, incomes policies were largely ineffective. While increases in award wages were controlled, “over-award” payments were not. Scope has always been available for negotiation of over-award wages or conditions in an individual enterprise. The rapid wage increases of 1973-74 and 1981-1982 were associated with substantial increases in over-award payments, although in the former period, significant increases in award rates in key sectors, which spread across the economy

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(continued)

through compulsory arbitration, were also important. In view of these problems, incomes policy was modified in 1983. An agreement was made between the Government and the ACTU providing for wage restraint and a return to centralised wage fixing in exchange for a commitment to enhanced social expenditure, income support and tax policies. Centralised wage fixing was conducted through the Australian Conciliation and Arbitration Commission (predecessor of the Australian Industrial Relations Commission) and compliance aided by its requirement that individual unions make a "no-extra-claims" commitment before receiving increases under national wage case decisions. This agreement, known as the "Prices and Incomes Accord", was renewed at its expiry, as have been all its successors.

The Accord has evolved over time with an increasing focus on decentralising wage determination arrangements. For example, across-the-board wage increases and the no extra claims commitment no longer play a role in wage determination arrangements. The most recent agreement (Accord VII) supported an approach to wage fixing which places primary responsibility for industrial relations at the workplace level within a framework of minimum standards provided by awards.

to provide this flexibility and so facilitate a productivity-enhancing re-organisation of workplaces.

The move towards enterprise bargaining began in 1987, when the then Australian Conciliation and Arbitration Commission [predecessor of the Australian Industrial Relations Commission (AIRC)] awarded a two-tiered wage increase, with the second tier being linked to productivity improvements negotiated at an enterprise level⁹⁰ This process was reinforced by the sixth Accord between the government and the Australian Council of Trade Unions (ACTU) (February 1990, revised November 1990), which provided for enterprise bargaining over wage increases based on achieved improvements in productivity. The AIRC, whose consent was required to implement the Accord, agreed in its October 1991 decision to approve enterprise agreements⁹¹ subject to certain conditions, notably that wage increases were based on the actual implementation of measures designed to boost productivity.⁹²

Despite these reforms, enterprise bargaining initially spread slowly. The Government came to the view that the conditions required to register an enter-

prise agreement were proving too restrictive in their operation and accordingly amended the Industrial Relations Act (1988) in July 1992. These legislative amendments abolished the public interest test for single enterprise agreements. The import of this change was to end the requirement that wage increases be based on productivity improvements. Instead, agreements were required to meet certain simple criteria for certification, including that:

- the agreement does not result in an overall disadvantage to employees' terms and conditions of employment;⁹³
- agreements must be negotiated through a single bargaining unit comprising all relevant unions⁹⁴ (although the Commission was able to permit exceptions);
- the agreement specifies its period of operation and includes dispute settling procedures.

The Commission retained the right to refuse to certify an agreement applying more widely than a single business if it considered the agreement to be contrary to the public interest.

Another aspect of industrial relations reform in recent years has been award restructuring. This process, which began in 1988, has involved multi-skilling and broad-banding of tasks, the establishment of skill-related career paths and adjustments in minimum award rates to establish reasonable wage relativities across awards.⁹⁵ There has been a parallel move by the union movement and the Government to rationalise representation patterns through union amalgamations. A potential benefit of union amalgamations was a closer alignment of bargaining structures and business units, reducing the number of unions with which businesses had to negotiate.

Results

Enterprise bargaining resulting in formally ratified agreements has spread slowly. At December 1993, around 795 000 workers are covered by enterprise agreements in the federal jurisdiction (some 12¼ per cent of wage and salary earners and one third of all employees covered by federal awards; still more employees are covered by informal agreements). To be sure, the spread of enterprise agreements has picked up since July 1992, when Division 3A of the Industrial Relations Act (1988) became law; since this time, nearly 60 per cent of

agreements have been ratified pursuant to Division 3A. Almost all of the agreements ratified have involved employees covered by federal awards.⁹⁶ Around 16 per cent of agreements have been made in the public sector, but these account for approximately 60 per cent of all employees covered by federal workplace agreements; only six per cent of private sector employees in the federal system are yet covered by a formalised federal enterprise agreement.⁹⁷

The Workplace Bargaining Survey (WBS) found that enterprise bargaining is more prevalent in large workplaces.⁹⁸ Evidence from the Australian Chamber of Commerce and Industry (ACCI) survey of small business suggests that the slow spread of enterprise bargaining to small firms is because the majority (63 per cent) are satisfied with the current award arrangements. It may also be because they generally have no effective union presence, making collective bargaining impracticable.⁹⁹

The slow spread of enterprise bargaining even in large firms seems in part to be due to the difficulty of negotiating an agreement with multiple unions. Just one union can hold up an agreement, even though the proportion of workers represented by that union may be small;¹⁰⁰ however, the AIRC can use its discretion to override objections from unions who are unreasonably holding up the ratification of an agreement. Moreover, union representatives in the “single bargaining unit” may not be drawn from the site but rather from the union organisation. Such representatives may pursue their organisations’ agendas rather than the interests of the firms’ employees.¹⁰¹ Other reasons for the slow spread of enterprise bargaining are the subdued pace of economic recovery and the need to learn how the system works. It is sometimes argued that bargaining through over-award payments has slowed the move to enterprise bargaining because it already exists *de facto*. This view does not seem plausible.¹⁰²

Enterprise agreements appear to have been developing as supplements to awards rather than as agreements separate from awards.¹⁰³ While the Government has stated its support for the making of agreements which comprehensively cover the terms and conditions of employment, many parties do not find it necessary to rewrite all award matters in order to improve productivity. This may be because unions have shown greater flexibility in negotiating award conditions through enterprise bargaining in recent years.¹⁰⁴

With respect to award restructuring, this process has increased the coherence of the award system. Whereas awards previously contained lists of job

classifications without any emphasis on skills and training, awards now generally contain a small number of classifications arranged in terms of skill levels. The new classification schema has increased labour market flexibility by facilitating the reallocation of workers between different activities within an enterprise.¹⁰⁵ Correspondingly, the number of demarcation disputes has declined. By aligning the new award classifications to reforms in vocational education and training, the wage structure now provides workers with clearer pathways to increased earnings through enhanced skills.

The parallel move to union amalgamation has reduced the number of federally registered unions from 147 in 1988 to 64 in October 1993. In Business Council of Australia (BCA, an employer organisation representing large businesses) workplaces, the average number of unions has fallen from 4.8 in 1988 to 3.6 in 1992.¹⁰⁶ However, 60 per cent of workplaces had the same number of unions in 1992 as in 1989 and, in most cases, the unions which have disappeared represented a small proportion of employees. Union amalgamation appears to have resulted in the disappearance of many small unions. Major unions which had previously coexisted in workplace have not amalgamated and continue to share representation (however, the single bargaining unit requirement for those seeking formal enterprise agreements is relevant to the nature of that representation). Only about 40 per cent of the reductions in unions can be accounted for by amalgamations. Judged against the BCA objective of more closely aligning bargaining structures and business units, union amalgamations have only been partially successful.¹⁰⁷ Amalgamations and s.118A processes have, however, made possible some progress towards the Government and ACTU objective of improving the industry and enterprise focus of unions. Nevertheless, the speed of reform has left a number of matters still to be resolved. In some industries, complex union structures and award coverage need to be addressed further.

Future directions for reform

Reform has aimed at better aligning bargaining structures and business units to enable firms and employees to negotiate wages and mutually beneficial conditions of work. Although progress has been made, Australia's industrial relations system remains "primarily one of occupational awards supplemented by industry sub-divisions and enterprise awards."¹⁰⁸ Further progress is required to align bargaining structures and business units more closely.

The Federal Government has introduced the Industrial Relations Reform Bill 1993 in order to provide an effective framework for the further spread of enterprise bargaining throughout the Australian economy. A major part of the Reform Bill is the introduction of more effective arrangements for direct bargaining, including the establishment of a new stream of enterprise flexibility agreements to be made directly between employers and employees. These agreements will be of particular relevance to non-unionised and lightly unionised enterprises. Other main elements of the Reform Bill are:

- new objects for the Industrial Relations Act 1988 and a restructuring of the Act to better reflect the revised framework;
- the maintenance and strengthening of the safety net for employees, through the award system and minimum entitlements;
- the creation of a sanction-free bargaining period in the negotiation of certified agreements;
- a more effective regime for regulating industrial action and enforcing agreements, including amendments to the current secondary boycott provisions of the Trade Practices Act;
- the establishment of a specialist Industrial Relations Court.

Although unions would not be able to veto non-union agreements in either non-unionised, or mixed union/non-unionised enterprises, they would be able to appear before the AIRC to be heard on whether the agreement should be ratified. This could deter some employers from undertaking such agreements. In the case of enterprises with some union members, unions respondent to the relevant award and who have members at the workplace will be given an opportunity to take part in negotiations and to be party to any ensuing enterprise flexibility agreement. In the case on non-unionised workplaces, relevant unions party to the award can be heard when the application for approval of the agreement is before the AIRC, but only concerning whether such agreements meet the relevant legislative criteria. In neither case will unions be able to veto an enterprise flexibility agreement approved by the majority of employees.¹⁰⁹ The Government recognises the problems that small firms may have in formal bargaining and for this reason the Reform Bill includes a number of different avenues for improving workplace performance, including the encouragement of further flexibility within the existing award system.

The award system could act as an impediment to the spread of enterprise bargaining. Because awards and union structures reach across enterprises, the system may not provide adequate flexibility to allow effective negotiation of employment conditions at the enterprise level. The Reform Bill provides a framework which should assist in providing this flexibility. A willingness in practice to modify award terms and conditions to suit the circumstances of individual enterprises, within the requirement of no overall disadvantage to employees, will be important to effect improvements in the functioning and flexibility of the labour market. Further rationalisation and amalgamation of unions along industry lines, together with the effective operation of single bargaining units in enterprise negotiations, would also be helpful in this regard.

A relevant issue is whether Australia should follow New Zealand's example and make a decisive break with the award system. New Zealand's Employment Contracts Act 1991 (ECA) deemed all awards to be employment contracts and left employers and employees (or their representatives) free to renegotiate wages and conditions as they saw fit.¹¹⁰ A statutory minimum code of employment rights was preserved, relating to dispute resolution procedures, personal grievances, a minimum wage, holidays, sick leave and occupational safety and health standards.¹¹¹ Although only in operation since 1991, the ECA appears to have accelerated the process of enterprise bargaining. Some employers and employees are continuing to opt for multi-employer contracts, but the majority have chosen to bargain at the enterprise level. Within these structures, a mixture of collective and individual contracts are being negotiated. Improved communications, multi-skilling, flexible working hours and performance-based pay systems are some of the direct benefits cited as outcomes of the deregulated bargaining environment.¹¹²

Labour market policies

The wage structure in Australia has traditionally evolved with a strong emphasis on social justice and income distribution considerations. These objectives were perhaps feasible in a context of high border protection, large natural resource rents and labour scarcity. But, now that the economy is being increasingly exposed to world competition, attempts to achieve income distribution goals through the wage system will inevitably lead to higher structural unemploy-

ment. A major problem with compressed relative wage structures is that entry level wages for youth, the long-term unemployed and unskilled job seekers may be too high. Programmes involving wage subsidies for the long term unemployed and training for youth and other groups have been introduced. In addition to more general programmes of assistance for apprenticeships and traineeships, special temporary subsidies have been introduced as counter cyclical measures to ensure that the level of apprenticeships and traineeships are maintained at reasonable levels to forestall skill shortages as the economy recovers. Over the past few years, the focus of labour market policies (*e.g.* Newstart since 1991) has shifted to targeting the long-term unemployed (over 12 months) as opposed to the placement of persons experiencing short duration unemployment. Programmes have been focused on preventing the emergence of acute long-term unemployment and finding work for disadvantaged individuals.¹¹³

In FY 1987/88, the Government aligned job search allowance for young people with income support payments to people undertaking study to encourage higher youth participation in education and training, and to avoid school drop-outs moving directly onto the dole. (Modest user charges on tertiary education – 8 per cent of costs for TAFE institutions and 20 per cent for universities – had been introduced earlier to avoid waste.) All young people who have been unemployed for 12 months or more are now eligible for six months of vocational training and a ‘job start’ card on completion of training. This card allows employers to take on these individuals while receiving a wage subsidy ranging from A\$70 to A\$230 a week, depending on the age and duration of the unemployed person hired. A Career Start Traineeship (CST) system¹¹⁴ was also introduced aimed at providing a bridge between existing training arrangements and the new Australian Vocational Certificate (AVC) system.

To encourage the development of a national training system, with nationally-agreed objectives, strategies and planning processes, the Commonwealth and States agreed (in 1992) that an Australian National Training Authority (ANTA) will be established to plan and fund training from State and Commonwealth financial sources. Programmes were announced to boost youth vocational training, TAFE participation rates and financing commitments.¹¹⁵ The Government increased opportunities for youth in both the higher education and vocational education sectors. A voluntary loan facility (with no interest charges) to supplement allowances to tertiary students and other entitlements for further education

and training were also introduced, along with additional funding. Extra training places, additional apprenticeships and traineeships, and the new AVC were also announced as part of an overall strategy to improve (job) entry-level training and to provide greater flexibility to combine structured training with work experience.

But the critical problem of older workers with few job skills, who need special help to find work, remains unresolved. Under new arrangements being developed, job seekers who are identified as being more at risk of becoming long term unemployed (such as older workers with low skill levels) will become eligible for labour market programmes at an earlier stage of their unemployment experience.¹¹⁶ Indeed, the scale of the task is probably understated as early retirement has shifted such individuals off the dole onto other forms of social support. An unresolved problem in Australia (and many other OECD countries) is the lack of incentives for low-skilled workers with dependents to seek employment. This results from high benefit income replacement ratios¹¹⁷ for such workers¹¹⁸ and the open-ended duration of unemployment benefits.

As part of its shift to more “active labour market programmes”, the principle of reciprocal obligation has been introduced. As the government provides income support, it requires recipients to take up reasonable job offers, to undertake active job search and to participate in labour market programmes or other activities to improve their employability.¹¹⁹ These policies have had positive effects in the sense that a large proportion of workers have maintained employment once wage subsidies have ended. However, it is difficult to assess what level of total employment would have been in the absence of subsidies as these have to be paid by somebody. In view of the fact that long-term unemployment has risen steadily, these “wage subsidies” may largely contribute to “churning” (*i.e.* to a more even incidence of unemployment for the same pool of unemployed) and may be costly. “Churning” may, however, provide benefits, as it keeps the long-term unemployed in contact with the labour market and can assist them in competing for available vacancies. This can result in greater efficiency in the labour market by helping to fill vacancies faster and may help to contain wage pressures. Not all labour market programmes are expected to create jobs in the short term, but rather to keep those most likely to be overlooked even in a recovery (the outsiders) in a competitive position when jobs arise from growth in economic activity.

In May 1993, the Prime Minister announced the establishment of a Committee on Employment Opportunities to prepare a discussion paper to examine long-term developments in the labour market, assess current policies and the need for new measures to address unemployment. The Committee's Discussion Paper was released on 15 December and included a review of labour market and training programmes and income support mechanisms. Following public discussion, the Government will respond in the first half of 1994 with a White Paper on Employment and Unemployment.

V. Conclusions

The economic recovery in Australia since mid-1991 has been slow compared with previous post-war cyclical upturns. Recently, output growth appears to have picked up to 3 to 3½ per cent, which at twice the OECD average, is a relatively good performance given weak world commodity prices. With growth in the working-age population of 1¼ per cent a year, however, the unemployment rate remains at around 11 per cent, near its post-war record. Inflation is down to around 2¼ per cent, close to a 30-year low. More significantly, economic behaviour and inflation expectations are adjusting to low inflation. A drop in the nominal exchange rate combined with muted wage inflation has brought about a large “real” depreciation, which should facilitate adjustment to the drop in Australia’s terms of trade to historically low levels. Notwithstanding continued good export performance, the current account deficit in the first three quarters of 1993 averaged about 3¾ per cent of GDP.

Throughout the recovery the stance of macroeconomic policy has remained accommodating. Being among the few OECD countries which took active measures to consolidate their fiscal position from the mid-1980s, Australia had scope for expansionary budget policy to support the recovery, although three years of discretionary easing has now significantly reduced the room for further stimulatory action. The August 1993 budget provides a small degree of stimulus in the current fiscal year, but the focus of fiscal policy will shift towards deficit reduction from the next fiscal year onwards. Monetary policy has supported recovery while achieving low inflation. By late July 1993, official cash rates had been brought down to 4¾ per cent from a late-1989 peak of 18 per cent. By September 1993, the effective exchange rate was around 15 per cent below its level fifteen months earlier. With inflation past its trough and the flow-on effects of the drop in the exchange rate yet to be felt fully, the scope for a further easing in monetary policy has been reduced.

Against this macroeconomic policy background, the OECD projects output growth to pick up moderately, to around 3½ to 4 per cent over calendar years 1994 and 1995, in response to improving business confidence and a gradually improving international outlook. With output growing at this pace, relatively fast labour force growth may keep the unemployment rate stuck around 10 per cent. Weak growth in average earnings, combined with continued cyclical gains in productivity, should contain the rise in unit labour costs to around 2 per cent, and hence deliver declining real unit labour costs in the coming two years. The large drop in the effective exchange rate over the past year will have an impact on the price level, as will scheduled increases in wholesale and excise taxes. But, given the large output gap, these shocks are likely to be absorbed smoothly. Measured year to year, “headline inflation” might rise to a little over 3 per cent, but “underlying inflation” may remain slightly below 3 per cent. Notwithstanding solid export growth, especially of manufactures and tourism, on-going import penetration and a pick-up in investment goods imports will probably neutralise the external sector’s contribution to output growth. Although falling world and domestic interest rates will reduce the deficit on investment income, weak terms of trade are expected to hold the current account deficit to around 4 per cent of GDP. This is a level which is likely to be sustainable without difficulty in so far as stable macroeconomic policies and structural reform improve the scope for sound investment decisions by the private sector.

The Commonwealth government’s macroeconomic agenda is, quite correctly, to establish a credible medium-term framework for fiscal consolidation and to lock in low inflation. The government’s four-year fiscal consolidation programme is based on achieving medium-term output growth in the range of 3¾to 4 per cent a year. The Commonwealth budget deficit target for FY 1996/97 of around 1 per cent of GDP – slightly higher for general government if States continue to run small deficits – is realistic and goes further than the aims of many other OECD countries. Its realisation should contribute to a much needed rise in national savings. The fact that the tax increases scheduled for future years as part of the programme have already been legislated by Parliament enhances the credibility of the programme. In achieving their fiscal objective, the authorities will need to remain vigilant with respect to future spending pressures. While the envisaged shift in tax burdens from direct to indirect taxes is desirable on structural grounds, the plan relies on an indirect tax which has a narrow and

steadily eroding tax base and also has some adverse effects on exports and investment. A shift towards a more broadly-based indirect tax as in most other OECD countries, may offer gains in efficiency, although distributional, adjustment and compliance costs also have to be considered. Certain possibilities for broadening the tax base exist and should be examined.

Maintaining low inflation will not happen automatically. Australia's history of "boom-bust" cycles has made it difficult to lock in low inflation at cyclical troughs over the past twenty years. In the past, the existence of multiple objectives for monetary policy, and changes to objectives as circumstances changed, may have at times contributed to ambiguity about the authorities' determination to keep inflation low, and thereby contributed to the maintenance of stubbornly high inflation expectations. The 1990-93 business cycle has been different. The monetary authorities have shown greater commitment to locking in the low inflation achieved in the most recent downturn, and inflation expectations have fallen significantly since 1990. Helped by the world-wide bond market rally in 1993 and lower domestic short-interest rates, this led to a large fall in nominal 10-year bond yields and lower long-term real interest rates, despite the need to finance large budget deficits.

Clarity in setting out monetary policy objectives can be expected to enhance credibility and reduce financial market uncertainty. Some countries have sought to achieve this by adopting explicit inflation targets. The Reserve Bank Governor has recently indicated publicly that the authorities were determined to see that Australia stays in the low inflation league, and that the Governor believed that the "underlying" rate of inflation would be held at around 2 to 3 per cent, although these figures are not meant to be explicit inflation targets. It is important that the Australian public clearly understands the authorities' inflation objectives. Experience with inflation targets in other OECD countries and their influence on inflation expectations is limited and difficult to assess. In early 1994, nominal government 10-year bond yields in Australia are almost 1 percentage point above those in New Zealand and at about the same level as in Canada. These two countries have adopted explicit low inflation targets and New Zealand made its central bank accountable for achieving the targets. Both countries have succeeded in decisively improving their past mediocre inflation records vis-a-vis their trading partners. But so too has Australia, in a different institutional context. The acid test for all three countries will come when these economies re-attain

trend output. No particular institutional arrangements can be a substitute for a record of success in achieving low inflation. If the monetary authorities in Australia keep inflation low over the medium term, particularly in the upturn of the current cycle, they will clearly have established credibility.

A stable, medium-term orientation of macroeconomic management is but one ingredient, though an important one, in the strategy for sustained improvement in economic welfare. Such improvement will be necessary if the steady decline throughout the post-war period in Australia's living standards relative to those in other OECD countries is to be arrested. GDP per head fell from among the three highest in the OECD area in the 1950s to the ninth from the bottom by the end of the 1980s. By 1989-91 it was down to 93 per cent of the OECD average. The slide in Australia's relative living standards reflects lower labour productivity growth in Australia than elsewhere and the trend decline in Australia's terms of trade.

As in other OECD countries, labour productivity growth in the business sector has slowed since the 1970s: Australian labour productivity growth fell from 3.0 per cent per annum in 1961-73 to 1.3 per cent per annum over 1980-92. This slowdown was in line with that of the OECD average, leaving Australian labour productivity growth at around 80 per cent of the average. A small part of this slowdown (0.2 percentage points) was attributable to less capital deepening. However, the major factor was the slowdown in TFP growth from 2.5 per cent per annum over 1961-73 to 0.8 per cent per annum over 1980-92, which was also in line with the decline in the OECD as a whole. A major reason for Australia's poor productivity performance – despite increasing exploitation of natural resources – has been the “protection all around” policies that characterised Australia throughout much of the post-war period resulting in a lack of competition, both foreign and domestic. Until relatively recently, the considerable rents from Australia's natural resource base were used to underwrite inefficiencies in its manufacturing sector, serving a domestic market that was too small to support scale economies, and in service sectors sheltered from competition and characterised by extensive public ownership. The challenge facing Australia is to open its economy further to international competition and to encourage the spread of competition in a more integrated domestic market. The Australian government is continuing this process with an ongoing programme of structural and labour market reforms.

It is sometimes argued that TFP growth is related to the share of physical investment, but there is little evidence for this relationship. In Australia's case, while the investment to GDP ratio is high by OECD standards there is scope to improve the quality of investment and the efficiency with which the capital stock is used, especially public infrastructure. Structural reforms already implemented and in train, combined with low inflation, should increase the quality of investment and the efficiency of the capital stock. Measures have also been taken to improve the quality and efficiency of public infrastructure (including through the corporatisation of GBEs), but there is scope for further improvement. For example, while there have been improvements in the efficiency of infrastructure in such areas as the ports and rail transportation, these still operate at productivity levels substantially below world best practice.

Despite industry becoming more outward oriented and innovative in recent years, Australia still lags behind world best practice techniques in many areas. Australia's weak, though improving, private-sector R&D record, combined with inflexible work practices, an inadequately trained work force and shortages of management skills, have in the past probably restricted its ability to integrate and adapt more sophisticated technologies. But the research and development effort and the use of more flexible work practices have improved in recent years. The technical scope for "catch-up" is confirmed by international benchmarking for plants of comparable scale (*e.g.* steam boilers, photographic paper, ship-building, car assembly, electricity generation) which indicate that productivity is only some 60 to 70 per cent of world best-practice levels. Indeed, a few firms have succeeded in matching world best productivity standards by negotiating better and more flexible work practices, typically with single unions and/or on green-field sites.

Undoubtedly, it takes time to reap the benefits of past reforms, and this may be a reason why productivity growth remained poor. But some encouraging signs have emerged. A unilateral commitment to lower border protection has opened up the economy to global competition, which has unleashed powerful forces for change throughout the economy. Ongoing market share gains by exports of highly-processed manufactured goods and a rapid shift to Asian markets appear to be more than can be explained from a depreciation-induced improvement in cost competitiveness. The need to compete globally has also given impetus for accelerated structural reform in sectors hitherto sheltered from competition,

which produced remarkable results in some cases (for example, government-owned enterprises have recorded TFP growth over 5 per cent per annum over the past five years). A major reform of competition policy – which will entail substantial extension of the coverage of the Trade Practices Act – is under consideration, and the imminent adoption of mutual recognition of State regulations will increase inter-State competition by cutting across a web of inconsistent regulatory controls.

Dismantling the legacy of interventionist policies and institutions still has a long way to go. Further attitudinal changes of labour, management and government at all levels still need to be made in the transition to a more efficient economy. Such a transition is not costless in terms of restructuring industry and displacing labour and raises apparent short-run conflicts between the pace of structural reform and lowering unemployment, which is rightly Australia's top social priority. But structural change is inevitable if Australia is to benefit from technical progress, world competition and, hence, rising living standards. These adjustment costs will, however, be significantly reduced as more rapid structural change enhances the supply-side flexibility of the economy. The alternative of restricting technical progress and competition, for short-run gains of special interest groups, is a recipe for long-term national impoverishment which must be avoided.

Education and training have a key role to play in improving employment opportunities, facilitating structural change and raising productivity. The recent imbalance between public resources devoted to vocational as opposed to higher education has been recognised. To date, vocational education and training has not succeeded in offering a satisfactory alternative to higher education. The establishment of the Australian National Training Authority (ANTA) should encourage growth in vocational education and training. A review of the effectiveness of the education system as a whole – including the balance of participation across education sectors – as well as that of the Training Guarantee levy introduced in 1990 will be carried out by the government in 1994.

Lowering unemployment durably, particularly for the long-term unemployed, is a major challenge and will take time. Economic growth is undoubtedly the most significant means of achieving sustainable reductions in unemployment. Active labour market programmes are already in place to prepare the long-term unemployed for work and to assist their placement in the workforce. However,

other structural issues could also be addressed. Incentives to seek work may be adversely affected by the tax-benefit system, due, in part, to the open-ended nature of unemployment benefits. For low-paid married workers, incentives to work may also be reduced by high benefits relative to wages. In addition, the joint entitlement of unemployment benefits for married couples may discourage part-time work. At the same time, employment opportunities may be reduced because entry level wages for youth, the long term unemployed and unskilled job seekers may be too high. Programmes of wage subsidies for the long-term unemployed and training for youth and other groups have been introduced to facilitate the employment of these categories of workers. Attainment of such an objective could also be assisted by more flexibility in relative wages, through the evolving industrial relations system, as well as some modifications to the tax-transfer system. Some of these issues are discussed in a report from the Committee on Employment Opportunities, which is to be followed by the government's White Paper in the first half of 1994.

Significant labour market reforms have been made since 1987. The "award wage" system has been substantially simplified by rationalising job classifications by skill level (rather than by job description) and broadening the range of tasks performed, which sometimes requires the acquisition of additional skills. Awards have been restructured to promote skill-related career paths and these reforms have led to a large drop in demarcation disputes. From 1987 onwards national wage increases were tied to reforming award. The Commonwealth government and the Australian Council of Trade Unions have also promoted a rationalisation of trade unions to align bargaining structures more closely on an industry rather than occupational basis. In October 1991 the Australian Industrial Relations Commission (AIRC) endorsed enterprise bargaining, building on the progress achieved since 1987 in implementing change in individual workplaces.

To date, these initiatives have had some success and are significant in an Australian context given its industrial relations institutions and history. However, the increased internationalisation of the economy and greater competitive pressures in product markets mean that labour market reform must go further. Despite further improvements to the Industrial Relations Act in 1992 which allow greater scope for market forces (by allowing enterprise agreements to be certified by the Industrial Relations Commission without the need to demonstrate productivity gains, subject to the proviso that overall award working conditions are not

worsened), only 12 per cent of wage and salary earners (mostly in the public sector) – or about one-third of those on federal awards – are now covered by enterprise agreements. And the number of unions in an average workplace of large companies has dropped only from 4.8 in 1989 to 3.6 in 1992, largely due to the disappearance of small unions. Hence, Australia's industrial relations system remains primarily one of occupational awards supplemented by industry subdivision and enterprise awards.

The slow spread of enterprise bargaining can be attributed in part to the fact that it has evolved out of the craft-based, multi-employer award wage system. The award system encourages bargaining units on a skills basis (dominated by existing unions) rather than on an industry (or enterprise) basis. It can also limit the scope of eventual agreements due to the detailed nature of working conditions in many awards which cannot "on balance" be worsened, unless this is found by the AIRC not to be against the public interest. To help spread enterprise bargaining, the government is proposing greater use of the so-called "flexibility" clauses, which allow agreements on more flexible working conditions than stipulated in existing awards. The potential for negotiating more flexible working conditions appears to have been limited at least until very recently. For some large companies, it has been costly to strike agreements with the three or more unions in a typical work place. Similarly, non-union enterprises have made little use of flexibility clauses as unions must be a party to agreements (although they cannot unreasonably oppose such agreements). The government's Industrial Relations Reform Bill 1993 introduced in November 1993 provides a framework to accelerate the spread of enterprise agreements by making formal workplace bargaining more accessible, especially to the non-unionised sector.

To be sure, the Prices and Incomes Accord based on the award wage system has delivered a substantial degree of real wage flexibility at the macroeconomic level, and Australia had the OECD's highest employment growth rate in the 1980s. However, recognising the imperative to improve international competitiveness and productivity at the enterprise level, the industrial relations system is being adapted to the changing environment of the 1990s. The choice of a moderate pace of reform of the labour market may be justified in the interests of maintaining social consensus. However, if the costs in terms of workplace inflexibility, poor productivity and higher structural unemployment are to be avoided, bargaining structures and the role of the award system will need to evolve in such

a way as to facilitate the spread of enterprise bargaining. Even if enterprise bargaining becomes widespread, satisfactory outcomes will depend on adequate competition in goods and labour markets.

All in all, economic prospects for the Australian economy are relatively bright. Inflation is low, international competitiveness is strong and export performance good. In particular, Australian firms have become increasingly successful in developing investment and export opportunities in the rapidly growing Asian region. A medium-term fiscal consolidation programme is in place and the recovery in the world economy is slowly gathering pace. The government's commitment to opening the economy up to international and domestic competition is having profound and irreversible effects. Admittedly, unemployment will remain unacceptably high in the coming few years. But faster labour-market reform would hasten the benefits of reforms in other domains and reduce the inevitable transition costs of achieving a more efficient economy, with sustainably higher growth.

Sound macroeconomic policies are in place. These, along with accelerated implementation of the agenda on microeconomic reform, should permit the efficient exploitation of Australia's natural advantages, including a rich resource base, proximity to the fastest growing region of the world economy, a stable and efficient government and judicial system and a well educated population.

Notes

1. GDP (A) is the average of the expenditure, production and income measures of GDP. All references to Australian real GDP growth in this report refer to growth in real GDP (A).
2. This was a good performance compared with the OECD average, but with the working-age population growing by 1/4 per cent, (the second highest rate among OECD countries), it was insufficient to make significant inroads into unemployment.
3. Over the period 1980 to 1991, Australian household debt as a proportion of household disposable income rose steadily from 38 to about 52 per cent in response to financial market liberalisation.
4. The Australian household sector's liabilities grew less quickly than its assets in the 1980s, resulting in a rise in its net wealth as a multiple of disposable income from roughly five to six. Over 1992, flows of funds data indicate that household liabilities grew by almost 7 per cent, while assets grew by roughly 3 per cent, as households financed the recovery in dwellings construction through borrowing. (By contrast, the United States and United Kingdom which experienced debt financed consumption booms saw net wealth as a multiple of disposable income remain broadly constant in the 1980s.)
5. The steep decline in the household savings rate is overstated in a period of rapid disinflation as nominal interest payments are included fully as a component of current income, but the change in the real value of financial assets and gains on debt are not accounted for. See Shafer, Elmeskov and Tease (1991).
6. "Affordability" is defined as the ratio of average household disposable income to the "qualifying" or minimum income required to service a typical first home mortgage. Falling nominal mortgage rates from mid-1989 to late 1992 in the face of stable house prices improved the affordability of house purchase by some 50 per cent over this period.
7. ABS and private business expectations surveys suggest firms intend a modest increase in plant and equipment investment through FY 1993/94, with further falls expected in non-residential construction expenditure. In addition, all key business surveys indicate an improvement in business confidence.
8. By 1992, average debt/equity ratios for large non-bank corporations had dropped to around 1.27 from the 1988 peak of some 1.48. The 1992 level was comparable to that level reached in 1985. See Budget Statement 1993-94, No. 1, p. 2.39.

9. Trend output in Diagram 5 is calculated using a mid-cycle trend. This technique gives trend output growth rates of 2.9 per cent from 1980 to 1985, 4.1 per cent from 1986 to 1989, and 2.7 per cent from 1990 to 1995 on the basis of the GDP forecasts presented in Chapter II.
10. See OECD (1993b).
11. Although vacancy rates have begun to fall, these are still around 20 per cent in central business district buildings in Melbourne and Sydney. Other surveys which concentrate on older buildings show even higher vacancy rates.
12. In the past, State governments mainly borrowed through the Loan Council, thereby benefiting from Commonwealth Government credit ratings. More recently, State governments have assumed responsibility for their own debt and are subject to independent credit ratings. This shift has obliged States to be accountable for their budget positions and management.
13. Standard tests of this hypothesis are to see if there were structural breaks in labour demand equations relating total hours worked in the non-farm sector to current and lagged non-farm producer wages and non-farm GDP. Comparisons of productivity in recent business cycles in the United States, Canada and the United Kingdom also give few, if any, indications of a structural shift in labour productivity (see OECD, 1993a). Due to measurement problems, these tests should be treated with some caution. For example, estimates of Australian GDP levels during the recession and subsequent moderate recovery have been substantially and progressively revised up. In addition, standard econometric tests require a series of "post-break" observations before they can accurately identify a structural shift in productivity. If a break has occurred recently, it may not yet be possible to identify using standard tests.
14. From November 1990 to November 1992, employment increased by 8 per cent in firms employing fewer than 20 people, whereas employment fell by around 5 per cent for firms between 20 to 99 employees and 15 per cent for firms with more than 100 persons. This pattern appears to reflect the relative strength of the service sector where small businesses are concentrated. In addition, there has been a trend for large firms to out-source activities to specialised firms to cut costs. In recent quarters, new trends have emerged. Employment has stopped falling in large and medium-sized firms. Employment is now expected to grow over coming months in firms of all sizes.
15. Although estimates are subject to wide margins of error, the Treasury Macroeconomic (TRYM) model has a long-run NAIRU of around 7 per cent. Similarly the current version of the Murphy model (a widely used private sector model in Australia) incorporates an estimate of 7.4 per cent. These estimates are slightly lower than recent OECD estimates which indicate that roughly 92 to 94 per cent of the labour force can be employed with the existing capital stock, at current relative factor prices, roughly consistent with a "natural rate" of around 7 to 8 per cent. See Murphy (1988), pp. 175-199, and Elmeskov (1993), p. 63.
16. Over the 12 months to September 1993, CPI items wholly or predominantly imported had increased by around 4 per cent. In comparison, import prices, however, increased by 9 per cent, roughly in line with the 9 per cent drop in the trade-weighted exchange rate over the period.
17. There is some evidence of differential pricing in the sense that countries experiencing appreciating currencies (*e.g.* Japan, Austria, Germany and the Netherlands) do not appear to

have enjoyed fully the expected benefits of lower import prices at the retail price level in FY 1992/93.

18. As in most OECD countries, high rates of unemployment and labour market deregulation have led to a widening of differentials between the top and bottom income deciles resulting in demands for wage increases on "social equity" considerations. There has also been an increase in the number of persons below the "poverty line", although the latter concept is debatable and difficult to measure. See, for example, Travers and Richardson (1992), pp. 29-42, and Gregory (1993), pp. 61-76.
19. Measures of "underlying inflation" usually exclude from the "headline" CPI the effects of changes in interest rates, energy prices, certain fresh food groups, other goods which are subject to marked seasonal variation and an array of public sector prices or charges. They are typically still affected by changes in some indirect taxes and the exchange rate.
20. See McKinsey & Company (1993).
21. Import penetration is typically measured as the ratio of "endogenous" imports (*i.e.*, imports adjusted for lumpy items and computers) to gross national expenditure. This ratio rose from a cyclical low in mid-1990 of some 10½ per cent to above 12 per cent in early 1993.
22. The debt and equity proportions of the *stock* of liabilities have changed little between FY 1985/86 and FY 1992/93. The share of net external liabilities accounted for by net debt has remained stable at around 77 per cent. The proportion of gross debt denominated in Australian dollars fell from 41.3 per cent in FY 1990/91 to 37.9 per cent in September 1993. US dollar-denominated debt rose from 35.7 to 44.4 per cent over the same period. Since FY 1990/91, there has been a sharp drop in the debt proportion of net non-official capital inflows and a rise in equity and other sources of finance.
23. For example, to cite the National Savings report: "Underlying economic fundamentals were overshadowed by a combination of distortions in the taxation treatment of nominal interest on debt, high inflation and relaxed lending safeguards by banks and other institutions following financial market deregulation. Funds were diverted away from expenditure on plant and equipment in favour of speculative investment and commercial property." See Fitzgerald (1993).
24. *Ibid* (1993). A study on national saving was recently released, the main conclusion of which is that the underlying structural rate of national saving has fallen to around 18 per cent of GDP, 5 percentage points below the average of the past three decades. The major structural decline is in public-sector saving, beginning in the 1970s.
25. Excluding privatisation proceeds, the Commonwealth general government NBR was projected to be A\$19.3 billion (compared with A\$16.5 billion in FY 1992/93).
26. These proceeds mostly related to the sale of 19 per cent of the Commonwealth Bank.
27. The Government also announced a 10 per cent general investment allowance and a 10 per cent development allowance for world competitive projects. These measures came on top of the more accelerated depreciation regime announced in the *One Nation* statement in February 1992.

28. The assumed growth rates were as follows (in per cent):

	1992/93	1993/94	1994/95	1995/96	1996/97
Low growth scenario	2.5	2¼	3¼	3½	3½
High growth scenario	2.5	3¾	4¼	4½	4½

Source: *National Fiscal Outlook*, 1993, p. 23.

29. The economic growth rates assumed for these projections are (in per cent):

1993/94 Forecasts	1994/95	1995/96 Projections	1996/97
2¾	3¾	4	4

Source: *Budget Statements 1993/94*, Budget Paper No. 1, p. 1.4.

30. The OECD methodology is explained in Chouraqui *et al.* (1990). Budget balances can be adjusted for cyclical changes in various ways using different assumptions concerning trend output and expenditure and revenue elasticities. Hence, quite large differences in the cyclical element of budget balances are possible. Nonetheless, the OECD estimates are not substantially different from those of the NFO (1993), which suggest that about one-half of the deterioration in the Commonwealth budget balance between FY 1989/90 and FY 1992/93 was structural.
31. See OECD (1992), Chapter III.
32. The experience of inflation targets in other OECD countries and their influence on inflation expectations and long-term interest rates is recent and thus difficult to assess. For example, in early 1994, nominal 10-year-government bond yields in Australia are almost one percentage point higher than those in New Zealand but about the same as those in Canada. These two countries have adopted explicit low inflation targets over the past two to three years and New Zealand made its central bank accountable for achieving them – and both have broken the previous pattern of mediocre inflation performance relative to their trading partners. But so, too, has Australia.
33. This spread is the difference between the average rate received on assets (including zero returns on non-accrual loans) and the average rate paid on liabilities (including zero-interest deposits). In the second half of 1992 the spread was 4 per cent, up 0.2 points from FY 1991/92. The spread was about 5 percentage points in the first half of the 1980s and about 4.5 percentage points in the second half of the decade. See Reserve Bank of Australia (1992). Special low interest rate facilities are available for small business, with rates some 1½ per cent less than those normally applied. Nonetheless, lending rates available to some businesses are relatively high in “real” terms.
34. The Reserve Bank does not have an exchange rate target. It recognises the fundamental role of the terms of trade and interest rate differentials in exchange rate determination and does not resist shifts in the “real exchange rate”. It seeks as far as possible to facilitate exchange rate adjustment in an orderly way so as not to undermine confidence in the overall coherence of monetary policy. See Reserve Bank of Australia (1993), p. 4.

35. PPP exchange rates are not available for years before 1970. GDP per head for this period is converted to a common currency at actual exchange rates.
36. Maddison (1982) estimates (Table 5.2) that Australian GDP per man-hour in 1870 was 186 per cent of the U.S. level and remained higher than the U.S. level until World War I.
37. All productivity growth rates discussed in this section are trend rates. Trends have been calculated using a Hedrick-Prescott filter. Actual (*i.e.* non-trended) productivity growth rates are shown in Annex 1.
38. The average age of the gross capital stock increased from 14 years in the late 1970s to 15.5 years in FY 1991/92. EPAC (1993), p. 23.
39. An agreement between the Government and Australian Council of Trade Unions (ACTU) concerning wage increases and conditions of employment.
40. TFP growth is a weighted average of the growth in labour and capital productivity. It reflects increases in output not accounted for by greater inputs of labour and capital. As such, it is an indicator of the rate at which production is becoming more efficient.
41. Estimates of TFP growth for the non-farm market sector, produced by the Australian Bureau of Statistics (ABS), also show a large slowdown – trend TFP growth falls from 1.9 per cent per annum over FY 1965/66–FY 1973/74 to 0.6 per cent over FY 1979/80–FY 1991/92. Estimates of trend were made by running the ABS's TFP series through a Hedrick-Prescott filter.
42. A major contributor to TFP growth is technological change, which is to a significant extent embodied in new capital goods. Hence, to the extent that reductions in real unit labour costs reduce the incentives of firms to engage in capital deepening, the wage restraint noted above will have also impeded TFP growth.
43. Differences between countries in national accounting conventions underline the need for caution when making international comparisons of TFP growth. The main differences relevant for TFP growth calculations are in those parts of the service sector (within the business sector) where output volumes are difficult to measure and in the treatment of computers. For example, in financial services, Australia assumes zero productivity growth while many other countries make different assumptions. To the extent that financial services are a final output – as opposed to inputs to other sectors of the economy – real GDP growth and TFP growth will tend to be understated in Australia relative to those countries assuming positive productivity growth in financial services. With respect to computers, Australia uses a hedonic price deflator index (as in the United States) whereas many other countries use a matched-model index. A hedonic index is based on a hedonic function which “... is a relation between prices of varieties of models of heterogeneous goods – or services – and the quantities or characteristics contained in them ...” (Triplett, 1989, p. 128). The matched-model method of constructing a price index records price changes in an identical product over time. A major problem with using the matched-model methodology for computers is that models being matched are not identical over time (Triplett, 1986, p. 36). Using a hedonic price index instead of a matched-model index results in the calculation of higher real growth in computer investment and hence, lower TFP growth (see Wyckoff, 1993, concerning the effect of using a hedonic index instead of a matched-model index on labour productivity in the office and computing machinery industry and in manufacturing).

44. Apart from early financial market and taxation reforms most of the more recent major areas of microeconomic reform were not subject to detailed consideration until 1987 or later, with that consideration giving rise to decisions to implement reforms later still. For example, the first round of aviation reform was announced in 1987 for implementation in 1990. Extended aviation reform was announced in February 1992. Telecommunications reform was announced in 1991 with the full extent of that reform not to have effect until 1997. Reforms in Commonwealth GBEs were commenced in 1988 with extensions to those reforms implemented in 1992.
45. The first two of these factors help explain the high rates of TFP growth achieved in many Asian countries in recent years.
46. Maddison (1991).
47. Englander and Gurney, OECD, forthcoming.
48. Upper secondary education is International Standard Classification for Education (ISCED) 3. This includes vocational programmes such as apprenticeships.
49. OECD (1993c), Table S8.
50. It rose to 5.9 per cent of GDP in FY 1991/92.
51. Clare and Johnston (1993), p. 42. The rest of the discussion about international achievement comparisons is also based on this reference.
52. TAFE institutions are responsible for publicly provided vocational training. More than 90 per cent of TAFE training is related to prevocational and vocational courses. These services are provided by State-Government administered colleges or centres. In 1992, the State and Territory Governments provided 80 per cent of the funding and the Commonwealth provided the remaining 20 per cent. The Commonwealth has, however, undertaken to provide additional funding amounting to A\$1.1 billion over a four-year period to promote the development of a national vocational education and training system under the auspices of the Australian National Training Authority (ANTA).
53. In 1992, 1.04 million persons participated in vocationally oriented TAFE activities. As indicated, additional funding was announced in 1992 to provide 40 thousand additional enrolment places in 1992, with additional funding commitments of A\$720 million from 1993 to 1995. Programmes are in place, aimed at improving entry level training, via funding to encourage young people to start or continue apprenticeship training and to provide incentives for employers to hire and train apprentices.
54. Another reason why business fails to hire and train unskilled young school leavers is that entry-level wages may be too high or work practices too rigid to adapt to part-time work and study programmes, as followed for example in Germany. Hence, more flexible industry/enterprise plans for vocational training and/or training subsidies may be necessary to encourage a greater and more efficient training effort.
55. The training levy requires employers with an annual payroll of A\$226 000 or more in FY 1993/94 (equivalent to around 8 to 10 full time employees) to spend 1 per cent of their payroll on eligible training activities.

56. In some cases, the training levy may be seen as an administrative burden, as the funds are already spent on training. In other cases, money on training may be spent wastefully on conferences, travel or leisure to avoid the tax.
57. See Mayes and Ogiwara (1992).
58. World Forum (1993), p. 21.
59. World Competitiveness Report rankings are partly based on opinions of business executives on the competitiveness of their countries, and, therefore, have some in-built bias.
60. The strong correlation found by De Long and Summers is largely due to the inclusion of Korea and Argentina in their broader sample. Auerbech *et al.* (1992) argue that equipment investment may yield extraordinarily high returns when an economy grows especially rapidly during the "take-off" process (Korea) or when capital markets have been heavily regulated (Argentina): they dispute the relevance of these cases to most OECD countries.
61. Multi-skilling involves individuals acquiring a broader range of skills. Broad-banding allows tasks to be performed by individuals at a range of skill levels.
62. See Munnell (1993) for a survey of recent work.
63. Defined as the sum of the capital stock of producers of government services, structures in transport and communications, and capital stock in electricity, gas and water.
64. See The Industry Commission, *Annual Reports for 1990-91, 1991-92 and 1992-93*.
65. It is important to allow for special factors in the Australian environment, such as size and population density, when determining what levels of productivity should be achievable by adopting international best practice (*e.g.* electricity generation needs a larger degree of spare capacity, because sparse population limits the potential for pooling capacity).
66. Clare and Johnston (1992), p. 25.
67. Information on productivity comparisons comes from the project on international performance indicators for major infrastructure industries which is being jointly undertaken by the Bureau of Industry Economics (BIE) and the Business Council. To date, five industries have been studied – electricity, rail freight transport, telecommunications, road freight transport and the waterfront. With the exception of road freight transport, these industries are dominated by GBEs.
68. BIE (1992a), p. ix.
69. BIE (1992c), p. xv.
70. BIE (1992b), p. xv.
71. Waterfront Industry Reform Authority (WIRA) Performance Report.
72. See Clare and Johnston (1992), p. 26.
73. *Ibid*, pp. 26-31.
74. *Ibid*, p. 3. Inclusion of one-off losses by certain State Banks results in the GBE sector recording a loss in aggregate in 1990-91.
75. The most notable example of increased competition is in telecommunications. Telecom, which became the Australian Overseas Telecommunications Corporation (AOTC) after its merger with the Overseas Telecommunications Corporation (OTC), lost its monopoly posi-

tion in November 1991, when Optus Communications was awarded Australia's second carrier licence. Competition will increase in 1997, when the present duopoly is opened up to full competition. In electricity, there is the prospect of increased competition in electricity generation in the eastern and southern states following the agreement of heads of government in 1992 to separate generation and transmission elements and to pursue the development of an inter-state transmission network.

76. As is, for example, the case for New Zealand Telecom, which was sold to a consortium led by Bell Atlantic Corporation and American Information Technology Corporation (Ameritech) in 1991.
77. Over the past century, however, there has been little tendency for periods of high TFP growth to coincide with those of rapid capital accumulation (Baily and Schultze, 1990), although the historical correlations with capital deepening has been stronger.
78. The returns from private R&D cannot be fully appropriated by the private sector because the use of knowledge is non-rival in nature.
79. Caution is required when interpreting these statistics. A high proportion of all such payments is made to related parties (*i.e.* they are intra-firm) and, therefore, are subject to manipulation to minimise global tax liabilities. Furthermore, such payments are only made if the proprietor chooses not to exploit the advantage abroad through exporting but rather to licence the knowledge to a foreign subsidiary or another foreign firm.
80. Indeed, the stylised new growth model, to quote Robert Solow on Grossman and Helpman (1991), can be characterised as follows: "Innovation is a major source of growth, competition is a major source of innovation (and) trade is a major source of competition ..."
81. With respect to the link between trade and productivity growth, Maddison (1991) shows that productivity growth rates have been positively related to export growth rates over the last 120 years. Similarly, Dao *et al.* (1993) show a positive correlation between the growth in the exports-to-GDP ratio and TFP growth for selected OECD countries since 1961.
82. The Australian Industry Commission.
83. Some of these industries also benefit from export incentives, which increase the effective rate of protection by permitting cross-subsidisation of production. In addition, Australian industry has made increasing recourse to anti-dumping appeals in recent year.
84. Essential facilities are those which are required to offer a service but which are likely to be uneconomical for a competitor to duplicate, as the facility is a natural monopoly.
85. The agreement will not, however, apply to certain products, such as firearms, prohibited and offensive weapons and pornography.
86. Under this doctrine, governments and government instrumentalities are not bound by legislation unless the legislation expressly applies to them or unless there is a necessary implication that they are bound by the legislation. The Commonwealth, but not the States and Territories, is expressly subject to the Trade Practices Act. As a result certain State and Territory instrumentalities are not bound by the Trade Practices Act.
87. These arrangements also protect Australian National Line, the Commonwealth government-owned shipping line, from unrestricted competition.

88. The consequences of not breaking a Government Business Enterprise (GBE) up into enough business units to generate competition are discussed with reference to the UK experience in Department of the Treasury (1993).
89. See the editorial of *The Australian Financial Review*, 26 August 1993.
90. The productivity improvements resulting from these negotiations generally derived from increased functional flexibility in the use of labour within an enterprise, based on new classification structures, involving job rotation, multi-skilling and grouping of tasks, and reduced demarcation.
91. Agreements were to be approved pursuant to section 112 (consent awards) or section 115 (certified agreements) of the Industrial Relations Act 1988.
92. The AIRC's conditions were stipulated in the Enterprise Bargaining Principle (EBP). Other conditions included that bargains were negotiated through "bargaining units" (which consist of the unions representing workers within an enterprise) and that the April 1991 Structural Efficiency Principle (concerning the establishment of skill-related career paths) continued to be implemented.
93. An exception to this rule can be made if the AIRC is satisfied that the agreement is not contrary to the public interest. This would be the case where the reduction in entitlements is part of a short-term business "revival" or "rescue" strategy.
94. Union coverage in this case is determined by the "conveniently belong" rule. This rule restricts registration of new unions where workers could conveniently belong to an existing union.
95. To encourage award restructuring, the Commission made access to the wage increases it granted in 1988 subject to the award being reviewed with a view to restructuring. This approach was reinforced in the Commission's 1989 National Wage Case decision, when wage increases were granted subject to a commitment by the parties to implement award restructuring, among other things.
96. Federal awards extend across state boundaries; state awards apply only within the state. In May 1990, federal awards covered 31 per cent of employees and state awards 46 per cent, although these figures provide only an approximate indication of current award coverage.
97. Evidence from the Workplace Bargaining Survey (WBS) [which covered calendar year 1992 and used a sample of 700 managers in workplaces with 200 or more employees] shows that coverage of agreements (both ratified and unratified) is uneven across sectors; 73 per cent of public sector workplaces were covered by an agreement, compared to 36 per cent of private sector workplaces. In terms of employee coverage by sector the WBS found that 41 per cent and 31 per cent of public and private sector employees respectively were covered by an agreement.
98. Overall, 35 per cent of the workforce in workplaces with more than 20 employees were covered by a workplace-negotiated agreement; 7 per cent were covered by a verbal agreement, 14 per cent were covered by a written unregistered agreement and the remaining 14 per cent were covered by a ratified agreement. 39 per cent of small workplaces (20-49 employees) were covered by an agreement compared to 82 per cent of moderately large workplaces (200-499 employees).

99. Isaac (1993), p. xii.
100. Optus, the telecommunications company created in 1992, ran into this problem when it decided to have all front line employees covered by a single union (see Hilmer [Chair], 1993), pp. 3-4). The Professional Radio and Electronics Institute, representing just 50 employees blocked this move. Optus succeeded in implementing its plan only after four months of litigation before the AIRC. Substantial legal fees and other costs were incurred.
101. This problem is illustrated by the example of a large smelter in south-east Australia which tried to use award restructuring to improve productivity (*ibid*, pp. 4-5). A "peak consultative committee" was formed, comprising union officials who were not employees of the company and site human resources management. A site working committee was also established to report to the working committee, comprising union delegates employed at the site and site human resources management. Negotiations have been going on for four years. At the time of writing, no agreement had been reached.
102. Although in principle over-award payments could be traded off against changes in conditions of work which would violate the award, doing so would require a ruling from the AIRC that workers have not been made any worse off. Obtaining such a ruling is time-consuming and, for small business, complex and expensive. In reality, over-award bargaining mainly concerns the adjustment of wages to reflect market conditions rather than changes in conditions of employment to enhance productivity.
103. With the "conveniently belong" provisions on union membership in the Act, the parties to agreements are existing craft-based multi-employer unions, not company unions. Naturally, it is not in the interests of the existing unions to agree to enterprise bargains which could reduce the craft based focus and/or increase the enterprise focus of awards. Existing unions derive considerable power in the labour market from their right to negotiate wages and conditions for all employees of a given kind, regardless of whether or not they are union members.
104. Agreements have been made which relate to:
- work organisation, including functional flexibility of the work force, teamwork, quality assurance, continuous improvement and best practice strategies, consultative arrangements and organisational restructuring;
 - conditions of employment, including arrangement on leave, hours of work, contract of employment, pay and allowances;
 - the working environment, including occupational health and safety, absenteeism, disputation and labour turnover;
 - implementation of training strategies to equip employees with the broader range of skills necessary for the comprehensive approach to productivity enhancement adopted in many agreements; and
 - the use of capital, including the rationalisation of production processes, continuous operation of machinery, and new technology.

Such changes have been made in numerous enterprise agreements, including in the metals, building, aviation, postal and communication sectors. For example, in the Sheraton Towers

Southgate Employee Relations Agreement 1992, some key features included: the collapsing of award classifications into four competency-based skill levels to which all employees have access; the annualisation of wages based on ordinary time earnings and penalty rates (*i.e.* the termination of penalty rates for overtime actually worked); and overtime to be allocated according to the company's needs and shared amongst employees as far as possible.

Increased flexibility through such agreements has resulted in extended trading hours in retail and service sectors and a more intensive use of the nation's capital stock in continuous process industries.

105. Such flexibility is known as functional or technical/organisational flexibility.
106. This section draws heavily on information published in Hilmer (Chair), 1993.
107. Although section 118A of the Industrial Relations Act 1988 provides the basis to rationalise union coverage along these lines, the Act generally has not been used for this purpose. An analysis of AIRC decisions suggests that s.118A has mainly been used by unions to help facilitate the ACTU's programme of amalgamations. Only 3 per cent of the change in union representation in workplaces can be explained by employers successfully applying to industrial tribunals for a change of coverage in their workplaces. According to the BCA, this suggests that s.118A is not seen by employers as something they can easily access.
108. Plowman and Rimmer (1992), p. 43.
109. Although 70 per cent of the private sector workforce is non-unionised, union membership is higher in federal awards than in state awards because of the operation of the state common rule award, which encompass smaller and non-unionised workplaces. Only 17 per cent of all employees covered by federal awards are employed in non-union workplaces.
110. Were Australia to enact similar laws, legislation would be required at both the federal and state levels of government (assuming the same legislative framework were to apply in both Commonwealth and State jurisdictions). There is little support by governments in Australia to adopt the New Zealand system. Only one state (Victoria) has introduced arrangements which bear any similarity to those in New Zealand.
111. OECD (1993e), p. 55.
112. *Ibid*, p. 57.
113. For a list of specific programmes, see the *Department of Employment, Education and Training* (1992).
114. The CST system allows young persons to work and train simultaneously, while receiving an agreed wage paid only for the time that the trainee is engaged in productive work. The government will provide a top-up where this wage falls below a certain minimum.
115. In 1992, the government announced its intention to transform the TAFE system into a new and expanded vocational education and training system to accompany entry-level training. A competency-based approach to vocational education and training was also launched to promote skill transferability. The Commonwealth and States will retain joint responsibilities for funding vocational education with the Commonwealth providing growth funding to meet the target for additional positions. State governments will maintain their current responsibilities for operational management, with ANTA providing national training profiles and strategies to guide the process.

116. Although employment protection legislation (severance notification, redundancy pay, etc.) is similar to that in North America, OECD estimates indicate that long-term unemployment is somewhat higher. This may in part reflect the open-ended nature of unemployment benefit in Australia. See OECD (1993*d*), pp. 103-106.
117. The income replacement ratio is defined as the ratio of incomes received by individuals whilst receiving unemployment benefits to their likely disposable incomes when they gain employment. The higher the replacement ratio, the greater is the relative attractiveness of income support.
118. For example, in the case of a couple with two children, the benefit for those unemployed for more than 1 year was A\$375 per week in 1992. But adult award rates of pay for a number of unskilled occupations were less than A\$400 per week at this time. It should be noted, however, that both the Basic Family Payment and Additional Family Payment are available to working families and that the Additional Family Payment is targeted at low income families to avoid difficulties which may arise from more income being available to unemployed than employed people. In some cases, receivers of unemployment benefits may be discouraged from accepting part-time employment because the benefit is withdrawn A\$1 for A\$1 as earnings rise for income above A\$140 per fortnight. For earnings between A\$60 and A\$140 per fortnight, benefits are reduced by A\$0.50 for every A\$1, and for earnings below A\$60 per fortnight, there is no withdrawal of benefit. See EPAC (1992) for a more comprehensive discussion. The Committee on Employment Opportunities has also recognised this as a problem area and made some helpful suggestions for improvement.
119. In 1990, job search obligations for eligibility to receive unemployment benefit were broadened: specifically, long-term unemployed were required to participate in labour market programmes. Unemployment benefits were separated into short and long-term benefits. Recipients of long-term benefits are required to undertake training, to participate in wage subsidy schemes or other programmes as deemed appropriate following assessment by the Commonwealth Employment service. A number of wage subsidy programmes exist to find employment for job seekers who have experienced long periods of unemployment or face other disadvantages.

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Annex I

Productivity growth

Table A1. **Productivity growth**¹
Percentage changes at annual rates

	Labour productivity ²					=	Contribution of capital deepening					+	TFP ³				
	1961 ⁴ -73	1974-79	1980-86	1987-92	1980-92		1961 ⁴ -73	1974-79	1980-86	1987-92	1980-92		1961 ⁴ -73	1974-79	1980-86	1987-92	1980-92
Australia	2.9	2.2	1.3	1.1	1.2		0.5	1.1	0.6	0.3	0.5		2.4	1.1	0.6	0.8	0.7
United States	2.2	0.0	0.8	0.7	0.8		0.7	0.4	0.6	0.4	0.5		1.6	-0.4	0.2	0.4	0.3
Japan	8.6	2.9	2.7	2.8	2.7		2.7	1.5	1.1	1.0	1.1		5.9	1.4	1.6	1.7	1.7
United Kingdom	3.6	1.6	2.8	1.0	2.0		1.3	0.9	0.9	0.4	0.6		2.3	0.6	1.9	0.6	1.3
Canada	2.8	1.5	1.5	0.9	1.2		0.8	0.7	1.1	1.2	1.2		2.0	0.8	0.3	-0.4	0.0
New Zealand	1.7	-1.3	2.0	0.6	1.4		0.8	0.7	0.7	1.3	0.9		0.9	-1.9	1.4	-0.7	0.4
EC ^{5,6,7}	5.1	2.8	2.0	2.0	2.0		1.8	1.2	0.9	0.6	0.7		3.4	1.5	1.2	1.4	1.3
Total																	
OECD ^{5,6,7,8,9}	4.2	1.6	1.6	1.5	1.6		1.3	0.9	0.8	0.6	0.7		2.9	0.6	0.8	0.9	0.9

1. Business sector.
 2. Output per employed person.
 3. TFP growth is equal to a weighted average of the growth in labour and capital productivity. The sample-period averages for capital and labour shares are used as weights.
 4. Or earliest available year, *i.e.* 1962 for the United Kingdom, 1963 for Japan and New Zealand, and 1967 for Canada.
 5. Excluding Eastern Germany and Portugal.
 6. Aggregates were calculated using country-weights based on 1990 GDP for the business sector expressed in 1990 purchasing power parities.
 7. Excluding Belgium, Luxembourg and the Netherlands before 1971, Spain before 1965, France before 1964 and the United Kingdom, Greece and Ireland in 1961.
 8. Excluding Iceland and Turkey.
 9. Also excluding Canada and Norway before 1967, Sweden before 1964, Japan and New Zealand before 1963 and Finland in 1961.
- Source: OECD.

Annex II

Calendar of main economic events

1992

January

The Treasurer and the Governor of the Reserve Bank announced a reduction of 1 percentage point in cash rates to 7.5 per cent.

February

The Government released the *One Nation Statement*, which contained measures designed to: boost economic activity, to further enhance the structural reform process, and to boost productivity growth. Measures included the provision of tax incentives to encourage investment (including the introduction of accelerated depreciation allowances for plant and equipment); increased investment in strategic public infrastructure; and an expansion to vocational education, training and labour market programmes. The Government also announced that foreign bank entry and foreign investment policy would be liberalised.

The Commonwealth Grants Commission released its *Report on General Revenue Grant Relativities 1992 Update* which contained its assessment of the per capita relativities for the distribution of the general revenue payments between the States and Territories in FY 1992/93.

April

The Government announced new dairy marketing arrangements which provided for a more predictable, progressive and transparent reduction in assistance over the eight years to 2000.

May

The Australian State, Territory and Commonwealth Governments entered the Intergovernmental Agreement on the Environment, to promote harmonised environmental standards.

The Treasurer and the Governor of the Reserve Bank announced a reduction of one percentage point in cash rates to 6.5 per cent.

The Council of Australian Governments (COAG) was established as a permanent body for ongoing discussions between governments on issues of national importance.

The Minister for Resources released the National Electricity Strategy. The key aim of the strategy was to create a competitive national electricity supply industry through the creation of a national electricity grid.

The Reserve Bank issued a statement outlining the guidelines under which foreign banks could apply for a banking authority pursuant to the Government's liberalised policy on foreign bank entry.

June

The 1992 Premiers' Conference and Loan Council meetings maintained States' general revenue grants at the same real level, and increased the States' aggregate basic borrowing limits for 1992-93 by 10 per cent. In addition, the Commonwealth provided a one-off supplementation of A\$166 million.

The Government announced its response to the Martin Committee Report on Banking. These included the development of a Code of Banking Practice; the establishment of a Council of Financial Supervisors; and enhanced prudential supervision of the banking sector.

The Treasurer released a statement on superannuation, *Security in Retirement*, outlining the major features of the Government's retirement incomes policy, namely the Government's new compulsory superannuation scheme, the Superannuation Guarantee Charge (SGC) to come into effect on 1 July 1992, and announced a number of new policy initiatives directed towards simplifying the superannuation taxation regime and to better integrating its policies towards superannuation and provision of the old age pensions.

July

The Government's compulsory superannuation scheme, the Superannuation Guarantee Charge, came into effect. The scheme obliges employers to make minimum superannuation contributions on an employee's behalf – initially 3 per cent for small employers (A\$1 million or less total annual payroll) and 4 per cent for large employers – or pay a charge under the SGC legislation, a part of which is then redistributed to the relevant employee's superannuation fund. The employer minimum contribution rate is legislated to increase to 9 per cent in the year 2002/03.

The Australian Financial Institutions Commission (AFIC) was formed as the peak body responsible for the prudential supervision of State-based, deposit-taking, financial institutions (*i.e.* building societies and credit unions).

The Treasurer and the Governor of the Reserve Bank announced a reduction of three quarters of a percentage point in cash rates to 5.75 per cent.

An industrial agreement was signed by the National Rail Corporation and rail unions yielding productivity gains of around 45 per cent, and reducing the number of unions involved in interstate rail freight from around 30 to two.

The Reserve Bank announced that the Reporting Bond Dealer (RBD) arrangements would be discontinued from 3 August 1992. Under these arrangements the Reserve Bank dealt exclusively in the secondary market for Commonwealth Government Securities (CGS) of more than one year to maturity with the RBD group. The Reserve Bank now deals in the secondary market for CGS with any market participant who is a member of the Reserve Bank Information and Transfer System, the electronic clearing system for these securities.

The Treasurer and Minister for Finance announced the actual 1991/92 budget deficit of A\$9.3 billion compared with a budgeted figure of A\$4.7 billion.

The Federal *Industrial Relations Act* (Division 3A) relating to certified (enterprise) agreements was amended, simplifying the ratification procedure for such agreements.

The Prime Minister announced *A National Employment and Training Plan for Young Australians* expanding employment and training options for young people.

August

An Agreement was signed for the establishment of a single trans-Tasman aviation market in November 1994.

The Treasurer delivered the 1992/93 budget to Parliament, foreshadowing a projected deficit of A\$13.4 billion for 1992/93, an increase of A\$4 billion on 1991/92. The budget included increased spending on public infrastructure projects and labour market programmes. Taxation measures included the introduction of new royalty withholding tax arrangements, the extension of the Fringe Benefits Tax to include employer provided parking and the maintenance of the 150 per cent write off for eligible research and development expenditure.

In conjunction with the 1992/93 budget, the Treasurer released a statement, *Working for the Future: Jobs, Skills, Innovation; A Statement on Employment and Growth in the 1990s*.

September

The Government-owned international air carrier Qantas purchased the Government-owned domestic air carrier Australian Airlines.

The Treasurer delivered his "Statement on Tax Policy" containing compliance measures and announcing that, from April 1994, fringe benefits will be taxed on a value base comparable to the income tax base (that is, fringe benefits will be taxed on the Fringe Benefit Tax inclusive value).

The Reserve Bank announced that commencing with the Treasury note tender on Wednesday, 6 October 1993, members of the Reserve Bank Information and Transfer System (RITS) would be able to submit bids electronically through RITS for all offers at tender of Commonwealth Government Securities. It was also announced that the existing

method of submitting tenders by placing a completed bid form in one of the boxes provided for that purpose at Reserve Bank branches would continue to be available in parallel with the new electronic facility.

October

The Government announced that the Australian Wheat Board's export monopoly powers would continue pending trade reform arising from the Uruguay Round, with the Commonwealth guarantee of the Board's borrowings being extended until 1999.

The Treasurer released a statement, "*Strengthening Super Security – New Prudential Arrangements for Superannuation*", setting out the Government's enhanced prudential supervision arrangements for superannuation funds.

November

The Treasurer announced a reallocation of A\$170 million of *One Nation* infrastructure funds from rail and electricity to labour market programmes, roads and other local capital works.

Treasury announced the resumption of a small-scale Treasury Indexed Bond programme from early 1993 – after a break of five years.

December

The Loan Council adopted new arrangements for monitoring and reporting from 1993/94, focusing on the deficit/surplus of the Commonwealth and each State/Territory.

The Council of Australian Governments endorsed a National Strategy for Ecologically Sustainable Development, and a National Greenhouse Response Strategy. The Council, with the exception of Tasmania, also agreed and signed the National Forest Policy Statement.

A comprehensive double taxation agreement between Australia and Spain entered into force.

A comprehensive double taxation agreement between Australia and Indonesia entered into force.

A comprehensive double taxation agreement between Australia and Vietnam entered into force.

January

The Government's new accruals measures for taxing residents' interests in foreign investment funds came into effect. The measures are directed at non-controlling interests in foreign entities that provide the greatest scope for tax avoidance.

The "Streamlined Sales Tax" measures, which simplified the existing wholesale sales tax legislation, came into effect.

Amendments to Section 111 of the Federal Industrial Relations Act were proclaimed, which facilitate federal award coverage for employees who do not have access to arbitration under State jurisdictions.

February

The Government announced measures to ensure the future growth of the sugar industry, which included retention of the sugar tariff at current levels until 1997 and changes to the pool pricing arrangements to provide more appropriate market signals.

The Prime Minister released the *Investing in the Nation* statement. Major measures included: a reduction in the company tax rate from 39 to 33 per cent; the introduction of a short-term general investment allowance; a commitment to establish the National Investment Council; initiatives to encourage bank lending to small and medium sized businesses, and the announcement of the Commonwealth's intention to sell down its shareholdings in the Commonwealth Bank of Australia (CBA) from 70 per cent to 51 per cent in 1994/95 (in July this was revised to 50.1 per cent in 1993/94).

The Prime Minister announced special financial assistance for South Australia with a present value of A\$600 million to be provided over three years.

March

The Employee Relations Act became fully operational in Victoria, which introduced a completely new system of industry regulations, abolishing compulsory arbitration.

The Government and the ACTU finalised their Accord VII Agreement for the period 1993 to 1996. The agreement places primary responsibility for industrial relations at the workplace level, within a framework of minimum standards provided by awards of industrial tribunals.

The sale of 25 per cent of a merged Qantas and Australian Airlines to British Airways was completed. The remaining 75 per cent of the merged airline is to be sold through a public float in 1994/95.

The Governor of the Reserve Bank announced a reduction of half a percentage point in cash rates to 5.25 per cent.

April

The Government announced changes to its foreign investment policy such that the previous requirement for 50 per cent Australian equity for acquisitions of developed commercial property valued at over A\$5 million was abolished, and there was some easing of the off-the-plan rules applied to the re-development of commercial buildings into residential units.

The Commonwealth Grants Commission released its *Report on General Revenue Grant Relativities 1993* which set out the methodology to underlie its assessments of relativities for the distribution of general revenue payments between States and Territories over the next 5 years.

The Government announced an increase to 25 per cent in the maximum permitted foreign-interest involvement in mass circulation newspapers by a single shareholder, with unrelated foreign interests allowed to have (non-portfolio) share holdings of up to 5 per cent.

The Prime Minister announced that the Government would further reform the industrial relations system to place primary emphasis on bargaining at the workplace level within a framework of minimum standards provided by arbitral tribunals.

May

The Prime Minister announced the formation of a high level *Committee on Employment Opportunities* to prepare a discussion paper examining long term developments in the labour market and assess current policies and the need for any new measures to address unemployment. A White Paper on Employment and Unemployment will be produced in the first half of 1994 containing the Government's response to the discussion paper.

June

The Council of Australian Governments agreed to have the necessary structural changes in place to create a competitive market for bulk electricity in southern and eastern Australia from 1 July 1995.

The Government announced its response to the Martin Committee Report on Banking. The Government's Banking Policy statement outlines a number of important aspects of Government policy. These included policy relating to bank mergers, foreign bank branches, small business lending and the Code of Banking Practice. The taxation regime applying to branches of foreign banks operating in Australia was also announced. In addition, the Government announced the intention to bring forward legislation to facilitate the conversion of foreign banks' Australian subsidiary operation to branches.

The *Fitzgerald Report*, commissioned by the Treasurer, was released. This report outlines policy options for developing a national savings strategy for Australia.

July

The National Investment Council was established. The prime function of the Council is to advise the Government on strategies to promote both domestic and overseas investment in Australia.

The 1993 Premiers' Conference and Loan Council meetings were held. It was decided to maintain States' grants in 1993/94 at the same real level as in 1992/93 and to provide special revenue assistance of about A\$352 million to the following States: New South Wales (A\$145 million), Victoria (A\$73 million), Australian Capital Territory (A\$104 million), and the Northern Territory (A\$30 million).

The Treasurer and Minister for Finance announced the actual 1992/93 budget deficit of A\$14.6 billion compared with a budgeted figure of A\$13.4 billion.

Draft uniform Consumer Credit Legislation was released by the Ministerial Council on Consumer Affairs.

The Treasurer announced that Federal Cabinet had ratified a proposed regulatory regime for the life insurance industry. The proposed regime includes upgraded prudential measures, including new solvency and capital adequacy standards, and enhanced consumer protection requirements, including information disclosure and a Code of Practice for life insurance companies.

The Premiers' Conference released the *National Fiscal Outlook* report providing medium term projections of Commonwealth and State budget deficits. Loan Council also endorsed details of the new Loan Council arrangements which were released in the report, "Future Arrangements for Loan Council Monitoring and Reporting".

The Treasurer and the Governor of the Reserve Bank announced a reduction of half a percentage point in cash rates to 4.75 per cent.

August

The Report of the National Competition Policy Review was presented to governments.

The Commonwealth Government announced an enhanced package of accountability and monitoring arrangements for its Government Business Enterprises (GBEs). These arrangements are designed to improve GBE performance by establishing better monitoring and accountability processes.

The Steering Committee on National Performance Monitoring for Government Trading Enterprises (GTEs) released its first report which contains partial indicators of performance for major GTEs.

The Treasurer delivered the 1993/94 budget, with a foreshadowed deficit of A\$16 billion, or 3.8 per cent of GDP, for 1993/94. This budget set in place a medium-term fiscal strategy aimed at reducing the Commonwealth budget deficit to around 1 per cent of GDP by 1996/97.

The Prime Minister and Treasurer announced minor amendments to the 1993/94 budget aimed at securing its passage through the Senate.

September

The Government announced new marketing arrangements for wool, including the establishment of a new body, Wool International (WI), which will be responsible for stock disposal (according to a fixed sale schedule) and the wool industry's debt. WI is planned to be privatised in July 1997.

States and Territories removed restrictions on credit card pricing.

The Australian Law Reform Commission and The Companies and Securities Advisory Committee provided the Government with a report on regulation of collective investments such as unit trusts. The report recommended reform of the regulation of collective investments, including increased requirements for scheme operators, enhanced information disclosure, and stronger powers for the regulator. The Government plans to respond by mid-1994.

October

The Loan Council announced new guidelines for the classification of public infrastructure projects with private sector involvement. The guidelines represented the final element of the detailed new Loan Council arrangements which were announced by the Loan Council on 5 July 1993.

The major revenue measures in the budget were passed by the Senate following amendments to certain budget measures agreed between the Government and the minor parties in the Senate. Taking account of these changes, the projected budget deficit for 1993/94 is A\$16.1 billion. The projected deficit for 1996/97 has increased slightly from 1.1 per cent of GDP to 1.2 per cent.

The Australian Industrial Relations Commission (AIRC) handed down its decision on the Review of Wage Fixing Principles, which give in-principle support for an A\$8 per week increase in supplementary payments which will be principally received by low paid workers.

The Government introduced to Parliament the Industrial Relations Reform Bill. The aim of the legislation is to provide a better framework for workplace bargaining, including a more effective regime for regulating industrial action, while providing effective protection for employees.

November

Following submissions from interested parties (including the Government, the ACTU and employer groups), the AIRC determined that an A\$8 per week increase in supplementary payments, primarily for low paid workers, be available from 1 December 1993.

The Code of Banking Practice was released by the Australian Bankers' Association. The code was welcomed by the Treasurer who assigned the role of monitoring compliance to the Australian Payments System Council.

STATISTICAL AND STRUCTURAL ANNEX

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Selected background statistics

	Average 1983-92	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
A. Percentage changes from previous year at constant 1989/90 prices											
Private consumption	2.8	1.4	3.0	5.0	1.4	2.0	3.8	5.3	2.5	0.5	3.3
Gross fixed capital formation	1.0	-8.4	9.9	9.5	-2.5	2.7	8.7	8.7	-7.6	-10.5	-0.2
Public	2.7	3.1	8.4	9.4	8.2	-3.8	-11.7	6.0	3.8	3.7	-0.4
Private	0.9	-9.7	10.1	9.5	-3.7	3.6	11.3	9.0	-8.8	-12.1	-0.2
Residential	2.3	-9.6	21.2	2.0	-8.5	0.9	22.0	2.6	-12.1	-5.1	9.5
Non-residential construction	1.9	-20.2	0.8	24.0	9.6	14.8	18.6	10.8	-9.8	-20.7	-9.3
Machinery and equipment	1.1	-11.2	14.1	11.6	-5.2	3.2	14.1	11.5	-12.8	-12.8	-1.0
Public enterprises	-1.3	1.3	-5.4	9.4	-3.3	-1.1	-19.0	15.3	10.4	-13.0	-7.4
GDP ¹	3.1	0.7	7.5	4.8	1.9	4.4	4.4	4.6	1.4	-0.8	2.0
GDP price deflator	5.8	8.2	6.2	6.2	7.2	7.4	8.2	7.3	4.6	1.8	1.2
Employment	1.8	-1.8	2.9	3.6	3.5	2.2	3.8	4.8	1.6	-1.9	-0.5
Compensation of employees (current prices)	8.1	3.8	11.3	9.3	10.7	8.4	11.0	13.4	8.9	1.5	3.1
Productivity (GDP/employment)	1.3	2.5	4.5	1.2	-1.6	2.2	0.6	-0.2	-0.2	1.1	2.5
Unit labour costs (compensation/GDP)	4.9	3.1	3.5	4.3	8.6	3.8	6.3	8.4	7.4	2.3	1.1
B. Percentage ratios											
Gross fixed capital formation as % of GDP at constant prices	23.2	23.2	23.7	24.7	23.7	23.3	24.3	25.2	23.0	20.7	20.3
Stockbuilding as % of GDP at constant prices	0.2	-0.8	1.1	0.5	-0.2	-0.2	0.6	1.4	0.3	-0.7	-0.3
Foreign balance as % of GDP at constant prices	-0.2	-1.1	-1.8	-1.1	0.3	1.7	-0.1	-2.8	-0.7	1.9	1.6
Compensation of employees as % of GDP at current prices	50.6	53.0	51.6	50.7	51.3	49.6	48.7	49.2	50.6	50.8	50.8
Direct taxes as per cent of household income	21.6	19.4	21.8	21.2	22.6	24.1	23.9	22.9	21.1	20.2	19.0
Unemployment as per cent of total labour force	8.3	9.9	8.9	8.1	8.0	8.0	7.1	6.1	7.0	9.5	10.7
C. Other indicator											
Current balance (US\$ billion)	-10.4	-6.0	-8.7	-8.7	-9.3	-7.5	-10.2	-17.7	-15.1	-10.2	-10.7

1. Income-based measure.

Source: Australian Bureau of Statistics and OECD.

Table A. **Gross domestic product**

A\$ million

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Current prices										
Private consumption ¹	111 264	121 894	136 782	150 438	165 495	183 600	205 870	223 387	232 447	244 138
Government current expenditure ¹	34 053	38 207	42 440	47 083	50 022	54 365	59 074	64 537	69 313	72 267
Gross fixed capital formation ²	41 518	47 188	56 354	61 258	67 586	77 828	90 097	86 000	77 560	77 244
Private	27 848	32 890	39 444	42 811	48 727	61 280	70 554	64 264	56 932	57 584
Public enterprises	8 709	8 650	10 288	10 737	11 096	9 407	11 599	13 206	11 679	10 852
Government	4 961	5 648	6 622	7 710	7 763	7 141	7 944	8 530	8 949	8 808
Change in stocks	-1 687	2 072	1 186	-746	-11	1 969	5 037	484	-2 532	-942
Exports of goods and services	26 329	31 252	38 336	40 305	46 995	52 827	57 440	62 844	67 277	72 013
Imports of goods and services	28 833	35 450	43 912	46 910	49 671	55 886	66 733	66 605	65 645	72 832
Statistical discrepancy	-2 062	1 097	-1 554	-480	1 152	3 462	6 131	7 717	3 629	2 587
Gross domestic product at purchasers' values³	180 582	206 260	229 632	250 948	281 568	318 165	356 916	378 364	382 049	394 475
Indirect taxes less subsidies	20 541	24 077	28 273	29 145	34 890	38 868	42 643	44 735	44 569	45 033
Gross domestic product at factor cost	160 041	182 183	201 359	221 803	246 678	279 297	314 273	333 629	337 480	349 442
Average 1989/90 prices										
Private consumption ¹	173 519	178 645	187 514	190 058	193 899	201 351	212 097	217 332	218 435	225 670
Government current expenditure ¹	48 422	50 653	53 358	55 613	56 672	58 550	60 327	62 785	65 125	66 338
Gross fixed capital formation ²	64 743	71 168	77 898	75 982	78 046	84 858	92 232	85 177	76 207	76 025
Private	44 931	51 462	56 337	54 175	56 723	66 948	72 291	63 704	56 108	56 803
Public enterprises	12 776	12 080	13 221	12 786	12 644	10 243	11 814	13 037	11 348	10 510
Government	7 036	7 626	8 340	9 021	8 679	7 667	8 127	8 436	8 751	8 712
Change in stocks	-2 165	3 158	1 658	-746	-589	2 060	5 196	945	-2 501	-1 025
Exports of goods and services	36 478	42 359	46 894	49 050	54 769	56 379	58 186	63 003	71 140	74 599
Imports of goods and services	39 581	47 696	50 234	47 972	49 065	56 796	68 495	65 776	64 023	68 632
Statistical discrepancy	-1 919	2 178	-2 224	-1 088	1 407	3 517	6 405	7 489	3 617	2 407
Gross domestic product at purchasers' values³	279 497	300 465	314 864	320 897	335 139	349 919	365 948	370 955	368 000	375 382

1. Not adjusted for the impact of the introduction of Medicare from 1 February 1986, which had the effect of transferring certain expenditures on healthcare, formerly included as private consumption expenditure, to public consumption expenditure.

2. Not adjusted to remove the impact of the sale to the private sector of public sector assets under leaseback and similar arrangements.

3. Income-based measure.

Source: Australian Bureau of Statistics.

Table B. **Income and expenditure of households (including unincorporated enterprises)**

A\$ million, current prices

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Compensation of employees	95 673	106 465	116 376	128 822	139 658	154 981	175 735	191 403	194 218	200 207
Income from property and entrepreneurship	30 339	34 998	39 039	44 060	50 032	57 849	66 379	68 437	64 197	62 067
Farm	1 870	2 832	2 383	1 470	2 668	4 758	3 796	2 354	929	2 525
Non-farm	28 469	32 166	36 656	42 590	47 364	53 091	62 583	66 083	63 268	59 542
Current transfers from government	17 743	20 177	22 094	23 967	26 274	28 440	30 732	34 704	39 903	44 494
Grants to non-profit institutions	1 928	2 560	2 878	3 190	3 248	3 785	4 118	4 711	5 345	6 004
Third party insurance transfers	938	1 349	1 496	1 500	1 512	1 538	1 664	1 667	1 604	1 563
Unrequited transfers from overseas	1 152	1 234	1 691	1 982	2 478	2 974	3 554	3 430	3 632	3 045
Income	147 773	166 783	183 574	203 521	223 202	249 567	282 182	304 352	308 899	317 380
<i>less:</i> Income taxes	22 462	27 319	30 137	35 187	40 667	44 756	48 641	49 786	48 581	47 227
Other direct taxes	1 078	1 270	1 333	1 482	1 717	1 972	2 247	2 485	2 639	2 833
Consumer debt interest	2 253	2 501	3 165	4 141	4 550	5 002	7 336	7 711	6 243	4 544
Transfers paid by households	679	699	692	749	765	797	875	957	998	1 022
Disposable income	121 301	134 994	148 247	161 962	175 503	197 040	223 083	243 413	250 438	261 754
Consumption expenditure	111 264	121 894	136 782	150 438	165 495	183 600	205 870	223 387	232 447	244 138
Saving	10 037	13 100	11 465	11 524	10 008	13 440	17 213	20 026	17 991	17 616
as per cent of disposable income	8.3	9.7	7.7	7.1	5.7	6.8	7.7	8.2	7.2	6.7

Source: Australian Bureau of Statistics.

Table C. Prices and wages

Index FY 1989/90 = 100

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Price deflators										
Gross domestic product	64.6	68.6	72.9	78.2	84.0	90.9	97.5	102.0	103.8	105.1
Private consumption	64.1	68.2	72.9	79.1	85.3	91.2	97.0	102.8	106.4	108.2
Gross fixed capital formation	64.1	66.3	72.3	80.6	86.5	91.6	97.7	100.9	101.7	101.6
Exports ¹	72.2	73.8	81.8	82.1	85.8	93.8	98.7	99.8	94.7	96.5
Imports ¹	72.8	74.2	87.3	97.9	101.2	98.6	97.4	101.3	102.5	106.0
Terms of trade ¹	99.1	99.4	93.8	84.0	84.7	95.2	101.4	98.5	92.3	91.1
Consumer price index²										
Total	63.5	66.0	70.5	76.8	83.3	89.4	96.2	103.2	106.5	107.5
Food	63.3	65.6	70.1	76.5	83.5	89.4	96.0	103.6	106.9	107.9
Award rates of pay, adult persons	71.1	76.0	78.8	83.1	86.5	91.4	97.0	103.0	106.9	109.5
Average weekly earnings, all employees	65.5	72.0	75.4	80.7	84.9	90.6	96.9	103.3	107.2	109.9

1. Goods and services.

2. Not adjusted for the effects of Medicare.

Source: Australian Bureau of Statistics, Reserve Bank, and OECD.

Table D. **Balance of payments**

OECD basis, US\$ million

	1984	1985	1986	1987	1988	1989	1990	1991	1992
Exports, fob	22 862	22 654	22 430	26 955	33 043	36 912	39 281	42 013	42 411
Imports, fob	23 685	23 633	24 258	26 698	33 650	40 361	38 905	38 478	40 874
Trade balance	-823	-979	-1 828	257	-607	-3 449	376	3 535	1 537
Invisibles, net	-7 838	-7 735	-7 469	-7 784	-9 597	-14 262	-15 459	-13 719	-12 226
Current balance	-8 661	-8 714	-9 297	-7 527	-10 204	-17 711	-15 083	-10 184	-10 689
Long-term capital (excluding special transactions)	6 617	7 590	10 067	8 888	18 889	14 967	11 999	12 275	9 982
Private	5 908	6 299	8 195	7 360	19 484	14 008	12 266	10 911	4 506
Official	709	1 291	1 872	1 528	-595	959	-267	1 364	5 476
Basic balance	-2 044	-1 124	770	1 361	8 685	-2 744	-3 084	2 091	-707
Non-monetary short-term capital	-443	-613	119	-621	-6	-892	-364	1 126	456
Errors and omissions	1 269	-417	656	-563	-3 700	2 540	5 391	-3 559	-4 062
Balance on non-monetary transactions	-1 218	-2 154	1 545	177	4 979	-1 096	1 943	-342	-4 313
Private monetary institutions' short-term capital	-27	-141	-871	85	340	1 735	-194	23	-410
a) Assets	-49	-219	-635	-380	-203	-131	-841	710	-771
b) Liabilities	22	78	-236	465	542	1 866	647	-688	361
Balance on official settlements	-1 245	-2 295	674	262	5 320	638	1 748	-319	-4 723
Use of IMF credit	-	-	-	-	-	-	-	-	-
Special transactions	-	-	-	-	-	-	-	-	-
Miscellaneous official accounts	1	-	-	-	-	-	-1	-	-
Allocations of SDRs	-	-	-	-	-	-	-	-	-
Change in reserves (+ = increase)	-1 244	-2 295	674	262	5 320	638	1 747	-319	-4 723
Gold	-	-	-	-	-	-	-	-	-
Current assets	-1 463	-2 366	687	277	5 316	603	1 769	-297	-4 786
Reserve position in IMF	80	2	-	-	20	53	-	-	258
Special Drawing Rights	139	69	-13	-15	-16	-18	-22	-22	-195

Source: Balance-of-payments submission to OECD.

Table E. Foreign trade by commodity

	1980	1985	1989	1990	1991	1980	1985	1989	1990	1991
	US\$ million					Per cent of total				
SITC sections:										
Total exports, fob	21 309	21 899	33 027	35 626	37 453	100.0	100.0	100.0	100.0	100.0
Food and live animals	7 171	5 227	6 497	6 802	6 499	33.7	23.9	19.7	19.1	17.4
Beverages and tobacco	48	45	118	155	194	0.2	0.2	0.4	0.4	0.5
Crude materials, inedible, except fuels	6 116	6 281	7 552	6 657	7 251	28.7	28.7	22.9	18.7	19.4
Mineral fuels, lubricants and related materials	2 363	5 853	5 082	6 656	7 319	11.1	26.7	15.4	18.7	19.5
Animals and vegetable oils, fats and waxes	114	95	48	45	26	0.5	0.4	0.1	0.1	0.1
Chemicals and related products, n.e.s.	475	368	729	830	972	2.2	1.7	2.2	2.3	2.6
Manufactured goods classified chiefly by material	2 483	2 224	4 277	4 408	4 598	11.7	10.2	12.9	12.4	12.3
Machinery and transport equipment	1 149	751	1 670	2 258	2 757	5.4	3.4	5.1	6.3	7.4
Miscellaneous manufactured articles	378	346	677	775	856	1.8	1.6	2.0	2.2	2.3
Commodities and transactions not classified according to kind	1 012	709	6 377	7 040	6 983	4.7	3.2	19.3	19.8	18.6
Total imports, cif	19 863	23 738	40 296	38 462	37 906	100.0	100.0	100.0	100.0	100.0
Food and live animals	760	939	1 479	1 459	1 528	3.8	4.0	3.7	3.8	4.0
Beverages and tobacco	182	189	304	313	302	0.9	0.8	0.8	0.8	0.8
Crude materials, inedible, except fuels	865	689	1 230	1 068	903	4.4	2.9	3.1	2.8	2.4
Mineral fuels, lubricants and related materials	2 749	1 592	2 072	2 192	2 302	13.8	6.7	5.1	5.7	6.1
Animals and vegetable oils, fats and waxes	79	75	96	97	108	0.4	0.3	0.2	0.3	0.3
Chemicals and related products, n.e.s.	1 784	1 994	3 490	3 497	3 516	9.0	8.4	8.7	9.1	9.3
Manufactured goods classified chiefly by material	3 528	3 773	6 591	5 870	5 846	17.8	15.9	16.4	15.3	15.4
Machinery and transport equipment	7 211	9 885	18 014	17 192	16 697	36.3	41.6	44.7	44.7	44.0
Miscellaneous manufactured articles	2 426	3 095	5 242	5 320	5 560	12.2	13.0	13.0	13.8	14.7
Commodities and transactions not classified according to kind	278	1 506	1 778	1 454	1 144	1.4	6.3	4.4	3.8	3.0

Source: OECD, *Foreign Trade Statistics, Series C*.

Table F. **Foreign trade by area**
US\$ million

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Exports, fob										
OECD Europe	3 249	3 523	3 321	3 643	4 776	5 272	5 814	6 241	5 951	6 196
<i>of which:</i> United Kingdom	1 150	891	777	818	1 139	1 166	1 323	1 399	1 330	1 664
OECD North America	2 440	2 905	2 596	2 760	3 435	4 088	4 439	4 921	4 835	4 406
Japan	5 698	6 139	6 304	6 065	6 789	8 882	9 761	10 205	11 537	10 713
New Zealand	1 133	1 409	1 063	1 032	1 511	1 629	1 891	1 956	2 043	2 241
Far East	4 275	5 190	5 092	5 125	6 273	8 468	9 830	10 677	13 068	14 582
Other non-OECD countries	3 164	4 054	3 723	3 531	3 316	3 864	4 491	3 951	3 656	3 463
Non-specified	787	637	515	381	404	463	762	956	841	835
Total	20 750	23 861	22 617	22 541	26 508	32 670	36 991	38 911	41 934	42 439
Imports, cif										
OECD Europe	4 813	5 947	6 281	6 877	7 713	9 407	10 835	10 630	9 600	9 945
<i>of which:</i> United Kingdom	1 316	1 627	1 653	1 792	1 950	2 467	2 785	2 701	2 400	2 412
OECD North America	4 643	5 599	5 723	5 714	6 342	7 986	10 242	10 234	10 113	9 930
Japan	4 264	5 116	5 432	5 348	5 321	6 713	8 319	7 307	6 807	7 373
New Zealand	685	875	956	918	1 109	1 462	1 661	1 715	1 768	1 876
Far East	2 763	3 638	3 333	3 572	4 806	5 935	7 299	6 706	7 733	8 738
Other non-OECD countries	2 126	2 131	1 731	1 461	1 685	1 778	2 497	2 480	2 629	2 825
Non-specified	99	116	51	25	32	55	91	62	70	66
Total	19 397	23 424	23 511	23 919	27 010	33 339	40 948	39 138	38 723	40 755

Source: OECD, *Foreign Trade Statistics, Series A*.

Table G. Production structure and performance indicators

Fiscal years ¹	1975	1980	1985	1990	1991	1975	1980	1985	1990	1991
	GDP share					Employment share				
A. Production structure (constant prices)										
Tradeables										
Agriculture	5.0	4.0	4.4	4.4	4.1	6.8	6.6	6.2	5.6	5.3
Mining and quarrying	4.0	3.7	4.4	4.6	4.7	1.4	1.4	1.5	1.2	1.2
Manufacturing	18.6	18.1	15.7	14.9	14.5	21.6	19.7	16.7	15.0	14.5
Non-tradeables										
Electricity, gas and water	2.6	2.9	3.1	3.2	3.3	1.8	2.1	2.1	1.3	1.4
Construction	9.4	9.2	8.4	7.8	7.0	8.7	7.7	6.9	7.3	6.8
Trade, restaurants and hotels	20.2	19.4	18.4	17.2	17.6	19.8	20.1	22.9	24.3	24.6
Transport, storage and communication	5.3	6.2	6.6	7.2	7.4	7.8	7.4	7.6	7.0	6.8
Finance, insurance, real estate and business services	18.7	20.0	20.9	22.3	22.2	7.4	8.5	10.1	11.5	11.5
Community, social and personal services	14.7	14.8	15.4	15.9	16.2	19.9	22.1	21.2	22.1	23.3
	Productivity growth ²					Investment share				
B. Economic performance (constant prices)										
Agriculture	-	-2.3	4.3	-0.5	-1.2	10.4	8.7	6.2	5.5	..
Mining and quarrying	-	-0.5	2.9	2.8	7.5	5.9	9.3	7.9	9.6	..
Manufacturing	-	2.8	1.9	1.9	1.2	14.1	15.7	12.3	15.5	..
Electricity, gas and water	-	0.8	2.3	10.8	-2.5	13.1	12.6	10.0	5.8	..
Construction	-	3.8	1.7	-2.4	-1.4	3.3	3.3	4.0	2.6	..
Trade, restaurants and hotels	-	0.3	-2.3	-1.0	2.4	9.7	10.0	9.3	11.2	..
Transport, storage and communication	-	5.9	2.1	5.3	6.4	14.5	14.3	18.5	16.6	..
Finance, insurance, real estate and business services	-	0.0	-1.2	-0.6	0.2	11.2	10.2	13.2	18.0	..
Community, social and personal services	-	-0.3	2.9	0.7	-2.5	5.1	5.5	8.3	6.8	..
	1980	1984	1985	1986	1987	1988	1989	1990	1991	1992
C. Other indicators (current prices)										
Effective rate of protection, manufacturing	22	22	20	19	19	17	16	15	..	..
R&D in manufacturing/manufacturing GDP	..	1.4	1.8	1.6	1.7	1.8	1.8	1.9	2.2	..
Total R&D/total GDP	..	1.1	..	1.3	1.2	1.3	..	1.3	..	..
R&D financed by government/total R&D	..	55.9	..	48.6	47.6	43.6	..	42.4	..	..
Debt equity ratio of corporate trading enterprises	91.5	92.4	90.5	70.8	57.9	105.9	117.6	115.2	..	..

Levels of net foreign debt ³ /GDP	5.6	15.4	23.7	31.4	32.6	32.2	34.3	34.9	36.1	38.6
Levels of foreign direct investment ³ /GDP	17.1	16.4	17.0	17.0	20.8	21.8	24.3	24.6	25.8	27.1

1. Beginning 1st July of the year indicated.

2. Average rate of growth between periods.

3. At 30th June of the year indicated.

Source: Australian Bureau of Statistics, *International Investment Position Australia*; Industry Assistance Commission, *Annual Report 1990-91*; OECD, *Main Science and Technology Indicators and National Accounts*.

Table H. Labour market indicators

	A. Evolution					
	Peak	Trough	1985	1990	1991	1992
Standardised unemployment rate	1992 : 10.8	1981 : 5.7	8.2	6.9	9.6	10.8
Unemployment rate						
Total	1992 : 10.7	1981 : 5.7	8.2	6.9	9.5	10.7
Male	1992 : 11.3	1981 : 4.7	7.8	6.7	9.8	11.3
Female	1983 : 10.4	1990 : 7.2	8.8	7.2	9.2	10.0
Youth ¹	1992 : 19.5	1989 : 10.4	14.3	13.3	17.2	19.5
Share of long-term unemployment ²	1992 : 34.6	1982 : 19.0	30.9	21.6	24.9	34.6
Non-farm vacancies (thousand)	1989 : 68.2	1983 : 17.6	54.0	48.3	26.2	27.2
Average hours worked in manufacturing, weekly	1970 : 39.5	1983 : 35.6	37.0	38.2	37.6	38.0
Overtime hours per week, non-farm	1989 : 1.5	1984 : 1.1	1.2	1.3	1.1	1.1
	B. Structural of institutional characteristics					
	1970	1980	1985	1990	1991	1992
Participation rate (percentage change) ³	..	2.0	1.7	3.0	0.9	0.9
Participation rate ⁴						
Total	61.2	61.0	60.2	63.8	63.3	63.0
Male	83.0	77.9	75.2	75.7	74.8	74.3
Female	39.6	44.7	45.7	52.2	52.0	51.9
Employment by sector						
Per cent of total						
Agriculture	8.0	6.5	6.1	5.6	5.5	5.3
Industry	36.4	30.8	27.6	25.4	24.2	23.9
Services	55.6	62.7	66.2	69.0	70.4	70.8
Percentage change ⁵						
Agriculture	..	-0.6	0.4	1.2	-3.4	-3.6
Industry	..	-0.1	-1.2	1.5	-6.7	-1.5
Services	..	2.8	2.4	4.2	0.1	-0.1
Total	..	1.5	1.2	3.2	-1.8	-0.5
Part-time employment (per cent of total employed)	10.6	16.4	18.2	21.3	22.5	24.4
Non-wage labour cost ⁵	3.4	5.9	7.9	8.3	8.3	8.3

1. People between 15 and 24 years as a percentage of the labour force of the same age group.

2. People looking for a job for one year or more as a percentage of total unemployment.

3. Average rate of growth between periods.

4. Labour force as a percentage of the corresponding population aged between 15 and 64 years.

5. Total social contributions as a percentage of total compensation.

Source: Australian Bureau of Statistics; OECD, *Labour Force Statistics*.

Tableau I. The public sector

	1973	1980	1985	1990	1991	1992
Budget indicators: General government accounts (per cent of GDP)						
Current receipts (excluding interests)	23.8	28.0	30.6	31.6	30.4	29.8
Non-interest expenditures	24.0	29.3	32.3	29.7	32.2	33.2
Primary budget balance	-0.2	-1.3	-1.6	1.9	-1.8	-3.3
Net interest (including net capital transfers)	2.2	0.8	-1.1	-1.3	-0.9	-0.7
General government budget balance	2.0	-0.5	-2.7	0.7	-2.7	-4.0
Structure of expenditure and taxation (per cent of GDP)						
Government expenditure	24.0	30.8	35.2	33.6	35.6	36.6
Transfers	6.9	9.5	11.2	10.8	12.0	13.0
Subsidies	1.1	1.5	1.8	1.3	1.5	1.5
General expenditure ¹						
Education	3.6	4.5	4.3	3.9	4.1	..
Transportation	1.5	1.6	1.6	1.5	1.5	..
Health	2.0	3.1	3.2	3.2	3.2	..
Tax receipts ¹	25.3	28.5	30	30.7	30.8	29.1
Personal income tax	10.3	12.5	13.6	13.5	13.2	12.0
Corporate tax	3.8	3.5	2.8	3.9	4.3	4.2
Payroll tax	1.3	1.4	1.4	1.7	1.9	1.9
Taxes on goods and services	7.5	8.8	9.9	8.5	8.1	8.0
of which: Specific taxes on consumption	4.7	6.4	6.2	4.7	4.3	4.4
Other indicators						
Income tax elasticity ¹	1.6 ²	1.2	1.1	0.1	-2.8	0.6
Income tax as a percentage of total tax ¹	40.5	44.0	45.5	43.1	41.4	40.9
Net public debt as a percentage of GDP	..	..	..	11.6	14.1	17.7
	Prior to			After		
Tax rates (per cent)						
Top rate of income tax	49		1st January 1990		47	
Lower rate of income tax	21		1st January 1991		20	
Corporation tax rate	39		1st July 1993		33	

1. Fiscal years beginning 1st July.

2. 1974 figure.

Source: Australian Bureau of Statistics; OECD, *National Accounts, Revenue Statistics of OECD Member countries* and estimates.

BASIC STATISTICS

*BASIC STATISTICS:
INTERNATIONAL COMPARISONS*

BASIC STATISTICS: INTERNATIONAL COMPARISONS

	Units	Reference period ¹	Australia	Austria	Belgium	Canada	Denmark	Finland	France	Germany	Greece	Iceland	Ireland	Italy	Japan	Luxembourg	Netherlands	New Zealand	Norway	Portugal	Spain	Sweden	Switzerland	Turkey	United Kingdom	United States
Population																										
Total	Thousands	1990	17 085	7 718	9 967	26 620	5 141	4 986	56 420	63 232	10 140	255	3 503	57 647	123 540	382	14 951	3 379	4 241	9 859	38 959	8 559	6 796	56 473	57 411	251 523
Inhabitants per sq. km	Number	1990	2	92	327	3	119	15	103	254	77	2	50	191	327	147	366	13	13	107	77	19	165	72	235	27
Net average annual increase over previous 10 years	%	1990	1.5	0.2	0.1	1	0	0.4	0.5	0.3	0.5	1.1	0.3	0.2	0.6	0.5	0.6	0.7	0.4	0	0.4	0.3	0.6	2.4	0.2	1
Employment																										
Total civilian employment (TCE) ²	Thousands	1990	7 850	3 412	3 726	12 572	2 638	2 457	21 732	27 946	3 677	126	1 115	21 123	62 500	189	6 268	1 472	1992	4 474	12 578	4 508	3 563	19 209	26 577	117 914
Of which: Agriculture	% of TCE		5.6	7.9	2.7	4.2	5.6	8.4	6.1	3.4	24.5	10.3	15	9	7.2	3.2	4.6	10.6	6.5	17.8	11.8	3.3	5.6	47.8	2.1	2.8
Industry	% of TCE		25.4	36.8	28.3	24.6	27.5	31	29.9	39.8	27.4	30.2	28.6	32.4	34.1	30.7	26.3	24.6	24.8	34.8	33.4	29.1	35	19.9	29	26.2
Services	% of TCE		69	55.3	69	71.2	66.9	60.6	64	56.8	48.2	59.5	56.4	58.6	58.7	66.1	69.1	64.8	68.8	47.4	54.8	67.5	59.5	32.3	68.9	70.9
Gross domestic product (GDP)																										
At current prices and current exchange rates	Bill US \$	1990	294.1	157.4	192.4	570.1	129.3	137.3	1 190.8	1 488.2	66	5.9	42.5	1 090.8	2 940.4	8.7	279.1	44	105.7	59.7	491.2	228.1	224.8	108.4	975.1	5 392.2
Per capita	US \$		17 215	20 391	19 303	21 418	25 150	27 527	21 105	23 536	6 505	22 907	12 131	18 921	23 801	22 895	18 676	13 020	24 924	6 085	12 609	26 652	33 085	1 896	16 985	21 449
At current prices using current PPP's ³	Bill US \$	1990	271.7	127.4	163	510.5	85.2	82.2	980.4	1 151.6	74.3	4.1	37.2	919.7	2 179.9	7.3	234.8	45.8	68	82	457.3	144.6	142.1	189.7	911.8	5 392.2
Per capita	US \$		15 900	16 513	16 351	19 179	16 570	16 487	17 376	18 212	7 323	16 158	10 627	15 953	17 645	19 282	15 708	13 564	16 033	8 364	11 738	16 896	20 911	3 318	15 882	21 449
Average annual volume growth over previous 5 years	%	1990	3.1	3.1	3.2	3	1.5	3.4	2.9	3.1	1.7	2.7	4.4	3	4.6	4.3	2.7	0.4	1.6	4.6	4.5	2.1	2.8	5.9	3.2	3
Gross fixed capital formation (GFCF)																										
Of which: Machinery and equipment	% of GDP	1990	22.9	24.3	20.3	21.4	17.7	26.3	21.2	21.2	19.7	19.4	19.1	20.2	32.2	25.3	21.5	19.8	18.8	26.4	24.6	20.7	27.1	22.7	19.2	16.1
Residential construction	% of GDP		9.7	10.1	10.4	7.2	8.1	10	9.7	9.8	8.7	6.2	9.3	10	13.7	11	10.7	9.9	6.8	13.1	8.1	8.9	9.1	11.7	8.5	7.8 (89)
Average annual volume growth over previous 5 years	%	1990	4.8	4.6	4.3	6.8	3.7	7.1	5.2	5.6	4.4	4.2	4.2	5.2	6.1	5	5.1	4.8	2.8	4.5	5	5.5	17.9 ⁹	5.8 (87)	3.4	4.4 (89)
	%	1990	2.4	4.6	9.5	5.8	0.8	4.8	5.8	5.2	2.3	2.1	4.4	4.3	9	11.7	5.1	2.7	-2.8	10.4	11.7	4.9	6	4.7	5.8	2.7
Gross saving ratio⁴																										
	% of GDP	1990	19.7	26	21.8	17.4	18	23.1	21	25.2	13.8	16	23.4	19.3	34.6	60.9	25.4	16.1	24.1	26.6	22.1	17.3	33	22.2	15.6	14.4
General government																										
Current expenditure on goods and services	% of GDP	1990	17.3	18	14.3	19.8	25.2	21.1	18	18.4	21.2	18.8	15.7	17.3	9.1	16.3	14.8	16.7	21	16.7	15.2	27.1	13.3	19.4	19.9	18.1
Current disbursements ⁵	% of GDP	1990	34.9	44.9	53.1	44	56.5	37.5	46.2	42.6	50.9	31.5	49.9 (87)	48.1	26.2	45 (86)	51.7	..	51.6	39.3	35.5 (88)	59.1	30.7	..	38.1	34.6 (89)
Current receipts	% of GDP	1990	35.1	46.7	49.5	41.6	56.1	41.2	46.5	43.4	34.7	34.9	43.7 (87)	42.1	34.6	52.9 (86)	49.5	..	56.2	37.6	36.3 (88)	63.9	34.2	..	40	31.8 (89)
Net official development assistance																										
	Mill US \$	1990	0.34	0.25	0.45	0.44	0.93	0.64	0.79	0.42	0.07	0.03	0.16	0.32	0.31	0.29	0.94	0.22	1.17	0.23	0.16	0.9	0.31	..	0.27	0.21
Indicators of living standards																										
Private consumption per capita using current PPP's ³	US \$	1990	9 441	9 154	10 119	11 323	8 639	8 602	10 482	9 841	5 298	9 824	5 886	9 866	10 122	11 017	9 241	8 475	8 174	5 278	7 326	8 748	11 933	1992	10 051	14 465
Passenger cars per 1 000 inhabitants	Number	1989	570	416	416	613	370	439	494	526	234	488 (85)	278	458	455	546	399	549	459	181	347	462	479	37	449	748
Telephones per 1 000 inhabitants	Number	1989	550 (85)	540	500 (88)	780 (88)	880 (88)	620 (85)	610 (85)	680 (88)	360 (88)	525 (83)	265 (85)	510 (88)	555 (85)	413 (85)	660 (88)	720 (88)	622 (84)	220 (88)	396 (87)	889 (83)	880 (88)	120 (88)	524 (84)	650 (84)
Television sets per 1 000 inhabitants	Number	1988	217	484 (89)	255	586	526	486	399	379	175	306	260	419	589	250	478	296	350	160	380	395	408	172	435	812
Doctors per 1 000 inhabitants	Number	1990	2.3	2.1	3.4	2.2	2.7 (87)	1.9	2.6 (89)	3 (89)	3.3 (89)	2.8 (89)	1.5 (88)	1.3 (89)	1.6 (88)	1.9 (88)	2.5	1.9 (89)	3.1	2.9	3.7 (89)	3.1 (89)	2.9 (89)	0.9	1.4 (89)	2.3
Infant mortality per 1 000 live births	Number	1990	8.2	7.8	7.9	7.2 (89)	7.5 (89)	6.1 (89)	7.2	7.5 (89)	9.1 (89)	5.9	7.6 (89)	8.5	4.6 (89)	9.9	6.9	8.3	7.9 (89)	11	7.8 (89)	5.9	7.3	6.5 (89)	7.9	9.2
Wages and prices (average annual increase over previous 5 years)																										
Wages (earnings or rates according to availability)	%	1990	5.6	5	3	4.3	6	8.2	3.7	4.2	16	..	5.6	6.1	3.7	..	1.7	8.1	8.7	..	8.2	8.2	..	..	8.5	2.6
Consumer prices	%	1990	7.9	2.2	2.1	4.5	3.9	5	3.1	1.4	17.4	20.2	3.3	5.7	1.3	1.7	0.7	9.4	6.2	11.3	6.5	6.2	2.5	53.7	5.9	4
Foreign trade																										
Exports of goods, fob*	Mill US \$	1990	39 813	40 985	118 291 ⁷	127 334	34 988	26 583	216 157	409 620	8 014	1 589	23 796	170 330	287 358	.. ⁸	131 778	9 533	33 905	16 338	55 289	57 422	63 847	12 836	185 710	393 812
As % of GDP	%		13.5	26	61.5	22.3	27.1	19.4	18.2	27.5	12.2	27.1	56	15.6	9.8	..	47.2	21.7	32.1	27.4	11.3	25.2	28.4	11.8	19	7.3
Average annual increase over previous 5 years	%		11.9	19.1	17.1	7.8	15.6	14.3	16.5	17.6	11.8	14.2	18.1	16.6	10.2	..	14	10.6	11.2	23.5	18	13.7	18.4	9.9	12.9	13.1
Imports of goods, cif*	Mill US \$	1990	38 907	48 914	120 330 ⁷	116 561	31 647	26 950	225 260	344 454	19 831	1 648	20 687	181 863	235 407	..	126 215	9 458	27 218	24 874	87 373	54 659	69 811	22 224	225 327	494 842
As % of GDP	%		13.2	31.1	62.5	20.4	24.5	19.6	18.9	23.1	30.1	28.1	48.7	16.7	..	45.2	21.5	25.7	41.7	17.8	24	31	20.5	23.1	23.1	9.2
Average annual increase over previous 5 years	%		11	18.6	16.5	8.8	11.8	15.3	16.8	16.9	14.1	12.7	15.7	14.8	..	14.1	9.6	11.9	26.5	24	14	17.8	14.2	14.2	15.5	7.4
Total official reserves⁶																										
As ratio of average monthly imports of goods	ratio	1990	11 432	6 591	8 541 ⁷	12 544	7 445	6 779	25 851	47 729	2 398	307	3 672	44 232	55 179	..	12 289	2 902	10 777	10 182	36 008	12 644	20 541	4 252	25 201	50 791
	ratio		3.5	1.6	0.9	1.3	2.8	3	1.4	1.7	1.5	2.2	2.1	2.9	..	1.2	3.7	4.8	4.9	4.9	2.8	3.5	2.3	1.3	1.3	1.2

* At current prices and exchange rates.

1. Unless otherwise stated.

2. According to the definitions used in OECD Labour Force Statistics.

3. PPP's = Purchasing Power Parities.

4. Gross saving = Gross national disposable income minus Private and Government consumption.

5. Current disbursements = Current expenditure on goods and services plus current transfers and payments of property income.

6. Gold included in reserves is valued at 35 SDR's per ounce. End of year.

7. Including Luxembourg.

8. Included in Belgium.

9. Including non-residential construction.

10. Federal Government Statistics.

Sources: Population and Employment: OECD Labour Force Statistics.

GDP, GFCF, and General Government: OECD National Accounts, Vol. I and OECD Economic Outlook, Historical Statistics.

Indicators of living standards: Miscellaneous national publications.

Wages and Prices: OECD Main Economic Indicators.

Foreign trade: OECD Monthly Foreign Trade Statistics, series A.

Total official reserves: IMF International Financial Statistics.

EMPLOYMENT OPPORTUNITIES

Economics Department, OECD

The Economics Department of the OECD offers challenging and rewarding opportunities to economists interested in applied policy analysis in an international environment. The Department's concerns extend across the entire field of economic policy analysis, both macro-economic and micro-economic. Its main task is to provide, for discussion by committees of senior officials from Member countries, documents and papers dealing with current policy concerns. Within this programme of work, three major responsibilities are:

- to prepare regular surveys of the economies of individual Member countries;
- to issue full twice-yearly reviews of the economic situation and prospects of the OECD countries in the context of world economic trends;
- to analyse specific policy issues in a medium-term context for the OECD as a whole, and to a lesser extent for the non-OECD countries.

The documents prepared for these purposes, together with much of the Department's other economic work, appear in published form in the *OECD Economic Outlook*, *OECD Economic Surveys*, *OECD Economic Studies* and the Department's *Working Papers* series.

The Department maintains a world econometric model, INTERLINK, which plays an important role in the preparation of the policy analyses and twice-yearly projections. The availability of extensive cross-country data bases and good computer resources facilitates comparative empirical analysis, much of which is incorporated into the model.

The Department is made up of about 75 professional economists from a variety of backgrounds and Member countries. Most projects are carried out by small teams and last from four to eighteen months. Within the Department, ideas and points of view are widely discussed; there is a lively professional interchange, and all professional staff have the opportunity to contribute actively to the programme of work.

Skills the Economics Department is looking for:

- a) Solid competence in using the tools of both micro-economic and macro-economic theory to answer policy questions. Experience indicates that this normally requires the equivalent of a PH.D. in economics or substantial relevant professional experience to compensate for a lower degree.
- b) Solid knowledge of economic statistics and quantitative methods; this includes how to identify data, estimate structural relationships, apply basic techniques of time series analysis, and test hypotheses. It is essential to be able to interpret results sensibly in an economic policy context.

- c) A keen interest in and knowledge of policy issues, economic developments and their political/social contexts.
- d) Interest and experience in analysing questions posed by policy-makers and presenting the results to them effectively and judiciously. Thus, work experience in government agencies or policy research institutions is an advantage.
- e) The ability to write clearly, effectively, and to the point. The OECD is a bilingual organisation with French and English as the official languages. Candidates must have excellent knowledge of one of these languages, and some knowledge of the other. Knowledge of other languages might also be an advantage for certain posts.
- f) For some posts, expertise in a particular area may be important, but a successful candidate is expected to be able to work on a broader range of topics relevant to the work of the Department. Thus, except in rare cases, the Department does not recruit narrow specialists.
- g) The Department works on a tight time schedule and strict deadlines. Moreover, much of the work in the Department is carried out in small groups of economists. Thus, the ability to work with other economists from a variety of cultural and professional backgrounds, to supervise junior staff, and to produce work on time is important.

General Information

The salary for recruits depends on educational and professional background. Positions carry a basic salary from FF 262 512 or FF 323 916 for Administrators (economists) and from FF 375 708 for Principal Administrators (senior economists). This may be supplemented by expatriation and/or family allowances, depending on nationality, residence and family situation. Initial appointments are for a fixed term of two to three years.

Vacancies are open to candidates from OECD Member countries. The Organisation seeks to maintain an appropriate balance between female and male staff and among nationals from Member countries.

For further information on employment opportunities in the Economics Department, contact:

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