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Australia: Selected Issues and Statistical Appendix

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AUSTRALIA

Selected Issues and Statistical Appendix

Prepared by R. Brooks, P. Gruenwald, J. Lee (all APD), and R. Salgado (RES)

Approved by Asia and Pacific Department

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Contents Page

Figures

Appendices

Statistical Tables

I. AUSTRALIA: PRODUCTIVITY GROWTH AND STRUCTURAL REFORM[1]

A. Introduction

1. Economic growth in Australia has averaged almost 4½ percent during 1994–98, substantially higher than the average in the previous two decades and approaching average growth rates experienced in the "golden age" of the 1960s (Table I.1 and Figure I.1). The recent performance is attributable both to faster growth in hours worked and to a pickup in labor productivity, capital productivity, and total factor productivity (TFP) growth, with most measures of these reaching rates that exceed those in the 1960s.

2. This chapter examines Australia's recent growth and productivity performance from two standpoints. First, it investigates the contribution of cyclical factors to the recent pickup, and second, it examines to what extent the structural or trend improvement in productivity growth is attributable to structural reforms. Regarding the latter, the paper analyzes the impact of structural reforms on productivity growth in a panel study of 20 OECD countries during 1965–98.

3. The analysis finds that the recent pickup in productivity growth reflects both cyclical and structural factors. The paper then attempts to link—by means of a cross-country study—the structural improvement to microeconomic reforms that have been pursued since the 1980s. The analysis suggests that, in the long run, structural reforms exert a significant positive impact on productivity growth, although the short-run impact may be weak or negative, possibly due to adjustment costs and the need for firms to learn how to operate in a less regulated and more competitive environment. Relative to the rates in the 1980s, the analysis suggests that reforms have lifted trend total factor productivity growth by between 0.5 and 0.9 percentage points. Under reasonable assumptions, this increase in trend TFP growth would imply that potential output growth in Australia over the next four to six years is likely to fall in the range of 3.2 to 4.3 percent. While the range is relatively wide—which underscores the need to continue to set policies with some uncertainty regarding the level of Australia's potential growth rate—the midpoint is nevertheless higher than previous staff estimates.

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[1] Prepared by Ranil Salgado. Since this chapter was finalized, the ABS has published a revised experimental series—going back to the 1960s—on capital service flows, which would affect the productivity estimates in this chapter. The upshot of the revisions would be somewhat lower market-sector total factor productivity growth during 1965–98, but an increase since the 1980s of approximately the same magnitude as identified below.

B. Productivity Growth in the Market Sector:[2] Cyclical and Trend Factors

4. During the most recent productivity cycle (1994–98), annual output growth in the market sector increased to 4.6 percent, compared to a (33-year) long-run average of 3.3 percent, while annual labor productivity and TFP growth increased to 3.1 percent and 2.4 percent, compared to long-run averages of 2.3 percent and 1.4 percent, respectively.[3,4] Annual capital productivity growth in the market sector also rose to 0.8 percent during 1994–98, compared to a long-term average annual *decline* of 1.0 percent.

5. Because productivity growth is positively correlated with output growth, however, the pickup in productivity may partly reflect cyclical factors. For example, market sector labor productivity growth has a 0.69 correlation with market sector output growth, while capital productivity and TFP growth are even more highly correlated with output growth (Table I.2). These positive correlations may be explained by labor hoarding or fluctuating capacity utilization. Alternatively, advocates of real business cycle theory would argue that the causation mainly runs from productivity growth to output growth—that is, positive technology shocks produce economic booms. In any case, an underlying trend productivity growth that excludes cyclical factors can be estimated. This paper employs three methods to estimate trend growth: average growth between productivity-cycle peaks; average growth between business-cycle peaks; and growth estimated by smoothing the underlying series to filter out business cycle fluctuations using the Hodrick-Prescott (1997) filter.

6. All three methods indicate that trend productivity growth has risen, but each one provides a different estimate of the trend growth rate. Trend productivity growth estimated by the average growth between productivity-cycle peaks (see Table I.1) or between business-cycle peaks (Table I.3) rose in the most recent economic expansion to levels even higher than

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[2] The market sector, as defined by the Australian Bureau of Statistics (ABS), excludes five industry sectors—government administration and defense, property and business services, education, health and community services, and personal and other services (and also excludes ownership of dwellings). The ABS provides estimates of total (or multi-) factor productivity and capital productivity only for the market sector. The data from the ABS refer to fiscal years ending in June.

[3] It should be noted that strong output and labor productivity growth continued through June 1999. The paper includes ABS data only through June 1998 because capital stock data—and therefore, estimates of capital and total factor productivity—were not available for 1999 at the time of writing.

[4] TFP (or multi-factor productivity) is estimated by the ABS using a Thornqvist-Theil divisia index with TFP growth as the weighted average of labor and capital productivity growth, where the weights are, respectively, labor and capital income shares averaged over consecutive years.

those in the so-called "golden age" of the 1960s and early 1970s.[5] In the most recent productivity cycle, for example, annual labor productivity growth in the market sector reached 3.1 percent, annual TFP growth 2.4 percent, and annual capital productivity growth 0.8 percent, while in the most recent business cycle, annual labor productivity growth increased to 2.9 percent, annual TFP growth 2.0 percent, and annual capital productivity growth 0.1 percent. These growth rates exceed or match those experienced in the 1960s and are well above the productivity growth in the 1980s. Moreover, labor productivity and TFP growth in the most recent expansion, unlike the previous two expansions, have remained strong even eight years after the previous business cycle peak (Figure I.2).

7. Trend market-sector productivity growth, estimated using the Hodrick-Prescott filter, has also risen, although generally to a lesser extent (Figure I.3). In 1998, trend labor productivity growth was 2.4 percent—only slightly higher than its long-term average and substantially below trend rates in the 1960s, while trend TFP growth was 1.8 percent—still slightly below trend rates in the 1960s, although almost 1 percentage point higher than its low point in the late 1980s. However, trend capital productivity growth increased to 0.5 percent, its highest level. In addition, labor productivity has risen faster than would be predicted by the long-run relationship between it and the capital-labor ratio, also indicating that TFP growth has increased above its long-run trend.[6]

8. The data presented above, therefore, provides some indication that productivity growth, even controlling for cyclical factors, has risen in recent years. It is difficult, however, to estimate the precise improvement. For trend or structural market-sector TFP growth, the estimates from the three methods range from 1.8 percent to 2.4 percent. In addition, the estimates of trend growth that are based on averages between productivity cycles or business cycles may be biased upwards because the current cycle is not yet complete and productivity growth tends to decrease towards the end of such cycles. The Hodrick-Prescott filter also suffers from end-period problems. Moreover, it remains unclear whether the improvement in

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[5] The ABS estimates productivity growth during productivity cycles in order to remove cyclical factors. Cycle peaks are identified by the maximum deviation of TFP from its long-run trend, which is estimated using an 11-period Henderson moving average. In this paper, the standard international methodology that estimates productivity growth during business cycles, which are identified by cyclical peaks in output, is also used. See Parham (1999) for more discussion about recent productivity trends in Australia.

[6] Assuming a Cobb-Douglas production function (i.e., constant returns to scale and a constant and unit elasticity of substitution between capital and labor), labor productivity is a log-linear function of TFP and the capital-labor ratio.

productivity growth is sustainable or possibly the result of a somewhat longer than normal, but not pathbreaking, expansion.[7]

C. Productivity Growth and Structural Reforms: A Cross-country Analysis

9. Over the past two decades, Australia has implemented a wide range of structural reforms, including trade, product market, and labor market reforms. In terms of trade reform, average tariff rates have been reduced from over 12 percent in the mid-1970s to under 4 percent in 1998 (Figure I.4), while rates of effective protection have also declined and are projected to continue to decline (Industry Commission, 1995 and Productivity Commission, 1998). On the domestic side, key sectors—such as financial services, telecommunications, and aviation—have been liberalized, other product markets have been deregulated to enhance domestic competition, and labor markets have been reformed and decentralized.[8]

10. To examine the potential impact of these structural reforms, this paper analyzes productivity growth and indicators of structural reforms across OECD countries since the 1960s.[9] Only OECD countries are included in the analysis to maintain a set of relatively homogeneous countries. A variety of structural indicators are examined, with the average tariff rate as the primary indicator of trade reform,[10] and the average unemployment benefit replacement rate as the indicator of labor market reform. Several indicators for product market reform are used as proxies for product market competition, namely structural change variables and the price-average-cost markup.[11]

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[7] See, for example, Schweitzer (1998) which examines the current U.S. expansion and concludes that the recent increase in U.S. productivity growth is remarkable, but not unusual, in that the recent performance is not outside standard error bands when compared to previous expansions. One difficulty with providing a similar analysis for Australia is that historical data is more limited and in particular, covers only four business cycles.

[8] For more details, see *Australia: Benefiting from Economic Reform* (IMF, 1998).

[9] See Appendix for data sources and details of variable construction.

[10] Other indicators of trade reform are also examined, including openness, import penetration, and export intensity—the latter two, both for manufacturing industries only and at the aggregate level.

[11] Structural change is defined as half the sum of the absolute value of annual changes in the sectoral share of GDP, and is calculated at two- and three-digit industry levels—see OECD (1996). Price-average-cost markups, which are allowed to vary on an annual basis, are defined as the ratio of nominal GDP (excluding net indirect taxes) to total factor cost—see Domowitz et al. (1996) for a similar approach. Alternative approaches, which estimate price-marginal-cost margins but assume constant margins over time, include Hall (1998), Domowitz et al. (1988), and Roeger (1995). Morrison (1990) proposes a methodology to

(continued...)

11. The choice of indicators or proxies for structural reforms is limited by the availability of data for a number of countries, particularly on an annual time-series basis. This means that the proxy measures used in the empirical analysis in this paper may not give optimal measures of structural reforms undertaken in a particular country. For example, as an indicator or proxy for trade reform, the average tariff rate does not capture the benefits of removing import quotas or other forms of nontariff barriers to trade. Also, because it is (implicitly) trade-weighted (as opposed to production-weighted), the proxy does not fully capture the trade protection offered even by tariffs.[12] For Australia, effective rates of protection, a better proxy for trade protection, have been calculated for agriculture and manufacturing (for example, see Industry Commission, 1995), but these measures are not available for most other countries (particularly, on a time-series basis).

12. There is also only limited panel data on indicators of labor market flexibility and reform. Unemployment benefit replacement rate data are perhaps not optimal because the data indicate that labor market flexibility has declined in most OECD countries, including Australia. While this might indicate less labor market flexibility, other labor market indicators (which are, unfortunately, available only for selected years and therefore, not usable in the empirical analysis below) generally indicate slightly improving or constant labor market flexibility (OECD, 1999).

13. Nevertheless, these data limitations do not necessarily invalidate the results. The proxy measures will capture some of the effects of reform, and the deviations of these proxies from true measures of reform may be random across countries—that is, the deviations may cancel. In addition, the results presented below are tested for robustness using different proxy measures and different specifications.

International comparison of Australia's performance

14. Estimates of labor productivity, capital productivity, and TFP growth for the business sector can be derived for 20 OECD countries between 1960 and 1998.[13] Because hours

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estimate time-varying markups using a structural model; however, this procedure is beyond the scope of this paper.

[12] As an example, prohibitive tariff rates afford full trade protection, but the implied protection would not be included in the average tariff rate because sectors with prohibitive tariffs would have no imports.

[13] These countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, the United Kingdom, and the United States. While estimates for labor productivity growth can be derived for other OECD countries, the lack of capital stock data for these countries precludes estimating capital productivity or TFP growth. The business

(continued...)

worked are available for only a limited number of countries, labor productivity is calculated as output per worker. TFP is calculated using the same methodology as employed by the Australian Bureau of Statistics (ABS), under the assumptions of constant returns to scale and perfect competition.[14] Furthermore, labor and capital are assumed to be homogeneous and fully employed.[15] To the extent that these assumptions are incorrect, inputs and output are mismeasured, and hours per worker change over time, TFP growth will be an inaccurate measure of technological progress and improving economic efficiency.

15. With these caveats in mind, the data show that productivity growth in these OECD countries, including Australia, generally slowed down in the early 1970s. Annual labor productivity growth, which averaged over 4¼ percent in the 1960s across the 20 countries, slowed to about half that rate in the 1970s and further during the 1980s and 1990s (Table I.4). Average annual TFP growth followed a similar pattern, with a sharp drop from almost 3 percent in the 1960s to about 1 percent in the 1980s and 1990s (Table I.5). While average annual capital productivity growth also slowed by half a percentage point between the 1960s and the 1970s, it has since picked up in the 1990s (Table I.6). In the most recent decade, labor productivity and TFP growth appear to have partly rebounded in some countries, including Australia, but are still below levels reached in the 1960s. Interestingly, capital productivity in Australia has remain almost unchanged over the long run (and has risen recently), suggesting that investment inefficiencies—possibly arising from credit market or other distortions—are not plaguing Australia's economic performance.[16]

16. During the last several decades, many OECD countries have instituted structural reforms. On the trade side, average tariff rates across these countries have declined from almost 9 percent in 1960 to under 2 percent by 1995 (Table I.7). Product markets have also become more competitive, as indicated by price-average-cost markups which have declined from a cross-country average of about 20 percent in the 1960s to 11 percent in 1995 (Table I.8). However, average unemployment benefits replacement rates have *increased* from

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sector includes both market and nonmarket sectors, but excludes producers of government services.

[14] At the aggregate level, most economic studies have found that constant returns to scale cannot be rejected. For tests of these assumptions with Australian aggregate data, see Chapter 2 in *Australia: Benefiting from Economic Reform* (IMF, 1998).

[15] For example, labor is not differentiated by level of skill or education while capital is not differentiated by vintage.

[16] In general, if investment is inefficient, then capital productivity (or also, the marginal product of capital) would be expected to fall.

16 percent in 1960 to almost 30 percent in 1995 (Table I.9). For product markets, the structural change variables are relatively volatile (see Figure I.4).[17]

Results

17. The short- and long-run effects of structural reforms on productivity growth are estimated using pooled and fixed effect distributed lag models. The explanatory variables are the structural indicators (described above) and a term allowing for convergence of productivity levels. For most regressions, lags range from 1 to 10.[18] As the data are annual, ten-period lags may seem long; however, one objective of this study is to estimate the long-run impact of structural reforms, and indeed, the coefficients for the ten-year lagged variables were often found to be significantly different from zero.

The estimated equations have the following form:

$$y_{i,t} = \alpha_{i,t} + \sum_{j=n_k}^{m_k} \beta_{i,j}^{T} x_{i,t-j} + \varepsilon_{i,t}$$

where y is the dependent variable, α is the constant term, x is a (kx1)-dimensional vector representing the explanatory variables, β is a (kx1)-dimensional vector representing the coefficients for the explanatory variables (with ^{T} representing the transpose of the vector), ε is the error term, k is the number of explanatory variables (excluding the constant term), i represents the cross-sectional units (in this case, countries), j represents the number of lags, n_k and m_k represent the range of the lags, and t represents time periods. The dependent variables are productivity growth or more specifically, first differences of the log productivity levels. The explanatory variables are in log levels or first differences of log levels (as specified in the Tables). For the pooled regressions, $\alpha_i = \alpha$ and $\beta_i = \beta$ for all i, while for the fixed effects regressions α_i's were not constrained to be equal.

18. The results are presented in Tables I.10–I.14. In Tables I.10–I.12, the dependent variable is TFP growth, while in Table I.13, the dependent variable is labor productivity growth, and in Table I.14, capital productivity growth. In Tables I.10, I.13, and I.14, the

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[17] Note that unlike the other indicators, an increase in the structural change variable indicates increased market competition or flexibility.

[18] For the structural change explanatory variables, the lag length is 6, as the coefficients beyond the sixth lag were insignificant. This may reflect the shorter time series (from 1971) available for these variables. Also, regressions (not shown) without the Gap variable (see below for the description of this variable) or with the Gap variable lagged only one period or only ten periods also confirm the main regression results, particularly on the impact of structural reforms.

explanatory variables are the ratio of per capita income to per capita income in the United States, the productivity leader (Gap), the tariff rate (Trade), the price-average-cost markup (Product), and the unemployment benefits replacement rate (Labor).[19] In Table I.12, the price-average-cost markup is replaced as the proxy for product market reform by the (two-digit) structural change variable.[20] In interpreting these results, it should be noted that for the indicators of structural reform, other than the structural change variables, a negative coefficient implies a positive impact of reform on productivity growth. (For the structural change variables, a positive coefficient implies a positive impact). A negative coefficient on the Gap variable implies convergence in productivity.

19. The estimation results generally indicate that fixed effects matter—that is, there are differences in performance across the countries even after controlling for the effects of the convergence term and the structural indicators.[21] In addition, the labor variable is rarely ever significant—never in the short run and only a few times in the long run. In Table I.11, the labor variable is dropped (but the other explanatory variables are the same as in Table I.10). As a proxy for product market reform, the price-average-cost markup is significant more often in these regressions than the structural change variable. The relative income per capita term indicates convergence in the short and long run in almost all the regressions.[22]

20. Over the short term, structural reforms appear to have a weak or even negative impact on productivity growth. In general, the short-run coefficient (or the coefficient on the first lag of the explanatory variable) is insignificant or does not have the expected sign. This result holds in almost every regression and may be explained by the short-run costs of adjusting to reform and the need for firms to learn how to operate in a deregulated environment. While this result provides some support for a strategy of phasing or sequencing the introduction of structural reforms, the analysis indicates that the negative effects are generally reversed within two years.

21. In the longer run, specifically after ten years, the results indicate that trade and product market reforms have a positive impact on productivity growth, as the long-run

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[19] Similar results (not shown) are found when the relative per capita income term is replaced by the ratio of the TFP level to the TFP level in the United States, although convergence in the long run is generally rejected.

[20] Regressions (not shown) substituting the three-digit structural change variable instead of the two-digit one produce similar results, except the three-digit structural change variable is almost always insignificant in both the short and long run.

[21] The fixed effects for Australia are usually small and positive and often insignificant.

[22] The regressions (not shown) with the Gap variable lagged only one period or only ten periods also generally indicate convergence.

coefficient (or the sum of the coefficients on all lags) typically has the expected sign and the F-statistic that the coefficients on the lags are different from zero is usually significant.[23]

22. An estimate of the long-run impact of the structural reforms for particular countries can be made by multiplying the long-run regression coefficient (for regressions with log levels) or the long-run coefficient divided by the lag length (for regressions with first differences of log levels) by the change in the structural indicators. Such an estimate is inherently rough because, as discussed above, while the deviations of the proxy measures from the true measures of structural reforms may be washed out across countries, these deviations may not be random for individual countries. With this caveat in mind, this methodology implies that structural reforms that have been implemented in Australia during the last decade could lift TFP growth between 0.5 and 0.9 percentage points over the long run.[24] As a comparison, the estimates of the long-run impact of structural reform range from 0.3 to 0.4 percentage points for New Zealand and from 0.1 to 0.2 percentage points for the United States.

23. While some of this improvement in Australia's TFP growth is already apparent in the data, productivity growth should continue to strengthen above what would have occurred without these reforms, as the full impact of recent structural reforms—including, for example, recent or planned reductions in tariffs and trade protection and the National Competition Policy which was adopted in 1995—may not be felt for as long as a decade. In addition, the result in this study that labor market reforms, in general, do not lead to improvements in productivity growth might be because the unemployment benefit replacement rate, which has increased in most OECD countries including Australia, is a poor indicator of labor market flexibility and reform. Because labor market reforms have often been implemented along with and as a complement to other structural reforms in many of these countries, and because the unemployment benefit replacement rate may be a poor indicator of the labor market reforms, the positive impact of the labor market reforms may be included in the estimated positive effects of the trade and product market reforms. Indeed,

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[23] For the regressions with log levels, the long-run coefficients can be interpreted as the long-run impact of a one-unit change in the log level of the explanatory variable. For the regressions with first differences of log levels, the long-run coefficients can be interpreted similarly, except that because the coefficient is calculated as the sum of the coefficients on all of the lags and the explanatory variables are first differences of log levels, the coefficient must be divided by the lag length in order to estimate the impact of a 1 unit change in the log level of the explanatory variable.

[24] These calculations are based on the fixed effects regressions with first differences in Tables I.10–I.12, using the long-run coefficients significant at the 10 percent level. The range for the impact on TFP growth is because of the differences in the coefficients. Trade reforms generally account for about 80 percent of the impact because the coefficient on trade reforms is higher.

recent labor market reforms in Australia (for example, the Workplace Relations Act of 1996), which have improved labor market flexibility, could also lead to improved productivity growth.

24. Positive effects of trade and product market reforms have also been found in a study of the impact of these reforms on productivity growth across 14 OECD countries during 1970–90 (Economic Planning Advisory Commission, 1995).[25] In addition, Chand et al. (1998) find that declining assistance to manufacturing in Australia is positively related to manufacturing industry productivity growth.

Australia's potential growth rate

25. Rough estimates can also be made of the impact on potential growth over the next four to six years based on the estimated improvement in TFP growth owing to structural reforms. These calculations assume that the underlying production function is Cobb-Douglas, TFP growth and employment growth are exogenous, and Australia is on its steady-state (or balanced) growth path. Under these assumptions, potential output growth is equal to employment growth added to TFP growth divided by the labor income share. Over the medium term (or through 2005), employment is assumed to grow 1.8 percent per annum.[26] Market-sector TFP growth without structural reforms (ranging from about 0.8 percent to 0.9 percent) is assumed equal to trend growth in the 1980s estimated using the three methods, as discussed in Section II. The estimated improvement in TFP growth because of structural reforms ranges from 0.5 to 0.9 percentage points, as discussed above. Labor income share (equal to about 67 percent of GDP) is estimated from OECD data as the average share during the past decade. Furthermore, because the market sector excludes some private service sectors, government administration and defense, ownership of dwellings, and indirect taxes and subsidies, an additional adjustment is made to translate market sector productivity growth to aggregate productivity growth. These calculations indicate that potential growth would range from 2.4 to 2.9 percent without the structural reforms but range from 3.2 to 4.3 percent with the reforms.

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[25] The Economic Planning Advisory Commission study differs from this paper in a number of respects, including: (1) not modeling the dynamic effects of structural reform so as to differentiate between short-run and long-run effects; (2) using only pooled estimation (although a few country dummies are included in some regressions); (3) having a smaller sample (both in cross section and time series); and (4) using only the structural change variable as an indicator of product market reform.

[26] Employment growth is calculated from estimates of annual labor force growth (1.6 percent through 2005) along with a decline in the unemployment rate to 6.3 percent.

D. Conclusion

26. In recent years, productivity growth in Australia has increased to rates not seen since the golden age of the 1960s. This chapter has examined the contribution of both cyclical and structural factors to the performance, and has attempted to link the structural improvement to a variety of microeconomic reforms implemented since the 1980s.

27. The analysis found that, while cyclical factors explain part of the improved productivity performance, even controlling for these, there has been an improvement. It is difficult, however, to quantify the structural or trend improvement precisely, which underscores the need to continue to attach sizeable uncertainty bands around a point estimate of Australia's potential growth rate in setting policies.

28. The analysis further suggests that structural reforms, particularly trade and product market reforms, are important in explaining improvements in trend productivity growth, even though the impact of such reforms on productivity may be weak or negative in the short run, possibly due to adjustment and learning costs. The results suggest that structural reforms have lifted Australia's trend TFP growth rate by between 0.5 and 0.9 percentage points since the 1980s. Under some reasonable assumptions, this increase in trend TFP growth would imply that potential output growth in Australia over the next four to six years is likely to fall in the range of 3.2 to 4.3 percent. The midpoint of this range is significantly higher than previous staff estimates of Australia's potential growth rate.

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Table I.1. Australia. Output, Inputs, and Productivity During Productivity Cycles 1/
(Average annual growth during fiscal years)

	1965–98	1965–69	1969–74	1974–82	1982–85	1985–89	1989–94	1994–98
Aggregate								
GDP	3.7	5.5	4.6	2.8	2.7	4.0	2.3	4.4
Hours worked 2/	1.8	..	..	..	0.6	3.5	0.5	2.0
Labor productivity 2/	1.6	..	..	..	2.1	0.5	1.8	2.3
Market Sector								
Gross product	3.3	5.2	4.6	2.1	1.8	4.3	1.8	4.6
Hours worked	1.0	2.5	1.6	-0.3	-0.5	3.2	-0.2	1.4
Capital services	4.4	7.1	6.1	4.0	3.7	3.9	2.6	3.7
Capital-labor ratio	3.4	4.5	4.5	4.3	4.2	0.7	2.8	2.3
Labor productivity	2.3	2.5	2.9	2.4	2.3	1.0	2.0	3.1
Capital productivity	-1.0	-1.9	-1.5	-1.8	-1.8	0.3	-0.8	0.8
TFP (or MFP) 3/	1.4	1.3	1.6	1.3	1.2	0.8	1.1	2.4

Sources: Australian Bureau of Statistics (ABS) and Fund staff estimates.

1/ Data are for fiscal years which end in June. Productivity cycles are dated by the ABS. Cycle peaks are identified by the maximum deviation of TFP from its long-run trend, which is estimated using an 11-period Henderson moving average.
2/ Aggregate hours worked and labor productivity are calculated from first date available (1979).
3/ TFP (or multi-factor productivity, MFP) is estimated by the ABS using a Thornqvist-Theil divisia index with TFP growth as the weighted average of labor and capital productivity growth, where the weights are, respectively, labor and capital income shares averaged over consecutive years.

Table I.2. Australia. Growth Correlations 1/
(Correlation with output growth; 1965–98)

	Aggregate GDP	Market Sector Gross Product
Aggregate		
GDP	1.00	0.94
Hours worked 2/	0.82	0.80
Labor productivity 2/	0.19	0.16
Market sector		
Gross product	0.94	1.00
Hours worked	0.65	0.62
Capital services	0.47	0.39
Capital-labor ratio	-0.33	-0.35
Labor productivity	0.58	0.69
Capital productivity	0.72	0.83
TFP	0.67	0.79

Sources: Australian Bureau of Statistics and Fund staff estimates.

1/ Data are for fiscal years which end in June.
2/ Correlations for aggregate hours worked and labor productivity are calculated from first date available (1979).

Table I.3. Australia. Output, Inputs, and Productivity During Business Cycles 1/
(Average annual growth during fiscal years)

	1965–98	1965–74	1974–82	1982–90	1990–98
Aggregate					
GDP	3.7	5.0	2.8	3.5	3.2
Hours worked 2/	1.8	...	...	2.4	0.9
Labor productivity 2/	1.6	...	...	1.0	2.3
Market Sector					
Gross product	3.3	4.8	2.1	3.2	3.0
Hours worked	1.0	2.0	-0.3	1.9	0.1
Capital services	4.4	6.6	4.0	4.0	2.9
Capital-labor ratio	3.4	4.5	4.3	2.1	2.8
Labor productivity	2.3	2.7	2.4	1.3	2.9
Capital productivity	-1.0	-1.6	-1.9	-0.7	0.1
TFP	1.4	1.5	1.3	0.8	2.0

Sources: Australian Bureau of Statistics (ABS) and Fund staff estimates.

1/ Data are for fiscal years which end in June.
2/ Aggregate hours worked and labor productivity are calculated from first date available (1979).

Table I.4. Selected Industrial Countries: Business Sector Labor Productivity Growth 1/
(Annual averages)

	1960–98	1960–70	1970–80	1980–90	1990–98
Australia	1.8	2.7	1.8	0.9	1.8
Austria	2.9	5.6	3.0	2.1	1.8
Belgium	2.7	4.2	3.1	1.7	1.6
Canada	1.2	1.8	1.2	1.0	0.8
Denmark	2.2	3.4	1.8	1.5	2.2
Finland	3.2	4.7	2.6	2.5	2.5
France	2.5	4.6	2.8	2.1	1.5
Germany	2.4	4.3	2.6	1.7	0.9
Greece	3.6	8.5	4.0	0.6	0.9
Ireland	3.9	4.2	3.8	3.8	3.8
Italy	3.1	6.2	2.5	1.7	1.7
Japan	4.0	8.6	3.6	2.7	0.9
Netherlands	2.4	3.8	2.7	1.6	1.3
New Zealand	0.9	1.1	0.3	1.4	0.4
Norway	2.7	3.5	3.2	1.8	2.5
Spain	3.5	6.1	3.8	2.3	1.7
Sweden	2.2	4.0	1.0	1.4	2.3
Switzerland	1.4	3.2	1.8	0.2	0.3
United Kingdom	2.2	2.9	1.8	1.9	1.9
United States	1.4	2.3	0.7	1.1	1.2
Unweighted mean	2.5	4.3	2.4	1.7	1.6

Sources: OECD and Fund staff estimates.

1/ Labor productivity is calculated as output per employee.

Table I.5. Selected Industrial Countries: Business Sector TFP Growth 1/
(Annual averages)

	1960–98	1960–70	1970–80	1980–90	1990–98
Australia	1.2	2.5	1.0	0.6	1.5
Austria	1.4	3.6	1.4	1.0	0.6
Belgium	1.3	..	2.1	1.0	0.9
Canada	-0.1	0.3	0.1	-0.4	-0.3
Denmark	1.3	2.1	0.6	0.8	1.6
Finland	2.7	3.9	1.9	2.0	2.3
France	1.7	3.6	1.8	1.5	0.8
Germany	1.5	2.6	1.6	1.2	0.6
Greece	1.5	4.2	1.5	-0.1	0.4
Ireland	3.7	4.0	3.5	3.4	4.0
Italy	2.1	4.7	1.8	1.0	0.7
Japan	2.3	5.7	1.9	1.8	0.0
Netherlands	1.6	3.7	2.1	1.3	1.0
New Zealand	0.6	0.7	0.1	1.0	0.6
Norway	1.6	2.0	2.1	0.5	2.0
Spain	1.8	3.2	2.2	1.7	0.6
Sweden	1.0	2.0	0.0	0.8	1.4
Switzerland	0.3	1.4	0.6	-0.3	-0.4
United Kingdom	1.9	2.8	1.4	1.8	1.4
United States	1.0	1.7	0.4	0.8	0.8
Unweighted Mean	1.5	2.9	1.4	1.1	1.0

Sources: OECD and Fund staff estimates.

1/ TFP growth is calculated using a Thornqvist-Theil divisia index as the weighted average of labor and capital productivity growth, where the weights are, respectively, labor and capital income shares averaged over consecutive years.

Table I.6. Selected Industrial Countries: Business Sector Capital Productivity Growth 1/
(Annual averages)

	1960–98	1960–70	1970–80	1980–90	1990–98
Australia	0.0	1.1	-1.0	-0.4	0.8
Austria	-2.0	-1.9	-2.7	-1.5	-2.0
Belgium	-0.9	..	-0.8	-0.9	-1.0
Canada	-3.0	-3.4	-2.2	-3.8	-3.1
Denmark	-1.3	-1.5	-2.5	-1.0	0.0
Finland	0.6	1.5	-0.3	0.1	0.7
France	-0.1	1.4	-0.8	-0.1	-0.6
Germany	-0.9	-1.5	-1.2	-0.3	-0.3
Greece	-4.4	-9.8	-4.7	-2.1	-1.1
Ireland	2.6	3.7	1.8	1.1	4.4
Italy	-0.1	0.8	0.0	-0.3	-1.1
Japan	-2.5	-1.8	-3.7	-1.5	-2.7
Netherlands	0.2	1.7	0.0	0.4	0.2
New Zealand	0.1	-0.1	-0.5	-0.1	0.9
Norway	-0.3	-0.2	-0.3	-1.8	1.1
Spain	-2.9	-5.0	-4.7	-0.8	-1.9
Sweden	-1.6	-1.5	-3.2	-0.9	-0.9
Switzerland	-1.8	-1.6	-2.0	-1.2	-2.4
United Kingdom	0.8	1.4	0.2	1.4	-0.1
United States	0.1	0.2	-0.4	0.3	0.2
Unweighted mean	-0.9	-0.9	-1.4	-0.7	-0.4

Sources: OECD and Fund staff estimates.

1/ Capital productivity is calculated as output per capital input.

Table I.7. Selected Industrial Countries: Average Tariff Rates 1/
(In percent)

	1960	1965	1970	1975	1980	1985	1990	1995
Australia	9.5	9.0	11.5	12.2	10.1	9.9	6.7	4.0
Austria	7.9	8.4	6.2	3.9	1.5	1.5	1.7	0.5
Belgium	3.0	3.0	2.2	1.1	1.2	0.9	0.9	0.9
Canada	8.7	7.6	5.6	5.3	4.5	3.7	2.9	1.5
Denmark	3.5	2.9	2.2	1.5	1.0	0.9	0.9	0.8
Finland	13.8	10.0	4.2	2.8	1.8	1.0	1.4	1.0
France	6.0	6.0	2.6	1.4	1.1	0.9	0.9	0.7
Germany	6.5	4.6	3.3	2.3	1.8	1.3	1.4	1.1
Greece	11.7	11.7	9.8	5.5	7.1	4.1	1.2	0.8
Ireland	17.7	1.9	1.6	1.0	0.9	1.1	0.9	1.0
Italy	7.3	5.9	4.6	0.3	0.6	1.0	1.0	0.8
Japan	6.8	7.5	7.0	3.0	2.5	2.4	2.7	3.3
Netherlands	4.7	4.8	2.5	1.4	1.2	1.0	1.3	1.3
New Zealand	15.5	6.3	6.4	4.7	4.1	4.4	3.2	3.9
Norway	4.8	4.0	2.0	1.3	0.8	0.8	0.8	1.3
Spain	13.9	7.7	6.6	4.8	3.8	4.2	3.9	0.9
Sweden	6.4	6.3	6.6	2.4	1.7	2.5	2.6	1.0
Switzerland	15.1	6.9	4.1	2.9	1.6	1.3	1.2	1.3
United Kingdom	6.0	6.0	2.7	2.2	2.3	1.7	1.5	1.5
United States	7.4	6.7	6.1	4.3	3.0	3.6	3.4	2.6
Unweighted mean	8.8	6.4	4.9	3.2	2.6	2.4	2.0	1.5

Sources: OECD and IMF, *International Financial Statistics.*

1/ For explanation of construction of Tariff Rates, see data appendix.

Table I.8. Selected Industrial Countries: Price-Average Cost Markup 1/
(In percent)

	1960	1965	1970	1975	1980	1985	1990	1995
Australia	..	..	15.9	12.5	22.5	11.6	4.3	6.0
Austria	..	24.7	26.3	17.9	17.2	16.0	15.6	15.9
Belgium	..	..	20.6	16.2	13.4	10.0	12.0	7.6
Canada	..	..	23.4	26.6	29.7	22.4	9.3	4.9
Denmark	..	..	..	..	..	..	-12.8	-6.9
Finland	..	..	6.5	1.6	5.3	2.0	-5.9	-8.1
France	..	21.7	25.4	19.5	18.6	19.0	24.7	24.3
Germany	..	18.5	14.4	9.8	8.4	8.0	11.7	9.0
Greece	..	23.9	23.7	36.3	28.5	17.1	16.4	21.5
Ireland	..	-11.6	-7.7	-2.2	0.5	5.7	7.7	10.8
Italy	23.2	24.9	26.0	25.5	35.3	34.8	29.8	29.0
Japan	..	..	23.0	10.0	9.2	16.1	6.1	3.8
Netherlands	..	..	16.9	10.7	10.2	15.0	9.9	5.6
New Zealand	..	..	..	27.1	18.3	31.3	19.6	14.6
Norway	..	..	30.5	30.6	46.4	34.9	6.1	3.3
Spain	..	..	17.7	15.6	16.2	15.1	23.7	22.5
Sweden	..	..	20.5	18.4	12.2	13.7	4.4	13.3
Switzerland	..	42.3	40.6	30.4	29.4	24.5	20.8	18.1
United Kingdom	..	6.3	6.0	-2.9	14.1	10.6	5.7	8.6
United States	..	25.2	19.3	19.1	18.8	17.6	17.5	20.1
Unweighted mean	23.2	19.5	19.4	17.0	18.7	17.1	11.3	11.2

Source: OECD and Fund staff estimates.

1/ For explanation of construction of Price-Average Cost Markup, see data appendix.

Table I.9. Selected Industrial Countries: Unemployment Benefit Replacement Rate 1/
(In percent)

	1960	1965	1970	1975	1980	1985	1990	1995
Australia	18.3	15.9	15.6	23.8	22.6	24.2	26.6	27.0
Austria	19.3	17.0	22.5	25.5	27.6	29.0	28.6	25.8
Belgium	39.9	33.8	43.4	46.8	44.3	42.6	40.9	38.7
Canada	21.9	21.2	25.4	27.2	27.3	29.3	28.0	27.2
Denmark	19.8	22.2	34.5	44.3	54.5	51.1	61.0	67.4
Finland	4.6	4.4	17.2	27.0	25.3	34.6	38.7	43.2
France	24.8	25.4	24.0	25.1	31.0	36.5	37.5	37.4
Germany	30.4	30.1	28.7	29.4	29.2	27.8	28.0	26.6
Greece	5.9	5.9	5.9	5.9	6.1	7.6	12.4	14.7
Ireland	20.9	21.2	20.4	25.5	29.8	28.5	29.4	26.3
Italy	3.6	2.5	1.7	1.4	0.6	1.1	9.9	19.3
Japan	11.9	12.0	13.3	10.0	8.9	10.2	10.0	10.2
Netherlands	16.7	47.3	48.0	47.8	48.3	53.6	48.9	45.8
New Zealand	4.0	3.6	6.3	16.5	29.1	38.8	38.8	38.8
Norway	40.0	32.6	27.8	27.4	29.9	32.1	30.0	27.1
Spain	5.6	18.5	13.9	21.3	31.7	34.0	32.6	31.7
Sweden	4.0	5.6	8.3	23.7	26.5	28.9	28.8	27.2
Switzerland	1.5	1.0	0.9	7.8	13.7	21.9	25.7	29.5
United Kingdom	24.7	26.9	24.8	23.8	22.8	18.9	18.0	17.8
United States	8.2	9.5	11.0	13.3	14.0	12.3	11.5	11.9
Unweighted mean	16.3	17.8	19.7	23.7	26.2	28.1	29.3	29.7

Source: Blanchard and Wolfers (1999).

1/ For explanation of construction of Unemployment Benefit Replacement Rate, see data appendix.

Table I.10. Industrial Countries: Impact of Structural Reforms on TFP Growth 1/

Regression Number	1	2	3	4
Regression Type	Pooled	Fixed Effects	Pooled	Fixed Effects
Levels or Differences 2/	Levels	Levels	Differences	Differences
Constant	0.016	..	0.004	..
	(0.000)	..	(0.096)	..
Gap (short-run)	-0.145	-0.212	-0.098	-0.167
	(0.001)	(0.000)	(0.033)	(0.000)
Gap (long-run)	-0.018	-0.040	-0.020	-0.025
	(0.000)	(0.000)	(0.000)	(0.000)
Trade (short-run)	0.496	0.414	0.603	0.238
	(0.038)	(0.021)	(0.048)	(0.183)
Trade (long-run)	-0.115	-0.041	1.105	-1.483
	(0.019)	(0.124)	(0.294)	(0.087)
P-AC (short-run)	0.040	0.043	0.052	0.039
	(0.049)	(0.028)	(0.010)	(0.024)
P-AC (long-run)	-0.053	0.001	-0.237	-0.272
	(0.000)	(0.000)	(0.001)	(0.000)
Labor (short-run)	0.421	0.281	0.346	0.336
	(0.226)	(0.420)	(0.302)	(0.284)
Labor (long-run)	-0.008	-0.017	-0.220	-0.372
	(0.532)	(0.423)	(0.470)	(0.238)
R-squared	0.286	0.377	0.218	0.401
Adjusted R-squared	0.202	0.265	0.121	0.287
Durbin-Watson Stat.	1.58	1.72	1.45	1.76
Number of observations	382	382	363	363
Sample period	1975–96	1975–96	1976–96	1976–96

1/ Explanatory variables for the regressions are: Gap = Per capita income relative to the United States; Trade = Tariff rate; P-AC = P-AC markup; and Labor = Replacement Rate. Lags from 1 to 10 for all variables and regressions. Short-run is coefficient on first lag, while long-run is sum of the coefficient on all lags. P-values for T-statistic on short-run coefficients and F-statistic (for null hypothesis that all coefficients are zero) on long-run coefficients in parentheses. The underlying standard errors are White heteroskedasticity consistent.
2/ Differences for structural indicators only. Gap is always in log levels.

Table I.11. Industrial Countreis: Impact of Structural Reforms on TFP Growth (Excluding Labor Variable) 1/

Regression Number	5	6	7	8
Regression Type	Pooled	Fixed Effects	Pooled	Fixed Effects
Levels or Differences 2/	Levels	Levels	Differences	Differences
Constant	0.014	..	0.004	..
	(0.000)	..	(0.092)	..
Gap (Short-run)	-0.140	-0.206	-0.090	-0.163
	(0.001)	(0.000)	(0.046)	(0.000)
Gap (Long-run)	-0.017	-0.050	-0.019	-0.040
	(0.000)	(0.000)	(0.000)	(0.000)
Trade (Short-run)	0.474	0.401	0.549	0.211
	(0.041)	(0.024)	(0.057)	(0.240)
Trade (Long-run)	-0.100	-0.025	1.114	-1.226
	(0.043)	(0.204)	(0.229)	(0.155)
P-AC (Short-run)	0.045	0.044	0.056	0.041
	(0.035)	(0.030)	(0.008)	(0.021)
P-AC (Long-run)	-0.052	-0.010	-0.225	-0.304
	(0.000)	(0.000)	(0.001)	(0.000)
Labor (Short-run)	..	..	..	..
	..	..	..	..
Labor (Long-run)	..	..	..	..
	..	..	..	..
R-squared	0.268	0.361	0.192	0.378
Adjusted R-squared	0.207	0.271	0.120	0.284
Durbin-Watson Stat.	1.59	1.74	1.46	1.75
Number of observations	388	388	369	369
Sample period	1975–98	1975–98	1976–98	1976–98

1/ Explanatory variables for the regressions are: Gap = Per capita income relative to the United States; Trade = Tariff rate; P-AC = P-AC markup; and Labor = Replacement Rate. Lags from 1 to 10 for all variables and regressions. Short-run is coefficient on first lag, while long-run is sum of the coefficient on all lags. P-values for T-statistic on short-run coefficients and F-statistic (for null hypothesis that all coefficients are zero) on long-run coefficients in parentheses. The underlying standard errors are White heteroskedasticity consistent.
2/ Differences for structural indicators only. Gap is always in log levels.

Table I.12. Industrial Countries: Impact of Structural Reforms on TFP Growth (With Structural Change Variable) 1/

Regression Number	9	10	11	12
Regression Type	Pooled	Fixed Effects	Pooled	Fixed Effects
Levels or Differences 2/	Levels	Levels	Differences	Differences
Constant	0.015	..	0.009	..
	(0.031)	..	(0.000)	..
Gap (short-run)	-0.130	-0.209	-0.135	-0.230
	(0.003)	(0.000)	(0.002)	(0.000)
Gap (long-run)	-0.007	-0.041	-0.004	-0.027
	(0.003)	(0.000)	(0.006)	(0.000)
Trade (short-run)	0.269	0.245	0.471	0.253
	(0.319)	(0.185)	(0.093)	(0.133)
Trade (long-run)	-0.130	0.022	0.515	-1.258
	(0.017)	(0.512)	(0.193)	(0.027)
SC (short-run)	0.001	0.004	0.003	0.003
	(0.702)	(0.130)	(0.268)	(0.154)
SC (long-run)	0.002	0.015	0.035	0.039
	(0.500)	(0.052)	(0.090)	(0.016)
Labor (short-run)	0.138	0.130	0.030	-0.120
	(0.626)	(0.579)	(0.924)	(0.656)
Labor (long-run)	-0.002	0.071	-0.043	-0.564
	(0.638)	(0.058)	(0.516)	(0.048)
R-squared	0.164	0.336	0.189	0.377
Adjusted R-squared	0.068	0.217	0.090	0.258
Durbin-Watson Stat.	1.51	1.74	1.49	1.78
Number of observations	351	351	333	333
Sample period	1977–96	1977–96	1978–96	1978–96

1/ Explanatory variables for the regressions are: Gap = Per capita income relative to the United States; Trade = Tariff rate; P-AC = P-AC markup; and Labor = Replacement Rate. Lags from 1 to 10 for all variables and regressions. Short-run is coefficient on first lag, while long-run is sum of the coefficient on all lags. P-values for T-statistic on short-run coefficients and F-statistic (for null hypothesis that all coefficients are zero) on long-run coefficients in parentheses. The underlying standard errors are White heteroskedasticity consistent.
2/ Differences for structural indicators only. Gap is always in log levels.

Table I.13. Industrial Countries: Impact of Structural Reforms on Labor Productivity Growth 1/

Regression Number	13	14	15	16
Regression Type	Pooled	Fixed Effects	Pooled	Fixed Effects
Levels or Differences 2/	Levels	Levels	Differences	Differences
Constant	0.018	..	0.010	..
	(0.000)	..	(0.000)	..
Gap (Short-run)	-0.162	-0.230	-0.131	-0.197
	(0.000)	(0.000)	(0.005)	(0.000)
Gap (Long-run)	-0.017	-0.031	-0.019	-0.031
	(0.000)	(0.000)	(0.000)	(0.000)
Trade (Short-run)	0.269	0.225	0.416	0.111
	(0.194)	(0.169)	(0.124)	(0.518)
Trade (Long-run)	-0.114	0.068	0.919	-1.308
	(0.076)	(0.167)	(0.383)	(0.171)
Product (Short-run)	0.021	0.026	0.029	0.020
	(0.312)	(0.172)	(0.217)	(0.390)
Product (Long-run)	-0.033	0.012	-0.232	-0.204
	(0.000)	(0.013)	(0.015)	(0.016)
Labor (Short-run)	0.425	0.365	0.361	0.421
	(0.235)	(0.309)	(0.292)	(0.198)
Labor (Long-run)	-0.002	-0.004	-0.100	-0.145
	(0.704)	(0.673)	(0.532)	(0.395)
R-squared	0.279	0.347	0.241	0.365
Adjusted R-squared	0.194	0.230	0.147	0.244
Durbin-Watson Stat.	1.72	1.80	1.65	1.86
Number of observations	382	382	363	363
Sample period	1975–96	1975–96	1976–96	1976–96

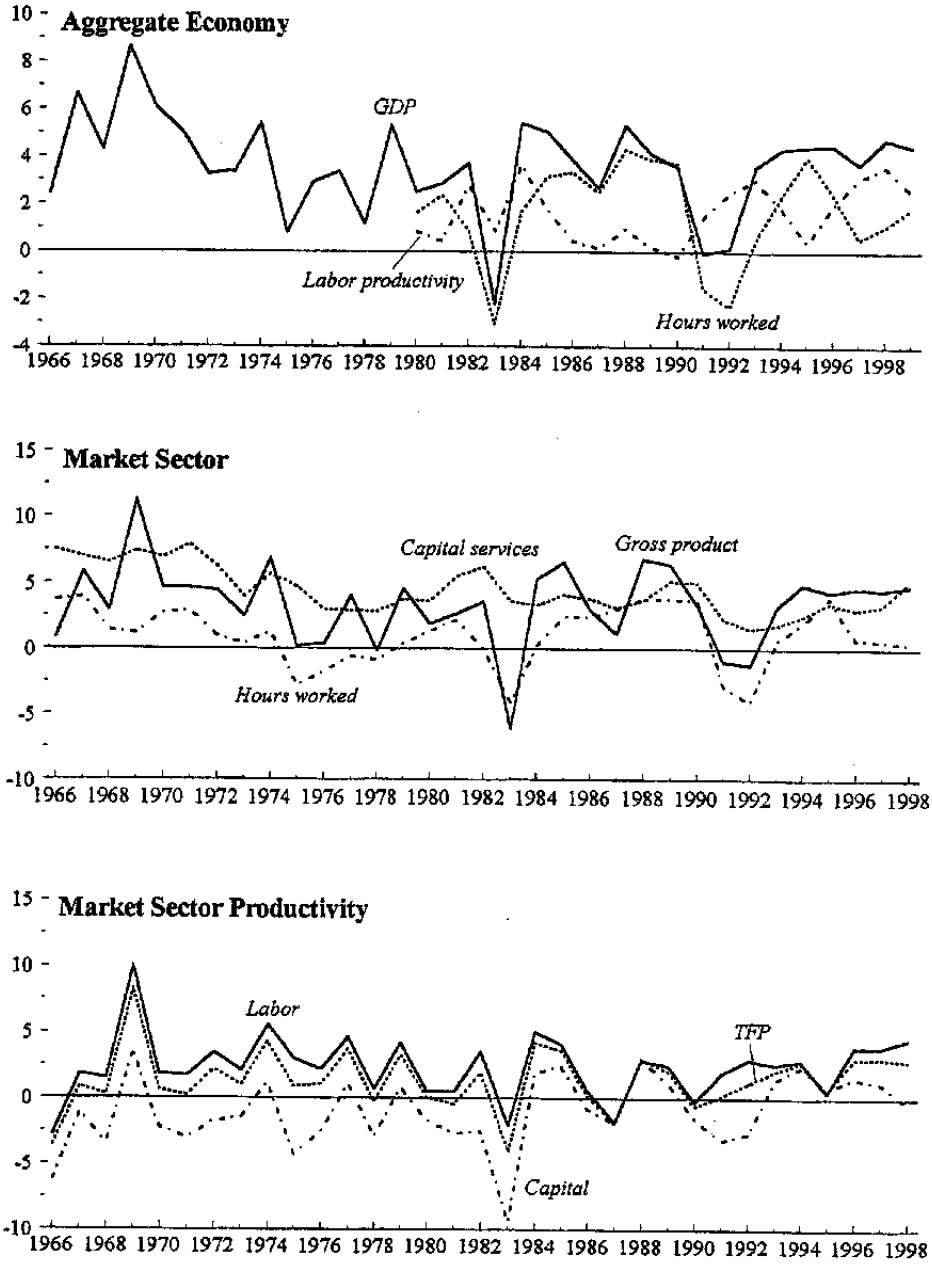
1/ Explanatory variables for the regressions are: Gap = Per capita income relative to the United States; Trade = Tariff rate; P-AC = P-AC markup; and Labor = Replacement Rate. Lags from 1 to 10 for all variables and regressions. Short-run is coefficient on first lag, while long-run is sum of the coefficient on all lags. P-values for T-statistic on short-run coefficients and F-statistic (for null hypothesis that all coefficients are zero) on long-run coefficients in parentheses. The underlying standard errors are White heteroskedasticity consistent.
2/ Differences for structural indicators only. Gap is always in log levels.

Table I.14. Industrial Countries: Impact of Structural Reforms on Capital Productivity Growth 1/

Regression Number	17	18	19	20
Regression Type	Pooled	Fixed Effects	Pooled	Fixed Effects
Levels or Differences 2/	Levels	Levels	Differences	Differences
Constant	0.008	..	-0.008	..
	(0.243)	..	(0.013)	..
Gap (short-run)	-0.064	-0.126	0.029	-0.046
	(0.385)	(0.069)	(0.704)	(0.475)
Gap (long-run)	-0.015	-0.019	-0.014	0.035
	(0.060)	(0.029)	(0.088)	(0.001)
Trade (short-run)	0.961	0.782	0.950	0.453
	(0.018)	(0.015)	(0.028)	(0.152)
Trade (long-run)	-0.154	-0.367	1.464	-1.893
	(0.013)	(0.017)	(0.256)	(0.020)
Product (short-run)	0.126	0.132	0.137	0.125
	(0.044)	(0.040)	(0.014)	(0.024)
Product (long-run)	-0.050	0.034	-0.087	-0.173
	(0.000)	(0.000)	(0.003)	(0.000)
Labor (short-run)	0.273	-0.060	0.338	0.034
	(0.586)	(0.901)	(0.468)	(0.939)
Labor (long-run)	-0.019	-0.008	-0.714	-1.245
	(0.258)	(0.036)	(0.174)	(0.009)
R-squared	0.243	0.416	0.195	0.438
Adjusted R-squared	0.154	0.311	0.095	0.331
Durbin-Watson Stat.	1.12	1.40	1.03	1.37
Number of observations	382	382	363	363
Sample period	1975–96	1975–96	1976–96	1976–96

1/ Explanatory variables for regressions are: Gap = Per capita income relative to the United States; Trade = Tariff rate; Product = P-AC markup; and Labor = Replacement Rate. Lags from 1 to 10 for all variables and regressions. Short-run is coefficient on first lag, while long-run is sum of the coefficient on all lags. P-values for T-statistic on short-run coefficients and F-statistic (for null hypothesis that all coefficients are zero) on long-run coefficients in parentheses. The underlying standard errors are White heteroskedasticity consistent.
2/ Differences for structural indicators only. Gap is always in log levels.

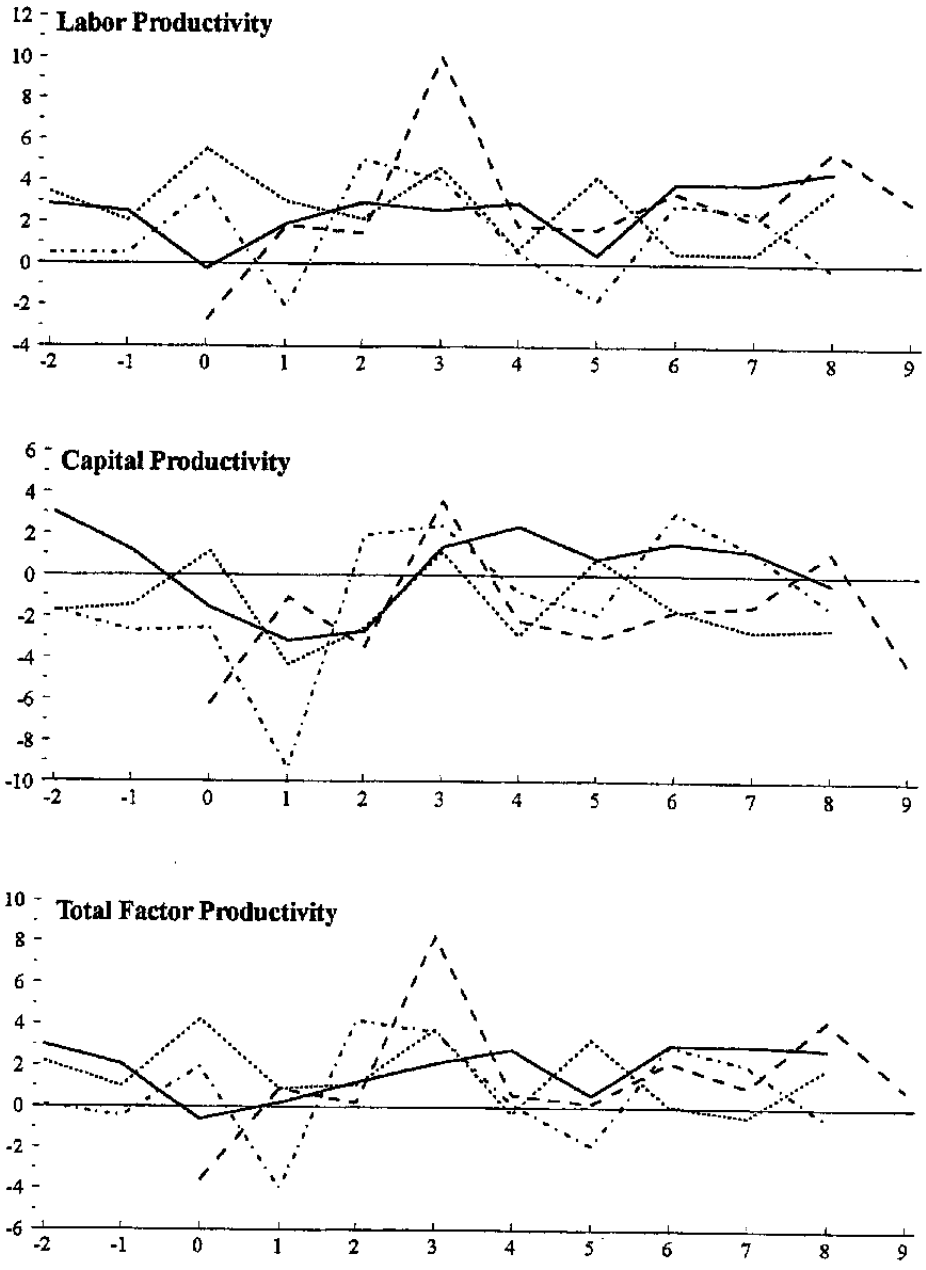
Figure I.1. Australia: Output, Inputs, and Productivity Growth
(Percent, fiscal year annual averages)



Sources: Australian Bureau of Statistics; and Fund staff estimates.

Figure I.2. Australia: Market Sector Productivity Growth During Business Cycles[1]

(Percent, fiscal year annual averages)

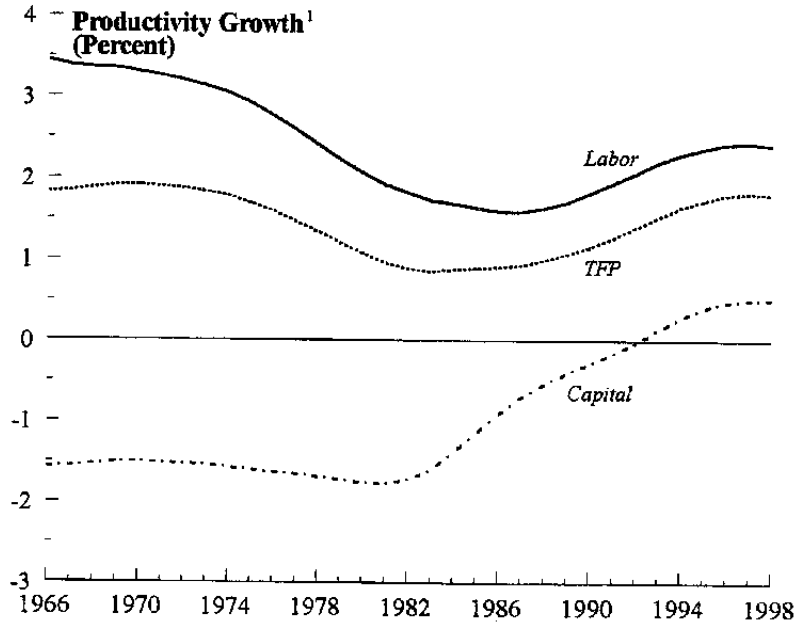


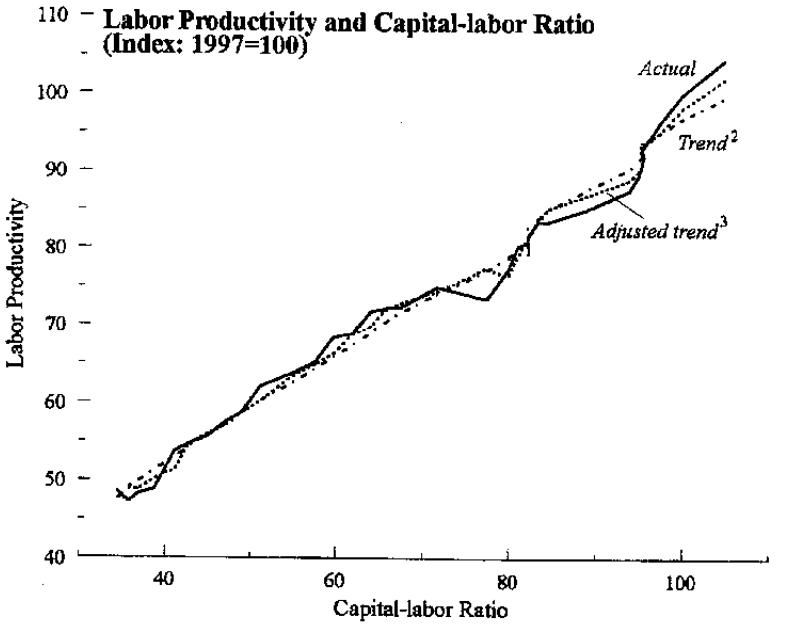
Sources: Australian Bureau of Statistics; and Fund staff estimates.

[1] Time t=0 is at business cycle peaks (1965, 1974, 1982, 1990).

Figure I.3. Australia: Market Sector Trends

(Fiscal year averages)





Sources: Australian Bureau of Statistics; and Fund staff estimates.

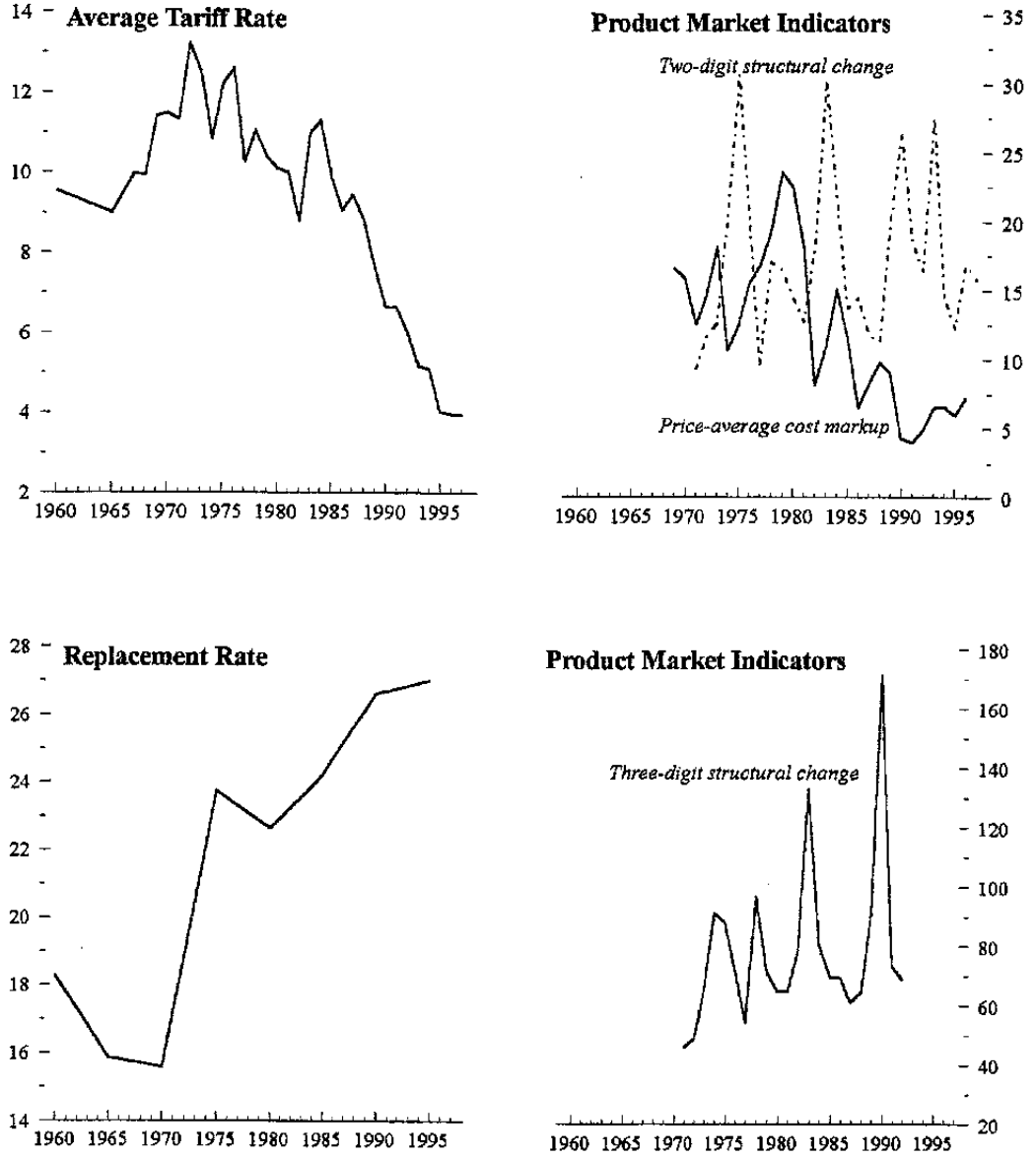
[1]Trend productivity is estimated using the Hodrick-Prescott Filter.

[2]OLS regression of the log level of labor productivity on the log level of the capital-labor ratio and a time trend for the period 1965-98.

[3]OLS regression of the log level of labor productivity on the log level of the capital-labor ratio and a time trend with a Cochrane-Orcutt correction for autocorrelated residuals.

Figure I.4. Australia: Structural Indicators [1]

(Percent)



Sources: OECD; IMF *International Financial Statistics*; and Fund staff estimates.
[1] For explanation of construction of indicators, see data appendix.

Data Appendix

Data sources: Cross-country analysis

The main sources for the data in the cross-country analysis are OECD databases, including the Analytical Database (AD), the Economic Outlook Database (EOD), and the Structural Analysis (STAN) industrial database. In addition, tariff rates are calculated based on tariff revenues mainly from the OECD Revenue Statistics and imports from the IMF, *International Financial Statistics* (*IFS*). Unemployment benefit replacement rates are from Blanchard and Wolfers (1999), who derived the rates from the OECD's Database on Unemployment Benefit Entitlements and Replacement Rates.

Data construction: Cross-country analysis

- **Labor productivity** is calculated as output per employee and provided in the EOD. The series (PDTY) is indexed to 1991. An unindexed series can be constructed as well by calculating labor productivity in 1991 as the ratio of real GDP (GDPV) to total employment (ET).

- **Capital productivity** is calculated as output per capital input using data from the EOD. Specifically, capital productivity is the ratio of business sector real GDP at factor cost (GDPBV) to business sector capital stock (KBV).

- **TFP** is calculated using a Thornqvist-Theil divisia index with TFP growth as the weighted average of labor and capital productivity growth, where the weights are, respectively, labor and capital income shares averaged over consecutive years.

- **Labor income share** is calculated using data from the EOD as the ratio of the product of compensation of employees (WSSS) and ET to the product of dependent employees (EE) and GDP at market prices (GDP) excluding net indirect taxes (TIND-TSUB). **Capital income share** is 1 minus labor income share.

- **Relative per capita income** is calculated using data from the EOD as the ratio of U.S. dollar valued per capita real GDP using 1991 purchasing power parity (PPP) exchange rates (GDPVD/POP) to GDPVD/POP in the United States. **Relative TFP** is also calculated using data from the EOD and using PPP exchange rates.

- **Tariff rate** is calculated as the ratio of Customs and Import Duties (from OECD Revenue statistics supplemented with data from IMF, *Government Finance Statistics*) to imports (from the *IFS*).

- **Openness** is calculated as the ratio of the sum of exports and imports (from the *IFS*) to GDP (from the EOD).

- **Import penetration** is calculated as the ratio of imports to apparent domestic consumption, which is the sum of domestic production and imports less exports, and **export intensity** is the ratio of exports to domestic production. At the aggregate level, the sources for the data are the *IFS* and the EOD, while for the manufacturing sector, the source is the STAN database.

- **Price-average-cost markup** is calculated using data from the EOD and AD as the ratio of GDP at market prices less net indirect taxes to the sum of labor income (WSSS*ET/EE) and capital income, where capital income is constructed as the product of the real capital stock, capital price deflator (PIT), and the real rental rate for capital, which (following Hall and Jorgenson, 1967 and Martins and Scarpetta, 1999) is the real interest rate plus depreciation (respectively, IRLRE and RSCRB in the AD).

- **Structural change** is calculated using data in the STAN database as half the sum of the absolute value of annual changes in share of GDP and is calculated at two- and three-digit industry levels.

II. Australia: Household Saving[1]

A. Introduction

1. Australia's national saving rate declined sharply in the early 1990s and, despite some recovery in recent years, the rate remains lower than at the beginning of the decade. This decline in national saving over the 1990s reflects a sharp decline in household saving, as public saving and corporate saving have picked up substantially over the same period.

2. This chapter examines the major factors behind the decline in Australia's household saving rate. After first reviewing trends in the major components of saving, the behavior of a number of possible determinants of household saving is considered. Next, a time-series investigation is undertaken to assess the contribution of these determinants to the decline in the saving rate. Finally, the outlook for household saving is assessed on the basis of the time-series study as well as previous studies of Australia's saving behavior.

3. Under the assumption that the ratio of household wealth to disposable income stabilizes near its current level, the analysis in this chapter suggests that Australia's household saving rate could be expected to rise by a little more than 1 percentage point over the medium term, reflecting the influence of: a projected decline in the unemployment rate; increases in compulsory superannuation contributions; and a switch in the mix between direct and indirect taxes associated with upcoming tax reform.

B. National, Private and Public Saving: Recent Trends

4. Although Australia's national saving rate broadly tracked the advanced-economy average in the 1970s and most of the 1980s, it fell well below the advanced-economy average in the early 1990s. While the recovery in recent years narrowed the gap, Australia's national saving rate—at 19¾ percent of GDP in 1998—remains about 1 percent of GDP below the advanced-economy average (see tabulation below and Figure II.1).

5. The driving force behind the decline in the national saving rate has been a fall in household saving, which outweighed increases in both corporate and public saving in the 1990s. The gross household saving rate fell from 11½ percent of GDP in the early 1990s to less than 7 percent of GDP in 1998. Over the same period, public saving increased from minus 1½ percent to 3 percent of GDP, while corporate saving rose from 8 percent of GDP to almost 10 percent of GDP.

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[1] Prepared by Jaewoo Lee.

Australia: Gross Saving
(In percent of GDP)

	1972–80	1981–90	1991–98	1998
National Saving	23.3	20.5	17.8	19.8
Public Saving	0.0	0.1	-0.4	3.2
Corporate Saving	7.4	8.1	9.6	9.8
Household Saving	15.9	12.4	8.6	6.8
Memorandom items:				
Household Net Saving	10.6	6.8	3.0	1.3
National Saving (advanced economies)	23.4	20.9	20.2	20.8

6. The magnitude of the decline in the household saving rate should be interpreted with caution given various measurement problems (see tabulation below).[2]

- The first problem relates to the trend toward incorporation by small businesses. Specifically, when a small business incorporates, it is moved from the household sector to the corporate sector for national accounts purposes, thereby reducing household saving. After the adjustment for the trend toward incorporation, the household saving rate in the 1970s is much lower than the unadjusted series, thereby almost eliminating the decline in the unadjusted household saving rate from the 1970s to the 1980s. The adjustment, however, has only a limited effect on the saving rates in the 1980s and onward.

- The second measurement problem relates to the inflation component of interest payments. The nominal interest payment on debt has two components: a real component and an inflation component (the latter reflecting the change in the value of the loaned funds caused by inflation). As, conceptually, the inflation component of the interest payment represents a repayment of capital in real terms, it should not be regarded as income when received or an expense when paid. Adjusting for this effect has a large impact on the household saving rate of the 1970s, a decade of relatively high inflation, but a smaller effect on the household saving rate in the 1980s and onward when inflation rates were more moderate.

[2] See Commonwealth Treasury (1999) for a more detailed discussion of these measurement problems.

- For the discussion in the remainder of this chapter, it should be noted that the adjustment for the tendency toward incorporation had a limited effect on saving rates from the 1980s onward, the sample period of the econometric study in Section D. While the adjustment for inflation had a somewhat more noticeable effect on the saving rate than the adjustment for incorporation, the econometric estimation using the inflation-adjusted saving rate produced a qualitatively similar result as the econometric estimation using the unadjusted original series. Hence, the original series is used for the rest of the paper.

Australia: Indicators of Household Saving 1/
(In percent of GDP)

	1972–80	1981–90	1991–98	1998
Household Saving	15.7	12.4	8.8	7.2
Adjustment I 2/	12.7	11.8	8.9	7.5
Adjustment II 3/	10.1	8.7	7.0	6.2
Household Net Saving	10.4	6.9	3.2	1.7
Adjustment I 2/	7.4	6.3	3.2	2.0
Adjustment II 3/	4.9	3.2	1.4	0.7

1/ Fiscal year, from July to June.
2/ Adjustment for the trend toward incorporation by small businesses.
3/ Adjustment for the inflation component of interest payments.

C. Determinants of Household Saving

7. Recent studies of household saving, both in international and Australian contexts, have identified several factors that influence the consumption/saving decision of households. The theoretical effects on saving of these variables and recent developments are summarized in this section, before a more formal econometric investigation is undertaken.

8. Higher **wealth** relative to current income lowers saving by stimulating consumption and reducing the need to save for life-cycle or precautionary motives. The ratio of private sector wealth to household disposable income increased by about 50 percent through the 1980s and the 1990s, largely due to an increase in the value of housing and financial wealth (Figure II.1). Housing wealth increased largely because of house prices, which rose by more than 50 percent in real terms since the early-1980s. The rise in financial wealth was in large part due to rising equity prices combined with the widening in equity ownership—now the second-highest in the world after the U.S. (*Economist*, September 11, 1999)—owing to privatization and demutualizations together with the compulsory superannuation scheme.

9. The theoretical effect of **inflation** on saving is ambiguous. While higher inflation undermines the value of financial assets and thereby stimulates saving, it may also reduce the return from saving in terms of financial rather than nonfinancial assets, which tends to lower saving. The reduction in Australia's inflation rate from 10 percent in the early 1980s to 2 percent in 1998 therefore has a theoretically ambiguous impact on household saving.

10. The effect on saving of higher **real interest rates** is also ambiguous: saving will increase if the substitution effect dominates the income effect. The real interest rate in Australia—measured as the difference between the long-term bond yield and the underlying inflation rate—declined from the 5-7 percent range in the 1980s to 4 percent in 1998, as the fall in the nominal interest rate outpaced the impact of lower inflation.

11. **Financial deregulation** has been found to reduce household saving in a number of countries (see Bayoumi (1993) for evidence on the United Kingdom and Ostry and Levy (1995) for evidence on saving behavior in France). In Australia, the availability of consumer finance, including revolving lines of credit, has expanded substantially during the 1990s, and the ratio of household loans to disposable income has increased from one-quarter in the early 1980s to more than three-quarters in 1998.

12. The international evidence suggests that an increase in **public saving** lowers private saving with an offset coefficient of about one half (for example, Masson and others (1995)). Other time-series studies based on Australian data (Blundell-Wignall and Stevens (1992), and Edey and Britten-Jones (1990)), however, find little evidence that public saving affects private saving at all. Australia's public saving has gone through two broad cycles since the 1980s, and rose to 3 percent of GDP in 1998 owing to the fiscal consolidation of the 1990s, but the impact on household saving of these swings is unlikely to be large, based on the Australian evidence.

13. **Higher corporate saving** can also reduce household saving, because households are the ultimate owners of corporations and should in principle internalize corporate saving decisions. Thus, an increase in corporate saving will lower household saving if households see through the "corporate veil," reducing their own saving in response to the increase in saving at the firm level. Corporate saving in Australia has been increasing through the 1980s and 1990s, which could be a factor behind the decline in household saving.

14. The **tax system** affects household saving, inter alia, through the mix between direct and indirect taxes. Because income taxes generally tax saving twice, whereas consumption taxes apply only once, a shift towards indirect taxes reduces the gap between the pre- and post-tax returns to saving, thereby affecting the incentives for private saving. The tax-mix also interacts with the demographic structure to affect saving. Whereas a much bigger share of the burden of income taxes falls on the high-saving groups, the burden of indirect taxes is more evenly distributed between the high- and low-saving groups. A study of OECD countries shows that a higher reliance on direct taxes tends to lower the level of personal saving (Callen and Thimann 1997). Australia's ratio of direct tax to total tax revenue has remained broadly constant (at about 50 percent) for the past two decades—higher than in

most advanced economies—so the influence of the tax mix on household saving behavior is unlikely to have been large over this period.

15. The **compulsory superannuation scheme**—first introduced in 1986 through award-based provisions that required employers to contribute 3 percent of employee earnings to superannuation funds—has been expanded over the 1990s, with the contribution rate now standing at 7 percent of earnings and scheduled to rise to 9 percent by 2002/03. The scheme's effect on household saving depends on the extent to which compulsory saving substitutes for voluntary saving. Morling and Subbaraman (1995) estimated that a 1 percentage point increase in the contribution rate raises the household saving rate by about ¼ percentage point in Australia, implying an offset effect of about three-quarters. The rise in compulsory superannuation contribution rates over the 1990s is therefore likely to have had some positive influence on household saving rates in Australia.

16. The **social welfare system** can affect household saving through both disbursement and financing of the benefits. Provision of benefits by governments reduces the need for precautionary savings against income losses and unanticipated expenditures. When social welfare expenditures are financed entirely by government tax revenue, as in Australia, the progressive nature of the tax system can reduce aggregate saving by adding to the burden on higher-income households, who are also relatively high savers. The ratio of social assistance benefits to household disposable income has increased from 7 percent in the early 1980s to 9 percent in 1998. This increase is likely to have dampened incentives for household saving during the 1990s.

17. Two aspects of the **demographic structure** have been found to affect saving. A higher ratio of prime-age working population to total population increases aggregate household saving as more people are in the high-saving stage of their life cycles. Conversely, a higher ratio of old-age population—who are in the dissaving stage of their life cycles—to total population decreases aggregate saving. While the ratio of prime-age working population to total population has been increasing in Australia since the late 1980s, the ratio of old-age population to total population has been increasing throughout the 1980s and 1990s. The impact of these two demographic changes on household saving in Australia is therefore uncertain.

18. The effect of an increase in **unemployment** on saving is also ambiguous theoretically. On the one hand, an increase in unemployment tends to reduce disposable income and—through a greater incidence of liquidity constraints—lowers household saving. On the other hand higher unemployment increases the need for precautionary saving. The unemployment rate in Australia peaked at 11 percent in 1992, but declined to just over 7 percent in 1998.

D. Econometric Evidence

Cross-country study

19. Callen and Thimann (1997) examined the impact of a number of determinants of saving behavior using a sample of data from 21 OECD countries for the period 1975–95. The study focused in particular on the effect of the tax and social welfare systems on household saving behavior. Over the sample period, the household saving rate was found to decrease with higher social welfare transfers, greater reliance on direct taxes, and higher public and corporate saving. With regard to public saving, the study found an offset coefficient of 40 percent, somewhat lower than the estimates from other studies (which clustered around 50 percent).

20. Applying the estimated coefficients in the Callen-Thimann study to Australia, the decline in household saving in the 1990s is attributed to the following variables. The increases in public and corporate saving rates have reduced the household saving rate by ¼ and ½ percentage points respectively, and the declines in inflation and real interest rates have reduced it by ¾ and ¼ percentage points respectively. Demographic factors (in particular the ratio of old-age population to total population) have reduced the household saving rate by 0.4 percentage points, and the increase in social welfare transfers has reduced it by a further 0.3 percentage points. However, all the variables together are only able to account for some 2½ percentage points of the 6½ percentage point decline in the household saving rate in the 1990s (Figure II.2). The remainder is not explained by the empirical analysis in their study.

Time-series study

21. To make further progress, a time-series analysis of quarterly Australian data from 1980 to the first quarter of 1999 was undertaken using the Johansen cointegration approach, given that the presence of a unit root is rejected in no series under consideration. As discussed before, the econometric study used the original series of the net household saving rate, with no adjustment for the tendency toward incorporation or inflation.

22. The results (see Equation I, Table II.1) suggest that household wealth, corporate saving, the unemployment rate, inflation, and the real interest rate have been the main determinants of household saving.[3] The signs of the estimated coefficients are compatible with our prior expectations: higher wealth lowers household saving; higher corporate saving reduces household saving as households appear to internalize the saving decisions of firms; increases in both unemployment and inflation tend to lower household saving in practice,

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[3] Using the household saving rate data adjusted for inflation, which was available on a quarterly basis for the sample period, produced a similar set of coefficient estimates.

despite the ambiguous theoretical effects; and increases in real interest rates reduce saving, suggesting that the income effect dominates the substitution effect in practice.

23. Evidence on the role of social welfare and financial deregulation is provided by two supplementary specifications. First, from Equation II, an increase in social welfare benefits tends to lower household saving on a one-for-one basis. Second, from Equation III, financial deregulation is found to have strengthened the income effect of the real interest rate. Deregulation strengthens the income effect by enabling households to invest their saving in the most profitable investment opportunities.

24. All three equations are cointegrated, implying the presence of a long-run relationship among the variables.[4] In particular, all variables in equations I and II are statistically significant. Fitted values from the estimated cointegrating relationship (as in Equation I) track actual household saving closely, as depicted in the lower panel of Figure II.2. The contribution of various factors to the 6½ percentage point decline in the household saving rate during the 1990s is as follows, on the basis of the specification in Equation I.

Contribution to the Decline in Saving From 1990 to 1998
(In percent of household disposable income)

Wealth	-7.4	Real interest rate	3.3
Corporate saving	-2.8	*Explained change*	-7.1
Unemployment	-0.7		
Inflation	0.5	*Actual change*	-6.6

25. The time-series study identifies the wealth effect as being of crucial importance in accounting for the fall in household saving. On the other hand, several policy variables whose effect was statistically significant in the cross-country study—including the tax mix and public saving—are insignificant in the time-series study. The absence of a significant effect of public saving on household saving is consistent with other time-series studies based on Australian data that were cited earlier.

E. Outlook

26. The outlook for saving in Australia over the medium term (the next four years) is assessed using the econometric results obtained above. Under the assumption that the ratio of

[4] The presence of a cointegrating relationship does not necessarily imply the presence of a corresponding structural relationship, whereas the estimated cointegration relationship can form a basis for projections.

private wealth to disposable income stabilizes at the current level, the household saving rate would be projected to increase by about 1¼ percentage points over the medium term.

27. The time-series estimates imply that the change in the unemployment rate is the main determinant of household saving over the medium term. The projected decline in the unemployment rate to the 6–6½ percent range—the Australian Treasury's estimate of the structural unemployment rate—should raise household saving by about ½ percentage point. Inflation, real interest rates, and corporate saving are expected to remain at roughly current levels.

28. Based on the cross-country evidence (Callen and Thimann (1997)), however, other factors should also come into play. The most important of these factors will be a projected decrease in the ratio of direct tax to total tax revenue, and the scheduled increase in the superannuation contribution rate.[5] The tax-mix ratio is expected to decrease by 2–3 percentage points as a result of the new tax system to be implemented in mid-2000. Because each percentage point decrease in the tax-mix ratio is estimated to increase the household saving rate by 0.1 percentage point, the 2–3 percentage point decrease in the ratio will raise the household saving rate by about ¼ percentage point. The 2 percentage point increase in the superannuation contribution rate scheduled through 2002/03 should raise the household saving rate by a further ½ percentage point (using the estimates in Morling and Subbaraman (1995)).

29. To sum up, the rises in the tax-mix ratio and superannuation contribution rate, and the fall in unemployment, are together expected to raise the household saving rate by 1¼ percentage point over the next four years.

F. Conclusion

30. This paper explored the major factors behind the decline in household saving in the 1990s, and identified the key role played by the wealth effect in lowering the household saving rate. Applying the estimates from this time-series study and previous econometric studies, and assuming that the ratio of private wealth to disposable income remains near the current level, the outlook for household saving is for an increase of about 1¼ percentage points over the medium term, due to the expected declines in the unemployment rate, the rise in the superannuation contribution rate, and a reduction in the direct tax revenue ratio associated with tax reform.

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[5] Other variables—economic growth, demographic factors, and social welfare—are not expected to have a substantial effect on the household saving over the next four years, considering their estimated effect and their expected movement.

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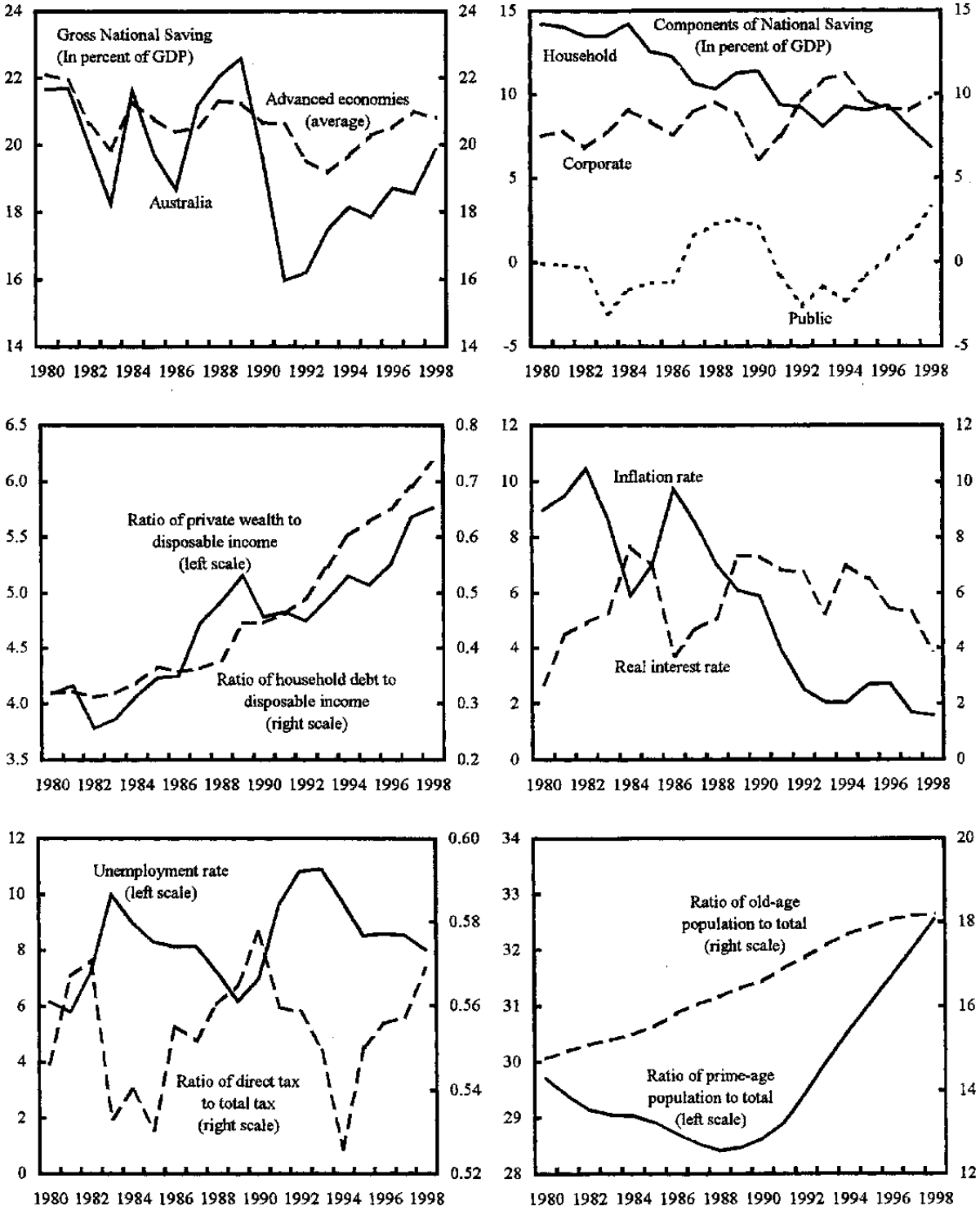
Table II.1. Australia: Coefficient Estimates for Cointegrating Relations

	Equation I		Equation II		Equation III	
	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
Wealth	-1.88	(0.13)	-2.17	(0.17)	-0.97	(0.30)
Corporate savings	-1.24	(0.19)	-0.95	(0.18)	-0.74	(0.27)
Unemployment	-0.77	(0.17)	-0.55	(0.21)	-0.22	(0.29)
Inflation	-1.36	(0.43)	-2.58	(0.52)	-4.89	(0.88)
FinDereg*RINT	...	...	...	...	-1.68	(0.45)
RINT	-0.44	(0.12)	-0.65	(0.22)	0.53	(0.26)
Social assistance	...	...	-1.08	(0.50)	...	...
Log likelihood ratio	-269.21		-200.31		-189.13	
Number of cointegrating vectors						
At 5 % significance level	2		3		2	
At 1 % significance level	1		2		1	

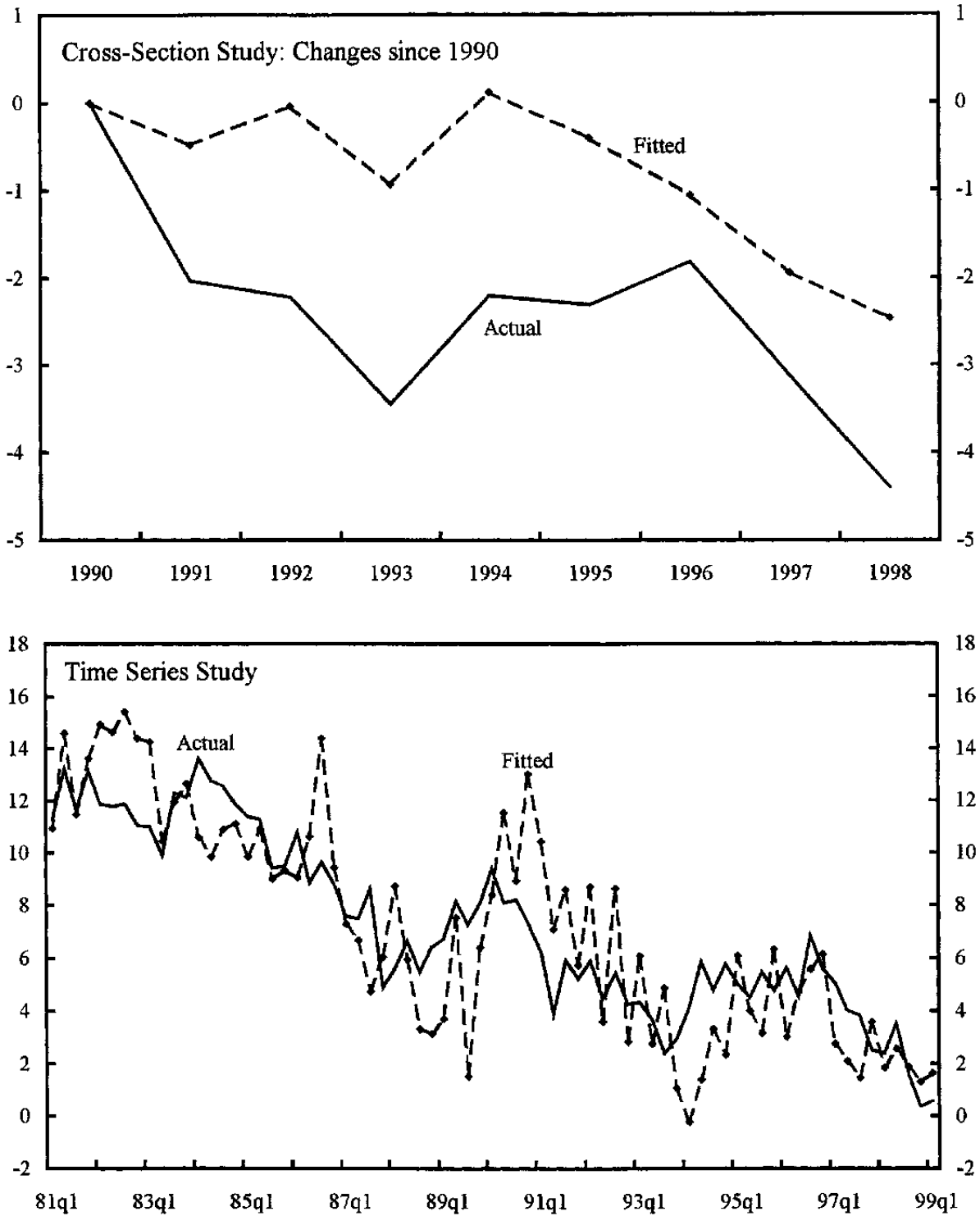
Note: The sample period is from the first quarter of 1980 to the first quarter of 1999, and four lags were used. Unit roots could not be rejected for all variables. The number of cointegrating vectors was calculated by the Johansen approach.

Figure II.1. Australia: Saving and its Determinants



Sources: Australian Bureau of Statistics; and Fund staff calculations.

Figure II.2. Australia: Actual and Fitted Values of Household Saving



Sources: Australian Bureau of Statistics; and Fund staff estimates.

Data Appendix

Household saving: saving by households and unincorporated enterprises to GDP. Ratios of gross and net savings to GDP were used in the text table, and the ratio of household net saving to household disposable income was used in the time-series regression. ABS 5206–52 (original) and ABS 5206–23 (seasonally adjusted).

Household disposable income. ABS 5206–52 and ABS 5206–23.

Public saving: general government saving. ABS 5206–55 (original) and ABS 5206–27 (seasonally adjusted).

National saving. ABS 5206–49.

Corporate saving: enterprise saving (national saving minus household and general government saving).

FinDereg: the ratio of household debt to household disposable income, normalized so that the starting value equals 0 and the end-value equals 1. Household debt was based on the Reserve Bank Bulletin table D02 (Lending and Credit Aggregates).

Inflation rate: underlying inflation rate.

Real interest rate: the difference between 10-year government bond yield and the inflation rate.

Social assistance: the ratio of social assistance benefits to household disposable income. ABS 5206–23.

Unemployment rate. ABS 6202–5.

Wealth: private wealth. The variable used in the paper is the ratio of private wealth to household disposable income. ABS TRYM Table 33.

Table 1. Australia: Selected National Accounts Aggregates at 1997/98 Prices, 1994–99 1/

	1994	1995	1996	1997	1998	Mar. Qtr. 1999	Jun. Qtr. 1999	Sep. Qtr. 1999
				(In billions of Australian dollars)				
Private consumption	289.2	303.8	313.9	325.8	339.0	87.5	87.7	88.8
Government consumption	93.5	96.7	98.9	100.9	103.6	26.6	27.2	27.1
Gross fixed capital formation	105.7	109.9	115.9	128.8	136.9	35.9	34.7	36.8
Private business investment	43.5	49.5	56.5	63.5	67.6	16.7	16.3	16.5
Equipment	30.5	34.1	38.5	44.0	42.8	11.7	10.3	11.3
Nondwelling construction	13.1	15.4	18.1	19.5	24.8	5.0	5.9	5.1
Residential construction 2/	33.9	31.3	29.6	33.7	37.3	9.6	9.6	9.6
Other private investment 3/	5.8	6.8	7.8	8.9	10.8	3.0	3.0	3.4
Public sector investment	22.5	22.7	22.6	22.9	21.3	6.6	5.9	7.3
Stockbuilding and work in progress	1.6	3.9	2.9	-5.4	4.0	1.4	2.4	2.5
Gross national expenditure	490.0	514.3	531.6	550.2	583.6	151.5	151.9	155.1
Net exports	0.3	-2.3	-0.2	1.0	-6.1	-2.7	-3.1	-3.8
Exports of goods and services	88.9	93.4	103.3	115.2	114.8	28.8	29.0	30.2
Imports of goods and services	88.5	95.7	103.5	114.2	120.9	31.4	32.1	33.9
Statistical discrepancy	-0.3	-0.6	-0.1	0.1	1.5	0.2	0.4	0.2
Gross domestic product	489.0	510.4	530.7	551.2	579.1	149.0	149.2	151.5
				(Percent change from previous year)				
Private consumption	4.0	5.1	3.3	3.8	4.1	4.9	4.0	4.3
Government consumption	3.9	3.5	2.2	2.1	2.7	4.9	2.9	6.0
Gross fixed capital formation	12.4	4.0	5.4	11.2	6.2	5.3	4.4	5.2
Private business investment	16.6	13.7	14.2	12.4	6.4	-10.8	1.3	-3.9
Equipment	21.8	11.9	12.8	14.5	-2.8	5.2	-2.1	-0.2
Nondwelling construction	5.9	17.9	17.2	7.9	27.2	-34.2	8.0	-11.2
Residential construction 2/	11.2	-7.8	-5.4	13.7	10.8	4.9	3.0	1.9
Other private investment 3/	-7.5	17.2	15.6	13.8	21.3	20.5	15.2	23.9
Public sector investment	6.2	0.7	-0.4	1.7	-7.3	76.1	10.5	29.3
Stockbuilding and work in progress 4/	-0.2	0.5	-0.2	-1.6	1.7	-0.2	0.9	1.3
Gross national expenditure	5.4	5.0	3.4	3.5	6.1	4.7	4.8	6.1
Net exports 4/	-0.8	-0.5	0.4	0.2	-1.3	-0.4	-1.3	-1.6
Exports of goods and services	9.0	5.1	10.6	11.5	-0.4	3.8	0.5	4.9
Imports of goods and services	14.1	8.1	8.2	10.3	5.9	5.4	6.5	12.4
Statistical discrepancy 4/	0.3	-0.1	0.1	0.0	0.2	0.1	0.2	0.0
Gross domestic product	5.0	4.4	4.0	3.9	5.1	4.5	3.8	4.5

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

1/ Quarterly data are seasonally adjusted.
2/ Includes real estate transfer expenses.
3/ Includes livestock and intangible fixed assets.
4/ Contribution to GDP growth, at annual rates.

Table 2. Australia: Sectoral Components of Gross Domestic Product at 1997/98 Prices, 1994–99 1/

	1993	1994	1995	1996	1997	1998	Mar. Qtr. 1999	Jun. Qtr. 1999	Sep. Qtr. 1999
					(In billions of Australian dollars)				
Agriculture, forestry, and fishing	16.4	14.4	15.4	18.0	16.7	18.5	5.3	5.0	5.1
Mining	18.5	19.6	21.2	23.5	24.1	24.0	6.1	6.1	6.2
Manufacturing	65.5	69.0	68.8	71.2	72.1	72.8	18.8	18.4	18.5
Electricity, gas, and water	12.9	13.3	13.2	12.9	13.2	13.4	3.4	3.4	3.4
Construction	24.9	26.8	27.4	28.2	30.5	34.6	8.6	8.7	8.5
Wholesale and retail trade	45.4	49.0	52.6	54.9	57.7	60.7	15.8	15.9	16.3
Communication services	11.4	12.3	13.7	15.1	16.7	17.9	4.9	4.9	5.0
Finance and insurance	26.4	27.5	29.1	31.2	33.9	36.0	9.3	9.4	9.5
Transport and storage	24.5	25.9	27.6	29.4	30.1	30.9	7.8	8.0	8.1
Property and business services	42.2	44.7	47.0	48.1	52.7	56.9	15.0	15.4	16.1
Government administration 2/	20.9	22.1	22.3	22.8	23.4	23.3	5.7	5.7	5.7
Other sectors	156.9	164.4	172.2	175.5	180.1	190.2	48.5	48.3	49.3
Gross domestic product	465.8	489.0	510.4	530.7	551.2	579.1	149.0	149.2	151.5
					(Percent change from previous year)				
Agriculture, forestry, and fishing		-12.2	7.0	17.0	-7.3	10.6	11.7	15.7	15.1
Mining		6.1	7.9	10.7	2.6	-0.3	-1.7	0.8	3.2
Manufacturing		5.3	-0.3	3.4	1.2	1.0	4.7	1.6	1.3
Electricity, gas, and water		3.1	-0.6	-2.0	1.9	1.7	2.2	1.8	0.9
Construction		7.8	2.1	2.9	8.2	13.4	-0.1	1.7	-1.6
Wholesale and retail trade		7.9	7.4	4.3	5.2	5.2	6.3	5.1	6.8
Communication services		8.6	11.3	10.1	10.6	6.8	12.3	11.7	10.9
Finance and insurance		4.2	6.0	7.2	8.6	6.3	4.0	5.9	5.3
Transport and storage		5.8	6.4	6.5	2.5	2.7	2.8	4.3	3.8
Property and business services		5.9	5.2	2.3	9.8	7.9	10.3	9.6	12.3
Government administration 2/		5.8	0.8	2.5	2.5	-0.5	-3.7	-2.5	-2.1
Other sectors		4.8	4.7	2.0	2.6	5.6	4.0	1.8	3.3
Gross domestic product		5.0	4.4	4.0	3.9	5.1	4.5	3.8	4.5

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

1/ Quarterly data are seasonally adjusted.
2/ Includes defense.

Table 3. Australia: Household Income, Expenditure and Savings, 1994–99 1/

	1994	1995	1996	1997	1998	Mar. Qtr. 1999	June Qtr. 1999	Sep. Qtr.
	(In billions of Australian dollars)							
Sources of income								
Total gross household income	405.1	438.2	465.5	482.1	505.8	125.2	131.7	130.2
Compensation of employees	220.1	235.9	251.6	264.2	279.2	70.4	73.2	73.4
Property income 1/	40.5	46.5	48.1	44.7	45.6	10.0	12.2	10.9
Gross operating surplus--dwellings owned by persons	36.4	39.0	42.1	45.6	47.6	12.2	12.4	11.8
Gross mixed income 2/	46.1	49.6	51.7	52.7	56.7	13.5	14.1	13.1
Social assistance benefits 3/	43.8	46.6	50.3	51.3	52.0	12.5	13.6	14.1
Current transfers to nonprofit institutions	6.8	8.1	8.2	9.3	9.6	2.7	2.3	3.0
Nonlife insurance claims	10.6	11.7	12.6	13.3	14.0	3.6	3.8	3.8
Other	0.8	0.9	1.0	1.0	1.0	0.2	0.2	0.2
Uses of income								
Total household income payable	89.1	102.5	110.2	114.9	123.7	30.7	36.9	29.8
Income tax payable	51.7	58.1	63.2	68.2	74.1	18.4	24.2	16.8
Dwellings and unincorporated enterprises 4/	17.8	22.4	23.4	21.8	23.3	5.8	5.9	6.1
Consumer debt interest	3.0	4.2	4.5	4.6	4.9	1.2	1.2	1.2
Other	16.6	17.8	19.2	20.3	21.4	5.4	5.6	5.7
Gross disposable income	316.1	335.8	355.3	367.2	382.1	94.4	94.7	100.4
Final consumption expenditure	273.3	292.5	307.5	323.7	341.3	85.1	88.2	90.6
Net saving	16.2	15.7	19.5	13.8	9.2	1.2	-1.7	1.5
Consumption of fixed capital	26.6	27.6	28.3	29.6	31.6	8.1	8.2	8.4
Gross saving	42.8	43.3	47.7	43.5	40.8	9.3	6.5	9.8
	(Percent change from previous year)							
Sources of income								
Total gross household income	6.5	8.2	6.2	3.6	4.9	4.7	4.9	5.1
Compensation of employees	7.0	7.2	6.7	5.0	5.7	6.2	5.9	4.6
Property income 1/	9.6	14.8	3.4	-7.0	2.0	-1.8	0.1	2.3
Gross operating surplus--dwellings owned by persons	2.8	7.2	7.9	8.3	4.4	1.8	1.6	3.6
Gross mixed income 2/	3.4	7.5	4.3	1.9	7.6	5.8	6.2	7.0
Social assistance benefits 3/	4.8	6.3	7.9	2.0	1.4	3.2	3.3	9.7
Current transfers to nonprofit institutions	12.2	18.8	2.0	13.2	3.6	6.6	15.3	5.4
Nonlife insurance claims	16.0	10.6	7.4	6.1	4.9	6.8	8.4	6.9
Other	4.6	8.0	6.8	6.6	-4.9	-8.5	-9.2	0.4
Uses of income								
Total household income payable	5.4	15.1	7.6	4.2	7.6	2.9	3.5	4.1
Income tax payable	5.0	12.5	8.7	8.0	8.7	4.7	5.0	2.4
Dwellings and unincorporated enterprises 4/	4.7	25.7	4.5	-6.7	6.8	-1.8	-0.3	6.0
Consumer debt interest	17.1	39.2	7.5	1.6	6.4	-5.4	-6.3	8.1
Other	5.5	7.3	7.7	6.0	5.2	4.3	3.7	6.4
Gross disposable income	6.8	6.2	5.8	3.4	4.1	5.3	5.4	5.5
Final consumption expenditure	4.9	7.0	5.1	5.3	5.4	6.2	5.2	5.7
Net saving	56.8	-3.0	24.2	-28.8	-33.3	-30.4	-6.8	-8.4
Consumption of fixed capital	5.6	3.7	2.5	4.8	6.4	4.6	4.9	5.8
Gross saving	20.4	1.2	10.4	-8.9	-6.2	-1.7	8.6	3.4

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

1/ Includes investment income of insurance enterprises and superannuation funds attributable to policyholders and imputed interest on government unfunded superannuation arrangements.

2/ Refers to unincorporated enterprises owned by households in which the owners or members of the same household contribute unpaid labor.

3/ Includes workers' compensation.

4/ Unincorporated enterprises owned by households.

Table 4. Australia: Saving and Investment Balances, 1994–99

(In percent of GDP)

	1994	1995	1996	1997	1998	Mar. Qtr. 1999	Jun. Qtr. 1999	Sep. Qtr. 1999
Sources of funds for gross accumulation								
Saving	1.9	1.8	3.4	3.8	4.8	4.8	2.9	3.0
Of which:								
Households	9.2	8.8	9.2	7.9	7.0	6.5	4.3	6.5
General government	-2.3	-0.8	0.4	1.7	3.3	3.9	5.7	3.1
Consumption of fixed capital	16.2	15.9	15.5	15.4	15.6	16.3	16.0	16.0
National saving 1/	18.1	17.7	18.8	19.2	20.4	21.1	18.8	19.0
Foreign Saving	5.0	5.2	3.6	2.9	4.8	4.5	5.8	6.7
Uses of funds								
Investment 2/	23.4	23.1	22.7	22.5	24.5	23.8	27.2	25.0
Fixed investment	22.9	22.6	22.3	23.2	23.8	23.3	21.4	22.1
Private sector	16.7	16.6	16.5	17.5	18.4	18.8	17.5	17.5
Dwellings	5.5	5.0	4.4	4.8	5.2	5.5	5.3	5.3
Nonresidential construction	2.6	2.9	3.3	3.5	4.3	3.6	4.1	3.6
Equipment	7.3	7.7	7.7	7.9	7.5	8.3	6.8	7.3
Real estate transfers	1.3	1.0	1.1	1.2	1.2	1.4	1.3	1.3
Public sector	4.9	4.7	4.4	4.2	3.7	4.5	3.9	4.6
General government fixed investment	2.5	2.3	2.3	2.3	2.3	2.5	1.9	2.6
Public enterprises' fixed investment	2.4	2.4	2.1	1.8	1.4	2.0	2.0	2.0
Changes in stocks	0.5	0.5	0.3	-0.7	0.6	1.1	1.7	1.7
Statistical discrepancy	-0.3	-0.2	-0.2	-0.5	0.7	1.8	-2.5	0.7

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

1/ National accounts basis, as measured by the authorities.
2/ Quarterly data are seasonally adjusted.

Table 5. Australia: Selected Price Indices, 1994–99

(Percent change from previous year)

	GDP Deflator	GDP Deflator (Nonfarm)	Private Consumption Deflator	Consumer Price Index			Import Deflator 2/	Export Deflator 2/	Manufacturing Sector	
				Total	Treasury Underlying 1/	Non-food			Articles Produced By	Articles Used In
1994	0.8	0.3	0.8	1.9	2.0	2.1	-4.2	-3.7	0.8	-2.1
1995	2.0	1.6	1.9	4.6	2.7	4.8	3.2	5.8	3.6	6.2
1996	1.6	2.3	1.7	2.6	2.7	2.6	-6.5	-3.1	0.8	-2.4
1997	1.4	1.6	1.5	0.3	1.7	-0.3	-1.7	0.2	1.2	-1.1
1998	0.6	0.7	1.3	0.9	1.6	0.5	7.0	2.5	0.6	0.0
1996										
Mar. qtr.	1.8	2.0	2.2	3.7	3.3	4.0	-0.2	1.4	2.2	2.5
Jun. qtr.	2.2	2.7	1.8	3.1	3.1	3.1	-8.7	-4.1	0.7	-3.7
Sep. qtr.	1.3	2.1	1.2	2.1	2.4	2.1	-8.8	-4.6	0.1	-4.7
Dec. qtr.	1.2	2.5	1.6	1.5	2.1	1.3	-8.4	-4.8	0.5	-3.5
1997										
Mar. qtr.	1.4	2.4	1.8	1.3	2.1	0.8	-6.8	-4.2	0.6	-3.9
Jun. qtr.	1.2	1.4	1.4	0.3	1.7	-0.3	-3.9	-1.9	1.0	-2.6
Sep. qtr.	1.8	2.1	1.6	-0.3	1.5	-0.9	-0.2	1.1	1.6	0.4
Dec. qtr.	0.9	0.7	1.2	-0.2	1.4	-0.7	4.4	6.1	1.8	2.0
1998										
Mar. qtr.	1.1	1.1	1.2	-0.2	1.5	-0.5	5.6	4.7	0.9	-0.1
Jun. qtr.	1.1	1.1	1.4	0.7	1.6	0.5	8.8	6.2	1.2	1.6
Sep. qtr.	0.3	0.6	1.4	1.3	1.6	0.9	9.9	3.6	0.9	0.9
Dec. qtr.	-0.2	0.1	1.3	1.6	1.6	1.0	3.8	-4.0	-0.4	-2.2
1999										
Mar. qtr.	1.0	1.5	1.2	1.2	1.7	0.4	-1.1	-4.9	-0.6	-1.9
Jun. qtr.	0.8	1.5	1.2	1.1	1.7	0.4	-5.5	-8.7	-0.7	-0.9
Sep. qtr.	1.1	1.5	1.4	1.7	...	1.4	-7.8	-6.9	1.0	0.7

Sources: Australian Bureau of Statistics, *National Accounts*; and Reserve Bank of Australia, *Bulletin*.

1/ The consumer price index excluding interest charges, petrol, and certain other items; used as an indicator of underlying inflation. Following the 13th Series Australian Consumer Price Index Review, effective from the September quarter 1999 the Treasury Measure of Underlying inflation was discontinued.

2/ Goods and services.

Table 6. Australia: Labor Market, 1994–99 1/

	1994	1995	1996	1997	1998	1999		
						Mar.	Jun.	Sep.
Labor force								
Total								
In thousands	8,775	9,000	9,119	9,207	9,343	9,396	9,429	9,496
Percent change 2/	1.8	2.6	1.3	1.0	1.5	1.4	1.1	1.2
Participation rate 3/								
Total	62.9	63.7	63.5	63.3	63.3	63.0	63.0	63.2
Male	73.6	73.9	73.7	73.1	72.9	72.7	72.7	72.7
Female	52.6	53.7	53.8	53.7	53.9	53.7	53.7	54.1
Employed								
Total								
In thousands	7,920	8,235	8,340	8,421	8,596	8,697	8,733	8,814
Percent change 2/	3.1	4.0	1.3	1.0	2.1	2.1	1.8	2.1
Full-time (percent change) 2/	2.3	3.3	1.0	0.0	1.8	1.4	1.2	1.5
Part-time (percent change) 2/	5.8	6.1	2.1	4.0	2.9	4.4	3.6	3.9
Unemployed								
Total (in thousands)	854	764	780	786	747	699	696	682
Unemployment rate 4/								
Total	9.8	8.5	8.6	8.5	8.0	7.4	7.4	7.2
Male	10.0	8.8	8.8	8.7	8.2	7.5	7.5	7.2
Female	9.4	8.1	8.2	8.3	7.7	7.3	7.3	7.1
Long-term 5/	3.5	2.7	2.4	2.6	2.6	2.5	2.2	2.1
				(Percent change)				
Employment by sector								
Agriculture, forestry, and fishing	-1.1	1.3	2.7	2.8	-2.2	-2.3	3.6	5.6
Mining	-2.7	-1.7	4.5	-7.1	2.1	-7.9	-12.4	-12.7
Manufacturing	3.0	0.3	0.3	1.6	-3.3	-3.2	-2.5	-3.3
Electricity, gas, and water	-5.5	-7.3	-13.7	-8.7	-0.7	-4.1	1.8	-2.9
Construction	3.6	5.7	-0.8	-2.6	7.2	3.2	4.6	8.2
Wholesale and retail trade	2.9	3.3	1.9	-1.1	3.2	3.2	3.7	4.9
Communication services	10.0	9.1	11.3	-7.5	-3.5	-2.2	6.6	-1.2
Finance and insurance	1.2	-0.4	0.8	-0.6	2.2	4.7	-6.8	-4.3
Transport and storage	3.8	3.7	2.1	0.3	0.0	8.5	5.2	9.1
Property and business services	13.7	13.5	3.1	5.7	8.3	4.1	3.5	3.4
Government administration & defense	-5.3	4.9	0.3	-5.0	-5.6	3.5	9.7	4.4
Other sectors	3.0	4.4	0.8	3.9	3.1	2.9	0.5	0.3

Source: Australian Bureau of Statistics, *Labor Force, Australia*.

1/ Quarterly data are seasonally adjusted. Fiscal year aggregates are cumulated on seasonally adjusted quarterly data.
2/ From previous year.
3/ Labor force as a percent of population aged 15 and over.
4/ In percent of labor force.
5/ Persons unemployed for more than one year.

Table 7. Australia: Employees' Compensation and Unit Labor Costs in the Nonfarm Sector, 1994–99 1/

(Percent change from previous year)

	1994	1995	1996	1997	1998	1999		
						Mar.	Jun.	Sep.
Average weekly earnings								
Ordinary time: full-time adults	3.4	4.8	3.9	4.0	4.2	3.1	3.3	2.1
Total earnings								
Public: nominal terms	3.0	2.5	3.7	5.3	5.1	4.2	3.3	2.1
Private: nominal terms	3.5	3.5	3.3	2.8	2.3	1.4	2.8	0.4
All employees								
Nominal terms	2.9	2.8	3.0	3.1	2.8	1.9	2.5	0.4
Real terms 2/	2.1	0.9	1.3	1.6	1.5	0.6	1.3	-0.9
Average earnings: National accounts basis								
Nominal terms	3.0	2.5	5.1	4.4	3.5	3.1	3.7	2.7
Real terms 2/	2.2	0.6	3.3	2.9	2.2	1.8	2.5	1.4
Wage cost index	...	...	...	...	...	3.0	3.1	3.0
Productivity	2.1	1.6	4.8	3.8	3.5	2.8	2.6	1.8
Unit labor costs 3/	0.8	2.9	3.0	1.1	1.1	2.1	2.5	0.6
Implicit deflator of nonfarm GDP	0.3	1.6	2.3	1.6	0.7	1.5	1.5	1.5
Real unit labor costs: Nonfarm sector 4/								
Index 5/	99.2	100.5	101.2	100.6	100.9	100.9	101.3	100.5
Percent change	0.5	1.2	0.7	-0.6	0.4	0.6	1.0	-0.9

Sources: Australian Bureau of Statistics, *National Accounts* and *Average Weekly Earnings*; and Reserve Bank of Australia, *Bulletin*.

1/ Quarterly data are seasonally adjusted.
2/ Deflated by the implicit price deflator for private final consumption expenditure.
3/ Calculated as nonfarm labor costs divided by nonfarm labor productivity.
4/ Unit labor costs divided by the nonfarm GDP deflator.
5/ Average 1997/98 = 100.

Table 8. Australia: Selected Fiscal Indicators, 1993/94–1998/99 1/

(In percent of GDP)

	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99 Est.
Public sector underlying balance (cash basis) 2/ 3/	-3.3	-2.2	-1.6	-0.3	0.8	-0.3
Commonwealth underlying general government balance	-3.8	-2.8	-2.0	-1.0	0.2	0.7
Commonwealth revenue	22.3	23.1	23.8	24.3	24.2	24.7
Commonwealth underlying expenditure	26.0	25.9	25.8	25.3	24.0	24.0
State, territory, and local general government underlying balance 3/	-0.1	0.0	0.5	0.6	0.2	-0.6
Public trading enterprises balance	0.9	0.8	0.1	0.3	0.6	-0.4
Commonwealth General Government (accrual basis)						
Revenue	...	...	...	...	26.2	25.8
Income tax revenue	...	...	...	...	16.1	17.9
Indirect and other tax revenue	...	...	...	...	7.4	6.2
Nontax revenue	...	...	...	...	2.7	1.6
Expenses	...	...	...	...	27.3	25.1
Employees	...	...	...	...	3.1	2.7
Personal benefits	...	...	...	...	10.2	10.0
Grants	...	...	...	...	7.2	7.3
Interest and other financing costs	...	...	...	...	1.8	1.6
Other expenses	...	...	...	...	5.0	3.5
Operating result (revenue less expenses)	...	...	...	...	-1.1	0.6
Adjustment 4/	...	...	...	...	0.8	0.0
Fiscal balance 5/	...	...	...	...	-0.3	0.6
Memorandum items:						
Commonwealth structural balance (cash basis)	-2.7	-2.1	-1.6	-0.6	0.6	0.9
Total public sector debt, net	34.3	34.3	31.1	28.2	23.0	20.9
Commonwealth general government net debt	15.6	17.6	18.9	18.1	14.7	12.1
Commonwealth general government "net assets" 6/	...	...	...	...	...	-13.6
Commonwealth gross assets	...	...	...	...	...	18.0
Commonwealth gross liabilities	15.6	...	...	...	...	31.5
Nominal GDP ($A billions)	450.1	474.6	508.2	533.7	565.9	592.8
Real GDP growth (in percent)	4.1	4.5	4.5	3.8	4.8	4.4

Sources: Commonwealth of Australia: *Budget Strategy and Outlook, 1998/99; Final Budget Outcome, 1998/99*; *Consolidated Financial Statements for the Year Ended 30 June 1999*; and Fund staff estimates.

1/ Fiscal year ends June 30.

2/ The underlying balance excludes asset sales and other one-off factors, on a cash basis.

3/ The Commonwealth, state, and public enterprise balances may not add up to the public sector balance due to the effect of consolidation.

4/ Excludes asset revaluations included in the operating balance and replaces depreciation (included in expenses) with government investment.

5/ The accrual equivalent of the underlying cash balance, which measures the government's net lending. Defined as the operating result plus adjustment.

6/ Includes financial and non-financial assets and liabilities, including unfunded superannuation liabilities to public servants.

Table 9. Commonwealth Government Budget, 1993/94–1998/99

	1993/94	1994/95	1995/96	1996/97	1997/98	Est. 1998/99
			(In billions of Australian dollars)			
Cash basis:						
Total revenue	100.1	109.7	121.1	129.8	137.0	146.5
Total expenditure	114.4	122.0	126.7	128.5	120.6	135.4
Net advances	-3.4	-1.6	-5.3	-7.5	-15.2	-6.9
Underlying expenditure 1/	117.2	122.9	131.2	135.1	135.7	142.3
Headline balance	-14.2	-12.3	-5.6	1.4	16.4	11.1
Underlying balance 1/	-17.1	-13.2	-10.1	-5.3	1.3	4.2
			(In percent of GDP)			
Total revenue	22.3	23.1	23.8	24.3	24.2	24.7
Total expenditure	25.4	25.7	24.9	24.1	21.3	22.8
Underlying expenditure 1/	26.0	25.9	25.8	25.3	24.0	24.0
Headline budget balance	-3.2	-2.6	-1.1	0.3	2.9	1.9
Underlying balance 1/	-3.8	-2.8	-2.0	-1.0	0.2	0.7
			(In billions of Australian dollars)			
Accrual basis:						
Total revenue	...	...	...	...	148.3	152.7
Total expenditure	...	...	...	...	154.7	149.0
Operating result	...	...	...	...	-6.5	3.7
Adjustment 2/	...	...	...	...	4.5	-0.1
Fiscal balance 3/	...	...	...	...	-2.0	3.6
			(In percent of GDP)			
Total revenue	...	...	...	...	26.2	25.8
Total expenditure	...	...	...	...	27.3	25.1
Operating result	...	...	...	...	-1.1	0.6
Adjustment 2/	...	...	...	...	0.8	0.0
Fiscal balance 3/	...	...	...	...	-0.3	0.6
Memorandum items:						
Commonwealth General Government net debt						
$A billion	70.2	83.5	95.8	96.8	82.9	71.6
As percent of GDP	15.6	17.6	18.9	18.1	14.7	12.1

Sources: Commonwealth of Australia: *Budget Strategy and Outlook, 1998/99; Final Budget Outcome, 1998/99*; *Consolidated Financial Statements for the Year Ended 30 June 1999*; and Fund staff estimates.

1/ Excludes net advances.
2/ Excludes asset revaluations included in the operating balance and replaces depreciation (included in expenses) with government investment.
3/ The accrual equivalent of the underlying cash balance, which measures the government's net lending. Defined as the operating result plus adjustment.

Table 10. Australia: Commonwealth Budget Revenue, 1993/94–1998/99

	Cash Basis					Accrual Basis	
	1993/94	1994/95	1995/96	1996/97	1997/98	1997/98	Est. 1998/99
	(In billions of Australian dollars)						
Tax revenue	94.0	105.7	116.4	125.8	132.2	133.1	143.0
Income tax	67.8	76.7	85.5	93.8	98.5	91.3	106.3
Individuals	50.6	54.6	60.4	66.5	70.8	...	...
Of which: Gross PAYE	44.5	48.1	53.3	57.4	65.7	...	...
Companies	12.7	15.6	18.3	19.2	19.4	...	...
Other	4.6	6.4	6.8	8.1	8.3	...	...
Indirect taxes and other	25.6	28.3	30.3	30.9	33.7	41.8	36.7
Indirect taxes	24.5	27.1	28.9	29.9	31.3	37.2	32.2
Sales	10.4	11.6	13.0	13.3	14.1	15.5	15.2
Excise	10.8	12.0	12.8	13.3	13.6	18.0	13.2
Import duties	3.2	3.5	3.1	3.3	3.6	3.7	3.7
Other	1.7	1.9	2.0	2.2	2.4	4.6	4.5
Nontax revenue	6.7	4.7	5.3	5.2	4.7	15.2	9.7
Of which: Interest	2.1	1.8	1.4	1.1	1.1	...	...
Adjustment for netting	-0.6	-0.7	-0.6	-1.2	0.0	0.0	0.0
Total revenue	100.1	109.7	121.1	129.8	137.0	148.3	152.7
	(In percent of GDP)						
Tax revenue	20.9	22.3	22.9	23.6	23.4	23.5	24.1
Income tax	15.1	16.2	16.8	17.6	17.4	16.1	17.9
Individuals	11.2	11.5	11.9	12.5	12.5	...	...
Of which: Gross PAYE	9.9	10.1	10.5	10.8	11.6	...	...
Companies	2.8	3.3	3.6	3.6	3.4	...	...
Other	1.0	1.4	1.3	1.5	1.5	...	...
Indirect taxes and other	5.7	6.0	6.0	5.8	6.0	7.4	6.2
Indirect taxes	5.4	5.7	5.7	5.6	5.5	6.6	5.4
Sales	2.3	2.4	2.5	2.5	2.5	2.7	2.6
Excise	2.4	2.5	2.5	2.5	2.4	3.2	2.2
Import duties	0.7	0.7	0.6	0.6	0.6	0.7	0.6
Other	0.4	0.4	0.4	0.4	0.4	0.8	0.8
Nontax revenue	1.5	1.0	1.0	1.0	0.8	2.7	1.6
Of which: Interest	0.5	0.4	0.3	0.2	0.2	...	...
Adjustment for netting	-0.1	-0.2	-0.1	-0.2	0.0	0.0	0.0
Total revenue	22.3	23.1	23.8	24.3	24.2	26.2	25.8

Sources: Commonwealth of Australia: *Budget Strategy and Outlook, 1998/99; Final Budget Outcome, 1998/99*; *Consolidated Financial Statements for the Year Ended 30 June 1999*; and Fund staff estimates.

Table 11. Australia: Commonwealth Budget Expenditures, 1993/94–1998/99

	Cash Basis					Accrual Basis	
	1993/94	1994/95	1995/96	1996/97	1997/98	1997/98	Est. 1998/99
	(In billions of Australian dollars)						
Current expenditures	113.4	119.8	128.1	131.8	134.5	154.7	149.0
Goods and services	20.0	20.4	21.5	21.8	23.5	40.8	30.7
Of which: Salaries 1/	8.5	7.9	8.4	8.5	7.5	17.6	15.9
Dep. and amort. 2/	...	...	...	...	...	2.3	2.3
Transfers	86.8	91.2	97.4	100.4	102.6	103.6	108.7
Personal benefit payments	41.1	42.4	45.5	48.0	48.6	57.9	59.3
Grants	43.0	46.0	48.8	49.2	50.5	40.7	43.4
Other	2.6	2.8	3.0	3.2	3.4	5.0	6.0
Interest 3/	6.6	8.1	9.2	9.6	8.4	10.4	9.7
Capital	1.0	2.3	-1.4	-3.3	-13.0	...	...
Goods and land	0.4	0.5	0.6	0.5	-0.6	...	...
Transfers	4.0	3.4	3.3	3.6	2.7	...	...
Of which: Grants to States	3.3	2.6	2.6	2.7	2.1	...	...
Net advances	-3.4	-1.6	-5.3	-7.5	-15.2	...	...
Total expenditure	114.4	122.0	126.7	128.5	120.6	154.7	149.0
Total underlying expenditure 4/	117.2	122.9	131.2	135.1	135.7	...	...
	(In percent of GDP)						
Current expenditures	25.2	25.2	25.2	24.7	23.8	27.3	25.1
Goods and services	4.4	4.3	4.2	4.1	4.2	7.2	5.2
Of which: Salaries 1/	1.9	1.7	1.6	1.6	1.3	3.1	2.7
Dep. and amort. 2/	...	...	...	...	...	0.4	0.4
Transfers	19.3	19.2	19.2	18.8	18.1	18.3	18.3
Personal benefit payments	9.1	8.9	9.0	9.0	8.6	10.2	10.0
Grants	9.6	9.7	9.6	9.2	8.9	7.2	7.3
Other	0.6	0.6	0.6	0.6	0.6	0.9	1.0
Interest	1.5	1.7	1.8	1.8	1.5	1.8	1.6
Capital	0.2	0.5	-0.3	-0.6	-2.3	...	...
Goods and land	0.1	0.1	0.1	0.1	-0.1	...	...
Transfers	0.9	0.7	0.6	0.7	0.5	...	...
Of which: Grants to States	0.7	0.5	0.5	0.5	0.4	...	...
Net advances	-0.8	-0.3	-1.0	-1.4	-2.7	...	...
Total expenditure	25.4	25.7	24.9	24.1	21.3	27.3	25.1
Total underlying expenditure 3/	26.0	25.9	25.8	25.3	24.0	...	...
Memorandum items (in $A million):							
Total grants to states	25.3	25.6	26.7	27.4	27.4	...	...
(In percent of GDP)	5.6	5.4	5.3	5.1	4.8	...	...
Cash used in purchase of property, plant, equipment, and intangibles	...	...	...	...	...	4.5	4.8
Cash received from asset sales	...	...	...	...	...	14.3	7.2

Sources: Commonwealth of Australia: *Budget Strategy and Outlook, 1998/99; Final Budget Outcome, 1998/99*; *Consolidated Financial Statements for the Year Ended 30 June 1999*; and Fund staff estimates.

1/ In accruals data, total payments to employees.
2/ Depreciation and amortization are included in goods and services expenditure under the accrual accounting measure.
3/ Includes other financing costs under the accrual accounting measure.
4/ Excludes net advances.

Table 12. Australia: Commonwealth Budget Expenditures by Function, 1993/94–1998/99 1/

	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99
	(In billions of Australian dollars)					
Defense	9.8	9.7	10.1	10.1	10.5	11.2
Education	9.2	9.8	10.1	10.3	10.8	9.7
Health	16.1	17.1	18.6	19.2	20.7	23.3
Social security and welfare	42.0	43.6	46.8	49.6	50.2	52.8
Economic services	7.9	8.4	9.3	8.6	7.7	7.7
Public debt interest	6.5	8.0	9.1	9.4	8.4	7.6
General purpose inter-government transactions	16.5	17.0	17.8	18.2	17.9	18.4
Other	5.8	7.8	4.2	2.3	-5.6	4.7
Total expenditure	113.8	121.3	125.9	127.7	120.6	135.4
Total underlying expenditure 2/	117.2	122.9	131.2	135.1	135.7	142.3
	(In percent of GDP)					
Defense	2.2	2.0	2.0	1.9	1.9	1.9
Education	2.0	2.1	2.0	1.9	1.9	1.6
Health	3.6	3.6	3.7	3.6	3.7	3.9
Social security and welfare	9.3	9.2	9.2	9.3	8.9	8.9
Economic services	1.8	1.8	1.8	1.6	1.4	1.3
Public debt interest	1.4	1.7	1.8	1.8	1.5	1.3
General purpose inter-government transactions	3.7	3.6	3.5	3.4	3.2	3.1
Other	1.3	1.6	0.8	0.4	-1.0	0.8
Total expenditure	25.3	25.6	24.8	23.9	21.3	22.8
Total underlying expenditure 2/	26.0	25.9	25.8	25.3	24.0	24.0

Sources: Commonwealth of Australia: *Budget Strategy and Outlook, 1998/99; Final Budget Outcome, Consolidated Financial Statements for the Year Ended 30 June 1999*; and Fund staff estimates.

1/ Cash basis.
2/ Excludes net advances.

Table 13. Australia: State General Government Finances, 1993/94–1998/99

	1993/94	1994/95	1995/96	1996/97	1997/98	Est. 1998/99
	(In billions of Australian dollars)					
Revenue	66.4	69.0	74.2	79.2	82.0	89.8
Own-source revenue	37.7	39.5	43.3	47.7	49.9	52.6
Taxes, fees, and fines	30.4	31.7	34.2	36.7	38.2	...
Other	7.4	7.7	9.2	11.0	11.7	...
Grants received	28.7	29.5	30.8	31.5	32.1	37.2
Underlying expenditure 1/	67.1	68.7	71.8	76.1	80.6	93.3
Current expenditure	57.6	58.7	61.8	65.3	69.9	82.3
Of which:						
Subsidies to public enterprise	2.5	2.2	2.0	2.9	3.0	...
Interest payments	6.7	6.4	6.1	5.0	4.8	...
Capital expenditure 1/	9.4	10.0	10.0	10.8	10.7	10.9
Increase in provisions (net)	0.0	0.0	0.0	0.0	0.0	0.0
Underlying balance 1/ 2/	-0.6	0.2	2.4	3.1	1.4	-3.5
	(In percent of GDP)					
Revenue	14.8	14.5	14.6	14.8	14.5	15.1
Own-source revenue	8.4	8.3	8.5	8.9	8.8	8.9
Taxes, fees, and fines	6.7	6.7	6.7	6.9	6.8	...
Other	1.6	1.6	1.8	2.1	2.1	...
Grants received	6.4	6.2	6.1	5.9	5.7	6.3
Underlying expenditure 1/	14.9	14.5	14.1	14.3	14.2	15.7
Current expenditure	12.8	12.4	12.2	12.2	12.4	13.9
Of which:						
Subsidies to public enterprise	0.6	0.5	0.4	0.5	0.5	...
Interest payments	1.5	1.4	1.2	0.9	0.8	...
Capital expenditure 1/	2.1	2.1	2.0	2.0	1.9	1.8
Underlying balance 1/ 2/	-0.1	0.0	0.5	0.6	0.2	-0.6

Source: Australian Bureau of Statistics, *Government Financial Estimates, Australia,* 1997/98.

1/ Excludes net advances.
2/ +/- surplus/deficit.

Table 14. Australia: Public Trading Enterprises Operations, 1993/94–1998/99

	1993/94	1994/95	1995/96	1996/97	1997/98 Prel. 1/	1998/99 Est. 1/
Revenue	75.0	77.8	74.2	75.0	72.2	71.1
Sales of goods and services	68.3	71.0	67.8	67.4	66.0	65.2
Subsidies received	3.0	2.7	2.7	3.3	3.3	3.3
Other	3.7	4.2	3.7	4.3	2.9	2.6
Of which: Interest received	0.6	0.9	0.9	1.0	0.7	0.5
Underlying expenditure 2/	77.6	82.9	81.7	80.8	75.9	79.5
Current expenditure	69.3	72.5	71.1	71.1	68.0	68.4
Operating expenditure	58.2	61.5	58.9	58.8	55.7	55.6
Other	11.1	11.0	12.3	12.4	12.3	12.8
Of which: Interest payme	6.2	6.0	5.2	4.8	4.2	4.0
Capital expenditure 2/	8.3	10.4	10.6	9.6	7.9	11.1
Increase in provisions (net)	6.6	8.8	8.1	7.3	7.0	7.3
Underlying balance 2/ 3/	4.0	3.6	0.6	1.6	3.4	-1.0
Revenue	16.7	16.4	14.6	14.1	12.8	12.0
Sales of goods and services	15.2	14.9	13.3	12.6	11.7	11.0
Subsidies received	0.7	0.6	0.5	0.6	0.6	0.6
Other	0.8	0.9	0.7	0.8	0.5	0.4
Of which: Interest received	0.1	0.2	0.2	0.2	0.1	0.1
Underlying expenditure 2/	17.2	17.5	16.1	15.1	13.4	13.4
Current expenditure	15.4	15.3	14.0	13.3	12.0	11.5
Operating expenditure	12.9	13.0	11.6	11.0	9.8	9.4
Other	2.5	2.3	2.4	2.3	2.2	2.2
Of which: Interest payme	1.4	1.3	1.0	0.9	0.7	0.7
Capital expenditure 2/	1.9	2.2	2.1	1.8	1.4	1.9
Increase in provisions (net)	1.5	1.8	1.6	1.4	1.2	1.2
Underlying balance 2/ 3/	0.9	0.8	0.1	0.3	0.6	-0.4 4/
Memorandum items:						
Net operating surplus						
(In $A millions)	13.1	12.1	11.6	12.0	13.6	12.9
(In percent of GDP)	2.9	2.5	2.3	2.2	2.4	2.2

Sources: Australian Bureau of Statistics; and Fund staff estimates.

1/ ABS projection.
2/ Excludes net advances.
3/ +/- surplus/deficit.
4/ As reported in Commonwealth of Australia, *Budget Strategy and Outlook, 1999–2000*; detail figures above are based on preliminary data and hence do not sum to the total.

Table 15. Australia: Selected Interest Rates, 1994–99

(In percent per annum; at or near end of month)

	1994	1995	1996	1997	1998	1999				
						Mar.	Jun.	Sep.	Oct.	Nov.
Daily cash market call rate 1/	7.03	7.51	6.21	5.03	4.8	4.75	4.80	4.78	4.79	4.99
Commonwealth government securities										
Treasury bills, 13-week 2/	7.90	7.30	6.01	4.96	4.57	4.67	4.69	4.77	4.87	5.01
Three-year note 3/	10.07	7.44	6.58	5.49	4.64	5.00	5.63	5.60	6.08	...
Ten-year note 3/	10.04	8.18	7.37	6.14	4.85	5.53	6.22	6.34	6.60	6.55
NSW, ten-year note 4/	10.44	8.44	7.62	6.37	5.41	5.71	6.61	6.65	6.93	...
Banks 5/										
Three-month fixed deposits	6.20	6.00	5.00	3.80	3.50	3.65	3.50	3.35	3.45	3.50
Investment accounts 6/	3.30	3.60	2.00	1.10	0.90	0.90	0.90	0.90	0.90	1.00
Business lending rate 7/	10.25	10.75	9.55	8.45	7.95	7.95	7.95	7.95	7.95	8.15
Housing loans 8/	10.50	10.50	8.25	6.70	6.50	6.50	6.50	6.55	6.55	6.80
Bank, 90-day commercial bills 9/	7.95	7.43	6.11	5.07	4.81	4.81	4.93	5.01	5.30	5.44
Cash management trust 10/	6.13	6.59	5.42	4.00	4.30	4.15	3.65	4.00	4.10	...

Source: Reserve Bank of Australia, *Bulletin* .

1/ Daily 11 a.m. call rate. Average of daily figures for the month.
2/ Weighted average yield of notes allotted at the last tender of the month.
3/ Estimated closing yields on last business day of the month.
4/ New South Wales Treasury Corporation assessed secondary market yields.
5/ Predominant or representative rates offered by banks.
6/ Rate on account with balance of $A 10,000 or over.
7/ Indicator variable rate for large businesses.
8/ Standard variable rate loans of large banks on new housing loans to individuals. Prior to April 1986, rates were subject to a maximum; from March 1982, this was 13.5 percent per annum. The maximum on loans existing or approved before April 3, 1986 was retained.
9/ Ninety-day yield; average of daily market yields for the week ended the last Wednesday of the month.
10/ Weighted average net yield to unit holders for month shown.

Table 16. Australia: Credit Aggregates, 1998–99

	1998 ($A billions)	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.
		1998				1999		
		(Percent change over previous year)						
Lending to private sector by: 1/								
Banks	381.2	12.7	11.9	11.7	10.7	10.7	11.9	11.7
Nonbank financial intermediaries	185.3	7.4	8.1	5.6	5.6	6.8	4.4	4.3
All financial intermediaries	566.5	10.9	10.6	9.6	9.0	9.4	9.4	9.2
Lending to government sector by: 2/								
Banks	26.7	-14.2	-17.9	6.0	8.4	17.5	19.7	11.6
Nonbank financial intermediaries	2.2	-5.4	-56.7	-65.0	-59.9	-58.9	-3.2	0.7
All financial intermediaries	29.0	-12.8	-23.5	-8.3	-4.2	4.5	17.8	10.8
Total lending	595.5	9.3	8.4	8.4	8.3	9.1	9.8	9.3
Memorandum item:								
Private Sector Credit								
Housing	217.9	9.8	9.8	10.4	10.0	10.4	10.6	10.8
Other personal	62.4	10.6	11.6	12.3	13.1	14.1	14.1	15.0
Business	286.2	11.8	11.0	8.4	7.4	7.6	7.5	6.8

Source: Reserve Bank of Australia, *Bulletin*.

1/ Loans, advances, and bills held.
2/ Holdings of Commonwealth government, local and semigovernment, and other public authority securities.

Table 17. Australia: Money Supply, 1998–99 1/

	1998 ($A millions)	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.
		1998				1999		
		(Percent change over previous year)						
Monetary base 2/	31.9	-8.9	-7.9	0.5	6.6	4.3	1.0	-12.0
M1 3/	114.7	10.4	11.6	8.4	6.1	9.7	7.6	8.5
Other bank deposits	244.0	3.6	3.8	8.3	8.2	8.8	11.5	9.5
M3 4/	358.8	5.6	6.2	8.4	7.5	9.1	10.3	9.2
Borrowings from private sector by NBFIs 5/	92.1	14.7	9.8	13.4	17.6	14.8	15.1	5.3
Broad money 6/	434.0	6.9	6.0	8.5	8.4	9.0	11.1	8.5

Source: Reserve Bank of Australia, *Bulletin*.

1/ Figures for currency and bank deposits are average of weekly (Wednesday) data. Figures for borrowings by NBFIs are averages of end-month figures (current and previous month).
2/ The monetary base is the stock of reserve money, consisting of currency outside the Reserve Bank, banks' deposits with the Reserve Bank, and Reserve Bank liabilities to the nonbank private sector.
3/ Currency and current deposits with banks.
4/ M1 plus other bank deposits.
5/ Borrowings (other than from banks and related corporations) by permanent building societies, credit cooperatives, authorized money market dealers, pastoral finance companies, cash management trusts, finance companies, general financiers, and money market corporations.
6/ M3 plus borrowings from the private sector by NBFIs less the latter's holdings of currency and bank deposits.

Table 18. Australia: Banking Soundness Statistics, 1994–99

(In billions of Australian Dollars; unless otherwise indicated)

	1994	1995	1996	1997	1998	Mar. Qtr. 1999	Jun. Qtr. 1999	Sep. Qtr. 1999
Capital								
Tier 1	35.8	39.4	42.4	43.9	47.3	47.0	48.6	49.8
Total	48.0	52.1	54.2	59.3	63.6	63.3	64.8	64.8
Risk-weighted assets	392	449	509	587	618	618	619	627
Capital (in percent of risk-weighted assets)								
Tier 1	9.1	8.8	8.3	7.5	7.6	7.6	7.9	7.9
Total	12.2	11.6	10.6	10.1	10.3	10.2	10.5	10.3
Impaired assets	12.0	8.8	6.2	4.8	5.8	5.7	5.7	5.7
(In percent of risk-weighted assets)	3.1	2.0	1.2	0.8	0.9	0.9	0.9	0.9
Provisions								
Specific	4.7	3.3	2.3	2.0	2.2	2.3	2.2	2.3
General	2.4	3.0	3.4	3.9	4.5	4.4	4.5	4.3

Source: Reserve Bank of Australia.

Table 19. Australia: Balance of Payments Summary, 1994–99 1/

	1994	1995	1996	1997	1998	Mar. Qtr. 1999	Jun. Qtr. 1999	Sep. Qtr. 1999
				(In billions of Australian dollars)				
Current account balance	-23.2	-26.4	-20.2	-17.2	-28.7	-8.3	-9.0	-9.3
Trade balance	-4.5	-5.7	-0.7	2.1	-8.3	-3.6	-4.2	-4.4
Exports, f.o.b.	64.6	71.9	77.0	87.2	89.2	20.9	20.1	21.7
Imports, f.o.b.	-69.1	-77.5	-77.7	-85.1	-97.4	-24.5	-24.4	-26.0
Services	-1.6	-1.2	0.0	-0.5	-1.9	-0.5	-0.2	-0.3
Income, net 2/	-16.8	-19.2	-19.3	-18.8	-18.3	-4.3	-4.6	-4.7
On debt	-7.0	-7.1	-8.2	-8.6	-7.8	-1.8	-2.0	-2.0
On equity	-6.9	-8.4	-7.7	-7.2	-7.9	-1.5	-1.7	-1.9
Other	-1.3	-1.3	-1.1	-0.6	-0.5	-0.3	-0.3	-0.3
Net transfers	-0.5	-0.4	0.1	-0.3	-0.2	0.1	0.0	0.1
Capital and financial account	21.5	27.2	20.1	16.5	29.5	6.8	8.2	...
Capital account	0.4	0.8	1.2	1.2	1.1	0.3	0.3	0.4
Capital transfers	0.4	0.7	1.2	1.2	1.0	0.3	0.3	0.4
Financial account	21.0	26.4	18.9	15.3	28.4	6.4	8.0	...
Direct investment	2.9	12.0	-1.0	1.7	6.1	2.8	5.2	-1.4
Direct investment abroad	-3.4	-5.2	-7.6	-8.4	-3.9	0.4	2.0	-2.1
Direct investment in Australia	6.3	17.2	6.6	10.1	10.0	2.4	3.1	0.7
Portfolio investment	21.7	17.8	28.2	14.7	4.5	13.0	-3.7	...
Equity securities	10.4	1.6	1.1	8.4	14.0	2.9	4.4	...
Debt securities	11.3	16.2	27.1	6.3	-9.6	10.1	-8.0	...
Other investment	-4.8	-2.9	-5.3	3.7	14.9	-9.4	7.7	...
Assets	-3.2	-6.3	-7.3	-7.6	-0.3	-4.9	0.1	...
Liabilities	-1.6	3.4	2.0	11.3	15.2	-4.5	7.6	...
Change in reserve assets 3/	1.2	-0.5	-3.1	-4.7	2.9	0.0	-1.3	1.7
Net errors and omissions	1.7	-0.8	0.0	0.7	-0.8	1.5	0.7	...
				(In percent of GDP)				
Current account balance	-5.0	-5.4	-3.9	-3.1	-5.0	-5.5	-6.0	-6.0
Trade balance	-1.0	-1.2	-0.1	0.4	-1.4	-2.4	-2.8	-2.8
Net services	-0.3	-0.2	0.0	-0.1	-0.3	-0.3	-0.1	-0.2
Net income	-3.6	-3.9	-3.7	-3.4	-3.2	-2.9	-3.0	-3.1
Net transfers	-0.1	-0.1	0.0	0.0	0.0	0.1	0.0	0.1
Memorandum items (end of period):								
Net external liabilities	52.3	54.9	56.9	55.9	59.0	59.5	59.7	59.6
Net external equity liabilities	16.0	16.3	16.7	15.2	17.6	19.2	21.1	19.9
Net external debt	36.3	38.6	40.3	40.7	41.4	40.3	38.6	39.8
Level of reserves								
(In $A billion)	18.4	20.1	21.8	27.0	26.3	24.9	25.2	24.5
(In months of imports)	3.2	3.1	3.4	3.8	3.2	3.1	3.1	2.8

Sources: Australian Bureau of Statistics, *Balance of Payments and International Investment Position.*

1/ Current account data are seasonally adjusted.

2/ Components are not seasonally adjusted and may not add up to the total.

3/ Transaction-based data, excluding the effects of price and exchange rate changes; a minus sign indicates an increase in reserves.

Table 20. Australia: Current Account, 1994–99 1/

(In billions of Australian dollars)

	1994	1995	1996	1997	1998	Mar. Qtr. 1999	Jun. Qtr. 1999	Sep. Qtr. 1999
Current account balance	-23.2	-26.4	-20.2	-17.2	-28.7	-8.3	-9.0	-9.3
Trade balance	-4.5	-5.7	-0.7	2.1	-8.3	-3.6	-4.2	-4.4
Exports, f.o.b.	64.6	71.9	77.0	87.2	89.2	20.9	20.1	21.7
Imports, f.o.b.	-69.1	-77.5	-77.7	-85.1	-97.4	-24.5	-24.4	-26.0
Services, net	-1.6	-1.2	0.0	-0.5	-1.9	-0.5	-0.2	-0.3
Credits	19.5	21.9	23.7	24.9	25.7	6.5	6.7	6.8
Transportation services	5.9	6.4	6.5	6.7	6.9	1.7	1.7	1.7
Travel	9.1	10.7	11.6	11.8	11.6	3.0	3.0	3.1
Other services	4.5	4.8	5.6	6.4	7.3	1.8	2.0	2.0
Debits	-21.1	-23.1	-23.7	-25.4	-27.6	-7.0	-6.9	-7.1
Transportation services	-7.5	-8.5	-8.4	-8.7	-9.5	-2.3	-2.3	-2.3
Travel	-5.9	-6.7	-7.4	-8.2	-8.6	-2.3	-2.2	-2.3
Other services	-7.7	-7.9	-7.9	-8.4	-9.5	-2.3	-2.5	-2.6
Balance on goods and services	-6.1	-6.9	-0.7	1.6	-10.2	-4.1	-4.4	-4.6
Income, net 2/	-16.8	-19.2	-19.3	-18.8	-18.3	-4.3	-4.6	-4.7
Credits	6.1	7.1	7.7	9.7	10.3	2.2	2.6	2.6
Compensation of employees	0.5	0.6	0.6	0.7	0.8	0.2	0.2	0.2
Investment income	5.6	6.5	7.0	9.0	9.5	2.0	2.4	2.4
Direct investment abroad	3.3	3.7	4.5	5.6	5.7	1.2	1.5	1.5
Portfolio investment assets	1.6	2.0	1.6	2.0	2.2	0.6	0.6	0.6
Other investment assets	0.7	0.8	1.0	1.4	1.6	0.3	0.3	0.3
Debits	-21.2	-23.9	-24.8	-26.2	-26.5	-5.8	-6.6	-6.9
Compensation of employees	-0.3	-0.4	-0.5	-0.6	-0.8	-0.2	-0.2	-0.2
Investment income	-20.9	-23.5	-24.2	-25.6	-25.7	-5.6	-6.4	-6.7
Direct investment in Australia	-9.9	-11.1	-11.3	-11.9	-12.7	-2.6	-2.9	-3.3
Portfolio investment liabilities	-8.8	-10.1	-10.6	-11.6	-10.9	-2.4	-2.9	-2.8
Other investment liabilities	-2.2	-2.3	-2.3	-2.1	-2.1	-0.6	-0.6	-0.6
Unrequited transfers, net	-0.5	-0.4	0.1	-0.3	-0.2	0.1	0.0	0.1
Credits	3.0	3.2	3.4	3.7	4.0	1.1	1.0	1.1
Debits	-3.5	-3.5	-3.3	-4.0	-4.2	-1.0	-1.0	-1.0

Sources: Australian Bureau of Statistics, *Balance of Payments and International Investment Position;* and IMF, *International Financial Statistics*.

1/ Quarterly data are seasonally adjusted.

2/ Components are not seasonally adjusted and may not add up to the total.

Table 21. Australia: Exports and Imports, 1994–99 1/

(Percent change from previous year)

	1994	1995	1996	1997	1998	Mar. Qtr. 1999	June Qtr. 1999	Sep. Qtr. 1999
Total exports								
Value	4.7	11.2	7.7	11.9	2.3	-2.5	-8.6	-2.3
Volume	8.8	5.3	10.8	11.1	-0.1	3.8	0.5	4.9
Price 2/	-3.7	5.5	-2.8	0.8	2.3	-6.1	-9.0	-6.8
Total merchandise exports								
Value	3.2	11.2	7.2	13.2	2.3	-2.6	-12.0	-4.4
Volume	8.0	3.5	12.0	13.4	-0.6	4.3	-0.6	5.5
Price 2/	-4.5	7.4	-4.3	-0.2	2.9	-6.6	-11.5	-9.4
Rural exports								
Value	8.4	-0.1	15.0	11.5	-2.9	4.8	-4.0	-1.5
Volume	7.5	-11.5	22.1	13.6	-5.2	15.4	10.8	10.3
Price 2/	1.0	12.8	-5.7	-1.9	2.5	-9.2	-13.3	-10.7
Metals, minerals, and fuels								
Value	-5.1	16.0	3.0	15.9	6.5	-10.3	-19.5	-12.9
Volume	3.5	5.6	5.6	13.4	3.4	-3.1	-6.1	-2.7
Price 2/	-8.3	9.8	-2.4	2.2	3.0	-7.4	-14.3	-10.5
Manufactured goods								
Value	13.2	14.6	7.2	10.9	0.2	1.6	-8.8	4.6
Volume	16.8	13.4	13.8	11.7	-2.8	4.6	-3.0	12.9
Price 2/	-3.0	1.1	-5.8	-0.7	3.1	-2.9	-5.9	-7.4
Services								
Value	10.5	12.3	8.1	5.3	3.1	2.9	5.0	4.8
Volume	11.5	11.4	7.0	3.4	1.9	1.9	4.1	2.5
Price 2/	-0.8	0.8	1.1	1.8	1.1	1.0	0.9	2.3
Total imports								
Value	9.3	11.6	0.7	8.9	13.0	4.4	1.1	3.1
Volume	14.2	8.2	8.2	10.3	6.0	5.4	6.5	12.4
Price 2/	-4.2	3.1	-6.9	-1.3	6.6	-0.9	-5.1	-8.3
Total merchandise imports								
Value	10.1	12.2	0.3	9.4	14.6	3.8	0.2	4.4
Volume	14.9	9.8	8.6	12.0	8.3	6.4	6.9	13.9
Price 2/	-4.1	2.1	-7.6	-2.4	5.7	-2.4	-6.3	-8.4
Consumption goods								
Value	9.1	9.5	2.4	13.2	18.8	6.6	2.5	7.5
Volume	11.2	7.5	6.4	13.9	9.9	3.9	3.9	13.8
Price 2/	-1.8	1.8	-3.7	-0.8	8.3	2.6	-1.4	-5.6
Capital goods								
Value	17.9	12.6	1.4	5.4	11.5	11.9	2.1	11.0
Volume	26.2	15.1	16.5	13.6	6.4	19.4	16.1	27.9
Price 2/	-6.2	-2.5	-12.9	-7.3	4.9	-6.3	-12.0	-13.2
Intermediate and other goods								
Value	7.5	13.8	-0.7	4.5	10.6	2.6	5.4	4.0
Volume	12.6	8.3	6.0	6.2	5.1	6.7	11.8	11.8
Price 2/	-4.5	5.0	-6.2	-1.7	5.2	-3.8	-5.8	-7.0
Services								
Value	7.0	9.6	2.6	7.2	8.5	5.8	2.1	1.0
Volume	12.4	2.8	6.9	4.6	-2.2	1.8	5.4	7.0
Price 2/	-4.8	6.6	-4.1	2.5	11.0	3.8	-3.0	-5.6
Memorandum item:								
Terms of trade (goods and services)	0.5	2.4	4.4	2.1	-4.0	-5.2	-4.1	1.7

Source: Australian Bureau of Statistics, *Balance of Payments and International Investment Position*.

1/ Quarterly data are seasonally adjusted.
2/ Implicit price deflators.

Table 22. Australia: Exports by Commodity Group, 1994–99

	1998		1994	1995	1996	1997	1998	Mar. Qtr. 1999	Jun. Qtr. 1999	Sep. Qtr. 1999
	In billions of $A	In percent of total	(Percent change from previous year)							
Total exports, f.o.b.	89.2	100.0	3.2	11.2	7.2	13.2	2.3	-2.6	-12.0	-4.4
Nonmerchandise 1/	8.7	9.8	-0.1	11.4	3.2	32.2	4.3	-21.0	-38.8	-29.4
Merchandise	80.4	90.2	3.5	11.1	7.6	11.5	2.1	-0.7	-9.1	-1.6
Total rural exports	22.0	24.6	8.4	-0.1	15.0	11.5	-2.9	4.8	-4.0	-1.5
Meat	3.9	4.4	-3.4	-7.0	-18.0	18.0	14.1	8.4	2.5	4.8
Cereals	5.1	5.8	8.7	-17.1	106.4	4.3	-14.3	7.5	-6.6	-9.6
Wool and sheepskins	3.2	3.6	24.8	5.1	-8.1	13.0	-23.4	-37.1	-29.2	-15.9
Other rural exports	9.7	10.9	7.8	9.4	8.8	13.5	7.6	19.0	3.9	5.5
Total nonrural exports	58.4	65.5	1.5	15.9	4.9	11.5	4.1	-2.8	-10.9	-1.7
Metals, minerals, and fuels	41.3	46.3	-5.1	16.0	3.0	15.9	6.5	-10.3	-19.5	-12.9
Metal ores and minerals	11.5	12.9	-5.7	17.1	5.4	11.0	12.8	-1.2	-12.2	-8.5
Mineral fuels	14.6	16.4	-11.3	12.7	8.4	16.1	1.7	-8.7	-15.7	-5.6
Coal, coke, and briquettes	9.8	11.0	-13.5	10.1	5.3	12.7	11.8	-3.8	-18.9	-17.9
Other	4.8	5.4	-6.6	17.7	14.0	21.8	-14.1	-18.2	-9.2	18.9
Metals	15.2	17.0	2.4	18.5	-3.6	19.5	6.8	-18.8	-28.5	-23.1
Gold	7.9	8.9	0.4	11.6	3.2	35.3	3.6	-30.4	-47.8	-40.3
Other	7.3	8.1	4.2	24.7	-9.0	5.1	10.5	-7.5	-7.1	-3.7
Manufactured goods	25.1	28.1	13.2	14.6	7.2	10.9	0.2	1.6	-8.8	4.6
Machinery	6.9	7.8	17.0	20.1	4.6	5.8	-7.1	-7.5	-10.1	7.6
Transportation equipment	3.4	3.8	-14.7	26.3	19.0	35.9	-9.4	29.4	-26.2	10.5
Other manufactures	9.8	11.0	15.6	11.2	8.4	7.0	2.2	7.1	8.9	6.2
Other nonrural	4.9	5.5	23.0	7.0	2.0	11.0	17.2	-11.9	-24.2	-7.7

Source: Australian Bureau of Statistics, *Balance of Payments and International Investment Position*.

1/ Primarily nonmonetary gold exports.

Table 23. Australia: Direction of Trade, 1994–99 1/

	1998		1994	1995	1996	1997	1998	Mar. Qtr.	Jun. Qtr.	Sep. Qtr.
	In billions of $A	In percent of total	(Percent change from previous year)					1999		
Exports										
Selected countries										
Japan	17.4	19.5	2.3	3.6	-6.0	8.0	3.4	-7.8	-11.4	-2.3
United States	8.5	9.5	-8.3	-0.4	7.6	27.3	33.7	-11.7	-11.4	5.2
New Zealand	5.7	6.4	19.0	20.8	6.7	9.2	-7.9	4.6	6.2	8.1
United Kingdom	4.8	5.3	-17.0	5.4	10.5	-11.7	95.2	-6.6	-24.3	-49.3
Singapore	3.3	3.7	4.3	12.5	-17.4	22.3	-15.4	1.7	13.9	91.6
Korea	6.1	6.9	8.0	28.7	20.5	-7.4	-9.7	28.7	-7.6	-12.2
Taiwan Province of China	4.3	4.8	2.5	15.8	3.9	18.4	5.1	5.0	-10.1	-5.4
China	3.8	4.3	22.6	11.2	23.8	2.6	-4.7	17.6	1.2	11.1
Selected country groups										
European Union	12.3	13.9	-3.1	10.5	4.7	3.5	42.1	0.5	-22.7	-28.5
ASEAN 2/	10.1	11.3	10.2	19.2	0.8	11.7	-21.9	0.4	11.9	22.4
Total exports	89.0	100.0	3.2	10.6	7.4	10.1	4.9	-2.1	-11.3	-4.2
Imports										
Selected countries										
Japan	13.3	13.8	1.8	-1.1	-14.6	11.7	16.7	7.5	1.3	1.9
United States	21.5	22.3	12.5	12.8	7.7	0.9	18.6	-6.9	-5.8	0.7
New Zealand	3.8	4.0	11.5	6.6	1.8	0.9	3.2	6.6	7.6	6.8
United Kingdom	5.8	6.0	14.1	14.7	8.1	5.7	8.7	-5.6	-11.0	-9.2
Singapore	2.7	2.8	28.9	21.1	6.8	-6.9	7.8	12.9	26.0	18.5
Korea	4.2	4.3	-5.3	27.8	3.0	27.7	40.6	2.2	-24.6	-23.2
Taiwan Province of China	2.9	3.0	7.2	5.1	-1.5	4.3	10.8	2.7	3.0	-3.2
China	5.8	6.0	15.3	14.5	6.8	14.9	22.9	9.8	13.0	10.6
Selected country groups										
European Union	23.1	23.9	16.0	21.3	0.2	4.1	13.8	6.7	-2.1	-3.5
ASEAN 2/	11.8	12.2	12.3	21.7	12.7	16.7	28.5	10.7	11.3	5.4
Total imports	96.8	100.0	9.1	13.8	1.2	6.4	16.0	3.5	0.2	1.8

Source: Australian Bureau of Statistics.

1/ Trade statistics basis.
2/ Association of Southeast Asian Nations.

Table 24. Australia: Gross and Net External Interest Receipts and Payments, 1994–99

	1994	1995	1996	1997	1998	Mar. Qtr. 1999	Jun. Qtr.
			(In billions of Australian dollars)				
Gross interest payments	-12.2	-13.4	-14.1	-14.4	-13.5	-3.1	-3.5
Public sector	-5.5	-5.8	-5.9	-5.2	-3.8	-0.9	-0.9
General government	-2.1	-2.4	-2.8	-2.6	-2.0	-0.5	-0.5
Public enterprises	-3.4	-3.5	-3.1	-2.5	-1.9	-0.4	-0.4
Private sector	-6.7	-7.6	-8.3	-9.3	-9.7	-2.2	-2.6
Gross interest receipts	2.0	2.6	2.3	2.9	3.2	0.6	0.7
Public sector	0.8	1.2	0.9	1.2	1.5	0.3	0.3
Official reserve assets	0.5	1.0	0.6	0.9	1.0	0,2	0.2
Other	0.3	0.3	0.3	0.3	0.4	0.1	0.1
Private sector	1.2	1.3	1.4	1.7	1.7	0.4	0.4
Net interest receipts	-10.2	-10.9	-11.9	-11.5	-10.2	-2.5	-2.8
			(In percent of GDP)				
Gross interest payments	-2.6	-2.7	-2.7	-2.6	-2.3	-2.1	-2.3
Gross interest receipts	0.4	0.5	0.4	0.5	0.5	0.4	0.5
Net interest receipts	-2.2	-2.2	-2.3	-2.1	-1.8	-1.6	-1.9
			(In percent of exports of goods and services)				
Gross interest payments	-14.5	-14.3	-14.1	-12.9	-11.8	-11.4	-13.0
Gross interest receipts	2.4	2.7	2.3	2.6	2.8	2.3	2.6
Net interest receipts	-12.1	-11.6	-11.8	-10.3	-8.9	-9.0	-10.4

Source: Australian Bureau of Statistics, *Balance of Payments and International Investment Position*.

Table 25. Australia: Capital and Financial Account, 1994–99

	1994	1995	1996	1997	1998	Mar. Qtr. 1999	Jun. Qtr.
			(In billions of Australian dollars)				
Capital and financial account	21.5	27.2	20.1	16.5	29.5	6.8	8.2
Capital account	0.4	0.8	1.2	1.2	1.1	0.3	0.3
Of which: Capital transfers	0.4	0.7	1.2	1.2	1.0	0.3	0.3
Financial account	21.0	26.4	18.9	15.3	28.4	6.4	8.0
Direct investment	2.9	12.0	-1.0	1.7	6.1	2.8	5.2
Direct investment abroad	-3.4	-5.2	-7.6	-8.4	-3.9	0.4	2.0
Equity capital	0.9	-2.2	-4.8	-4.7	-1.8	0.5	3.1
Reinvested earnings	-2.5	-3.2	-2.4	-4.3	-3.0	-1.1	-0.6
Other capital	-1.7	0.1	-0.4	0.6	0.9	1.0	-0.5
Direct investment in Australia	6.3	17.2	6.6	10.1	10.0	2.4	3.1
Equity capital	0.8	8.1	4.1	4.2	6.2	0.8	0.9
Reinvested earnings	5.8	6.1	5.0	6.0	5.1	1.6	1.6
Other capital	-0.4	3.0	-2.5	-0.2	-1.3	0.0	0.7
Portfolio investment	21.7	17.8	28.2	14.7	4.5	13.0	-3.7
Assets	4.5	1.0	-1.9	0.8	-2.6	-2.7	-1.6
Equity securities	-0.8	-2.0	-2.7	-0.3	-1.9	-1.7	0.3
Debt securities	5.3	3.0	0.8	1.0	-0.6	-1.0	-1.9
Liabilities	17.2	16.8	30.1	13.9	7.0	15.7	-2.1
Equity securities	11.2	3.6	3.8	8.6	16.0	4.6	4.1
Debt securities	6.0	13.2	26.3	5.3	-8.9	11.1	-6.1
Other investment	-4.8	-2.9	-5.3	3.7	14.9	-9.4	7.7
Assets	-3.2	-6.3	-7.3	-7.6	-0.3	-4.9	0.1
Liabilities	-1.6	3.4	2.0	11.3	15.2	-4.5	7.6
Change in reserve assets 1/	1.2	-0.5	-3.1	-4.7	2.9	0.0	-1.3
			(In percent of GDP)				
Capital and financial account	4.6	5.5	3.9	3.0	5.1	4.5	5.5
Capital account	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Financial account	4.5	5.4	3.6	2.8	4.9	4.3	5.3
Direct investment	0.6	2.4	-0.2	0.3	1.1	1.9	3.4
Portfolio investment	4.7	3.6	5.4	2.7	0.8	8.6	-2.4
Other investment	-1.0	-0.6	-1.0	0.7	2.6	-6.3	5.1

Source: Australian Bureau of Statistics, *Balance of Payments and International Investment Position*.

1/ Transaction-based data, excluding the effects of price and exchange rate changes; a minus sign indicates an increase in reserves.

Table 26. Australia: External Assets and Liabilities, 1994–99

	1994	1995	1996	1997	1998	Mar. Qtr. 1999	Jun. Qtr.
	(In billions of Australian dollars, end of period)						
Net external liabilities	242	270	297	307	342	349	354
Australian investment abroad	-149	-173	-194	-236	-262	-264	-258
Foreign investment in Australia	392	443	491	544	603	613	612
Direct investment	64	71	72	65	67	71	82
Direct investment abroad	-55	-63	-74	-87	-101	-98	-91
Equity capital and reinvested earnings	-56	-65	-75	-88	-103	-100	-93
Other capital	1	2	1	1	1	2	2
Direct investment in Australia	119	135	146	152	168	170	172
Equity capital and reinvested earnings	100	114	124	131	147	149	152
Other capital	18	21	22	22	21	20	21
Portfolio investment	165	193	227	248	262	274	263
Assets	-50	-57	-61	-75	-86	-89	-91
Equity securities	-30	-38	-39	-50	-57	-60	-60
Debt securities	-20	-19	-22	-24	-29	-29	-30
Liabilities	215	250	288	323	348	363	354
Equity securities	60	69	77	91	115	123	126
Debt securities	155	181	211	231	233	239	228
Of which: Financial derivatives	10	10	10	13	13	13	14
Other investment	32	26	20	21	39	28	34
Assets	-25	-32	-36	-48	-48	-53	-52
Liabilities	57	58	56	69	88	81	86
Reserve assets	-18	-20	-22	-27	-26	-25	-25
	(In percent of GDP)						
Net external liabilities	52.3	54.9	57.0	55.9	59.0	59.4	59.7
Australian investment abroad	-32.1	-35.2	-37.2	-43.0	-45.2	-45.1	-43.5
Foreign investment in Australia	84.4	90.1	94.2	98.9	104.2	104.5	103.1
Direct investment	13.7	14.5	13.7	11.9	11.5	12.2	13.7
Portfolio investment	35.7	39.3	43.6	45.1	45.2	46.7	44.4
Other investment	6.9	5.2	3.8	3.8	6.8	4.8	5.8
Reserve assets	-4.0	-4.1	-4.2	-4.9	-4.5	-4.2	-4.3
Memorandum items:							
Net equity liabilities	16.0	16.3	16.7	15.2	17.6	19.2	21.0
Net debt liabilities	36.3	38.6	40.3	40.7	41.4	40.3	38.6

Source: Australian Bureau of Statistics, *Balance of Payments and International Investment Position*.

Table 27. Australia: Gross Official Reserve Assets, 1994–99

(In billions of Australian dollars; end of period)

	1994	1995	1996	1997	1998	Mar. Qtr. 1999	Jun. Qtr. 1999	Sep. Qtr. 1999
Gross reserves	18.4	20.1	21.8	27.0	26.3	24.9	25.2	24.5
Foreign exchange	13.8	15.2	17.5	24.7	23.0	21.4	21.8	20.6
SDRs	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1
Reserve position in IMF	0.7	0.7	0.6	1.1	2.0	2.4	2.3	2.6
Gold 1/	3.9	4.1	3.7	1.1	1.2	1.1	1.0	1.2
Change from end of preceding year/quarter	-2.5	1.6	1.8	7.5	-0.7	-1.4	0.3	-0.7
Due to:								
Balance of payments transactions 2/	-1.2	0.5	3.1	4.7	-2.9	0.0	1.3	-1.7
Valuation and other changes	-1.3	1.2	-1.3	2.8	2.2	-1.4	-0.9	1.0
Memorandum item:								
RBA, outstanding forward obligations	...	8.6	3.1	5.6	10.1	11.0	12.3	10.8
Reserves, net of forward obligations	...	11.5	18.8	21.3	16.2	13.9	12.9	13.6

Sources: Reserve Bank of Australia, *Bulletin;* and Fund staff estimates.

1/ Gold is valued at the average London gold price for the month, converted to Australian dollars at the market rate of exchange applying on the last day of the month.
2/ Includes sales and purchases of, and earnings on, foreign exchange by the Reserve Bank and certain transactions with official institutions overseas.

Table 28. Australia: Period Average Exchange Rates, 1994–99

	US$/$A		Yen/$A		Effective Exchange Rates (1990=100)			
					Nominal		Real 1/	
	Level	Percent Change 2/	Level	Percent Change 2/	Level	Percent Change 2/	Level	Percent Change 2/
1994	0.732	7.6	74.73	-1.2	105.2	9.8	87.2	4.0
1995	0.741	1.3	69.82	-6.6	101.9	-3.2	85.2	-2.3
1996	0.783	5.6	85.19	22.0	111.7	9.7	93.7	10.0
1997	0.744	-5.0	89.96	5.6	113.2	1.3	93.3	-0.5
1998	0.629	-15.4	82.27	-8.5	100.8	-10.9	82.6	-11.4
1997								
Mar. qtr.	0.778	...	94.26	...	116.3	...	97.0	...
Jun. qtr.	0.769	-1.1	92.14	-2.2	115.9	-0.4	95.8	-1.2
Sep. qtr.	0.736	-4.4	86.74	-5.9	112.6	-2.9	92.3	-3.7
Dec. qtr.	0.693	-5.8	86.71	0.0	107.8	-4.2	88.1	-4.5
1998								
Mar. qtr.	0.666	-3.9	85.29	-1.6	107.2	-0.6	87.6	-0.6
Jun. qtr.	0.629	-5.5	85.27	0.0	102.0	-4.9	83.5	-4.7
Sep. qtr.	0.599	-4.8	83.88	-1.6	97.7	-4.1	80.3	-3.8
Dec. qtr.	0.624	4.1	74.66	-11.0	96.5	-1.3	79.2	-1.3
1999								
Mar. qtr.	0.634	1.7	73.92	-1.0	99.1	2.7	81.4	2.8
Jun. qtr.	0.653	3.0	78.93	6.8	104.6	5.6	86.0	5.6
Sep. qtr.	0.651	-0.4	73.89	-6.4	103.3	-1.3	84.7	-1.5
1998								
Jan.	0.655	-1.2	84.96	-1.0	106.0	0.5	86.6	0.5
Feb.	0.673	2.7	84.72	-0.3	108.0	1.9	88.3	1.9
Mar.	0.670	-0.5	86.17	1.7	107.6	-0.4	87.9	-0.4
Apr.	0.652	-2.6	85.90	-0.3	105.1	-2.3	86.0	-2.2
May	0.631	-3.2	85.09	-0.9	101.9	-3.0	83.4	-3.0
Jun.	0.603	-4.4	84.82	-0.3	98.8	-3.0	81.0	-2.9
Jul.	0.618	2.5	86.99	2.6	101.2	2.4	83.0	2.5
Aug.	0.590	-4.6	85.38	-1.9	97.5	-3.7	80.1	-3.5
Sep.	0.589	-0.2	79.27	-7.2	94.4	-3.2	77.6	-3.1
Oct.	0.619	5.1	75.07	-5.3	95.5	1.2	78.4	1.0
Nov.	0.634	2.5	76.31	1.7	98.6	3.2	80.9	3.1
Dec.	0.618	-2.5	72.59	-4.9	95.3	-3.3	78.3	-3.2
1999								
Jan.	0.632	2.2	71.57	-1.4	96.8	1.6	79.5	1.6
Feb.	0.640	1.3	74.62	4.3	100.2	3.5	82.3	3.5
Mar	0.631	-1.4	75.56	1.3	100.3	0.1	82.5	0.2
Apr.	0.641	1.6	76.79	1.6	102.3	2.0	84.0	1.9
May	0.662	3.3	80.64	5.0	106.0	3.6	87.1	3.7
Jun.	0.656	-0.9	79.36	-1.6	105.6	-0.3	86.8	-0.4
Jul.	0.658	0.2	78.84	-0.7	106.0	0.4	87.0	0.3
Aug.	0.645	-1.9	73.15	-7.2	102.1	-3.7	83.7	-3.8
Sep	0.649	0.6	69.67	-4.8	101.8	-0.3	83.4	-0.4
Oct.	0.652	0.4	69.03	-0.9	102.3	0.5	83.7	0.4
Nov.	0.640	-1.8	67.14	-2.7	...	...	...	...

Sources: IMF, *International Financial Statistics*; and Information Notice System.

1/ Based on relative consumer prices.

2/ From the preceding period.

Table 29. Australia: Residual Maturity Currency Decomposition of Foreign Debt, 1996–99 1/

(In percent)

	1996	1997	Mar. Qtr.	Jun. Qtr.	Sep. Qtr.	Dec. Qtr.	Mar. Qtr.	Jun. Qtr.
			1998				1999	
One year or less								
Australian dollars	30.6	28.8	33.9	29.8	27.0	24.8	26.6	25.8
U.S. dollars	51.6	52.4	48.2	52.8	52.1	52.9	49.7	55.1
Japanese yen	4.9	6.0	6.3	6.5	7.7	9.1	7.1	5.7
Pounds sterling	3.4	3.2	3.2	2.8	3.6	3.6	3.9	2.7
Euros	0.0	0.0	0.0	0.0	0.0	0.0	3.0	4.4
Swiss francs	1.2	1.2	1.6	0.9	1.2	1.5	1.4	1.1
Other	8.2	8.5	6.7	7.2	8.3	8.2	8.4	5.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Greater than one year								
Australian dollars	40.7	41.2	40.0	40.8	40.2	40.3	43.3	44.3
U.S. dollars	27.4	37.5	36.1	37.4	39.0	37.3	34.4	34.7
Japanese yen	12.7	10.9	10.7	11.6	11.2	12.4	12.1	9.5
Pounds sterling	2.2	3.5	5.6	2.3	2.0	2.7	2.5	3.5
Euros	0.0	0.0	0.0	0.0	0.0	0.0	3.4	3.7
Swiss francs	1.5	0.9	1.9	1.2	1.2	0.8	1.0	1.1
Other	15.5	6.0	5.7	6.6	6.4	6.4	3.2	3.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total debt								
Australian dollars	45.0	42.5	43.9	41.7	39.2	37.9	39.4	40.1
U.S. dollars	32.6	37.4	35.2	38.8	39.4	39.4	37.2	39.2
Japanese yen	6.6	6.7	6.7	7.0	7.7	8.8	7.7	6.1
Pounds sterling	2.3	2.7	3.5	2.2	2.5	2.7	2.9	2.6
Euros	0.0	0.0	0.0	0.0	0.0	0.0	2.7	3.4
Swiss francs	1.0	0.9	1.4	0.8	1.0	1.0	1.0	0.9
Other	9.0	6.0	5.2	5.8	6.3	6.3	5.4	3.6
Reserve assets and derivatives	3.5	3.8	4.2	3.8	3.9	3.8	3.7	4.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Unallocated								
Australian dollars	83.2	79.0	77.1	78.3	75.3	75.7	75.0	75.2
Other	16.8	21.0	22.9	21.7	24.7	24.3	25.0	24.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Memorandum items:								
(In billions of Australian dollars)								
Total	134.3	140.9	145.4	141.9	137.9	135.0	140.0	139.6
One year or less	41.3	43.2	52.4	51.5	47.6	44.8	49.0	44.4
Greater than one year	41.5	49.7	46.5	44.4	48.4	48.5	51.2	53.4
Unallocated	51.6	48.0	46.5	46.1	41.8	41.7	39.9	41.8

Source: Australian Bureau of Statistics, *International Investment Position Australia*.

1/ Data on this basis only available from September 1996 onward.