

# LONG-RUN ECONOMIC GROWTH AND HUMAN CAPITAL

*Talk by the Governor, B.W. Fraser, to the University of New England, Armidale, 20 May 1993.*

Economic growth is usually viewed from a short-term perspective but it is long-term growth that has been the basis of wealth and power for nation states throughout history. It is the basis also of the additional jobs and higher living standards that we all desire today.

Most economists are happy enough, I think, to be labelled 'pro-growth'. They do argue, however, about the priority to be attached to economic growth and, of course, about the policies necessary to sustain it. The intensity of those arguments increases as growth rates decline.

I would like to offer some general observations on Australia's long-term growth performance and prospects. I will touch upon some policy issues, particularly those related to human capital.

## OVERVIEW OF GROWTH PERFORMANCE

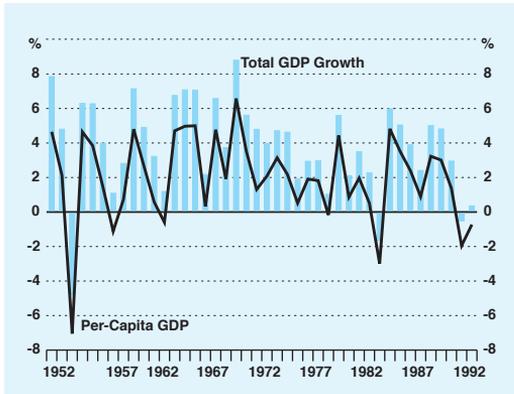
A generation ago the task of sustaining an acceptable rate of economic growth in a country like Australia seemed straightforward. Leaving aside the occasional poor year, the 1950s and 1960s were good years by current policy standards, with real GDP growing by over 4 per cent per annum, inflation about 3 per cent and unemployment under 2 per cent. Current account deficits and budget deficits were intermittent distractions, rather than constant challenges (see Graph 1 and Table 1).

By the mid 1950s, unemployment had long ceased to be a problem and there was a confidence that rapid economic growth and full employment would be sustained. This was rooted in catch-up post-war development and nurtured by the Keynesian belief that

**TABLE 1: SOME MEASURES OF MACRO-ECONOMIC PERFORMANCE**

Average	GDP Growth %	CPI Inflation %	Unemployment Rate %	PSBR % of GDP	Current Account Deficit % of GDP
1953-72	4.5	3.0	1.5	1.9	2.2
1973-82	2.9	11.3	5.2	3.6	2.4
1983-92	3.0	6.4	8.4	3.1	4.6

TOTAL AND PER-CAPITA REAL GDP GROWTH



GRAPH 1

governments would come to the rescue with ‘anti-cyclical’ fiscal and monetary policies, should the economy falter.

Such confidence is apparent, for example, in the Treasury’s Survey of the Australian Economy for 1958, the year I enrolled at the University of New England. That Survey, one in the series of literary precursors to Budget Statement No. 2, noted that on-going growth ‘provides a sustaining force of undoubted strength’. It went on:

‘That is a great lesson from the post-war period. All through those years, the Australian economy has been borne along on a strong, persistent urge to grow which has enabled it to surmount adversities, whether of external or of internal origin. At times it has thrust ahead too fast; at other times it has faltered a little; but its underlying strength has not abated. In this thrust we have found a most effective safeguard against the deep recessions of activity which, in pre-war times, led to heavy unemployment and curtailment of growth and which, once they had developed, stubbornly resisted efforts at revival.’

Many prominent economists shared this confidence, some going so far as to proclaim that the business cycle was ‘obsolete’. Arthur Okun reflected the mood of the 1960s when he said that ‘recessions are now generally considered to be fundamentally preventable, like airplane crashes and unlike hurricanes’.

As Mark Twain might have observed, that news was ‘premature’. History has demonstrated that the business cycle everywhere is very much alive and kicking. And while appeals to governments to ‘do something’ in difficult times have not diminished, the public today is probably less confident than previously about a government’s capacity to prevent damaging swings in the business cycle.

The 1970s marked the break in sentiment. The average growth rate was lower (around 3 per cent compared with over 4 per cent), consumer prices rose at double digit annual rates (11 per cent, on average), and average unemployment rose to

5 per cent. External shocks, including two dramatic oil price jumps, were partly responsible for this deterioration, but home-grown problems also contributed, especially the massive blowouts in wages and in the budget deficit that occurred in the mid 1970s.

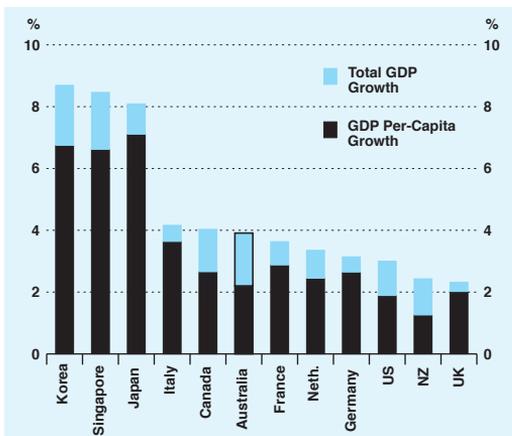
In the 1980s, performance was mixed. Growth averaged about 3 per cent. A good deal of policy effort went into correcting the imbalances which emerged in the 1970s, with some notable successes. Wage increases, for example, were brought under control through the Accord process and inflation declined to an average rate of about 8 per cent; inflation has since declined to rates which no longer cast a threatening shadow over our economic prospects. In addition, persistent budget deficits gave way to a succession of budget surpluses late in the decade.

On the other hand, some new imbalances emerged, including large increases in business and national indebtedness, while unemployment drifted higher. These are the problems of the 1990s. In particular, for a variety of reasons – domestic and external, cyclical and structural – the Australian economy is not growing fast enough to provide jobs for all who want them. That is the major economic, social and political challenge for today and, probably, for the next several years.

One point should be emphasised here because it is germane to Australia’s post-war economic performance, to the nature of the current unemployment problem, and to

possible solutions to that problem. That point is Australia's relatively poor productivity performance. While our post-war growth has generally mirrored that of OECD countries, our workforce has grown faster than most. As a result, comparisons on a per capita basis show Australia in a less favourable light – we have slipped from fifth rung on the OECD ladder of per capita incomes in 1950, to tenth in 1970 and to fourteenth in 1990 (see Graph 2).

AVERAGE TOTAL AND PER-CAPITA  
REAL GDP GROWTH: 1961-91



GRAPH 2

More recently, in an effort to improve their competitiveness, Australian enterprises in both the public and private sectors have been doing a lot of cost cutting, much of it through labour shedding. This will increase productivity and profitability in the future. In the meanwhile, however, it is creating substantial frictional unemployment at a time of high cyclical unemployment. With productivity growth of perhaps  $2\frac{1}{2}$  per cent, and labour force growth of about  $1\frac{1}{2}$  per cent, the economy clearly needs to grow a good deal faster than the current 2 to 3 per cent to sustain substantial reductions in unemployment.

As well as helping with unemployment, faster, well-based economic growth would help also with our budget deficit and national savings problems. How to bring about that growth is the question.

## THEORIES OF GROWTH

Academic thinking on what determines economic growth has changed since my undergraduate days in Armidale. Growth theory then was still in its infancy. We were acquainted with the Harrod-Domar growth models, which emphasised the need for sustained savings and investment if output and employment were to grow continuously. All that seemed reasonable, but the rigid relationships postulated in the models for savings, investment and growth pointed to the unpleasant conclusion that economies could experience prolonged periods of unemployment.

In the mid 1950s, against the background of the US economy growing with full employment but little inflation, Robert Solow and others (including Trevor Swan at the ANU) took issue with the idea that savings determined the rate of growth. The crux of their argument was that as society acquired more and more equipment, the marginal return to additional investment would diminish and, after a point, the incentives to save and accumulate more equipment would disappear. In short, market mechanisms would come into play which would substantially reduce the instability inherent in the Harrod-Domar models.

Despite its fame at the time, Solow's theory did not really tell us what determined long-run economic growth. Solow's own calculations suggested that a large part of growth in per capita output came from unexplained 'technological progress'. Edward Denison and others attempted to 'account' for this unexplained component, but interest in growth theory waned for a time, before being rekindled in the 1980s.

The so-called 'new' growth theory comes back to investment as the key ingredient for growth, but the traditional concept of capital has been generalised to include human capital – that is, investment in education, training and

related activities. By playing up the technology and productivity spinoffs ‘embodied’ in investment, new growth theory largely unhitches the constraint of diminishing marginal returns to capital.

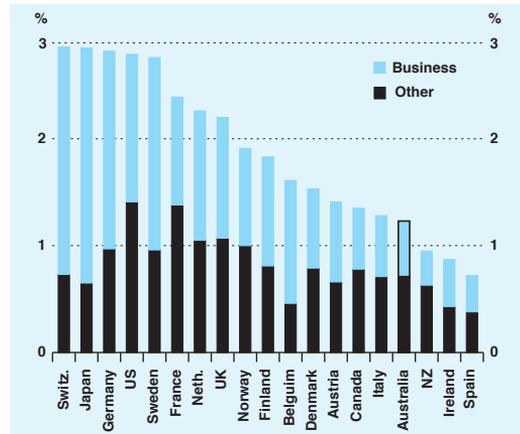
Perhaps most of all, it highlights the contribution of human capital to the production process. Studies suggest that investment in human capital leads to increased investment in physical capital. With more education and training, people adapt more effectively to new technologies, thereby raising productivity and economic growth. Spinoffs can occur where, for example, increased investment in one group of workers raises the productivity of other workers.

These ideas are hardly new. What modern growth theory does is formalise them and promote human capital as an important determinant of economic growth. It also gives formal support for what policy people like to believe is true, namely that there is a role for carefully crafted government policies in promoting long-term growth. Because the social returns from spending on education, training and R&D can exceed the private returns, a respectable case can be mounted for government intervention aimed at enhancing these activities.

The success of several Asian nations which have stressed education has also sharpened the focus on human capital. In the United States, George Bush dubbed himself ‘the education president’, while Bill Clinton made his mark in Arkansas with his education reforms. In Australia, the phrase ‘the clever country’ is now part of the vernacular, even if our performance is still catching up with the rhetoric.

The numbers are not easy to interpret, but total R&D spending in Australia as a share of GDP is among the lowest of OECD countries (see Graph 3). It is, however, growing relatively rapidly, from its low base. Moreover, in activities where Australia is among the world’s leaders – for example, in agriculture, mining and horse racing – our research efforts are impressive by international standards.

R&D SPENDING AS A PERCENTAGE OF GDP



Source: DITAC, Australian Science and Innovation Resources Brief 1992

GRAPH 3

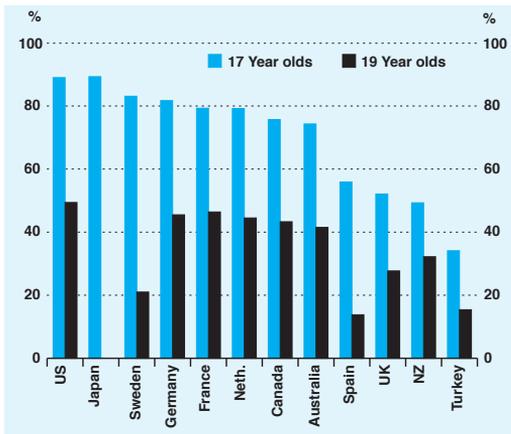
In education too, major changes have occurred. Today, 77 per cent of Australian school children are going on to complete

Year 12. Only ten years ago, the figure was 36 per cent. The accumulation of human capital is seen also in the increase in numbers undertaking post-secondary school education. In 1958, the total number of students enrolled in bachelor degrees accounted for less than 5 per cent of the population aged 20 to 24; today, the comparable figure is 25 per cent. In 1969, less than 20 per cent of the Australian workforce held some form of post-secondary qualification; by 1992, the proportion had increased to 42 per cent.

The Vernon Committee estimated that the proportion of 15 to 19 year olds undergoing full-time education in Australia in 1958 was about one-third that of the United States and half that of Canada. Today, we have almost caught up (see Graph 4).

In part, these improvements reflect the increased resources devoted to most education and training activities, including at the tertiary level. In the early 1960s, total government spending on education was around 3 per cent of GDP. This share rose to about 6 per cent in the late 1970s, before slipping slightly to around 5 per cent in the late 1980s; it is now edging up again (see Graph 5).

EDUCATION ENROLMENT RATES FOR 17 AND 19 YEAR OLDS: 1987-88\*



\*Data for the United States are for 1986-87  
Enrolment rates for 19 year olds are unavailable for Japan

Source: OECD, 'Education in OECD countries 1987 - 1988', Paris 1990

GRAPH 4

## MEETING THE CHALLENGES AHEAD

This renewed interest in Australia (and elsewhere) in upgrading the nation's human capital reflects a number of factors, including new growth theory and the demonstration effects already mentioned. Ultimately, however, it is related to the search for new jobs and higher living standards in a changed and more testing world environment. (There may also be a realisation that the quality of at least part of the nation's human capital could well deteriorate if high unemployment were to persist for a prolonged period.)

Australia's changing relations with the rest of the world have many profound implications. In 1958, commodity exports, mostly of rural origin, accounted for 75 per cent of total exports, and we had a policy of developing manufacturing industry behind a high tariff wall. Our large natural resource endowments, the protection from foreign competition, and a rather compartmentalised world economy meant that, for a time, high and growing incomes could be achieved without trying too hard to improve our human capital. In short,

PUBLIC EDUCATION EXPENDITURE AS A PERCENTAGE OF GDP



Source: Australian Bureau of Statistics, 5206.0 and 5501.0

GRAPH 5

we did not have to be particularly clever to enjoy high living standards.

All this has changed. The world now is more integrated, or 'globalised'. It is a world of many more players, including several others rich in natural resources. Above all, it is a more competitive world. Of the usual factors of production, capital and technology are now extremely mobile. But even land and labour are mobile these days, in the sense that businesses can be located almost anywhere in the world to take advantage of lower costs and/or higher skills.

In these currents if you don't swim strongly, you sink. Fortunately, Australians are now coming to terms with this reality. As the 'rents' from agriculture and mining have declined, we have recognised that a protected, inefficient manufacturing sector is a luxury we can no longer afford. Tariffs are now coming down and Australian industry is more exposed to competition from international best practice.

Too many people wring their hands over Australia's future. They wonder how we can possibly compete with many Asian countries where wages are a fraction of those paid in Australia. The truth is that we cannot compete in low-technology, labour-intensive industries. But it is also true that we do not want to compete in those industries. We want industries that are world-competitive because our labour is high quality, not because our

labour is cheap. Thousands of German, American and Japanese companies are very competitive in world markets despite high wages. The same is true of some Australian companies but can be true of many more; enhancing human capital helps to raise both real wages and competitiveness.

Industry is responding to the challenge. Commodities still make up 65 per cent of our exports but manufactured goods and tourism are increasingly important. It is not well appreciated that exports of manufactured goods have increased by 15 to 20 per cent in each of the last five years. And the push is continuing. Last week, for example, *The Australian Financial Review* ran a series of articles with headlines like 'The Australian manufacturing revolution', 'Smart gadgets from the clever country', and 'The best earners are the brainy industries'.

The message of these and other stories is the same: Australia is gradually, but surely, turning itself into a clever country and exporting its clever ideas to the world. We are developing leading edge technologies in industries like aerospace, scientific equipment and telecommunications. The transformation is assisted by Australia being, for the first time in its history, geographically close to the world's fastest-growing markets. Almost one-third of our exports are now consigned to Asian countries other than Japan (which takes another third).

In a world of highly mobile capital and technology, the greatest rewards will go to countries with flexible, highly skilled workforces. Australia can be in the vanguard here, with effective human capital policies. Modern growth theory implies that governments have an important role in all this but it is not specific as to what that role should be.

I leave others who are expert in these matters to determine the 'right' structure of education and training for Australia – one that stresses the quality of the outputs, rather than the volume of inputs or throughputs. What seems clear, however, is that the notion of lifetime employment which was taken for

granted a generation ago is no longer appropriate; more relevant today is the notion of lifetime employability. This suggests the need for more emphasis on developing broad-based and transferable skills at all levels of education – skills that will assist Australians to problem-solve, innovate and co-operate.

Another general requirement is to assist people to move to activities that are world-competitive and away from those that are not. This has many facets, including further freeing up of the labour market, a strong commitment to retraining, and on-going micro reform. A well-educated and trained workforce will not realise its potential if, for example, our transport and communications networks are second rate. In today's global economy, two of the most important assets that a country has are its people and its infrastructure.

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## CONCLUSION

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Australia has, I believe, a very bright longer-term future. This should not be obscured by the current preoccupation with the cycle and the modest nature of the recovery to date. We clearly need to grow faster than we are over a sustained period to see unemployment subside. Policy can enhance or undermine our long-term growth: policy choices today, however, appear more complex and less clear cut than in the past. That is why I suggested late last year that the Government consider preparing a White Paper designed to get a better handle on specific policies conducive to sustained economic and employment growth.

Macro-economic policies have a role to play in creating a steady environment for long-term growth, particularly in delivering low inflation and moderating inevitable business fluctuations. They are doing their stuff: several discretionary fiscal measures, including increases in spending programs and taxation incentives for business investment, have been taken to support the automatic

stabilisers. Interest rates have been wound down progressively over the past two and a half years.

These measures have been appropriate. Because the Government took the tough decisions to produce budget surpluses when the economy was strong, it was able to use fiscal policy to help the economy out of recession. Interest rates have come down as inflation has fallen. But there are limits to how far macro-economic policies can be pushed to assist the recovery before they begin to threaten long-term growth prospects.

An important reason why the current recovery is so sluggish is that the usual external stimulus from higher commodity prices and external demand has been missing on this occasion. Much of the industrial world is still in recession, and likely to pick up only gradually. It will recover but we will have to be patient so far as the arrival of any major external stimulus is concerned.

That does not mean we should simply sit on our hands in the meanwhile. Over the past decade, the structure and ethos of the Australian economy have been quietly transformed in many ways which will help to underpin long-term growth in a competitive, global economy – not the least of which is the return to low inflation and inflationary expectations. But more remains to be done and we should be pressing on urgently with that unfinished work, including further improvements to our human capital.

The future will belong to those who are highly motivated, have a global focus and are well-trained. In outlook and practice we are becoming a smarter nation, but we need more innovation and management and labour skills, and more ‘brainy industries’ and ‘smart gadgets’. Theory and common sense tell us that success requires concerted action on the part of governments, businesses, unions and many others, including universities.