

Australia 2022

CEDA CCEP 23 May 2012

Prepared for CEDA by Dr John Edwards,
Reserve Bank Board member and Lowy
Institute Visiting Fellow.

(1)

After the investment boom

In thinking about an economic policy agenda for the next decade or two, it's useful to begin with a sketch of where we have come from, where we are now, and where we might be going. That should help us to identify the areas where we are likely to encounter problems, and the areas where we might do well. In this paper, note I use an elementary projection of Australia's economic circumstances over the next decade to help suggest some of the major questions we need to think about in sustaining prosperity.

To my mind the two most important facts about where we are now and where we have come from are; our sustained prosperity since 1991; and the current investment boom. Australia has experienced an uninterrupted expansion of GDP for the last two decades, during which nominal wealth has quadrupled, real GDP has doubled, and both GDP per head and employment have increased more than half as much again. More recently, Australia has, over most of the last decade, experienced a sustained upswing in investment, which has taken real gross fixed capital expenditure to 28 per cent of GDP – higher than at any time over at least the last half-century.

What do these two singular experiences imply for the next decade? Can the long unbroken upswing continue for another ten years? When the investment boom slows, as it certainly must, what will it leave behind? To help answer those questions I use a projection to define some of the requirements for continuing the expansion for another decade.

(2)

Macro outcomes

A simple projection¹ of current trends is that in ten years Australia's population will reach 26.3 million, GDP in nominal dollars will be just short of \$2.5 trillion (and in today's dollars around \$1.8 trillion), and GDP per head in today's dollars will be \$68,400 compared to \$59,000 now. There will be 13.34 million employees. Nominal net wealth will have increased by three quarters to \$14 trillion – on average, half a million dollars each.

In this projection the apparently inexorable growth of net foreign liabilities as a share of GDP over the last thirty years stabilises around the current ratio of 60 per cent of GDP. Over the decade Australian average living standards will probably have improved a little against those of Americans or Europeans or Japanese, though not against those of Chinese, Indians or Brazilians².

These outcomes are well within reach. An unremarked but startling fact about Australia today is that the economy is in many respects performing rather better than it has for a half a century. To attain the outcomes described above we need GDP to increase on average by 3 per cent a year, the workforce by 1.5 per cent a year, and labour productivity by 1.5 per cent a year. Each of these outcomes is less than the average annual increase over the last two decades. With the exception of productivity, which has averaged 1.3 per cent over the last decade, these average outcomes are also below the average outcomes for the last decade.

Not only are the required outcomes for some of these major variables less than the experience of the last 20 years, but many of the components of these required outcomes are today markedly stronger than is necessary for sustained output growth of 3 per cent a year.

If we assume for the moment that we can attain multifactor productivity growth of 1 per cent (less than the outcome from 1995-1996 to 2002-2003 of 1.2 per cent, but more than the outcome over the last five years of 0.3 per cent), then the gross investment to achieve the capital deepening required to achieve labour productivity growth of 1.5 per cent is 24 per cent of GDP – markedly less than the 28 per cent today³.

Stabilising the ratio net foreign liabilities to GDP at today's 60 per cent would require a current account deficit no higher than 3.3 per cent of GDP – again, higher than today's ratio. With investment to GDP of 23 per cent, we would therefore need savings of say 20 per cent of GDP – again, well below today's ratio⁴.

The net income deficit with net foreign liabilities of 60 per cent of GDP is around 4 per cent of GDP. We therefore need a trade surplus of say 1 per cent of GDP to run a current account deficit of 3.3 per cent of GDP. (All these numbers are now nominals, but I assume no systematic differences in deflators so the real and nominal ratios are the same.). Trade surpluses are unusual in Australia, but we have run a trade surplus of over 1 per cent for the last couple of years.

Exports to GDP are heading to 25 per cent of GDP in two years time. Imports would need to be not more than 24 per cent of GDP to produce the required trade surplus. This is higher than the current 21.5 per cent, but less than a straight-line projection of the trend over the last decade or so. If imports remained at say 22 per cent of GDP then exports would not need to be more than 23 per cent of GDP – a ratio they will soon reach.

In labour force growth we are now demonstrating a capacity to meet the requirements for continued economic expansion. I assume in the projection that

the participation rate remains at today's reasonably high level of 65 per cent . This in turn implies an assumption that the ageing of the resident population is too slow to have a big impact within the decade, or that the impact can be offset by policy to increase participation within age cohorts- for example by improved child care, or by measures to increase participation by women and by older people.

I also assume that natural increase continues to account for a little under half (43 per cent) of the total increase in the resident population. This then implies that we can meet the population growth and employment growth objectives (1.5 per cent a year in both) with net migration that rises from 170,000 today to around 200,000 in 2022. This is well above the average of the last thirty years, but not far below the average of the last decade (180,000) and well below the average of the last five years (235,000).

Projections often suggest that future economic success later, requires sacrifices now – particularly sacrifices by households. Far from requiring belt tightening, this projection allows household consumption to grow a little faster than GDP⁵. It leaves plenty of room for a faster rate of growth of home building.

Given the share of the housing stock in national wealth, the fact that mining assets are 80 per cent owned offshore and the likelihood that average price earnings ratios for equities are unlikely to significantly increase, it would not be possible to maintain today's ratio of net wealth to GDP without a considerable rise in house prices. House price increases would also be supported by population growth and rising real and nominal incomes. That is not to say that house prices (or more correctly, urban land prices) will increase, but that it would be a puzzle if they did not.

I conclude that to attain the projection outcomes we do not need to do better than we are doing now. On the contrary, we can attain them if we do a little worse.

No doubt there will be financial crises and recessions in various parts of the world economy over the decade, but Australia's two decade expansion has so far survived a depression in South East Asia and Korea, the Russian and Long Term Capital Management crises, the 2001 tech wreck and advanced economy recession, the quintupling of oil prices, several wars in the Middle East, the global financial crisis and subsequent advanced economy recession, and now the Euro crisis. It is not easy to contend that bad news in the global economy will necessarily terminate Australia's economic expansion.

Nor are there any evident domestic imbalances or trends which pose a real threat. Nominal wages growth has ticked over at around 4 per cent for two

decades. On the pattern of the last thirty years, governments are likely to run surpluses except in sharp economic downturns. The central bank will continue to target 2.5 per cent inflation, as it has successfully done for two decades. Infrastructure needs improvement, but infrastructure spending has increased sharply, and there are now institutions in place to develop priorities and direct funding. Both capital and labour can be and are supplemented by drawing on the rest of the world. Mineral and energy resources will sooner or later be depleted, but not within the next ten years or for that matter the next fifty. It's true that we may not be able to concurrently execute every major project currently on the drawing board, but we don't need to. It would do the economy no great harm to have a longer sequence of projects rather than bunching them up.

That said, there are two important reservations to the central projection. Productivity growth has been slow in recent years. The projection requires faster productivity growth than recent experience. The projections also require continued growth in China. I look at these two issues next. (I also assume that a decade is too short to see a significant adverse impact from climate change.)

(3)

China

Could the expected slowdown in China's growth over the next few decades alter the projection for Australian growth? The rate of growth of iron ore and LNG exports certainly depends to some extent of the rate of growth of China and the composition of its growth. In this projection I accept as plausible the World Bank's recent China 2030 report, which looks to China slowing to around 5 per cent growth in 15 years. The composition of China's growth will change, with more household consumption and less investment. Services production will grow at the expense of industrial production. With industrial production growth slowing below the rate of growth of GDP as a whole, energy and metals and minerals imports will presumably also slow below the rate of growth of output as a whole.

I assume these changes will affect Australia towards the end of this ten-year projection. The production of iron ore and LNG will increase very rapidly over the next five years, driving an increase in mining share to GDP. But by the end of the period the growth of Australian minerals and energy output and exports have slowed to the long-term growth rate of around 4 per cent. I assume export prices (and the terms of trade) are stable, so real and nominal growth are the same.

This projection, which takes a China slowdown into account, is quite close to the existing forecast of the Bureau of Resources and Energy Economics (BREE). In its most recent forecast set BREE predicts that Australia's minerals and energy export volumes will grow around 4 per cent a year over the next five years. This would be a little faster than the projected rate of growth of the economy as a whole.

Mining exports are now 60 per cent of exports of goods and services. We assume that the volume of mining exports increases on average by 4 per cent a year and the prices of these commodities are flat. It follows that mining exports decline year by year as a share of nominal GDP, which is increasing by 5.5 per cent a year. To sustain a ratio of export values to nominal GDP of 23 per cent, the remaining 40 per cent of exports today would need to increase on average by 6.5 per cent a year. This implies both price increases and volume increases for these exports.

The expected slowdown in China's demand for minerals and energy does not preclude continuing expansion in Australian GDP, but it will make it harder to stabilise foreign liabilities as a share of GDP. On the assumptions we are using, a trade surplus would depend on a major expansion in the export of services, farm products and manufactures. Contrary to the widely held notion that Australia's future is all about resource exports, in my view the crucial requirement for sustained prosperity will be higher exports of other goods and services.

(4)

Productivity

As ever, it all depends on productivity growth. Labour productivity (LP) growth of around 1.5 per cent is not a demanding outcome compared to Australian experience over the last half century or so, but it is higher than recent experience. So too Multi Factor Productivity (MFP) of around 1 per cent is lower than the average experience but higher than recent experience. Are there plausible grounds to expect both measures to pick up?

The fall in MFP and the decline in the rate of growth of LP are contemporary with the investment boom, which began in the early years of the last decade. As both Treasury and the Productivity Commission⁶ have argued, the investment boom (particularly the most recent manifestation of it, which is to a large extent in mining) has not yet been requited in commensurately increased output. This is strikingly true of mining output but also apparent in utilities; two industries with very high levels of productivity. Capital productivity has fallen by one fifth over the last decade. Labour productivity has slowed because MFP is part of the

arithmetic of LP. But it has not fallen as MFP has, because LP is helped a bit by the increase in the capital to labour ratio. In the industry specific measures, labour productivity is also helped in the last decade by the trebling of the mining workforce. Though productivity in mining has fallen by nearly a third, the impact on labour productivity overall is mitigated by the shift of labour into this very high productivity industry.

I conclude that as the investment boom matures and the past increases in the capital stock are required by increased output, productivity growth rates will recover – at least to the modest rates required for the projection described here⁷. This implies a slowdown in employment growth compared to GDP. If labour productivity growth returns to an average of 1.5 per cent, then the Reserve Bank of Australia's 2.5 per cent Consumer Price Index target is sustainable with wages growth continuing at 4 per cent. A sufficiently large fall in commodity prices would likely put some pressure on the profit share however increases in commodity prices have been associated with a continuing increase in the profit share to a new record high.

(5)

Industry composition

It seems reasonable to expect that over the next decade we will see a continuation of industry composition trends apparent over the last decade or so. As shares of total output we might expect:

- Manufacturing to continue to contract, say from 8 per cent today to 6 per cent in a decade
- Agriculture to stay round the same (as it has for a decade or two) at 2 per cent of GDP
- Though it has remained around 7 per cent of GDP for the last two decades, we would expect mining output to grow somewhat more rapidly than GDP over the next decade – perhaps to 9 per cent of GDP. (This would be consistent with a 4 per cent average increase in real mining output)
- Construction is running around 8 per cent of GDP. We might suppose that engineering construction slows over the decade but home building picks up, leaving construction close to its long term average of 7 per cent of GDP
- Utilities should stay roughly the same at 2 per cent of GDP
- Health care and social assistance has increased from 5 per cent of GDP to 6 per cent over the last two decades. With an ageing population we would expect continued rapid growth, to say 8 per cent of GDP
-

- Education and training output has fallen to 4 per cent of GDP from 6 per cent twenty years ago. We would expect that to stabilise, as education and training continues to be extended into the adult workforce.
- Retail and wholesale trade together amount to 8 per cent of GDP and have been fairly stable. We would expect no increase from 8 per cent .
- Finance and insurance services grew rapidly over the last 20 years from 6 per cent to 10 per cent of output. Its share has stabilised. We think it's unlikely to grow significantly faster than GDP.
- Professional, scientific and technical services have been one of the fastest growing industries over the last two decades, moving from 5 per cent of output in 1991 to 7 per cent today. We would expect demand for these highly skilled services to continue to increase more rapidly than GDP, taking the share to say 9 per cent in a decade.
- We would expect no change in the share of transport, information, public administration, accommodation and cafes, or administrative services.

Overall, therefore, we are speculating that mining, professional, scientific and technical services, and health services will expand their share of GDP at the expense of manufacturing and construction, and a small decline in the total share of everything else.

A scenario like this has two significant implications:

- When the investment boom peaks and engineering construction slows back, and once mining output has settled on its long-term trend growth of around 4 per cent, the remaining 90 per cent of the economy must on average expand by a little under 3 per cent. Manufacturing and construction however, will be growing less than 3 per cent.
- With the exception of mining, most output growth will occur in industries with below average labour productivity. In terms of levels mining is a very high productivity industry and health services is a fairly low productivity industry. Manufacturing is currently an above average productivity industry and construction a little below average. In summary, and without doing the sums, we might expect the shift of industry composition to be about neutral in terms of productivity growth.

(6)

The composition of employment

In terms of employment, the story may continue to be quite different. In most advanced economies the industries that create most of the jobs are not the industries that also add the most value. Australia has in recent years been an

exception to the rule in that mining and construction have both increased their employment share and this shift has helped labour productivity. Over the coming decade this is less likely to be true. I assume that labour productivity in mining, which has been falling, will begin to pick up seriously as major new developments come on stream in the second half of the ten year period. This is particularly true in LNG and iron ore, both of which have very small operational workforces compared to output. The manufacturing workforce will continue to decline. Most employment growth will be in industries with below average productivity, as indeed has been the case for the last decade or two.

This implies that though manufacturing, finance, mining, information, transport and utilities will be capable of making significant contributions to labour productivity and MFP growth, the required productivity growth rates overall will not be attainable without sustained productivity improvement in service industries such as health, education, and wholesale and retail.

(7)

Some issues posed by the projection

One interpretation of this exercise is to conclude that after two decades of uninterrupted expansion all that is required is to continue on pretty much the way we are going now. I think it's true that there is no obvious constraint – capital, labour, social attitudes, economic policy settings, the rest of the world - that presents an insuperable impediment to a continued expansion. That is not of course to say that it will continue – only that there is no obvious reason why it should not, and no obvious change we need to make that would then permit it to continue.

There are of course plenty of ways to improve the functioning of the Australian economy. The tax system can be improved. We need better broadband, better goods and passenger transport, a more sensible allocation of water, better education and training at all levels, better business management and a better workplace culture etc. etc. We can identify policies which could make the expansion more assured, or bigger, or which could mitigate some of its adverse properties, or which could help set the economy up for challenges beyond the projection period. But in respect of most of our shortcomings, we have in fact much improved over the last two decades and in any case it is self evident that none of the deficiencies have been sufficiently serious to prevent Australia's economic expansion. Taken one by one, many of these improvements would not make a big difference to Australian prosperity but they would all help. After 20 years of economic success we have surely arrived at a point where we do not need to promise too much from any single change or threaten imminent disaster if the change we propose is not speedily adopted.

But to my mind the most striking conclusion of this exercise is that it all comes down to the services sector. Over the next decade we will look to the services sector to account for almost all employment growth, and the greater part of output growth. Once the growth of mining export volumes peaks and settles down, we will look more and more to services sector exports to constrain the growth of current account deficits and net foreign liabilities. Yet we also know that many components of the service sector have low levels of productivity, and the impact of these on overall productivity growth will be amplified if they grow faster than the economy as a whole and particularly if employment growth in those industries is at a faster rate than employment growth as a whole.

But it is not an entirely intimidating problem. There are some services sectors, including for example mining, financial, and professional and technical services that generally have quite high productivity levels. There are also plenty of areas in relatively low productivity industries such as education, health and travel services, that have high productivity levels. There will certainly be a rapidly expanding market for services in Asia. Finally, service sector productivity is all about human capital, which we can enhance through education, training, and migration.

¹ The projection assumes population growth of 1.5 per cent, employment growth of 1.5 per cent and labour productivity growth of 1.5 per cent. The employment projection assumes increasing net migration and successful efforts to slow the decline in the participation as the population ages. Both issues are later discussed. For nominal values I assume consumer price inflation of 2.5 per cent, and I assume that that GDP deflator has the same value.

² This supposes that Europe, the US and Japan cannot consistently achieve growth in GDP per head of 1.5 per cent because (1) in Europe and Japan the population is ageing more rapidly so employment growth will be slower than population growth, even if labour productivity is similar to Australia's and (2) all three have major sovereign debt problems that one way or another will weigh on output growth and (3) in industry terms, all three will be more affected than Australia by sluggish growth in manufacturing and finance.

³ The calculation here is that net capital stock is three times GDP, and depreciates at 5 per cent a year. I assume the growth of net capital stock is the same thing as the growth of capital services. We require investment of 15 per cent of GDP to meet depreciation, and the investment of 9 per cent of GDP to add 3 per cent to the net capital stock. I use a capital coefficient of 0.4 to calculate that to run labour productivity at 1.5 per cent when employment is growing at 1.5 per cent I need MFP to equal $1.5 - 0.4(3-1.5) = 0.9$ per cent

⁴ This calculation takes today's net foreign liabilities to GDP ratio of 60 per cent and supposes the net rate of return is 7 per cent, giving a net income deficit of 4 per cent of GDP. Nominal GDP is expanding 5.5 per cent a year, and the ratio of net foreign liabilities to GDP is stabilised if those liabilities also increase at 5.5 per cent. This implies a current account deficit of so 3.3 per cent of GDP.

⁵ If investment including government investment is 23 per cent of GDP and exports 25 per cent of GDP and imports 24.3 per cent of GDP, then household and government consumption could be as high as 76.3 per cent of GDP ($23+25+76.3-24.3=100$). Assuming government consumption is one quarter of total consumption, household consumption could be as high as 57 per cent of GDP – a little higher than today’s 54 per cent (nominal) or 56 per cent (real)

⁶ See most recently Dean Parham’s April 2012 PC paper *Australia’s Productivity Growth Slump: Signs of Crisis, Adjustment or Both?*

⁷ In the four quarters to the March quarter 2012 market sector labour productivity was up 5.3 per cent, so its possible that we are beginning to see a recovery in productivity.