Wrap-up Discussion

1. John Edwards

The Mining Boom and the Productivity Slowdown

The eight papers presented at this Conference illuminate the major economic issues and events of the 2000s in Australia. Many of these issues continue to present challenges to policy in the new decade, so the Conference has not only helped us to understand where we are coming from, but also where we are, and where we are going.

There has been agreement I think that it was on the whole a pretty good decade for Australia. It's true, as a number of the papers reminded us, that output growth was on average slower in the 2000s than in the 1990s. It's also true that productivity growth was slower than in the preceding decade. And while the rise in wealth during the decade was formidable, by the end of the decade household wealth was markedly lower than it had been some years earlier.

Yet Australia avoided the recession in many advanced economies at the beginning of the decade, and also avoided much of the damage from the global financial crisis (GFC) at the end of the decade. As a result, Australia's performance compared with other economies improved, even while its performance compared with the previous decade deteriorated. Australian output expanded by a little over one-third in the 2000s compared with four-tenths in the 1990s. But whereas Australian growth outpaced the United States by only one-tenth in the 1990s, Australian GDP growth in the 2000s was double US GDP growth over the period.[1]

The broad story of the decade was, as Jonathan Kearns and Phil Lowe point out in their paper, divided into two overlapping halves. The first half was dominated by the resumption of a housing boom from the previous decade. The second was characterised by much higher prices for Australian coal and iron ore, the GFC, and the sharp change in the composition of growth still evident today.

In these comments I want to talk a little about the mining boom, and a little about productivity.

Different deflators, different stories

One preliminary observation is that the way the contributors to the Conference evaluated the decade was influenced to some extent by the choice of deflators. This is largely, though certainly not entirely, because the change in the volume of mining output over the decade was relatively small compared with the change in its value. Mining volume increased by a little over a third over the decade, while the value of mining output increased two and a half times.

1 Comparing the change in real GDP between 2000:Q1 and 1990:Q1, and 2010:Q1 and 2000:Q1 for the two economies.

Partly because of that gap, nominal GDP very nearly doubled over the decade, while real GDP increased by only a little over one-third. There was also a big gap between the GDP deflator and the consumer price index (CPI), for similar reasons. Over the decade, the GDP deflator rose by a little over 40 per cent, while if we exclude the impact of the goods and services tax (GST) the CPI rose by a little over 30 per cent.[2]

Using real GDP we miss most of the increase in the value of exports, which has affected profits and wages and taxes. We can instead use nominal GDP, which perhaps gives a better sense of the rise in incomes. But this measure also includes an element of general inflation, which has not added to real incomes. It also fails to include much of the impact of price changes in imports, since imports are not part of domestic output.

The Australian Bureau of Statistics (ABS) real gross domestic income (RGDI) and real net national disposable income (RNNDI) measures, which take into account the impact of higher export prices and lower import prices in increasing the purchasing power of Australian incomes, offer yet another way to measure income changes. Over the decade RGDI increased by 48 per cent and RNNDI by 42 per cent. By switching deflators for imports and exports, these measures make real imports look smaller and real exports bigger. But we need to bear in mind that these measures do not correspond to an increase in consumers' purchasing power over their own shopping basket. The changing terms of trade have not substantially affected the cost of food or housing or education or health care, or of most other services provided to Australians. Nor has the improvement in the terms of trade increased the value of savings, unless we assume the improvement persists for quite a long time.[3]

The choice of deflators is highly relevant to evaluating the change in real wages, an issue remarked on by Jeff Borland and by Kearns and Lowe. As Kearns and Lowe point out, nominal wages cannot increase faster than productivity plus inflation, if the profit share is stable. However the 'inflation' we are referring to here is the GDP deflator, not the CPI. If nominal wages rise less than the deflator plus productivity, the profit share will rise. This is exactly what had been happening for many years. If the profit share is rising it is difficult to argue that wage increases are causing inflation. The same logic explains the wide gap between the very modest growth of real wages from an employer's point of view (nominal wages deflated by the GDP deflator) and the quite reasonable growth of real wages from the employee's point of view (nominal wages deflated by the CPI).

The mining boom

The main issue I want to talk about is the extent to which the story of the Australian economy over the decade, and particularly in the second half of the decade, is primarily about a response to a terms of trade shock.

The paper by Kearns and Lowe demonstrates the significance of the rise in commodity prices and the terms of trade shock. The paper by Ellis Connolly and David Orsmond presents some different ways of assessing its magnitude.

2 Increase in the CPI calculated from 2000:Q3 to 2010:Q3 to exclude the impact of the GST.

3 Deflating the increase in the value of nominal GDP by the change in the CPI over the decade, however, would give an even higher increase in the measure of 'real' GDP than would RGDI.

The objective of the Connolly and Orsmond paper is to tell us something about what is happening rather than what should be happening, so it is not unwisely prescriptive about the underlying theory. A sharp rise in commodity prices increases the price of these goods relative to non-traded goods, so there is a rise in the real exchange rate. The price of imports should fall relative to domestic production. In response to the price movements we would expect to see labour and capital move into the export sectors with higher prices, and we would expect to see imports increase relative to domestic substitutes. Overall we would expect to see rising domestic incomes, both from the higher exchange rate and also from additional exports.

But we also know that the relative magnitudes of these effects are difficult to predict and untangle. Substitution between domestic production and imports may see non-tradables output falling, but the income effect may be enough to overwhelm the substitution effect.

Much depends on the specific character of the industries involved, and here the Connolly and Orsmond paper is particularly valuable. They estimate that the mining industry is 80 per cent foreign-owned, so we know that 80 per cent of dividends and 80 per cent of the increased value of the assets created by higher prices or reinvested profits belongs to non-residents. Also, the industry employs 2 per cent of the Australian workforce and much of the capital equipment used in both the construction and operational phases of mining is imported.

Australian residents benefit from goods and services produced locally and used by the industry, from wages to Australian resident employees, from one-fifth of the profits and one-fifth of the increased value of mining assets, and from taxes on the mining industry.

All up, Connolly and Orsmond estimate that Australian residents may capture around half of the revenue from mining. If we think of this calculation as a sort of rough input-output table we can map it on to value add or GDP. If we take the last five years and add up all the additional revenue from metal ores and minerals and all the additional revenue from coal, half of it would be equivalent to around 7.5 per cent of the increase in nominal GDP over the period. That is of a similar magnitude to the alternative measure of the contribution of mining value add to real GDP, which over the whole decade was around 10 per cent. The nominal revenue or sales measure includes the Australian components of investment inputs and operational inputs to mining but excludes income paid offshore and imported components, while the real value add measure is before the removal of imports and income paid offshore, but excludes value add attributed to earlier links in the supply chain.

Measured either way it is a very significant contribution, but the comparison reminds us that 90 per cent of the growth of the Australian economy over the period arose from sources other than mining, and that 98 per cent of employees are doing something other than mining.

Measured as the industry value add contribution to real GDP growth over the decade, mining accounted for less than two-thirds of the contribution made by the finance industry. Mining's contribution was roughly equivalent to the contribution made by construction, and not very much more than the contribution made by the increase in the value add in the retail and wholesale sectors combined.

Nor was the rate of growth of mining output over the decade particularly fast. It increased at around the same rate of growth as real GDP as a whole, or a little over one-third in total. This

is quite quick – but not nearly as quick as the growth in health care & social assistance, finance & insurance services, construction or professional, scientific & technical services, all of which expanded output by half as much again. Even transport, postal & warehousing services increased output faster than mining.

Surprisingly, the ABS annual industrial production series shows us that while mining output increased strongly in the 2000s, it increased more quickly in the 1990s and even more quickly in the 1980s.

Another perspective on mining over the decade is that in terms of chain volume GDP the relative size of the industry today is much the same as it was twenty years ago. Using annual data the mining industry was 9 per cent of GDP in 1990, 9.3 per cent in 2000 and 9.5 per cent of GDP in 2010. In 1975 it accounted for 8 per cent of GDP, so even over more than three decades there has not been much change. Over the 2000s the production of coal, iron ore, bauxite, natural gas and manganese increased, while the production of oil, gold, lead and uranium fell and the production of copper, nickel and zinc remained much the same.

The narrowness of the mining boom is quite striking. Kearns and Lowe show that a large part of the contribution of mining to GDP is through increased business investment. Mining investment now accounts for around 4 per cent of GDP and is expected to increase to 6 per cent of GDP as new developments, particularly in liquefied natural gas (LNG), commence. But as we see from the work of Connolly and Orsmond, two-thirds of this investment is in just two industries – LNG and iron ore – which together employ 0.4 per cent of the workforce.

As mining investment grows over the next few years, it will also become more concentrated in LNG and iron ore. These are two industries that have quite small workforces, are mostly foreign-owned and are very capital intensive. Their production is often located far from population centres. They import their capital equipment and export their product. A lot can happen in those two industries without a big impact on the rest of the economy.

These considerations then raise the question of the extent to which we should think of what is happening in the Australian economy predominantly as an adjustment to a terms of trade shock centred in the mining industry. For example, how much of what is happening can be explained as a reallocation of resources from other industries into mining?

We know that as a small open economy in a large global capital market, Australia does not have to shift capital from other uses into mining. It can simply invest more in total, which is by and large what it has done. The large mining companies do not look to the Australian market to finance their investments – they look to global markets. We also know that at least two-thirds of the expansion of mining output will occur in sectors which employ very few people in the operational phase. It is therefore unlikely, or actually impossible, that very many Australians can shift out of what they are doing and get into mining. In fact, over the whole of the decade the increase in the mining workforce was just 1 per cent of total employment.

Much of the sense that the Australian economic story is largely about adjusting to the mining boom arises from the impact of a high Australian dollar on manufacturing, tourism and education services. We need to bear in mind, however, that there are a number of influences on the exchange rate quite apart from the price of metals. Because the GFC affected Europe and North America

far more than Australia, there is an unusually wide gap between Australian interest rates and interest rates in North America and Europe. Even without high prices for coal and iron ore, this rate difference would strengthen the Australian dollar. In trade, Australia is increasingly integrated with Asia, but in financial flows it remains integrated with Europe and North America. Other influences on the Australian dollar include the long-term decline of the US dollar, and the reluctance of most Asian nations to permit their currencies to freely float against the US dollar. These influences on the exchange rate are as much related to the consequences of the GFC as they are to the mining boom.

No doubt the expansion of mining output has a good way to run. Output of iron ore, coal and LNG is set to increase substantially over the next five years, as current mining investments reach the production stage. In the longer term, however, the rate of growth of mining output will slow. China's growth will slow a little; more of the growth will come from consumption and services, and the energy and metals intensity of its production will peak and then stabilise. India's peak metals demand is a long way off, but India has no need for our iron ore. At the same time other producers will have opened new capacity. Prices may well stabilise or even weaken a little in the meantime. From a higher base, Australian mining output increases will be limited to a rate consistent with the growth of metals consumption in the region, which at that point may be more like 4 per cent or 5 per cent a year.

I do not mean to suggest that the mining boom is unimportant. But I think there is a case to say that in assessing the experience of the 2000s we need to give weight to other influences as well – the most notable being the GFC of 2008.

Kearns and Lowe provide some very useful perspectives on the issue, and Kevin Davis has many excellent points to make, but I think it is generally true that we rather underplay the impact on the economy of the GFC.

This is because Australia emerged from the crisis in vastly better shape than Europe and North America. If we think of the impact of the GFC compared with other episodes in Australia's recent economic experience, however, it was a very big event. It was the sharpest downturn in GDP since the early 1990s. It saw the biggest change in official interest rates in the shortest time in our memory. It turned a fiscal surplus into a deficit. It obliged the Government to guarantee Australian bank deposits and some other bank liabilities. It saw the biggest decline in household wealth for generations. Many of these impacts have lingered. The gap between Australian interest rates and those in Europe and North America remains very wide. Household wealth has not yet recovered its 2008 level (and the decline in wealth coincided with the discovery by baby boomers that they were on the verge of retirement). The Federal Government is still working to restore a fiscal surplus, after years in which Australians became accustomed to tax cuts and other benefits from each successive budget. After nearly a decade of fiscal roominess, we are back to difficult trade-offs and unpleasant choices. The baby boomers are frightened. These circumstances have contributed to the strident and cheerless tone of Australian politics, to the strong currency, and also to the weakness of household consumption and housing construction.

The more we take into account the lingering impact of the GFC, the more we are able to think of the widely discussed two-speed economy as the result of the separate influences of the GFC and of the mining boom, rather than as one process explained as a terms of trade shock.

Productivity

Saul Eslake's interesting and thoughtful paper on productivity reminded us that, at least compared with the previous decade, measured productivity performance was poor through the 2000s.

Comparing the 1990s to the 2000s, it is surely true, as Eslake argues, that the amount of structural economic reform was greater in the earlier decade. In the 1990s Australia switched from the most centralised system of wage fixation it had had for many decades to one based on enterprise bargaining. The switch occurred after a period of sustained labour shedding, and of industry adjustment to the decisions taken in 1988 and 1991 to lower tariffs. The usual productivity gain in recovery from a deep recession was enhanced and prolonged by these special factors. It was probably also helped by the proliferation of cheap computing and telecommunications applications, which boosted productivity in retail and wholesale trade and in the service sector more generally.

No doubt productivity would be enhanced with further economic reforms, though surely the gains would not be comparable to the big gains available from reform in the 1980s and 1990s. The gains from greater competition in selling medicines and newspapers, for example, would be useful, but not immense. As John Quiggin has pointed out, in the longer term, productivity will come back to technology and innovation, to improvements in human capital, and to our national capacity to invent, or adopt and adapt productivity-enhancing innovations – though it is also true that economic reform can spur innovation.

The evidence over many decades of rising employment, to something close to full employment, and rising productivity, suggests that in the long run there is no trade-off between employment growth and productivity. But in the short and medium term there is an interaction. In the 1980s Australia had the fastest employment growth in the OECD, and a dismal rate of growth of productivity. In the 2000s the big fall in unemployment and the big increase in participation brought into employment workers with lower output per hour worked. However, to the extent that it is caused by higher participation or the reduction in long-term unemployment, lower productivity growth is not something we should complain about.

In looking for the causes of slower productivity, perhaps we might give more thought to the composition of additional employment through the decade.

Productivity varies enormously between industries. On my admittedly rough numbers,[4] the average employee in mining produces 20 times the output of the average employee in the accommodation & food services industry. The average worker in finance & insurance services is 10 times as productive, and in electricity, gas, water & waste services 5 times as productive, as a worker in food and accommodation. Compositional changes in output and employment can therefore have quite a big impact on overall output per employee.

Because mining is so highly productive it pulls up the Australian average level of productivity. Ranking them by industry gross value added divided by the number of employees, only 6 of the 19 industries which the ABS uses to categorise GDP and employment by industry are above the average level of productivity. The remaining 13 are below it.

4 I divided annual industry real gross value added by employment in the middle of the month of the first quarter of the year.

Those below the average level of productivity, however, accounted for a little over 90 per cent of employment growth in Australia over the decade. If we take the market sector alone, then three-quarters of employment growth in the last decade was in industries with below-average productivity.

All other things equal, this compositional effect in employment growth has the arithmetic result of dragging down the average level and the growth rate of productivity. It will result in falling average productivity and thus a declining productivity growth rate overall, even if productivity per person employed in each industry remains the same, or actually to some extent increases.

But all other things have not remained equal. While the proportion of employees in sectors with below-average productivity has increased over the decade, the proportion of output produced by high productivity industries has increased.

At the beginning of the last decade, around 22 per cent of jobs were in the high productivity industries, while at the end of the decade the share was down to 19 per cent, a compositional change towards lower average productivity. At the same time the share of output accounted for by high productivity industries rose; from 28 per cent to 36 per cent.

These two moves might normally be expected to offset each other – except that in three of the high productivity sectors, productivity fell. These industries were mining, utilities, and rental, hiring & real estate services. On my figuring, the fall in productivity in mining and utilities was in the order of one-third. The Productivity Commission has pointed to the decline in mining and utilities productivity as being important elements of the slowdown in aggregate productivity.

So here I think we may have a somewhat different story about productivity growth.

Encouragingly, this possible explanation implies that, despite the compositional drag of higher employment in low productivity industries and declining productivity in three of the high productivity industries, there must be quite significant improvements in productivity in some industries to produce an increase in productivity for the economy as a whole. On my numbers, those industries in which productivity growth was well above the average include information, media & telecommunications, farming, finance, wholesale and retail trade, manufacturing, administration & support services, and construction – in that order.

It is also encouraging that, as the Productivity Commission pointed out a while ago, the fall in productivity in mining and in utilities is explained by particular and temporary circumstances. We may therefore expect that productivity growth in these industries will resume. In mining it will resume when the volume of output begins to respond to the huge investment of recent years. In electricity, gas, water & waste services it will pick up as output and demand catch up to new capacity.

A service sector economy

The impact of compositional changes in output and employment over the 2000s is something we perhaps need to think more about. If we rank industries by their contribution to output growth in Australia over the decade, the first five industries are financial & insurance services, construction, mining, professional, scientific & technical services, and health care & social assistance. If we rank them by contribution to employment growth, then health care & social assistance is at the top by

far, construction is still in second place, professional, scientific & technical services in third place, and then we have public administration & safety, and education & training. Australia shares the experience common to many economies that the industries which grow the fastest or contribute most to the growth of GDP are not often the industries which contribute most to the growth of employment.

Those two lists are in different orders, and both are different to a ranking of industries by the level of productivity. In this productivity-ranked list, the first five are mining, finance & insurance services, electricity, gas, water & waste services, rental, hiring & real estate services, and manufacturing.

There is no industry which is in the first five on all three lists, though construction and professional, scientific & technical services are in the top five for both contribution to output growth and contribution to employment growth.

If we compare the ranking of industries by contribution to employment growth to the ranking of industries ordered by the level of productivity, we need to go down to number eight on both lists to find the first common industry, which is transport, postal & warehousing.

This is another way of saying that employment growth is predominantly occurring in industries with low levels of labour productivity compared with the Australian average.

I think this is fine. It is a market outcome and our experience is similar to that of other advanced economies. We need lots of jobs requiring long training and complex skills, but we also need a lot of jobs with low or entry-level skills for people who, for one reason or another, don't have high skills, for secondary family incomes and for temporary and part-time work.

Another way of looking at employment is to recognise that over the entire decade, the industrial sector as a whole – manufacturing, mining and utilities – accounted for 1 net new job out of every 30.

What this reminds us is that the big reallocation of labour in Australia is not from the rest of the economy to mining. It continues to be, as it has been for several decades, from industrial output to services and construction.

As we move through a new decade, we may well find that the story of the Australian economy is less about the impact of the mining boom, and more about this continuing transition to a service sector economy. We may also find that the policy challenges this transition poses are just as formidable as those of the so called 'two-speed economy'.

2. David Gruen*

Lessons about Fiscal Policy from the 2000s

Looking back on the decade of the 2000s provides an opportunity to reflect on what has changed, what has not, and what the experiences of the decade can teach us. For fiscal policy, the decade has been an eventful one, not only in Australia, but across the world.

In these comments I thought I would focus on what I see as the main lessons about fiscal policy from the 2000s. I have five broad lessons.

Lesson 1

Currency union without fiscal union is an accident waiting to happen.

The euro was created just over a decade ago in 1999, and by 2003, investors were buying 10-year bonds from the central governments of all the members of the euro area at an interest rate premium of less than 20 basis points over German 10-year bonds.

What was insufficiently appreciated at the time was the fragility of the euro area arrangements, in the absence of a fiscal union. One problem was the lack of effective mechanisms to discipline government borrowing. In the good times before 2007, the governments of some countries used their newly found capacity to borrow cheaply in international capital markets to accumulate levels of government debt that would prove unsustainable in the aftermath of the severe adverse shock of the 2008–2009 financial crisis. Certainly, neither bond markets nor rating agencies imposed such discipline in the good times.[1]

But the problems of currency union without fiscal union have turned out to be more serious than the problem of fiscal profligacy by some members. Currency union without fiscal union has meant that some countries with a track record of paying down government debt to quite moderate levels in the good times could no longer rely on even the automatic fiscal stabilisers when a big shock arrived.

A comparison of the evolution of sovereign debt levels and bond yields in Spain (within the euro area) and the United Kingdom (with its own currency and independent monetary policy) reveals this point starkly. Despite Spain's better fiscal track record over the past decade, in the aftermath of the financial crisis, markets responded to Spain's lack of control over the currency in which its debts are denominated, and its inability to reignite domestic growth via expansionary monetary policy and currency depreciation, by imposing a much larger risk premium on Spanish bonds than on UK bonds. This self-fulfilling loss of confidence left Spain with little choice but to override the automatic fiscal stabilisers and impose procyclical fiscal austerity at a time of high unemployment (De Grauwe 2011).

* Australian Treasury.

1 Over the five years from 2003 to 2007, 10-year sovereign bonds issued by Greece, Ireland, Italy, Portugal and Spain all traded at an average interest rate premium of less than 25 basis points above 10-year German bonds. Furthermore, none of the major rating agencies downgraded the sovereign debt of any member of the euro area despite some building up levels of debt that would ultimately prove unsustainable. The first downgrade occurred in mid January 2009, when Standard & Poor's downgraded Greek sovereign debt from A to A-.

Lesson 2

The longer-term goal for monetary policy remains much clearer than for fiscal policy.

The global move to independent central banks with price stability mandates was a major achievement of the 1980s and 1990s.[2] Most independent central banks achieved and sustained low single-digit rates of consumer price inflation, which has become the widely agreed longer-term goal for monetary policy. (Although there is, of course, more to monetary policy than that!)

For fiscal policy, however, the appropriate longer-term goal for the stock of government debt is less clear. In good economic times, should governments aim for a level of net government debt that is a small fraction of annual GDP? Alternatively, should they aim for zero, or even negative net government debt?

The financial crisis certainly suggests that the Maastricht criterion for gross government debt to be no higher than 60 per cent of GDP, or even the UK's net government debt ceiling of 40 per cent of GDP, are probably too high, because they leave insufficient fiscal space to respond to unforseen adverse economic shocks. But beyond that, the experience of the 2000s has not provided much guidance about what should be the appropriate longer-term goal for net government debt.[3]

In Australia's case in the late 2000s, this issue has been couched in terms of whether Australia should save significantly more of the bounty from the mining boom in a sovereign wealth fund, to further improve the already strong balance sheet position of the Australian public sector. Curiously, that question has often been discussed without reference to the high and rising stock of financial assets in the Australian superannuation system, part of which represents accumulated contributions from the public sector (Gruen and Soding 2011).

Lesson 3

The achievement of monetary policy's longer-term goal of low single-digit inflation has important benefits, but also one serious drawback. It means that some economic shocks are now too big for monetary policy and the automatic stabilisers to cope with on their own. A significant discretionary fiscal stimulus is also desirable in response to such shocks.

But does discretionary fiscal stimulus work?

In the important case of a country with a floating exchange rate and high capital mobility, the standard Mundell-Fleming model predicts that discretionary fiscal stimulus will have little or no expansionary effect on domestic economic output because it is crowded out by an appreciation of the exchange rate and the associated deterioration of net exports.

2 Indeed, this global change in monetary policy governance is taken sufficiently for granted that it didn't rate a mention at this year's Conference. It remains to be seen whether it will continue to be taken for granted.

3 There are other considerations that further complicate the issue. Governments that face more serious medium-term fiscal pressures because of a strongly rising age dependency ratio, and/or public health costs, should presumably aim for lower levels of government debt before these pressures become acute. There are also conceptual issues about whether government debt is the appropriate 'stock' concept for fiscal policy, as opposed to a broader measure such as government net worth.

This standard Mundell-Fleming result seems broadly correct for countries with very high levels of government debt, when fiscal solvency may be brought into question, and also for countries with high trade shares.[4]

A well-known empirical study defines a threshold of exports plus imports equal to 60 per cent of GDP, and estimates that for countries with trade shares above this threshold, fiscal multipliers are actually negative on average (Ilzetzki, Mendoza and Végh 2010).

But for less open economies with low government debt like Australia, fiscal multipliers for temporary discretionary fiscal stimulus appear to be positive and sizeable. For example, the International Monetary Fund's (IMF) Global Integrated Monetary and Fiscal model has fiscal multipliers for temporary discretionary fiscal stimulus for Australia of 0.5 for transfers to liquidity-constrained consumers, and 1.2–1.5 for government investment (Werner Schule, Deputy Division Chief, Asian and Pacific Department, IMF, 2011, personal communication, 1 August).[5]

Notwithstanding the evidence to the contrary, the standard Mundell-Fleming result for countries with a floating exchange rate and high capital mobility – that discretionary fiscal stimulus has little or no expansionary impact on domestic GDP, even for the first few years – is sometimes still invoked, even for countries like Australia with relatively small trade shares. For example, Valentine (2011, p 40) argues that the Australian discretionary fiscal response to the financial crisis was 'ineffective and, therefore, unnecessary', a conclusion he suggests is 'consistent with the accepted doctrine (at least outside Australia) that fiscal multipliers are close to zero in small open economies with a floating exchange rate'.

Valentine supports this statement with reference to the study mentioned earlier – Ilzetzki *et al* (2010). In fact, however, that study provides evidence supporting the *opposite* conclusion: that fiscal multipliers are instead positive and sizeable for countries like Australia. Bear with me for the explanation.

Among other things, Ilzetzki *et al* establish two interesting sets of results for their large sample of countries. First, for countries with flexible exchange rates, fiscal multipliers over the first few years are effectively zero on average, while they are positive and sizeable for countries with fixed exchange rates (see their Figure 7). Second, as explained above, on average for countries with high trade shares (exports plus imports greater than 60 per cent of GDP) fiscal multipliers over the first few years are estimated to be negative, while they are positive and sizeable for countries with low trade shares (their Figure 10b). With both a flexible exchange rate and a low trade share, Australia fits into the first category for the first set of results and into the second category for the second set of results.

For this sub-sample of countries, with both a flexible exchange rate and a low trade share, the results are virtually identical to those for the full sample of low trade share countries – with fiscal multipliers that are estimated to be positive and sizeable over the first few years. That is, when it comes to fiscal multipliers, the trade share dominates the exchange rate regime (although the

4 For countries with high trade shares, the standard Mundell-Fleming result applies only for unilateral fiscal actions. By contrast, for a global fiscal response to a global economic shock, fiscal multipliers are positive and sizeable, even for these countries, because spillover effects via trade work both into and out of the country in response to global fiscal stimulus.

5 By comparison, the Australian Treasury has used a somewhat larger multiplier for transfers (0.6) and a smaller multiplier for government investment (0.85) when estimating the domestic output effects of the Australian discretionary fiscal response to the financial crisis.

results have larger standard errors because the sub-sample of countries with both characteristics is smaller than the full sample of low trade share countries (Ethan Ilzetzki, 2011, personal communication, 6 September).

Lesson 4

What about fiscal consolidation? Can it be expansionary for the economy?

The answer to this question is yes, but mainly in countries where doubts about solvency have raised borrowing costs, and the consolidation could reduce these costs sharply. For example, fiscal consolidations in Denmark in 1983 and Ireland in 1987 (countries that had experienced rapid deterioration in their sovereign debt ratings) both appear to have been expansionary for their economies and were associated with big falls in long-term bond rates (Giavazzi and Pagano 1990).

However, these cases are rare (IMF 2010) and in most examples in the historical record, fiscal consolidation has been contractionary for the economy for the first few years.

Importantly, the contractionary effects of fiscal consolidation have been smaller in countries with a flexible exchange rate and independent monetary policy. For these countries, on average, the domestic output effects of fiscal consolidation have been reduced significantly by lower policy interest rates and a depreciation of the exchange rate (IMF 2010).

Of course, the interest rate offset is not available if interest rates are already effectively zero, and the exchange rate offset will be muted or absent if fiscal consolidation is occurring simultaneously all across the globe.

Lesson 5

In countries with high levels of government debt, political economy considerations can lead to a chosen path for fiscal policy that appears far from optimal.

In many advanced countries, a long history of fiscal deficits followed by the big adverse shock from the financial crisis has led to high (though not unprecedented) levels of government debt as a share of GDP. Countries in this position that are part of a currency union then have very limited options: markets demand procyclical fiscal austerity.[6]

But even in countries with their own currencies where governments are now borrowing long-term at extremely low interest rates (indeed, with CPI-indexed bond yields around zero), the political process has delivered fiscal responses that seem far from optimal.

Thus, for example, both the United Kingdom and the United States have embarked on significant fiscal consolidation while their economies remain stuck in liquidity traps. There can be little doubt that substantial long-term fiscal consolidation and reform are needed in both countries. But the optimal fiscal response is surely *contingent* on economic outcomes – just as is the case for optimal monetary policy.

From an economic viewpoint, there are undoubtedly substantial benefits from announcing and legislating far-reaching fiscal consolidation that begins once the economies have emerged from

6 Even though Spain did not follow this path – its average fiscal balance was a surplus of 0.9 per cent of GDP over the five years to 2007 – markets have nevertheless demanded procyclical fiscal austerity in Spain more recently, as discussed earlier.

liquidity traps, and resumed good economic growth. But it seems clear that in both countries, political considerations have rendered anything close to this optimal contingent fiscal response well-nigh impossible.

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3. John Quiggin*

The Lost Golden Age of Productivity Growth

Economic policy debate in Australia is dominated by the belief that the nation's economy experienced a surge in productivity in the mid 1990s. The surge is attributed to programs of microeconomic reform that began in earnest with the floating of the dollar in 1983.[1] It was particularly welcomed by advocates of microeconomic reform, given that the decade following the float was characterised by relatively weak productivity growth and macroeconomic performance that began well, but ended in the deep recession of the early 1990s and the prolonged period of high unemployment that followed.

Discussions at the RBA Conference held in 2000 on the Australian economy in the 1990s reflected almost universal belief in the productivity surge and the future benefits that continued strong productivity growth might be expected to yield. A few participants, notably including Charles Bean, argued that the productivity growth of the 1990s was derived from once-off improvements

* This paper may be regarded as a sceptical counterpoint to the mainstream interpretation presented by Eslake (this volume). However, it was prepared separately and not as a response to Eslake. I thank Daniel Quiggin and participants at the Conference for helpful comments and criticism.

1 The Whitlam Government's tariff reforms, and its replacement of the old Tariff Board with the Industries Assistance Commission, now the Productivity Commission, are generally seen as a 'false state', largely reversed by subsequent protectionist measures.

and that the rate of growth might be expected to return to its long-term value, though at a higher level.

At the time, I was alone in arguing that the surge in measured productivity was largely illusory, reflecting an increase in work intensity (Quiggin 2000), and predicting:

> Much of the apparent productivity growth of the 1990s [is likely to dissipate] as workers find ways of winding back the increase in the hours and intensity of work extracted through the unilateral repudiation of implicit labour contracts in this period. (Quiggin 2004, p 23, first version 2002)

This prediction has been borne out. Having risen at around 2 per cent per year between 1995 and 1999, the Australian Bureau of Statistics (ABS) estimate of multifactor productivity (MFP) has shown no net increase over the period since then. Over the period 2003/04 to 2007/08 there was an overall decline of 0.2 per cent per year. As a result, the average annual rate of measured MFP growth since the beginning of the supposed productivity surge in 1993/94 has been 0.8 per cent, marginally below the rate for the entire period since 1964/65.

More generally, with an arbitrary choice of starting date (no later than 1993/94) and ending with the most recent data, for 2009/10, Australia's long-run rate of MFP growth has been within the range 0.8 per cent to 1.0 per cent. Estimated MFP growth for the earliest period in the data, covering the end of the post-war boom, was slightly higher but within the range of measurement error. Statistical analysis mostly fails to reject the null hypothesis of a constant rate of productivity growth over the period since 1964/65 (Hancock (2005); McKenzie (2005); Quiggin (2006); but see also Parham (2005a)).

Despite the accuracy of the predictions it generated, the view that measured changes in MFP growth rates are driven by changes in work intensity commanded no more support at the 2011 Reserve Bank Conference than it did in 2000. The same is true of the broader policy discussion.

The idea that the productivity miracle of the 1990s might instead have been a mirage is almost never raised. Instead, two contradictory accounts have emerged. These accounts share an unquestioning acceptance of the measured productivity surge of the 1990s, but differ in their account of the 2000s.

The dominant view among economists is one of a 'lost golden age'. The low measured productivity growth of the 2000s is taken as reflecting a real deterioration in performance, which is attributed to a slowdown or reversal of the process of microeconomic reform. In this analysis, the favourable terms of trade associated with high world prices for minerals and strong demand from China are seen as having allowed Australians to avoid the harsh realities of the need for continued productivity growth.

An alternative view is that while the 1990s productivity surge was real, the reversal in measured productivity growth in the 2000s is attributable, at least in large part, to special factors and measurement problems. This view was maintained vigorously by the Productivity Commission during the early 2000s and continues to be reflected to some extent in its discussion.

The 'conventional wisdom' implicit in most discussions of the Australian economy is a somewhat incoherent mixture of these two ideas. On the one hand, in discussions of microeconomic issues, the 'lost golden age' view is dominant, and is reflected in calls for a new round of microeconomic reform. On the other hand, in discussions of Australia's strong macroeconomic performance

during the global financial crisis (GFC), a considerable share of credit is commonly given to the flexibility derived from microeconomic reform.

Productivity: a problematic concept

At a conceptual level, productivity seems like a simple generalisation of straightforward concepts such as crop yield (the output of a given crop per unit of land) or the number of units of a given good a worker can produce in an hour. In national accounting, the homogeneous output of these examples is replaced by an output index such as GDP. Although index numbers raise a variety of complex issues, GDP indices are so familiar that they are normally treated, even by economists who should know better, as if they are objective numbers like outputs of wheat or widgets, rather than, as they are in reality, the outputs of economic models. Multifactor productivity measures similarly replace homogeneous input measures such as hours worked with indices aggregating two or more input factors.

Although index number problems are important, these problems are not central to the difficulties with productivity measures derived from national accounts. The main problems are that these measures omit important inputs, most importantly those of natural resources, and fail to take account of the intensity with which capital and labour are used. To understand this problem, it is useful to consider the ways in which sustainable improvements in living standards can be generated.

The most important, by far, is technological progress, that is, the introduction and adoption of technological innovations such as new products and improved production technologies. Krugman's much-cited statement that '[p]roductivity isn't everything, but in the long run it is *almost* everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker' (emphasis added, Krugman (1997, p 11)) would be equally valid if the word 'productivity' were replaced by 'technological progress'.

For a small country like Australia, the rate of technological innovation is essentially exogenous. National policies can affect the rate of adoption of new technologies. In particular, new technologies are usually more skill- and knowledge-intensive than old technologies, so rapid adoption of new technologies is feasible only with a skilled and educated workforce. Hence, investment in human capital can yield high returns.

The second potential source of improvement in living standards is more efficient use of endowments of capital and labour. This may be achieved either as a result of good macroeconomic outcomes (full/optimal employment of labour and capital) or through good microeconomic outcomes (output closer to the technological frontier for individual enterprises and industries).

Productivity measures, at least conceptually, exclude benefits arising from good macroeconomic outcomes, but include the benefits of good microeconomic outcomes. In practice, however, the two are intertwined. Capital utilisation generally declines during recessions, while capital may be operated to yield unsustainably high service flows during booms. However, standard productivity measures are based on the assumption that capital services are proportional to the capital stock. As the OECD (Schreyer 2001, p 73) observes, attempts to include proxies for capital utilisation have proved problematic.

Measurement of labour input is even more problematic. On the one hand, labour hoarding during recessions tends to reduce productivity, producing a procyclical pattern of labour productivity. On the other hand, increased employment during expansions results in the recruitment of more marginal workers, producing anti-cyclical productivity. Historically, the first of these tendencies has predominated, producing procyclical productivity. But as labour hoarding has declined, notably in the United States, productivity has been more anti-cyclical.

The use of a measure designed to include the benefits of good microeconomic outcomes and exclude the benefits of good macroeconomics is consistent with the thinking that has dominated Australian policy discussions since the 1980s, but it is deeply misleading. The primary reason for Australia's relatively strong growth in income per person since the early 1990s is the fact that, through a combination of good luck and good policy decisions, we have not undergone a recession.

The issue is further clouded by the fact that the ABS reports MFP estimates in 'productivity cycles', typically lasting about five years. The productivity cycle is a data-driven concept, with no explicit theoretical basis. In particular, productivity cycles do not necessarily correspond to the business cycles and productivity cycles in different industries are largely uncorrelated. Nevertheless, Quiggin (2000) observed that, for the Australian economy as a whole, the MFP cycles reported by the ABS largely reflected the phases of the business cycle. A typical business cycle contained two productivity cycles, with productivity growth being stronger in the cycle corresponding to the expansion phase and weaker in the cycle corresponding to the contraction phase (Dolman, Lu and Rahman 2006).

The productivity cycle plays a crucial role in the myth of the 1990s productivity surge, since it allows the five years of strong productivity growth from 1993/94 to 1998/99 to be treated as a distinct period, while the weaker years at the beginning of the decade are discarded, and the evidence of a slowdown towards the end of the 1990s is disregarded. The result is a widespread, but false, impression that the 1990s as whole were a period of exceptionally strong measured MFP growth. In reality, the average rate of MFP growth for the two ABS productivity cycles from 1988/89 to 1998/99 was 1.6 per cent, above average but not exceptional.

In summary, productivity is not a particularly useful measure of economic performance. Even when correctly measured, productivity estimates combine the effects of long-term technological growth with a subset of the factors that determine variations in short-term performance.

In practice, accurate measurement is impossible. In the case of Australia's supposed productivity surge, the crucial problem is the failure to take account of changes in work intensity.

Work intensity and productivity

Labour productivity is typically measured in terms of output per hour worked. It is easy to see, however, that this measure is problematic. For example, enterprise agreements, and individual contracts adopted in place of awards, commonly eliminated breaks such as tea breaks. On the other hand, employees have always taken unauthorised breaks of various kinds. A notable example that has emerged in the last 10 to 15 years is the use of office computers to visit internet sites unrelated to work. Of much longer standing is the practice of making private phone calls

during paid time at work. Conversely, employers may demand unpaid overtime, or contact their employees with work requests outside paid hours.

Although these practices are regularly the subject of dispute, the normal situation is one of equilibrium, where some deviation from official hours is part of the wage bargain accepted more or less willingly by both parties. The hours of work reported to statistical agencies will reflect some, but not all, of the deviations from award-determined or contractually agreed hours.

How should these features of the labour market be reflected in productivity measures? At least conceptually, it seems clear that the appropriate measure is actual hours worked, rather than paid hours.

Now consider the case where the number of hours worked remains unchanged, but the pace of work varies. In some industries, such changes can be observed directly, and are the subject of explicit wage bargaining. The archetypal case is that of production line work; employers typically seek to increase the rate at which the line moves, while workers and unions slow it down.

The development of the word processor in the 1980s provides another example. Since the number of keystrokes could be measured directly, employers demanded higher rates, thereby precipitating an epidemic of repetitive strain injury (a problem that had previously existed but was typically diagnosed as an individual pathology rather than an occupational hazard).

There is, in principle, no difference between an increase in the number of hours worked and an increase in the pace of work. In both cases, standard economic logic implies that an equilibrium wage bargain will typically involve a commitment of hours and effort greater than the level that would be chosen by workers in the absence of a monetary incentive.

In particular instances, depending on labour market institutions, legal restrictions and so on, the bargained outcome may involve more or less hours and effort than would characterise a Pareto-optimal bargain. However, the general assumption is that, at the margin, increased hours and increased effort are equally costly to workers, when normalised by the payment required to elicit them.

It follows that, to the extent that increases in output are derived either from unmeasured increases in hours of work, or from increased intensity of work, there is no corresponding increase in productivity. If it happens that the hours or intensity of work were previously sub-optimal (or above the optimal level), there will be a net welfare gain (or loss), but this will be of second-order magnitude relative to the change in output.

Australian economic policy-makers have shown considerable confusion on this point. Some have explicitly asserted that working harder is a genuine source of productivity gains. For example, the Productivity Commission (1996, p 24) asserted that productivity gains could be achieved not only through resource reallocations but through people 'working harder and working smarter'. Fourteen years later, the Chairman of the Productivity Commission repeated an almost identical formulation (Banks 2011, p 16): 'Whether productivity growth comes from working harder or working "smarter", people in workplaces are central to it'.

The appearance of scare quotes around 'smarter' is revealing. Whereas in the 1990s this phrase was used in all seriousness, 'working smarter' is now understood as a piece of management jargon,

typically decoded as 'we're giving you more work to do with less resources, and it's up to you to figure out how to do it'.

More commonly, the association of reform with harder and less pleasant work is implicit. Standard discussions of microeconomic reform and workplace reform are full of references to 'cutting out fat', the 'chill winds of competition', and so forth. It is not hard for workers to discern where the fat is to be cut, or to observe that CEOs are usually equipped with well-padded windbreakers, even in cases where their mismanagement leads to an early (but generously compensated) departure.

By contrast, in debates over the validity of MFP statistics, most mainstream economists, and particularly those associated with the Productivity Commission, have denied that changes in work intensity are an important source of changes in measured productivity.

The mid 1990s saw an upsurge in public concern about the pace of work, work-life balance, stress and similar issues, which persisted into the early 2000s, leading to John Howard's description of the topic as a 'barbecue stopper'. From about 2000 onwards, with a strengthening labour market, resistance to work intensification and to employer demands for longer hours of work, became increasingly successful.

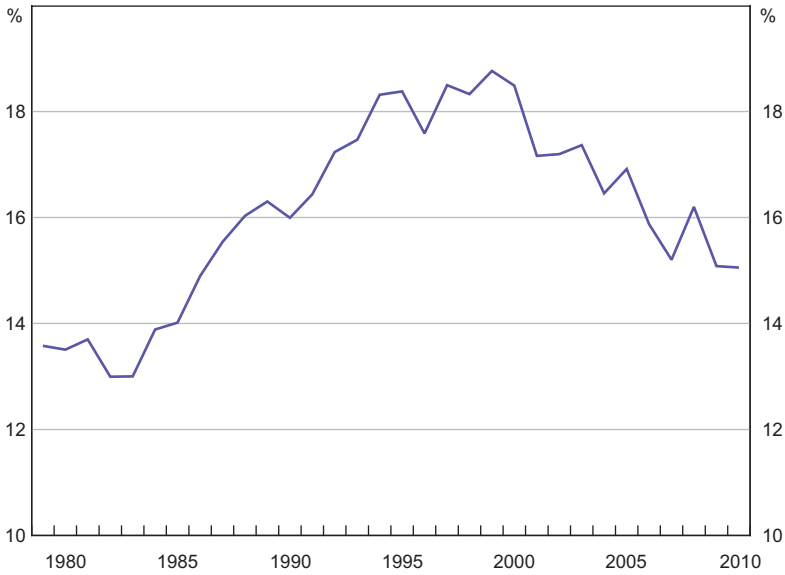
The intensity of work is difficult to measure. There is, nevertheless, sufficient evidence to support the general perception that an increase in work intensity in the 1990s was based in reality.

First, as discussed above, increases in work hours and in work intensity are substitutes both as inputs to production and as sources of disutility for workers. It follows that, when the equilibrium wage bargain involves an increase (or decrease) in hours it will also involve an increase (decrease) in work intensity. The data on working hours is unequivocal and exactly consistent with the idea that fluctuations in MFP growth may be explained largely in terms of work intensity. As the Australian Bureau of Statistics (2010) notes, the proportion of people working more than 50 hours per week increased from 13 per cent in 1978 to 19 per cent in late 1999 and early 2000, before falling to around 15 per cent in 2010. This point is illustrated in Figure 1.

Wooden (2003) offers a different interpretation of the data for the 1990s, focusing on the relative stability, between 1994 and 2000, of the proportion working more than 50 hours a week.

There is some direct evidence on work intensity. The Australian Workplace Industrial Relations Survey undertaken in 1995 (Morehead *et al* 1997) found that a majority of employees reported increases in stress, work effort and pace of work over the previous year, while less than 10 per cent reported reductions in any of these variables. This is consistent with evidence from the United Kingdom and some, though not all, other European countries (Green and McIntosh 2001). Moreover, Green and McIntosh observe that the increases in work intensity are associated with higher productivity (as would be expected) and are positively correlated with exposure to competition and with reductions in union density.

Figure 1: Employed Persons Working 50+ Hours
Per cent of total employment



Source: ABS

Defences of the productivity surge

Asymmetric measurement error

In the 1990s, the Productivity Commission was the most prominent proponent of the claim that the strong growth in MFP reported by the ABS reflected the emergence of a 'new economy' as a result of microeconomic reform (Parham 1999). Unsurprisingly, the Commission rejected claims that the apparent surge in MFP growth was due, in part or in whole, to measurement error or cyclical factors.

By contrast, as low rates of MFP growth emerged in the 2000s, the Commission became much more sympathetic to the idea that measurement error might be a problem. The poor productivity growth of the early 2000s was blamed on, among other factors, the Sydney Olympics, capital expenditure associated with the Y2K fiasco, transitional effects of the introduction of the GST and the drought which began in 2002 (Parham 2005b). The drought persisted well into the decade, but the other factors mentioned by Parham should have been transitory.

As measured MFP performance deteriorated even further, attention has shifted to the mining sector. It seems clear that measurement problems associated with mining are significant. Investments in new or expanded mines count immediately as part of the capital stock, but contribute to output only with a delay of some years. Moreover, current high prices have led to the exploitation of resources that would otherwise be uneconomic.

Since the quality of the resource is not measured as an input, this produces an illusory decline in productivity. Richardson and Denniss (2011) estimate that the measured growth rate of labour productivity over the 2000s has been reduced by 1 percentage point as a result of distortions in the mining sector. This is a significant effect, but not sufficient to explain the decline in measured MFP growth rates.

The view that the disappointing performance of measured MFP is primarily due to measurement error has lost favour over time, as disappointment has persisted. However, it frequently re-emerges in discussions of Australia's strong macroeconomic performance during the GFC.

The idea that market-oriented microeconomic policies provide significant flexibility in response to macroeconomic shocks has been influential in Australia since the beginnings of microeconomic reform in the 1980s. This idea contributed substantially to the policy misjudgements that produced the 1989–1991 recession, when it was supposed that the economy was flexible enough to handle a 'short, sharp shock to interest rates' and then to bounce back rapidly from 'the recession we had to have'.

Counter-examples to this idea abound, but the most striking is that of New Zealand, which has followed broadly similar microeconomic policies since the 1980s (though with more radical microeconomic reform until the mid 1990s, and a sharper reaction against some aspects of those policies subsequently), while adopting much more restrictionist macroeconomic policies. From an initial position of approximate income parity with Australia in the early 1980s, New Zealand fell sharply behind, experiencing an even deeper recession from 1987–1991, and two subsequent recessions, interspersed with periods of mostly sluggish growth. By 2000, income per person in New Zealand fell to around two-thirds of the Australian level, and has remained there. While it is unwise to attribute such a huge gap to any single factor (Hazledine and Quiggin 2006), poor macroeconomic performance is an important part of the story.

The 'lost golden age'

The dominant interpretation of the MFP statistics today is that of a 'lost golden age'. The surge in measured MFP growth is attributed to the microeconomic reform process begun in the 1980s, and the slowdown to 'reform fatigue' in the 2000s.

The major difficulty for this story is one of timing. It is difficult to see how a series of reforms undertaken over 20 years or more can have produced substantial productivity benefits confined to a single period of five years. It is even harder to see how the benefits of those reforms can have dissipated so rapidly, beginning when the reform process was still underway.

The beginning of the process of microeconomic reform is usually dated to the float of the Australian dollar in 1983. There is less agreement on the end of the process. Quiggin was, as far as I can determine, the first to give an explicit end date, saying:

> The era of microeconomic reform in Australia began with a big bang – the floating of the dollar in 1983. It ended with another big bang – the package of tax reforms centred on the Goods and Services Tax (GST) which came into force in July 2000. (Quiggin 2004, p 1, first version 2002)

There have been retrospective attempts to backdate the end of microeconomic reform, sometimes as far as the election of the Howard Government in 1996, but such attempts do not

stand up to scrutiny. It is true that the Howard Government took a less consistent approach to reform than its Labor predecessors. Nevertheless, it introduced a number of major reforms in its first few years in office.

Many of the reforms implemented under Howard were measures that had long been demanded by advocates of radical reform but resisted by the Labor Government because of political sensitivities. These included the *Workplace Relations Act 1996*, the partial privatisation of Telstra in 1998 and 1999, waterfront reform in 1998, and, most notably, the Goods and Services Tax, introduced in 1999.

Moreover, many reforms introduced by the Hawke–Keating Government did not begin to take effect until after the MFP surge. The most notable of these is National Competition Policy. Most states did not even complete their legislative reviews or set up their general regulatory bodies until the late 1990s, and the National Competition Policy process, with associated payments to the states, was not completed until 2005, when it was succeeded by the National Reform Agenda.

The timing issue becomes more acute when we consider that the measured productivity surge did not begin until a decade after the float of the dollar. In fact, the years in which 'even the parrot in the pet shop' was talking about microeconomic reform were characterised by the lowest productivity growth of the entire period for which data are available. So, the golden age story requires a long-delayed impact for the reforms of the early 1980s, combined with instant (indeed, in some cases, retrospective) impacts for those of the late 1990s.

Even if the 'lost golden age' story is accepted, the whole rationale of microeconomic reform is called into question. Far from generating sustained growth, the 'lost golden age' story suggests that the decade or more of microeconomic reform that began with the floating of the dollar in 1983, produced only five years of above-average productivity growth before requiring a renewed burst of reform merely to sustain past gains.

Conclusions

The correlation between demand for higher productivity and increases in work intensity is so evident to most Australians as to be taken for granted. This may be illustrated by the response to a recent speech by the Secretary of the Treasury (Parkinson 2011) calling for a renewed emphasis on productivity. Although the speech said nothing about work intensity, two separate news organisations ran it under the headline 'Australians must work harder'.[2]

Moreover, the implicit assumption made by the subeditors in question proved correct. Within a few weeks of the delivery of this speech, proposals were aired for a revival of the Work Choices package of labour market reforms. Suggestions that a renewed approach to reform might focus on expanding access to education, or improving the regulation of the financial sector have received little attention.

What is striking in the context is the failure of (most) Australian economists and economic commentators to accept the evidence on this point. Unlike virtually everyone else in Australia, economists have resolutely denied that the higher measured labour productivity growth evident

2 See, for example, 'Treasury Says Australians Must Work Harder', 1 July 2011. Available at <http://abcasiapacificnews.com/stories/201107/3258158.htm?desktop>.

in the mid 1990s, and the reversal of those measured gains in the 2000s, is largely due to changes in work intensity.

A belief that large increases in annual productivity growth rates can and should be achieved through microeconomic reform is not supported by the data and can lead to bad public policy decisions. Most notably, this belief, when combined with a period of declining measured productivity growth, can lend support to the idea that 'Australians must work harder'. On the contrary, the evidence from the labour market is that the work intensification of the 1990s was undesired and unsustainable. Genuine improvements in productivity should permit reductions in working hours and work effort, rather than demanding more and harder work.

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4. General Discussion

In line with the themes of the conference papers, the key issues of policy, productivity and China emerged during the discussion in the final session.

The discussion began by looking at the impact of fiscal policy on economic activity. One participant highlighted that a distinction needs to be made between temporary and permanent fiscal stimulus when talking about fiscal multipliers. It was mentioned that the intertemporal aspect of fiscal policy is something that many Keynesian models do not capture, which can bias estimates of the fiscal multiplier. The participant thought that a credible announcement of fiscal consolidation to be phased in over a period of time, as opposed to a sudden cutback in fiscal spending, can actually be stimulatory in the near term, and that this was what was needed in the current economic situation in Europe. The formation of the European Union in the mid 1990s was cited as an example where a number of countries announced a credible fiscal consolidation, in line with the Maastricht Treaty, without causing a recession.

Another participant thought that the lack of a clear fiscal policy framework, which contrasts with monetary policy, makes it difficult for the public to assess issues of credibility and the objectives of governments. It was said that a clearer framework would also make more explicit the question of what fiscal policy should do to maximise household welfare. There was also further discussion about the sustainability of government debt. Participants thought that the comparison between the post-WWII experience of high government debt that was sustainable and the situation today was largely irrelevant since the earlier period involved financial repression and had strong growth prospects due to growing population and the repair of the capital stock.

Productivity was again a focus of the discussion. One participant commented that based on past experience it was dangerous to try to explain away the weakness in productivity in Australia due to measurement issues. They highlighted that during the 1950s, 1960s and early 1970s, Australia also experienced weak productivity growth, but this was overshadowed by strong population growth and the increasing terms of trade. When those two forces faded, however, Australia experienced both high inflation and high unemployment by the early 1990s. Neglecting productivity now, in their view, could lead to poor economic outcomes in the future, particularly if the mining boom starts to wane. They also questioned why, if it was the case that productivity was significantly mismeasured, there were not more concerns about the measurement of the inputs to calculating productivity – output and hours worked – when these are also key economic variables for policy-makers.

This question of how widespread was the slowdown in productivity was again raised, along with the implications for unemployment and inflation. If the productivity slowdown was broad-based across sectors, one participant thought that significant wage increases would be unlikely, which would contribute to lower inflationary pressure but higher unemployment. If, on the other hand, productivity weakness was more isolated to the mining and utilities sectors, then it would be possible to see higher wage pressures in the economy and therefore higher inflation but lower unemployment. Another participant suggested that given the limited pricing power of firms, weak productivity performance was more likely to result in higher unemployment than higher inflation. It was also suggested that in the short to medium term, given the deleveraging behaviour of governments and households in the current environment, it was likely that unemployment would increase.

In his presentation, John Quiggin noted that technological change could be considered largely exogenous to Australia. On this point, another participant clarified that this was due to Australia being a small open economy, assumed to have no impact on the rest of the world, but that the capacity for the economy to adopt technological change can be influenced, for example, by improving research institutions. Another participant highlighted that since the major policy reforms at the federal level have now taken place, such as floating the Australian dollar and the introduction of inflation targeting, the focus now needs to be on the state governments. It was also thought that smaller policies that induce step or level changes in productivity should not be discounted and are worth pursuing even if they do not necessarily impact the long-run growth rate of productivity.

The rapid re-emergence of China was again a primary topic of discussion. One participant reiterated that the biggest story of the 2000s was China and that this was likely to remain true in the coming decade. They characterised the past decade as one in which the world experienced a profound demand shock, driven by China in particular, increasing the terms of trade and so benefiting Australia. It was then suggested that the coming decade might instead be characterised by a large positive global supply shock, as investment comes on line and commodity production around the world increases. Such a scenario was thought to have the potential to lower the terms of trade, with follow-on impacts to the rest of the economy, including the federal budget. Another participant agreed that the supply story would be important in the next decade but stressed that further large increases in demand are still to come, particularly from India. While it was recognised that India's development will not follow exactly the same path as China, there were said to be signs

that India's manufacturing sector was expanding, with implications for the demand for Australian resources. Indonesia was also mentioned as another country with a very large population that is starting to look more outside its borders.

Another participant emphasised that China is a very dynamic economy and that there were already signs of change towards a new growth model. They thought that an important factor going forward would be the ability of the Australian economy to adapt and ride the new wave of growth in China, which in part will be related to how the gains from the mining boom are spent (e.g. improving research & development and human capital). Another participant presented the view that while it was sensible to be risk averse regarding the future, the China story is hardly finished. For example, it was stated that the overall capital stock installed in China was still quite low. The participant also highlighted that while around 200–250 million people in China are now comparatively affluent by IMF or World Bank standards (which was said to be an income of around US$8 000–14 000 a year) this was not comparatively affluent by advanced economy standards (the substantial inequality in China, however, was also recognised). Cultural aspects to China's development were also mentioned, such as the liberalisation of human aspiration. This human aspiration story was said to be made stronger by the fact that more than one billion people in China have seen the improvement in living standards in the rest of the population and desire to do the same. A participant also emphasised that the current commodity boom is of an order of magnitude larger than ever seen in the past. It was stated that in the next 20 years, China will consume the same amount of copper as has been used over the entire history of copper as an industrial metal. The implications of rapid urbanisation for materials intensity in China were also mentioned. It was thought that in terms of country size, the United States' development, as opposed to Japan, was the most comparable example from history but that urbanisation today (as opposed to in the 1950s) is far more resource intensive. Also, the premium on arable land, leading to cities expanding vertically rather than horizontally, meant that the urbanisation of China was far more materials intensive.

Finally, another issue raised by participants during the final discussion was the need for more modelling work to be able to empirically test hypotheses of interest and investigate causality.