WORKING BY NUMBERS

Separating rhetoric and reality on Australian productivity

ACTU Working Australia Paper 11/2011

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The Australian Council of Trade Unions is the nation's peak body for organised labour, representing Australian workers and their families.

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The Working Australia Papers are an initiative of the ACTU to give working people a stronger voice about social and economic policy. Although low and middle income Australians ultimately bear the costs of poor policy decisions made in relation to tax, infrastructure, retirement incomes, welfare, and services, their voice is too often absent from national debates about these issues.

Working Australia Paper 11/2011

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Executive summary

Australia's rate of productivity growth has been slow in recent years. This has led some employer groups and partisan commentators to blame the *Fair Work Act* for sluggish productivity growth, and suggest that its repeal or amendment would lift Australia from its productivity malaise. This view is not supported by the available evidence.

Australia experienced a productivity surge in the 1990s, with our productivity growth rate outstripping the rest of the developed world. The rate of productivity growth began to fall from the late 1990s. It fell prior to the implementation of the Work Choices legislation, and the enactment of that legislation did not have a discernible effect on the rate of productivity growth. The nation's productivity performance since the enactment of the *Fair Work Act* has been no worse than in the period before the Act took effect.

Reports of poor productivity performance under the *Fair Work Act* are either referring to the general slowdown in productivity growth, which long predates the Act and therefore cannot be blamed on it, or to the fall in productivity recorded in early 2011. In the first half of 2011, as a result of the Queensland floods and other natural disasters, Australia's economic output fell, while the number of hours worked in the economy continued to grow. As a result, measured productivity fell. This is a short term aberration that will be corrected as the economy recovers from the disasters. To blame the industrial relations legislation for a temporary, weather-induced economic shock is disingenuous and opportunistic.

There are a number of potential explanations for Australia's long-term productivity slowdown. The prime suspects are the effects of the mining boom, and the effects of an OECD-wide slowdown in the rate of productivity growth. Underinvestment in infrastructure and skills are also important factors, as is managerial complacency about productivity in the face of a rising profits share of national income and record terms of trade.

Australia's relatively low productivity growth is a matter for concern. Unions support a real productivity growth agenda. However, the productivity slow-down is a long-term problem, and one that has been underway for at least a decade. Work Choices didn't fix it, and Fair Work hasn't made it worse. Labour laws are not the cause of our productivity problems, and they're not the solution.

This paper collates the evidence regarding Australia's productivity slowdown, and investigates some of its possible causes.

What is productivity and why is it important?

> *Productivity isn't everything, but in the long run it is almost everything*
> – Paul Krugman[1]

The productivity debate is filled with myths and half-truths, so it's important to establish some clear conceptual definitions. Productivity is a measure of economic output (the quantity of goods and services produced) relative to inputs (labour, capital, land and natural resources). Productivity is increased if the same output can be generated with fewer inputs (eg. fewer hours worked), or if the same quantity of inputs can be used to generate more output.

Increasing productivity is, in the long run, the main way that societies can improve their material standards of living. Productivity growth is the main driver of real economic growth, with workforce participation and population changes playing much smaller roles. True productivity growth is in the interests of workers.

As Blinder and Baumol put it:

> *'nothing contributes more [than productivity growth] to reduction of poverty, to increases in leisure, and to the country's ability to finance education, public health, environment and the arts.*[2]

Productivity growth is a necessary component of any social-democratic agenda for improving the lives of working people. Unions support productivity growth, but it is important that the concept and its relationship to public policy are properly understood. 'Productivity' has been misused in the popular debate and by some employers during enterprise bargaining. Supposed 'productivity trade-offs' that occur during bargaining often have nothing to do with true productivity growth. For example, 'productivity' gains that come about as a result of an increase in the number of hours worked are not really productivity gains at all. As Eslake and Marcus note:

> *productivity growth is not achieved by working longer hours… (Labour) productivity growth is attained by working smarter, not by working harder or longer.* [3]

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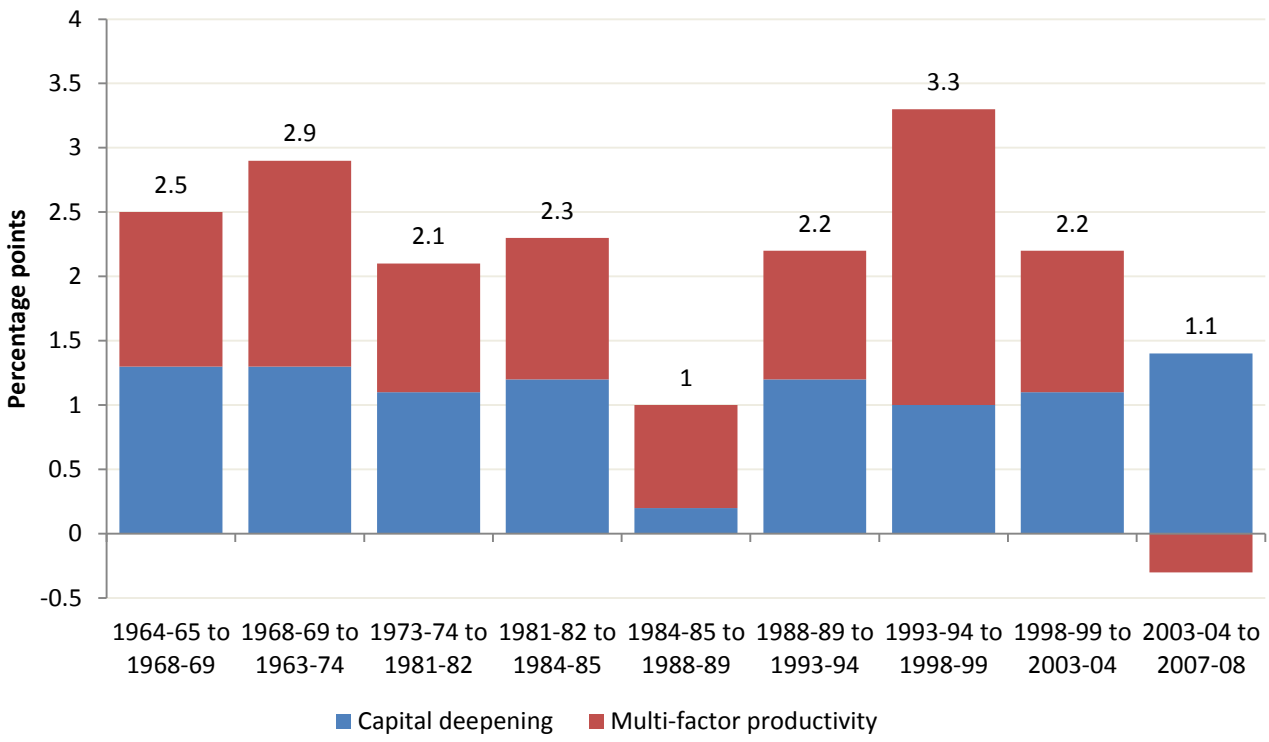
[1] Krugman, P. 1991, *The Age of Diminished Expectations*, MIT Press, Massachusetts.
[2] Blinder, A. and Baumol, W. 1993, *Economics: Principles and Policy*, Harcourt Brace Jovanovich, San Diego, p. 778.

The facts: Australia's rate of productivity growth over time

Productivity growth comes in cycles. Over the long-run, the trend rate of growth in Australian labour productivity is around 2 per cent. Australia experienced a productivity slump in the mid-1980s, growing well below trend, and a surge in the mid-1990s. The rate of growth in productivity has been falling since that time.

Figure 1: Productivity growth in the market sector (cycles)



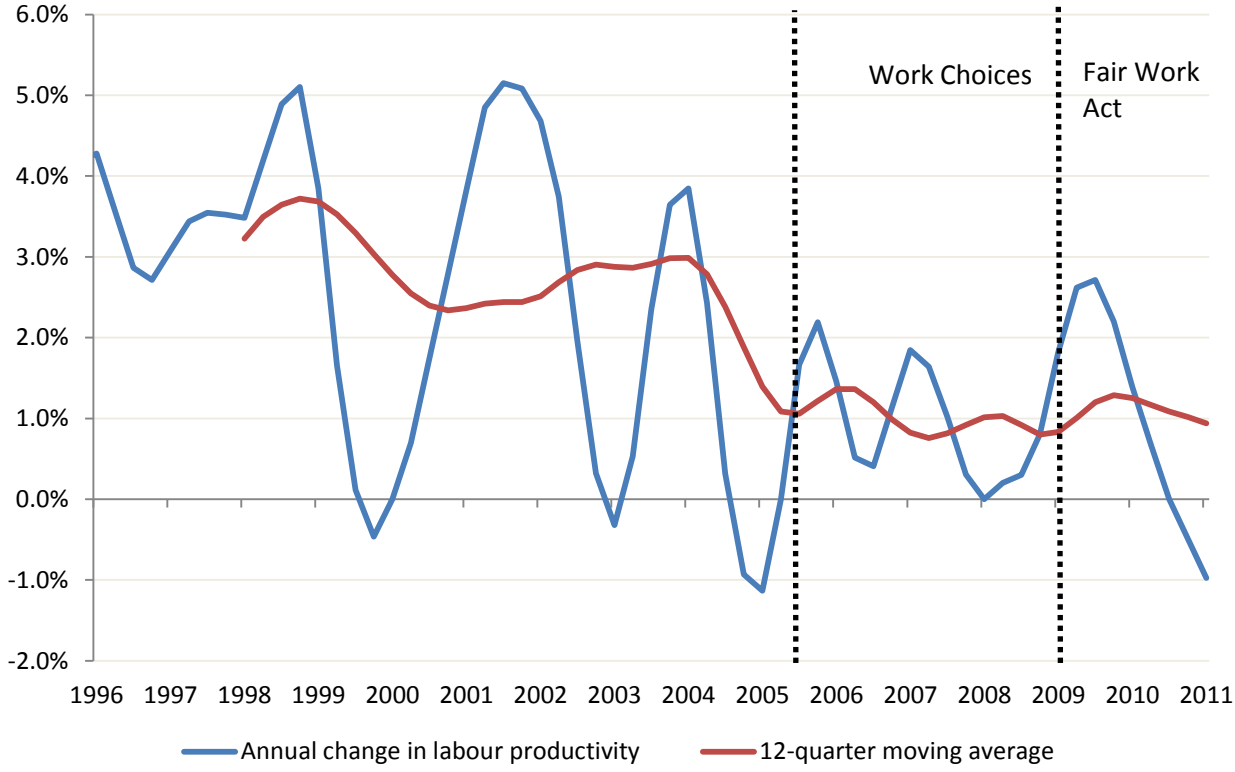
Source: Treasury 2009 based on ABS 5204.0[4]

The rate of productivity growth declined throughout the 2000s. Neither the Work Choices legislation (in effect from March 2006 to June 2009) nor the *Fair Work Act* (which took effect in July 2009) has had a discernible impact, positive or negative, on the rate of productivity growth. Although productivity growth is best measured over the course of a cycle, as in Figure 1, the ABS

[3] Eslake, S. and Walsh, M. 2011, 'Australia's Productivity Challenge', Grattan Institute Report No. 2011-1, February.
[4] Australian Treasury 2009, 'Raising the level of productivity growth in the Australian economy', Submission to the House of Representatives Standing Committee on Economics Inquiry into raising the level of productivity growth in the Australian economy.

also publishes yearly and quarterly estimates of productivity measures. Figure 2, below, shows the rate of growth in GDP per hour worked in year-ended terms.

Figure 2: Labour productivity in the market sector



Source: ABS 5206.0, trend.

As can be seen in Figure 2, the rate of productivity growth had slowed prior to the introduction of the Work Choices legislation in March 2006, and the enactment of that legislation did not lead to a resurgence in growth.

The productivity slowdown has been apparent in the data since at least 2002. The current Act came into place in mid-2009, with substantial elements (including the new system of modern awards) not taking effect until January 2010. It is difficult to comprehend how a statute that has been on the books for barely two years can be to blame for a decade-long slump in productivity growth.

An analysis of the data led Justice Giudice, President of Fair Work Australia to conclude:

> *During the decade between 1996 and 2006, when the* [industrial relations] *legislation was virtually unchanged, productivity grew for the first 5 or 6 years and then started to decline*

> *quite rapidly. The advent of Work Choices does not seem to have had any direct effect and it is to be assumed that other influences have been more important.*[5]

A correlation between the implementation of changes to industrial relations legislation and changes in the rate of productivity growth is not apparent in the data. Australia experienced some of its strongest productivity growth in the 1970s, when the industrial relations environment was more centralised and there was a high rate of industrial disputation. The 1990s productivity surge occurred under a decentralised system of bargaining. The Work Choices legislation, which featured many elements that employer groups wish to see returned, did not make any apparent difference to the rate of productivity growth.

Saul Eslake has noted:

> *[T]he workplace relations reforms introduced by the Howard Government under the title 'Workchoices' in its last term in office were not, primarily, 'productivity-enhancing'.*[6]

The enactment of the *Fair Work Act* has not yet had a discernible impact on productivity growth one way or the other. Eslake and Walsh suggest that:

> *It is too early to ascertain what impact, if any, those changes [the Fair Work Act] have had on the flexibility and adaptability of workplaces to changing economic circumstances.*[7]

It is much too early to assess the rate of productivity growth since the current legislation came into effect; doing so requires a complete productivity cycle. Even when data for a complete cycle are available, quantifying the extent to which industrial relations legislation has affected growth is an exceedingly difficult task. However, the quarterly data have seemingly given some support to those who claim that the *Fair Work Act* has harmed productivity. GDP per hour worked fell in both the March and June quarters of 2011, but this is the result of the natural disasters that had a significant effect on Australia's economy during this period.

Productivity is measured as the quantity of output per input(s). Labour productivity measures output (real GDP) per hour worked in the economy. If output were to temporarily fall, while hours worked kept increasing at the usual rate, then the level of productivity would fall. That is exactly what happened in March 2011 as a result of the floods and other natural disasters. Net exports detracted 2.4 percentage points from GDP in the March quarter, largely as a result of flooded coal mines in Queensland and other disruptions to production. GDP declined by 0.9% in the quarter,

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[5] Giudice, G. 2011, Speech to the Australian Labour and Employment Relations Association National Conference, Fremantle, Western Australia, 7 October.
[6] Eslake 2011
[7] Eslake and Walsh 2011

the largest fall since the early-1990s recession. Meanwhile, the number of hours worked in the economy grew by 0.2% in the quarter.

The fact that output fell, while hours worked did not, necessarily implies that measured productivity would fall in the quarter. GDP per hour worked fell further in the June quarter, though it contracted at a slower rate. However, these are near-meaningless statistical artefacts of a temporary economic shock. Productivity growth is best assessed over the long-run, as a trend level over the course of a cycle. Data from a short period, heavily affected by natural disasters, cannot be used to draw any robust conclusions about the productivity growth performance of the Australian economy, let alone to draw an inference about the causes of that performance.

Although short-term analyses are of limited usefulness, it is worthwhile examining the quarterly productivity data to dispel the notion that the post-2009 period has been significantly worse than the preceding period. From the beginning of the 2000s until the enactment of Work Choices in March 2006, GDP per hour worked increased at an average rate of 0.5% per quarter. During the Work Choices period, this fell to 0.2% per quarter. After the implementation of the *Fair Work Act,* this fell to 0.1%, but has remained at 0.2% if the flood-affected quarters are excluded.

All credible analyses show that the rate of productivity growth peaked in the 1990s and has fallen ever since. Suggestions that changes to labour laws which took effect in 2009 are to blame for this slowdown do not have any foundation in fact.

Note: Skepticism regarding the 1990s productivity 'boom'

It is typical for productivity to be evaluated from 'peak to peak' of particular cycles. However, the choice of when those peaks occurred can make a significant difference to the measured rate of productivity growth in the cycle. Quiggin has suggested that the apparent productivity surge of the 1990s "depended critically on the way in which the time series was divided into hypothetical 'productivity cycles'. The data is not strong enough to reject the hypothesis that the productivity 'surge' of the 1990s was a statistical illusion."[8]

Although Quiggin's concerns are important and should be noted, it is generally accepted that productivity growth peaked in the mid-to-late 1990s and has fallen ever since.

[8] Quiggin, J. 2009, 'Submission to the House Standing Committee on Economics Inquiry into raising the level of productivity growth in the Australian economy'.

Measuring productivity

Productivity can be difficult to measure accurately. The most straight-forward measure is labour productivity: the total output of the economy (real GDP) divided by the number of workers or the number of hours worked.

Labour productivity is not the only metric for evaluating changes in productivity over time. Rather than measuring output relative to one input (labour), multi-factor productivity (MFP) attempts to take account of changes in the quantity and quality of a broader range of inputs, including capital. Treasury suggests that:

> *MFP is a better reflection of overall efficiency than labour productivity as it controls for changes in both labour and capital inputs.*[9]

However, there are practical and conceptual issues (including the measurement and definition of 'capital') that limit the usefulness of the MFP metric. MFP can also only be meaningfully assessed over the long run, over the course of an economic 'cycle' that takes several years to complete.[10]

Ewing, et al., of the Productivity Commission, also note that productivity growth is best assessed over the medium- or long-term:

> *low growth in labour productivity for short periods is not a particularly unusual outcome. There are two main reasons for this. First, productivity growth is cyclical, and this cyclical pattern implies high and low productivity growth from year to year. And second, productivity growth is difficult to measure, and hence is susceptible to measurement errors. For both of these reasons, the usual practice in examining productivity outcomes is to use a technique that takes into account these factors by examining medium to longer term influences.*[11]

These difficulties with accurately and meaningfully measuring productivity growth over the short run, during a cycle, means that there can be no rigorous basis for asserting that the rate of productivity growth has risen or fallen in the two years since the *Fair Work Act* took effect. Conclusions drawn from labour productivity data in the National Accounts for a single quarter or a handful of quarters during a productivity cycle have little meaning. This issue is further examined later in this discussion paper.

As well as being difficult to measure short-term fluctuations in productivity growth, it's also hard to assess productivity changes in some sectors of the economy. It's particularly difficult for

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[9] Treasury 2009
[10] Treasury 2009
[11] Ewing, et al., 2007

government services in which there is no market price for the good or service being sold. For sectors of the economy which are dominated by government services (like health care, education, and public administration), statistical agencies like the ABS often assume that the quantity of outputs changes in proportion to the quantity of inputs; ie. it's assumed that productivity is unchanged. As a result, Treasury suggests that "productivity is only measured well for the market sector."[12]

The most meaningful measures of productivity are those that take a long term view, measuring the growth rate on average over the course of a cycle, and are focused on the market sector. Given this, there is no way to robustly and credibly measure underlying productivity growth since mid-2009, much less to determine the extent to which industrial relations legislation has affected the rate of growth.

The causes of Australia's productivity slowdown

There are a number of potential explanations for Australia's productivity slowdown in the 2000s. These include:

- The effect of the mining boom, as well as other industry-specific developments in agriculture and utilities;
- A slowdown in the rate of innovation across the developed world, which has inevitably affected Australia;
- A return to lower trend growth after a one-off "step change" in productivity growth in the 1990s;
- Insufficient attention to productivity issues by firms' management;
- Underinvestment in infrastructure, which has generated bottlenecks which constrain productivity growth; and
- Underinvestment in education and training, which over time can reduce the rate of productivity growth.

Some of these explanations for the slowdown in the rate of productivity growth are briefly examined below. It is thought that the effects of the mining boom and the OECD-wide slowdown in productivity (possibly underpinned by slower pace of innovation) are the most significant factors.

[12] Treasury 2009, Submission to Productivity Review of the House of Representatives

Mining and other industry-level explanations

The mining industry has had a major influence on Australia's productivity performance in recent years. While the mining boom has made Australia more prosperous overall, it has also made the country less productive.[13] The mining, agriculture and electricity, gas and water industries have played a significant role in the recent slowing in Australia's productivity growth.[14]

The mining boom contributes to the slowdown in productivity growth in two main ways:

- During the construction phase of resource projects, large quantities of capital and labour are soaked up, while there is little if any output from the mines. As a result, productivity falls. This has a short-term effect on productivity, as once those projects come on-stream there will be a boost to output.
- As resource prices increase and mineral stocks are depleted, there is an incentive to mine ore grades of decreasing quality. This requires more labour and capital per tonne of resources extracted, which reduced productivity. This process is likely to continue for the long-term as Australia's mineral stocks are depleted.

It is widely acknowledged that these two effects have contributed to the decline in the productivity growth rate over the past decade. Gary Banks noted:

> *While there are other ingredients, a key influence on Australia's recent productivity slump has been the massive injection of labour and capital, together with more costly production and resource depletion effects, directed at satisfying minerals demand.*[15]

Regarding the first effect, the "lagged output" effect, the Productivity Commission noted:

> *While this [lagged output from the investment boom] is a temporary phenomenon and will be 'paid back' in years to come as the output 'catches up with' the investment, it will continue to influence measured productivity throughout periods of unstable investment (either rapid growth or decline).*[16]

Regarding the second effect, the "lower quality minerals" effect, Eslake noted:

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[13] Topp, V., Soames, L., Parham, D. and Bloch, H. 2008, 'Productivity in the Mining Industry: Measurement and Interpretation', Productivity Commission Staff Working Paper, December.
[14] Treasury 2009, op cit.
[15] Banks G. 2011, 'Australia's mining boom: What's the problem?', Address to the Melbourne Institute and The Australian Economic and Social Outlook Conference, 30 June 2011.
[16] Productivity Commission 2010, *Annual Report 2009-10*

> *[H]istorically high prices for many metals has made it profitable to extract and refine low-grade deposits, which (by definition) require the application of more labour and capital in order to produce a given volume of mineral ores or metals…. This drag will persist for as long as metal prices remain high by historical standards. Indeed, Mudd (2009) argues that ore grades will continue declining indefinitely, and the amount of 'overburden' required to be removed in order to gain access especially to coal and base metals will continue to increase over time.*[17]

The two effects have combined to significantly reduce the productivity of the mining sector, and in turn reduce the growth rate of the economy as a whole. The *level* of multi-factor productivity in the mining industry fell by 40.9% between June 2002 and June 2010.[18] This inevitably dragged down the measured rate of productivity across the broader economy.

Indeed, Richardson and Denniss of the Australia Institute suggest that the decline of productivity in mining is responsible for the majority (if not the totality) of the observed slowdown in the economy-wide rate of productivity growth. They suggest that:

> *a detailed examination of the national productivity figures makes it clear that the productivity of Australian workers is actually rising quite rapidly. In fact, the apparent decline in labour productivity vanishes once the data is adjusted for the very large reductions in productivity in the small, but rapidly growing, mining sector.*[19]

They perform such an adjustment, the results of which are depicted in Figure 3, below.

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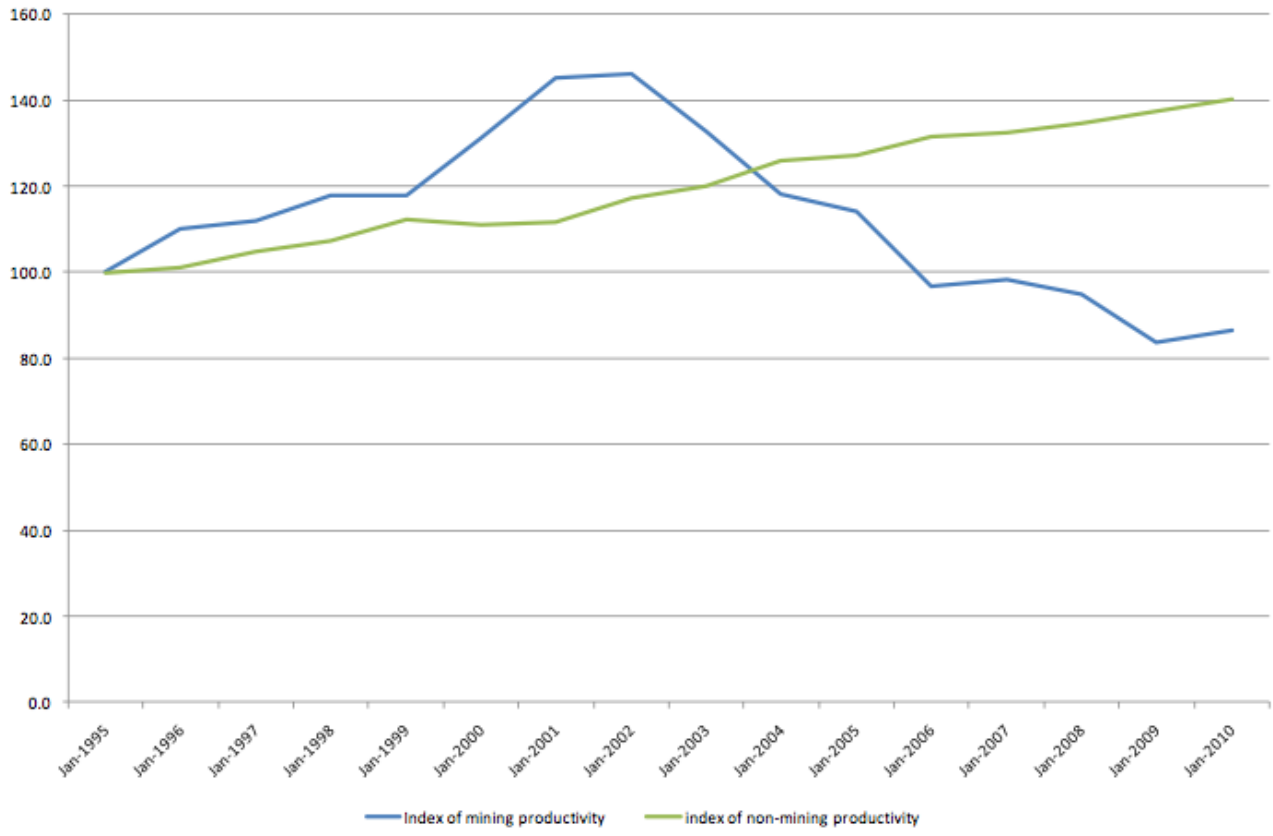
[17] Eslake 2011
[18] ABS 5204
[19] Richardson and Denniss 2011, 'Mining Australia's Productivity: The role of the mining industry in driving down Australia's productivity growth', The Australia Institute Policy Brief No. 31, August.

Figure 3: Productivity level in the mining industry and other industries



Source: Richardson and Denniss of The Australia Institute

Eslake and Walsh of the Grattan Institute concur that labour productivity growth is lower than it would have been without the negative contribution of the mining industry. However, they differ from Richardson and Denniss in their assessment of the extent to which the slowdown in the 2000s can be ascribed to the mining industry, suggesting that it is an important factor but does not explain the majority of the slowdown in growth.

Analysis by Dolman suggests that "almost one-half of the slowdown is related to unusual developments in the mining industry, the effects of drought and the overstatement of productivity growth in the 1990s".[20]

Although views differ about the size of the effect of the mining boom on productivity, and the likely duration of this effect, there is a consensus view that the rate of productivity growth has been reduced as a result of the boom. This boom would have resulted in significant change to the Australian economy, including its productivity growth, regardless of the nature of our industrial relations legislation. Relative to the size of the terms of trade shock and the subsequent mining boom, IR is a trivial influence on the nation's productivity.

[20] Dolman, B. 2009, 'What happened to Australia's productivity surge?', *Australian Economic Review,* vol.42, no.3, pp.243-263.

As well as the effect of the mining boom, there have been other industry-specific factors that have reduced Australia's productivity growth rate over the past decade or so. In the electricity, gas and water industry ('utilities'), productivity has also declined. Eslake explains:

> *During the past decade, however, electricity and gas businesses have had to invest heavily in response to continued growth in demand (especially for peak load, which inevitably entails a large degree of 'redundancy' at non-peak times), to replace ageing transmission infrastructure...*[21]

The Agriculture industry has also performed poorly on the productivity front in the 2000s. According to Treasury:

> *So far this decade, agricultural MFP has fallen at an average annual rate of around 1 per cent. This compares with average annual rises of over 3 per cent in the 1990s*[22]

The slowdown in agricultural productivity growth has been ascribed to the effects of the droughts in the 2000s.

It's clear that these industry-specific factors explain a significant portion of the slowdown in productivity growth in the past decade. It is exceedingly difficult to conceive of any credible account that would blame industrial relations legislation for the mining boom, or the need to invest in peak load electricity generation, or the weather, yet these factors have played a significant part in the slowdown in the 2000s.

OECD slowdown

Another part of the explanation for Australia's productivity slowdown is the fact that there has also been a reduction in productivity growth in many other developed nations. Because Australia is a highly developed country, we operate near the so-called 'technology frontier'. If the global rate of innovation slows down, there will be a slowdown in the rate of productivity growth in countries that are near the frontier. It has been suggested that a worldwide slowdown in innovation in the 2000s (relative to the 1990s, when the ICT revolution took hold) explains some of the productivity slowdown in many developed countries, including Australia.

However, Australia's labour productivity has actually grown faster than the rate for the OECD as a whole in recent years, as Eslake and Walsh note:

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[21] Eslake 2011
[22] Treasury 2009

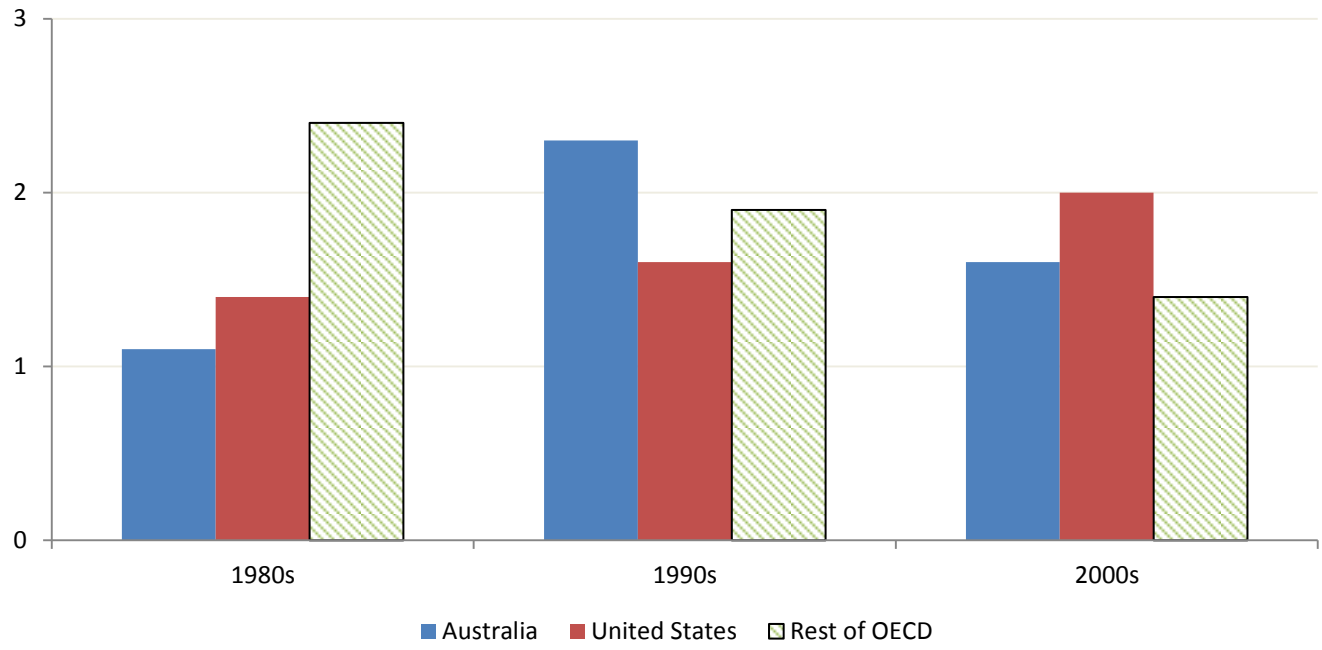
Australia is not unique in experiencing a decline in labour productivity growth over the past decade. Indeed, across the OECD area as a whole, labour productivity growth averaged just 0.4% pa over the five years to 2010, less than half the Australian rate, and down from an average of 1.5% pa over the first half of the decade.[23]

Treasury adds:

Australia's productivity performance has steadily declined since 2000 relative to the United States. However, productivity growth has kept pace with that experienced in the rest of the OECD. Average annual labour productivity growth in Australia has been 1.6 per cent in the current decade, higher than the 1.4 per cent in OECD countries (excluding Australia and the US).

Figure 4, below, shows the average annual labour productivity for Australia, the US and the rest of the OECD since the 1980s. It shows that Australia under-performed relative to the US and other developed countries in the 1980s, then grew more rapidly than the rest of the developed world in the 1990s. In the 2000s, as noted by Treasury above, our rate of labour productivity growth has lagged the US, but has been higher than the rate for the rest of the OECD.[24]

Figure 4: Average annual labour productivity for Australia, the US and the rest of the OECD

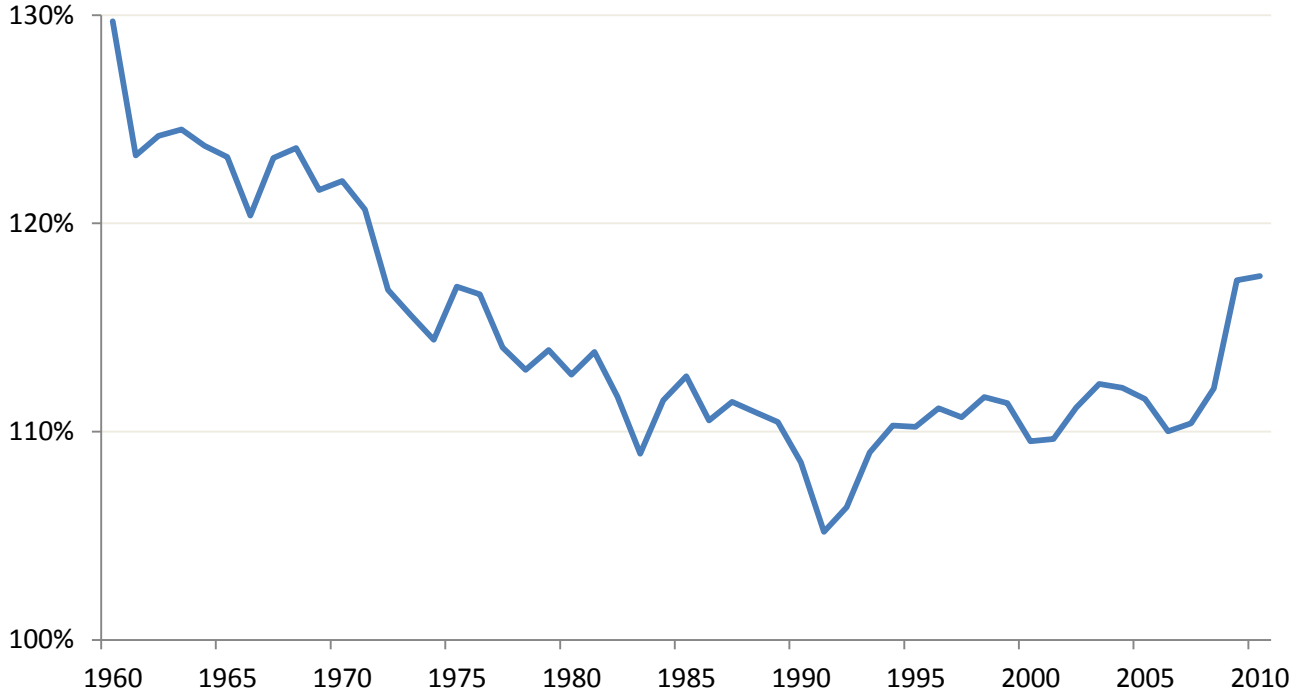


Source: Treasury 2009, based on The Conference Board Total Economy Database

[23] Eslake and Walsh 2011
[24] This analysis follows Treasury (2009) in referring to the OECD-24 as the OECD.

While Australia's productivity growth has slowed relative to its pace in the 1990s, it has continued to outpace much of the OECD. As a result of our productivity growth out-performing the rest of the OECD in the past two decades, Australian GDP per capita has risen relative to the OECD average.

Figure 5: Australian GDP per capita as a proportion of the OECD-24 average



Source: The Conference Board Total Economy Database

In the 1990s, much of the developed world experienced above-trend productivity growth. In the 2000s, productivity across the OECD fell below trend. In both decades, Australian productivity growth exceeded the OECD average. It is difficult to conclude from this set of facts that industrial relations is to blame for our productivity slowdown, a slowdown that is common to much of the developed world and somewhat less acute in Australia.

Step change

It is likely that the mining boom and the productivity slowdown across the developed world explain a significant proportion of our sub-par productivity growth in the past decade or so. However, there are also other potential explanations. One of them is that the productivity surge of the 1990s was not a sustainable increase in the rate of growth, but rather a "step change" – a one off 'step up' to a higher level of productivity growth. This could have come about as a result of the technological changes in that decade and/or changes to public policy in the 1980s and 1990s. This explanation would suggest that Australia (and many other countries) experienced a one-off 'productivity dividend' in the 1990s.

Eslake discusses this possibility:

> *To the extent that reforms of the 1980s and 1990s prompted 'step changes' in the level of productivity… then the fading of what appeared at the time to have been an increase in the rate of productivity growth is unsurprising.*[25]

It is possible that some of the 1990s surge was the result of such a 'step change', for whatever reason. However, multi-factor productivity in the 1990s grew above trend, while in the 2000s it grew below trend. If all that we had experienced was a 'step change', then the 2000s should have seen a reversion to around trend growth. It is possible that this explanation could coincide with other explanations: moving past the one-off benefits we received in the 1990s could explain the reversion to trend growth, while other factors (like the mining boom and the OECD-wide slowdown) could have dragged productivity growth below-trend.

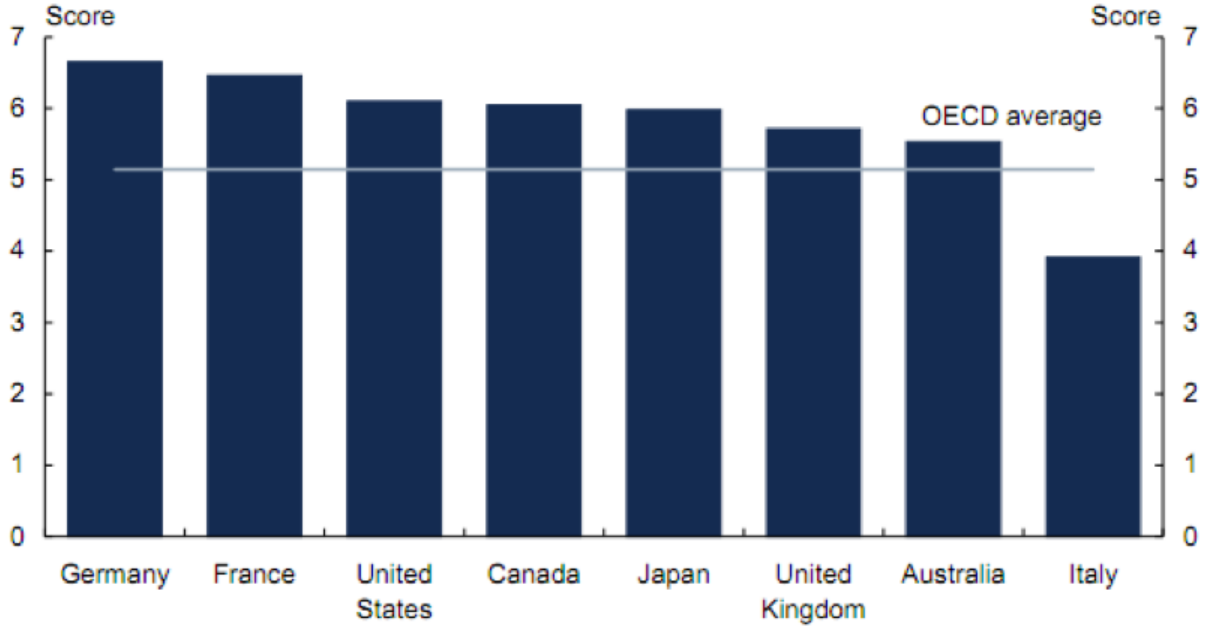
Infrastructure underinvestment

Recall that productivity reflects the efficiency with which an economy combines inputs (labour and capital, primarily) to produce outputs (real GDP). If the quality and/or quantity of capital changes, this will affect productivity. For example, say the quality of a highway degrades over time, and is not repaired for many years. This will reduce the safe speed at which a truck can carry freight over the highway, and will therefore reduce the output of that trucking company. Over time, underinvestment in infrastructure can drag down productivity performance.

Australian Government analysis suggests that our infrastructure is less able to support economic activity than in many other developed nations:

[25] Eslake 2011

Figure 6: Index of the ability of infrastructure to support economic activity



Source: Australian Government 2008-09

Underinvestment in infrastructure would take many years to show up as a diminution in the rate of productivity growth. It is plausible that such underinvestment, over an extended period, has begun to have an effect on Australia's productivity growth in recent years.

Managerial issues

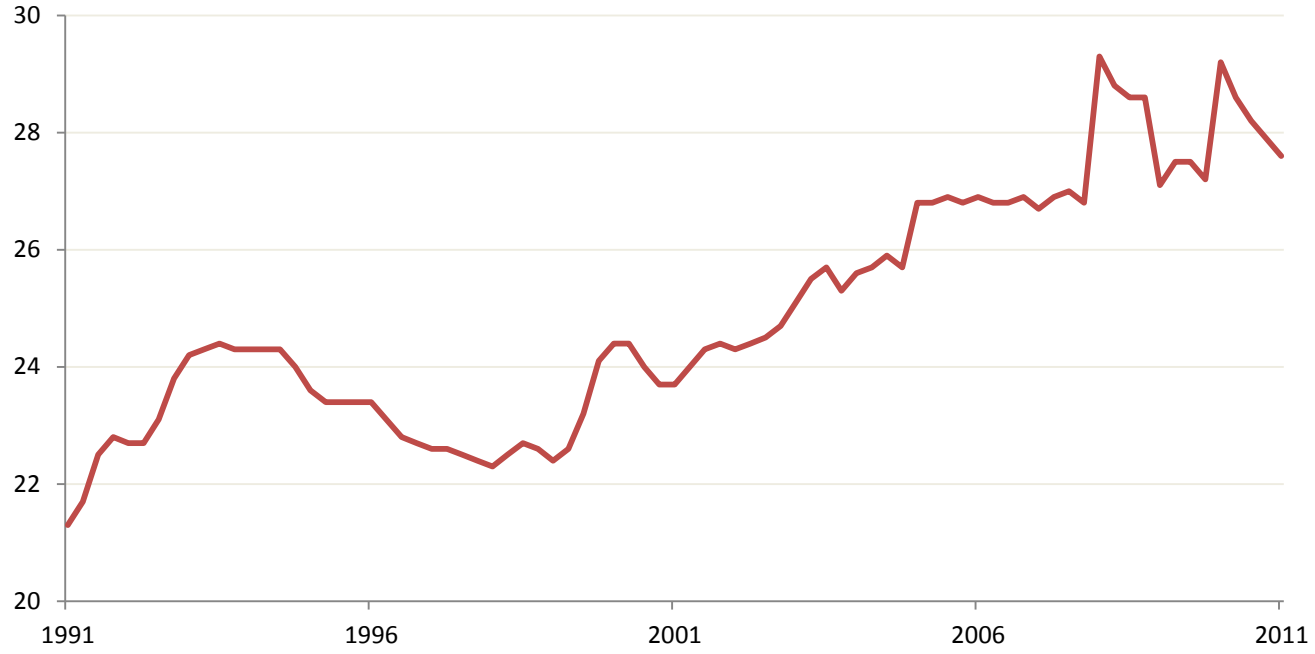
The productivity debate in Australia is often conducted in terms which suggest that the federal government possesses a policy lever it can pull that will magically constrain or increase our rate of productivity growth. This narrow perspective ignores the fact that the primary determinants of productivity performance are at the firm level: management, workers and their unions.

Eslake suggests that there has been a rise of complacency about productivity at the firm level, as a result of the rising profits share (and perhaps the exogenous shock to national incomes that arises as a result of the terms of trade boom). He comments:

> *This 'diminished focus' on productivity over the past decade has not been confined to the public policy arena. As the profit share of Australia's national income has increased to unprecedented levels during the past decade (apart from the period immediately after the global financial crisis), businesses have in general attached less importance to the pursuit of productivity gains at the enterprise or workplace level (which is, after all, where the decisions that actually lead to higher levels of productivity are formulated and executed, if at all).*

After fluctuating between 22 per cent and 24 per cent during the 1990s, the profits share of national income soared in the 2000s, reaching a record high of 29.3% in June 2008, as shown in Figure 7.

Figure 7: Profits share of national income: 1991 to 2011

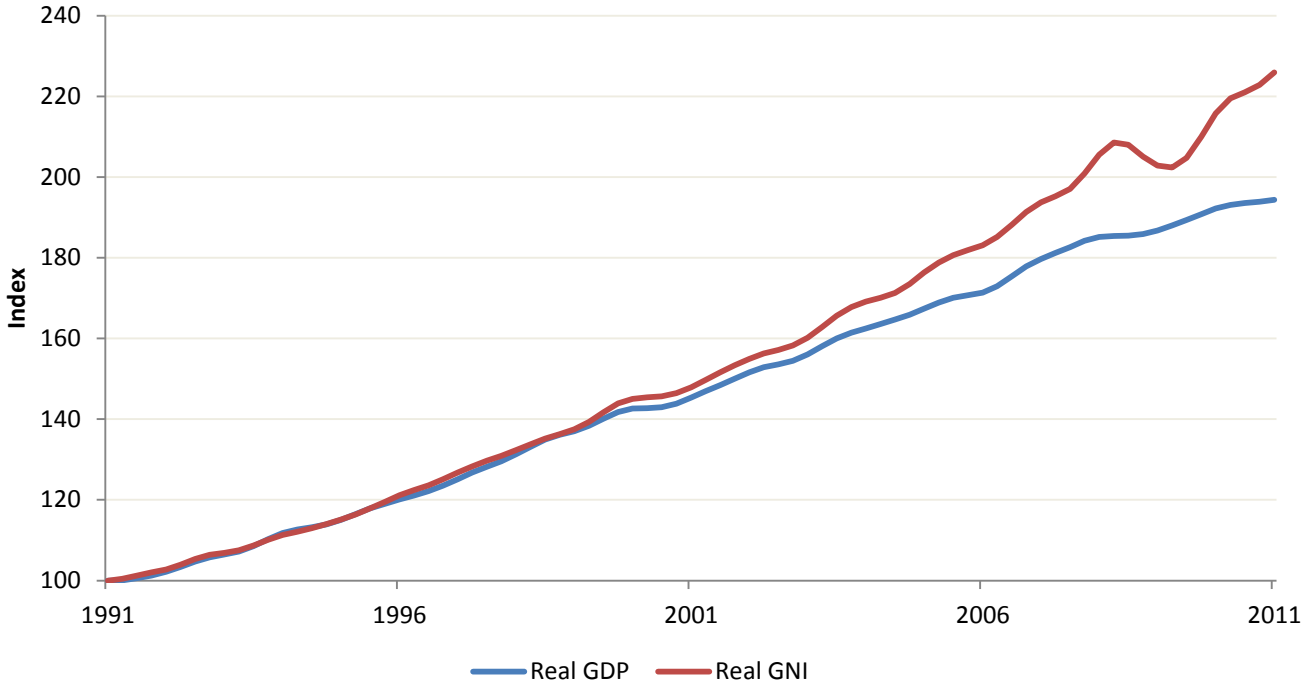


Source: ABS 5206.0

The profits share increased significantly throughout the 2000s, and Eslake suggests that this may have been a source of managerial complacency about the need to pursue productivity improvements. The terms of trade shock and its effect on national income may also have resulted in some complacency.

Gross national income (GNI) typically rises in line with gross domestic product. This was the case during the 1990s. However, in the 2000s, GNI rose much more rapidly than GDP, due to the change in the global price of goods that Australia exports. Total income per hour worked has therefore increased more rapidly than output per hour worked, the typical measure of labour productivity. This implies that the productivity slowdown has not necessarily been 'felt' by households and businesses to the same extent as it would have if the terms of trade had not improved to such a dramatic extent. Figure 8 shows the divergence of real GDP and real GNI in the 2000s.

Figure 8: Real GDP and Real GNI: 1991 to 2011



Source: ABS 5206.0

There is evidence to suggest that there has indeed been managerial complacency about productivity growth.

A survey conducted by Telstra (in 2010) found that, among over 300 organizations each with over 200 employees:

- only 42% measure their productivity, have specific productivity targets and know what they are, while 25% don't measure their productivity at all;
- only 22% believe that they can accurately measure productivity benefits when considering investment decisions; and
- only 34% of firms assign individual responsibilities for productivity improvements.[26]

The 'managerial complacency' explanation may well have some merit, but it is difficult to assess the extent to this is a factor in the productivity slowdown.

[26] Cited in Eslake 2011

Conclusion

The rate of productivity growth in Australia has slowed considerably since the 1990s. There are a number of potential explanations for this. The prime suspects are the slowdown across the developed world, and the effects of the mining boom.

The rate of productivity growth has been falling for at least a decade. It fell during the Work Choices period. The rate of growth since the enactment of the *Fair Work Act* has been in line with the rate prior to the Act's commencement. Neither piece of legislation has had an apparent impact on the rate of productivity growth, positive or negative. The causes of Australia's slowdown do not lie in industrial relations legislation; it would be short-sighted to look there for the cure.