
1 Scope and aim of the inquiry

There is a justified global anxiety that growth in productivity — and the growth in national income that is inextricably linked to it over the longer term — has slowed or stopped. Across the OECD, growth in GDP per hour worked was lower in the decade to 2016 than in any decade from 1950.¹

Australia is no stranger to this trend. While labour productivity gets much of the focus year on year, it is multifactor productivity (‘doing things better’) that has delivered strong long-run economic growth. But no longer. Since 2004, multi-factor productivity has stalled, here and around the developed world. This is a long enough period to suggest something is seriously awry in the economic fundamentals and the consequent generation of national wealth and individual opportunity.

Mismeasurement has been cited as a reason to worry less about this trend. And there are difficulties in measuring productivity, including in times when quality and price move in opposite directions; or when free goods (for example, open source software and other internet services) become significant. But sound research suggests that the sectors of the economy most subject to such shifts are simply not large enough to explain the shift and nor is the timing of the slowdown right.

Australia’s high living standards may not appear under threat from this collapse in productivity. We recently had a decade of commodity price growth and, more recently, inflating housing prices to make us feel wealthier, even if the reality of low wage growth and falling fixed capital investment suggest that a weak income outlook may persist now past the terms of trade decline. And it certainly indicates that incentives to invest and so create the tools and training for the future are weak.

If we were waiting for a crisis to indicate that government should act, there is none — just an inexorable slowing towards reduced opportunity, greater dispute over shares of a smaller than expected pie, and selective protection.

We have strong legacy endowments of resources, a better savings performance than throughout the 1990s and early 2000s and many of us have good skills for today’s work environment. We may well be able to draw down on them for some time yet, unless external factors move adversely. But just as persistent borrowing by government may burden the future, so failure to develop the policies most relevant to future higher productivity — and its outcome, higher income — will burden future generations with the eventual adjustment cost. We saw this last in the 1980s.

¹ Based on data from the 2016 Conference Board Total Economy Database for the 26 OECD countries where there is a full record of data from 1950 to 2016.

Complacency is not a sound policy option. Aside from the productivity collapse itself, the fiscal and labour market effects of population ageing, the potentially sweeping structural changes in labour markets following digital disruption and climate change impacts are all challenges to a slow growing economy. If nothing changes, achieving people's expectations will prove increasingly difficult and the costs of this may be measured not just in incomes, but in alterations to quality of life.

It is in this evolving economic context that the Australian Government has requested the Commission to undertake an inquiry into Australia's productivity performance.

This inquiry is the first of a continuing series of reviews

This inquiry will be the first in a regular series of such inquiries, undertaken at five yearly intervals, to develop and prioritise reforms to improve the wellbeing of Australians by supporting greater productivity growth. It is the microeconomic equivalent to the periodic Australian Treasury's Intergenerational Report, with the same intent to look to the future and to take account of emerging reform trends, but with the added dimension that it will make recommendations as new reforms are required.

All levels of government — local, state and national — are the relevant policy actors. The Commission plans to consult at each level actively in pursuit of this task.

What does productivity mean?

Productivity is a measure of the capacity of a business, government or economy to convert its resources into a valued output. Productivity refers to a related family of concepts rather than to just the one thing. To many people, it means labour productivity — the amount of output produced by a worker. But there are many variants of even that simple idea — for example output per worker and output per hour of worker are quite distinct, and data on their trends tell different and interesting stories. Broadly speaking, if output per hour rises, then workers can expect wages to rise.

Economic policy largely focuses on the factors behind growing labour productivity. One of the most important long-run drivers has been higher physical capital per worker. Another has been investment in the skills of workers through training and education. And, most fundamental of all is technological progress (in effect new knowledge), which leads to new products, new machines, and new ways of doing things. (This is usually also labelled as a productivity measure in its own right.)

The various technical definitions of these species of productivity are well-documented. And their variety is not problematic so long as they are appropriately differentiated and interpreted (ABS 2016; Li 2013; PC 2013b).

The long-term trends are not always easy to detect in annual data because of the effects of economic downturns (when labour and capital are only partially used, depressing productivity over the short run). For that reason, most productivity analysis examines trends across the peaks of the business cycle.

The Commission has interpreted ‘productivity’ as encompassing all of the above, but also intends to consider some broader concepts of productivity.

First, greater engagement of people in labour markets can increase the level of national income and output *per capita* (a more macro measure of productivity), even if it does not increase output *per hour* (the standard measure). To ignore the first is to lose sight of policies that could reduce premature retirement and bring people who have given up job aspirations back into the labour market.

Second, what is relevant to people’s lives is greater than the various aspects of the economy captured by ‘headline’ economics (the reporting of financial news of outcomes in commercial markets).

- There are large and growing parts of the economy where goods and services are provided to customers with no or little pricing. This makes it hard to measure the value of production, and therefore productivity. The Australian Government has asked the Commission to analyse productivity in the non-market sector, which comprises health care and social assistance, public administration and safety, and education and training. This will necessarily involve some different measurement approaches. Government provision of services like health and education dominate these industries. Indeed, making such services better meet people’s needs or doing so more productively and efficiently may be one of the most fertile areas for reform (and may produce fiscal benefits). There should not be an assumption that future microeconomic reforms in these areas use the same approaches of competition, corporatisation, privatisation and pricing that there were the keystones of the pre-1990s reform agenda (though these may still be elements). For example, in health care and some other government-funded services, the design of the system can be paramount in improving productivity.
- In addition, other parts of the economy are not measured at all in the official statistics, but have major implications for the quality of people’s lives and their capacity to work. For example, road congestion lowers the efficiency of people’s personal travel as well as that of public and commercial transport (which would appear in standard estimates of productivity). Time spent in slow traffic reduces the capacity of people to work or enjoy genuine leisure. Similarly, the technological advances in the mid-20th century that led to washing machines, vacuum cleaners and refrigerators, all taken for granted now, provided a boost to household productivity that freed up people for employment and leisure. These gains are not captured in official statistics. It may seem that such developments are untouched by government policy, but widespread mains electricity networks were required for the diffusion of these technologies (Strange 2014).

Given the ultimate ambition is a more prosperous society, policies that move resources to their most productive uses are also relevant to this inquiry. The microreforms that led to

greater competition in telecommunications and other utilities, fewer barriers to entry into some occupations and retail shopping restrictions are examples. Tariff reform was one of Australia's most successful policy shifts because it has subsequently allowed people and capital to flow to industries where Australia has greater comparative international advantages. The same issue can arise in non-market services. As an illustration, when the Commission examined the disability services and aged care sectors, it found funding was allocated according to principles that took very little account of the preferences of people who were the focus of those sectors (PC 2011a, 2011b). Shifting resources to match people's preferences is a key, if sometimes, neglected aspect of efficiency (an issue also being considered by the Commission's current inquiry into human services). Prosperity is sometimes as much about *where* resources are used as much as narrowly-defined productivity *per se*.

Another dimension of prosperity is its effect on income growth for higher and lower-income households and, associated with this, inequality. Public support is more likely for reforms that offer benefits to the bulk of people. As for many other OECD countries, inequality increased in Australia from the 1990s to 2007, although the extent to which it did so depends on the statistics used.² Some of the evidence suggests that it has stabilised or even fallen since. However, unlike many OECD countries, income growth in Australia has still been strong for the lowest income households from the mid-1980s to the later 2000s (OECD 2011, p. 23). Indeed, the growth rate for the poorest households in Australia exceeded that of the highest-income households in most OECD countries (testimony to Australia's much higher income growth generally).

While the dividends of economic growth in Australia have been more widely shared than in some countries, the extent to which this continues will depend on policy and structural changes in the economy. Productivity growth provides a capacity for higher incomes and poverty alleviation — either directly through higher wages or indirectly by providing a 'bigger cake' from which transfers can be funded. This direct avenue may not be relevant for all jobs if there are major technological shifts (such as automation of routine tasks), in which case governments may have a role in increasing the capacity of people to move to productive jobs and in re-distributing incomes (through policies relating to the tax/transfer system, skill formation, and labour market efficiency). In that context, there is evidence that policy changes that avoid too great a dispersion in incomes can increase productivity (OECD 2015, 2016b; Ostry, Berg and Tsangarides 2014).

² The results depend on whether the measure relates to wealth, consumption, and income before or after net transfers earnings. The RBA finds relatively small changes in inequality (Dollman et al. 2015), as has other research (Greenville, Pobke and Rogers 2013; Wilkins 2015).

2 Government policy and productivity

Businesses are the immediate drivers of long-run productivity improvement in the market economy. In trying to increase their profits, they often seek to do things differently and better — drawing on their own ideas and those of their customers, employees, suppliers and rivals. Research (either inside the organisation or outside) can lead to entirely new products and processes. In a world akin to the ‘tooth and claw’ of Darwinian evolution, firms that fail to keep pace with technology or to provide goods and services valued by their customers die or change their business models (or are supposed to).

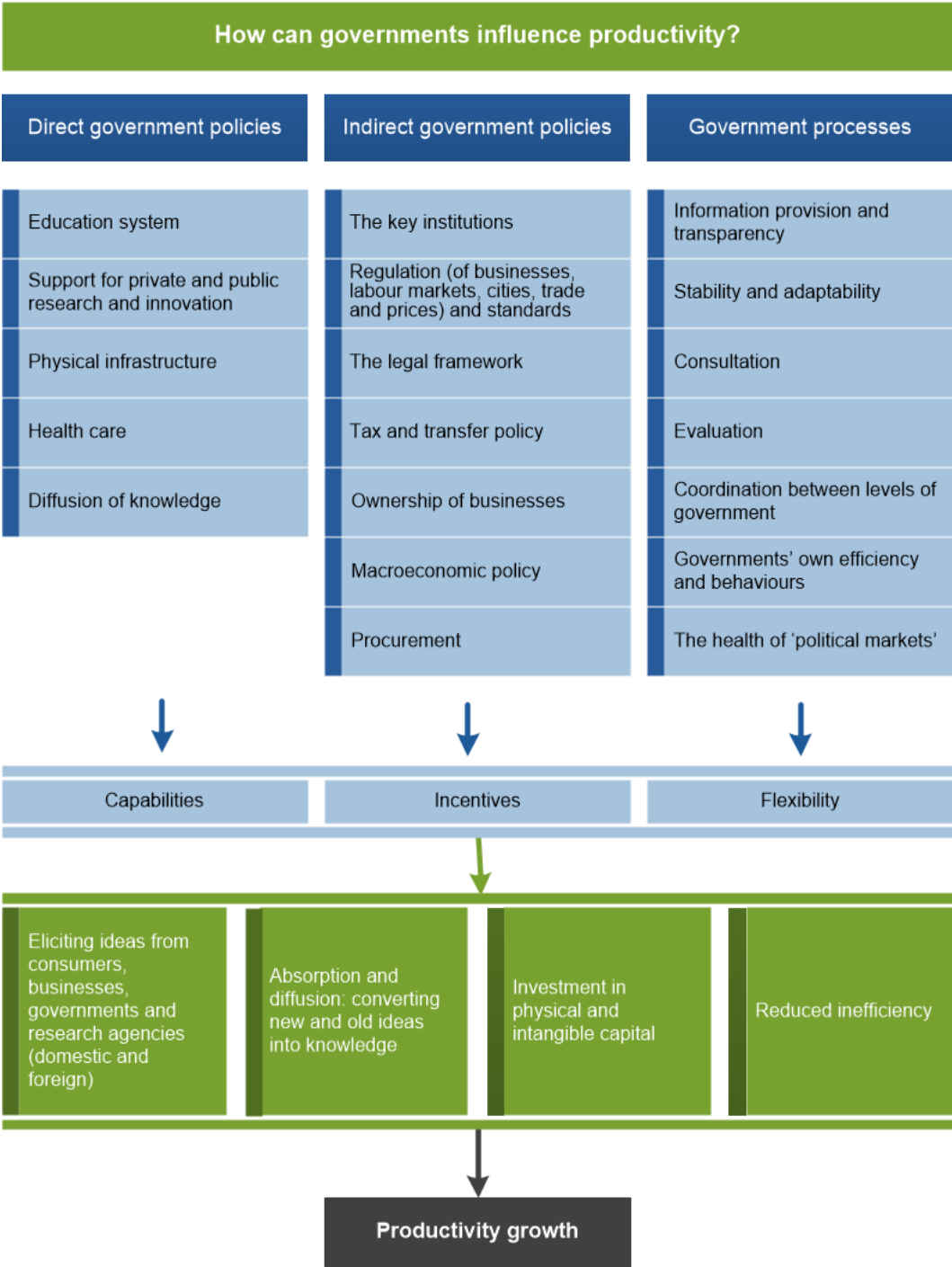
Government policy also plays a large role in outcomes, and through many avenues (figure 1). Government sets many of the fundamentals in an economy: its key institutions, laws, standards, regulations, education and health systems, public infrastructure, taxes and macroeconomic policies. Some markets are as much creatures of government as businesses and consumers because of the degree and complexity of regulation. As an illustration, version 82 of the *National Electricity Rules* number some 1432 pages and the *Competition and Consumer Act 2010* 1621 pages — which are bibles for markets in some industries. Whether they are yet the best regulations is a matter of persistent contest, as highlighted by the recent Harper review (2015).

Government is also a dominant provider, regulator and funder of many non-market services, and its performance is critical to productivity (including the quality of outcomes). Government contributes to the idea pool by supporting research and by being a demanding customer for its own purchases. It can encourage efficiency in the business world by being efficient itself and by being transparent and predictable. It can share its data or withhold it — an increasingly important issue in the digital age (an issue being considered as part of the Commission’s inquiry into data availability and use). The extent to which governments can adapt their policies in line with the public interest depends on the operation of the ‘political market’ — the set of incentives that punish or reward politicians and governments for their choices. Political market failures — such as structures that allow capitulation to vested interests — can limit prosperity.

The importance of government for productivity is perhaps best grasped when its settings fail. The global financial crisis — with its accompanying massive and protracted adverse effects on global productivity and income — reflected poor regulatory oversight overseas as much as financial market (mis)behaviour. In a contrasting case where the problem is too much regulation, Latin America’s productivity malaise has been attributed to the predominance of the informal sector, a symptom of over-regulation of larger, formal businesses (*The Economist* 2015). Australia has had its share of government-induced productivity mishaps. Examples have included the long, but now largely discarded, policy of protecting industry from import competition, agricultural marketing monopolies, and the government ownership of businesses much better run in the private sector (not just utilities, but historically even butchers, bakers, publishers and brickworks - Goot 2010).

Recalibrating, inventing or discarding policy settings can achieve better outcomes for productivity and prosperity. Even where policy settings have been effective in the past, there can be a case for change as the economic environment and risks facing Australia have changed significantly over the last decade, and will continue to do so over the next.

Figure 1 Policy and productivity

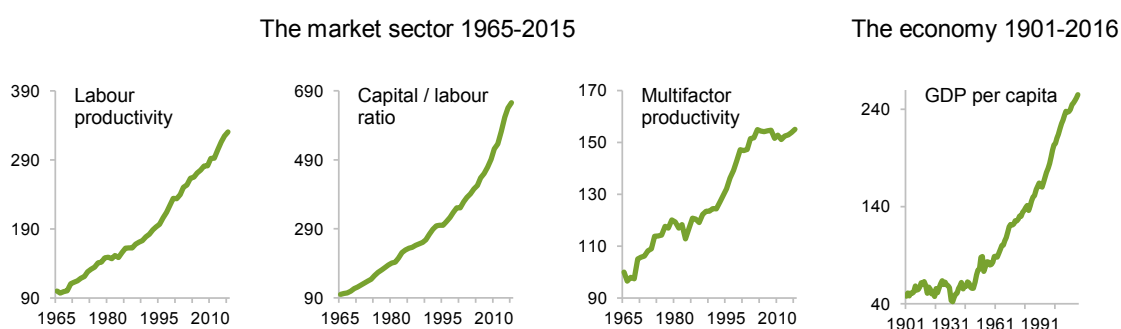


3 The ‘nothing era’: what has been happening to productivity?

Over the last 40 years, aggregate labour productivity growth in the market sector (real output per hour) has stayed mainly in the band between 2 and 2.5 per cent per year over the various business cycles (figures 2 and 3). The data give the beguiling sense that not much is wrong with Australian productivity trends. The only marked exceptions to generally stable productivity growth over these decades were a period of stagnation in the mid-1980s and exceptional growth in the mid-1990s. The longer historical story however shows virtually zero growth in GDP per capita in the nearly four decades from federation until the mid-1930s — proof that it is possible to have protracted periods of sluggish growth. History can repeat itself, unless people and policy settings ensure it does not.

Moreover, the ‘good’ labour productivity outcomes of recent years have almost entirely reflected the contribution of more physical capital, rather than any underlying improvement in the capacity to ‘get more out of all inputs’. That capacity — measured in figure 3 by multifactor productivity growth rates (MFP) — languished from 2003-04, creating what has been referred to as the ‘nothing era’.

Figure 2 **The long view: productivity and capital intensity**
Indexes, 1964-65=100.0



^a Data relates to year ending June of each year. Labour productivity in the market sector is market sector value-added divided by hours worked.

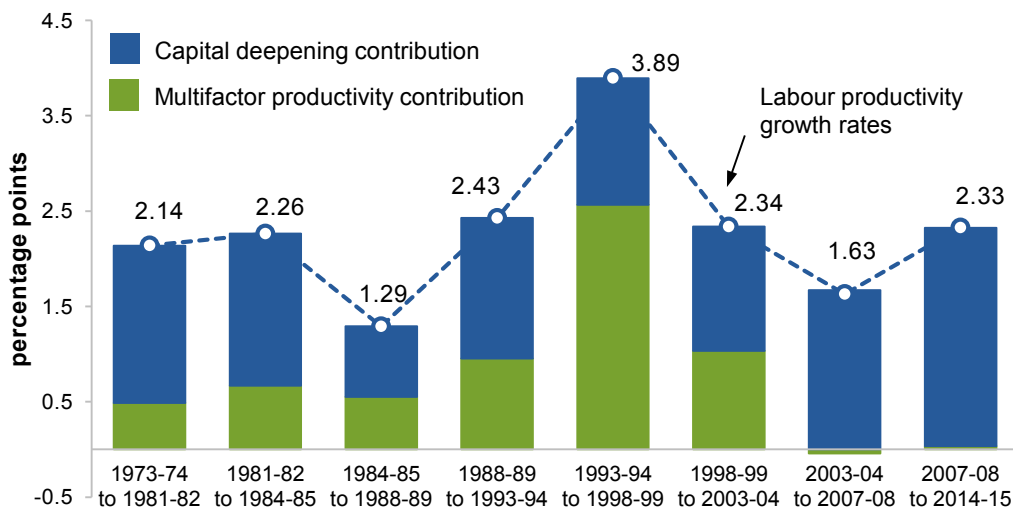
Sources: ABS 2008 and 2015, *Australian System of National Accounts*, Cat. no. 5204.0; ABS 2014, *Australian Historical Population Statistics*, 2008, Cat. no. 3105; ABS (2015) and Butlin (1985).

The peculiarities of production in the mining sector partly affect this outcome. It takes time to construct mining facilities before production can begin. Accordingly, during any significant expansion of mining — as occurred in the 2000s — capital rises rapidly without an accompanying increase in output, reducing measured productivity.³ The production phase then led to strong mining productivity growth in 2014 and 2015. However, these are

³ Another mining-related contributor is that high prices for resources made it profitable for businesses to open less productive mines (D’Arcy and Gustafsson 2012; Topp et al. 2008).

short-run effects, as are the effects of periodic economic downturns that also result in temporary reductions in MFP. Regardless, the ‘tos and fros’ of mining productivity have not been important enough to fully explain the downward shift in *economywide* MFP growth rates. This is just one aspect of a well-recognised deficiency in measures of MFP — they are residuals that vacuum up any factors that affect real output and that are not accounted for by changes in capital or labour.

Figure 3 Market sector labour productivity decomposition^a
Percentage points contribution, average per annum



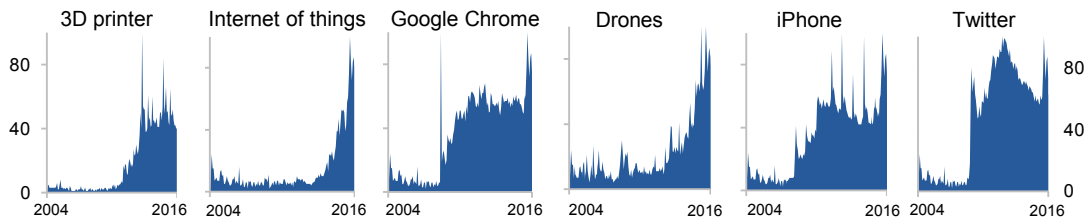
^a Includes 12 sector ANZSIC Divisions A to K and R.

Sources: ABS 2015, *Estimates of Industry Multifactor Productivity, 2014-15*, Cat. no. 5260.0.55.002, December; and Productivity Commission estimates.

The slowdown in Australia’s capacity to ‘do more with the same’ is puzzling because scientific and technological knowledge advanced rapidly after the early 2000s (figure 4). Consider that in 2003 there was no Cloud, the ‘internet of things’ or iPhone or any smart phone or tablet (with all their portable apps — mapping, email, messaging, and video services). Ubiquitous software like Google Chrome and social media apps did not exist. 3D printing was in its infancy, the Windows Operating System was many digits less than version 10, and music and videos were primarily supplied in physical forms. 4G was several years away. Robotics, gene technologies, material science, machine learning, artificial intelligence, sensor technologies, and drones all progressed strongly in this decade. In the period from 2003 to 2015, the share of businesses using the internet increased from 70 to 95 per cent, and the share with a web presence from around 25 to 50 per cent.⁴

⁴ Various issues of ABS, *Summary of IT Use and Innovation in Australian Business*, cat. no. 8166.

Figure 4 Trends in internet searches
Australia, Google trends, January 2004 to October 2016^a



^a The search trends are indexed for each search item separately, with 100 being the peak search effort in the period since January 2004. The value of an index for one search item does not indicate the relative popularity with another search item.

Source: Google Trends from <https://www.google.com.au/trends/>.

The gulf between significant technological shifts and sluggish productivity growth is not an Australian peculiarity, but has affected the bulk of advanced economies. While Australia is not a leading producer of such technologies, it could have been expected that they would have allowed much more efficient utilisation of capital and labour (as they *did* in improved logistics for wholesaling and transport), and had a greater impact on the development of new products.

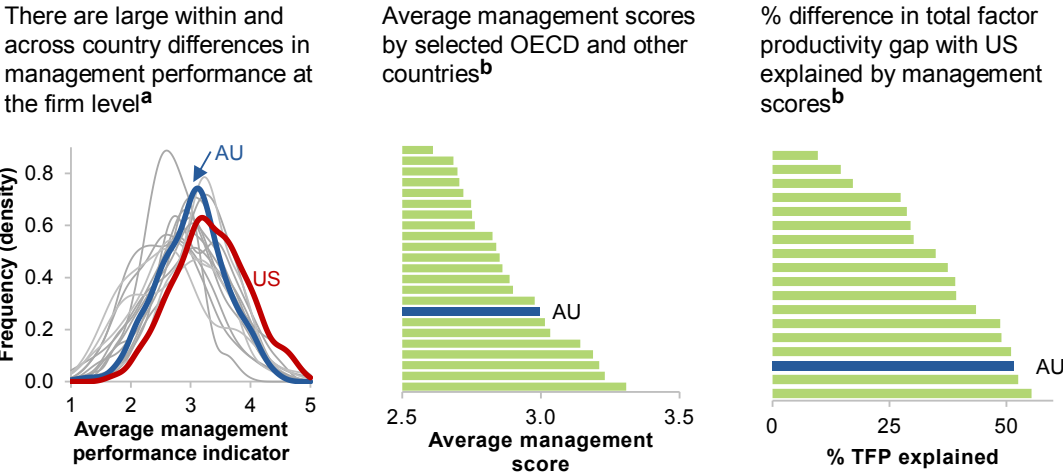
As noted earlier, some of the slowdown could be mismeasurement, but the timing and scale of the effects suggest this is unlikely to be the sole culprit of the recent observed productivity outcomes (Syverson 2016). It may be that the productivity returns from the new technologies will emerge after a lag. Regardless, even if mismeasurement suggested that the slowdown was more apparent than real, the policy issue is always ‘can we do better?’.

Looking at aggregate productivity data can miss an important aspect of productivity — the enormous disparities in performance at the firm level (Syverson 2011). Those disparities are not just the result of natural variations in firms’ capabilities and market variations over time, but also reflect the policy environment.

A growing concern worldwide is whether good ideas, technologies and practices are being adequately diffused across businesses. Most recently, OECD analysis has suggested that there is a growing gap between the growth of multifactor productivity for frontier firms and others, and that this has contributed to the global slowdown (Andrews, Criscuolo and Gal 2015). The OECD has speculated that there could be a failure in the ‘diffusion mechanism’ through which firms learn about frontier practices, and constraints on the pressures that lead to the exit of inefficient firms (such as product market regulations). How much these factors have affected Australian MFP trends is unclear, but the links between diffusion, product regulation and productivity are obvious areas of interest.

There is other compelling evidence that a significant share of Australian businesses have poor management practices, and while this is true for all countries, Australia lags behind the leading countries (figure 5).

Figure 5 Many firms are well below the frontier
 Management performance scores around the world



^a Data mainly relates to 2008. Grey lines relate to various other countries. ^b Pooled data from 2004 to 2014. AU is Australia.

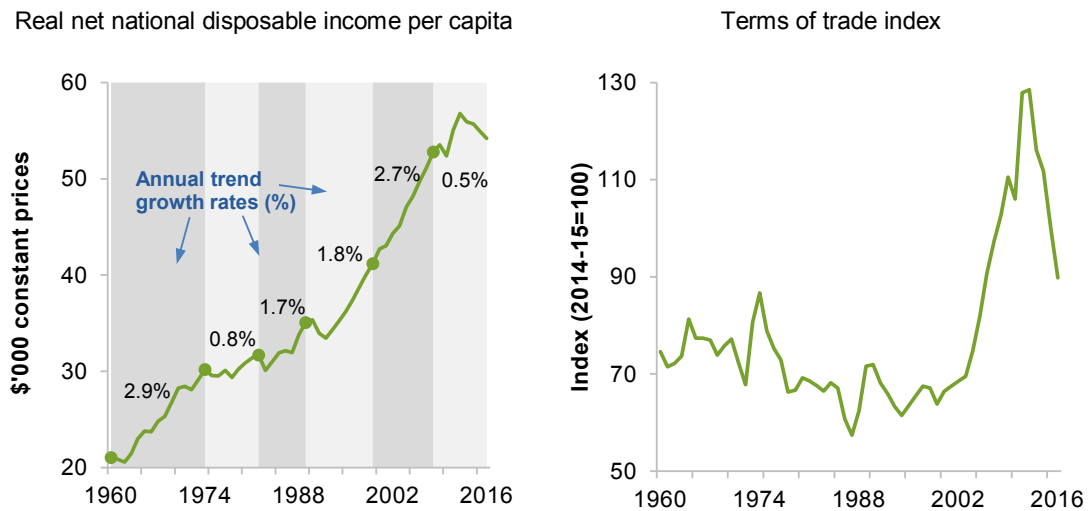
Source: PC calculations based on World Management Survey (<http://worldmanagementsurvey.org/>) and Bloom et al. (2016).

Factors such as competition, ownership, taxation and regulation affect the quality of management by affecting the incentives for better performance and potentially lowering the likelihood of exit by laggards. For example, multinational firms tend to have high quality management and to perform better, while businesses run by families and government businesses tend to perform worse (suggesting that the policies of Australian governments should not favour their growth over other businesses). A significant share of the gap in productivity between Australia and the United States appears to be driven by varying management capabilities (figure 5).

Implications of productivity for incomes

The single best indicator of economic prosperity is so-called ‘real net national disposable income’ (RNNDI) per capita because it represents the income available for consumption by Australians (figure 6). In the last seven years, average annual growth was below 0.5 per cent per annum. Indeed, there have been four successive reductions in RNNDI per capita from 2012-13 to 2015-16, the only time a sequence of this kind has been experienced in close to the last six decades. This outcome was strongly associated with the precipitate and (over this period) unparalleled fall in Australia’s terms of trade, abetted by weak productivity growth.

Figure 6 Prosperity in Australia
1959-60 to 2015-16



Source: ABS 2016, *Australian System of National Accounts, 2015-16*, Cat. no. 5204.0.

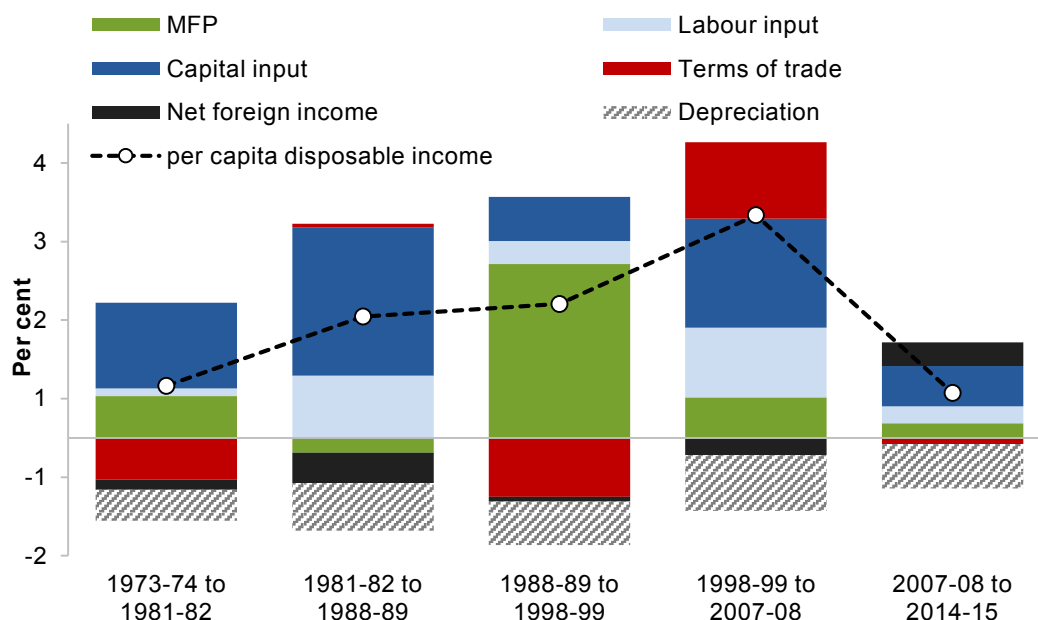
There are six major ways in which Australian real incomes per capita can increase over time, of which multifactor productivity is only one (figure 7). Understanding these factors throws light on the challenges Australians face in the future:

- *Productivity* — Output can increase without any additional inputs (MFP). Given the low growth rate in MFP, this has contributed very little to real income growth in the last decade.
- *Participation* — Labour inputs can vary per capita (for example, through longer working hours per employee, lower unemployment or higher participation rates). As with MFP, this has played a negligible role in recent income growth. And as population ageing shifts more of the population into ages where participation rates are lower, future reductions in labour inputs per capita appear inevitable, with associated adverse income effects.⁵
- *Investment* — Capital intensity can rise (for example, through infrastructure, buildings and equipment, information technologies and robotics). This has been the most consistent factor behind growing incomes per capita, but its flip side, depreciation, has offset its influence on incomes in the last decade. Investment in human capital, though education, training, and learning by doing, can complement capital and contribute to higher productivity.

⁵ While not incorporated into this decomposition of real income, labour input could also take into account the development of skills associated with increased education. The results in figure 7 will capture the benefits of such investments as part of MFP.

Figure 7 Contributions to average annual per capita real net national disposable income growth^a

Percentage points contribution, annual average



^a MFP based on 12 selected market industries (Divisions A to K and R). ^b The contributions of MFP have been scaled from the 12-industry to the whole economy and are therefore different from figure 3.

Sources: Productivity Commission estimates based on ABS 2015, *Australian System of National Accounts, 2014-15*, Cat. no. 5204.0 and ABS 2015, *Estimates of Industry Multifactor Productivity, 2014-15*, Cat. no. 5260.0.55.002, December.

- *Savings* — Net foreign income inflows depend on the past balance between saving and investment and how much Australia relies on foreign borrowing and on the relative returns on these two-way investments. The inflow can increase for any net debt position (for example, if the return on investments held by Australians abroad from dividend and interest income rise relative to the return on foreign investments in Australia). While the inflows have been positive (but modest) in recent years, Australia has relied on financing of investment from overseas, which suggests future negative inflows.
- *Depreciation* — The productive value of older capital reduces over any given period, with the size of this effect depending on the vintage and structure of past capital expenditure. While public infrastructure has long lives and low depreciation rates, many new technologies (particularly information technology investments) have short lives and high depreciation rates. So even with the same rates of investment, the growth in the stock of capital, and hence the services it provides, will be lower.
- *External price shocks* — The buying power of Australian production depends in part on the relative prices of exports to imports (the terms of trade). Growth in the former over the latter translates any given production into a greater capacity to buy imports and higher real incomes (the ‘terms of trade’ effect). Unlike (i) to (v), the terms of trade

effects arise from luck — global commodity demand patterns and beneficial endowments cannot be attributed to Australian ingenuity (though taking advantage of them can be). While the terms of trade are still well above the average over the last 4 decades, their collapse has been unprecedented. Its future pathway is unclear, and past forecasts have often proven to be markedly divergent from outcomes (Heath 2015). The Reserve Bank of Australia (2016) forecasts levels to 2018 that are close to current levels, while the National Australia Bank (2016) forecasts continuing significant falls over the same period. A longer-term prediction suggests a continuing decline until at least 2029-30 (Bullen, Kouparitsas and Krolkowski 2014). Any downward trend will place further pressure on the level of Australia's income and place greater emphasis on the imperative to increase productivity in the decades ahead (PC 2016b).

Looking over the very long run, most of the above six factors cannot drive sustained real income growth. For example, labour inputs *per capita* cannot increase indefinitely (given the desirable limits to hours worked).

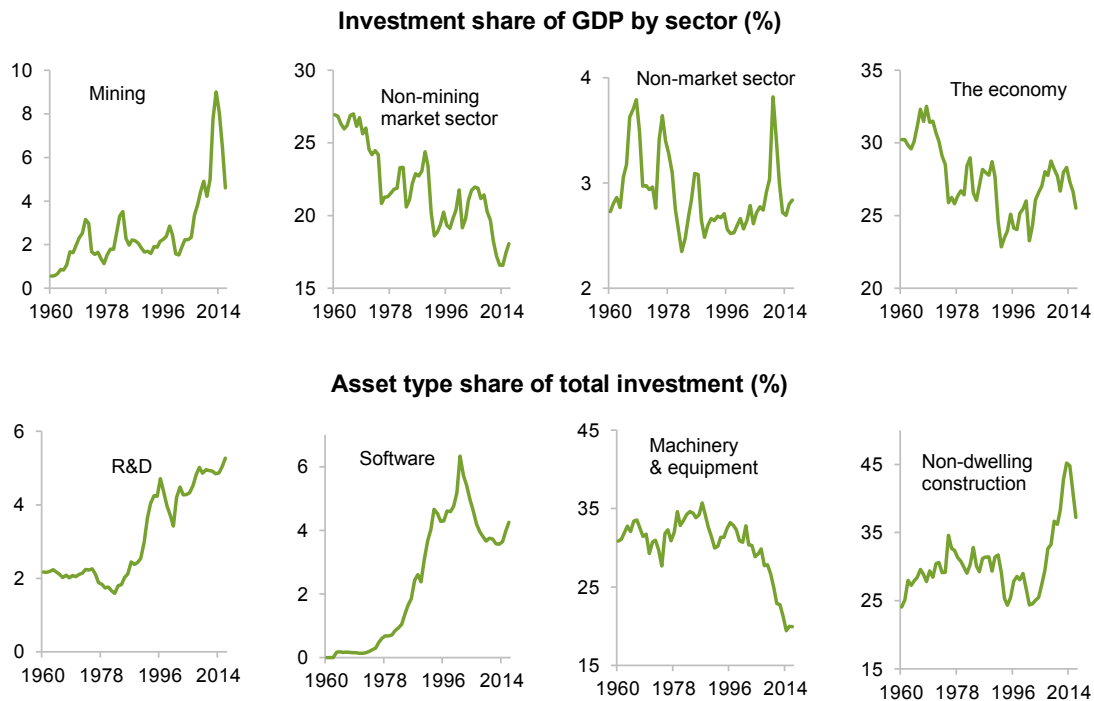
In contrast, MFP has the quality that it is ultimately unbounded. There is no obvious limit to the acquisition of new knowledge, which underpins new products and services.

The historical experiences of Australia and most advanced countries also suggests that investment is likely to remain an important contributor to labour productivity growth and wage increases. Furthermore, since technology is often embedded in capital, higher investment rates can complement skills and innovation, and increase productivity. This means that policies influencing investment will be directly relevant to MFP, making a conducive investment environment doubly important.

It may be that part of the weak MFP outcomes lies in recent investment patterns, which have not favoured assets with high levels of embedded technology (figure 8). Mining sector investment rose strongly for much of the 2000s, but that growth hid the weak rates of investment in the non-mining market sector. Similarly, across the whole economy, the shares of investment in machinery and equipment, and in software have fallen since the early 2000s. While the R&D share of investment has risen over the longer term, it has been subdued since 2008. Moreover, profitability in the market sector in the June quarter 2016 was the lowest since the March quarter 2005 — a possible further risk for future business investment.⁶

⁶ Based on the smoothed value of the gross operating surplus of businesses (unincorporated and incorporated) divided by sales for the market sector (ABS 2016, *Business Indicators, Australia*, June 2016, Cat. no. 5676.0).

Figure 8 Digging deeper: investment patterns
1959-60 to 2015-16



Source: ABS 2016, *Australian System of National Accounts, 2015-16*, Cat. no. 5204.0.

What does the past tell us?

The inquiry's terms of reference request the Commission to examine the factors — including policy changes — that may have affected Australia's past productivity performance. There is a reasonable case that, taken as a package, the microeconomic reform agenda of the 1980s and 1990s improved multifactor productivity, though the magnitudes of the effects are vigorously debated (Parham 2002, 2004; PC 1999; Quiggin 2006). Regardless, the published high-level ABS National Accounts data on productivity is not well-suited to disentangling the separate impacts of the vast mix of policies implemented by Australian governments over time (in innovation, workplace relations and regulatory reform, tax policies, trade and competition policy, privatisation and so on). The Commission will consider whether there is other evidence — in Australia or globally — that points to policies likely to promote productivity. It may be that firm or project level data provide more insights, as was the case for considering productivity in Australia's construction industry (PC 2014).

4 Difficulties of measuring productivity in the non-market sector

The non-market sector accounted for around 20 per cent of total industry output in 2015-16.⁷ Population ageing over the coming decades will lead to significant expansion in health care, aged care and social assistance, and under current policy settings this will not be offset by reductions in the share spent on childcare and education (Australian Government 2015; PC 2013a). Since taxpayers, not the users of the services, are the main source of revenue for much of the non-market sector, those demographic drivers will also have large fiscal impacts. Directing services at their highest value uses and improving productivity can limit those fiscal consequences and ensure better outcomes for growing numbers of people (Australian Government 2007; Gruen 2012). This is also an area readily amenable to policy action because, as purchasers, providers and regulators, governments control most of the levers shaping productivity.

Unfortunately, an obvious starting point for analysis of the prospects for productivity improvement and their possible origins is unavailable for the non-market sector. The government provides much of these sectors' outputs at subsidised prices or free of charge. So output estimates for the non-market sector are usually based on the cost of production (that is, the cost of inputs). By definition, this means measured MFP growth is zero — as output growth is determined directly by growth in inputs (PC 2016b). It also means that the genuine value of output of the non-market sector is higher than its measured value in the national accounts — so that the non-market sector is even more important relative to other industries than the official statistics suggest.

The ABS is developing better statistics for the non-market sector in line with the national accounts framework, but the timeline lies outside that for this inquiry. Nevertheless, some analysis in Australia and overseas has attempted to measure productivity in this sector, which the Commission will draw on (Aizcorbe, Retus and Smith 2008; Atkinson 2005; Diewert 2011; Dunn, Rittmueller and Whitmire 2015; Lee 2008; ONS 2016a, 2016b; Schreyer 2010; Statistics NZ 2010, 2013; United Nations 1993).

There are also important policy insights by diving deeper into some narrower aspects of productivity performance in the non-market sector. From a policy perspective, a major area of interest is the unexplained variations in productivity (or quality) between suppliers, since policies can be directed at closing such gaps. For example, variations between hospitals and over time between operating theatre productivity, after controlling for the type of operation, suggests inadequate diffusion of best practice (a measurement issue being examined by Pares 2015). Similarly rates of unplanned readmission rates following hospital surgery are a major source of hospital costs (and adverse outcomes for people), are

⁷ This comprised 6.4 per cent for public administration and safety, 5.8 per cent for education and training and 8.1 per cent for health care and social assistance, based on shares of current price total industry output excluding ownership of dwellings (ABS 2016, *Australian System of National Accounts*, table 5, Cat. no. 5204.0).

So reform options should ideally specify challenges of, and resources required for, implementation. This would include the coordination, resources and expertise required for a reform, whether an initiative requires cooperation across jurisdictions, the scope for trials and later expansion, and an evaluation strategy to assess whether the policy is working effectively.

6 Where to from here?

This inquiry has some unique features compared with most others undertaken by the Commission. It is not a one-off inquiry, but the first of a series of reviews conducted every five years. In some cases, the Commission will foreshadow possible agenda items for later reviews. The inquiry is very broad in nature, and thereby the groups that may wish to give us views are very diverse. The Commission particularly wants new ideas for advancing reform. Submissions will play one role in informing this inquiry, but the Commission will be seeking views in other ways too, including through a web-based survey.

Attachment: Terms of reference

PERIODIC INQUIRY OF AUSTRALIA'S PRODUCTIVITY PERFORMANCE

I, Scott Morrison, Treasurer, pursuant to Parts 2 and 3 of the Productivity Commission Act 1998, hereby request that the Productivity Commission (the Commission) undertake an inquiry into Australia's productivity performance and provide recommendations on productivity-enhancing reform. This inquiry will be the first of a regular series, undertaken at five-yearly intervals, to provide an overarching analysis of where Australia stands in terms of its productivity performance.

Background

Productivity growth is the main long-term driver of growth in Australian incomes and living standards.

Governments have an important influence on productivity growth, including through policies and regulations that affect investment in human and physical capital and the functioning of markets, including with respect to trade, competition and other regulatory constraints and incentives.

Policy settings can support productivity growth by ensuring that the economy is flexible, able to adapt in the face of economic challenges and opportunities, and imposes the least cost in achieving governments' policy objectives.

It is particularly important at present that policy settings facilitate structural change and productive investment in the economy to support its transition from the resources investment boom, and promote its efficiency and competitiveness given population ageing and the evolving global economy.

The Commission will undertake an inquiry of Australia's productivity performance and make recommendations, as necessary to support productivity growth. This task will be undertaken every five years.

Scope of the inquiry

The Commission is to review Australia's productivity performance and, in the light of its findings, make recommendations to assist governments to make productivity enhancing reforms.

Without limiting related matters on which the Commission may report, its report to the Government should:

1. analyse Australia's productivity performance in both the market and non-market sectors including an assessment of the settings for productive investment in human and physical capital and how they can be improved to lift productivity

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2. examine the factors that may have affected productivity growth, including an assessment of the impact of major policy changes, if relevant
 3. prioritise potential policy changes to improve Australian economic performance and the wellbeing of Australians by supporting greater productivity growth.

The Commission should have regard to other current or recent reviews commissioned by Australian governments relating to Australia's productivity performance such as the Harper Competition Policy Review and include comparisons of Australia's productivity performance with other comparable countries.

The Commission should support analysis with modelling where possible and qualitative analysis where data is not available and this is appropriate.

Process

The Commission should consult widely and undertake appropriate public consultation processes, accepting public submissions.

The Commission should consult with Commonwealth, state and territory governments.

The final report should be provided to the Government within 12 months of receipt of these terms of reference.

Scott Morrison

Treasurer

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