

Productivity growth: is it worth having?

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What do you believe will be most important for ensuring Australia's future economic prosperity, and why?

July 2017

Introduction

Explaining why some countries prosper and others flounder has been a perennial problem in economics since Adam Smith's inquiry into the wealth of nations. Though economists know a lot more than Smith did in 1776, his account of the division of labour remains the best explanation we have. Productivity, or the ability to extract more output from the same inputs, is the key ingredient for a growing economy. As Paul Krugman's aphorism goes, productivity isn't everything, but in the long run it's almost everything. While policymakers can't do a lot to increase productivity growth, they can hinder it through inefficiencies. This paper argues productivity is most important for ensuring Australia's future economic prosperity. Structural reforms will get productivity growth back to its long-run average and deliver a higher standard of living for all Australians.

1. A review of productivity growth in Australia

Productivity growth in Australia, which boomed in the 1990s, has declined markedly since the turn of the century.

Table 1: Multifactor productivity growth in Australia, 1995-2015

Year	1995/96-1999/00	2000/01-2004/05	2005/06-2009/10	2010/11-2014/15
MFP	1.84	0.98	-0.27	0.38

Source: ABS cat. no. 5260.0, December 2016¹.

The recent slowdown in productivity growth is something observed across the developed world². Why this is so is a moot point in macroeconomics. A popular view is that the productivity gains from ICT have been less pronounced than inventions of previous decades³. Such debates are interesting, but too unresolved to form any conclusions; a verifiable explanation is reserved for the economic historians of the future. Though if economic history is anything to go by, productivity growth is and will continue to be the most important determinant of Australia's economic prosperity.

It is first necessary to situate productivity within a broader theory of economic growth. Neoclassical economists typically use the Solow model for this. Take a standard Cobb-Douglas production function $Q = AK^aL^b$, where A is multifactor productivity. Rewriting this to represent output per worker, we get: $Q/L = \frac{AK^a}{L^{1-b}}$. Given constant returns to scale ($a + b =$

¹ ABS (2016).

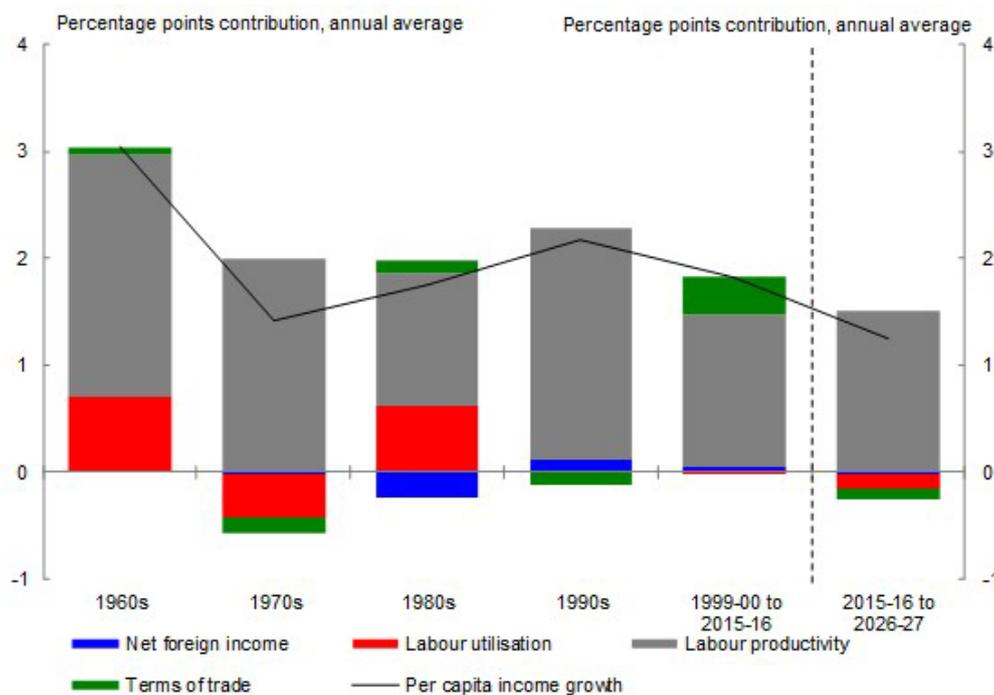
² Carmody (2013).

³ Gordon (2016).

I), this simplifies to $Q = A(K/L)$. Expressing it as a function of output per worker ($q = Q/L$ and $k = K/L$), the formula for growth is $q = Ak^a$. This model implies economic growth is a result of either capital accumulation or, as a residual, productivity growth.

Capital accumulation tends to be the main source of growth for young countries and less so after they develop⁴. This is consistent with Australia’s economic history. Buoyant investment and capital flows were responsible for high economic growth in the early days of European settlement, but after the mid-18th century its dominance waned and productivity growth became more important⁵. Today, productivity growth is recognised by Treasury to be the most important component of economic growth⁶. There are cyclical parts of Australia’s national account that also affect economic prosperity, but in the long run productivity growth makes overwhelmingly the biggest contribution to our standard of living.

Chart 1: Sources of growth in real national income per person, 1960s-2020s (estimated).



Source: ABS cat. no. 5206.0 and Treasury projections, March 2015⁷.

Australians have reaped enormous benefits from a quarter of a century of uninterrupted growth. Between the early-1990s recession to 2008, net disposable income per capita grew by a remarkable 60 per cent in real terms. However, such prosperity should not be taken for

⁴ Kuznets (1971, pg. 66-67).

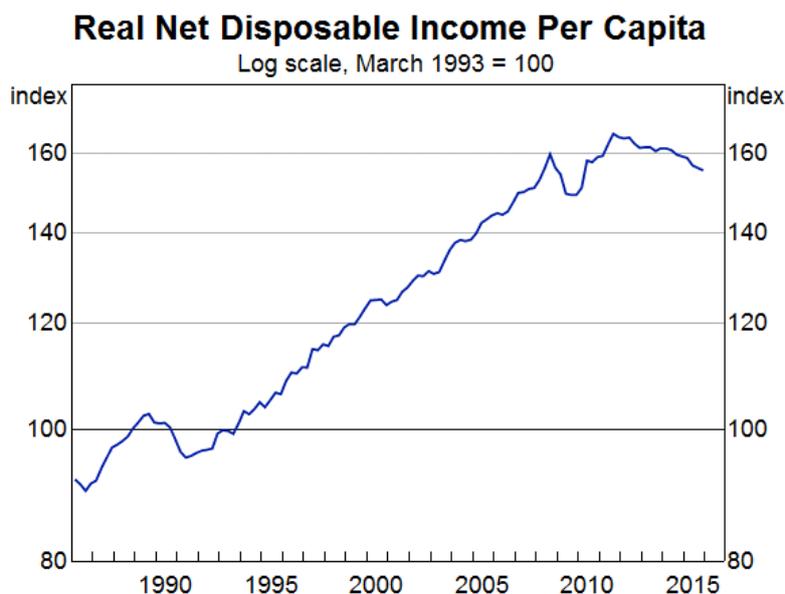
⁵ McLean (2013, pg. 30).

⁶ Fraser (2016).

⁷ Commonwealth of Australia (2015, pg. 33).

granted. Most of the growth in incomes was due to an upsurge in productivity⁸, which is now below the long-run average. Income per capita managed to continue growing in the 2000s because of a once in a lifetime terms of trade boom that is now behind us⁹. Living standards have been in constant decline since the first quarter of 2011 and are today lower than before the GFC.

Chart 2: Standard of living growth in Australia, 1990s-2010s.



Source: RBA, March 2016¹⁰.

Growth in real wages, a key aspect of income per capita, is still in decline despite forecasts predicting a recovery for several years now. A recent RBA paper suggests this is because of the sanguine assumptions made about productivity growth¹¹. Intuitively, it doesn't make sense for workers to receive a real wage increase unless their marginal product of labour improves. Workers, as well as firms, will have to become more productive if they are to see living standards return to growing at the rates we have come to expect.

2. Productivity and economic policy

All economists recognise the importance of productivity but seldom agree on how to deliver it. Boosting productivity growth is a task better suited for the policymaker than the academic. Broadly speaking, there two approaches governments can consider when trying to raise productivity. The first is the capability approach, and the second is supply-side. The

⁸ Eslake (2011, pg. 224).

⁹ Kearns, Lowe (2011).

¹⁰ Lowe (2016).

¹¹ Bishop, Cassidy (2017).

capabilities approach was favoured by Treasury for over a decade with the wellbeing framework. Since the appointment of John Fraser as Secretary in 2015, the Treasury has returned to focussing on the supply-side, akin to the reformist era under John Stone and Bernie Fraser.

The supply-side reforms of the 1980s and 1990s involved extensive deregulation of industry and opening up of the Australian economy to the rest of the world. Prior to this domestic firms had been relatively insulated from international competition with the imposition of high tariffs and subsidies. By reducing protections, Australian firms had to become more efficient in order to maintain profits. Most businesses rose to this challenge, updating their capital and labour stock. The creative destruction spearheaded by structural reform is widely credited for the boom in productivity growth in the 1990s.

These improvements to allocative efficiency were by nature ‘one off’. While there is a substantial regulatory burden remaining in taxation, industrial relations and competition law¹², reforming these alone are unlikely to stimulate the same growth in productivity seen in the 1990s. Since the area of deadweight loss grows quadratically, inefficiencies today have less of a distortionary impact on the market than they did in the 1980s. This is not to say further reform in these areas should not be pursued, as the Henry and Harper reviews recommend; rather that doing so will not be enough to safeguard our economic prosperity.

According to the Solow model, productivity growth comes from technical progress. Angus Maddison, the world’s foremost authority on measuring long-term economic growth, argued technical progress is “the most essential characteristic of modern growth and the one that is most difficult to quantify”¹³. While there is not an accepted economic theory for technical progress, a refined version of the Solow model offers some insight. The augmented Solow model states that improvements to human capital can advance technical progress¹⁴. This seems plausible. It stands to reason that people will be more productive if they are better educated and leading healthier lives. Proponents of this argument often call for more investment into education and health, though such efforts are misguided. There is considerable evidence that these industries could be doing better with existing resources.

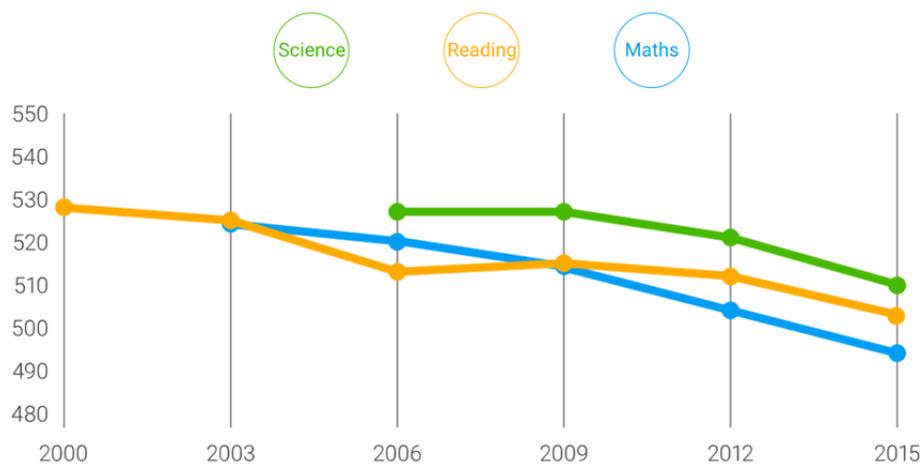
¹² Banks (2017).

¹³ Maddison (1994, pg. 56).

¹⁴ Mankiw, Romer, Weil (1992).

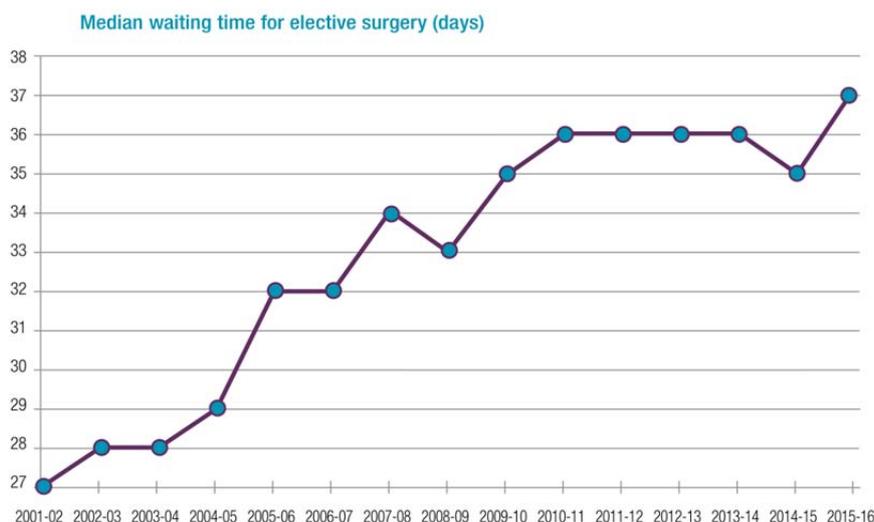
Education and health are two common goods that play a vital role in our society. Millions of Australians already use these services, and many more will in the future. The 2015 Intergenerational Report shows that demand for high quality teaching and primary care will climb sharply in the future, as the youth seek skilled jobs and an aging population live longer lives. However, it appears providers are not rising to meet these new challenges. Despite record funding in schools and hospitals, student and patient outcomes are in decline according to key performance indicators.

Chart 3: Student achievement in Australia, 2000-2015.



Source: PISA, December 2016¹⁵.

Chart 4: Median waiting time in Australian public hospitals, 2001-2015.



Source: AIHW, July 2017¹⁶.

¹⁵ ACER (2016).

¹⁶ AMA (2017).

A good indicator of inefficiency is when performance across a sector varies widely. Of the two latest reviews conducted into the health and education system, Better Health, Better Hospitals and Gonski respectively, both found substantial differentials between the best performing and lowest performing hospitals and schools. This implies there are opportunities to increase output and reduce costs by shifting from less to more efficient producers.

There is enormous scope for reform in these industries, of which policymakers are already pursuing. The proliferation of big data gives public servants the ability to monitor individual outcomes in a way that hasn't been possible before. Administrative reforms will allow governments across the states and territories to better coordinate funding and identify inefficiencies within services. But they only go so far. In the spirit of the economic reforms of the 1980s and 1990s, more competition should be introduced into the health and education systems. Structural reform would give underperforming providers an incentive to innovate, delivering higher quality services for all Australians. The gains in human capital would be immense, guaranteeing a productive workforce fit for the 21st century. The case for productivity-enhancing structural reform is clear. Though as a recent Treasury paper remarks, whether it can be achieved is a separate issue¹⁷.

Conclusion

Economic policy is multifaceted and rarely just a matter of economics. There are many things that go into a nation's prosperity. But to the economist, productivity stands out as being most important, at least materially. The relationship between productivity growth and economic growth is strong, both theoretically and empirically. Sustained productivity growth has been responsible for the high standard of living we enjoy today. Looking ahead to tomorrow, it will be even more important. While there are short-term efficiency gains that can be made to productivity, the biggest contributor in the long run is technical progress, which for the most part is outside the domain of government. In the areas where government can foster productivity growth, namely health and education, the potential for structural reform is ample. Doing so will give future generations the best chance of succeeding in this exciting global century.

¹⁷ Commonwealth of Australia (2017, pg. 17).

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