The Importance of Productivity

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It is a pleasure to be here today and thank you Gary [Banks] and Brian [Pink] for providing the opportunity for me to speak to you.

Productivity is a watchword for many Australians at the moment: policy makers and advisors, economists, commentators, businesses and employers, unions and workers. It's a subject that warrants informed and considered discussion and that's what today is about.

The topics of productivity trends and developments in measurement techniques are important and timely, and you bring to bear on them the highest levels of experience and expertise.

This work also intersects with the work of the Treasury in that it informs judgements about the state of Australia's economy and appropriate policy advice.

So today, as a way of opening up the conversation, I want to outline the importance of productivity from the perspective of the Treasury, and briefly touch on the role policy can play. From there, I want to discuss the importance for good policy-making of measuring and interpreting productivity as accurately as possible, in the present and for the future.

It's important, first of all, to draw a distinction between actual productivity and measured productivity – a distinction that is often overlooked. What we as policy advisers are striving for is growth in actual, not measured, productivity. While we always hope that the two move together, there are a range of methodological and measurement issues that mean that this is not always the case.

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[1] Address to the Productivity Perspectives 2012 Conference held by the Productivity Commission and the Australian Bureau of Statistics at Old Parliament House, Canberra, 20 November. I am grateful to Spiro Premetis and Angela Woo for much help with this speech.

So, for Treasury, a focus on actual productivity means a focus on efficiency – dynamic, allocative, and technical (or cost) efficiency – as a means of getting the most out of our resources and of enhancing the material living standards of Australians.

Of course, improving efficiency is only one among a range of goals that governments seek to achieve. From Treasury's perspective, the ultimate goal of measuring productivity is to assist policy makers to make good policy choices and I will touch more on measurement issues in this context later. Before that, let me briefly outline why productivity growth is particularly important at this time.

WHY PRODUCTIVITY GROWTH MATTERS

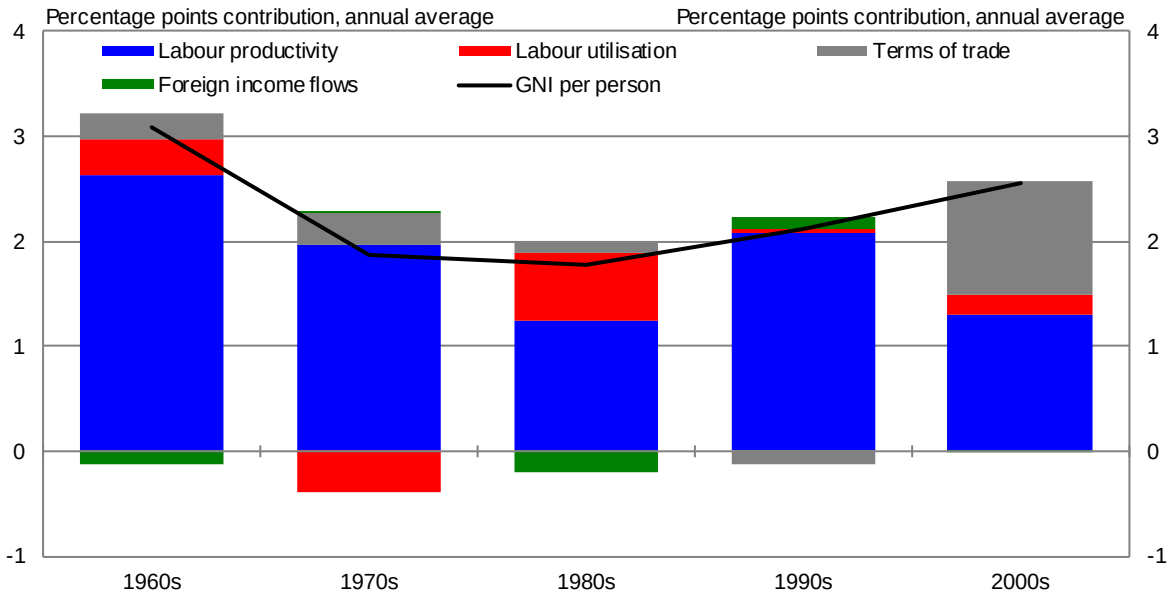
At the broadest level, Treasury is interested in productivity because of our mission of improving the wellbeing of Australians, of which increasing material standards of living through improvements in productivity is one, albeit important, part.

We do not seek improvements in productivity as ends in themselves, or necessarily at the expense of other goals that enhance the wellbeing of Australians. Instead, the Treasury wellbeing framework reminds us that wellbeing is driven by several distinct considerations and we need to ensure that Ministers are aware of the trade-offs involved in options before them. An example of a trade-off between rising measured productivity and other goals is the pursuit of enhanced environmental outcomes, which usually require increased inputs but will usually not result in higher outputs, at least not as conventionally measured.

Since, in principle, Treasury could focus on a multitude of ways to increase Australians' wellbeing without increasing productivity, it is worth asking why productivity is important. The answer has a number of dimensions.

First, despite measurement difficulties, productivity is currently revealing some worrying trends. Historically, productivity growth has been the predominant source of income growth in the economy.

Chart 1: Contributions to growth in average incomes



Note: Data for the 2000s are for the twelve years to 2011-12.

Source: Treasury calculations based on ABS Catalogue Numbers 5204.0, 6202.0 and unpublished ABS data.

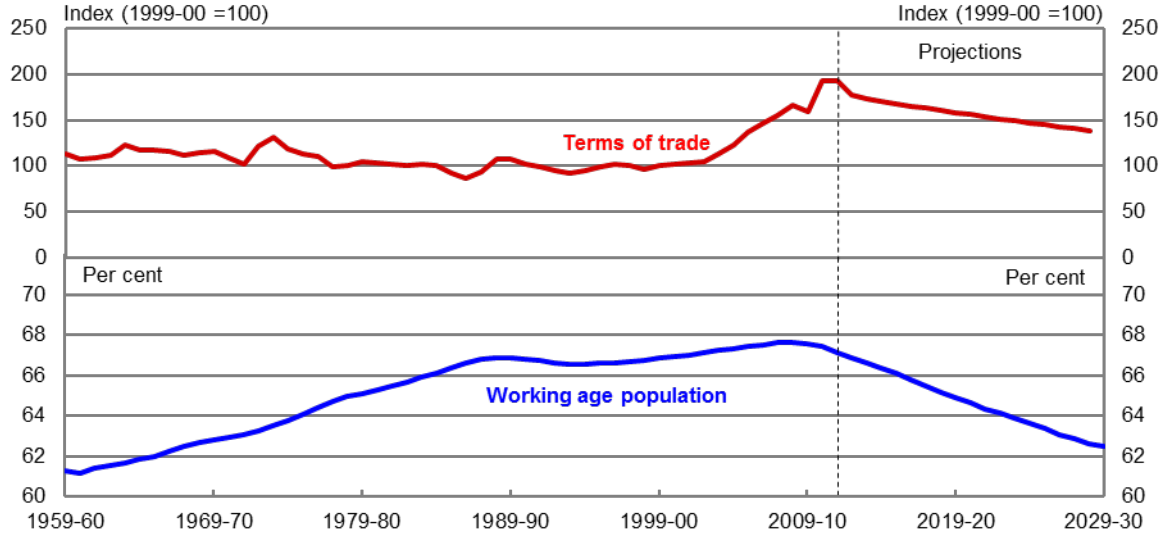
As Chart 1 reveals, however, the 2000s was an unusual period, when labour productivity growth contributed around half the growth in average incomes, compared to an average of around 90 per cent over the four previous decades. In the 2000s, the Australian community experienced strong growth in incomes only because of the unprecedented contribution of rising terms of trade.

Looking to the future, we should expect the terms of trade to detract from growth in incomes rather than add to it as occurred in the 2000s. While commodity prices are expected to remain elevated compared to history, we expect they will trend lower over time as global supply expands rapidly. [2]

The ageing of the Australian population is also anticipated to detract from labour force participation in the future, and hence from growth in output (and incomes) per person, as the baby boomer generation moves into retirement.

[2] Despite recent falls in commodity prices, resource investment is expected to reach an unprecedented share of GDP in 2012-13, and remain extremely high in 2013-14 (2012-13 Mid-Year Economic and Fiscal Outlook (MYEFO)). This surge in investment is expected to lead to a sizeable sustained lift in resource export volumes as major resource projects increasingly move from the investment phase to the production phase.

Chart 2: Australia's terms of trade and working age population



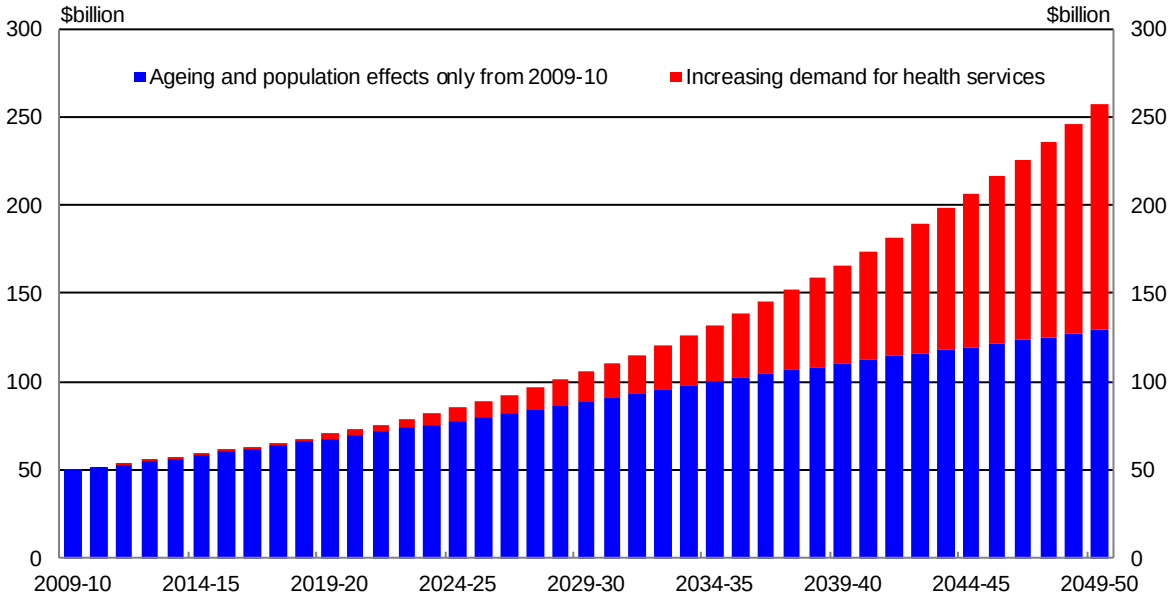
Note: Working age population is persons aged 15-64 as a percentage of total population.
Source: ABS Catalogue Numbers 5206.0, 3101.0, 3105.0.65.001, and Treasury projections from the 2012-13 MYEFO.

So the terms of trade and the ageing of the population are both likely to work against us, rather than for us, in the future. If this is the case, we will rely on productivity improvement to again become the dominant contributor to growth in Australian incomes (Chart 2).

For the government, declining workforce participation and terms of trade imply slower growth in nominal national income, and hence in tax revenue, and therefore a reduced capacity to fund essential services relative to demand.

As you would be aware, and as highlighted in the Intergenerational Reports, the ageing population, combined with rising expectations for a range of publicly funded goods and services are adding to our medium-term fiscal challenges. As an example, health care costs at the Commonwealth level in today's dollars are expected to grow five-fold over the next four decades. A significant portion of this growth will be driven by the ageing of the population. But it will also be driven by the changing nature of health services – many of us will be expecting higher standards of aged and health care services than those received by our parents – and by emerging technology used in healthcare delivery (Chart 3).

Chart 3: Total Australian government health expenditure with and without non-demographic growth (in 2009-10 dollars)



Source: 2010 Intergenerational Report.

Productivity growth in the health sector will, then, be essential to raising the level of service in this area, as well as helping to manage the longer-term fiscal challenge.[3] This story is true for a range of public services. Having said that, it is worth noting that economy-wide productivity gains will also raise public spending simply because economy-wide wages grow more or less in parallel, and many social transfers are indexed to wages growth.

Productivity improvements can affect the fiscal position differently, depending on their source. The net effect on the budget of economy-wide productivity gains is more moderate because of the link between these and public sector wages and transfers. However, improvements in productivity that are achieved through better use of resources in sectors like health or education can have more favourable fiscal impacts by allowing more value to be created with existing resources and/or by slowing the rate of growth in expenditure.[4]

[3] The fiscal challenge will also have to be met through expenditure decisions that generate significant longer-term savings. An example of such a decision, from the 2012-13 MYEFO, was the change to the Private Health Insurance Rebate, which will in future be indexed by the lesser of CPI or the actual increase in commercial premiums, and will thereby generate budget savings that rise through time.

[4] Gruen D and Garbutt M, (2004). "The Long Term Fiscal Implications of Raising Australian Labour Force Participation or Productivity Growth," Treasury Working Paper, April.

Finally, improving productivity will be important as we seek to grasp the opportunities provided by the 'Asian Century'.

As part of the White Paper on Australia in the Asian Century, the Government has set the challenging goal of returning Australia's productivity growth over the thirteen years out to 2025 to rates comparable to the decade of the 1990s, where labour productivity growth averaged 2.1 per cent a year.

WHAT THIS MEANS FOR POLICY

Productivity outcomes will clearly depend not only on the choices and actions of the government, but also the private sector, individuals, businesses, and the community at large. So what should governments focus on? At the broadest level, the answer lies in ensuring that governments get underlying policy settings 'right', both on spending and regulation.

One way of thinking about the role of policy is to consider where Australia's productivity levels are relative to world's best practice – the global technology frontier. The global stock of technology obviously determines what is possible to produce with given resources, and how.

Where we are relative to the global frontier depends on domestic policy choices, the quantity and quality of our labour and capital, as well as environmental and historical factors that determine the extent to which resources are used as efficiently as technically feasible. Maximising our productivity growth prospects for the future will depend on our capacity to move with advances in technology.

As a small economy, Australia has historically been more of an adaptor and user, rather than generator, of advances in technology. This implies that it is important that policy facilitates an environment in which firms can nimbly absorb technological progress from overseas.

Governments can also act to help close the gap between Australia and the best practice frontier by ensuring we have well-functioning, competitive and open markets, including being open to ideas and technology from abroad; and

removing impediments to the flexibility, responsiveness and dynamism of firms.[5]

In some areas, such as mining, Australia may be at the best practice frontier and, in this case, governments may have a role in removing any constraints that are preventing further global technological advancement.

In other sectors, such as health and education, governments can also have a significant direct impact on productivity because they are primarily or significantly responsible for governance and service delivery.

Governments can also have an impact on the critical inputs to others' efficiency, for example through their ownership or regulation of essential services like water, energy and transport. Accordingly, well-targeted corrections of market failure in the areas of monopoly infrastructure, innovation and human capital can provide an important avenue for productivity gains. In his recent excellent speech, Gary Banks highlighted areas identified by the Productivity Commission of government influence on productivity outcomes that are worth re-visiting.[6]

Further, governments should allow for the inevitable continued structural change in the economy – which will continue to support productivity growth and provide employment in firms and sectors with stronger longer-term prospects. Australia's trade-exposed non-resource industries which are affected by the high exchange rate will need to improve efficiency to improve their international competitiveness. However, given the unprecedented rise of Australia's terms of trade since the mining boom began around 2003, no feasible increase in productivity would be sufficient to obviate the need for continued structural adjustment in these sectors.[7]

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[5] Dolman B and Gruen D, (2012). "Productivity and Structural Change," address to the Australian Conference of Economists, Melbourne, 10 July 2012, Australian Treasury.

[6] Banks G, (2012). "Productivity Policies: the 'to do' list," Address to the Economic and Social Outlook Conference, 'Securing the Future' in Melbourne on 1 November 2012, Productivity Commission.

[7] Henry K, (2012). Address to the Business Symposium of the Australian Conference of Economists, 13 July 2012, viewed on 16 November 2012, <http://theconversation.edu.au/ken-henry-why-australias-non-mining-sector-will-continue-to-struggle-8224>

THE IMPORTANCE OF ACCURATELY MEASURING AND INTERPRETING PRODUCTIVITY

Let me briefly turn now to the role of your organisations – and ours – given these challenges.

Policy advisers rely on reported measures of productivity to inform both judgments about the economy and their policy advice. As we all know, however, measuring productivity is difficult.

As the Stiglitz-Sen-Fitoussi Report famously said: *"what we measure affects what we do, and if our measures are flawed, decision making may be distorted."* [8] This places the focus on the improvement and careful analysis of productivity measures – which, to their credit, both the Productivity Commission and the Australian Bureau of Statistics continually strive for. It also places an onus on users of the information to understand the measures and interpret them carefully.

Much of the public discourse on productivity in Australia is based on measured aggregate productivity – which reflects the outcomes of a multitude of players in the economy who react to different incentives and who have a range of motives. In order to interpret what aggregate measures mean, however, we need also to look at more disaggregated industry and firm level data – that is, looking from the bottom up as well as from the top down.

There are also varying levels of confidence that can be attached to the data we use to assess industry productivity. The market sector – which makes up around three quarters to four fifths of the economy – is generally regarded as being well captured. In contrast, the non-market sector – which accounts for around a quarter of employment and a fifth of output – is less well measured.

But can we make further progress on the measurement of productivity in these more conceptually challenging sectors?

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[8] Stiglitz JE, Sen AK, and Fitoussi, J-P, (2009). Report by the Commission on the Measurement of Economic Performance and Social Progress, viewed on 16 November 2012, <http://www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf>

WHERE FUTURE WORK WOULD BE USEFUL

Deeper sectoral analyses

Recent work by the Productivity Commission into various individual sectors has provided us with valuable insights into the slowdown in productivity growth.

For example, in 2008 the Productivity Commission reported that the slowdown in productivity in the mining sector was, in part, due to lags between the considerable capacity investment that had occurred and outputs still to come, rather than a fundamental decrease in efficiency. It highlighted that mining companies, quite understandably, have pursued deposits that are more difficult and costly to extract, as well as lower grade resources, which have been made economically viable by higher prices. This has boosted income and profitability but reduced productivity.[9]

Other sectoral analyses from the Productivity Commission include that on the utilities sector completed earlier this year and the current work of Paula Barnes on the manufacturing sector, which she will present later today.

Better understanding the productivity of the service sectors

A big part of the economy that is not measured well is the service sectors. With the relative decline in some prominent goods-producing sectors – particularly agriculture and manufacturing – the service sectors today make up about 75 per cent of employment and 80 per cent of output (Chart 4).[10]

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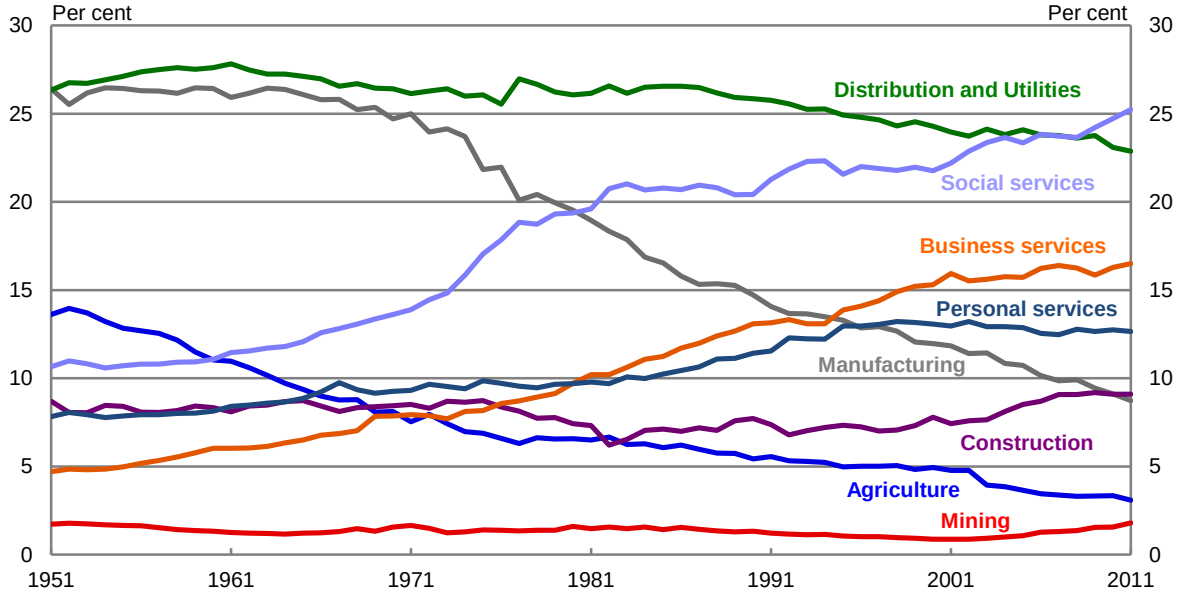
[9] See for example: Topp V, Soames L, Parham D and Bloch H, (2008). "Productivity in the Mining Industry: Measurement and Interpretation," Productivity Commission Staff Working Paper, December.

Parham D, (2012). "Australia's Productivity Growth Slump: Signs of Crisis, Adjustment or Both?," Productivity Commission Visiting Researcher Paper, April.

Topp V and Kulys T, (2012). "Productivity in Electricity, Gas and Water: Measurement and Interpretation," Productivity Commission Staff Working Paper, April.

[10] Australian Bureau of Statistics (2012), Year Book Australia 2012, cat. no. 1301.0, 24 May 2012, defines service industries as: Electricity, gas, water and waste services; Wholesale trade; Retail trade; Information media and telecommunications; Rental, hiring and real estate services; Professional, scientific and technical services; Administrative and support services; Public administration and safety; Education and training; Health care and social assistance; Arts and recreation services; and Other services. Electricity, gas, water and waste services can be viewed as both a goods-producing and services-producing industry, as it includes producers, wholesalers, retailers and distributors. The ABS considers goods-producing industries to be Agriculture, forestry and fishing; Mining; Manufacturing; and Construction.

Chart 4: Employment by industry (share of total – persons employed)



Note: Distributions Services includes wholesale trade, retail trade, transport, postal and warehousing, and information, media and telecommunications. Business Services includes financial and insurance services, rental hiring and real estate services, professional, scientific and technical services, and administrative and support services. Social Services includes public administration and safety, education and training, and health care and social assistance. Personal Services includes accommodation and food services, arts and recreational services, and other services.

Source: Productivity Commission (2012) and Connolly and Orsmond (2011).

The Australia Bureau of Statistics has improved its coverage of industry data to better take into account market sector services. However, the challenges in measuring the productivity of the services sectors remain formidable. What exactly does a lawyer or an economist produce? How do you place an objective monetary value on services that are not bought and sold, such as many public services?

Some recent international studies are helping to shed more light on the services sectors and their prospects, which is encouraging. For example, a 2011 study by Dale Jorgenson and Marcel Timmer challenges conventional wisdom that there is slow growth in productivity in services, and that there are no significant prospects for productivity growth given the labour intensity of their activity. It also highlights, perhaps not surprisingly, that there are significant differences in the productivity performance of different service sectors.[11]

[11] Jorgenson DW, and Timmer MP, (2011). "Structural Change in Advanced Nations: A New Set of Stylised Facts," Scandinavian Journal of Economics, Wiley Blackwell, vol. 113(1), pages 1-29. The study found that there is substantial heterogeneity in service industries. For the US, Japan and the EU personal, finance, and business services follow the classical pattern of low productivity growth - rising relative prices, and increasing shares in

The non-market sector

The non-market sector – which includes public administration and safety, education and training, and health care and social assistance services – makes up roughly 26 per cent of employment and 18 per cent of output. As you would expect, a significant proportion of these services are provided by government.

Almost everyone is a potential user of public services, such as hospitals or schools, and taxpayers, as the funders of public services, have a legitimate concern about the value they are getting for their money. As such, the productivity of these sectors is of considerable importance.

Erwin Diewert and Paul Schreyer, both of whom are with us today, have highlighted the need to improve our measures of productivity in the public sector, and grappled with the conceptual measurement issues relating to productivity in the non-market sector.[12]

In the absence of good measures, policy advisers, along with the Australian Bureau Statistics, the Productivity Commission and others, have the challenge of conceptualising and measuring what is 'produced' in the government sector in a way that helps to inform good policy.

For example, are we able to accurately capture the full range of outputs a policy will create? In education, is the 'output' of the education system providing academic skills (measured, for example by the Program for International Student Assessment), or does it also include a broader range of services provided to the community including child care, emotional support and counselling, as well as the provision of school facilities to the broader community?[13]

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employment and GDP. In contrast, the output and employment shares of distribution services have been stable, their prices have been declining, and their productivity growth has been rapid.

[12] See for example Diewert WE, (2011). "Measuring productivity in the public sector: some conceptual problems," Journal of Productivity Analysis, Springer, vol.36(2), pages 177-191, and Schreyer P, (2010). "Toward Measuring the Volume Output of Education and Health Services: A Handbook", OECD Statistics Working Paper Series, STD/DOC(2010)2, OECD, Paris.

[13] Office of National Statistics (2007). The ONS Productivity Handbook: A Statistical Overview and Guide, ed. D Camus, Palgrave MacMillan, Basingstoke, pages. 117-138.

And are improvements in quality reflected in outcomes? For example, in health, the 'outcomes' might be to produce better health status, but this will also depend upon a range of other factors such as diet, exercise habits, the extent of smoking, and so on. The output of the health sector would have little value if it did not contribute to better health outcomes, but it would be a mistake to attribute all of the change in health status to output from the health sector.

Both data providers and analysts will need to pursue better measurement and understanding of the service sectors, given their increasing importance in contributing to future productivity growth.

Looking at productivity levels relative to benchmark countries

Australia's aggregate labour productivity levels are among the highest in the world, although they remain below those in the US (widely viewed as the international benchmark, at least in many industries). But there would be considerable benefits in understanding better how Australian productivity levels compare to international leaders across different sectors and why there are differences.

This could help shed light on how to further raise Australia's income per person, and on the appropriate role for economic policy in helping to get there.

Although the usual measurement and methodological issues make research on these issues quite challenging, it is an area where progress would be particularly welcome.[14]

[14] Young A, Wilkie J, Ewing R, and Rahman J, (2008). "International Comparisons of Industry Productivity," Treasury Economic Roundup, Australian Treasury, Issue 3 – Spring. See Box 2 for a discussion of methodological and measurement issues relating to cross country industry level productivity comparisons.

CONCLUSION

I have covered quite a bit of ground in a short time, so let me re-iterate some key points.

Importantly, measuring productivity is not an end in itself. The ultimate goal of measuring productivity is to assist policy makers make good policy choices.

Further, productivity is important because it can improve the wellbeing of the Australian people by increasing standards of living through income gains. Historically, productivity growth has made the dominant contribution to income growth and, given the ageing population and the foreseeable decline in the terms of trade, it will again become the dominant contributor.

As our economy continues to adjust and transform, we will need more research at the industry level into productivity in the services and non-market sectors. Research that attempts to look at Australian productivity levels relative to international benchmarks would also be welcome.

Policy advisers, the Australian Bureau of Statistics, the Productivity Commission and others have the continuing challenge of measuring productivity in ways that will help to inform good policy. And it is days like today that can help us to better understand and meet that challenge.

Thank you.

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