Senate Standing Committee on Economics

ANSWERS TO QUESTIONS ON NOTICE

Treasury Portfolio

Supplementary Budget Estimates

17 October – 18 October 2012

Question: SBT 107-110

Topic: Productivity

Written: Received from Committee – 26 October 2012

Senator JOYCE asked:

From the viewpoint of the Productivity Commission regarding productivity:

107. Do economic downturns, and the period soon after them, typically see a lift in productivity? If so, what tends to drive this?

108. What has been Australia's productivity performance in the two decades leading up to the GFC, and ever since the GFC?

109. What are the key things that have been holding down our productivity performance, especially since the GFC?

110. If transitional factors are currently impacting our productivity performance, what are they, broadly by how much are they impacting, when will their impact likely begin to dissipate, and to what likely timeframe and effect?

Answer:

107. The ABS and the Commission usually measure multifactor productivity over an economic cycle (peak to peak). This approach smooths out the effect of the business cycle on the estimates of productivity growth. Annual estimates tend to go up and down over a cycle depending on the capacity utilisation in an industry (which in a peak to peak cycle goes down then up). However, not all industries follow the market cycle (Barnes 2011). As a result, the peaks in the market cycle may not coincide with the peaks for the industry. For example, agricultural productivity is strongly affected by weather, and measured productivity declines over droughts and recovers as rainfall improves.

108. For the reason outlined in the answer to question 107, it is most appropriate to compare productivity over economic cycles (peaks to peaks). According to ABS statistics, between 1988-89 and 2007-08, multifactor productivity (MFP) for the (12-industry) market sector experienced 4 complete cycles and the growth rates differed considerably (see the following table).

Productivity cycle	**MFP growth rate**	**Labour Productivity growth rate**
	(%)	(%)
1988-89 to 1993-94	0.9	2.3
1993-94 to 1998-99	2.5	3.8

1998-99 to 2003-04	1.2	2.5
2003-04 to 2007-08	0.0	1.6

The average growth rate of MFP between 1988-89 to 2007-08 was 1.2 per cent per year, with an average growth rate of labour productivity of 2.6 per cent per year over the same period. In the current incomplete cycle from 2007-08 to 2010-11, the average growth rate of MFP was -1.0 per cent per year and the average growth rate of labour productivity was 1.0 per cent per year. It is worth noting that the growth rate since 2007-08 is not strictly comparable with those in the previous cycles because the ABS has not yet declared conclusion of the current productivity cycle. The market sector includes the following industries: Agriculture, forestry and fishing; Mining; Manufacturing; Electricity, gas, water and waste services; Construction; Wholesale trade; Retail trade; Accommodation and food services; Transport, postal and warehousing; Information media and telecommunications; Financial and insurance services; and Arts and Recreation services.

109. The Productivity Commission has not undertaken detailed analysis and therefore does not have a definitive answer on the impact of GFC on Australia's productivity performance. More widely, the estimates of the measured productivity since the early 2000s are only partially understood.

Commission analysis has found that developments in the mining and utilities (electricity, gas and water) has had a negative impact on measured productivity, both before and after the GFC. (Topp, Soames, Parham and Bloch 2008 and Topp and Kulys 2012).

- Long lead times between investment in new capacity and associated output response in mining and some utility industries temporarily suppressed the measured productivity.
- On-going depletion of Australia's natural resource and the incentive high prices provide for mining more marginal deposits led to higher inputs being required for any given output.
- Lower average rate of capacity utilisation, induced by increase in the ratio of peak to average electricity demand, negatively affected the measured productivity of the electricity supply industry.
- Drought negatively affected the measured productivity of water supply industry.

110. Commission analysis (discussed above) found several factors that may be considered "transitional". The negative impact of long lead times between investment in new capacity and associated output during investment booms on measured productivity is temporary. Providing it rains, the effect of drought is also temporary. The Commission has not attempted to assess the impact of other transitional factors, such as the costs of structural adjustment in response to longer term changes in terms of trade and to shifts on consumption patterns in the Australian economy. Such analysis is hampered by data

constraints, making it unrealistic to quantify (with any degree of confidence) their impact on productivity at the market sector level, or to predict when such impacts will diminish.

Reference

Barnes, P. 2011, *Multifactor growth cycles at industry level*, Productivity Commission Staff Working Paper, December. http://www.pc.gov.au/research/staff-working/industry-multifactor-productivity

Topp, V. Soames, L., Parham, D. and Bloch, H. 2008, *Productivity in the Mining Industry: Measurement and Interpretation*, Productivity Commission Staff Working Paper, December. http://www.pc.gov.au/research/staff-working/mining-productivity

Topp, V. and Kulys, T. 2012, *Productivity in Electricity, Gas and Water: Measurement and Interpretation*, Productivity Commission Staff Working Paper, Canberra. http://www.pc.gov.au/research/staff-working/electricity-gas-water