

Box C: Productivity Growth – An Update

The first *Semi-Annual Statement on Monetary Policy*, published in May this year, compared growth in labour and total-factor productivity in the current economic expansion with their growth in the corresponding phase of the two previous business cycles. The data presented showed growth in labour productivity in the current expansion to be substantially stronger than in the 1980s expansion, but weaker than in the 1970s. By contrast, growth in total-factor productivity – which is a more comprehensive measure of the efficiency with which *all* inputs in the economy are combined to produce output – was shown to be stronger in the current expansion than in either of the previous two expansions.¹ This was taken as evidence that the extensive structural changes in the economy over the past decade appeared to have led to an improvement in Australia's underlying rate of productivity growth.

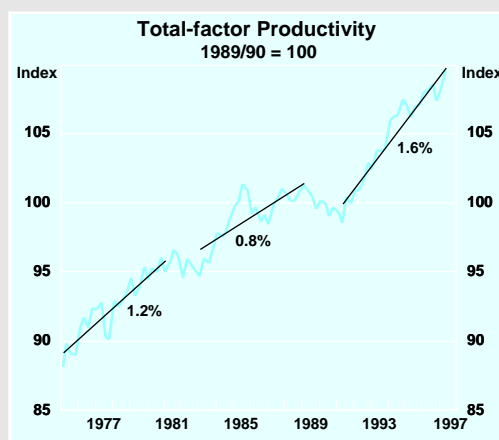
This box updates the results presented six months ago. The addition of two more quarters of data, as well as revisions to the latest national accounts, now imply a larger increase in total-factor productivity growth than previously reported.²

There is some cyclical variation in measures of both labour and total-factor productivity; when comparing productivity performances between economic cycles, it is therefore appropriate to measure productivity over common phases of the cycle. With the current expansion having now run for six years since the trough in output in June 1991, a comparison of recent productivity growth with that in the previous two business cycles can be conducted on a comparable basis by measuring productivity over the six years from successive troughs in

output. On this basis, trend labour productivity growth in the current expansion is still estimated to have been weaker than in the 1970s expansion, but significantly stronger than in the 1980s expansion (Table C1).

The changing capital intensity of the economy explains some of the differences in labour productivity between business cycle expansions. Labour productivity growth was boosted in the 1970s as businesses tended to substitute capital for labour following the large increase in real wages. In the 1980s expansion, hours worked grew more rapidly than the capital stock in a climate of real wage restraint. When adjustments are made for these changes in capital and labour inputs by calculating total-factor productivity, a slightly different picture emerges. Total-factor productivity grew at trend rates of 1.2 and 0.8 per cent in the first two expansions; in the 1990s expansion, it is estimated to have grown significantly faster at a trend rate of 1.6 per cent (Graph C1).

Graph C1



1. See the May 1997 Statement for discussion of labour and total-factor productivity and their measurement.
2. The revisions to the national accounts reflect changes in the measurement of output in several service-sector industries, the inclusion of businesses previously omitted from the ABS Business Register, and re-benchmarking of components of output.

Table C1: Comparison of Three Expansions

Period ^(a)	Annual percentage growth in:			
	Trend labour productivity ^(b)	Capital stock	Labour hours worked	Trend total-factor productivity ^{(b)(c)}
Mar 1975–Mar 1981	2.1	3.6	1.1	1.2
Mar 1983–Mar 1989	0.7	3.2	3.4	0.8
June 1991–June 1997	1.6	2.3	1.5	1.6

(a) Each period extends for six years from a trough in non-farm output.

(b) Calculated by fitting a trend through the quarterly estimates of the level of labour (or total-factor) productivity.

(c) Estimated from labour productivity growth assuming a standard production function with capital and labour inputs.

Note: The method of calculation used in Table C1 differs from that in the corresponding table in the first *Semi-Annual Statement on Monetary Policy*. For both labour and total-factor productivity, the table now shows *trend* rates of growth, rather than the rate of growth implied by joining the first and last data points. Using the previous method over the six-year periods in the table gives labour productivity growth estimates in consecutive expansions of 2.2, 1.0 and 2.1 per cent, and total-factor productivity growth estimates of 1.2, 1.1 and 1.8 per cent. This method therefore confirms that total-factor productivity growth has been much stronger in the current expansion than in the previous two. ✎