

Treasury’s medium-term economic projection methodology: Impact of population and labour force revisions

Treasury implemented a new economic projection methodology in the 2014-15 Budget, having flagged these changes in the 2013 Pre-election Economic and Fiscal Outlook (PEFO) and 2013-14 Mid-Year Economic and Fiscal Outlook (MYEFO). Details of the new methodology are described in [Treasury Working Paper 2014-02](#).

The new projection methodology introduced a five-year cyclical adjustment period from the end of the Budget forecasts over which the economy is assumed to return to its potential growth path (Chart 1). During this period, real GDP is assumed to grow faster than potential to generate stronger employment growth and lower the unemployment rate. The methodology assumes that by the end of the adjustment period, unemployment has returned to the non-accelerating inflation rate of unemployment (the NAIRU) and any gap between actual GDP and potential GDP has closed. Through this adjustment period, the remaining spare capacity in the labour market causes wages and prices to grow below trend.

Chart 1: The Budget’s medium-term projection period

History					Forecasts		Medium-term adjustment period					Potential growth					
...	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	...	2054-55
											Projections						

This methodology replaced the previous framework that assumed the economy would return immediately to potential growth at the end of the forecast period, and that any output gap at that time would persist indefinitely. These assumptions became unrealistic in recent years with signs of significant spare capacity in the labour market and a considerable output gap.

The new methodology addressed this problem by instead assuming an intervening adjustment period. While requiring some simplifying assumptions, this enhanced methodology is broadly in line with historical experience, and is similar to the economic projection methodologies used by the United States’ Congressional Budget Office and the United Kingdom’s Office for Budget Responsibility.

Revised estimates of potential output

The new methodology relies on estimates of potential GDP (or potential output) and the output gap. Treasury routinely reviews these estimates, including when new data come to hand.

Since the release of economic projections in the 2015-16 Budget, downward revisions to Australia’s current and projected population, as well as revised labour force estimates and projections, indicate that the economy’s productive capacity is somewhat lower than estimated at the last Budget. In light of this new information, Treasury has revised down its estimates of Australia’s current potential output level as well as projected growth in potential output. This will affect the medium-term projections for real and nominal GDP growth in the forthcoming 2015-16 MYEFO.

While Treasury has updated some key assumptions regarding population and the labour force, no changes have been made to the overall economic projection methodology introduced in the 2014-15 Budget and described in Working Paper 2014-02.

Components of potential output

Consistent with the 3Ps framework used in the 2015 Intergenerational Report, Treasury’s estimates of potential output reflect estimated trends in productivity, participation and population such that:

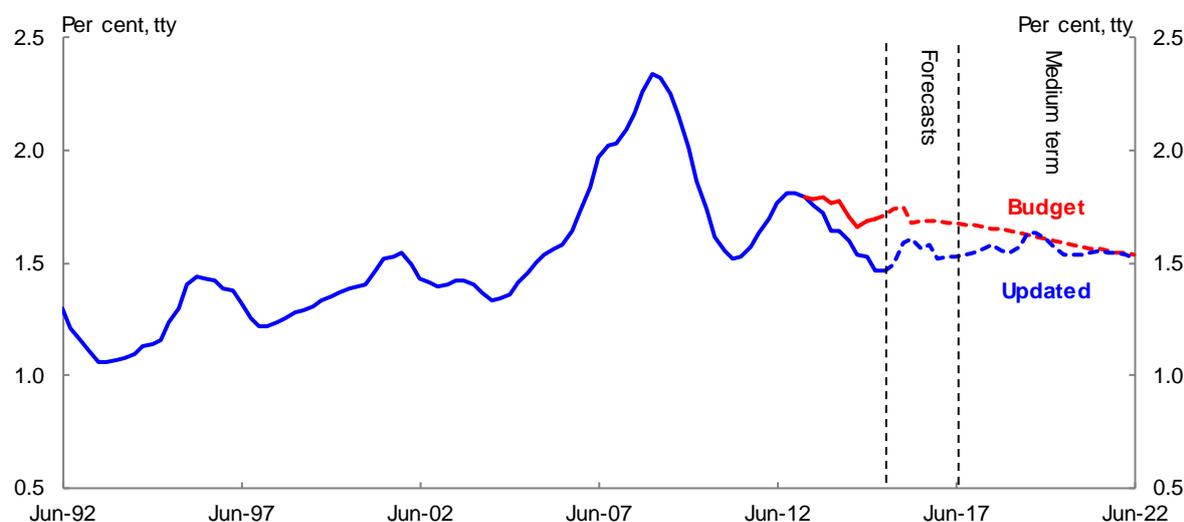
$$\text{Potential real GDP} = \text{population } (15+)^T \times \text{participation rate}^T \times (1 - \text{NAIRU}) \times \text{avg-hours worked}^T \times \text{productivity}^{T1}$$

The output gap is then calculated as the difference between actual and potential real GDP.

1. Population revisions

Revised population data showed that growth in Australia’s working-age population over recent years was slower than initially reported by the Australian Bureau of Statistics (ABS). This mainly reflected lower than expected net overseas migration (NOM) in line with declines in temporary visa holders and lower net migration from New Zealand. As part of this, the ABS revised down estimates of the population level in June 2015 by 77,000. The revised data showed that the working-age population expanded by 1½ per cent over the year to June 2015, lower than the 1¾ per cent growth assumed at Budget and the average 1¾ per cent growth over the past ten years (Chart 2).

Chart 2: Working-age population growth



Source: ABS Cat. No. 6202.0 and Treasury.

Based on the revised ABS labour force data and the Department of Immigration and Border Protection’s (DIBP) updated NOM projections, Treasury now assumes that the trend working-age population, and so also the trend labour force, will grow at their current, lower rate of growth, over the next three years.² In Treasury’s economic projection methodology, this has the effect of reducing the estimated level and growth rate of potential output, and thus narrows the estimated output gap.

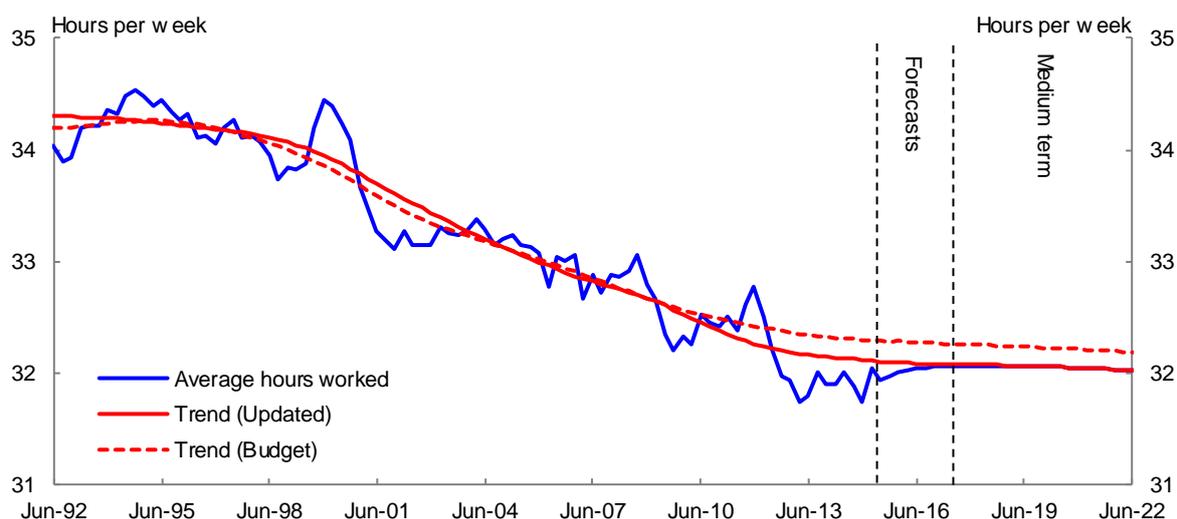
¹ A ‘T’ superscript denotes a trend variable.

² DIBP’s updated NOM projections are published in *The Outlook for Net Overseas Migration as at June 2015*.

2. Revised labour force trends

Treasury has also reviewed estimates of trend average hours worked in light of new ABS labour force data. These data suggest that a larger share of the recent decline in average hours worked is likely to be related to trend factors, rather than cyclical. This implies lower trend average hours worked than was assumed at Budget (Chart 3) and leads to a lower estimated level of potential GDP.

Chart 3: Average hours worked – trend and cycle



Source: ABS Cat. No. 6202.0 and Treasury.

3. Productivity

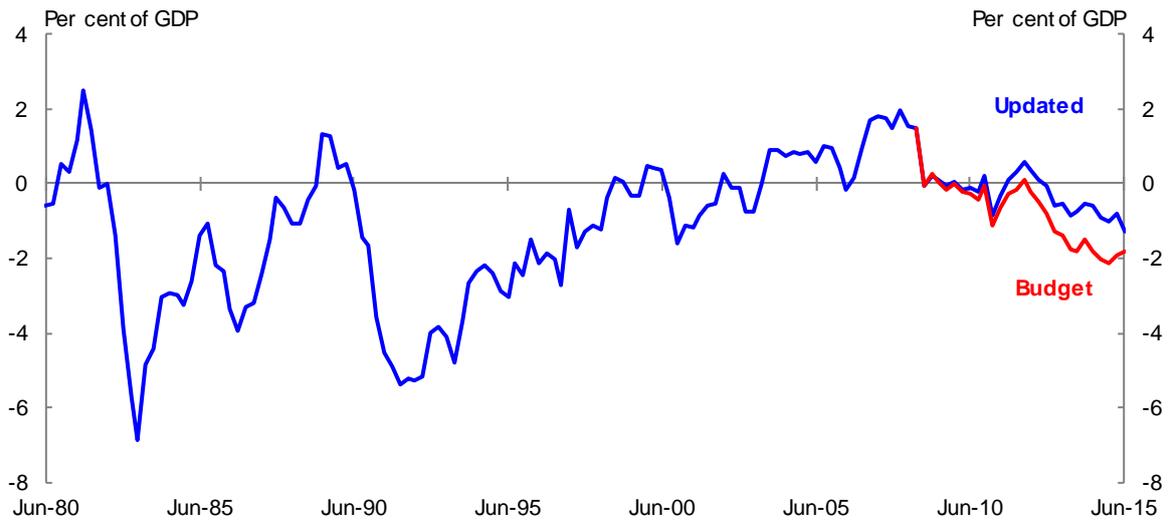
The productivity growth assumption is unchanged at 1.6 per cent per year. This is consistent with the methodology for the 2015 Intergenerational Report which assumed productivity would rise in line with its average growth over the past 30 years.

Combined impact on potential GDP and the estimated output gap

The revisions to working-age population and the assumptions for trend average hours worked lower the estimated level and growth rate of potential output. Growth in potential GDP is now estimated at 2¾ per cent over the next few years, down from 3 per cent at Budget.

Compared with previous estimates, the revisions to potential GDP result in a smaller estimated output gap (Chart 4).

Chart 4: Output gap



Source: ABS Cat. No. 5206.0 and Treasury.

Impact on projections for real GDP growth

As noted above, the projection methodology assumes that the output gap closes over the five years following the end of the forecast period. All else equal, the downgrade to estimated potential GDP and the output gap will require less economic growth over the medium-term adjustment period to close the output gap. This will have implications for nominal GDP projections.

The exact impact of these changes on the economic projections will depend on any update to the near-term outlook in the forthcoming MYEFO.