

SENSITIVITY OF FISCAL ESTIMATES TO ECONOMIC DEVELOPMENTS

The estimates contained in the 2009-10 Mid-Year Economic and Fiscal Outlook are based on forecasts of the economic outlook. Changes to the economic assumptions underlying the fiscal estimates will affect receipts and payments, and hence the size of the underlying cash balance.

This section examines the effects on receipts and payments of altering some of the key economic assumptions underlying the estimates. Tables 3.16 and 3.18 illustrate the sensitivity of key components of receipts and payments to possible variations in the economic outlook. The two scenarios considered are:

- Scenario 1: a 1 per cent increase in nominal GDP owing to a rise in the terms of trade.
- Scenario 2: a 1 per cent decrease in real GDP driven by an equal decrease in labour productivity and labour force participation.

The economic scenarios provide a rule of thumb indication of the impact on receipts, payments and the underlying cash balance of changes in the economic outlook. They represent a partial economic analysis only and do not attempt to capture all the economic feedback and other policy responses related to changed economic conditions. In particular, the analysis assumes no change in the exchange rate, interest rates or discretionary policy. The impact of the two scenarios on the economic parameters would be different if the full feedback response on economic variables and likely policy actions were taken into account. The analysis does not aim to provide an alternate picture of the economic forecasts under these scenarios, but instead gives an indication of the sensitivity associated with different components of receipts and payments to changes in the economy. As such, the changes in the economic variables and their impact on the fiscal outlook are merely illustrative.

The impacts shown in the tables below are broadly symmetrical. That is, impacts of around the same magnitude, but in the opposite direction, would apply if the terms of trade were to decrease or if real GDP were to increase.

Scenario 1

The first scenario involves a permanent rise in world prices of non-rural commodity exports, which causes a rise in the terms of trade, consistent with a 1 per cent rise in nominal GDP by Year 2. The sensitivity analysis evaluates the flow-on effects on the economy, the labour market and prices. The impacts in Table 3.15 are highly stylised and refer to per cent deviations from the baseline levels of the economic parameters.

Table 3.15: Illustrative impact of a permanent non-rural commodity price rise consistent with a 1 per cent rise in nominal GDP in Year 2 (per cent deviation from the baseline level)

	Year 1 per cent	Year 2 per cent
Real GDP	0	1/4
Non-farm GDP deflator	3/4	3/4
Employment	1/4	1/2
Wages	0	1/4
CPI	0	1/4
Company profits	3	3
Consumption	1/4	1/2

Assuming no change in the exchange rate or interest rates, the rise in export prices leads directly to a higher non-farm GDP deflator (from the export component of GDP) and higher domestic incomes. Higher domestic incomes cause both consumption and investment to rise, resulting in higher real GDP, employment and wages. The rise in aggregate demand puts upward pressure on domestic prices.

In reality, a rise in the terms of trade would be expected to put upward pressure on the exchange rate, although the magnitude is particularly difficult to model. In the event of an appreciation in the exchange rate, the impacts on the external sector would dampen the real GDP effects, and there would be some offsetting downward pressure on domestic prices.

Given these assumptions, the overall impact of the rise in the terms of trade is an increase in the underlying cash balance of around \$2.0 billion in Year 1 and around \$3.7 billion in Year 2 (see Table 3.16).

Table 3.16: Illustrative sensitivity of the budget balance to a 1 per cent increase in nominal GDP due to a rise in the terms of trade

	Year 1 \$b	Year 2 \$b
Receipts		
Individuals and other withholding taxation	0.5	1.5
Superannuation taxation	0.0	0.1
Company tax	1.3	2.0
Goods and services tax	0.1	0.2
Excise and customs duty	0.0	0.1
Other taxation	0.0	0.0
Total receipts	1.9	3.7
Payments		
Income support	-0.1	-0.2
Other payments	0.0	0.2
GST payments	0.1	0.2
Total payments	0.0	0.2
Interest change on deficit change	0.1	0.2
Underlying cash balance impact	2.0	3.7

A rise in the terms of trade results in a rise in nominal GDP which increases tax collections. The largest impact is on company tax revenue as the rise in export income increases company profits. Higher company profits are assumed to flow through to higher Australian equity prices, therefore increasing capital gains tax from individuals, companies and superannuation funds.

The expanding economy results in higher aggregate demand which flows through to higher employment and wages. For this reason, individuals' income tax collections would rise and the increase in disposable incomes would lead to higher consumption, which in turn results in an increase in GST revenue (increasing GST payments to the States by the same amount) and other indirect tax collections.

On the payments side, a significant proportion of government expenditure is partially indexed to movements in costs (as reflected in various price and wage measures). Some forms of expenditure, in particular income support payments, are also driven by the number of beneficiaries.

The overall estimated expenditure on income support payments decreases in both years due to a lower number of unemployment benefit recipients. The decrease in unemployment benefit payments in the second year is partly offset by higher expenditure on other income support payments (pensions and allowances) reflecting higher growth in benefit rates flowing from higher wages growth. At the same time other payments linked to inflation rise in line with the increased growth in prices.

The higher underlying cash balance also has a positive interest impact in both years owing to a lower borrowing requirement and lower public debt interest cost.

As noted above, under a floating exchange rate, the appreciation of the exchange rate would dampen the effects of the rise in the terms of trade on real GDP, meaning the impact on the fiscal position could be substantially more subdued. Also, to the extent that the rise in the terms of trade is temporary rather than permanent, the impact on the economic and fiscal position would be more subdued.

Scenario 2

The second scenario involves a combination of an equal 0.5 per cent decrease in the participation rate and in labour productivity, resulting in a 1 per cent decrease in real GDP by Year 2. Once again, the sensitivity analysis evaluates the flow-on effects on the economy, the labour market and prices. The impacts in Table 3.17 are highly stylised and refer to per cent deviations from the baseline levels of the parameters.

The 1 per cent decrease in real GDP decreases nominal GDP by slightly less but the magnitude of the effects on receipts, payments and the underlying cash balance differ from the first scenario because this variation in the outlook affects different parts of the economy in different ways.

Table 3.17: Illustrative impact of an ongoing equal decrease in both labour productivity and participation consistent with a 1 per cent decrease in real GDP in Year 2 (per cent deviation from the baseline level)

	Year 1 per cent	Year 2 per cent
Nominal GDP	- 3/4	- 3/4
Non-farm GDP deflator	1/4	1/4
Employment	- 1/2	- 1/2
Wages	- 1/4	- 1/4
CPI	1/4	1/4
Company profits	-1 3/4	-1 3/4
Consumption	-1	-1

The decreases in both labour force participation and labour productivity have the same impact on output, but different impacts on the labour market. Lower productivity leads to lower real GDP and lower real wages, while a decrease in the participation rate decreases employment and real GDP. Imports are lower in this scenario, reflecting lower domestic incomes.

Since the supply side of the economy contracts, inflation rises relative to the baseline. The rise in domestic prices makes exports less attractive to foreigners, with the resulting decrease in exports offsetting lower imports, leaving the trade balance unchanged. The exchange rate is assumed to be constant.

The overall impact of the decrease in labour productivity and participation is a decrease in the underlying cash balance of around \$2.5 billion in Year 1 and around \$3.2 billion in Year 2 (see Table 3.18).

Table 3.18: Illustrative sensitivity of the budget balance to a 1 per cent decrease in real GDP due to an equal decrease in both productivity and participation

	Year 1 \$b	Year 2 \$b
Receipts		
Individuals and other withholding taxation	-1.5	-1.3
Superannuation taxation	-0.1	-0.1
Company tax	-0.7	-1.1
Goods and services tax	-0.3	-0.3
Excise and customs duty	-0.2	-0.4
Other taxation	0.0	0.0
Total receipts	-2.8	-3.3
Payments		
Income support	-0.1	-0.1
Other payments	0.0	0.1
GST payments	-0.3	-0.3
Total payments	-0.4	-0.3
Interest change on deficit change	-0.1	-0.2
Underlying cash balance impact	-2.5	-3.2

A decrease in the participation rate causes employment and nominal GDP to decrease. Individuals' income tax collections decrease because of the fall in number of wage earners and, additionally, lower real wages. The weaker labour market also decreases superannuation fund taxes through lower contributions (including compulsory contributions) to superannuation funds. The decrease in personal incomes leads to lower consumption which results in a decrease in GST revenue (with the corresponding receipts passed on in lower GST payments to the States) and other indirect tax collections.

In addition, the weaker economy results in lower levels of corporate profitability, decreasing company taxes. Lower profits are assumed to decrease Australian equity prices, generating lower capital gains tax from individuals, companies and superannuation funds.

On the payments side, overall estimated expenditure on income support payments (including pensions and allowances) is lower, reflecting a lower number of unemployment benefit recipients (as a result of the lower participation rate) and lower growth in benefit rates flowing from lower wages growth. Other payments linked to inflation rise, reflecting higher growth in prices.

The lower underlying cash balance also has a negative interest impact in both years owing to a higher borrowing requirement and higher public debt interest cost.

To the extent that the decreases in productivity and participation are temporary rather than permanent, the impact on the economic and fiscal position would be more subdued.