

The FISCAL MULTIPLIER in forecast models: A short summary of the recent debate

1. What is the "fiscal multiplier"?

In macro-economic models the **fiscal multiplier** is usually defined as the "percentage change in GDP" following a 1% of GDP change in government spending or taxes.

If the fiscal multiplier resulting from the model is, say, 1.4, then an increase/decrease of 1% of GDP in public expenditure would result in a percentage increase/decrease of GDP of 1.4.

However, there is no **"one standard value"** for the fiscal multiplier, valid for any economy, any model or any period. The value of the multiplier is generally determined by many factors, such as the econometric model used, the structure of the underlying economy, the nature and the duration of the fiscal change (expansion or consolidation), the composition (level of expenditures and/or revenues change) of the fiscal change, the level of public debt, the propensity to consumption and import in the economy, other monetary and financial conditions (including exchange rate) and any confidence effects.

The economic literature contains a large body of theoretical and empirical studies investigating the size of the fiscal multiplier. The concept of the fiscal multiplier originates in the traditional Keynesian theory. In this framework, a key parameter is the "marginal propensity to consume", i.e. change in consumption to the change in income. The higher this propensity, the higher is the output response to an increase in spending or a cut in taxes.

2. The discussion on the multiplier in the IMF World Economic Outlook

In October 2012¹, the IMF raised the issue of the value of the fiscal multiplier applied in its recent forecasts.

It argued that its recent forecast for economic growth was too optimistic, when compared with the actual economic growth, because the multipliers used in the forecasting models were too low. On the basis of a sample of 28 economies, the IMF empirical analysis suggested that fiscal multipliers used to generate growth forecasts for the crisis years 2010-11 were systematically underestimated by a factor of up to 3 (with the actual multiplier possibly standing at 1.7 instead of the assumed value of 0.5 used in the IMF projections).

In January 2013, the IMF published a working paper² providing details on the statistical analysis and further supporting the conclusions presented in the WEO. Its final paragraphs read *"However, our results need to be interpreted with care. As suggested by both theoretical considerations and the evidence in this and other empirical papers, there is no single multiplier for all times and all countries. Multipliers can be higher or lower across time and across economies. In some cases, confidence effects may partly offset direct effects. As economies recover, and economies exit the liquidity trap, multipliers are likely to*

¹ "Are we underestimating short term fiscal multipliers?", [WEO](#), Box 1.1, page 41.

² "Growth Forecast Error and Fiscal Multipliers", IMF Working Paper [WP/13/1](#).

return to their pre-crisis levels. Nevertheless, it seems safe for the time being, when thinking about fiscal consolidation, **to assume higher multipliers than before the crisis.**

Finally, it is worth emphasizing that deciding on the appropriate stance of fiscal policy requires much more than an assessment regarding the size of short-term fiscal multipliers. Thus, our results should not be construed as arguing for any specific fiscal policy stance in any specific country. In particular, the results do not imply that fiscal consolidation is undesirable. Virtually all advanced economies face the challenge of fiscal adjustment in response to elevated government debt levels and future pressures on public finances from demographic change. The short-term effects of fiscal policy on economic activity are only one of the many factors that need to be considered in determining the appropriate pace of fiscal consolidation for any single country."

3. The views of the European Commission

In November 2012, the European Commission³ replied stating that caution is warranted when using past forecast errors as indirect evidence for the true size of the multiplier. It agreed that recent GDP forecast for 2012 were much lower than they were 18 months earlier: e.g. for the euro-area GDP growth in 2012, the Commission had forecast +1.8% in spring 2011 compared to a forecast of -0.8% in autumn 2012.

The Commission argued that even if it is true that **fiscal multipliers are higher than usual in the current juncture** forecast errors are not due to an underestimation of the fiscal multiplier.

According to the Commission, two arguments support this opinion:

1. On the basis of the analysis of forecast and actual growth in euro-area countries, growth rates observed in 2010 were 1.0% higher than those forecast by the Commission, and growth rates observed in 2011 were slightly lower (-0.1%) than forecast.
2. If the role of the sovereign-bond yields is taken into account, the correlation between the forecast error and the changes in the fiscal stance breaks down.

Furthermore, Greece should not be included in statistical analysis because of its idiosyncrasy, especially in relation to the government-bond yields (to above 35% end 2011).

4. The contribution of the ECB

In December 2012, the ECB published a contribution⁴ on the fiscal multiplier. It argued that the focus on short-term multipliers is too narrow. On the basis of **simulations**, the ECB estimates the fiscal multipliers in both the short and in the long run for 5 fiscal consolidation instruments, namely: government consumption, government investment, general transfers, labour tax and consumption tax.

The ECB concluded that fiscal consolidation has, in general, negative effect on GDP **in the short run**. The most negative effect is estimated for reduction of government investment in a scenario where the markets disbelieve the government's commitment to fully implement the consolidation measures. In the case of full credibility and lower sovereign risk premium, multipliers are much smaller.

The conclusions change over **the long run**. With the exception of public investments, consolidation instruments affect positively GDP growth, with multipliers higher for consumption and transfer than for tax instruments. If, in addition, sovereign risk premium is lower, all consolidation instruments show a positive effect on growth.

³ "Forecast errors and multiplier uncertainty", [Autumn 2012 Forecast](#), Box 1.5, page 41.

⁴ "The role of Fiscal Multipliers in the current consolidation debate", [ECB Monthly Bulletin - December 2012](#), Box 6, page 42.

5. Some further contributions in the public domain

- In January 2013, the **OECD** published a study⁵ on the possible impact of fiscal multipliers, measured on the basis of a simulation exercise on 18 OECD economies. It concluded that fiscal multipliers differ across and within countries because the structure and behaviour of economies differ. Spending multipliers tend to be larger in the short term than tax multipliers. More open and financially liberalised economies tend to have smaller multipliers. Expectation formation also matters: the more forward-looking are economic agents, the smaller the estimated multiplier. Tighter fiscal policy reduces growth in the short run in almost all circumstances, but a lower debt stock reduces pressures on real interest rates and hence in the longer term can raise sustainable output. This effect is larger for larger countries. In the current economic environment, multipliers may be larger than usual, due to heightened liquidity constraints related to problems in the banking sector and a weak economy. Limited downward flexibility in short-term interest rates also raises the expected effects on output from fiscal consolidation programmes.
- In an article appeared in October 2012 in the **Financial Times**⁶, the journalist questioned the validity of the IMF argument, claiming that the number of countries selected for the analysis was too limited. An exercise aimed at replicating and evaluating the IMF's work showed that the results suggesting very large multipliers do not repeat when a different choice of countries or time period is used.
- The "**independent Annual Growth Survey**" referred to the fiscal multiplier in its first report⁷ published in November 2012. This report argued that the fiscal multiplier increased as a consequence of conducting simultaneous consolidation in all Eurozone countries. On the basis of an extensive literature review, the report claims that the size of many multipliers is large, particularly for public expenditure, targeted transfers and public investments, especially when the real interest rate is close to zero. Multipliers associated to taxes are lower, especially when the economy is in downturn.
- The Internet forum on economic policies **VOX**⁸ hosts a high number of contributions on the fiscal multiplier, presenting different opinions.

Disclaimer: this background note is drafted by the Economic Governance Support Unit (EGov) of the EP based on publicly available information and is provided for information purposes only. Any opinions expressed in this document are the sole responsibility of the author(s) and do not necessarily represent the official position of the European Parliament.

⁵ Barrell, R., D. Holland and I. Hurst (2013), "[Fiscal Multipliers and Fiscal Consolidations](#)".

⁶ "[Robustness of IMF data scrutinised](#)", FT, 12 October 2012.

⁷ "[independent Annual Growth Survey - First Report](#)", Box 1, page 19, and Box 2, page 22.

⁸ <http://www.voxeu.org/search/node/fiscal%20multiplier>