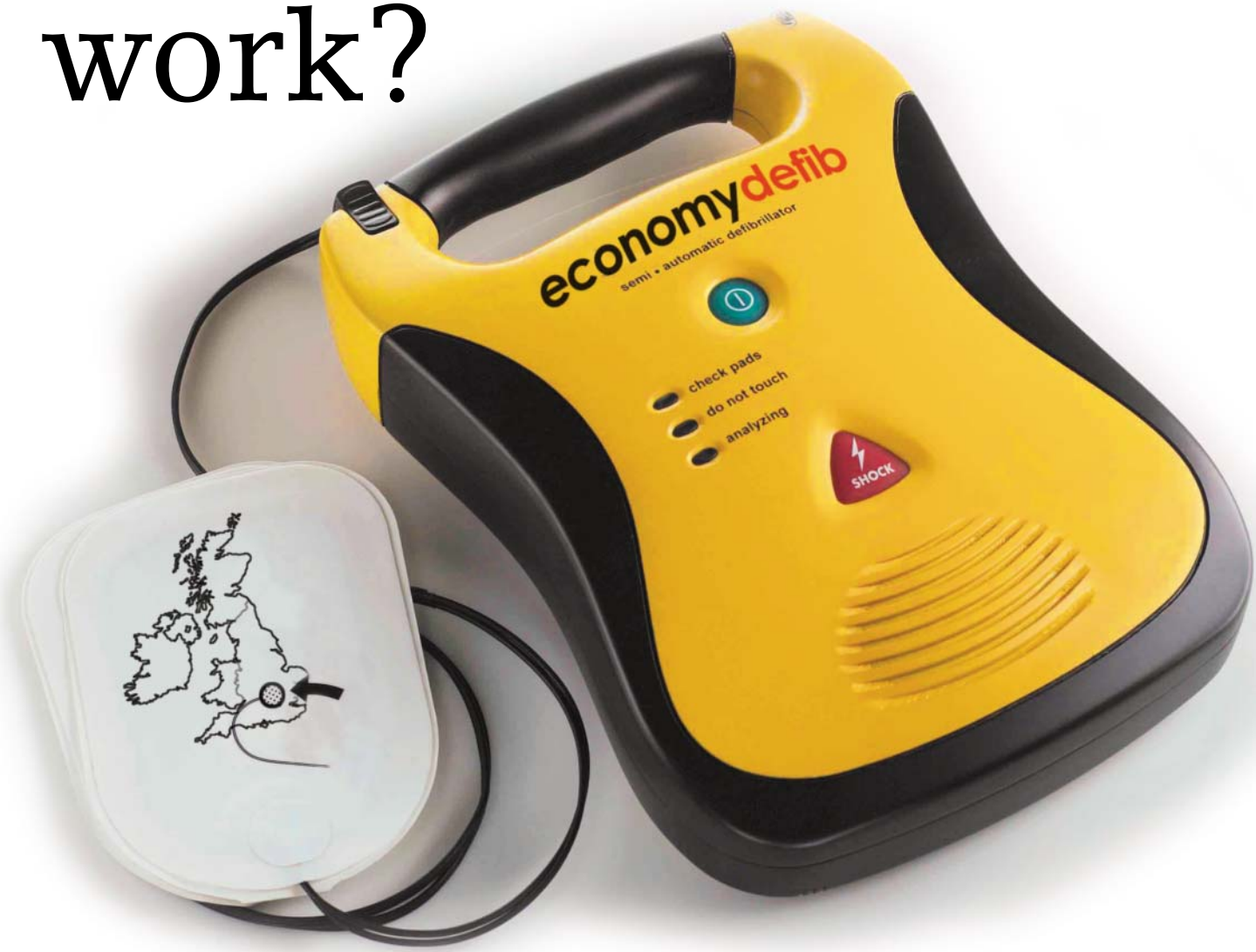
Under what circumstances do programmes of fiscal stimulus and fiscal austerity have a significant impact on the level of national economic activity? To address this question, **Ethan Ilzetzki** and colleagues have assembled a new database on government spending and GDP in 20 high-income countries and 24 developing countries.

Does fiscal policy work?



The size of the fiscal multiplier critically depends on key characteristics of the economy, including its monetary regime and openness to trade

Over the past two years, numerous countries have introduced packages of 'fiscal stimulus', increasing government spending (or lowering taxes) in an effort to boost demand and bring their economies out of recession. In such circumstances, one might have expected a certain degree of consensus within the economics profession on the effectiveness of fiscal policy. But nothing could be farther from the truth.

In a January 2009 piece in the *Wall Street Journal*, Robert Barro argued that the peacetime 'fiscal multiplier' – the dollar increase in GDP caused by a one dollar increase in government spending – is essentially zero. At the other extreme, Christina Romer, chair of President Obama's Council of Economic Advisers, used multipliers as high as 1.6 in estimating the job gains that will be generated by the $787 billion stimulus package approved by the US Congress in February 2009. The difference between the Barro and Romer views of the world amounts to a staggering 3.7 million jobs by the end of 2010.

There have been similar rifts in the UK. In duelling letters to the *Times* and the *Financial Times*, professors from the LSE and other universities were divided on whether immediate action was required to reduce fiscal deficits or whether fiscal consolidation would deepen the UK's recession.

The main cause of these differences is the limited and often conflicting evidence on the effects of fiscal policy on economic activity. One of the biggest hurdles to obtaining precise and consistent estimates of fiscal multipliers has been data availability. Most studies have relied on evidence from a small number of countries, typically the United States. Existing evidence also shows very different effects across time and countries.

For example, in a 2004 study, Roberto Perotti estimated that the multiplier on government expenditures might range from as low as minus 2.3 to as high as 3.7, depending on the country and time period studied. Even within countries he found enormous variance. For the UK, for example, he found that the government expenditure multiplier declined from 0.1 in 1960-79 to minus 1.2 in 1980-2001.

To address the shortcomings of existing evidence, we have collected a quarterly dataset for 44 countries (20 high-income countries and 24 developing countries). These data have recently become available thanks to improvements in the data collection capacity of statistical agencies in a number of developing countries, and the adoption of a common statistical standard for collecting fiscal data in the European Union.

Using this new dataset, we are able to estimate the effects of government purchases on GDP with a number of observations ten times larger than earlier studies. And by grouping countries with similar characteristics together, we can derive estimates of the fiscal multiplier that are significantly more accurate than in studies that use data from a single country.

Moreover, this is the first study of the impact of fiscal policy using high-frequency data for a broad sample of developing countries. With data covering countries at different stages of economic development and differing in other characteristics, we are able to determine not only *whether* fiscal policy is likely to be effective as a countercyclical stabilisation tool, but also *where* and *when*.

Expansionary government spending has a smaller and less persistent effect on output in developing countries than in high-income countries

Given the novelty of studying the effects of fiscal policy at business cycle frequency in developing countries, the natural first question is whether fiscal policy has similar effects in developing and high-income countries. Striking differences emerge.

In high-income countries, an increase in government consumption equivalent to 1% of GDP causes an immediate increase in GDP of four tenths of 1%, implying a fiscal multiplier of 0.4. This implies a significant degree of 'crowding out' of

private economic activity by fiscal expansions. In other words, government economic activity is to some extent discouraging private sector efforts to do the same thing.

But government purchases do not fully crowd out the private sector. In the long run – accounting for the cumulative impact of government purchases on GDP until their effects die out – our estimate of the multiplier increases to 0.8. This still implies some crowding out – and it reaffirms the conjecture (often associated with Milton Friedman) that fiscal policy is unlikely to have a stimulative effect except after significant delay.

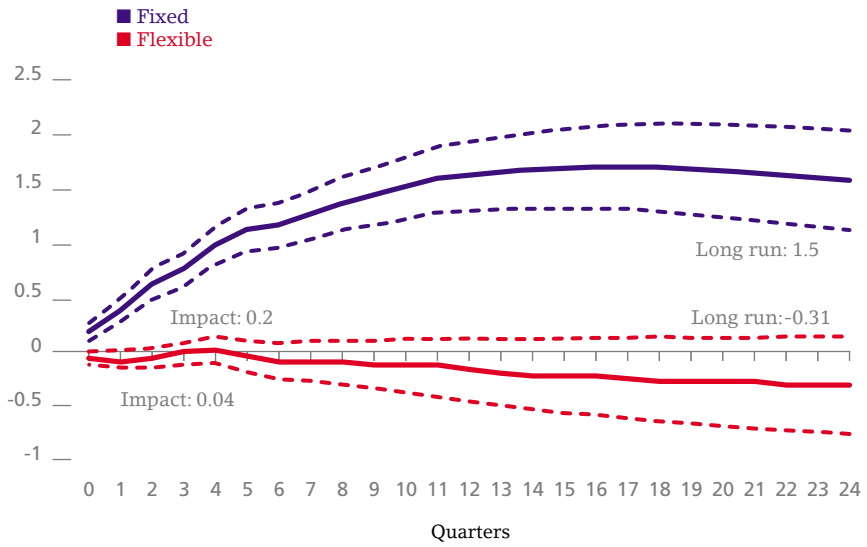
The results in developing countries are very different. The fiscal multiplier is minus 0.2, meaning that fiscal stimulus *more than fully* crowds out private activity, and GDP will tend to *decline* in response to an increase in government spending. Thus expansions in government consumption have a negative impact on GDP in developing countries.

But another striking difference between high-income countries and developing countries is in fiscal policies themselves. While increases in government spending are persistent in high-income countries, with expenditures remaining above trend for as long as six years, these increases are very short-lived in developing countries, frequently followed by reversals (with expenditures declining to below trend) after one to two years.

The textbook macroeconomic model for economies open to trade in goods and capital (the Mundell-Fleming model) predicts that fiscal policy has very different effects depending on a country's monetary arrangements. While we would expect increases in government expenditures to cause substantial increases in GDP where the monetary authority pegs the value of its currency (a fixed exchange rate regime), their effects should be much smaller in countries with flexible exchange arrangements. Surprisingly, little evidence in support of this theory has been reported to date.

Figure 1:
Cumulative multiplier: fixed and flexible exchange rate regimes

Solid lines show estimates of the cumulative fiscal multiplier at a given time horizon. Dotted lines represent 90% confidence intervals.



With data covering countries under both monetary regimes, and even countries that have changed their monetary arrangements over time, we provide strong evidence in favour of the importance of the exchange rate regime for the fiscal multiplier. As Figure 1 shows, the long-run fiscal multiplier is large (approximately 1.5) in countries with fixed exchange rates; in contrast, in countries with flexible exchange arrangements, the long-run multiplier is essentially zero.

We find a similar result when contrasting countries for which trade comprises only a small part of economic activity (where we find long-run fiscal multipliers of 1.4) and those highly exposed to international trade (with multipliers of approximately zero).

This may help to explain the significant differences in the effects of fiscal policy across countries and time periods found in earlier studies. For example, the significant decline in the expansionary power of government purchases in the UK may be explained by the fact that the pound was pegged to the US dollar until the early 1970s, but allowed to float freely thereafter. Moreover, international trade has played an increasing role in the UK's

The interaction between fiscal and monetary policy is a crucial determinant of the effects of fiscal stimulus on GDP

economic activity, with the ratio of trade to GDP almost doubling since 1960.

What explains these significant differences across monetary arrangements? According to the Mundell-Fleming model, in countries with flexible exchange rates, fiscal stimulus causes an exchange rate appreciation, which neutralises some of the stimulative effect by leading to lower exports and higher imports. But we find little evidence for this phenomenon.

In contrast – but still consistent with the textbook model – we find significant differences in the responses of central banks to fiscal stimulus, based on the monetary regime. Central banks devoted to maintaining a stable exchange rate tend to lower interest rates (by an average of 125 basis points) in response to increases (of 1% of GDP) in government consumption during the two years following a fiscal stimulus. This reinforces the fiscal stimulus and allows for the large multipliers we estimate for countries with this monetary regime.

Conversely, central banks with other aims (such as an inflation target) increase interest rates (by an average of 60 basis points). They do so presumably to counteract the inflationary pressures caused by the fiscal expansion. This offsets the stimulative impact of fiscal policy and leads to the negligible effects of fiscal stimulus for countries with this monetary regime.

These results have important implications for policy-makers. The interaction between fiscal and monetary policy is a crucial determinant of the effects of fiscal stimulus. For example, it is vital to consider the reaction of the Bank of England in assessing the potential economic fallout from the UK government's current austerity measures.

Should the Bank respond as inflation-targeting central banks typically do, it will attempt to contain the economic costs of fiscal austerity through loose monetary policy. On the other hand, with the current Bank Rate at 0.5%, and the unconventional programme of asset purchases by the central bank already standing at £200 billion, it is unclear whether the Bank has the means to react to fiscal austerity as it typically would. Moreover, if inflation concerns force the Bank to begin unwinding its loose monetary policy, a coordinated fiscal-monetary contraction could cause significant economic pain.

The results of our study will certainly not end the fiscal debate in the UK nor elsewhere. Rather, they point to a broader conclusion: that the size of the fiscal multiplier critically depends on key characteristics of the economy. When considering large shifts in fiscal policy – be it fiscal stimulus or fiscal austerity – it is essential to look at the broader economic environment confronting the government. Drawing sweeping generalisations about the impact of fiscal policy is probably an exercise in futility.

This article summarises 'How Big (Small?) are Fiscal Multipliers?' by Ethan Ilzetzki, Enrique Mendoza and Carlos Végh, a forthcoming CEP Discussion Paper.

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Further reading

Robert Barro, 'Government Spending is No Free Lunch,' *Wall Street Journal*, 22 January 2009.

Roberto Perotti, 'Estimating the Effects of Fiscal Policy in OECD Countries', mimeo, Bocconi University, 2004.

Christina Romer and Jared Bernstein, 'The Job Impact of the American Recovery and Reinvestment Plan', Council of Economic Advisers, January 2009.

If inflation concerns lead to a rise in UK interest rates, a coordinated fiscal-monetary contraction could cause significant economic pain