

Economic Research:

The Case For Bold Fiscal Stimulus In The Eurozone

November 17, 2020

Key Takeaways

- Our economic modeling suggests fiscal stimulus is more powerful when demand is depressed and interest rates are negative--the current state of the European economy.
- We find that fiscal stimulus in the eurozone could boost growth between 1.6 and 2 times the amount spent after four years, that is, for every €100 spent, economies would generate up to €200.
- Our study also shows that proposed green, infrastructure, and digitalization spending by the four largest EU economies may not be enough just to close the wide investment gap accumulated before the COVID-19 crisis.

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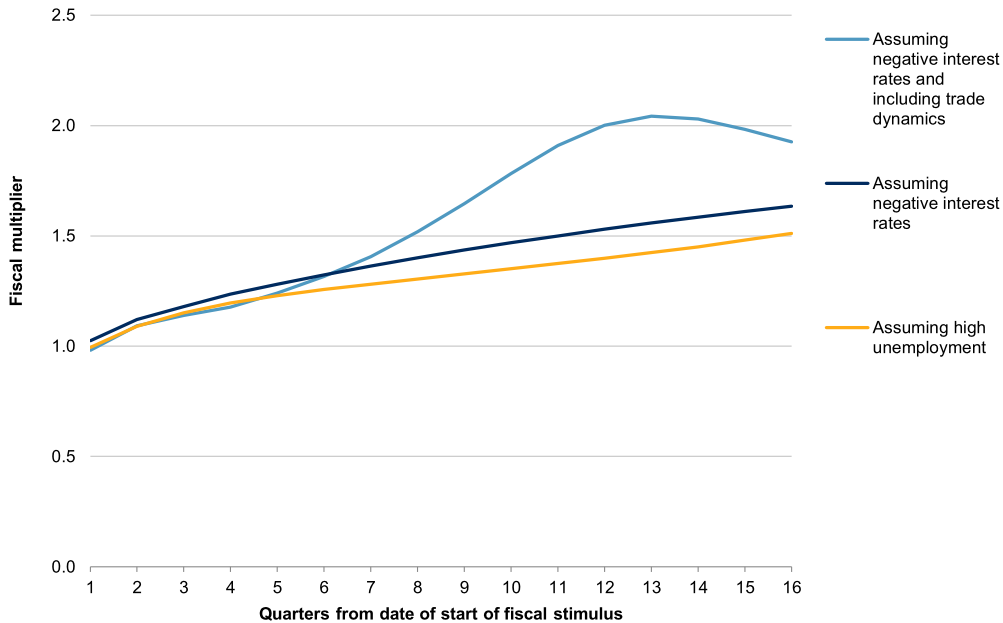
With monetary policy in the eurozone close to as loose as possible and the economy contracting, central bankers and governments have been talking about what power increased state spending could have to boost a recovery. S&P Global Ratings has calculated that fiscal stimulus in the eurozone could stimulate the economy by between 1.6 and 2 times the amount spent after four years, given that interest rates are negative, unemployment is high, and demand is depressed. In other words, for every €100 spent, economies would generate up to €200 over that time (see chart 1 below).

Facing a pandemic and the worst economic crisis since World War II, the eurozone economy is likely to contract 7.4% this year, according to our latest forecast. This, even though governments did not hesitate to act as soon as the crisis unfolded, guaranteeing credit for firms and jobs through furlough and short-time work schemes--and even partly compensating for lost revenue (see "The Eurozone Is Healing From COVID-19," published on Sept. 24, 2020). The European Central Bank has also embarked on its largest asset purchase program to date and injected sizable liquidity in the banking system. What's more, looser financing conditions are insufficient to spur growth and demand when uncertainty prevails, and the monetary policy rate is already in negative territory (see chart 2). It's clear that more is needed to help the European economy return to its former potential growth path and keep long-term scarring from this crisis to a minimum. Evidence that fiscal consolidation following the great financial crisis led to permanent output losses suggests that doing no fiscal stimulus in times of crisis would lead to a slower economic recovery and potentially a lower output potential in the future (see, for example, Fatas A. and Summers L. H., 2017). That's why heads have turned to discussing greater fiscal support, which

now has to shift its focus to creating demand and restoring confidence in growth, from keeping human and working capital afloat under lockdowns that constrain social mobility (see "Keynes And Schumpeter Are What The European Economy Needs Right Now," published on Oct. 12, 2020).

Chart 1

€100 Of Eurozone Spending Today Can Generate €150-€200 After Four Years
S&P Global Ratings' fiscal multiplier, under high unemployment and negative interest rates

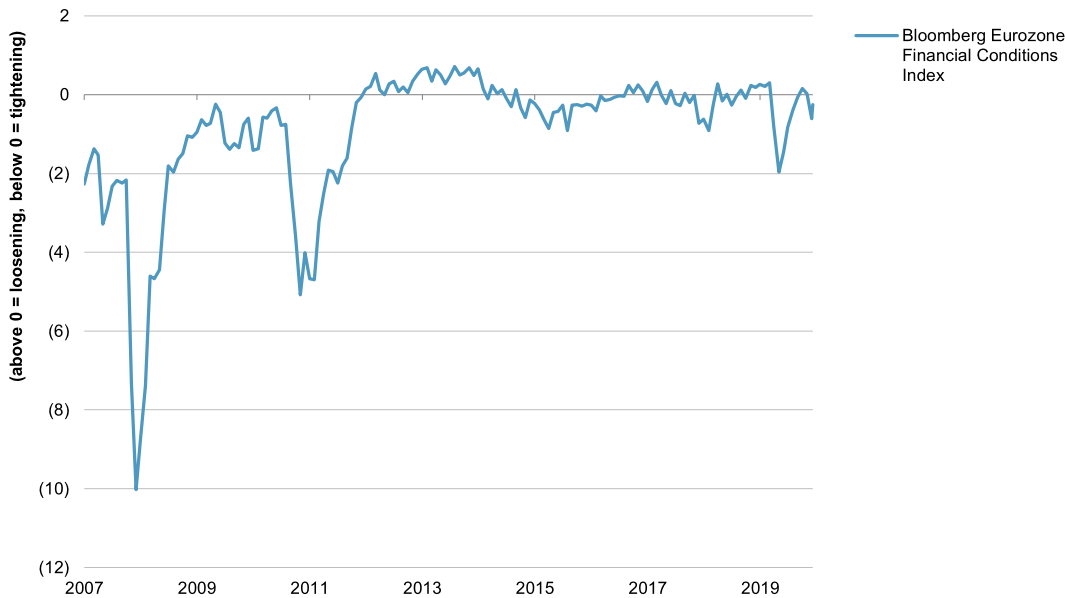


Source: S&P Global Ratings estimates.
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Chart 2

Eurozone Monetary Policy Has Successfully Reduced Financing Costs

Financial conditions are much looser than during previous crises



Sources: Bloomberg, S&P Global Ratings.

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Fiscal stimulus is more powerful when demand is depressed and when interest rates are negative

Even before the pandemic hit, there was agreement among many economists about the growing complementarity between fiscal and monetary policies when interest rates are at the so-called zero lower bound, that is, when rates are close to zero or negative, central banks cannot lower them much further to reduce financing costs and spur growth and inflation. The rise in the household savings rate before the pandemic, when interest rates were already historically low, shows that monetary stimulus might have diminishing returns and in any case is not enough to stimulate growth and inflation on its own--whatever the state of the economy. What's more, in times of crisis, fiscal and monetary policy complementarity is amplified. The goals of fiscal and monetary authorities need to be aligned for the economy to recover. The ECB has acknowledged this interaction for years, asking governments with fiscal space to support monetary policy in its attempt to reflate the economy. In her speech kicking off the central bank's strategic review, ECB President Christine Lagarde recognized that under the current circumstances, fiscal stimulus is more powerful than monetary stimulus ("The Monetary Policy Review: Some Preliminary Considerations," Sept. 30, 2020). Regarding the green transition, several academic papers highlight the complementarity of monetary, prudential, and fiscal policies (Van der Ploeg, F., 2020).

To assess the importance of the interaction between fiscal and monetary policy, and what this means for the recovery, S&P Global Ratings modeled how much additional government spending in the eurozone can boost overall demand--our fiscal multiplier--under different economic and monetary policy conditions (so-called "regimes"). We look at periods of depressed versus high demand--represented by the unemployment rate--as well as periods of monetary policy above and below the zero lower bound (see the Methodology section below for details).

We find that:

- The cumulative eurozone fiscal multiplier is above 1 (meaning that for every euro spent, GDP rises a greater amount) and rises over time when unemployment is high and monetary policy is at the zero lower bound. We find that the shift in economic and monetary policy regimes occur at 10.1% for the unemployment rate and +0.5% for the interest rate.
- In the first year, government spending should stimulate GDP to rise by 20% more than the initial fiscal push. This rises to up to 60% after four years when monetary policy has hit the zero lower bound and 50% when the unemployment rate is high.
- While government spending always boosts GDP by at least an equal amount in the first year, its cumulative effects decrease below unity over time when the unemployment rate is low and monetary policy is not stuck at the zero lower bound.
- Variations of the model that include trade effects through the trade balance suggest that the fiscal multiplier may be even higher and could rise as high as 2 in the third year of the stimulus.

Interestingly, our analysis also suggests that borrowing costs for governments are at their lowest when fiscal policy is most powerful. When interest rates are low and unemployment high, the central bank also wants the economy to go back to potential and inflation to rise, so there is no opposition between expansive fiscal policy and monetary policy. The central bank keeps interest rates low and liquidity ample, so borrowing costs should remain low for governments. By contrast, when we look at the regime of lower unemployment or when monetary policy rates are above the zero lower bound, the fiscal multiplier is much lower. This is in part because the central bank can adjust its interest rate to prevent the economy from overheating and inflation from accelerating too quickly, which means that borrowing costs for governments are likely to rise. Currently, European governments are looking at an outlook of interest rates being "lower for longer." The long-term downward trend in the natural rate of interest, secular stagnation, and low inflation expectations suggest the low interest rate environment is likely to stay that way for a while, and it remains unclear what would trigger an escape from this trap in the eurozone.

Fiscal stimulus is underway, but will it be enough?

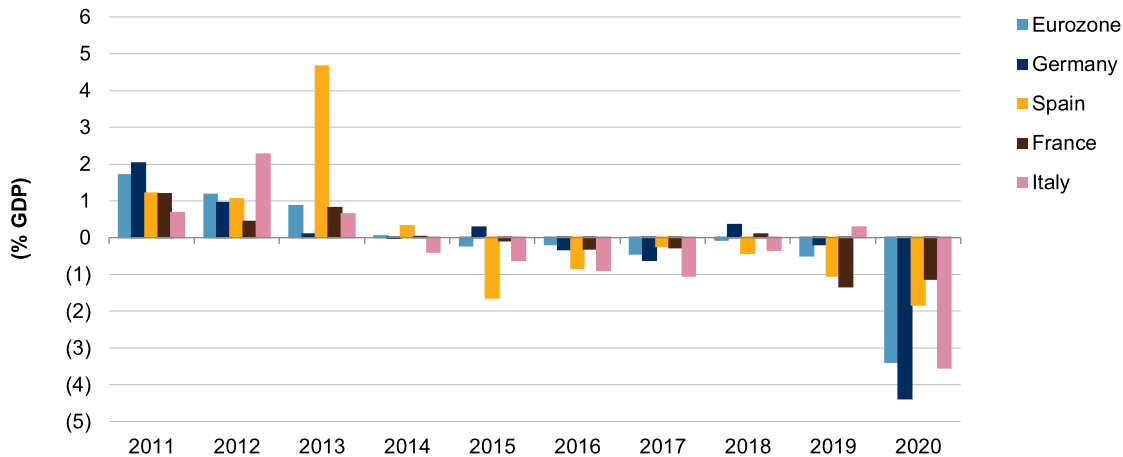
European leaders are acknowledging the economic benefits of additional fiscal stimulus in times of crisis. The EU's fiscal policy stance has turned significantly expansionary this year, showing a 3.4% of GDP widening in the structural balance on average among eurozone countries (see chart 3), and most European governments have committed to kick-starting the recovery. France and Germany have unveiled packages on the order of 4% of GDP, and the EU has offered support to member countries that could total as much as €1.3 trillion or 5.4% of GDP, via several programs: The EU Next Generation Fund (maximum €750 billion in 2018 prices) to finance the recovery, the SURE program (maximum €100 billion) to help fund national short-time work schemes, and European Stability Mechanism loans plus European Investment Bank (EIB) support (for a maximum of €340 billion). According to our fiscal multiplier estimates under current economic conditions, an additional 5.4% in government spending would boost GDP by 7.6% in two years and 8.6% in four years. This is in line with European Commission estimates of an added 2% of GDP per

year in the next four years in the case of quick implementation of the Next Generation Fund (see "Autumn 2020 Economic Forecast," European Commission, November 2020).

Chart 3

Fiscal Policy Stance In The Main Eurozone Countries

Change in structural budget balance excluding interest and including one-offs and temporary measures



Sources: European Commission, S&P Global Ratings Research.

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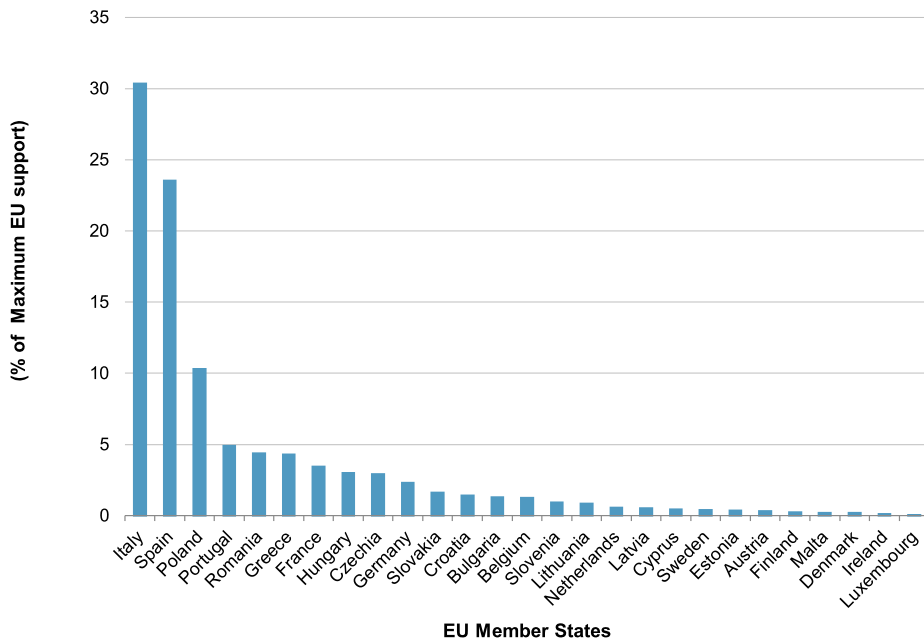
Whether EU support will be as timely and as bold as communicated remains uncertain. The Resilience and Recovery Facility (RRF)--the biggest part of the €433 billion in direct grants agreed under the Next Generation Fund, still needs a green light from EU and national parliaments, while the React-EU facility--the part of the Next Generation Fund that is designed to front-load money to member states in 2021--only amounts €37.5 billion. Moreover, the EU support might be considerably smaller than announced if member states do not ask to benefit from the back-to-back loans offered by the EIB, the ESM, and the RRF. So far, only the SURE program has been fully tapped. The incentives to ask for such loans depend on market financing conditions, which are currently extremely loose. Currently 17 out of 27 member states have on average less advantageous market funding conditions than EU issuers have. Assuming that all 17 countries make full use of the EU support, including loans, and given the allocation keys communicated by the EU for the RRF grants, we can estimate that Italy, Spain, Poland, and Portugal would take the biggest share of EU support (see chart 4).

However, lower financing costs are not the only factor. Political and sovereign considerations also play a role. For example, ESM credit lines have not been used so far because they still carry the stigma from the last crisis--even if there are now close to no conditions attached to them. Italy and Spain have also already expressed reservations about asking for the loans agreed under the Next Generation Fund as their detailed uses might be monitored by other EU member states.

Chart 4

Breakdown Of Total EU Support By Country

Sum of RRF and React-EU grants, effective SURE loans, max. amount of Next Generation EU, EIB, and ESM loans



Source: S&P Global Ratings estimates.

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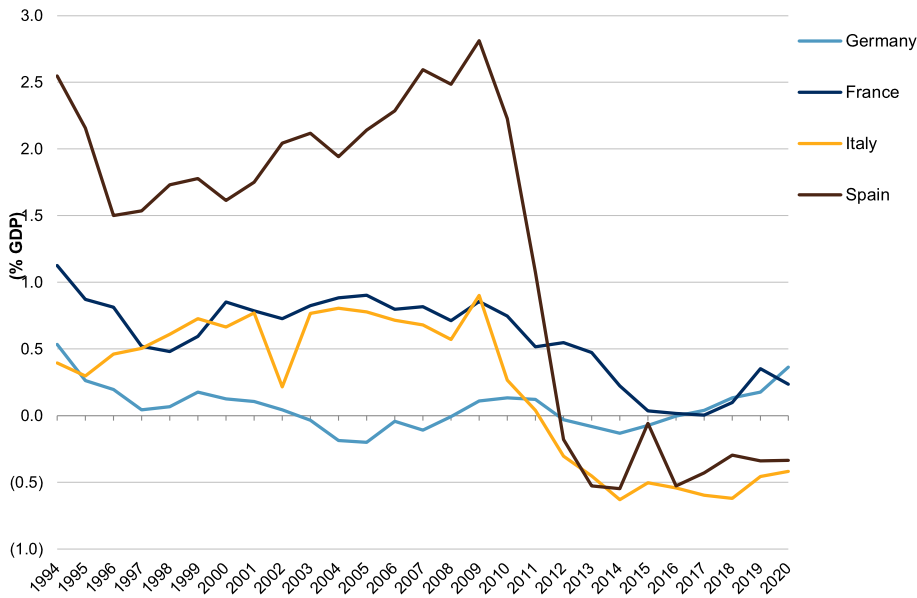
What's important from a growth perspective is that the EU's recovery fund is emphasizing productive investments, such as digitization and more environmentally sustainable production. Fiscal spending in those areas is more likely to boost competitiveness, productivity, and thus potential growth, especially given the investment gaps that have opened up in recent years. Public investment net of depreciation of public assets has been weak and even negative for years in the biggest eurozone countries (see chart 5). The EIB estimates that total investment in infrastructure (both private and public) has been declining since 2008 and only stabilized in 2018 (see chart 6), leaving the European economy with an infrastructure investment gap of about €155 billion per year (2018). Considering just information and communication technology, the EU has been investing around 1% of GDP less than the U.S., highlighting one reason why the EU has been falling behind in this area. Meanwhile, the European Commission estimated that 1.5% of GDP per year is needed to reduce carbon emissions by 40% in 2030, and this was before the recent commitment to an even faster reduction.

The gap in total investment might be even higher than the EIB and EU figures, which focus on investment in infrastructures and in the green transition. Using the golden rule of capital accumulation, a theoretical way to estimate the gap in total investment, we find the eurozone total investment gap is closer to 2% of GDP over the past 10 years. That is without taking into account the unobservable pace of technical progress or the adjustment needed for the capital stock to meet the green transition objectives. The golden rule of capital accumulation is derived from Solow, Swan, or Phelps models of economic growth. According to those, an economy follows a

path of sustainable growth when the marginal productivity of capital net of depreciation increases at the same rate as population and technical change. Over the past 10 years, the marginal productivity of capital consistently overshoot population growth in the eurozone (by 0.6% a year on average).

Chart 5

Government Investment By Germany, France, Italy, And Spain
General government net gross fixed capital formation

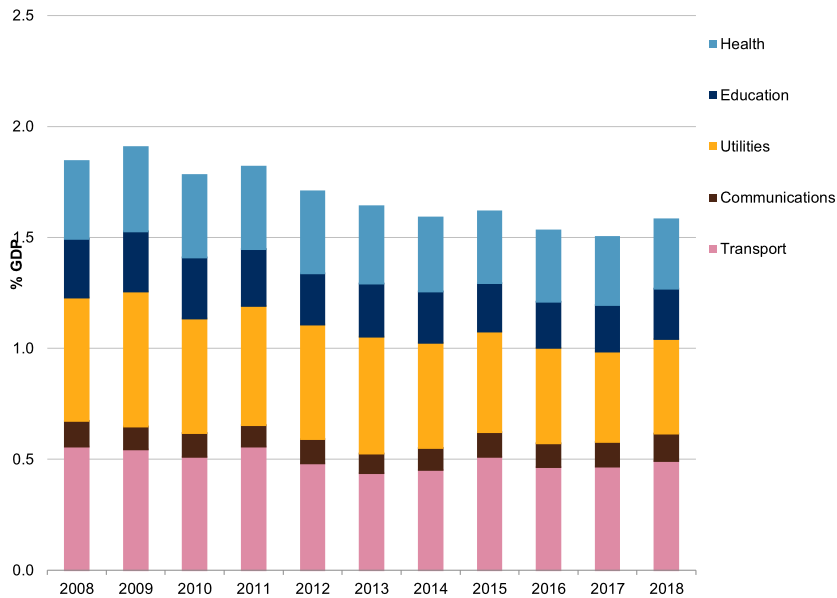


Sources: AMECO, S&P Global Ratings.

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Chart 6

EU Infrastructure Investment By Asset Class



Note: Annual infrastructure investment in EU-27. Data missing for Belgium, Croatia, Lithuania, Poland, and Romania. Sources: EIB, S&P Global Ratings.
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Current budget drafts from the largest four EU economies suggest that even taking into account the fiscal multiplier effect we computed above, green, infrastructure, and digitalization spending might not be enough to close the investment gap (see table 1). Interestingly, Germany has so far committed the lowest share of its budget on such items, even though its net investment has averaged close to zero and been below that of its peers for the past 20 years.

Table 1

Investments In Digital, Green, And Infrastructure Are Still Unlikely To Close The Investment Gap

	(Bil. €)	% GDP	Total with 1.6 multiplier effect
Germany	24	0.7	1.1
France	30	1.3	2
Italy	16 or 37	0.9 or 2.1 including administration investments	1.4 or 3.4
Spain	29.1	2.3	3.7

Note: Estimates from current draft budgets and numbers for Spain and Italy are preliminary.

Finally, the current state of the economy, with depressed demand and monetary policy at the zero lower bound, raises the case for more fiscal stimulus, to get the European economy back on track. In a context of low interest rates and underemployment, the risk is small that public investment crowds out private investment, leading to ineffective fiscal policy. On the contrary, the cycle in public and private investment in Europe seems rather synchronized. However, current drafts of European government budgets for 2021 suggest it will not be enough to close the investment gap, especially in infrastructure.

Methodology: Computing The Fiscal Multiplier For The Eurozone

Looking at common methods used in the literature for calculating the fiscal multiplier (such as Ramey and Zubairy 2018, Blanchard and Perotti 2002, Auerbach and Gorodnichenko 2012, IMF 2019), we chose a Threshold Vector Autoregressive (TVAR) model to estimate our fiscal multipliers across different states of the economy. The main advantage of this method with respect to commonly used models is the ability to differentiate between several "economic regimes." This would be less straightforward with local projection methods.

In the TVAR model, the switch in regime can be identified with threshold variables. For our purposes, we define two types of regimes. One differentiates between a high and low unemployment rate--a measure of slack in the economy. We use the unemployment rate as a measure of slack because there is a lot of uncertainty about output gap estimates, which makes that more tricky to use as a threshold variable. As such, our model suggested the switch in regime would be below 0, thus questioning the validity of the results if we force the threshold to be 0. The unemployment rate is more flexible in this sense.

The second regime identifies states of high and low interest rates, which we define using the ECB's Wu-Xia shadow interest rate. The threshold values are computed before the TVAR estimation. We find regime switches occur at 10.1% for the unemployment rate and 0.5% for the interest rate.

In terms of data, we take quarterly aggregate data for the eurozone from 2000 to 2019:

- Government spending is the sum of government consumption and government investment.
- Net taxes are the difference between expenditures and revenues.
- The national account variables and the unemployment rate are from Eurostat, the shadow interest rate from Wu-Xia.
- We transform the data to stationary variables by dividing national accounts variables with potential GDP, which we estimate via a Hamilton filter, as our purpose is not to look at the drivers of potential growth but just to extract its trend.

Coming to the model, we estimate the following TVAR: "government spending as a percentage of potential GDP, net taxes as a percentage of potential GDP, GDP as a percentage of potential GDP," using the same order for the Cholesky identification scheme that enables us to extract the impulse response functions for the four regimes described above. We then use the impulse response function for government spending (dGC) and GDP (dGDP) variables to compute the cumulative fiscal multiplier following a government spending shock. The multiplier takes the following form:

$$FM_t = \frac{\sum_1^t dGDP}{\sum_1^t dGC} \times \frac{\overline{GC}}{\overline{GDP}}$$

To check the robustness of the result, we model variations of the model adding the interest rate, inflation, and external dynamics (that is, the visible trade balance). Those estimations tend to reinforce our findings. Taking external dynamics into account, we find an even higher fiscal multiplier when monetary policy is at the zero lower bound, which reaches 2 after two years.

Related Research

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- Blanchard O. and Perotti R. (2002): An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output, The Quarterly Journal of Economics, Volume 117, Issue 4, November 2002, pages 1,329-1,368
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