The output gap, GPS and other fallible guides

A storm is approaching. A car is stuck in the mud, right next to a cliff. After regretting having gone up the mountain, the owner asks for assistance. The mechanic arrives. He sits at the wheel and presses the accelerator to the floor. He stops. He hesitates and reduces the acceleration to gentle taps. The owner becomes exasperated: «First you almost send my car right over the precipice. Now you're moving it so little, we'll get struck by lightning before we ever manage to get out of this mud». The mechanic is also hesitating: «How far should I press the accelerator? If only I knew how deep the hole is!».

Back to reality: we can equate the car with the economy; being stuck in the mud with the recession; the cliff, with inflation; the storm, with economic depression; and the mechanic with macroeconomic policymakers. Unlike our mechanic, these policymakers do have indicators to measure the depth of the economic cycle and to judge, based on this measurement, which direction and how much «gas» they should give their policies. Most approaches are built on three basic concepts: potential growth, potential GDP and the output gap. This gap measures the distance between the actual level of GDP, indicative of the current tone of aggregate demand, and the potential level of GDP, indicative of output within a scenario of maximum employment (see the article «Potential GDP and the output gap: what do they measure and what do they depend on?» in this Dossier). The more negative this gap, the greater the room to manoeuvre and give more «gas» via countercyclical stimuli without incurring inflationary risks.

There is, however, a drawback: potential GDP is a theoretical construct and, as such, cannot be observed. So the measures used in practice are more or less complex estimates of this theoretical value (see the article «How is potential GDP calculated?» in this Dossier). As these are approximations of the ideal tally, at most they act as a guide. So what is the problem? If the estimate used is an imprecise approximation of the theoretical variable, for example because the model or the estimation method is flawed, this guide might be dangerously misleading. Followed to the letter, it could lead to completely wrong decisions and even counterproductive results. Resorting to another car-based analogy, it would be like following the instructions of a GPS that hasn't been updated, which tries to take us to our destination via a pedestrian precinct.

By way of example, let us think back to the experience of the Federal Reserve in the 1960s and 70s. Throughout this period, the Monetary Policy Committee maintained an excessively optimistic scenario of the US economy's production potential, which would have led it to underestimate the natural unemployment rate (the rate we would see if the output gap were zero and the economy grew in line with its potential). This misjudgement of the reality, which implied a larger output gap than was actually the case, led to the wrong monetary policy decisions: the official interest rate was lowered too far, resulting in high levels of inflation and damaging the monetary authority's credibility. Some studies conclude that, if the estimate of the natural unemployment rate had been regularly revised, i.e. if the Fed had updated its GPS, it could have avoided the harmful stagflation of the 1970s, a rather substantial corollary.(1)

Given what has been observed, some fear that the Federal Reserve might have come up against the same stumbling block today. In December, it linked maintaining its current highly accommodative stance to guidepost inflation and unemployment targets — inflation at 2.0% and unemployment at 6.5% — that presuppose a macroeconomic scenario in which the unemployment rate in the long term is around 6% (in the latest Fed minutes, the guidepost being used ranges between 5.2% and 6.0%). But what would happen if potential GDP was less than estimated and the natural unemployment rate higher than 6.5%? Well, the Fed's monetary expansion might once again go on for too long, possibly leading to inflationary pressures that could jeopardize the monetary authority's prized credibility.

In fact, there are reasons to believe that the US's potential GDP has not only diminished due to the crisis but that it also started to correct before the Great Recession, affected by demographic and economic trends that are developing in detriment to long-term growth.(2) Although, since the crisis started, the Fed has revised upwards its estimate for the natural unemployment rate, some are concerned that this revision may not be enough. Even the President of the Federal Reserve Bank of Richmond, Jeffrey Lacker, has disagreed with the latest monetary policy decisions, alluding precisely to the possibility of potential production being overestimated and the resulting underestimation of the inflationary risks posed by the Fed's policy.

(1) See Orphanides, Athanasios and John C. Williams. 2013. «Monetary Policy Mistakes and the Evolution of Inflation Expectations.» The Great Inflation, eds. Bordo and Orphanides. University of Chicago Press.
(2) See Gordon, Robert J. 2012. «Is U.S. Economic Growth Over? Faltering Innovation Confronts the Six Headwinds», NBER Working Papers no. 18315.

Spain: correction of the public deficit and structural deficit

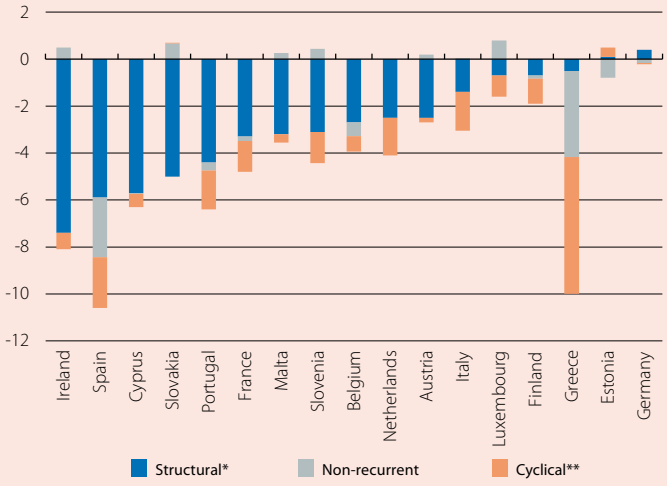
% of GDP

	2011	2012	Trend 2011-2012
Total government balance [1]	–9.5	–10.6	↓
Bank recapitalization costs [2]	–0.5	–3.6	
Government balance excl. bank recapitalization costs [1]-[2]	–9.0	–7.0	↑
Effect of other non-recurrent measures [3]	0.2	1.1	
Government balance adjusted for non-recurrent measures [1]-[2]-[3]	–9.2	–8.1	↑
Cyclical component	–1.9	–2.2	↓
Structural component	–7.3	–5.9	↑
Memorandum items:			
GDP growth	0.4	–1.4	↓
Output gap	–4.0	–4.5	↓

Sources: *European Commission and own calculations.*

Various structural balances in the euro area

(% of GDP, 2012)



Notes: *(*) Structural deficit estimated by the EC in its Winter Forecast 2013. (**) Cyclical deficit calculated based on definitive deficit figures published by Eurostat in April 2013 and on the elasticity rates used by the EC.[5]*
Sources: *European Commission and own calculations.*

The uncertainty surrounding potential GDP not only makes it difficult to achieve consensus in the area of monetary policy but also to manage fiscal policy. It therefore comes as no surprise that the output gap is used to estimate the impact of the economic cycle on the fiscal balance and thereby purge the structural component; i.e. the part of the public surplus or deficit that persists when the output gap is closed. This structural component is very important when assessing the medium-term consolidation needs and determining the fiscal effort required by such consolidation, given that the cyclical balance will tend to disappear as the gap is closed.

Its identification, however, is also subject to errors of measurement resulting, once again, from the uncertainty regarding potential GDP and possible biases in the estimated sensitivity of the fiscal balance to the economic cycle. For example, the European Commission (EC), based on a deficit-cycle elasticity of 0.48 and an output gap of 4.5% of potential GDP, places the cyclical component of Spain's general government deficit in 2012 at 2.2% of GDP.[3] Discounting this 2.2% of GDP from the total deficit, previously corrected for the impact of non-recurrent adjustments (around 8.1% of GDP),[4] we obtain a structural deficit of 5.9%. If the estimated gap or elasticity were biased, this might lead to an over- or underestimation of the structural deficit, depending on the direction of this deviation, which could lead to mistakes in the adjustments imposed.

In this respect, the recent reform of the Stability and Growth Pact has made it even more important to measure structural balances accurately: fiscal targets now include requirements to correct the deficit's structural component in addition to those related to the overall balance. This structural correction requires permanent budgetary measures and reforms that boost potential economic growth; more or less far-reaching depending on the size of the imbalance.

In short, economic authorities employ measurements to set the course and intensity of their countercyclical policies that are not entirely reliable. Given that an error in such measurements is not always innocuous for the real economy, these indicators should be handled with extreme care. In addition to being regularly revised, they should also be combined with another, much more basic but infallible guide, the same one that helps us to avoid a pedestrian precinct no matter what the GPS tells us: common sense.

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(3) Estimates corresponding to its Winter Forecast 2013, published in February 2013.
(4) Difference between the total fiscal balance, –10.6% of GDP, and the part attributed to non-recurrent effects, –2.5% of GDP. These non-recurrent effects would include –3.6 points of GDP from bank recapitalization costs but also the positive effect of other measures deemed to be non-recurrent, such as savings in spending by cancelling the extraordinary Christmas pay to civil servants or revenue from the fiscal amnesty.
(5) See Mourre, Gilles *et al.* 2013. «The cyclically-adjusted budget balance used in the EU fiscal framework: an update». European Commission: European Economy-Economic Papers no. 478.