

Why is the Greek economy collapsing? A simple tale of high multipliers and low exports

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Why is Greece still mired in recession? Why has GDP fallen by close to 20%? Part of the explanation is surely the disruption caused by the *de facto* default and the lingering uncertainty whether the country will remain in the eurozone. But another part of the explanation for the much larger fall in GDP in Greece compared to the other countries under financial distress and undergoing fiscal consolidation is simply that Greece is confronted with a particularly unfavourable combination of factors: the need to undertake large fiscal correction, high multipliers and poor export performance.

There is no doubt that Greece needs to make a large fiscal correction; the uncertainty arises from the scale of its effect on the economy. Any fiscal consolidation has a negative impact on demand via the so-called ('Keynesian' or) 'fiscal multiplier: when public spending goes down, income falls and so does consumption, which in turn induces another drop in GDP.

Standard textbooks show that the size of the Keynesian multiplier, which tells us about the final effect of fiscal consolidation on output, is determined by three factors: the propensity to save, the degree of trade openness and (non-lump-sum) taxation. In particular, the multiplier is large when the savings rate is low, the degree of trade openness is low and the average tax rate is low. Indeed under these hypotheses, leaks are small and changes in exogenous components of demand feed largely, and over different rounds, into the GDP. The Greek economy embeds a combination of features that point to a large multiplier: low savings, relatively low weight of trade and low (effective) tax rates. Of course, this mechanism is at work for both positive and negative changes in demand, which makes a large multiplier either a blessing or a curse.

A low degree of trade openness not only impacts the size of the multiplier, it also means that it is difficult for exports to provide an offset to a fiscal tightening. Accordingly, the problem facing Greece could then be described as the need for a very large adjustment without a safety valve.¹

The combination of a high multiplier with a large initial deficit, which needs to be cut, no doubt, implies that the output cost of the required fiscal adjustment will be large. This should have been clear already at the start of the first Greek programme (and was predicted by Gros, 2010). Indeed, there is some consensus that simple Keynesian multipliers provide a

¹ Portugal displays similar characteristics in most of these respects, but in a somewhat attenuated form, given its lower debt and the higher degree of openness.

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useful rule of thumb in a zero interest rate environment or one in which the banking system is dysfunctional, as in Greece, to estimate the effect of budgetary policies on GDP.² A recent study by the IMF (2012) confirms this and finds evidence of much higher multipliers during the period of the crisis than previously assumed. The IMF's new estimates suggest that, in advanced economies, actual fiscal multipliers range between 0.9 and 1.7. This range is almost exactly equal to the simple Keynesian multiplier estimates one finds if one uses actual data for savings, taxes and imports for the peripheral euro area countries, using observations over a quite long time span before the crisis.

Table 1. Keynesian multipliers

	Keynesian multiplier including tax: $1/(s+m+t)$ (1)	Excess deficit (actual 2009 - 3%) (2)	Impact of fiscal adjustment on output relative to baseline, in % (3) = (1)*(2)
Greece	1.4	12.4	-17.4
Ireland	0.9	11.4	-10.3
Portugal	0.9	6.4	-5.8
Spain	1.0	8.1	-8.1
Italy	0.8	2.2	-1.8

Note: The marginal savings rate, s , is computed as the ratio of the increment in private savings relative to the increment in GDP over the period 2002-07; similarly the marginal propensity to import, m , is computed as the ratio of the increment in imports relative to the increment in GDP over the same period. The marginal tax rate, t , is computed as the ratio of the increment in tax burden of the total economy relative to the increment in GDP over the period 2002-07.

Source: Gros (2010).

The first column in Table 1, which is based on Gros (2010), reports very simplistic estimates of the Keynesian multipliers for the euro area countries under financial pressure. They range from 0.8% for Italy to 1.4% for Greece – very close to the range reported by the IMF study.

Given these multipliers and the required fiscal adjustment (reported in column 2 as of 2010), it is possible to compute the expected fall in output (relative to baseline) shown in column 3.

Given that Greece has the largest multiplier and the largest required adjustment, it is not surprising that it shows also the largest 'predicted' fall in GDP. This is extremely large, i.e. of the order of 17% and, *ex-post*, not far from what has materialised so far.

This is to say that a very large, double-digit fall in Greek GDP should thus have been expected already at the start of the first programme. It was no secret even then that Greece had to undertake a very large fiscal adjustment and that it was a relatively closed economy with low effective tax and saving rates. Of course, the dithering over debt restructuring in early 2012 and the re-denomination of risk contributed and probably still contribute as further sources of negative shocks, but even without them, the adjustment would have been very painful.

The questions that remain unanswered are: How much is still left to do and which further losses should one expect in terms of GDP until the gap is closed? These questions are difficult to answer not only because the multiplier provides a rule of thumb, but also because the relevant figure measuring the budgetary position of Greece is very uncertain. (Box 1 explores this aspect in detail.)

² Indeed when the interest rate channel works and the banking sector is functional, non-Keynesian effects, through expectations, may be at work offsetting part of the multiplier effect, but under the current market conditions, these channels are inactive.

Offsetting fiscal contraction through exports?

In the most simple multiplier analysis, two autonomous expenditure components of aggregate demand are considered: government expenditure (minus lump-sum taxes) and exports. According to economic theory, both should have the same multiplier impact on final output. This means that an increase in exports could compensate, at least partially, for the contractionary impact of fiscal consolidation. Indeed, this seems to have been the case in most peripheral euro area countries (Ireland, Portugal and Spain), but not in Greece. Greek exports (of goods and services) are now (2012) lower than at their peak in 2008.

Box 1. Greece's uncertain fiscal position

As an aside, we note that it is very difficult to judge the fiscal position of Greece today and assess where the adjustment process stands. Given the large (estimated) output-gap(s), there is a large difference between the actual budgetary deficit and the deficit, adjusted either for the cycle or the deviation of actual GDP from its trend.

The European Commission publishes three sets of deficit figures:

1. The 'headline' or actual number (net borrowing),
2. The deficit that one would obtain assuming the output gap was equal to zero (cyclically adjusted net borrowing) and
3. The deficit that one would obtain assuming that the GDP was equal to the trend over the last year (GDP trend adjusted net borrowing).

Unfortunately, in addition to the differences between actual and adjusted figures, there is also a significant discrepancy between adjusted figures for the budgetary deficit, since there is a large difference between 'potential' and 'trend' GDP.

Table B1. Greece's uncertain fiscal position

	2011	2012
GDP output gap (% potential GDP)	-10	-13
Fiscal balance measures		
<i>Headline</i>	-9.5	-6.8
<i>GDP trend adjusted</i>	-8.6	-4.5
<i>Cyclically adjusted</i>	-5.1	-1.2
Primary balance measures		
<i>Headline</i>	-2.3	-1.4
<i>GDP trend adjusted</i>	-1.5	0.9
<i>Cyclically adjusted</i>	2.0	4.2

Note: The primary balance excludes interests from the budget balance.

Source: European Commission Services (Ameco).

The table shows that the difference between actual values and cyclically adjusted values in 2012 is of more than 5 percentage points of GDP. While the cyclically adjusted primary balance already exhibits a quite comfortable surplus, which under a falling interest service would imply that the adjustment is completed or almost completed, the GDP trend-adjusted figures are less optimistic and the actual figure still shows a balance in deficit. The question is which indicator provides us with the most realistic picture of the real Greek situation?

Table B1 also suggests that *ex-post*, it can be said that the output gap (-13%) is not too distant from the difference between GDP after adjustment and baseline (-17%) estimated in Table 1.

Table 2. Effect of export change on GDP

Country	Keynesian multiplier including tax: $1/(s+m+t)$ (1)	Change in export as of GDP (2008-2012) (2)	Impact of change in export performance on output relative to baseline, in % (3)=(1)*(2)
Greece	1.4	-2.1	-2.9
Ireland	0.9	6.0 (12.0/2)	5.4
Portugal	0.9	3.5	3.2
Spain	1.0	3.3	3.3
Italy	0.8	0.4	0.3

Note: Peak set as 2008Q3, annualised over previous four quarters; Oil and ship exports excluded in Greek data. For Ireland we make the rough assumption that, since domestic content of exports is much lower than in other countries (although exact estimates are not available), only half of the change contributes to final domestic demand.

Table 2 shows the estimated impact of the change in exports on output. The first column simply repeats the multipliers from Table 1 and the second column shows the change in exports (value of goods and services) between 2008 (the peak) and 2012, relative to GDP in 2008: Greece is the only country with a negative number; indeed it is the only economy for which exports are lower than in 2008, before the crisis. The last column shows the impact of the change in exports on GDP through the simple multipliers from the first column. The result is clear: For Greece, trade added about 3 percentage points in expected GDP fall, whereas for Spain and Portugal, the opposite occurred (for Ireland the increase is even larger). For Italy, trade has so far been neutral and has not provided a significant offset to the fiscal tightening.

Was the poor performance of Greek exports the result of a lack of demand in its main markets or a loss of market shares driven by a displacement effect due to increased competition from emerging markets?

The first explanation is unlikely to have played a significant role, when looking at the available data on export-market share dynamics. According to the indicator supplied by Eurostat, Greece lost 23% of its market share between 2008 and 2011.

This leaves the second explanation: increased competition from other sources. A recent study by the IMF (Chen et al., 2012) finds that exports from euro area peripheral countries have been displaced by Chinese exports in common market and this has been also the case of Greece. However, in reality about two-thirds of Greek exports are services, which are not really subject to competitive pressure from China and other emerging markets.

It is often argued that the poor export performance is due to the fact that the local banking system cannot even provide export credits and other working capital requirements. However, Greek exports of tourism are now lower than in 2008. This implies that that travel infrastructure needed to accommodate more tourists already exists. This implies that something else must hold back a recovery of tourism to its previous peak.

Conclusions

In understanding the reasons why the Greek economy is collapsing, two aspects are often overlooked: a large multiplier and a bad export performance. Indeed when combined with the need for a large fiscal adjustment, they help explaining how fiscal consolidation in Greece has been associated with such a large drop in GDP.

The evidence offered in this Commentary seems to indicate that all mechanisms at work in the Greek economy are functioning in an adverse fashion. If Greece had been able to increase the volume of its exports similarly to that of Spain or Portugal, i.e. by about 3 percentage points, this would have given a boost of about 5 percentage points to its GDP. This would not have been sufficient to offset the negative impact of fiscal consolidation, but it would still have provided some stabilisation effect.

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