100 per cent forecast errors are acceptable to the IMF

By bill

Wednesday, December 14, 2011

Imagine you had a headache and some economist tells you that you can cure the headache by bashing your head against a wall. So you duly bash your head against the nearest brick wall and not only does it hurt (perhaps drawing blood depending on the severity of the blow) but you note the headache is now worse. The economist then concludes you didn't bash your head hard enough and instructs you to stick to the "rule" and give it another try – only this time go harder. Blood is now flowing, the head is traumatised and the headache gets even more unbearable. Welcome to Greece which is being bullied by the Troika (EU, ECB and the IMF) in a similar way. The latest IMF medium-term forecasts for Greece reveal a staggering failure by that institution to understand causality and the impacts that their austerity programs have on real economies. Without a blush, the IMF presented the world yesterday with revised forecasts for Greece which reveal their previous forecasts will be around 100 per cent wrong over just over a 6-month horizon. That sort of error is beyond any accepted professional standards. The IMF's response – bash your head even harder.

The IMF released its latest review yesterday (December 13, 2011) – which has the very important-sounding and long title – "Greece: Fifth Review Under the Stand-By Arrangement, Rephasing and Request for Waivers of Nonobservance of Performance Criteria; Press Release on the Executive Board Discussion; and Statement by the Executive Director for Greece" but which in English can be understood as "We are bullies, we got it wrong, we need to twist the screws even tighter".

These Reviews are part of the so-called Stand-By Arrangement – that is, the IMF bailout contributions to the Greek government. The "three-year Stand-By Arrangement for Greece" was approved by the IMF on May 9, 2010. Each review leads to a further tranche of the overall bailout funds being released.

Recall that the IMF was threatening not to release the latest tranche if the Greek government didn't increase the fiscal austerity over and above what had been agreed earlier.

The news was clear. The UK Guardian article (December , 2011) – IMF slashes growth forecast for Greece – told us clearly that the IMF had got it wrong again.

Larry Elliot wrote:

> *The International Monetary Fund slashed its growth forecasts for Greece and warned that ever-deepening recession was making it harder for the debt-ridden country to meet the tough deficit reduction targets under its austerity programme.*

In the Fifth Review, the IMF said that the economic situation in Greece has "taken a turn for the worse":

> *The notably weaker-than-expected economy and the attendant contraction in the revenue base is a key reason why the authorities are struggling to meet their fiscal targets and face a need for significant new measures.*

Which was entirely predictable several years ago when the Troika began its deliberate destruction of Greek prosperity.

What we learn from this "experiment" is that economies require an expansion of aggregate demand (spending) in order to grow. The financial ratios that the IMF is obsessed with (public debt to GDP and budget deficit to GDP) are highly sensitive to economic growth.

It is very difficult to reduce a budget deficit via discretionary cut-backs (fiscal austerity) because the damage to growth will blow out the cyclical component of the deficit.

Please read my blogs – Structural deficits – the great con job! and Structural deficits and automatic stabilisers – for more discussion on this point.

However, the IMF then pulled out its standard line and said that the:

> *… government's medium-term program slipped considerably over the summer, while crucial institutional reforms (to improve tax collection and contain arrears) have continued to move at a slow pace. Staff welcomes the passage of corrective fiscal measures, in particular the more ambitious and upfront cuts to public wages and employment. The draft 2012 budget submitted to parliament now needs to be passed, consistent with program parameters and agreed measures. Going forward, stronger management of the wide-ranging and complex reforms in the program will be needed. Staff welcomes the EC's commitment to scale up technical assistance, alongside the Fund's TA, to help keep reforms on track.*

Just the tone is objectionable. "Staff welcomes" – referring to the IMF staff. "Staff requires" – this is in the context of a so-called democratically elected government.

The deputy director of the IMF's European department and mission chief to Greece told the assembled press corps (at the release of the Fifth Review) that (Source):

> *There has been too much reliance on taxation … Structural reforms have fallen short. They are well behind schedule … Our view is that there is a need to refocus the fiscal program on the expenditure side. We have reached the limit of what can be achieved through increase in taxes.*

Tax revenue will continue to decline as growth declines as spending declines. The IMF's prescriptions will just make this worse.

As Larry Elliot noted "Greek officials are privately saying that the budget black hole is likely to be "in excess of 10%", making the imposition of yet more austerity measures inevitable. "Pay cuts have only made the recession worse," one source said.

The Greek economy has already declined by 15 per cent and the projected cutbacks in the government net spending will be of the order of 25 per cent. An economy cannot grow in those circumstances especially when its trading partners are also in decline (for the same reason).

Let's go back to the First Review which the IMF put out on September 14, 2010. In that document we read:

> *The slowdown is progressing as expected … While establishing a track record of program implementation will require time, as foreseen in the program, the authorities felt that some skepticism is now gradually starting to fade. The authorities' strong ownership and determined implementation of the program so far, in the face of some unrest, has started to deliver results … Staff and authorities agreed that nominal growth will be somewhat higher than originally anticipated*

By the time the Second Review (December 17, 2010) was published the story was changing a little:

> *The contraction in activity is trending slightly deeper than expected … Growth projections have been reduced by a small amount … Modest quarter-on-quarter growth is still expected to resume in late 2011, with external adjustment the main support … In the medium-term … there appears to be comparatively more upside potential, provided structural reforms are implemented as planned.*

So they were still hanging onto the myth that the harsh fiscal retrenchment would be more than offset by an export-led recovery despite evidence at the time – which they clearly chose to ignore (or failed to understand) to the contrary.

In the Third Review (March 16, 2011) the IMF said:

> *The economy is expected to bottom out in the second half of 2011. Keeping projected quarter-on-quarter growth rates for 2011 unchanged (given the better than expected performance in Q4 2010), suggests that the -3 percent projection remains well within reach. From an aggregate demand perspective, domestic demand is trending weaker than anticipated, reflecting the deteriorating labor market and tight credit conditions. However, improved prospects for external demand, due to faster recovery in Greece's main trading partners, improving competitiveness, and a rebound in tourism from the low 2010 base, should offer some offset.*

Keep that "-3 per cent projection" in mind.

Overall, the IMF was still in denial by March 2011. They were still claiming that productivity would rise – which as we will learn in the Fourth Review failed to occur.

They were still asserting that the export-led recovery tactic would deliver offsets to the fiscal cutbacks.

A few months later in the Fourth Review (July 13, 2011) the language was changing again:

> *Market sentiment has taken a sharp turn for the worse … Greece is adjusting in macroeconomic terms, although the deep recession is driving the process, and productivity gains are not yet apparent … Indicators of economic activity suggest that the decline in domestic demand continued unabated in the first quarter of 2011 … Unemployment has risen sharply, exceeding 16 percent in March 2011. Leading economic indicators have been mixed, with industrial turnover and new industrial orders from abroad as well as hotel bookings increasing slightly, while activity in the construction and services sectors is still on the decline and economic sentiment still deteriorating.*

I love the way they make virtue out of disaster – with phrases like "Greece is adjusting in macroeconomic terms, although the deep recession is driving the process" – which means in other words, the economy is plunging deeper into the abyss and all the policies that we are forcing on the Greek government are making the situation worse.

Of-course, an economy "adjusts" in macroeconomic terms as the business cycle unfolds. But this is not the "adjustment" that the IMF or its Troika buddies foresaw. The adjustment is a straight forward demand collapse made worse by the imposed fiscal austerity.

In yesterday's Review, the forecast was that it wouldn't bottom until 2013. The "-3 per cent projection" for 2011 that they boasted about in the Third Review is now estimated to be -6 per cent which amounts to a forecast error of around 100 per cent.

The problem is this. The IMF (and the rest of the Euro bullies) design their austerity programs based on these forecasts. One would expect that given the "risk" involved – that is, actual people and their lives are the "experiment" – agencies like the IMF would want to be very risk averse in their forecasting and err on the side of modesty.

But this is not the IMF's style. They treat the "populations" they are dealing with as numbers on a spreadsheet and it is of no consequence to any of their economists if the numbers change each time they get it wrong. Who loses their jobs in the IMF when they make such large errors.

Imagine if this was a civil engineering firm designing bridges. How long would the firm last if its professional judgements were so wrong so often?

The IMF have been doing this for years which is why the low income nations who have been subjected to the so-called IMF Structural Adjustment Packages have made very little progress over the last 30 years.

Please read my blog – IMF agreements pro-cyclical in low income countries – for more discussion on this point.

In the following Table I compiled the moving feast of projections for Real GDP growth, the inflation rate, the unemployment rate (all in percentages), and the budget balance and primary budget balance (both as per cent of GDP) that are contained in the IMF's Medium-Term Macro Framework, which accompanies each of the "Reviews" that are provided "Under the Stand-By Arrangement" that the IMF has with the Greek government (aka the bailout package).

IMF Medium-term projections in the first five Greek reviews, 2010-2016

	2010	2011	2012	2013	2014	2015	2016
Real GDP growth (%)							
First Review September 14, 2011	-4.0	-2.6	1.1	2.1	2.1	2.7	
Second Review December 17, 2011	-4.2	-3.0	1.1	2.1	2.1	2.7	
Third Review March 13, 2011	-4.5	-3.0	1.1	2.1	2.1	2.7	2.9
Fourth Review July 2011	-4.5	-3.9	0.6	2.1	2.3	2.7	2.9
Fifth Review December 2011	-3.5	-6.0	-3.0	0.3	2.4	2.9	3.2
Inflation - GDP deflator (%)							
First Review September 14, 2011	3.5	1.3	0.4	0.7	1.0	1.1	
Second Review December 17, 2011	3.0	1.5	0.3	0.8	1.0	0.9	
Third Review March 13, 2011	2.3	1.6	0.4	0.8	1.2	0.6	1.2
Fourth Review July 2011	2.3	1.7	0.7	1.0	1.0	0.9	1.1
Fifth Review December 2011	1.7	1.6	0.2	0.3	0.4	0.6	0.8
Unemployment rate (%)							
First Review September 14, 2011	11.8	14.6	14.8	14.3	14.1	13.4	
Second Review December 17, 2011	12.2	14.3	15.0	14.6	14.2	13.4	
Third Review March 13, 2011	12.4	14.8	15.0	14.5	13.8	12.7	11.6
Fourth Review July 2011	12.5	15.8	16.2	15.0	14.5	13.3	12.0
Fifth Review December 2011	12.5	17.0	19.0	19.5	18.8	18.0	17.0
Budget balance (% of GDP)							
First Review September 14, 2011	-7.9	-7.3	-6.2	-4.7	-2.5	-2.0	
Second Review December 17, 2011	-9.6	-7.4	-6.4	-4.8	-2.6	-2.5	
Third Review March 13, 2011	-9.6	-7.5	-6.5	-4.8	-2.6	-2.1	-2.1
Fourth Review July 2011	-10.4	-7.6	-6.5	-4.8	-2.6	-1.5	-2.2
Fifth Review December 2011	-10.6	-9.0	-4.7	-3.9	-1.4	-1.1	-1.0
Primary budget balance (% of GDP)							
First Review September 14, 2011	-2.2	-0.8	1.0	3.0	5.7	5.9	
Second Review December 17, 2011	-3.3	-0.8	1.1	3.5	6.0	6.0	
Third Review March 13, 2011	-3.2	-0.9	1.0	3.5	6.0	6.3	6.1
Fourth Review July 2011	-4.9	-0.8	1.5	3.6	6.4	7.7	6.4
Fifth Review December 2011	-5.0	-0.7	0.2	2.4	5.0	5.0	4.8

The pattern is clear. They initially assume a higher inflation, higher real GDP growth trajectory and a lower unemployment rate profile.

This ensures that they forecast a very quick fiscal consolidation – with a major disconnect between that and the real economy.

You can see in the First Review that they were forecasting an overall primary budget surplus by 2012 (meaning their forecasts of tax revenue were very optimistic given the scale of adjustment that would have been required to accomplish that fiscal transformation.

Even up to March 13, 2011, the IMF considered that Greece would be growing in 2012 (at 1.1 per cent per annum) with a strong bounce-back in 2013.

Their growth projection for 2011 how now been revised to -6 per cent (twice as high as the forecast a year ago) and the economy is now forecast to still be in major collapse in 2012 and barely growing in 2013. You can discount the growth forecasts for 2014 and beyond. They are ridiculous under current policy settings.

The unemployment rate projections have also been revised upwards – very significantly. When they imposed the austerity on Greece, they were forecasting a peak unemployment rate of14.8 per cent in 2012 dropping to 13.4 per cent in 2015.

Even by the second quarter 2011 (see Greek National Statistics Office) the Greek unemployment rate was 16.3 per cent and rising, which is reflected in their 17 per cent estimate in the latest Review). I think that it will go beyond 17 per cent by year's end.

But the latest projection is now forecasting a peak of 19.5 per cent in 2013 which is a far cry from the already horrendous forecasts in the earlier Reviews. The upward unemployment rate revisions for 2013 forecasts are around 36 per cent.

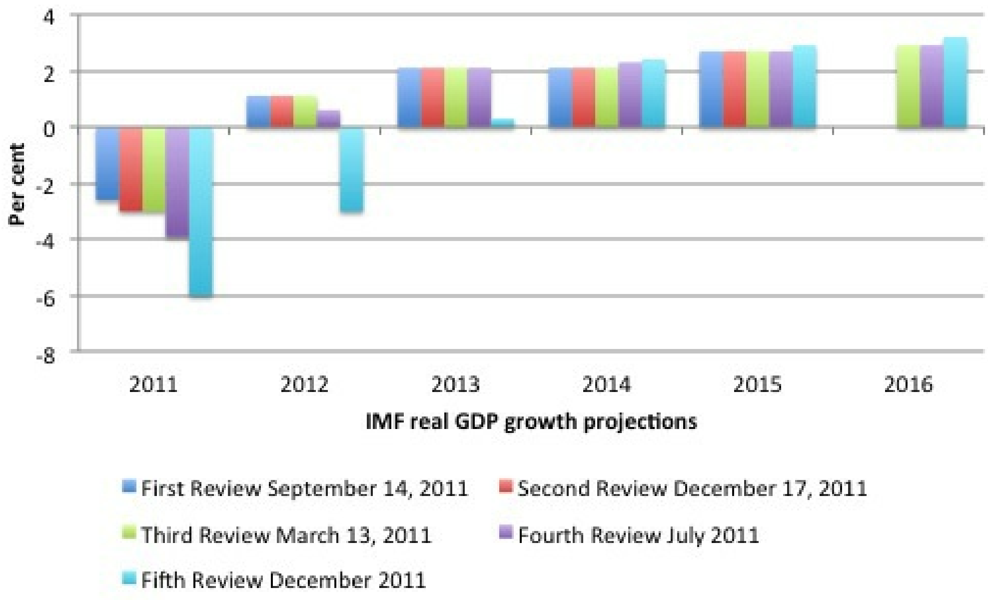
These errors and revisions are beyond the margins that we would consider to be professionally competent.

They indicate an organisation which has serious deficiencies in their modelling capacities, which in turn, reflect a major deficiency in the understanding of the IMF economists on what is actually happening in the nations they impose these austerity programs on.

The following graph is derived from the previous Table and shows the projected real GDP growth rates that the IMF provided in the five Reviews. The last three Reviews forecast out to 2016 while the first two Reviews ended their projection period at 2015.

You can easily see what has been happening. The IMF always play "catch-up" – they regularly present an optimistic scenario when they are advocating major fiscal cutbacks (thus underestimating the impact on aggregate demand of the cutbacks) and then as the event unfold and inexorably show the decline to be deeper – they edge their forecasts down.

Note their medium-term (out around 2014 and beyond) forecasts remain highly optimistic. That is, they also fail to model the likely hysteretic effects of the current decline. They assume the economy is not path-dependent and the major shortfall in private investment at present will not have longer-run effects on the capacity of the Greek economy to grow.



I considered the IMF forecasting errors in an earlier blog – What if economists were personally liable for their advice. The forecast errors I discussed then pale into insignificance when you consider what the IMF is presenting in its Fifth Review.

I wrote in that blog that IMF inflated its growth outlook for 2012 and beyond to make the fiscal austerity they were promoting more palatable to the politicians. Given the data available at the time there was nothing to justify that heightened optimism. The situation gets worse by the month.

At the time, I traced the changing IMF growth estimates for Greece as published in the World Economic Outlook and concluded that revised they were excessive. It was clear – once you evaluated the whole picture – the austerity – the likely growth effects, the falling tax revenue and declining real activity and, most importantly, the broader external environment as European growth faltered – that growth would be much lower (and hence the recession much deeper) than the IMF predicted.

I have consistently said that over the last several years.

Once again, I consider the revised estimates of growth in the Fifth Review to be inflated (meaning the downturns are likely to be deepeer and the positive growth estimates to optimistic).

But taking them at face value, we are presented with a very bleak scenario.

How do they impact on the unemployment rate projections?

In this blog – The aftermath of recessions – I outlined the so-called Okun's Law arithmetic (after the late Arthur Okun) which was developed to estimate how deficient real GDP growth leads to rising unemployment rates.

Okun's Law (it was in fact a statistically estimated relationship with stochastic variation) is the relationship that links the percentage deviation in real GDP growth from potential to the percentage change in the unemployment rate.

The Okun "rule of thumb" relates the major output and labour-force aggregates to form expectations about changes in the aggregate unemployment rate based on output growth rates. The "rule of thumb" helps us make guesses about the evolution of the unemployment rate based on real output forecasts.

The derivation is explained in the earlier blog but in summary we know that if the unemployment rate is to remain constant, the rate of real output growth must equal the rate of growth in the labour-force plus the growth rate in labour productivity.

Remember that labour productivity growth reduces the need for labour for a given real GDP growth rate while labour force growth adds workers that have to be accommodated for by the real GDP growth (for a given productivity growth rate).

It is an approximate relationship because cyclical movements in labour productivity (changes in hoarding) and the labour-force participation rates can modify the relationships in the short-run. But it provides reasonable estimates of what will happen once all the cyclically-sensitive components of the economy return to more usual values.

Labour force growth is close to zero in Greece at present (actually negative) as workers give up looking for work ir a climate of declining vacancies.

The stagnant labour force growth is one factor that is attenuating the rise in unemployment given the parlous real GDP growth rate.

Productivity growth is also negative at present despite all the claims by the Troika that a harsh domestic deflation would lead to a spur in such growth. In fact, real GDP growth is falling faster than employment growth.

Over the period since March 2001, labour productivity growth averaged 1.6 per cent per annum and the labour force grew on average by 0.8 per cent per annum.

However, over the same period, when real GDP growth was above 2.5 per cent per annum, the average labour force growth rate was around 1 per cent rising to a peak of 2.7 per cent while average labour productivity growth rate was 3 per cent.

We also know that labour force and labour productivity growth rates tend to overshoot their longer run averages as the business cycle turns around and growth resumes. This is because the hidden unemployed re-enter the labour force and hoarded labour is put back into more productive activity.

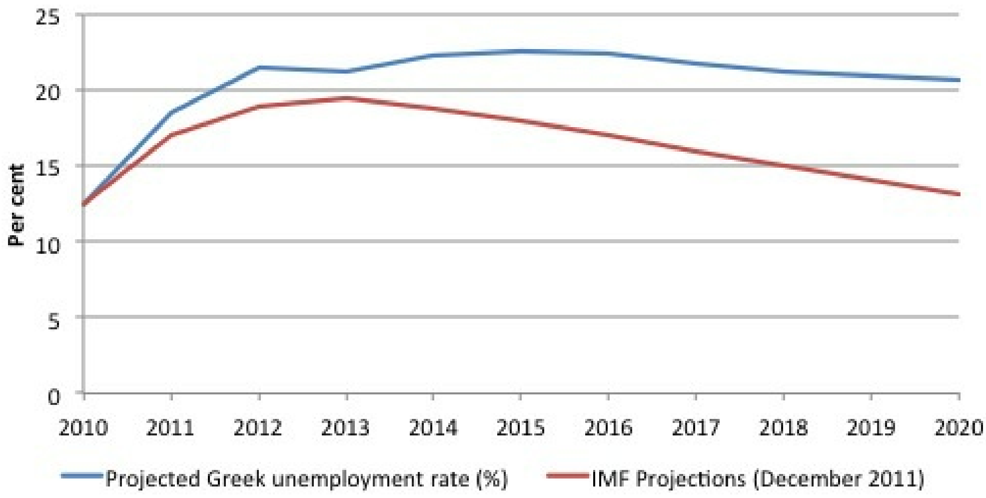
So assuming real GDP growth to be equal to the IMF medium-term projections which will surely be over-optimistic over the time horizon I assumed some modest overshoot (labour force growth rising to 1 per cent between 2014-2016 then dropping back to 0.8 per cent for the rest of the horizon; labour productivity growth at 2.5 per cent in 2014, 2.2 per cent in 2013, 2 per cent in 2012 dropping back to 1.6 from 2017).

These assumptions are fairly conservative. So the projections for the unemployment rate to 2020 are likely to be biased downwards.

The projections show that the unemployment rate will peak around 22.6 per cent in 2015 and then hover around 20 per cent indefinitely.

If the IMF growth estimates do prove to be inflated, or if the labour force or productivity growth rates are faster than their averages since 2001 (after accounting for the overshoot), then the rise in the unemployment rate will be even larger. If average hours worked rises, the rise in unemployment rate will be larger.

The following graph shows my projections in comparison with the IMF Fifth Review medium-term outlook projections.



While the IMF Fifth Review doesn't provide projections for 2017-2019, the do project an unemployment rate of 13.1 per cent in 2020. The red line in the graph is a linear interpolation of the change between 2016 and 2020.

Think about the IMF's projected decline in the unemployment rate between 2016 and 2020 will be 3.9 percentage points.

Trying to understand how that might happen will give you a sense of how poorly the IMF estimates are crafted.

That would imply that real GDP growth was 3.9 per cent higher than the sum of labour force and productivity growth over the 4-year period. The IMF forecast real GDP growth in 2020 will be 2.6 per cent.

To achieve this outcome, the IMF must be projecting a massive contraction in either labour force growth and/or productivity growth (or some weird changes in average working hours).

A major drop in productivity is not viable (given they believe the real GDP growth will come from a substantial increase in international competitiveness.

In other words, that forecast, like most of them is highly problematic.

Whichever way the future turns out (red or blue line), the real situation – down on the ground where people live – is very dire for Greece and I couldn't think of any circumstance that would justify a government deliberately imposing this level of austerity and income loss on its population.

Conclusion

This is another sorry tale from the IMF – another in the long history of sorry tales.

As I have noted previously, other professions are held legally liable for their professional behaviour. If they consistently make large errors then they will be deemed unfit to practise.

The IMF economists are immune from these standards. They consistently make bold predictions and impose harsh austerity programs based on those projections. The predictions are consistently shown to be wrong when the data arrives.

We are not talking about minor forecast variances which are normal and reasonable given that we are dealing with highly uncertain environments.

The 2011 IMF forecast prediction for real GDP growth (-3 per cent in March 2011 and -6 per cent in December 2011) is not small beer. It represents a dramatic failure to understand what is happening on the ground and the way in which fiscal austerity impacts on the real economy.

The models and theories that the IMF use to construct these forecasts is clearly wrong – in a major way.

The IMF should be excluded from public policy influence and governments around the world should withdraw their funding from the institution immediately.

That is enough for today!