

RISK&OPPORTUNITIES

SG Economics and Sector Research

Italy's Fiscal Multiplier Trap

Michala Marcussen
Group Chief Economist

The impact of discretionary fiscal policy on economic growth is an ongoing topic of debate, and not least these days between Brussels and Rome. Weighing up the different mechanisms at work, we find that the multiplier on fiscal expansion in Italy today is below the levels needed to bring down the debt-to-GDP ratio. Conversely, should the Italian government switch the fiscal lever to austerity, we are concerned that this too could prove self-defeating. In a nutshell, Italy seems caught in a “fiscal multiplier trap”. Breaking out of this requires a much stronger focus on growth boosting structural reforms.

Recent days have seen hopes emerge for a compromise on the Italian budget with press reports suggesting that the budget deficit target for 2019 could be trimmed to 2%. The initial draft foresees economic growth of 1.5% in 2019, a budget deficit of 2.4% of GDP and general government debt at 129.2% of GDP. The Commission takes a bleaker view, with growth at just 1.2%, a budget deficit of 2.9% and general government debt at 131%. Comparing the two forecasts, we find similar assumptions on the global economic backdrop and the magnitude of the Italian the fiscal stimulus. Assuming thus that the difference is primarily a function of the multiplier applied to the Italian fiscal expansion, a quick back of the envelope calculation finds that the Commission is attaching a multiplier around 0.4pp lower than the one applied by the Italian government.

Spot the difference – the Italian Government vs the Commission

	Real GDP YoY	Final domestic demand YoY	GDP deflator YoY	Unemployment rate	Compensation per employee YoY	Primary balance %GDP	Budget balance %GDP	Cyclically adj. primary balance %GDP	Structural balance %GDP	General government debt %GDP
Commission										
2018	1.1	1.4	1.3	10.7	1.8	1.7	-1.9	1.9	-1.8	131.1
2019	1.2	1.2	1.3	10.4	0.9	1.0	-2.9	0.8	-3.0	131.0
2020	1.3	1.3	1.4	10.0	1.0	0.8	-3.1	0.4	-3.5	131.1
Italian draft budget										
2018	1.2	1.4	1.3	10.6	1.7	1.8	-1.8	2.8	-0.9	130.9
2019	1.5	1.6	1.6	9.8	1.5	1.2	-2.4	1.9	-1.7	129.2
2020	1.6	1.6	1.9	-	-	-	-	-	-	127.3

Source: European Commission, Italian Ministry of Finance, SG Economics and Sector Research

Who's right? The past few years have seen numerous papers debating the size and the determinants of fiscal multipliers, but, to the best of our knowledge, none has delivered a clear-cut answer. In a nutshell, “it depends”. In our discussion below, we combine an observation based approach with a few simulations conducted on NiGEM¹ with the aim to shed some light as to how large the Italian fiscal multiplier might be today and how it could potentially change if the government were to decide on a shift in policy.

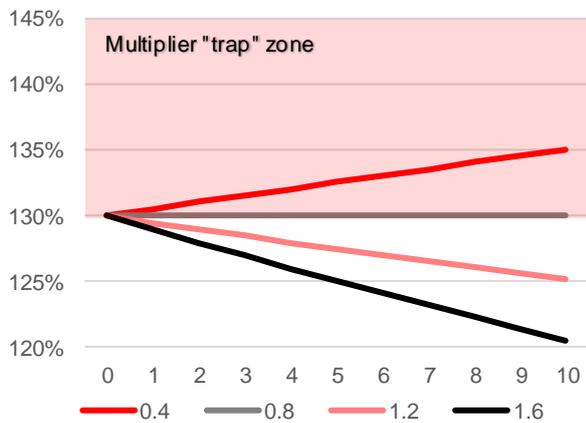
¹ NiGEM is the National Institute Global Econometric Model from the National Institute of Economic and Social Research. The model covers over 60 countries with over 5000 variables. The model is a global macro-econometric policy model based on modern macroeconomics. For further information, please see www.niesr.ac.uk.

What’s a gap of 0.4 amongst friends?

To illustrate just how costly an incorrect assumption on the fiscal multiplier can be over time, consider a government with a starting debt position of 130% of GDP and a balanced primary budget. The two charts below illustrate the public debt path assuming, respectively, a debt-financed fiscal expansion and a debt-reducing fiscal contraction, each equal to 1% of GDP per annum over the next decade under different assumptions on the fiscal multiplier. Implicit to our calculation is the assumption that the underlying growth rate (absent the impact of fiscal policy) is equal to the cost of servicing debt.

A “multiplier trap” exists for fiscal expansion ...

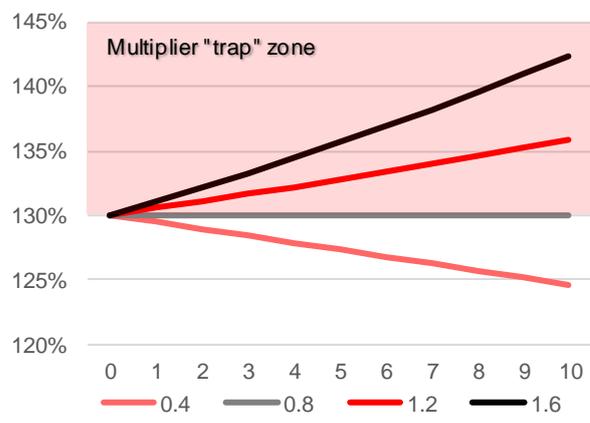
Debt-to-GDP ratio for different multipliers assuming a fiscal expansion of 1% of GDP per annum



Source: SG Economics and Sector Research

... and fiscal austerity

Debt-to-GDP ratio for different multipliers assuming a fiscal contraction of 1% of GDP per annum



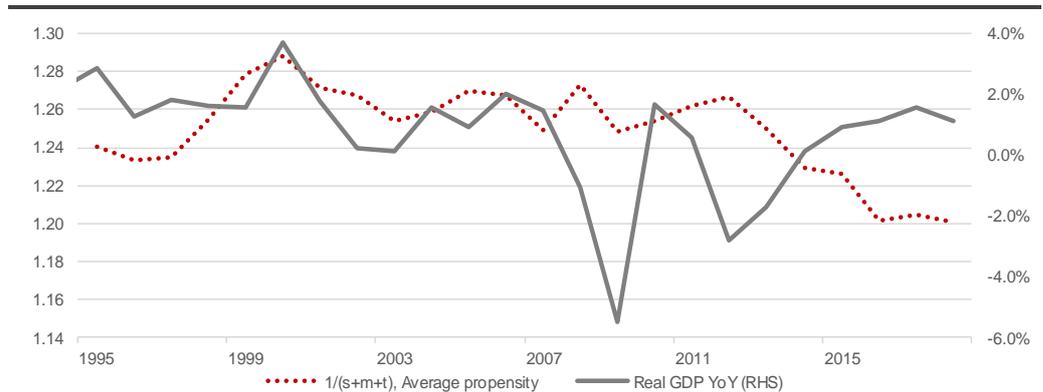
Source: SG Economics and Sector Research

As seen, the debt-to-GDP ratio holds stable at 130% when the fiscal multiplier is 0.77 (the inverse of the initial debt-to-GDP ratio, i.e. 1/130%). Reducing the debt-to-GDP ratio under a debt financed fiscal expansion, requires a multiplier above 0.77. Conversely, reducing the debt-to-GDP ratio through an austerity programme, requires a multiplier below 0.77. In this admittedly highly stylized example, a gap of 0.4 makes quite a difference!

How large is Italy’s fiscal multiplier?

Most economic models assume that fiscal expansion has a positive impact on domestic demand, such that when government spending increases (or taxes decline), income is lifted, boosting private consumption and encouraging companies to further hire and invest. A fiscal contraction is assumed to have the opposite effect. These pure demand effects are captured by the Keynes multiplier, defined as the marginal propensity to import (m), save (s) and tax (t). In practice, marginal propensities tend to be volatile and are highly sensitive to the time periods selected. Over longer time periods, the marginal and average propensities, will converge. The main drawback of using average propensities is that these may less readily capture the effects of the cycle and will mainly reflect structural changes.

Italy’s Keynesian multiplier remains above 1

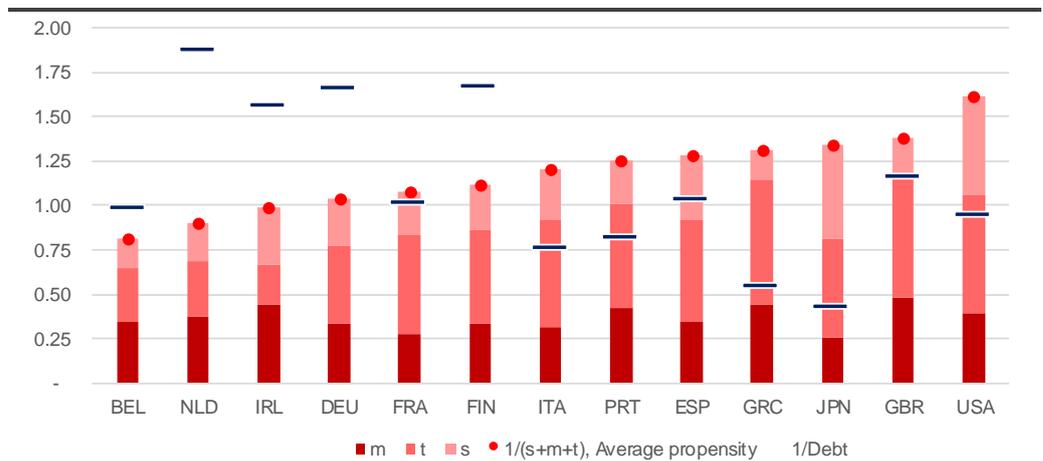


The average propensity to consume is calculated on an annual basis as the inverse of the sum of the average propensity to save (s), import (m) and tax (t). Note that we have further adjusted the average propensity to import to strip out those imports driven by foreign value added.

Source: AMECO, OECD, SG Economics and Sector Research

For comparison, the chart below shows our Keynesian multiplier estimates for a selection of countries, split by the relative importance of marginal propensity to import (m), save (s) and tax (t). We also include the inverse of the debt-to-GDP ratio as a simple reference point following on from our discussion above. As seen, closed economies with low propensities to import and low propensities to save and to tax, will have a higher Keynesian multiplier. The US has the highest multiplier in our sample, while small open economies, like Belgium, Ireland and the Netherlands sit at the lower end of the scale in our sample.

At first glance, fiscal expansion in Italy should work ...



Source: AMECO, SG Economics and Sector Research

At first glance, our analysis indicates that a fiscal expansion could be just what the Italian economy needs; not only is the estimated Keynesian multiplier above 1, but it also sits above the inverse ratio of public debt. It also suggests that fiscal austerity is the last thing needed. The evidence presented so far, however, is insufficient to determine whether or not Italy today sits outside the “multiplier trap zone” presented above. To get a better sense of where we stand, several other factors need to be considered to take us from the simple case presented above closer to the real world. We discuss five important points below starting with

(1) the composition of fiscal policy measures, (2) consumer expectations, (3) liquidity constraints, (4) crowding out and uncertainty and (5) ratings.

1. Not all fiscal measures are equal: In the real world, the composition of fiscal policy measures matter greatly. For example, a €10bn government investment in transportation networks will come at an initial cost but should offer positive effects on growth over years to come. If the same funds are used to boost social transfers, then this will give a one-off boost to consumption but it is much more doubtful that any permanent growth effects would result.

To illustrate these differences, we run several shocks through the NiGEM model. In each of the three spending scenarios, the initial shock is set so that it amounts to 1% of GDP over a 2-year period. For the tax shocks (corporate and VAT), we calibrate these to produce a similar impact on GDP. We here refrain from introducing any additional uncertainty shock leaving the financial market response quite muted and thus allowing us to more closely observe the real economy effects. Amongst the spending measures, government investment seems the most favourable and social transfers the least favourable mainly because the latter leads to a more significant increase in household savings. We further observe that a corporate tax cuts seems more favourable than an equivalent VAT cut in terms of the related costs to public finances for a similar shock term impact on growth. Again, household savings are at work.

The type of fiscal expansion matters!

Fiscal expansion assuming rational expectations and no uncertainty shock, impact after 1-year

in percentage point vs baseline unless otherwise specified

	Real GDP	Domestic Demand	Household savings ratio	Inflation	Key rate (bp)	Long bond yield (bp)	Budget balance %GDP	Public debt %GDP
Government spending, 1% of GDP	0.8	1.1	0.3	0.2	9	14	-0.7	-0.8
Social transfers, 1% of GDP	0.4	0.3	0.8	0.1	0	13	-0.6	-0.1
Government investment, 1% of GDP	0.9	1.3	0.4	0.3	0	13	-0.8	-0.9
Corporate tax cut (3pp)	0.6	0.8	0.3	0.1	0	13	-0.1	-1.0
VAT cut (4pp)	0.6	0.6	1.1	-1.9	0	13	-1.7	3.9

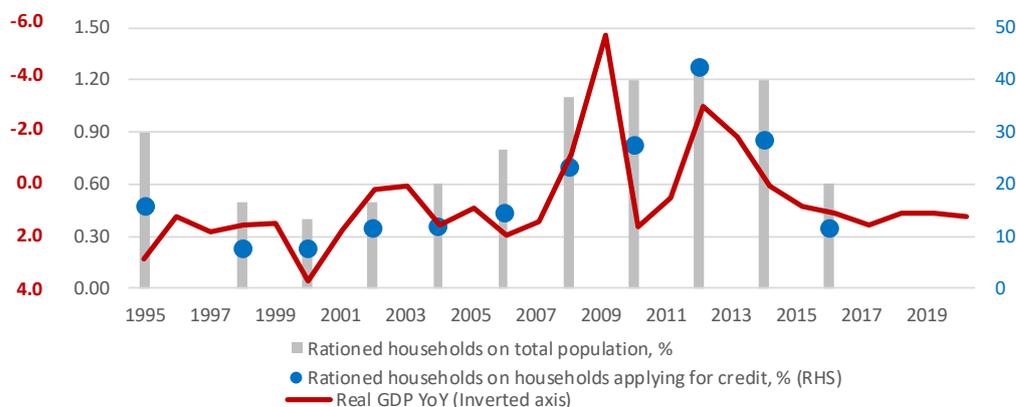
Source: NiGEM, SG Economics and Sector Research

2. Consumer expectations: As seen from above, consumers' savings decisions matter and are generally assumed to be influenced not just by current incomes but also by expectations about future incomes. As such, consumers faced with a debt financed fiscal expansion should increase savings in anticipation of future tax hikes. Conversely, when faced with a debt reducing fiscal expansion, consumers should anticipate lower taxes in the future and spend more today. Such behaviours will logically also spill over to businesses decisions to hire and invest. These so-called Ricardian equivalence effects lower the fiscal multiplier, which all else being equal spells trouble for fiscal

expansions but offer welcome relief during fiscal consolidation. From our discussion above, it is not hard to see how compositional effects and consumer expectations could easily slash our Italian simple short-term Keynesian multiplier of 1.2 in half.

- Liquidity constraints:** To be able to arbitrage between consumption today and consumption in the future, consumers must be free of liquidity constraints. Even at the best of times, some households will inevitably be liquidity constrained, for example, the unemployed, temporary workers, pensioners or already highly indebted households. The prevalence of these constraints will depend on individual country's financial systems and culture. Moreover, when faced with a credit crunch, such as the one observed during the crisis, the number of liquidity constrained households, and for that matter corporates, will increase dramatically. These effects will become all the more important if consumers and business managers, faced with an uncertainty shock hold back on spending and investment plans. In aggregate, such behaviour will further dampen demand, lowering incomes and consumption, and weighing further on jobs and investment. The result is the so-called Paradox of Thrift and ex-post, the effort to increase savings ex-ante may in fact result in a decline in household savings.

Italian credit constraints show a certain cyclicality



Source: Bank of Italy, AMECO (including GDP forecast) SG Economics and Sector Research

The chart above from the Bank of Italy's survey on household income and wealth allows us to make a few observations. First, we note that in line with expectations more households suffer liquidity constraints during economic downturns. Although 2016 is the latest survey date, the fact that the economy has enjoyed expansion until quite recently probably means that the number of households suffering liquidity constraints has declined further, albeit that the weak growth in 3Q18, lacklustre leading indicators and deteriorating financial conditions are a concern.

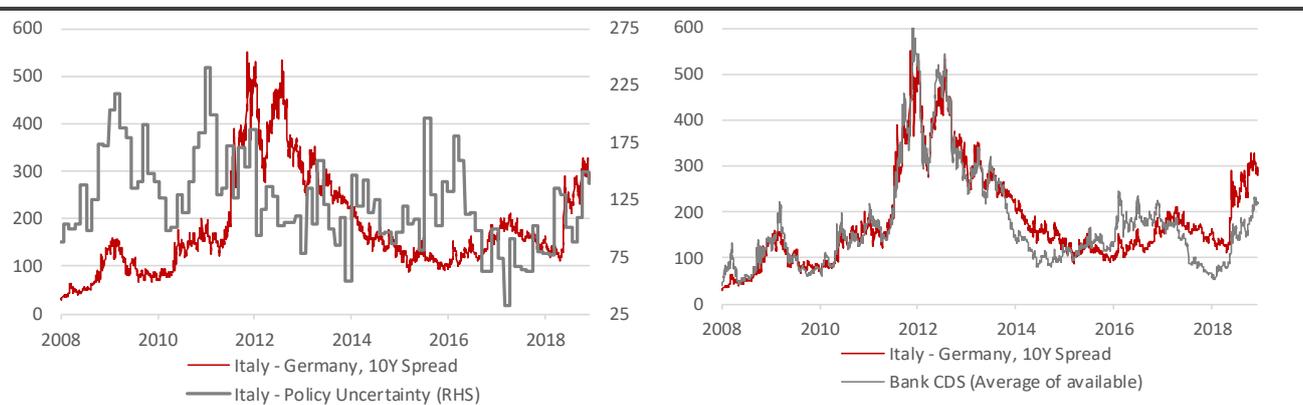
- Crowding out and uncertainty:** The sharp rise of Italian bond yields since May 2018 sits at the heart of the recent deterioration of financial conditions and reflects both traditional crowding out effects and uncertainty. The still large holdings of domestic sovereign debt on Italian bank balance sheets adds further pressure. The heightened

concerns on the broader political situation also matter. As noted by the Bank of Italy in the latest Financial Stability Report, hypothetical fears of euro exit have also weighed in. Quanto spreads offer a simple proxy to gauge such fears as illustrated in the chart below. It is worth note in this context that Italy (and the other euro area member states) no longer enjoy the potential positive of impact of currency depreciation against its euro area partners. While we believe the overall impact of the euro to be positive for Italian risk premia, a weaker currency could at times have offered a relief valve.

In turn, deteriorating financial conditions feed into broader uncertainty in the economy, encouraging consumers to hold back on big ticket items and business managers delay investment and hiring. This deterioration of the real economy only adds to financial market concerns and threatens a vicious cycle of deteriorating financial conditions, tighter credit conditions and weaker growth. Heightened political uncertainty thus weighs both indirectly (via financial markets) and directly on the real economy.

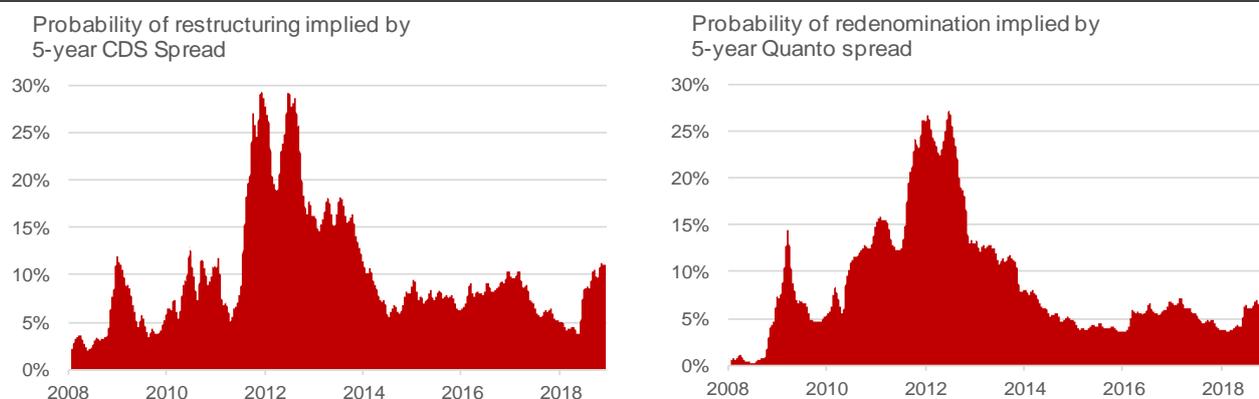
One silver lining in the current context is that the deterioration in Italian financial conditions has so far resulted in only limited contagion to the rest of the euro area. As highlighted by the ECB in its latest Financial Stability Report, however, disorderly increases in risk premia remain a prominent risk to the region's financial stability. Developments in Italy, moreover, are just one factor on a list that also includes Brexit, global trade tensions, higher US interest rates and a further sharp dollar appreciation.

A vicious spiral of uncertainty ...



Source: Bloomberg, Datastream, SG Economics and Sector Research

... with fears of debt restructuring and redenomination



The CDS spread captures restructuring risk and we here use a loss given default (LGD) of 50% to calculate the implied probability of debt restructuring and/or redenomination. The quanto-CDS for a euro area member state is defined as the differential between its dollar-denominated and euro-denominated CDS spreads. Absent redenomination risk, the quanto-CDS should trade identically across individual euro area member states. Here we assume a LGD of 30%.

Source: Bloomberg, Datastream, SG Economics and Sector Research

In a bid to benchmark the importance of these various factors, we return to the NIGEM model on which we run a temporary government consumption shock equivalent to 1% of GDP that spans two years. To establish a baseline that is as close as possible to the pure Keynesian multiplier case, we first run the model with adaptive expectations and keep interest rates fixed relative to the baseline. Note, that we have also adapted the import function to take greater account of the share of imports driven by foreign value added. Next, we expand the simulation to include rational expectations but exclude an uncertainty shock. Finally, in the third scenario, we add an uncertainty shock, with a shock to bond yields. As seen from the table below, the only scenario that manages to reduce public debt, albeit very moderately, in the medium-term is the first one with the most unrealistic assumptions.

Popping just a simple 100bp yield shock into NIGEM we find that one year after the shock, GDP would be 0.8pp lower than in the baseline, all else being equal. As such, it is evident that bond yields matter greatly. In the model, bond yields are determined by ECB policy, a term premium and a specific Italian government term premium that is a function of the size of Italian public debt. As such, unless constrained, an increase in public debt will feed directly through to higher bond yields. For the general government debt to GDP ratio to decline, requires that the implied interest rate on the debt is below nominal GDP growth, all else being equal (i.e. assuming balance on the primary budget). As illustrated on the chart below, Italy has often suffered greatly from this debt snowball with bond yields outstripping nominal GDP growth by an at times very significant margin.

Bringing in the non-Keynesian effects

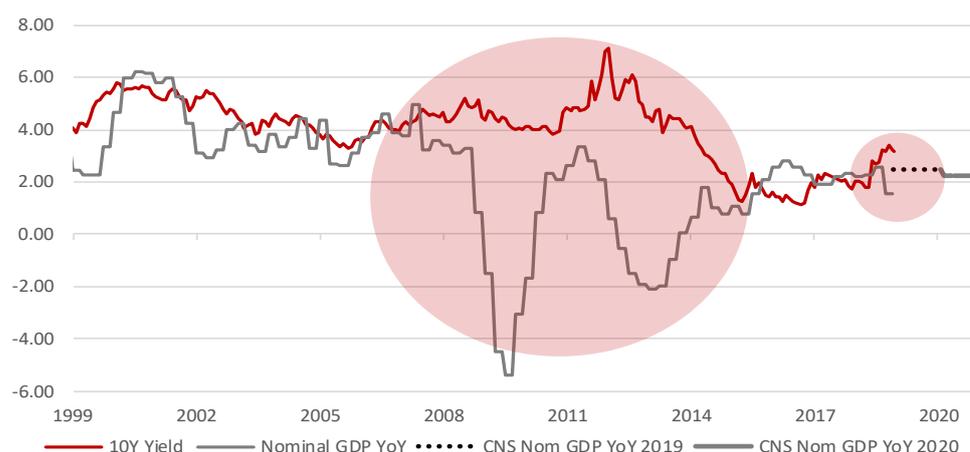
Impact of 1% of GDP increase in government spending

in percentage point vs baseline unless otherwise specified

Expectations	Uncertainty shock	Time after initial shock	Real GDP	Domestic Demand	Household savings ratio	Inflation	Key rate (bp)	Long bond yield (bp)	Budget balance %GDP	Public debt %GDP
Adaptative	Fixed rates	1Y	0.9	1.3	0.3	0.3	0	0	-0.7	-1.0
		5Y	0.2	0.1	0.1	-0.3	0	0	0.0	-0.3
Rational	None	1Y	0.8	1.1	0.3	0.2	9	14	-0.7	-0.8
		5Y	0.1	-0.1	0.0	-0.3	-2	18	0.0	0.4
Rational	Moderate	1Y	0.2	-0.4	-0.6	0.3	9	95	-0.6	0.0
		5Y	-1.2	-2.6	-1.2	-0.4	-15	96	-0.2	3.9

Source: NIGEM, SG Economics and Sector Research

Italy's debt snowball



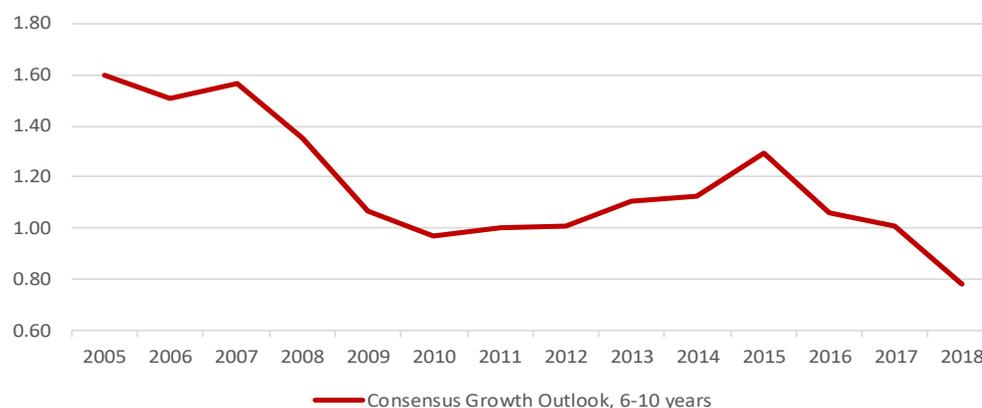
CNS – Consensus forecast. Source: Bloomberg, SG Economics and Sector Research

The simulations above are open to the usual criticisms and uncertainty attached to any model but nonetheless illustrate the central importance of policy credibility with the financial markets. If this is not achieved, then the policy is doomed to fail. Linking in closely to this point is also the health of the banking system. The composition of the current draft budget and the winding back of previously initiated structural reforms are clearly a concern to the European Commission and to financial markets. Moreover, financial market concerns only add to the Commission's concerns and vice-versa.

The chart below shows the view on long-term growth on the Italian economy from Consensus Economics. As seen, growth potential has declined substantially in recent years, from 1.6% pre-crisis to just 0.8% today. Using a back of the envelope calculation, we find that lifting trend potential by 1pp would all else being equal lower the Italian general government debt by 25pp over 20 years. In addition to the evident welfare benefits that strong growth would bring, this also seems a good path to bring about stronger public finances. As several recent experiences show, however, structural

reform may at times face significant resistance, and not least when they are poorly communicated, hard to understand and/or perceived to be unfair.

Italy's ever declining long-term growth expectations



Source: Consensus Economics, SG Economics and Sector Research

- 5. Ratings:** Our final point in this discussion relates to credit ratings. The NiGEM model does not explicitly model these, albeit that such changes can be modelled through risk premia shocks. The fact that Italian sovereign credit ratings today are close to non-investment grade, with just one to two notches above depending on the rating agency, invariably adds to market concerns. Should Italy lose investment grade status, its bonds would no longer be eligible for ECB operations under current rules. Logically, the closer a country is to non-investment grade, the more financial markets are likely to react to a given piece of negative news given the asymmetries involved. Such non-linearities are typically not modelled.

Pulling together the trends from the discussion above, our concern is clearly that the Italian draft budget is likely to disappoint both in terms of growth and public finance outcomes, and brings with it financial stability risks. Moreover, if the financial market and credit channels remain highly adverse, there is even the risk that the fiscal expansion could turn contractionary in terms of its growth impact. This then raises the question of whether fiscal austerity would be better suited to the current environment.

Would an austerity programme work for Italy?

To frame our discussion, we return to the NiGEM model and run a few austerity shocks. As seen from our results, the response of financial markets again matters greatly. Moreover, much of the offset in terms of GDP comes from the external channel (note the difference between the GDP response and the domestic demand response). In an environment where Italy's major export markets are also facing headwinds this channel will evidently provide a much weaker offset and could under certain scenarios even turn to a headwind for growth. Once again, compositional effects matter. As an example, we show the impact of a 2pp VAT hike, which produces a similar baseline effect on the budget but is much less costly to growth (by a factor five!) as a significant transitory decline in household savings offset this shock.

Note finally, just how positive a favourable market reaction could be for both growth and public debt dynamics.

Testing fiscal austerity

Impact of 1% of GDP decline in government spending										
in percentage point vs baseline unless otherwise specified										
Expectations	Uncertainty shock	Time after initial shock	Real GDP	Domestic Demand	Household savings ratio	Inflation	Key rate (bp)	Long bond yield (bp)	Budget balance %GDP	Public debt %GDP
Rational	None	1Y	-0.6	-1.1	-0.2	-0.2	-1	-1	0.8	0.3
		5Y	0.1	0.0	0.1	0.3	1	0	0.0	-1.5
Rational	Moderate	1Y	-1.2	-2.6	-0.2	-0.2	-1	94	0.1	1.7
		5Y	-1.2	-2.5	-1.6	0.3	-10	96	-0.3	4.4
Rational	Favourable	1Y	0.1	0.7	0.7	-0.2	-1	-94	0.6	-0.6
		5Y	1.7	3.1	1.3	0.4	17	-96	0.1	-5.5

Impact of 2pp hike in VAT										
in percentage point vs baseline unless otherwise specified										
Expectations	Uncertainty shock	Time after initial shock	Real GDP	Domestic Demand	Household savings ratio	Inflation	Key rate (bp)	Long bond yield (bp)	Budget balance %GDP	Public debt %GDP
Rational	None	1Y	-0.1	-0.3	-0.5	1.0	0	-1	0.8	-2.2
		5Y	0.1	0.0	0.1	0.2	1	0	0.0	-1.6

Source: NiGEM, SG Economics and Sector Research

To our minds, there are several reasons why a fiscal austerity programme in Italy today could backfire.

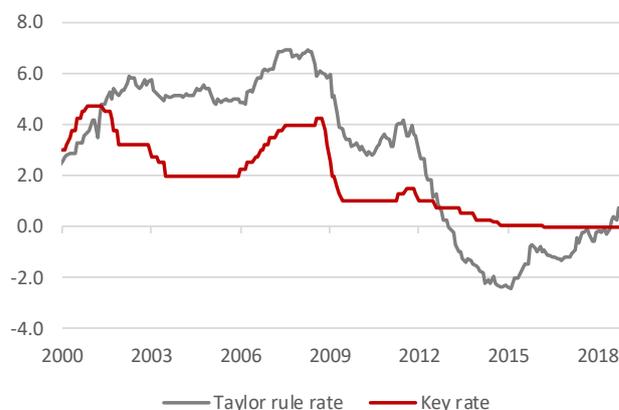
1. **Slowing economic momentum:** The positioning of the economy in the economic cycle matters greatly for the success of any fiscal policy. As seen from the charts below, the Italian employment gap has narrowed but is not yet closed according to the OECD measure of NAIRU. At first glance, this would suggest that fiscal austerity could be appropriate. However, the Italian economy is already losing momentum with 3Q18 posting -0.1% QoQ and leading indicators pointing to a weak 4Q18.

While hope would be that the prospect of fiscal austerity would reassure the markets, and thus reduce the spreads over Germany and ease pressure on credit channels, our concern is that spreads would only narrow slowly given the ongoing policy uncertainty.

Italy's narrowing, but not closed employment gap



Italy and the Taylor Rule



The employment gap is defined as the current unemployment rate minus the NAIUR defined by the OECD. The Taylor rule uses the neutral rate as estimated by Laubach-Williams for the euro area and is calculated with a factor of 1 on the employment gap and 0.50 on the core CPI gap, calculated as the current core CPI reading minus 2%. Source: Bloomberg, SG Economics and Sector Research

2. **Political uncertainty:** Indeed, market participants may be concerned that an ambitious fiscal consolidation plan would face a major political backlash. The result could be costly protests and demonstrations. In such a situation, the hope of a confidence boost from the austerity programme boosting private consumption and investment (Ricardian effects) would very quickly vanish.
3. **Monetary policy stance:** As seen from the chart above, our simple Taylor Rule for Italy suggests that monetary policy has been too tight since 2012 and until only quite recently. Prior to the crisis, this metric suggests that monetary policy for Italy was too easy. A similar picture is observed by looking at real long bond yields. With the ECB poised to exit QE and potentially hike rates next year, our concern is that Italy could once again be facing too tight monetary policy. If fiscal austerity is added to this mix then the procyclicality of both policies could prove quite costly. Our point is not to say that ECB policy is inappropriate; the ECB sets policy for the euro area, as a whole, and it's up to individual governments to adapt fiscal and macroprudential policies accordingly.
4. **A still recovering banking system:** Our final point is that while the Italian banking sector is in much better shape today, it is still unwinding NPLs. A new NPL shock today would erode confidence and add a further headwind.

These observations combined suggest that a major fiscal austerity programme today could prove self-defeating, just as was the case for Greece. In assessing policy under the initial Greek bailout programme, the fiscal austerity multiplier was assumed to be around 0.5. The reality of a credit constrained economy and a general confidence crisis, however, entailed a much larger multiplier as traditional Keynesian demand effects dominated and austerity thus came at a very high cost. The IMF's World Economic Outlook of October 2012, found that while forecasters during the initial stages of the global crisis had generally assumed a multiplier of around 0.5 (based on pre-crisis evidence) the actual ex-post estimates ranged from 0.9 to 1.7, across different economies.

The size of the fiscal multiplier depends on credibility and composition

Fiscal policy shock equivalent to 1% of GDP, impact after 1-year on real GDP, pp									
	Fiscal expansion				Fiscal austerity				
Poor composition of policy	Yes	No	No	No	Yes	No	No	No	
Adverse market reaction (+130bp yield shock)	Yes	Yes	No	No	Yes	Yes	No	No	
Positive market reaction (-130bp yield shock)	No	No	No	Yes	No	No	No	Yes	
Traditional Keynesian multiplier	1.2	1.2	1.2	1.2	-1.2	-1.2	-1.2	-1.2	
Composition range	-0.6	-	-	-	0.0	0.6	0.6	0.6	
Bond yields	-1.0	-1.0	-	1.0	-1.0	-1.0	-	1.0	
Net impact	-0.4	0.2	1.2	2.2	-2.2	-1.6	-0.6	0.4	

Source: NiGEM, SG Economics and Sector Research

The table above sums up our discussion with respect to the size of our simple fiscal multiplier. Since news of the Italian stimulus programme began to emerge, the 10-year yield spread to Germany has average around 130bp marking a major headwind. Moreover, the Italian spending programme is heavy on transfers and the composition of policy thus suggests a low multiplier. It is hard to benchmark the various uncertainty channels, but these too mark a headwind. As seen from the table above, just adjusting for the market factor takes our simple multiplier from 1.2 to 0.2 today and it's not hard to push it into negative territory once we consider composition effects. Of course, our analysis comes with several caveats but the broad-brush conclusion is clear; successful fiscal policy, be it austerity or expansion, must win the confidence of consumers, business managers and investors alike. Without that confidence, fiscal policy is unlikely to achieve its goals.

Turning to austerity a well-designed plan and a favourable market response, could even turn fiscal austerity expansionary. However, as discussed above our concern is that in the current context, austerity could well become self-defeating. This highlights the importance of structural reform to lift trend growth potential. Reforms must be perceived to be balanced and fair to succeed and given that it may take some time for such policies to deliver in terms of results so some modest and well targeted fiscal expansion could be warranted. Balancing all these factors is no easy feat. In such a situation, a joint euro area budget to help foster investment and competitiveness could be a very welcome support and hope is that the first positive developments on this front will ultimately deliver. At present, our concern is that Italy remains caught in a "fiscal multiplier trap".

CONTACTS

Michala MARCUSSEN
Group Chief Economist
+33 1 42 13 00 34
michala.marcussen@socgen.com

Olivier de BOYSSON
Emerging Markets Chief Economist
+33 1 42 14 41 46
olivier.de-boysson@socgen.com

Marie-Hélène DUPRAT
Senior Advisor to the Chief Economist
+33 1 42 14 16 04
marie-helene.duprat@socgen.com

Ariel EMIRIAN
Macroeconomic analysis / CIS Countries
+33 1 42 13 08 49
ariel.emirian@socgen.com

François LETONDU
Macro-sectoral analysis / France
+33 1 57 29 18 43
francois.letondu@socgen.com

Constance BOUBLIL-GROH
Central and Eastern Europe
+33 1 58 98 98 69
constance.boublil-groh@socgen.com

Juan Carlos DIAZ MENDOZA
Americas
+33 1 57 29 61 77
juan-carlos.diaz-mendoza@socgen.com

Aurélien DUTHOIT
Macro-sectoral analysis
+33 1 58 98 82 18
aurelien.duthoit@socgen.com

Clément GILLET
Africa
+33 1 42 14 31 43
clement.gillet@socgen.com

Alan LEMANGEN
Euro area, France
+33 1 42 14 72 88
alan.lemangen@socgen.com

Nikolina NOPHAL BANKOVA
Macro-sectoral analysis
+33 1 58 98 89 09
nikolina.nophal-bankova@socgen.com

Danielle SCHWEISGUTH
Western Europe
+33 1 57 29 63 99
danielle.schweisguth@socgen.com

Edgardo TORIJA ZANE
Middle East, Turkey and Central Asia
+33 1 42 14 92 87
edgardo.torija-zane@socgen.com

Bei XU
Asia
+33 1 58 98 23 14
bei.xu@socgen.com

Yolande NARJOU
Assistante
+33 1 42 14 83 29
yolande.narjou@socgen.com

Sigrid MILLEREUX-BEZIAUD
Documentaliste
+33 1 42 14 46 45
sigrid.millereux-beziaud@socgen.com

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