# PROPOSALS FOR A POLICY MIX IN THE EURO AREA

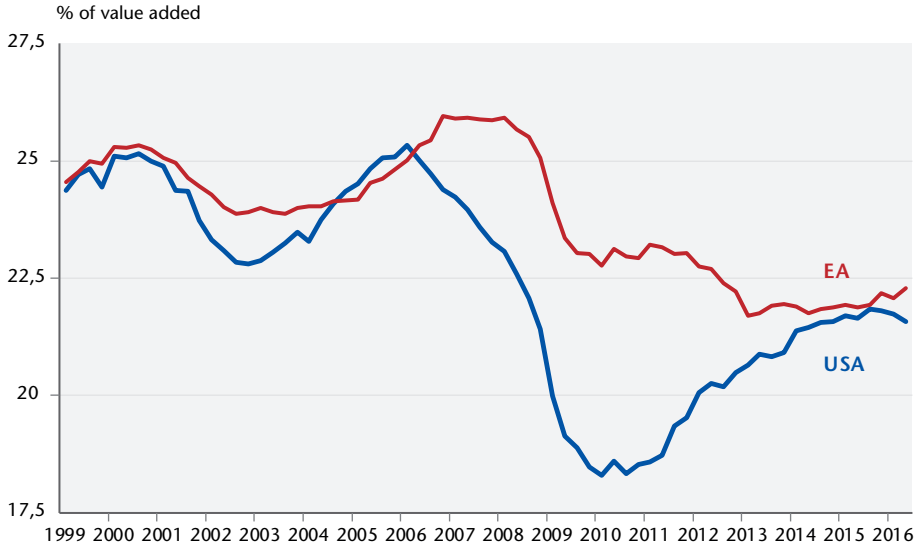
## 3.1. ECB monetary policies: real effects, financial risks?

Since 2009, central banks have implemented expansionary policies to support activity and prevent industrialized economies from falling into deflation. In a recessionary environment, policy rates reached an effective lower bound (ELB) which has led central banks to resort to unconventional measures. These policies have resulted in an expansion of their balance sheets, reflecting liquidities provided by central banks to the financial system and asset purchases. These actions have raised many questions about their impact on real activity because recovery has been weak in the Eurozone, notably compared to the United States and the United Kingdom (see chapter 1). In the following, we focus on ECB policies' impact on investment (section a) and on the impact of credit conditions on investment (section b). Questions have also been raised concerning the possible responsibility of monetary policy in generating financial bubbles (section c). The end of QE finally raises the issue of next engine of growth for the euro area (section d).

### a) Impact of ECB policies on investment

There are several key points about investment in the Eurozone which should be kept in mind. Investment accounts for around 20% of the euro area GDP. Total investment in volume has decreased by 13% from a peak observed in 2008Q1 until 2015Q4. The investment rate, measuring the ratio of total investment over value added, was at 26% in 2008Q1 and then fell to 21.7% in 2013Q1 (Figure 43). It has since stabilized around that value despite the ongoing recovery of economic activity. The difference with the situation in the United States is striking. The fall started earlier and was more abrupt in the US but it recovered faster and significantly – from 18.3% at the end of 2010 to 21.5 at the end of 2015.

Figure 43. **Total investment rate in the Eurozone and in the United States**




*Note:* total investment includes public, households and business investments.
*Sources:* Eurostat, Bureau of Economic Analysis.

Beyond this global picture, the composition of investment is also informative. Two features are worth mentioning:

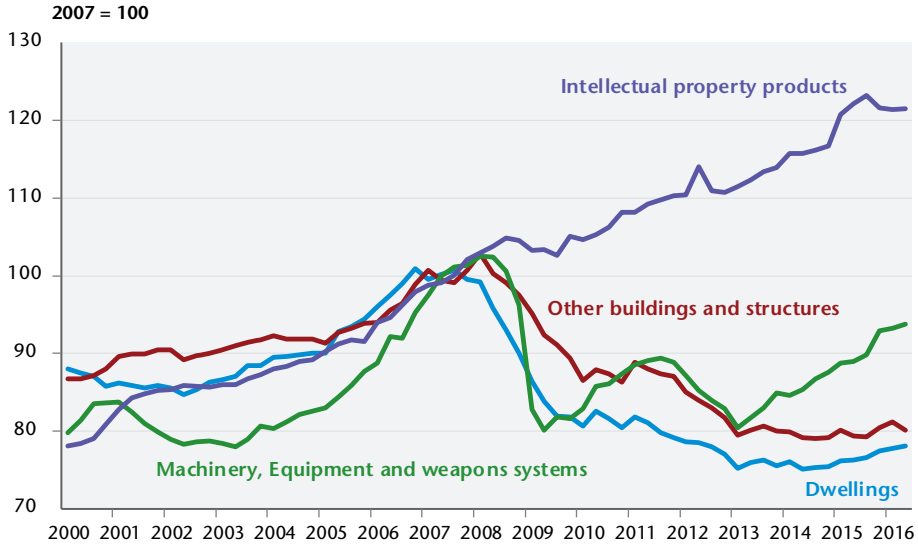
1. Since 2008Q1, the decrease of investment concerned all components of investment except intellectual property products[1] (Figure 44). The bulk of the decrease stems from the construction sector (residential and other construction) since its contribution amounts to 12.4 points—with nearly half from residential investment—from a 13pp decline. The contribution of the investment in machinery and equipment was lower (-3.3 points) while it was positive for intellectual property products (+2.8).

2. Investment was badly hurt by the crisis almost everywhere in the euro area but the divergence in the investment path between countries in the core and in the periphery is striking (Figure 45). The negative cumulative contribution of the decrease of investment in Italy, Spain, Portugal and Greece is close to 11 points (-4.8 for Italy, -4.0 for Spain and -2.2 for Portugal and Greece). Investment in Germany contributed positively (+1.1) while the contribution was negative for France (-1.7). For most Eurozone

1. Size matters, and it must be reminded that the flow of investment in property rights is very small in comparison with investment in the construction sector. The same comment holds from the geographical breakdown.

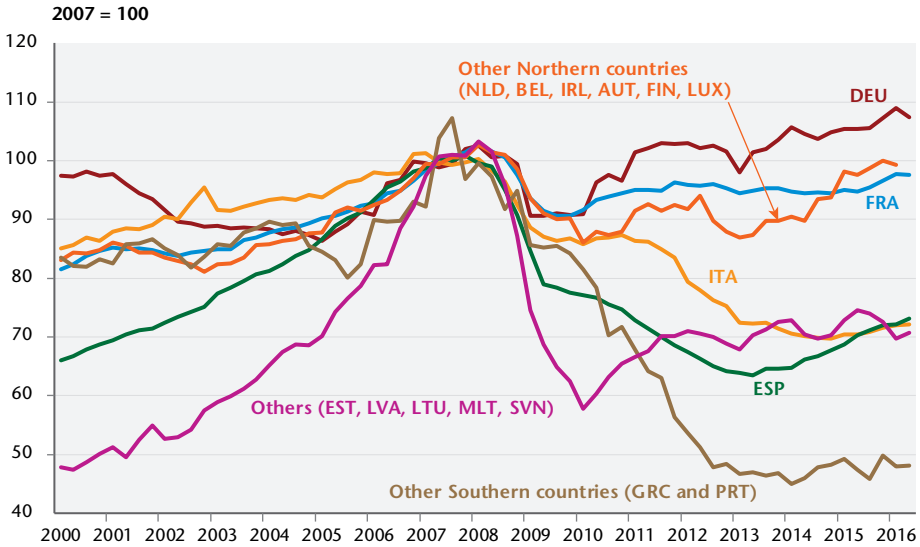
countries, investment in volume terms is still below its pre-crisis level. The only exception is Germany, while it is close to its pre-crisis level in other Northern euro area countries (Belgium, Finland, Austria and Luxemburg).

Figure 44. **Investment in the Eurozone – Asset breakdown**




*Source: Eurostat.*

Figure 45. **Investment in the Eurozone – Geographical breakdown**




*Source: Eurostat.*

Assessing the effectiveness of monetary policy to spur growth cannot be inferred merely by considering the correlation between investment (or another GDP component) and monetary policy stance. The stance of monetary policy has been very expansionary in the euro area since the end of 2008 when the ECB first cut its policy rate to the ELB, and then resorted to a large set of exceptional measures to address the liquidity problems in the banking system, the sovereign debt crisis, the slump in economic activity and the risk of deflation. At the same time, we have just documented the investment gap. From this negative correlation, it might be tempting to conclude that monetary policy failed to provide support to investment despite the sharp stimulus effort.

Yet such a conclusion would confuse correlation and causality. Things might have turned worse without the ECB's action. To assess more robustly the effectiveness of monetary policy, we need to resort to a counterfactual analysis.[2] The question is: What would have been the investment trajectory had the ECB not decreased the policy rate and not implemented unconventional monetary policy? To do so, we first estimate an equation linking investment to its standard determinants as identified in the literature. It is generally supposed that in the *long run*, the investment rate (gross investment divided by the gross value added) depends on the margin rate and the cost of capital. Firms tend to increase investment when their profitability increases and when the cost of raising funds – either through the banking system or from financial markets – decreases. Considering the investment rate as the endogenous variable implies that total investment is also related to demand. The *short run* dynamics of investment may also be influenced by total demand, the change in the cost of funding and the rate of capacity utilization. The role of demand is fundamental as firms invest because of the return on investment but subject to an expectation that increasing their capacity will match future demand.

Based on the estimated determinants of the investment rate and their coefficient (see appendix 1 for details), we can simulate the path of the investment rate in two alternative scenarios from 2008 onwards and compare them with what actually occurred. The gap between realized and simulated paths of investment gives insights on the effectiveness of ECB monetary policies.

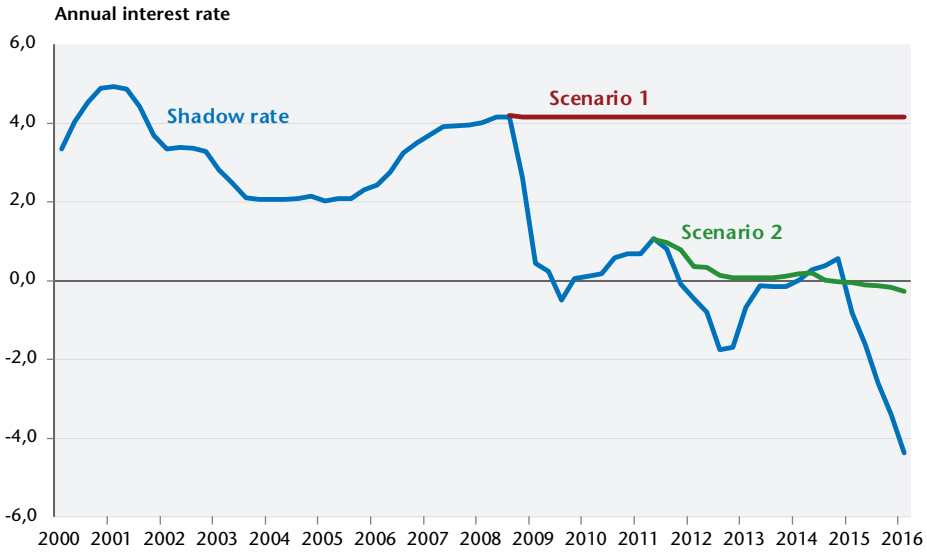
In the first scenario (the status-quo), we assume that the interest rate is fixed at its 2008Q3 value, i.e. at 4.2%, before the cut started in September 2008. This scenario builds on the (strong) assumption that the ECB implemented no policy

2. For a recent use of counterfactual analysis to assess the impact of monetary policy on GDP growth, see Pesaran and Smith (2016).

at all after the global financial crisis. The gap between the simulated status-quo and the actual path of investment highlights the impact of standard –the reduction in the interest rate– and non-standard monetary policy measures on investment. This scenario does not distinguish between conventional and unconventional policies. The second scenario deals with the impact of unconventional measures only. From 2011Q3 on, we simulate the investment rate under the assumption that the shadow rate (including conventional and unconventional policy measures in a single measure of monetary policy) has remained equal to the EONIA rate (which proxies for the conventional stance)[3]. Thus we simulate the investment path as if there had not been any unconventional policy measures, but only conventional ones.

The different policy rates are illustrated on figure 4. It shows the substantial policy gap between actual policy (depicted by the shadow rate computed by Wu and Xia) and scenario 1, hence highlighting the very expansionary policies which have been implemented by the ECB. The gap between actual policy and standard (or conventional) measures of scenario 2 is less impressive, for unconventional measures by the ECB have been strong only recently.

Figure 46. **Monetary policy stance under alternative scenarios**

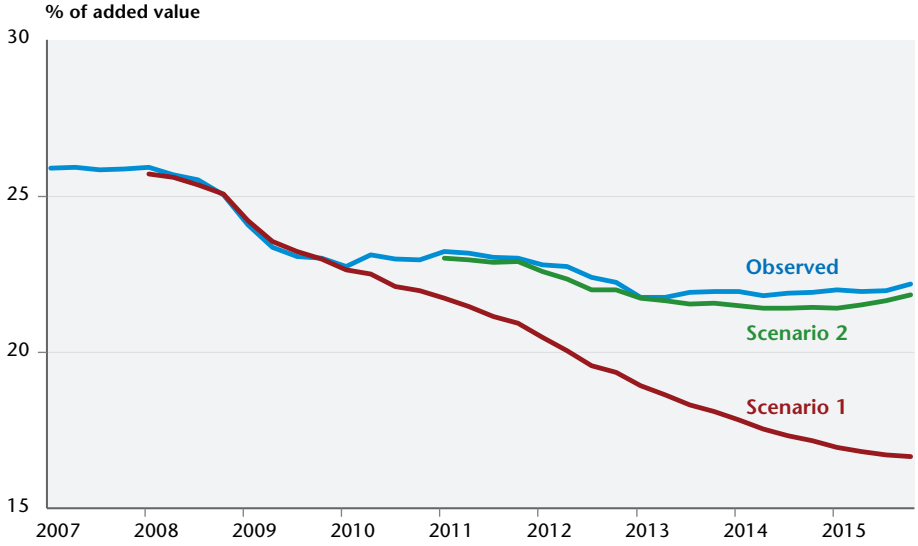



*Sources:* ECB, Wu and Xia (2016).

3. EONIA (Euro overnight index average) is a one-day interbank rate.

Counterfactual exercises are reported in Figure 47. They suggest that monetary policy has effectively sustained the investment rate. The main support comes from the decrease in the interest rate implemented during the crisis, hence from standard measures of monetary policy. Without them, the investment rate would have been significantly lower than its current level, indicating that the crisis would have been much more severe. On average between 2008Q1 and 2015Q4, the investment rate would have been 2.3 points below its actual level. In 2015Q4, it would have been 5.5 point lower than its actual level. The role of other unconventional monetary policy decisions may be gauged through the simulation of scenario 2. It suggests that the investment rate has been supported by non-standard measures but that the effect has been much less significant. In 2015Q4, the investment rate would have been just 0.3 point lower than its actual level.

Figure 47. **Investment rate under alternative scenarios**




*Sources:* Eurostat, authors' simulations.

This result is not surprising for at least two reasons. First, the aim of the unconventional measures was not only to support investment. Second, there is a delay between monetary policy stimulus and aggregate effect which are estimated around 18 months and 2 years. As non-standard measures have been implemented later than standard ones, their cumulative effect may not have been reached yet. Besides, it can be considered that the role of unconventional monetary policy is not fully captured in scenario 2. The non-standard measures

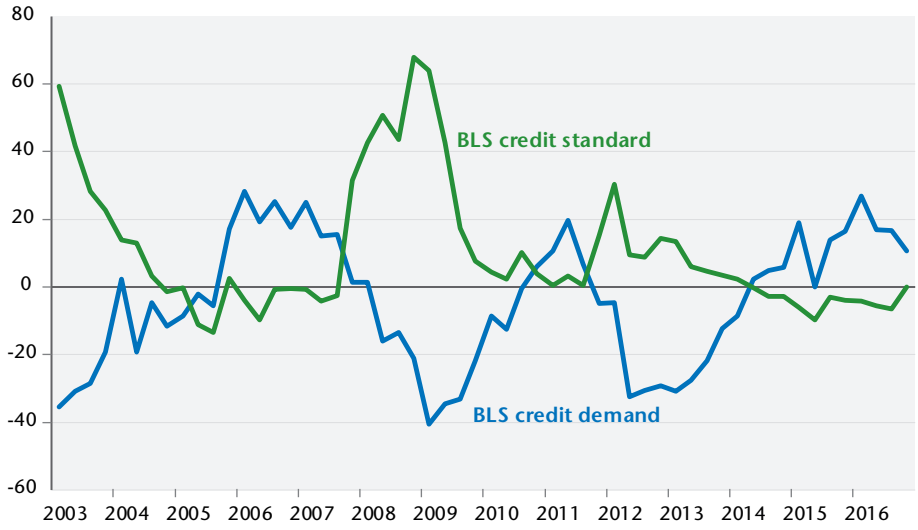
have also contributed to the very low level of the EONIA so that taking into account the difference between the EONIA and the shadow rate is not a perfectly strict measure of unconventional measures.

### b) Investment and credit conditions

Though effective, as the simulations seem to show, the role of monetary policy may have been mitigated by other negative determinants. ECB's decisions only impact on some variables in the financial and banking markets but the ECB has not a perfect control on the global financing conditions of firms. Investment is not only influenced by interest rate but also by demand factors, including the role of uncertainty, and by banks' behaviour, hence by credit supply.

Drawing on the Bank Lending Surveys (BLS) provided by the ECB, Figure 48 illustrates the tightening in credit supply (labelled "credit standard" in the survey), especially during the subprime crisis in 2008 and 2009 and during the sovereign debt crisis in 2012. Nevertheless, this tightening in credit conditions is not the only explanation behind the low credit volumes supplied to the private sector. Another explanation is that the financial crisis was a negative demand shock and that firms, especially SMEs, have lowered their credit demand. Moreover, this negative demand shock has been amplified by pro-cyclical fiscal policy. This low credit demand is also illustrated in Figure 48

Figure 48. **Demand and supply factors in the credit market in the euro area**




*Source:* ECB (Bank Lending Survey).

between 2008 and 2010 and again between 2012 and 2014. Since then, credit demand has improved though it remains volatile. A simple correlation analysis between the growth rate of the investment rate and the credit conditions suggests that both the supply and demand sides of the credit market matter. The correlation between investment and credit demand is 0.55, while it is -0.58 between investment and credit supply.

### c) Monetary policy and financial bubbles

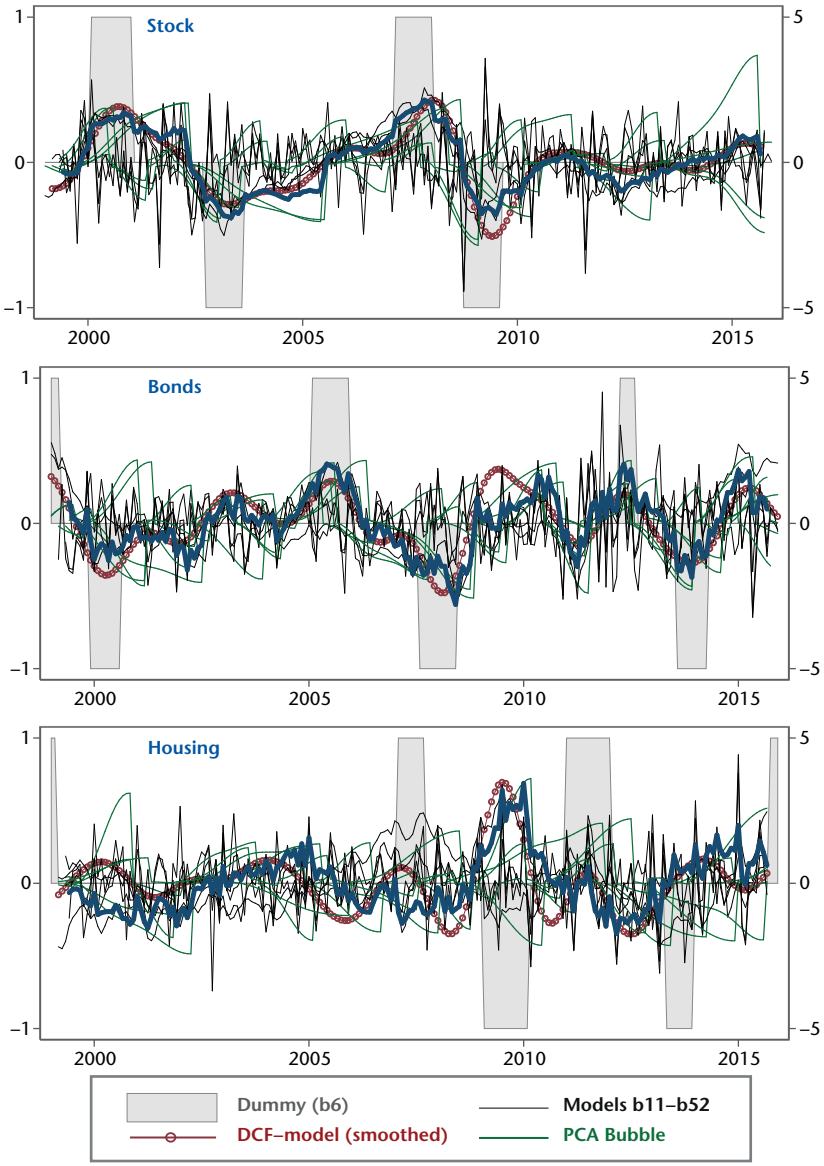
Since 2009, the ECB has implemented expansionary monetary policies to support economic activity and prevent the Eurozone from deflation. The efficiency of unconventional monetary policy measures have been extensively discussed in the literature since 2009[4] with most empirical studies focusing on the impact on asset prices. These studies suggest that expansionary monetary policy reduces market yields and increases asset prices.

More recently, the focus has turned to the potential adverse effects of expansionary monetary policies. Some financial commentators swiftly made out asset price bubbles when stock prices resumed their rise. This debate echoes the critics raised by Taylor (2009) who suggested that the sustained period of low interest rate in the United States between 2001 and 2004 fueled the boom in the housing market and caused thereafter the subprime crisis. However, not all increases in asset prices are bubbles. It is then needed to identify which part of the change in asset prices may entail a risk for financial stability and which is related to the normal response of asset prices to monetary policy. Disentangling the wheat from the chaff is a tricky issue as the fundamental and bubble components of asset prices are not observed and can only be identified in reference to a given theoretical and empirical model.

On the one hand, rational expectations models provide a first theoretical framework where the fundamental value is determined by the discounted sum of future cash-flows and where rational bubbles (movements in asset prices which are not related to the fundamental component) may also arise. Bubbles may also be represented in models where not all agents behave rationally.[5] An empirical literature has also relied on statistical definitions of bubbles where the latter are considered as excessive—positive or negative—changes in asset

4. See Borio and Zabai (2016) for a recent survey.
5. See Scherbina (2013) for a survey on how bubbles arise in rational expectations models or behavioral models.

Figure 49. **Bubble series and the estimated PCA bubble indicator for each asset class**




*Note:* bold blue line plots the bubble indicator for each financial market; the circle red line plots the discounted cash-flow model; the shaded areas plot the statistical approach à la Bordo and Jeanne; and the thin black lines plot the 9 other series of financial bubbles . The left-hand scale corresponds to the statistical approach (shaded area): the dummy variable is equal to 1 for booms, -1 for busts, and zero in "normal" times. The right-hand scale corresponds to other series of bubbles. They are centered and reduced and the unit is one standard deviation.
*Source:* Blot, Hubert and Labondance (2016).

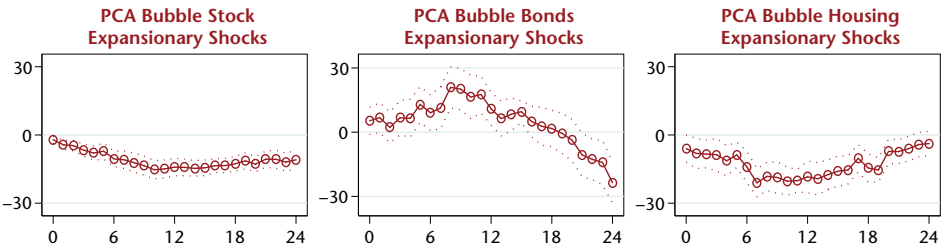
prices, or described boom or bust periods, identified either through a statistical filter or from methods determining turning points (peaks and troughs).[6]

As neither theoretical, nor empirical literature has reached a consensus on this issue, Blot, Hubert and Labondance (2016) propose an agnostic approach consisting in averaging the most commonly used models (see appendix 2 for details).

Financial bubble series are reported in Figure 49. They show that the recent increase in stock prices is not characterized by a financial bubble. As for the housing market, the size of the bubble component remains low in contrast with the period before the global financial crisis. Finally, the bubble component on the bonds market has declined since the onset of QE.

We assess the impact of unconventional monetary policy on the three bubble indicators using Jorda (2005)'s Local Projection method. Monetary policy shocks are measured following Romer and Romer (2004) and using the amount of assets purchased by the ECB for monetary policy purposes (the item 7.1 in ECB's weekly financial statements). Figure 50 plots the effect of unconventional monetary policies on the bubble components of stock, bond and housing markets over 24 months. It shows that, in contrast to the conventional view that loose monetary policy creates asset price bubbles, non-standard policies have a negative impact on the bubble components of stock and housing markets in the euro area. In line with the conventional view, we find that expansionary monetary policy has a positive effect on the bubble component of the bond market.

Figure 50. **Bubble responses to an expansionary shock to unconventional monetary policies**




*Source:* Blot, Hubert and Labondance (2016).

6. See Bordo and Wheelock (2007) or Jorda, Schularick and Taylor (2015).

Consequently, our results suggest, first, that it is not clear that the most recent period is characterized by bubbles, contrary to what is sometimes claimed, and second that there is no strong and stable causal link between monetary policy and asset price bubbles, except on the bond market. The evidence presented here suggests QE is neither fueling asset price bubbles nor is it a relevant instrument for central banks to control them.

### d) The Future of QE

The ECB's QE is close to its end. Until March 2017, two issues will arise. The first one relates to the availability of public assets for ECB's purchases. The second relates to the next driving force for the euro area.

As regards availability of public assets, it must be recalled that, despite its large size, ECB's QE has not exhausted euro area stocks of public debts, far from it. As illustrated in Table 9, ECB holdings of debt securities would represent 11.1% of total gross public debt of the euro area by the end of March 2017[7]. The ECB would hold, for example, 9% of Italian debt, 11% of French debt, 13% of German and Spanish debt, 15% of Finnish debt and 28% of Slovakian debt. The proportion of debt held by the ECB, though on an upward trend, is relatively limited in comparison with public debt holdings by other central banks in the world like the Federal Reserve, the Bank of England and the Bank of Japan. Indeed, the ECB would hold a smaller share of total debt in 2017 than the US Fed at the end of 2015, with its holdings of 13.5% of US public debt. The £375bn held by the Bank of England through its QE programmes[8] represented 22.5% of total debt issued by the British government. By the end of 2015, the Bank of Japan was holding more than a quarter of Japanese total public debt.

Now comparing QE purchases with euro area's financing needs[9] in 2015 shows that the ECB has not exhausted its purchasing limit of 33%. Indeed the total purchases of government public debt securities (excluding supranational purchases) by the ECB were €434.8bn in 2015 whereas estimates of financing needs amounted to €1,400bn. Even if securities are not purchased on the

7. Under a stable breakdown of purchases computed as the monthly average of purchases in 2015, we compute the expected amount and allocation of debt securities that could be held by the ECB in March 2017.
8. The QE in the UK started in March 2009 after the BoE announced £200bn purchases of Gilts. The programme came to a halt in October 2011 and resumed (it was then called QEII) to reach £375bn in November 2012.
9. Financing needs are calculated as the sum of new debt resulting from budget deficits and debt arriving at maturity.

Table 9. **Gross public debt and ECB holdings of sovereign**

| | Gross public debt (2015) Billion, national currency | Central bank holdings (31.12.2015) Billions national currency* | Central banks holdings (31.12.2015) as % of gross public debt* | Central banks holdings (PSPP+SMP) (31.12.2015) as % of gross public debt | Planned ECB holdings (31.03.2017) Billion euro * | Planned ECB holdings (31.12.2017) as % of gross public debt* |
|---|---|---|---|---|---|---|
| **BEL** | 437.7 | 15.9 (3.7) | 3.6 | 3.6 | 39.7 | 9.1 |
| **DEU** | 2 156.8 | 115.6 (26.6) | 5.4 | 5.4 | 289.1 | 13.4 |
| **EST** | 2.1 | 0.0 (0.0) | 0.0 | 0.0 | 0.0 | 0.0 |
| **IRL** | 203.7 | 7.6 (1.7) | 3.7 | 7.6 | 19.0 | 9.3 |
| **GRC** | 337.3 | 0.0 (0.0) | 0.0 | 4.6 | 0.0 | 0.0 |
| **ESP** | 1 087.3 | 56.8 (13.1) | 5.2 | 7.5 | 142.0 | 13.1 |
| **FRA** | 2 098.9 | 91.8 (21.1) | 4.4 | 4.4 | 229.4 | 10.9 |
| **ITA** | 2 174.4 | 79.2 (18.2) | 3.6 | 6.5 | 198.0 | 9.1 |
| **CYP** | 18.5 | 0.3 (0.1) | 1.5 | 1.5 | 0.7 | 3.8 |
| **LVA** | 9.4 | 0.7 0.2) | 7.3 | 7.3 | 1.7 | 18.2 |
| **LTU** | 15.8 | 1.1 (0.3) | 7.0 | 7.0 | 2.8 | 17.5 |
| **LUX** | 11.2 | 1.1 (0.3) | 9.9 | 9.9 | 2.8 | 24.8 |
| **MLT** | 5.6 | 0.3 (0.1) | 5.1 | 5.1 | 0.7 | 12.6 |
| **NLD** | 4 67.9 | 25.6 (5.9) | 5.5 | 5.5 | 64.0 | 13.7 |
| **AUT** | 2 91.2 | 12.6 (2.9) | 4.3 | 4.3 | 31.6 | 10.9 |
| **PRT** | 2 29.0 | 11.2 (2.6) | 4.9 | 10.2 | 28.1 | 12.3 |
| **SVN** | 32.4 | 2.2 (0.5) | 6.9 | 6.9 | 5.6 | 17.2 |
| **SVK** | 41.2 | 4.6 (1.1) | 11.2 | 11.2 | 11.6 | 28.0 |
| **FIN** | 1 30.3 | 8.1 (1.9) | 6.2 | 6.2 | 20.2 | 15.5 |
| **EA** | 9 758.4 | 434.8 (100.0) | 4.5 | 5.7 | 1 086.9 | 11.1 |
| **Supranationals** | | 60.1 | | | 150.26 | |
| **GBR** | 1 664.8 | 375.0 | 22.5 | | | |
| **USA** | 1 8189.0 | 2462.0 | 13.5 | | | |
| **JPN** | 1 197146 | 3 25001.9 | 27.1 | | | |

* PSPP only for the ECB. % of total sovereign purchases in brackets.
*Sources:* ECB, European Commission, OFCE.

primary market but on the secondary market, comparing assets purchases with yearly issuance of securities provides information on the liquidity impact of ECB decisions and thus on its ability to influence sovereign assets' prices. In the case of Slovakia (see Table 10), the ECB purchases amounted to 5.2 €bn in 2015 approaching 90% of Slovakian financing needs. If the ECB had realized its operations on the primary market, it would have acquired nearly all assets issued during the year. 10% would have been left to other investors forcing them to switch to other assets. With 115.6 €bn purchases of German bonds, the ECB has absorbed the equivalent of 66% of the country's financing needs. Supposing that ECB monthly purchases for 2016 are of the same amount as in 2015, the ECB would buy 79% of the German financing needs. To compare with the implementation of the QE I and QE II of the Bank of England, purchases realized in 2009 (resp. in 2012) have represented 97.2% (resp. 76%) of Gilt issuances.

Table 10. **Public financing needs and ECB yearly purchases of public debt securities**

| | Total financing needs in (€ bn) | | ECB PSPP purchases (€ bn) | | ECB PSPP purchases (in % of financing needs) | |
|---|---|---|---|---|---|---|
| | 2015 | 2016 | 2015 | 2016 | 2015 | 2016 |
| **BEL** | 80.8 | 76.3 | 15.9 | 19.1 | 19.7 | 25.0 |
| **DEU** | 175.2 | 175.2 | 115.6 | 138.8 | 66.0 | 79.2 |
| **EST** | Na | Na | 0.0 | 0.0 | Na | Na |
| **IRL** | 20.8 | 16.7 | 7.6 | 9.1 | 36.4 | 54.4 |
| **GRC** | Na | Na | 0.0 | 0.0 | Na | Na |
| **ESP** | 231.9 | 236.2 | 56.8 | 68.2 | 24.5 | 28.9 |
| **FRA** | 376.3 | 395.9 | 91.8 | 110.1 | 24.4 | 27.8 |
| **ITA** | 349.9 | 323.7 | 79.2 | 95.1 | 22.6 | 29.4 |
| **CYP** | Na | Na | 0.3 | 0.3 | Na | Na |
| **LVA** | Na | Na | 0.7 | 0.8 | Na | Na |
| **LTU** | 3.1 | 2.8 | 1.1 | 1.3 | 35.8 | 48.1 |
| **LUX** | Na | Na | 1.1 | 1.3 | Na | Na |
| **MLT** | 0.5 | 0.7 | 0.3 | 0.3 | 52.9 | 50.0 |
| **NLD** | 73.7 | 56.6 | 25.6 | 30.7 | 34.8 | 54.3 |
| **AUT** | 25.2 | 24.9 | 12.6 | 15.2 | 50.1 | 61.0 |
| **PRT** | 35.9 | 31.3 | 11.2 | 13.5 | 31.3 | 43.1 |
| **SVN** | 3.5 | 5.5 | 2.2 | 2.7 | 63.0 | 49.0 |
| **SVK** | 5.2 | 6.8 | 4.6 | 5.5 | 89.6 | 81.6 |
| **FIN** | 16.9 | 17.5 | 8.1 | 9.7 | 47.9 | 55.4 |

*Note:* financing needs are calculated as the sum of new debt resulting from budget deficit and debt arriving at maturity.
*Sources:* ECB, IMF (Fiscal monitor, April 2015)

Another issue relates to the future economic outlook of the euro area. If growth continues to be weak (see chapter 1), the end of QE will come as a further drag on the euro area. However, another extension of QE, beyond March 2017, would be similarly cumbersome: it would highlight the weakness of economic growth in the euro area and it would be potentially inconsistent with the continuation of fiscal consolidation as the lack of safe assets would make it less easy for the ECB to implement its unconventional monetary policy.

To escape this trap – end or extension of QE – requires a better coordination between monetary policy and national fiscal policies. Two situations are possible. First, QE stopss but against the backdrop of weak economic growth, coordinated national fiscal policies must lead the policy mix and weigh on real objectives, like fighting unemployment, incentivizing innovations through adequate tax policies, and promote social and public investment with higher and well-targeted spending, rather than accounting objectives (like the fulfilment of fiscal rules)[10]. Second, QE may well be extended but national fiscal policies would also have to be active and deviate from current fiscal rules. In this second scenario, fiscal impulses could be lower than in the first; however, they would have to be positive in order to provide needed government assets for purchase.

In the current social and economic environment, the European fiscal governance is once again at stake. The application of fiscal rules has limited rooms for maneuver and it has forced the ECB to implement non-standard measures, then to extend them. Though these policies have certainly been somewhat effective at supporting investment, they ultimately require in return a change in the European fiscal stance. Unless new fiscal rules are adopted, a new expansionary coordinated impulse like under the Juncker Investment Plan will have to be provided.

## 3.2. Better coordination between monetary and fiscal policies: an agenda for governance reforms beyond the Juncker plan

The euro area faces slow growth in the short (chapter 1) and the long run (i.e. risk of secular stagnation, as discussed in iAGS 2016). Monetary policy, though partially effective in stimulating the real economy, is unable to generate the required growth alone at both horizons, but it can help governments to fund

10. In a recent ECB contribution, Vermeulen (2016) advocates the implementation of policies supporting private consumption.

the required stimulus. The Juncker Plan may be beneficial (though we lack a counterfactual) and it is going in the right direction, both in the short and the long run. The promotion of investment, public and private, is a reply to the depreciation of capital after years of low investment and the global financial crisis. However the Plan draws on limited amounts of *fresh-money* funds. The extension (decided in June 2016) in time—until 2020 rather than 2017—and in the amounts of public and private investment—from 315 to 500 €bn—has been accompanied by an increase from 21 to 33 €bn of *new* financing.[11] In proportion to EU GDP, this represents an extra impulse of 0.08%. Under the assumption of a fiscal multiplier of 2 (the fiscal multiplier is usually considered the highest for public investment; the multiplier is higher the lower the interest rate and the more cooperative the stimulus), the extension of the Juncker Plan would produce a cumulative effect of less than 0.2% on EU GDP. Under the same assumptions, the complete Juncker Plan would have a cumulative impact of 0.45% on EU GDP after 6 years.

These effects are not strong and ever more so when one considers the output gap of EU countries. Jarocinski and Lenza (2016) argue that the output gap of the euro area in 2014 and 2015 has been considerably larger (in absolute terms) than official estimates, reaching -6%. iAGS estimates for the euro area are respectively -4 and -3% in 2014 and 2015. Against this backdrop, not only are demand policies required but the Juncker Plan is largely under-sized, unless other demand policies are implemented. But is there some leeway for fiscal expansion under the current fiscal rules? Alternatively, what other fiscal rules at the domestic level could help sustain growth in the short and the long run, while achieving fiscal sustainability and coordination?

### a) Are current fiscal rules sufficient to foster growth?

In June 2015, then November 2015, the European Commission issued a communication on "commonly agreed position on flexibility in the Stability and Growth Pact (SGP)". The Council endorsed this position in February 2016. The position is mostly dedicated to the preventive arm of the SGP, hence on the attainment (and flexibility in the attainment) of the Medium-Term Objective (MTO) of a sound budgetary position.

11. This amount relates to EIB recapitalization and guarantees the EIB provides. With a leverage of 3, the EIB plans to raise 100 €bn of capital to trigger 500 €bn of investment.

Flexibility is threefold. First, fiscal adjustment requirements to match the MTO are differentiated in two ways and symmetrical. Annual fiscal adjustment is lower for countries whose public debt is below 60% of GDP than above it; it is also lower for countries which experience bad times rather than good times[12]. To get an idea of the implied margins for maneuver, a country with debt above 60% of GDP and an output gap between -3 and -1.5% will "gain" 0.25% of GDP in fiscal leeway, expressed in structural terms, if it experiences below-potential growth rather than above-potential growth. It will "gain" an additional 0.25% of GDP if it experiences negative real growth or output gap below -4%.

Second, the adjustment path towards the MTO will take into account structural reforms. Structural reforms which are "major", which have "direct long-term positive budgetary effects" and which are "fully implemented" may justify a temporary deviation from the MTO[13]. This adds to the exceptional circumstances under the corrective arm of the SGP. The maximum temporary deviation from the structural adjustment path is 0.5% of GDP. The deviation must start being partially adjusted one year after the deviation has been allowed.

Third, some public investments can justify a temporary deviation from the MTO. Conditions for eligibility are rather strict. Public investments must be "aiming at, ancillary to, and economically equivalent to the implementation of major structural reforms". For the latter quality to hold, it must be shown that the investment has "a major net positive impact on potential growth and on the sustainability of public finances". If one were to take this recently introduced condition "à la *lettre*", the fiscal austerity advocated in the EU between 2010 and 2015 would have to be considered "excessive" under the rules: fiscal austerity has undoubtedly been counterproductive in terms of growth prospects and debt sustainability. The recent introduction of a criterion for the eligibility of public investment is helpful as far as it goes but it is not a radical change in EU fiscal governance. The SGP has not been changed fundamentally and existing fiscal rules remain in place.

Moreover, eligible national public investments are "to a large extent" limited to those co-funded under the EU budget for smart and inclusive growth (46% percent of an overall EU budget of approximately 150 €bn per year, or 0.5% of EU GDP) and those co-financed by the Juncker Plan. It gives incentives to partic-

12. The Commission differentiates 5 economic situations, from the worst to the best: exceptionally bad times, very bad times, bad times, normal times, and good times.
13. The Commission and the Council judge whether a structural reform is "major" but only the Commission provides an explanation of its judgment.

ipate in common EU policies but since their associated amounts are relatively small, it also severely limits the fiscal leeway it introduces in the application of the preventive arm of the SGP.

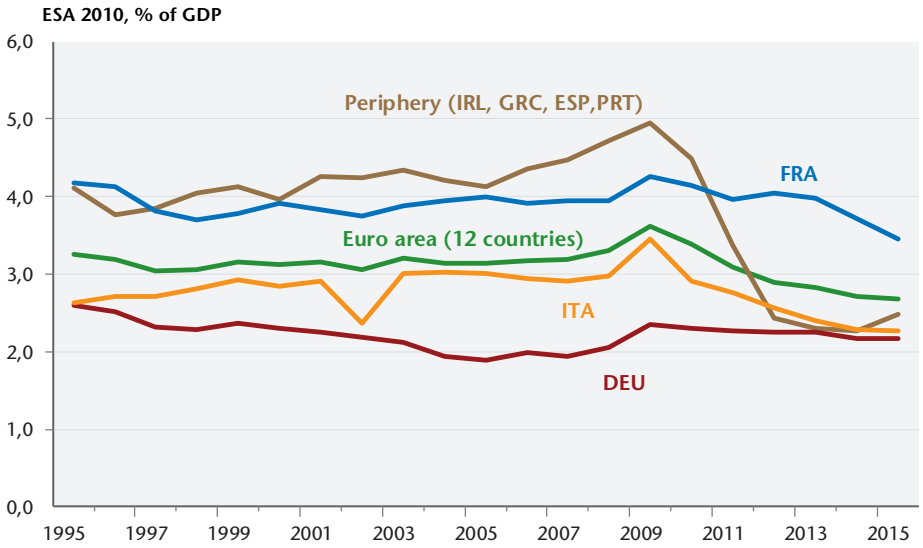
The introduction of more flexibility in the SGP is not a departure from the SGP and it does not solve two European problems. The first one relates to the institutional architecture. EU economic governance remains largely the same and is still suboptimal. The divergence across EU member states (see chapter 2) requires either fiscal transfers between EU members (in the vein of the optimal currency area literature) or active unfettered fiscal policies. EU governance is far from that: the active unfettered policy tool is in the hands of the sole supranational economic institution in the EU, namely the ECB, which is federal and mandated to reach average objectives (inflation, then output). In contrast, domestic fiscal policies are mostly uniformly fettered and passive, except at the margin under quite bad economic conditions. The application of the subsidiarity principle should dictate the use of domestic fiscal policies aiming at domestic objectives and whose externalities should not jeopardize euro area public finance sustainability or euro area external balance. It would require some assessment at the level of the euro area as a follow up to the strengthening of the EMU promoted by the Five Presidents and endorsed by the Commission.

The second European issue is the dramatic neglect of public investment which may require a stronger push than that pertaining to the needed flexibility of the SGP for stabilization purposes. In fact, public investment has suffered disproportionately strongly under the austerity policies pursued. This is exactly what could have been predicted in the absence of special provisions protecting and supporting public investment: cutting public investment spending is usually seen to be the politically easiest way of reducing budget deficits. Independently of the current crisis, there is evidence that fiscal contractions were a key factor responsible for the decline in public investment in earlier decades (Välilä *et al.* 2005; Turrini 2004: 9-26), as it was during the transition period to achieve the Maastricht criteria of public finances (Balassone and Franco, 2000).

Given the extreme degree of austerity in particular in the euro area since 2010, it is not surprising that public investment suffered dramatic cuts (Figure 51 and Figure 52). Gross public investment in the euro area as a whole fell from about 3% of GDP before the crisis to levels substantially below. In the periphery the fall was even more dramatic from about 4% of GDP to just about 2% of (a much lower) GDP since 2012. Net public investment, i.e. gross investment minus depreciation developed even worse: in recent years almost all euro area

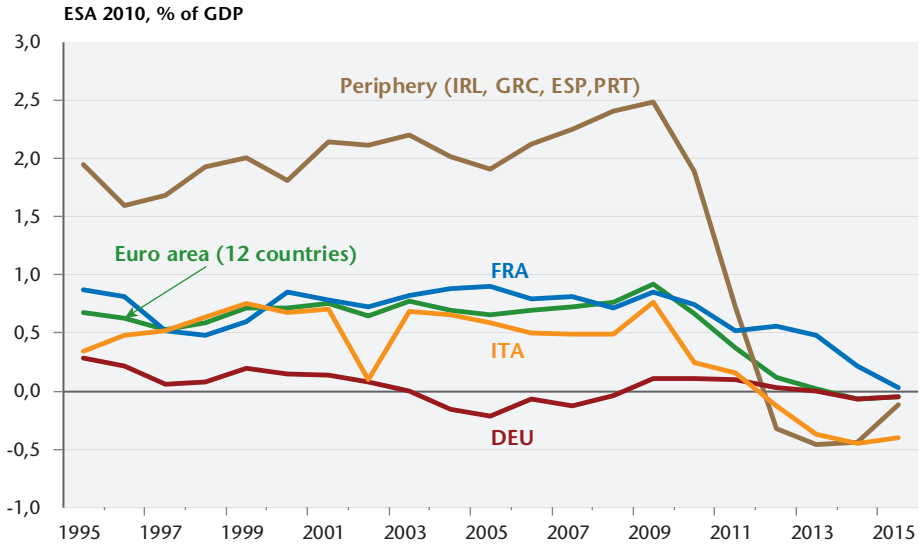
member states have recorded negative public net investment, i.e. the public capital stock has been decreasing.

Figure 51. **General government gross fixed capital formation in selected countries**




*Source:* European Commission (2016); authors' calculations.

Figure 52. **General government net fixed capital formation (ESA 2010) in selected countries**




*Source:* European Commission (2016); authors' calculations.

Although the cuts in public investment were particularly strong it should be noted, that no category of public spending was left unaffected (Barbiero and Darvas 2014). This is also true for public spending on education which suffered dramatic cuts in the periphery (Truger 2016a). As Darvas *et al.* (2014) show, not only the economic but also the social costs of austerity in the sense of an increase in poverty and social hardship were extremely large. Aiginger (2014) points to the fact that essential goals of "Europe 2020" have by now become close to unattainable. At the same time the original goal of austerity—decreasing the debt-to-GDP levels—has been missed because of the ongoing economic crisis.

### b) Beyond the current fiscal rules, paths to reform

One frequently made proposal in the debate about European fiscal policy is to apply stricter fiscal rules, or to allow for less flexibility in the application of the current rules so as to make them really binding. The hope is that if fiscal targets are reliably met this will restore confidence in the markets. Particularly conservative politicians and economists in Germany are in favour of this approach: Recently the German council of economic experts (GCEE) recommended: "The European fiscal rules should finally be enforced" (GCEE 2016: 16). In this context it is hard to overstate the political significance of Germany's supposedly successful debt brake model. The German debt brake provided the blueprint for the European Fiscal Compact's stricter fiscal rules and its ambition that limits on the public deficit should be enshrined in countries' constitutions (BMF 2012, p. 44). The rapid consolidation of the German federal budget coincided with the transition period before the debt brake fully came into effect, apparently causing some observers to think that there was a causal relationship between the two phenomena. According to the German Federal Ministry of Finance (BMF 2015, p. 10), the fact that actual borrowing in the past few years and projected borrowing for this year and for the entire financial planning period are below the maximum permissible new borrowing limit is a sign that the debt brake is working and is indeed "putting the brakes on" new borrowing.

However, a careful analysis reveals that praising the German debt brake as a role model is not backed by the facts (Paetz, Rietzler and Truger 2016). The apparent successes of the debt brake—the over-fulfilment of fiscal targets, rapid consolidation and emulation by other EU governments under the fiscal compact—are in fact a mirage. The consolidation outcomes, in particular the fact that Germany has posted fiscal surpluses for the past two years, result from the favourable economic and labour market development in Germany, espe-

cially the unexpectedly rapid bounce-back from the Great Recession. On top of this came substantial savings in interest payments due to the fall in interest rates, as much of the remaining euro area was mired in recession and the ECB pulled out the monetary stops.

The second, more fundamental point is that the favourable business cycle since the introduction of the debt brake has so far concealed its most insidious danger. On paper the debt brake is expressed in so-called "structural" or "cyclically adjusted" terms. In any one year the government may not borrow more than 0.35% of GDP—the same idea can be expressed in different equivalent ways—on average across the cycle, assuming that the output gap is zero, or after allowing for the current state of the business cycle. This is sensible, in principle, for two reasons. Firstly because governments cannot control the current (i.e. non-adjusted) deficit in the short run, and secondly because focusing on the current balance would make fiscal policy pro-cyclical. It would constrain government to tighten fiscal policy when the economy is weakening (and the cyclical deficit rising) and permit a destabilising loosening of policy when the economy is in a boom. The problem is that, for technical reasons, the government budget out-turn relevant for the debt brake does in fact contain a substantial cyclical element. This means that when the economy is weak the reported, supposedly structural but actually partly cyclical, deficit is too high, forcing the government into procylical tightening. Growth is depressed further, risking a downward spiral.

To show just how grave this risk is Paetz, Rietzler and Truger (2016: 11-15) conducted a counterfactual simulation using conservative estimations for the key parameters. The simulation is also conservative in focusing only on central government, leaving out federal-state finances. Real growth and inflation are, initially, the same as actually occurred in the years 2012 to 2016. The only change is that the unexpectedly quick and strong recovery 2010 and 2011, in which the German economy grew by 4.1 and 3.7% respectively, is assumed not to have occurred. Contemporary consensus GDP and inflation forecasts are used instead (GDP: -0.5 and 1.4%). Based on plausible assumptions for the response (elasticity) of the budget to the lower nominal GDP, they then estimate the (supposedly) "structural" budget balance that would have been reported. The calculations indicate that by 2012 the budget out-turn would have contravened the strictures of the debt brake, causing a tightening of German fiscal policy beginning in 2013. Via the multiplier this in turn depresses GDP compared to the actual values. By 2016 federal government spending would be more than 12% below the unconstrained value and more than 7% below the actual budget plan for the current year. And as a result the German

economy would not only have missed out on the two-year boom: GDP would have been depressed by a further 1.4pp. thanks to contractionary fiscal policy forced by the application of the debt brake. Last but not least, this, in turn, would mean that the debt/GDP ratio would have been more than 8pp higher.

Given the conservative parameterisation and the fact that federal state governments, many of whose finances are decidedly shakier and thus are more likely to be forced into pro-cyclical tightening, the authors consider these estimates to represent a lower limit for the economic losses. What is certain is that, absent a short boom five years ago, Germany would be struggling to fulfill its debt brake under conditions of a stagnating economy, quite similar to the situation that many member countries find themselves in. And most probably the German government would also feel the need to reform the current fiscal framework and/or to increase flexibility in order to avoid further pro-cyclical tightening.

### c) Adopting a smarter, economic, rule? The spending rule and the golden rule of public finance

Obviously, there is a need for smarter rules that support public investment, increase member states' budgetary flexibility so as to improve counter-cyclicality, but at the same time ensure fiscal sustainability and compatibility with the overall EU fiscal and economic policy framework.

Two potentially promising candidates in this respect are the Golden Rule for public investment (see e.g. Truger 2015a) and some type of spending rule approach, e.g. as recently proposed by Claeys, Darvas and Leandro (2016).[14] The former aims at implementing the traditional public finance concept of the golden rule within the framework of the SGP, i.e. deducting net public investment from both the headline and the structural deficit, so that net public investment would be financed *via* deficits. The latter aims at giving up the concept of the structural deficit within the SGP and instead using limits for nominal expenditure growth that are determined by the medium term growth rate of real potential output plus the ECB target inflation rate of 2%. Using medium term potential growth rates and the target inflation rate stabilizes expenditure growth over the cycle. Further stabilization is to be achieved by focusing on that part of government expenditure that is actually under the government's control, i.e. spending on unemployment as well as interest

14. Similar spending rule approaches have been proposed much earlier in the debate on fiscal consolidation in Europe (Horn and Scheremet 1999; Hein and Truger 2007).

payments will be excluded from the spending rule. Public investment is to be favoured by separating current and investment budgets just as in the golden rule proposal.

The two proposals might seem to be very different at first sight, but in fact they are rather similar. If the same definition of public investment and depreciation, the same orientation at medium term real potential growth plus inflation target based on the same concept of cyclical adjustment of GDP is used and the way they are embeded into the relevant fiscal framework is the same, they are almost equivalent apart from some minor technical issues.

However, in order to really ensure that both rules are really smarter some conditions as to their implementation and as to some necessary changes in the fiscal framework of the SGP have to be met. First, a suitable definition of public investment will have to be agreed on. Second, the pro-cyclicality inherent in the current fiscal framework will have to be effectively avoided. Third, fiscal sustainability and compatibility with the overall fiscal and economic policy framework will have to be established.

Regarding public investment, privileging simply makes sense from an economic point of view. The Golden rule has been a widely accepted traditional public finance concept for the handling of government deficits for decades. It has many advocates in academia starting with Richard A. Musgrave (1939 and 1959), one of the founding fathers of modern public finance. In the context of the fiscal policy debate in the EU many economists have criticized the EU fiscal framework of the SGP for its lack of a golden rule of public investment and correspondingly proposed to introduce such a rule into the framework (e.g. Fitoussi and Creel 2002: 63-65; Blanchard and Giavazzi 2004; Barbiero and Darvas 2014; Dervis and Saraceno 2014). And, last but not least the German Council of Economic Experts had delivered a proposal that was intended to become more or less the blueprint for the German debt brake, which explicitly expressed the need to include the golden rule as important element of the fiscal rule (GCEE 2007); unfortunately that key part of the proposal was dropped.

It strives for an intertemporal realization of the pay-as-you-use principle in the case that present government spending provides future benefits. It allows financing such spending (=net public investment) by government deficits thus promoting intergenerational equity. Net public investment increases the public and/or social capital stock and provides benefits for future generations. Therefore, it is justified that future generations contribute to financing those investments *via* the debt service. Future generations inherit the burden of public debt, but in exchange they receive a corresponding public and/or social

capital stock. Failure to allow for debt financing of future generations' benefits will lead to a disproportionate burden for the present generation through higher taxes or lower spending creating incentives for the under-provision of public investment to the detriment of future generations. This general incentive problem may become exacerbated in times of fiscal consolidation when cutting public investment may seem the politically easiest way of reducing the budget deficit. The recent experience with austerity policies shows that this danger is real and has, in fact, materialized.[15]

The central question on a macroeconomic level is, whether general categories of public spending can be identified that are usually associated with sufficiently higher growth and productivity. Ideally, if the returns are high enough debt sustainability would automatically be satisfied as the additional growth would decrease or at least stabilize the debt to GDP ratio (IMF 2014: 110). The natural starting point for the analysis is the debate about the growth effects of public investment, as classified in the national accounts, as it has received the most attention in the literature. It is note-worthy that the ESA 2010 national accounts contain traditional infrastructure investment and also expenditure related to research and development.

The central question of the long-run growth effects of public investment has received much attention in the literature (for an overview see Romp and de Haan 2005; Melo *et al.* 2013; Bom and Ligthart 2014). From a theoretical point of view it is most plausible that public investment, especially if it focusses on "core" infrastructure like transport facilities (roads, railways, ports, airports), communication systems as well as power generation and other utilities should be productive and growth enhancing. The public infrastructure stock in this sense is simply indispensable for most productive processes: Without water and energy supply, without transport capacities most production processes would simply be unthinkable. It is, therefore, plausible to think of public infrastructure as an input factor that is complementary to private capital and labour, inducing additional supply.

However, at least two qualifications should be made. First, for additional public infrastructure to be productive it should not be abundant. Although the quantity and quality of infrastructure is difficult to measure, on the basis of the World Economic Forum's Competitiveness report the IMF (2014: 79-81) concludes

15. Using a Dynamic Stochastic General Equilibrium model, Creel, Hubert and Saraceno (2013) show that adopting the Golden rule would have limited the real costs of fiscal contraction in European countries, in comparison with the public deficit limit and the Fiscal compact.

that from 2006 to 2012 the overall quality of infrastructure and that of roads has clearly (slightly) decreased in Germany (France) and that it is lagging behind in Italy. This is at least a hint that there is room for improvement. It is also a hint that net public investment must not necessarily be into completely new infrastructure projects, but that maintenance investment may also have an important role to play. Second, although positive growth effects from core infrastructure investment are most plausible from a theoretical point of view, not all of public investment as defined in the national accounts is core infrastructure. In fact, a substantial part of public investment is investment into equipment as well as public buildings, e.g. for administration, education and hospitals. For such investment a direct positive contribution to private production processes may be more difficult to establish. However, for those countries for which data on both the public capital stock as a whole as well as specifically on public infrastructure is available, the correlation between the two is strong, so that overall public investment may serve as a proxy for infrastructure investment (IMF 2014: 80).

Table 11. **Implied marginal returns to public investment**

**In per cent**

| | all public capital | | core public capital | |
|---|---|---|---|---|
| | Regional | National | regional | national |
| **Short term** | 17.4 | 10.2 | 24.0 | 16.8 |
| **Long term** | 28.0 | 20.8 | 34.6 | 27.4 |

*Source:* IMF (2014: 86); Bom and Ligthart (2014: 907-908); authors' calculations.

Bom and Ligthart (2014) conducted meta-regressions including 68 studies with 578 estimates for the public capital-growth nexus and confirm this basic conclusion for the period 1983 to 2008. According to their results, the average output elasticity of public capital is 0.082. Conditional elasticities vary depending on whether they refer to the short or the long run, to all public capital or core infrastructure and to regional or national investment. They are higher for core infrastructure, for regional investment and for the long run. Table 11 shows the implied marginal returns which are in the range between 10 per cent (short run, national, all public capital) to 34.6 per cent (long run, regional, core infrastructure). Whereas the latter marginal return is clearly large enough to justify deficit-financed public investment even under pessimistic assumptions about the user cost of capital (real interest rate plus depreciation rate), the former would have to rely on more favourable conditions. However, the implied long term marginal returns even in the case of all public capital for

national and regional investment with 20.8 and 28 per cent are very high. All in all, therefore, one may safely assume traditional public investment to have considerably positive growth effects.

In addition to the longer-run supply-side effects the short-run demand-side effects of public investment must also be addressed. As to the question of the relative size of the public investment multiplier, the pre-crisis literature as a rule of thumb found it to be (slightly) above one and therefore slightly larger than for other spending categories so that public investment in addition to its long term economic advantages could be seen as the most effective short-run fiscal policy instrument[16]. Some of the recent studies even come up with much larger (relative) estimates of the investment multiplier. Auerbach and Gorodnichenko (2012) obtain values larger than two with a maximum estimate of larger than four whereas the estimates for government consumption spending are "only" at about 1.4. Gechert (2015); Gechert and Rannenberg (2014) conducted meta-regressions including 104, respectively 98 empirical multiplier studies controlling for different study characteristics. They also generally find higher investment multipliers as compared to their consumption counterparts (around 1.6 vs. 1), but the difference is certainly not as large as in the Auerbach and Gorodnichenko (2012) paper. All in all, therefore, the empirical literature on short-run effects of fiscal policy strongly supports protecting public investment from consolidation pressures and using it to stimulate the economy.

Should other potentially growth enhancing types of government spending be classified as investment? In principle they should as long as it can be shown that the growth effect to be expected is similar to that of traditional public investment. The natural candidate for this would be public spending on education, which is close to research and development already included in national accounts. Education as investment in human capital is crucial within endogenous growth theory (Lucas 1988) and empirical research suggests that the private as well as social rate of return of education can be assumed to be very high (Psacharopoulos and Patrinos 2004; Card 2001). Although it is difficult to reliably compare the estimated rate of return for different types of expenditure, it would at least be plausible to include public education expenditures under the golden rule. This is also the general conclusion drawn by most advocates of the golden rule.

16. In an empirical evaluation of the Golden rule of public finance implemented in the UK, Creel, Monperrus-Veroni and Saraceno (2009) found a multiplier effect of public investment close to 1 in the short run and close to 3 in the long run.

However, at the present stage it is difficult to implement this in a convincing way. First, an exact definition of the relevant education expenditure would have to be given, which is not straightforward. Second, in order to be consistent with the golden rule, net education investment would have to be measured, i.e. depreciation would have to be deducted. Thus there are some difficult conceptual issues that would have to be resolved before education expenditure could be properly included into the golden rule.

There are other expenditure categories that might be considered as investment under a golden rule. Indeed, from a supply-side perspective some types of social spending may well be highly productive, because they increase labour supply and production: Health expenditures, if effective, will contribute to a more stable and larger workforce. Spending on child care can substantially increase parents' labour force participation (Bauernschuster and Schlotter 2015). And the same may be said for spending on social work and integration. All of this could lead to higher labour force participation and therefore contribute to higher growth and, at the same time, to one of the main Europe 2020 goals. Obviously, it is not easy to find adequate definitions and estimating depreciation in order to arrive at net investment may be even more difficult.

The fact that at the current stage there are difficulties, however, does not mean that an economically rational and workable definition of potentially relevant other investment expenditures does not exist, at all. It only means, that for the first stage of privileging public investment one needs a pragmatic political decision based on empirical results about the expected growth benefits. Relying on the traditional definition of public investment from the national accounts may not be the worst option in that regard.

Decreasing the pro-cyclicality that is inherent in the current EU fiscal policy framework is extremely important. The cyclical adjustment of public finances plays a major role in the European Commission's concept of budgetary surveillance within the framework of the SGP (Larch and Turrini 2010). With the exception of the excessive deficit threshold, all target values for the government budget balance are expressed in terms of structural, i.e. cyclically adjusted, values, and the cyclical condition of the economy plays a major role in assessing the necessary consolidation effort and potential exceptions. The most important concept in this respect is the structural budget balance, i.e. the cyclically adjusted government budget balance corrected for one-off measures in terms of which the consolidation requirements under the SGP and the FC are expressed.

The main problem is that the method is far from being unequivocal, and compared to OECD and IMF estimates the one employed by the EU Commis-

sion has proven to be especially sensitive to an endogeneity bias, i.e. the problem that potential output is highly sensitive to variations in actual output (see e.g. Klär 2013; Truger and Will 2013; Heimberger 2014). During economic contractions – especially during large and durable contractions such as those observed in the Euro crisis – the estimates of potential output are revised substantially downwards. For an illustration assume that the spring 2010 forecast for potential GDP had not been revised since then. Then in 2015, for almost all countries, with the exception of Germany, the output gap would have been substantially higher had it not been for the crisis induced downward revision of potential GDP since spring 2010. For the EMU-12 as a whole the output gap would be estimated to be -6.7% of GDP instead of the official estimate of just -1.7%. The iAGS output gap estimate is -3% of GDP whereas Jaroczynski and Lenza estimate it to be -6%. The dramatic downward revisions of potential GDP in the official Commission calculations have substantial consequences for the calculation of structural budget balances and the assessment of consolidation efforts. These efforts will usually be underestimated because a substantial part of the fiscal effort is wiped out, as a larger part of the actual deficit is registered as structural although in fact it may well just be cyclical, i.e. caused by a temporary contraction.

Therefore, using less cyclically sensitive methods of estimating potential output and drawing on the medium-term potential growth rate as proposed by Claeys, Darvas and Leandro (2016) would mean substantial progress. Additionally, using a spending rule avoids problems with the estimation of the budgetary semi-elasticity that is used to calculate the cyclical part of the budget deficit. However, for the spending rule to really avoid pro-cyclicality, unlike in the proposal by Claeys, Darvas and Leandro (2016), the spending rule would have to be amended in the preventive arm of the SGP, but also be the major point of reference in the corrective arm: If instead the public deficit limit at 3% of GDP remained to be the central indicator, there could be an inconsistency between the deficit limit and the spending rule in the mid-run. As a matter of fact, expenditure growth under the spending rule might produce a growing deficit. In the short run, this would be compatible with the SGP's corrective arm, but not automatically in the mid run if recovery had not occurred yet and tax receipts had not increased: expenditure composition and/or taxes (or tax bases) would have to be modified to match the deficit limit and the medium-term objective (of close to balanced budget). The spending rule would not rule out fiscal contraction in bad times.

The leeway for more expansionary fiscal policies under both the golden rule and the expenditure rule proposed by Claeys *et al.* (2016) could be substantial. Both

would basically allow debt financing of net public investment which could give a large stimulus depending on the level chosen by the member countries. If only the pre-crisis average level was reached, the stimulus would be about 0.7 percent of GDP, but much more would be possible. The leeway for non-investment spending would depend critically on the estimate of medium term potential growth. In the calculations by Claeys, Darvas and Leandro (2016) the limit for expenditure growth is currently not much above actual expenditure growth, resulting from the fact that potential growth estimates have been revised downwards substantially. However, in the past years the effect would have been very substantial, in particular for the crisis countries. In Spain for example the feasible expenditure growth rate exceeded the actual rate by 9 percentage points in 2012 (Claeys, Darvas and Leandro 2016: 13).

As for public finance sustainability, both rules could lead to higher deficit-to-GDP levels depending on the definition of net investment and depending on the leeway they create for higher deficits. This may cause a problem for sustainability in the sense that it may collide with the 60% threshold for the debt-to-GDP ratio. However, if public investment is defined such that it is really growth-enhancing both in the short and in the long-run then the conflict may disappear. Moreover, the spending rule proposed by Claeys *et al.* includes a closure rule decreasing the permissible expenditure growth rate by 0.02 percentage point for every 1% deviation from the 60% limit. A similar effect could be achieved in the current framework by adjusting the MTO if after some time the debt-to-GDP level increases strongly. However, such a debt-feedback mechanism reduces spending leeway for those countries facing higher debt levels, which are also those that may require the greatest fiscal leeway. In contrast, the golden rule is not *a priori* complemented with a debt-feedback rule. Even so the golden rule is compatible with debt stabilization.[17] Both rules could be complemented with an additional closure rule taking into account the current account position such that countries with current account surpluses gain fiscal leeway while countries with deficits lose it.

17. Under the golden rule of public investment, the cyclically-adjusted deficit target would be exempted from expenditures on net investment. It would not be exempted from interest payments. Hence, a higher net investment financed with public debt leads to higher interest payments (all else equal) which weigh on the deficit target. To match the target, interest payments face a ceiling due to the existence of a floor on non-cyclical non interest payments expenditures. The ceiling on interest payments is, at constant interest rates, a ceiling on debt to GDP ratio. Consequently, the golden rule does not prevent effective debt management and therefore incentivizes the implementation of the most-productive investments as they will facilitate debt stabilization and sustainability via economic growth. See Creel (2003) for details.

### d) Using the room for maneuver under the current rules for more flexibility and higher public investment

One essential question is whether the introduction of the golden rule of public investment—at best combined with a better expenditure rule—would be compatible with current EU law or whether a change of Council regulations or even the Treaty would be necessary. The golden rule would permanently change the interpretation of the relevant deficit definitions in a way that is not completely in line with the Treaty. And the expenditure rule, which is already part of the preventive arm of the SGP (although it needs a reformulation, as the actual one is not very well specified), has to become the major reference point in the excessive deficit procedure. Therefore, most probably, legal changes would be necessary in both cases. This would be an impediment for immediate implementation, however, the necessary changes could be adopted as primary law in the form of an 'Investment Protocol' that would be annexed to the Treaty under the simplified revisions procedure of Art.48 of the Lisbon treaty (see table 4) On the member states' level further legal changes would be required if following the fiscal compact there were other legal provisions put in place that would prevent a reinterpretation of the budget balance as net of net spending on public investment. Of course, these changes on the national level would be ambitious, but they would probably be supported by the fact, that the reason for the legal requirements, the regulations on the EU level, would no longer exist. Before discarding the options as politically unrealistic it should also be noted that the official plans stated in the five presidents' report will require substantial legal changes as well, so that obviously some political will for change may be presupposed.

Nevertheless, it would probably take some time until the necessary political and legal steps could be completed. They should therefore mainly be seen as a fiscal policy framework focused on safeguarding public investment and flexibility in the medium term, and not so much as a readily available instrument for providing the—urgently needed—boost to the European economy in the short run. Therefore the question arises whether there is a way to complement the more medium term changes by some form of short-term fiscal stimulus and flexibility within the current institutional framework. It is indeed possible to use the leeway inherent in the current institutional framework for such a stimulus provided the European Commission and the European Council were willing to more actively use the interpretational leeway within this framework (see Table 12 for an overview of measures). Actually, the clarification as to the interpretation of the Pact that the Commission has given in 2015 as well as the final position on the Commonly agreed position on Flexibility in the Stability and

Growth Pact by the council can already be seen as illustrating important if still timid steps in that direction.

Table 12. **Various opportunities to strengthen public investment and facilitate an expansionary overall fiscal policy stance in Europe**

| Goals | Measures |
|---|---|
| **Short term (use interpretational leeway within present framework to increase budgetary flexibility and boost public investment)** | |
| **Strengthening investment + Expansionary overall fiscal policy stance** | (1) Allow for temporary investment programmes (analogous to EFSI)<br>(2) Interpret temporary investment programmes as structural reforms<br>(3) Incorporate realistic investment multiplier in budgetary analysis *ex ante*<br>(4) Increase flexibility for cyclical conditions<br>(5) Use exception for severe downturn<br>(6) Implement better methods of cyclical adjustment |
| **Medium term (solid implementation of changes regarding public investment)** | |
| **EU implementation** | (7) 'Investment protocol' as annex to the Treaty (simplified revisions procedure Art.48) |
| **National implementation** | (8) Change national legislation to allow necessary changes based on the golden rule of public investment combined with a better spending rule |

*Source:* authors' compilation based on Truger (2015a).

At least additional net investment could be justified if it came in the form of a temporary investment programme, analogous to the way the Commission interprets contributions to the EFSI (1). Additionally or alternatively, it may be possible to treat an investment programme as a structural reform that temporarily allows for deviations from MTO or the adjustment path towards it (2). Admittedly, the conditionalities and limits set by the Commission and the Council in their current interpretation (co-financing of EU projects, limit of 0.5% of GDP, mostly for countries in the preventive arm) certainly prevent a substantial and sustained fiscal stimulus, but at least the provisions may be used for some stimulus and political pressure may be built up to push for a more generous interpretation in application or for a more generous official reinterpretation.

Reference to adverse cyclical conditions might help to increase leeway even further (4), although this could create the danger of a stop-and-go investment policy, if cyclical conditions improve as can be expected under an investment

programme. Probably the most convincing way to increase member states' fiscal space in the short run would be to use the provision concerning a severe downturn in the euro area or the EU to justify a temporary deviation from the consolidation path, thus allowing for a substantial European Investment Programme. The Commission has explicitly made a comparison with the 2008 European Economic Recovery Plan (European Commission 2008) to give an example of the potential use of this provision (European Commission 2015b: 17). As a condition for the use of this provision it "should remain limited to exceptional, carefully circumscribed situations to minimise the risk of moral hazard." (European Commission 2015b: 17). Actually, one may well argue that the euro area is right now in such an exceptional situation after years of recession and stagnation and low inflation while monetary policy is at the lower bound.

All of this could further be supported if realistically high multiplier values were used in assessing the budgetary impact of additional investment which may not be significantly negative or even positive (3). Reconsideration of the EU Commission's method of cyclical adjustment (6) – e.g. to be more in line with the OECD method and results – may create further leeway as it might increase the cyclical part of the budget deficit thus reducing the structural deficit (Truger 2015b). In fact, as has been mentioned above, one may well argue that the negative output gap calculated by the European Commission underestimates the bad cyclical condition of the euro area economy by at least 1.3 percentage points (iAGS) to 4.3 percentage points (Jarocinski and Lenza 2016) in 2015. Applying the standard budgetary semi-elasticity this would first of all substantially change the structural balance calculations by about 0.7 to 2.2 percentage points creating substantial leeway for the countries under the preventive arm of the SGP. As fiscal effort calculations would also be affected positively this would also help the countries under the excessive deficit procedure. Finally, the dramatically more negative cyclical condition would both create more leeway to use the exceptional clause under the EDP.

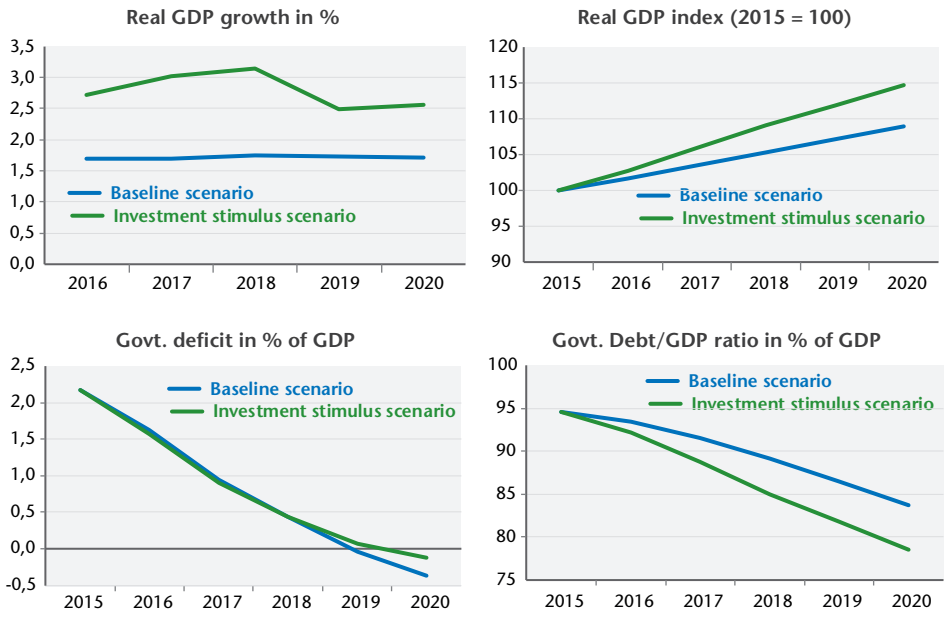
Using some of these measures, it should be possible to implement a fiscal stimulus programme for public investment in the definition deemed necessary in the dimension of 1-2% of GDP for several years. What could the macroeconomic consequences of such a programme be? Would it be able to spark of a self-sustaining recovery in the euro area if implemented soon?

In order to address these questions we present the results of some simple multiplier-based simulations (Truger 2016b). The simulations are not meant to be completely realistic or comprehensive as they are not based on a sophisticated macroeconomic model of the euro area. Instead they present some cautious,

plausible, multiplier-based estimates of what the macroeconomic consequences of a public investment stimulus could be if it were introduced for five years from 2016 to 2020 in order to allow deficit financing of net public investment by 1.5% of GDP. The simulations focus on real GDP, real GDP-growth, the government deficit and the government debt-to-GDP-ratio.

In the first step the feasible government investment stimulus compared to the baseline scenario (projected development based on (extrapolations of) the national stability programmes from 2015 to 2020) is determined. In the second step this stimulus is multiplied with the government investment multiplier. This in turn is determined by a 30% addition to the standard fiscal (expenditure) multiplier. In line with a simple income-expenditure model with a proportional income tax (t) and income dependent imports with the marginal propensity to import (m) and the standard marginal propensity to consume (c) as well as the meta study by Gechert (2015) the standard multiplier for the euro area as a whole is set at 1.45 and the investment multiplier at 1.9 which seems plausible given the recent empirical multiplier estimates referred to in the previous section.

Figure 53. **Selected macroeconomic indicators for baseline and investment stimulus scenarios for the euro area-12**




*Source:* Authors's calculations based on Truger (2016b).

The first-round effect of the fiscal impulses was then calculated by multiplying the fiscal impulse by the relevant multiplier leading to a corresponding increase in real GDP. This in turn leads to an improvement in the general government budget balance according to the country-specific budgetary semi-elasticities (Mourre *et al.* 2014). Depending on the specific multiplier value, public investment spending is self-financing to considerable degree. Whether the self-financing effects open up additional fiscal leeway depends on whether they are interpreted as cyclical or as structural. According to the pro-cyclical method of cyclical adjustment by the European Commission (Truger 2015b and 2015c) a substantial part of the improvement would be interpreted as structural, so that it could be used for further fiscal stimulus.[18] This in turn starts an additional expansionary process. In order to simulate the revisions of the potential growth estimates the resulting time-series for the real GDP values from 1991 onwards were filtered with the modified Hodrick-Prescott-Filter (mHP-Filter) used by the Swiss administration for the Swiss debt brake (see Bruchez 2003).

This leads to second-round expansionary effects, which lead to an increase in GDP according to the standard fiscal multiplier, which in turn influences the (structural) budget balance. In order to add a degree of realism a small inflationary reaction was added by increasing the price level by 0.3 percentage points for every 1 percentage point increase in real GDP.

For the calculation of the fiscal impulses in the ex-ante-simulations government net fixed investment as implied by countries' (extrapolation of) stability programmes was used. Under the assumption that all governments would increase net investment in a stepwise manner[19] until the 1.5 percent of GDP-limit was reached, investment stimuli according to the left-hand column of Figure 11 would be realised. In the case governments in the baseline scenario already had positive net investment under the golden rule this increases their leeway for other expenditures.

The resulting multiplier-based increase in GDP and—according to the mHP-Filter-simulations—also in potential GDP would then lead to a structural improvement of the budget balance which in turn could be used for further

18. If leeway for the investment stimulus was created by using a new method of cyclical adjustment that lead to a larger negative output gap this second round effect would be precluded or potentially smaller. However, in this case the room for manœuvre would be larger right from the start so that the overall results should be comparable.
19. The stepwise approach is taken so as to not cause a sudden explosion of investment demand which may lead to an increase in the public investment deflator.

fiscal expansion. The induced additional fiscal leeway is substantial and as large as the initial investment stimulus. All in all the macroeconomic effects are quite impressive. If the golden rule were operating from 2016 onwards, fiscal policy could be expansionary by a cumulated 3.0 percent of GDP in the euro area as a whole until 2020 which would improve macroeconomic performance substantially (see Figure 53). Real annual GDP growth could on average be 1 percentage point higher with only a minor increase in the budget deficit due to a high degree of self-financing. The debt-to-GDP ratio could even be lower by 5 percentage points. The simulation only captures the short-term demand effects, however, if—as can be expected from the empirical literature on the long term growth effects—productivity capacity is affected positively by the investment stimulus, the positive effects may well be persistent.

Even if highly stylised, these analyses suggest that there would be very substantial economic and employment benefits from using the leeway within the existing framework in order to boost public investment.

## 3.3. Conclusion

We have seen that ECB policies, both standard and non-standard, have had a real impact on investment. Reforming the economic governance architecture therefore means fiscal reforms and flexibility in the implementation of fiscal rules. Regarding reforms, we advocate cautiousness in the assessment of the German debt brake. The success of the German rule has been very dependent on exceptional circumstances, namely unexpected growth. Consequently, we do not advocate the endorsement of this kind of rule. Rather, we promote reliance on a reformed spending rule combined with the golden rule of public investment which would give domestic fiscal leeway for increasing public investment without impairing debt sustainability. A domestic push to public investment would accelerate recovery and would boost potential output. With the golden rule effective from 2016 onwards, fiscal policy could be expansionary and raise annual real GDP growth by 1 percentage point on average till 2020. Due to large self-financing effects, the budget deficit would hardly increase and the debt-to-GDP ratio could even be lower by 5 percentage points. Furthermore the positive effects may well be persistent, as the long term growth rate is also affected positively by the investment stimulus.

## Appendix 1. Investment equation for the euro area

Monetary policy influences the investment rate through the cost of funding. The estimated equation makes a distinction between the impact of monetary policy in the long-run and in the short run. Monetary policy is measured by the shadow rate, which is the implicit interest rate set by the ECB and taking into account the unconventional monetary measures. For sake of simplicity, the total cost of capital only takes into account the interest rate set by banks on loans to non-financial corporations. Hereafter, we do not account for a potential effect of monetary policy on banks' spread, which may also be another channel through which monetary policy has influenced credit conditions and final demand. Consequently, the measured impact of monetary policy on investment that we compute may be considered as a lower bound.

The estimated equation (an error-correction model) for total investment in the euro area is represented by the following equation:

$$\Delta\left(\frac{I_t}{VA_t}\right) = \underbrace{-0.086}_{0.04} + \left(\begin{array}{c}\left(\frac{I_{t-1}}{VA_{t-1}}\right) - \underbrace{0.023}_{0.00}.Marge_{t-1} - \underbrace{0.035}_{0.00}.Shadow_{t-1} \\ - \underbrace{0.151}_{0.00}.BankSpread_{t-1} + \underbrace{2.09}_{0.07}\end{array}\right)$$

$$- \underbrace{0.214}_{0.14}\Delta \mathrm{I}_{t-1} + \underbrace{0.138}_{0.08}\Delta \mathrm{I}_{t-2} + \underbrace{1.108}_{0.31}\Delta \mathrm{VA}_{t-1}$$

$$- \underbrace{0.006}_{0.00}\Delta \mathrm{CUR}_{t-1} + \underbrace{0.03}_{0.00}.\Delta Shadow_{t-1} + \underbrace{0.006}_{0.00}.\Delta Shadow_{t-2}$$

With I the investment, VA the value-added, Marge the margin rate, Shadow the indicator of monetary policy calculated by Wu and Xia (2016) and that takes into account the unconventional monetary policy measures. The bank spread is the gap between the interest rate on loans for non-financial corporations and the EONIA rate. CUR stands for the rate of capacity utilization. In the long term, an increase in margins has a significant positive impact on the investment rate. The cost of funding (measured by the indicator of monetary policy and the bank spread) affects negatively and significantly the investment rate. The model is estimated by OLS for the euro area. The sample period for estimation is 1999Q1 / 2015Q4. Data are taken from Eurostat, ECB and Datastream.

## Appendix 2. Identification of financial bubbles

Following Blot, Hubert and Labondance (2016), bubbles are identified on three different financial markets: stock, bond and housing, by focusing on the common component from different bubble models, using euro area data from January 1999 to September 2015. These models are the following:

1. Cash-flow model adjusted for risk-premium (estimated with OLS and ECM).
2. Full-information price model (estimated with OLS and ECM) yielding the best prediction of the fundamental value from a set of macro and financial variables.
3. HP-filter model, where the fundamental is the trend and the bubble is the cycle.
4. Statistical approach, where the boom (resp. bust) period is defined as a deviation from the trend above (resp. below) 1.3 standard-deviation (Bordo and Jeanne, 2002).

For each of the first 3 models, two types of bubble components are defined:

A. Standard residuals/cycle component.

B. Sum of the (Christiano-Fitzgerald) filtered residuals/cycle component, as long as these residuals/cycle component have the same sign.

From these models 11 series of bubble for each asset price (stock, bond and housing) in the euro area can be identified. Using Principal Component Analysis (PCA), Blot *et al.* (2016) estimate the first component of the 11 series for each asset class and consider it as a bubble indicator. With such an approach, the bubble indicator maximizes the common variance among the 11 series, with no prior about which bubble model is best, and drops idiosyncratic evolutions specific to each bubble model. This procedure should be seen as model averaging with estimated weight (the PCA eigenvalues).