

## Fiscal Soundness and the Triangle of Stability

Florian Buck and Ludger Schuknecht\*

### Abstract

Average gross general government debt-to-GDP ratios in advanced economies have almost reached their highest levels since WWII. Moreover, growing fiscal risks emerge from adverse fiscal-financial linkages and aging societies. Policy-makers should take advantage of the current economic recovery and extraordinary measures by central banks to pursue growth-friendly fiscal consolidation, supported by comprehensive structural and financial sector reforms to improve the growth potential and reduce future fiscal liabilities. These are fundamental elements to enhance macroeconomic resilience and to pave the way for a timely exit from expansionary monetary policy. In case of EMU, a strict implementation of the EU's fiscal and banking sector governance is essential.

### Solide Staatsfinanzen und das Stabilitätsdreieck

#### Zusammenfassung

Die Staatsschuldenquoten der Industrieländer sind gegenwärtig nahe ihrem historischen Höchststand in der Nachkriegszeit. Der Risikoverbund zwischen Finanzsystem und Staatsfinanzen sowie negative demografische Entwicklungen drohen zudem, künftige Staatsbudgets noch weiter zu belasten. Angesichts dessen sollte eine vorausschauende Finanzpolitik die günstige konjunkturelle Erholungsphase und außergewöhnlichen geldpolitischen Maßnahmen der Notenbanken für einen wachstumsfreundlichen Schuldenabbau nutzen. Zusammen mit ambitionierten Strukturreformen stärkt dies das Wachstumspotential der Volkswirtschaften und baut damit fiskalische Risiken ab. All dies bleibt zentral, um die Widerstandsfähigkeit der Volkswirtschaften zu stützen und den Weg für einen zeitlich angemessenen Ausstieg aus der ultra-expansiven Geldpolitik zu ebnen. In der europäischen Währungsunion ist hierfür die strikte Anwendung des gemeinsamen Regelwerks notwendig.

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*JEL Classification:* H3, H6, E6.

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## I. Introduction

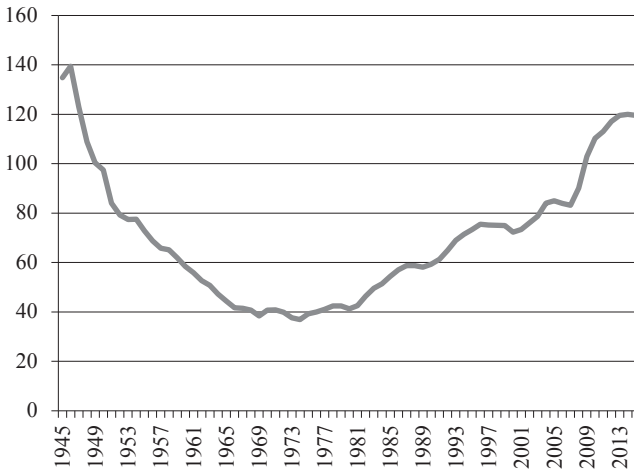
Fiscal policy, financial markets and the real economy are heavily interconnected. The recent financial crisis has revealed that policy-makers should pay attention to the interplay of these three pillars, which constitute the so-called triangle of stability. However, while the impact of monetary policy on the real economy has drawn much attention in recent debates, surprisingly little concern has been expressed about the role of public finances in establishing conditions for macroeconomic stability and a competitive real economy.

Dominated by short-termism, post-crisis debates seem to underestimate the potential negative consequences of sovereign debt accumulation since the global financial crisis. A number of economists have called for an end to “austerity” policies, calling into question the general benefits of fiscal consolidation because of hysteresis effects or downplaying the risk of high debt. Instead, the International Monetary Fund (IMF) proclaimed the current state of the global economy – ultra-loose monetary policies, moderate investment dynamics and modest medium-term economic prospects – to be the “new normal” and recommended a new dose of fiscal stimulus (IMF, 2016a).<sup>1</sup> Estimates of the margin for *manageable stimuli* base on complex extrapolations of so-called fiscal space, suggesting theoretically available debt limits over 150% of GDP for countries such as Germany, the United Kingdom and the United States. However, these figures are highly subject to uncertainty and sensitive to underlying model assumptions about the macroeconomic environment such as persisting ultra-low interest rates which have substantially increased recent estimates.<sup>2</sup> De facto room for policy manoeuvre is determined by market perceptions which are hard to predict and could sharply shrink well before estimated limits are reached. It is time to rethink the current state of fiscal policy.

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<sup>1</sup> There is little agreement among economists what might be the cause for the growth slowdown. It is found that banking crises persistently lower total factor productivity via debt hangovers caused by pre-crisis overleveraging (Rogoff, 2015), build-up of excess savings (Bernanke, 2015), or a shift towards pessimistic expectations of investors (Benigno and Fornanno, 2016). Some argue there have been structural shifts on the supply-side of the economy, while others think that the most important shifts have occurred on the demand-side.

<sup>2</sup> Fiscal space is challenging to operationalize. Most empirical strategies define fiscal space as the difference between the current level of public debt and some specified threshold, i.e. the debt limit which is implied by the country’s historical record of fiscal adjustment and financial market access in response to changes in indebtedness (see among others, Ghosh et al., 2013). All of these approaches face common limitations: they consider a closed economy and do not account for a number of country-specific macroeconomic circumstances and structural factors e.g. the maturity structure of public debt, adverse feedback effects between the public and private sector and future policy changes as implicit liabilities from ageing or declining population growth.



Source: IMF Historical Debt Database; own calculations.

Figure 1: Public Debt Ratio G7 Countries

The fiscal outcome of the global financial crisis has been a drastic increase in public debt in most advanced economies. In 2016, average gross general government debt-to-GDP ratios have almost reached their highest levels since WWII. Deficits remain high in many advanced economies despite several years of recovery. In light of adverse fiscal-financial linkages, evidence suggests that there is a higher correlation between bank and sovereign risk than 10 years ago, while high debt is placing constraints on the state's capacity to act in times of crisis. Furthermore, record debt levels leave public finances vulnerable to interest rate hikes and weaken their resilience to foreseeable and unforeseeable events – such as population aging or security crises. Public debt accumulation could also hinder central banks exit from ultra-loose monetary policies if such normalization were to bear the risk of renewed fiscal and financial crises.

This paper documents recent trends in the public finances of advanced economies and highlights adverse side effects on financial markets and the real economy. It argues that the ongoing economic recovery and ultra-low interest rates should be used to consolidate public finances, implement structural reforms and further strengthen the financial sector while reducing linkages with the state.

Our main argument – that fiscal soundness is a precondition for macroeconomic stability – is far from new (see e.g. *Schuknecht and Tanzi*, 2000; *Reinhart and Rogoff*, 2010; *Cecchetti, Mohanty and Zampolli*, 2011). Excessive public debt ratios are found to have a negative non-linear impact on the stability of financial

markets and tend to diminish growth prospects, especially in a monetary union, for three reasons.

First, a government's ability to play a stabilizing role in financial recessions depends crucially on the health of its fiscal position. Large levels of sovereign debt held by the financial sector render a country's fiscal performance more dependent on volatile interest rate dynamics and vulnerable to sudden market tantrum (Feroli et al., 2014). In bad states of the world strong strategic complementarities are emerging where agents may not be able to coordinate a good equilibrium – something that recent DSGE literature has mostly neglected. Robust evidence (Jorda, Schularick and Taylor, 2016; IMF, 2016b) suggests that crises are less costly in terms of output losses if public finances are sound. This highlights the importance of building fiscal buffers.

Second, high ratios of public debt to GDP interact with the real sector via the confidence channel by creating policy uncertainty and thereby reducing private investment in the economy (Bloom, 2009; Barsky and Sims, 2011; Bachmann and Bayer, 2014; Baker, Bloom and Davis, 2015). Micro- and macro-level evidence indicates that policy uncertainty raises stock price volatility and reduces investment and employment, notably in policy-sensitive sectors, foreshadowing declines in output. Thereby, one empirical regularity stands out: The impact of sovereign debt on economic growth becomes visible once the debt-to-GDP ratio exceeds a certain threshold, i. e. 80 % or 90 %.<sup>3</sup> For example, Ardagna, Caselli and Lane (2007) confirm a non-linear impact of government debt on long-term interest rates, which induces higher financing costs for business and therefore slower growth. Most recently, Muir (2016) provides supporting evidence for growing interlinkages indicating that financial crises have large impacts on risk premia and asset prices, and Corsetti et al. (2013) find that if risk premia rise with higher levels of public debt, the multiplier effects of fiscal policy shrink.

Third, fiscal soundness is especially necessary in a monetary union like the Europe's Economic and Monetary Union (EMU) where national policy-makers may be inclined to run higher fiscal deficits since market signals via the national exchange and interest rate are absent and term premia may react more slowly to rising fiscal imbalances. This means that national policy positions may be geared exceedingly towards short-term domestic objectives that diverge from the sustainability goals of a currency union.

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<sup>3</sup> Following Reinhart and Rogoff (2012), several empirical studies suggest a negative link between public debt and trend growth, including Egert (2015) and Cheherita-Westphal and Rother (2012). Addressing some of the criticisms to this earlier work (Pescatori et al., 2014), Chudik et al. (2016) find significant negative effects for countries with debt over 50–60 % of GDP provided debt is on an upward trajectory. Their findings are robust to feedback effects from growth to debt.

This paper starts with an overview of debt trends in the euro area. We then explain the interlinkages between fiscal soundness, the financial sector and the real economy to identify relevant channels of fiscal risks, followed by a discussion of policy implications.

## II. Fiscal Policy: Where Do We Stand?

In this section we look at euro area public finances in a global context. Our findings suggest a much more vulnerable position for fiscal sustainability in advanced economies in the year 2016 than before the financial crisis.

With the global financial crisis, general government gross debt increased rapidly in most advanced countries. Costs of bank bailouts, slower growth and the combination of buoyant public expenditure dynamics and large fiscal stimulus packages were the major drivers of this development. In 2016, the government debt in the G7 countries stood at 120% of GDP on average; with 108% in the United States and 250% in Japan. Table 1 provides an overview of public debt as a percentage of GDP, suggesting that public debt has increased markedly since 2007. Only recently most countries have stabilized their government debt-to-GDP ratios. However, even countries that successfully consolidate their public finances will take a long time to bring their debt ratios back down. Germany will see its debt ratio fall below the pre-crisis level in 2020 and only if it sticks to balanced budgets.

Today the euro area has accumulated public debt totalling 10 trillion euros, or 91% of GDP. There is considerable dispersion among member states. Table 1 highlights the disparities in country-specific debt-to-GDP ratios; ranging from 180% in Greece, 133% in Italy to 68% in Germany in the year 2016. In 2016, 14 out of 19 euro area countries breached the general government gross debt limit of 60% of GDP as laid down in the Maastricht Treaty.

From a historical perspective, average debt ratios have returned to the levels reached after the end of WWII. Trends in public debt have followed a broad pattern, characterized by deteriorating deficit and debt positions, which has prevailed since 1970 (*Schularick and Taylor, 2012*). At that time, budgets were mostly balanced and public debt ratios were low. Public debt gradually increased in the 1980s when the impact of chronic deficits on public debt was no longer mitigated by inflation. A period of consolidation in the 1990s followed, when EU member states successfully managed to satisfy the Maastricht criteria. However, since the late 1990s there was little further progress with debt reduction before debt soared during and after the global financial crisis as fiscal balances worsened considerably.

*Table 1*  
**Public Debt as Percentage of GDP**

	1999	2007	2009	2016
Euro area	70.6	64.9	78.3	91.5
Germany	60.0	63.5	72.5	68¼
France	60.2	64.4	79.0	96.4
Italy	109.6	99.8	112.5	132.8
Spain	60.9	35.5	52.7	99.5
Greece	98.8	103.1	126.7	179.7
Ireland	46.6	23.9	61.7	75.1
United States	58.9	64.0	86.0	107.3
Japan	131.8	176.6	202.4	248.8

*Source:* European Commission 2017; Germany: Federal Statistical Office and DBP projection, rounded to ¼ of a percentage point.

General government deficits peaked in 2009 with double-digit deficits in many countries leading to debt explosions (Table 2). Since then deficits came down significantly, as fiscal consolidation set in. Recently, however, deficit declines have levelled off as consolidation has ended.

Consolidation fatigue is illustrated by Table 3 which provides an overview of the current fiscal stance in leading euro area economies, defined as the change

*Table 2*  
**Net Lending/Borrowing as Percentage of GDP**

	2007	2009	2016
Euro area	-0.6	-6.3	-1.7
Germany	+0.2	-3.2	+0.8
France	-2.5	-7.2	-3.3
Italy	-1.5	-5.3	-2.4
Spain	+2.0	-11.0	-4.7
Greece	-6.7	-15.1	-1.1
Ireland	+0.3	-13.8	-0.9
United States	-3.5	-12.7	-4.8
Japan	-2.8	-9.8	-3.7

*Source:* European Commission 2017; 1999–2009: Euro area excluding Estonia and Greece; Germany: Federal Statistical Office and Federal Finance Ministry projection.

in its cyclically adjusted primary balance. Negative numbers indicate expansions and positive numbers indicate contractions. In fact, no country in the EMU is pursuing policies of austerity in the current environment with very low refinancing costs for governments. Germany's fiscal stance was neutral in 2015 and highly expansionary in 2016, mainly due to migration-related spending. The fiscal position of Spain was expansionary in 2015 and neutral in 2016. France was neutral in both years, while Italy pursued expansionary policies in both years. Fiscal policies in 2017 are expected to be broadly neutral. So the euro area is not in a phase of austerity or consolidation.

*Table 3*  
**Change in Cyclically Adjusted Primary Balance as Percentage of GDP**

	2015	2016	2017
Germany	0.1	-0.9	0.3
France	0.1	0.1	-0.1
Italy	-0.5	-0.8	0.1
Spain	-0.9	-0.1	-0.1

*Source:* European Commission Winter Forecast 2016; Germany: Federal Statistical Office and Federal Finance Ministry projection.

It is useful to look at debt and deficit dynamics from a broader perspective. First, high debt levels mean that the fiscal position is sensitive to interest rate hikes. Real interest rates might at some point return to historically normal levels and raise public debt service costs. Simulations assuming a return to pre-crisis interest rates of 2% for each country show the need for serious additional fiscal adjustment just to stabilize debt ratios at today's historically high levels (*Dabrowski*, 2016). Debt that is easily financed at 0% rates might turn out to be hard to sustain at 2% and a catastrophe at 5% in countries with high levels of outstanding debt.<sup>4</sup>

Second, servicing higher debt may eventually require higher distorting taxes depressing economic activity. As illustrated in Table 4, the public expenditure ratio in the euro area is already very high. On average, states spend about one-

<sup>4</sup> The fiscal implication of a return to "normal" government borrowing costs are significant: according to studies by *Standard & Poors* (2016) the headline deficits for the majority of the 25 sovereigns covered would have been between 1 and 2 percentage points of GDP higher in 2015 under "normal" rates than they have been under the ultra-low effective interest rates. Advanced economies with high debt burdens (Belgium, Italy, France, Spain, UK) would have recorded deficits some 2 percentage points higher than was actually the case.

*Table 4*  
**Public Expenditure as Percentage of GDP**

	1999	2007	2009	2016
Euro area	47.5	45.3	50.7	47.9
Germany	47.7	42.8	47.6	44.3
France	52.1	52.2	56.8	56.5
Italy	47.4	46.8	51.2	49.4
Spain	39.9	38.9	45.8	42.7
Greece	46.2	47.1	54.1	51.2
Ireland	33.9	35.8	47.1	27.9
United States	34.1	36.9	43.0	38.0
Japan	38.2	35.8	41.9	39.2

*Source:* European Commission 2017; Statistical Annex for 1999–2009; Germany: Federal Statistical Office and Federal Finance Ministry projection.

half of GDP. Even in less wealthy countries, like Greece, this ratio is approximately 50 % of GDP. The respective figures for the United States and Japan are substantially smaller at about 40 % of GDP, for Asian countries at about 20 % – 30 % of GDP, allowing lower taxes and more economic dynamism.

Third, longer-term potential GDP growth rates are not likely to increase if not decline, reflecting e.g. the decline in employment as a result of negative demographic trends. Lower population growth implies that capital has less additional labor to work with, resulting in lower returns and lower investment.

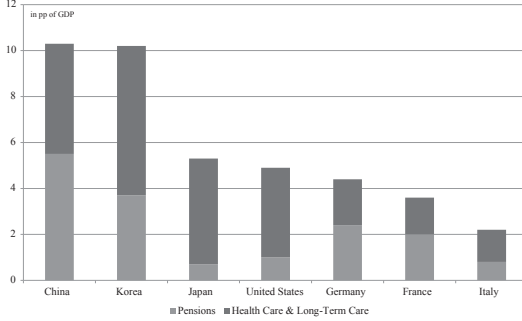
Fourth, the ability to generate growth might be constrained by age-related pressures. Population aging as documented in Table 5 contributes to hidden debt and will require additional fiscal adjustment in the future. The old-age dependency ratio in the euro area is projected to rise from 29 % in 2015 to 52 % in 2050. Pension, healthcare and long-term care liabilities will rise in the future. Current projections about these obligations vary. But typically the increase in spending ratios will be several percent of GDP without further reform. This is most pronounced for Asian economies but they come from much lower spending-to-GDP ratios which leaves more room for revenue increases than in Europe.

In summary and despite progress in recent years, the fiscal situation in most advanced economies looks potentially worrisome and calls for corrective measures. Public debt ratios are near an all-time high since WWII, and only just stabilized while social spending pressures are likely to increase further. Sovereign



Table 5

**Projected changes in age-related spending 2015–50**



**Old-age dependency ratio**

	2015	2050
Euro area	29.3	52.0
Germany	32.2	58.6
France	30.6	46.3
Italy	35.1	67.6
United States	22.3	36.9
China	13.0	46.7
Korea	18.0	65.8
Japan	43.3	70.9

Source: EPC Ageing Report 2015, OECD, IMF.

Source: UN World Population Prospects: The 2015 Revision. Euro area: year 2015, EPC Ageing Report 2015.

ratings seem to reflect these developments in the euro area. Data suggest that there is a close correlation between rising public debt and worsening ratings. While more than half of national public debt in the euro area was rated with a tripple A in 2007; this share declined to only one quarter in 2016 (see Figure 2). Today Germany, the Netherlands and Luxembourg are the only three countries with a tripple A by either Moody’s or Standard & Pools (S&P). These findings

Debt (% of GDP)

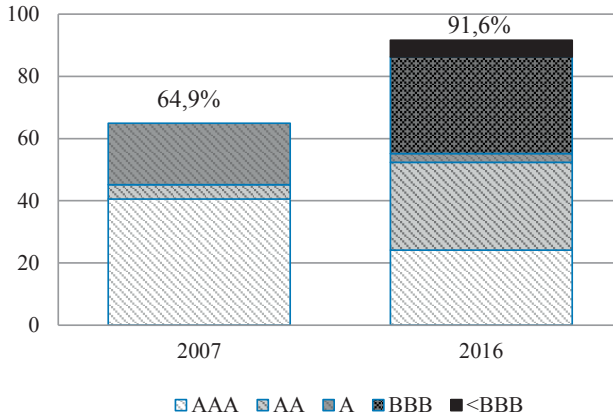


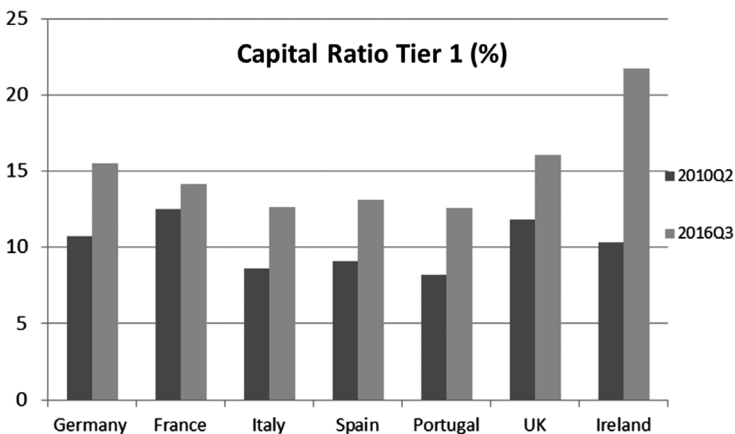
Figure 2: S&P Sovereign Ratings and Public Debt Stock in the Euro Area

indicate that no country's rating is sacred and that if sustainability of public finances and market confidence were to get bad enough, rating agencies will react.

### III. Fiscal Risks from the Financial Sector

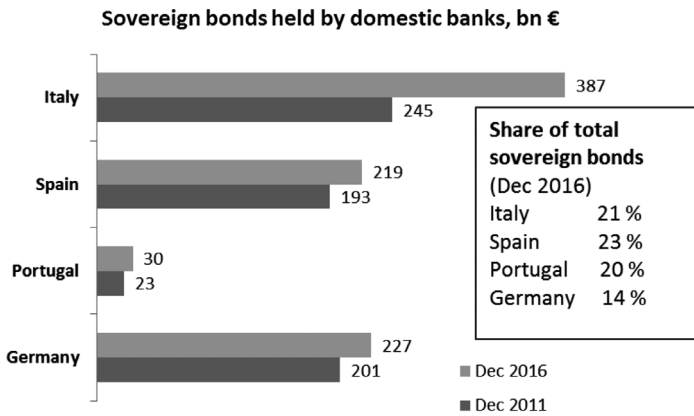
Fiscal risks from the financial sector have declined in recent years. Measured by capital tier 1 ratios, the European banking sector today appears to be more resilient to potential financial shocks compared with the year 2010. Figure 3 shows that European banks hold larger capital buffers. In fact, the increase is most significant in Ireland. None of the countries in Figure 3 has an average Tier 1 capital ratio below 10%. International regulatory changes have also diminished risks for taxpayers.

However, worries about financial sector risks for government finances remain. Studies reveal that a considerable amount of tier 1 improvements by banks can be explained by changes in the composition of bank portfolios (Acharya and Steffen, 2015; Brutti and Saure, 2016). Because national banking regulations treat sovereign bonds as risk-free, some banks have boosted their holdings of these bonds, thereby increasing their tier 1 ratio. The ECB's refinancing policy has encouraged substitution, since sovereign bonds can be pledged as collateral in ECB monetary operations. This is particularly true in former crisis countries where the interest on ECB liquidity was much lower than that on government debt, allowing a significantly positive and profitable



Source: ECB, Consolidated Banking Data.

Figure 3: Capital Ratio Tier 1 in Selected Countries (%)



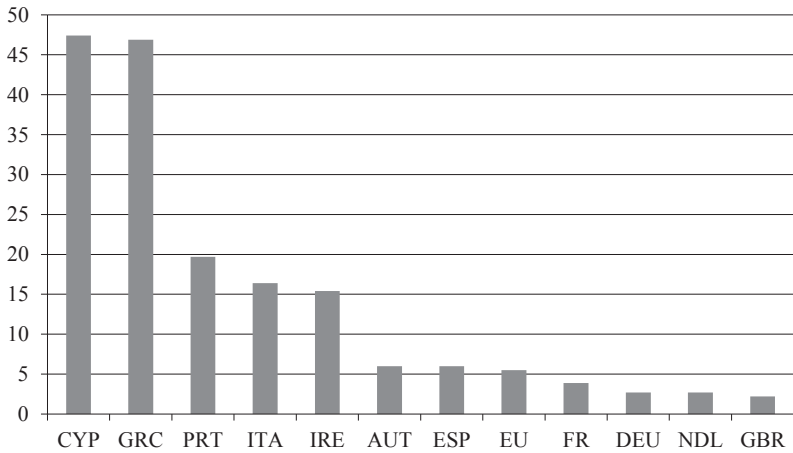
*Figure 4: Sovereign Bonds Held by Domestic Banks (bn €)*

“carry”.<sup>5</sup> Figure 4 highlights the relevance of this phenomenon by showing that the share of sovereign bonds on domestic banks’ balance sheets increased between 2011 and 2016.

The increased holding of government debt on bank balance sheets has also enhanced the sovereign-bank nexus. Should the fiscal position worsen, banks are more vulnerable. In addition, political risks such as increasing support for political forces that are less reform-oriented, could easily translate into a deterioration of sovereign ratings and higher risk premia, leading to debt sustainability concerns for sovereigns. As banks hold more government bonds, a perceived loss of sovereign creditworthiness results in larger capital losses risks in banks, reflecting the implicit lower value of government bond holdings, which ultimately affects the financial intermediation capacity (Brunnermeier et al., 2016).<sup>6</sup>

<sup>5</sup> The general picture of repatriation in former crisis countries is consistent with the political economy motivation advanced by *Broner, Martin and Ventura* (2010), the “secondary market theory” of sovereign debt. Since sovereigns care more about domestic than about foreign creditors, they are less likely to default on their debt the more such debt is held domestically. If an exogenous shock raises the government’s temptation to default, the secondary market theory predicts that sovereign bonds should go back from foreign investors to domestic investors.

<sup>6</sup> Sovereign debt impairments have significant side effects on the real economy through the credit ratings channel (Almeida et al., 2016). Fiscal soundness proxied in sovereign ratings is found to negatively affect banks’ lending supply and the rating of the corporate sector in an asymmetric fashion: Firms reduce their investment and reliance on credit markets due to a rising cost of debt capital following a sovereign rating downgrade. Policy-makers should factor these negative externalities into public debt management decisions.



Source: EBA Data Risk Dashboard, Q2/2016.

Figure 5: Non-performing Loans as Percentage of Total Loans in 2016

Using credit default swaps (CDS) rates on European sovereigns and banks in the 2007–2011 period, changes in sovereign CDS spreads can explain the changes in bank CDS spreads. This is consistent with the idea of feedback loops between sovereign and bank credit risks – implying pro-cyclical effects in bad states of the world – an important aspect of macroeconomic resilience.

Risks from banks to sovereigns emerge as well if fiscal resources are needed to recapitalize financial institutions. The “Irish” crisis, for example, included a distressed state of public finances as the result of bank guarantees following a banking crisis (Acharya, Drechsler and Schnabl, 2014).<sup>7</sup> Future fiscal stress could arise from non-performing loans, if such loans could force governments to bail out their banks. Eight years after the collapse of Lehman Brothers, parts of the European banking sector still face high levels of impaired assets. While economic conditions have gradually stabilized, non-performing loans (NPLs) on private banks’ balance sheets continue to be high in many stressed economies. Figure 5 illustrates how the global financial crisis and subsequent recession have left many countries with elevated levels of NPLs. NPLs in the European Union stood at about €1 trillion (or over 9% of the EU GDP) at the end

<sup>7</sup> The ensuing collapse in output and asset prices saps revenues and leads to higher spending through automatic stabilizers. Following Eschenbach and Schuknecht (2002) there are three transmission channels of fiscal instability on a country’s fiscal stance: (1) direct bailout cost, (2) revenue effects through downward changes in asset prices, real estate transactions and dividends causing reduction in tax revenues, and (3) indirect effects via the impact on the real economy through lower wages and higher unemployment.

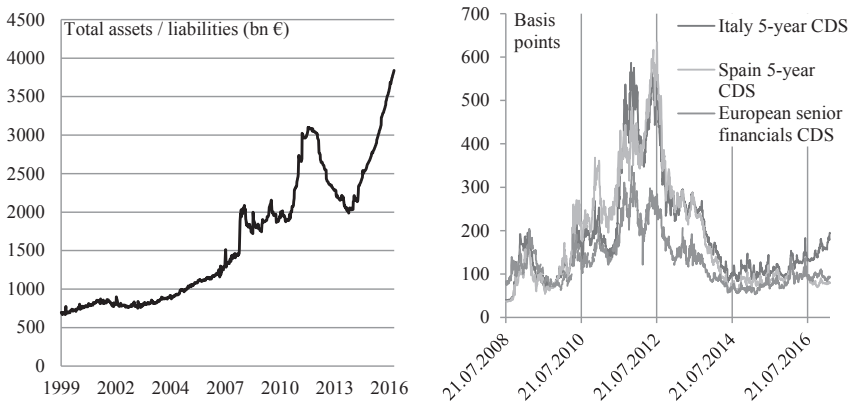
of 2014, more than double the level of 2009. Ratios are particularly high in the southern part of the euro area as well as in several eastern and southeastern European countries. Write-off rates are too low (less than a quarter of the level in the United States), which creates a backlog of impaired assets. Reducing NPLs is crucial not only for spurring credit growth, but also for reducing fiscal risks.

#### IV. Monetary Policy Implication for Fiscal Soundness

The independent pursuit of monetary policies by central banks depends on sufficiently healthy public and financial sector balance sheets. But monetary policies can also buy time through low interest rates and extraordinary measures for governments and the financial sector to undertake the necessary reforms and balance sheet repair as such policies lower financing costs and boost asset values.

Central banks have pushed ultra-loose policies in most advanced economies for a number of years. At the time of writing this article, the ECB's measures included a negative deposit facility rate, (targeted) long-term refinancing operations, refinancing operations at full allotment, reduction of collateral requirements, emergency liquidity assistance (ELA), and broad asset purchases. The ECB's quantitative easing program included the purchase of government bonds, corporate bonds, covered bonds and asset-backed securities. As of November 2016, the Eurosystem's balance sheet had expanded to €3553 billion or about 35% of euro area GDP. Unconventional monetary policies have reduced fiscal risks and eased financing conditions. They helped lower short and long term interest rates of government debt. This has calmed the financial markets by preventing bad equilibria which even push solvent countries into illiquidity, but also changed market conditions for agents in both the public and the private sectors.

However, ultra-loose monetary policies also have adverse side effects that can become directly or indirectly relevant for public finances. If policy-makers keep unprofitable companies alive with ultra-low interest lending or a steady flow of new credit, the risk of inefficient investments and lower growth (and thus higher debt ratios) emerges. This process evokes memories of the zombification episode in Japan's corporate sector (*Caballero, Hoshi and Kashyap, 2008*), in which zombie-dominated industries created ongoing distortions that lowered job creation and industrial productivity. A full allotment of central bank liquidity to banks via refinancing operations in combination with low rates distorts the functioning of the price/interest mechanism and the efficient allocation of resources. Low interest rates encourage risk-seeking by financial intermediaries, reduce incentives for de-leveraging and hence lead to higher firm-level uncer-



Source: ThomsonReuters, daily data (as of 22 February 2017).

Figure 6: ECB Balance Sheet und Credit Default Swaps of Selected EU-Countries

tainty.<sup>8</sup> They also create incentives for households to incur debt and invest in housing with the danger of creating bubbles and reducing financial stability. Distorted price signals along the entire yield curve translate into an increasing redistribution from savers to borrowers – a phenomenon immediately visible for pension funds and insurance companies, which face declines in their return on assets, and increases in the value of their liabilities due to low interest rates which in turn create further risks. Moreover, loose monetary policies directly affect fiscal policy: governments can delay deficit reduction. The windfall for national budgets from lower interest payments creates an illusion of consolidation with pressure to increase other public spending. In other words, the current monetary policy environment is likely to create moral hazard.

The net effect of the ultra-loose monetary policy environment on fiscal-financial risks is unclear. If moral hazard and negative side effects are small, all the better. If they are strong and lead to higher public debt and a reinforced sovereign-bank nexus, they could aggravate risks for independent monetary policy setting. Tightening monetary conditions might become difficult or impossible if it increases financial stability risks and if it reduces confidence in governments' ability to service their debt. Such fiscal limits on interest rates seem likely and will probably continue to constrain the decisions of the ECB. Given large amounts of QE, there is also a risk of significant central bank losses.

<sup>8</sup> New evidence indicates that the transmission of negative monetary policy rates adversely affects financial stability via the lending behavior of banks (Saidi, Heider and Schepens, 2016). High-deposit banks take on more risk, lending less than low-deposit banks.

## V. Conclusion

Gross general government debt-to-GDP ratios in most advanced economies have reached a post-WWII high. Additional fiscal risks continue to stem from adverse fiscal-financial linkages and population aging. In the event of new economic or political shocks, there is little room for manoeuvre. That is why the current economic environment should be used to advance fiscal consolidation, together with comprehensive structural and financial sector reforms to reduce future fiscal liabilities, to lower the potency of the amplification mechanisms between banks and their sovereigns and to improve future growth potential. These challenges need to be tackled to create a macroeconomic environment that allows a timely normalization of monetary policies.

How can this be achieved in Europe? The necessary institutional mechanisms are all in place but they need to be applied: the Stability and Growth Pact (SGP) and the single rule book with the bail-in and resolution regime for banks.

Unfortunately, incentives for an appropriate implementation of common rules are not in place. Rather an overly politicized Commission has all incentives to avoid political conflict via soft or non-implementation. Over 1995–2015 the country-specific structural balance targets in the SGP were violated in 80 percent of observations with almost two thirds of countries exceeding the targets in every single year (Eyrand et al., 2017). De-politization is particularly crucial in the fiscal sphere. Ottmar Issing, former Board Member and Chief economist of the ECB, described the challenges for enforcement as “sinners judging sinners” incentive problem where the difficulty of improving sanctions increases with the number of (potential) delinquent countries. To address political economy factors within the existing fiscal framework, a number of proposals including the separation of the fiscal policy surveillance from the Commission into an independent agency were made. On bail in and bank resolution the verdict is still out, but the need for avoiding a politicized implementation remains essential to enhance the resilience of EMU.

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