



EURO AREA POLICIES

SELECTED ISSUES

July 2015

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SELECTED ISSUES

July 10, 2015

Approved By
**The European
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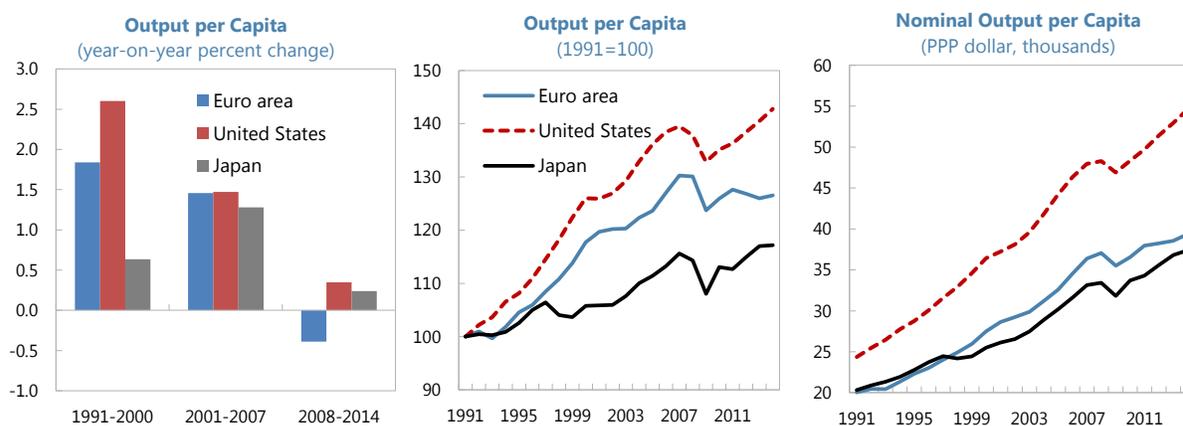
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RISKS FROM LOW GROWTH AND INFLATION IN THE EURO AREA¹

This paper discusses the risks of low growth and inflation over the medium term for the euro area. It examines the consequences of longer-term trends that predate the crisis and the progress made in addressing the crisis legacies of high unemployment and debt. The paper illustrates, in a downside scenario, how low potential growth and crisis legacies leave the euro area vulnerable to the risks of stagnation.

A. Motivation

1. **Since the global financial crisis, growth in output per capita in the euro area has stalled and the gap with the United States has widened.** For the major advanced economies, per-capita growth rates have fallen well below their pre-crisis levels (Figure 1). The decline has been particularly severe for the euro area where output per capita in 2014 was at the same level as in the early 2000s. In PPP terms, nominal GDP per capita in the euro area is now about \$16,000 below that in the United States, the highest gap since the start of EMU (see text charts).

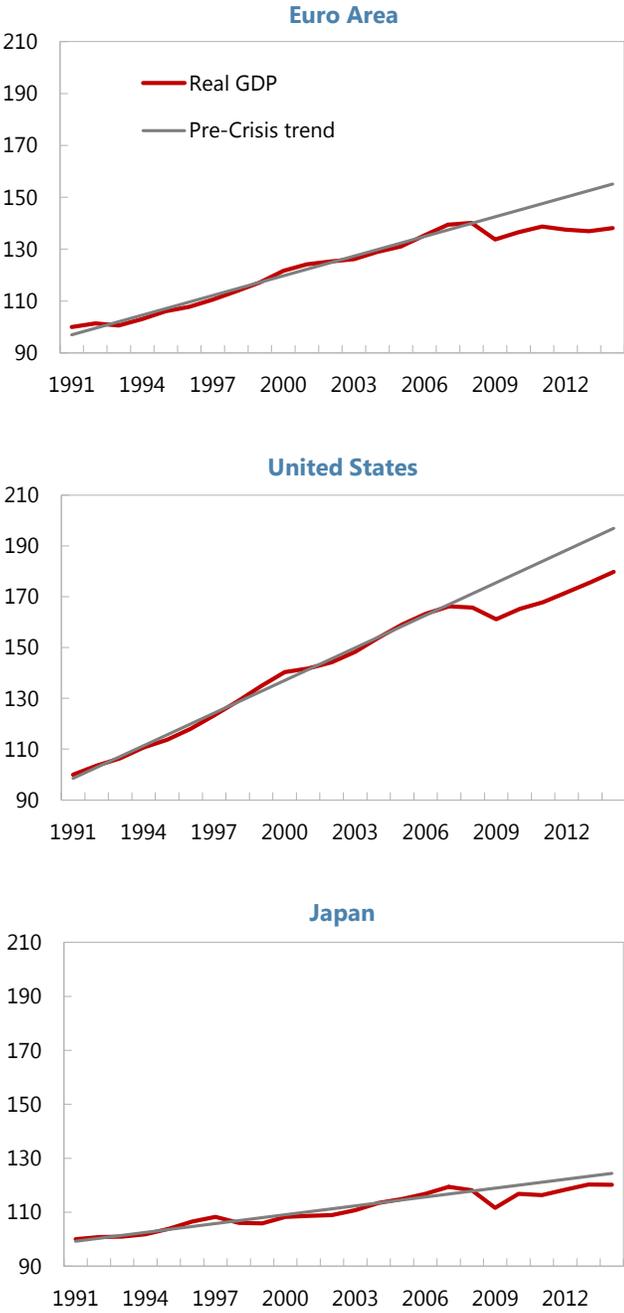


Sources: World Economic Outlook; and IMF staff calculations.

2. **Euro area growth started to decline in the early 2000s.** Recent IMF research (IMF, 2015a) points to potential growth having already slowed in the advanced economies well before the global financial crisis, due mainly to declining total factor productivity (TFP) growth. Studies also suggest that potential growth is likely to increase only slightly and remain below pre-crisis levels in the medium term, due to aging and slow progress in addressing crisis legacies. Indeed, potential output estimates for the major advanced economies have been revised down dramatically since the onset of the crisis (Figure 2, text chart).

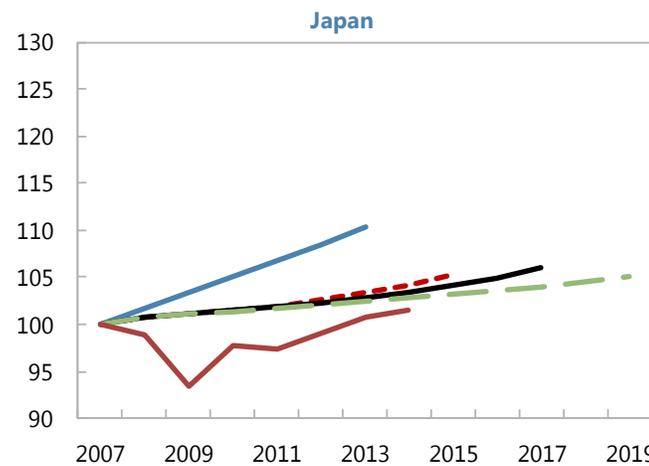
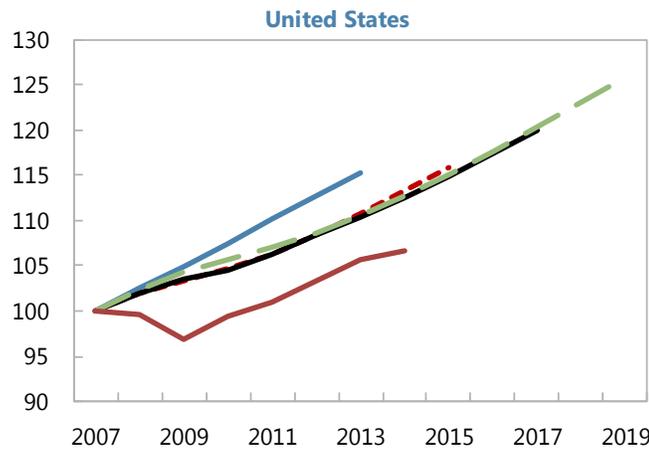
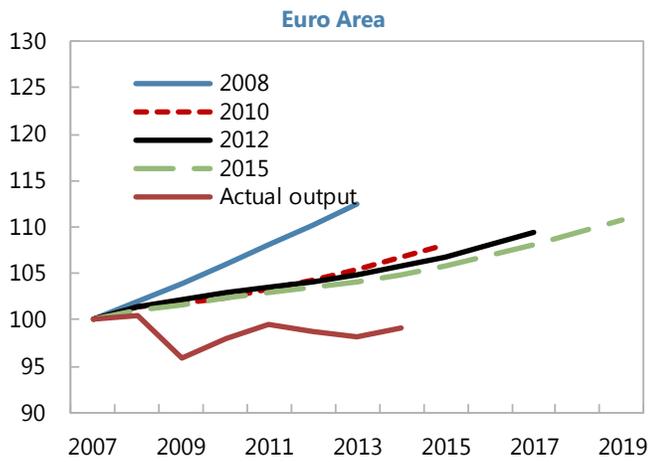
¹ Prepared by Huidan Lin (EUR), with contributions from Benjamin Hunt, Susanna Mursula (both RES) and research support from Jesse Siminitz (EUR).

Figure 1. Actual and Pre-crisis Trend Output
(1991=100)



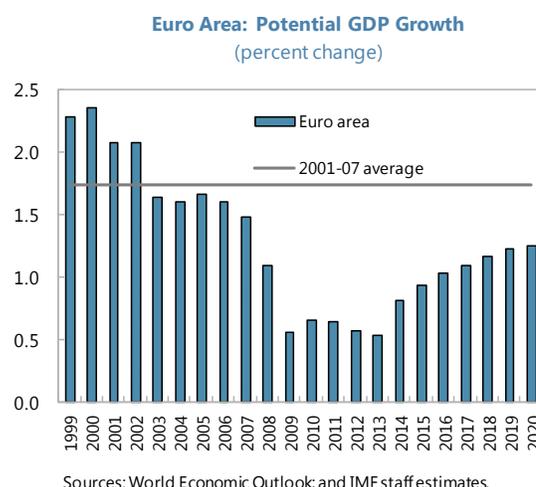
Sources: WEO; and IMF staff calculations.

Figure 2. Actual and Potential Output
(2007=100)



Sources: WEO; and IMF staff calculations.

3. **Low potential growth raises the risks of stagnation.** This is of particular concern given the high levels of unemployment and public and private indebtedness, as well as limited policy space in many countries. A prolonged period of low growth and inflation could exacerbate these weaknesses, leaving the euro area vulnerable to shocks. This paper examines the risks of stagnation for the euro area. Specifically, it asks the following questions: (i) what have been the main drivers of the slowdown in output per capita? (ii) how much progress has been made in addressing the crisis legacies of high unemployment and debt? and (iii) how vulnerable is the euro area to a prolonged slowdown?



B. Output per Capita: Diagnosis and Prospects

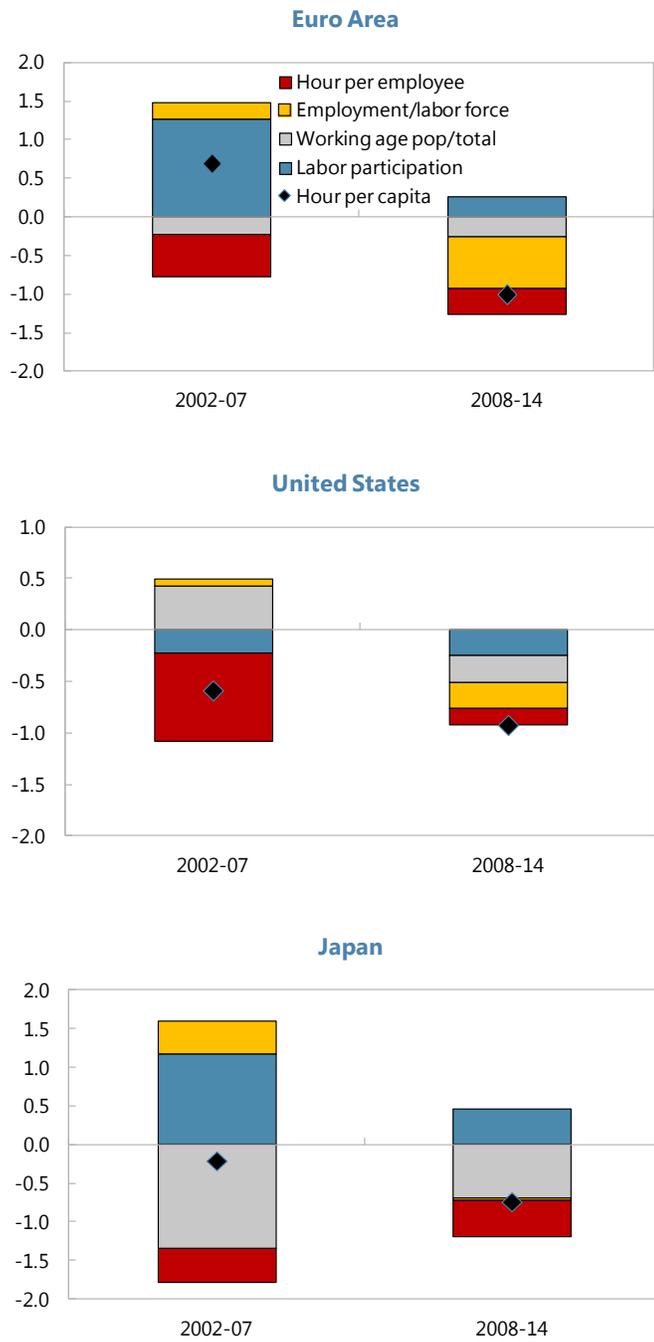
4. **Output per capita can be decomposed into: (i) labor input per capita; (ii) capital per capita; and (iii) total factor productivity.**²

Labor

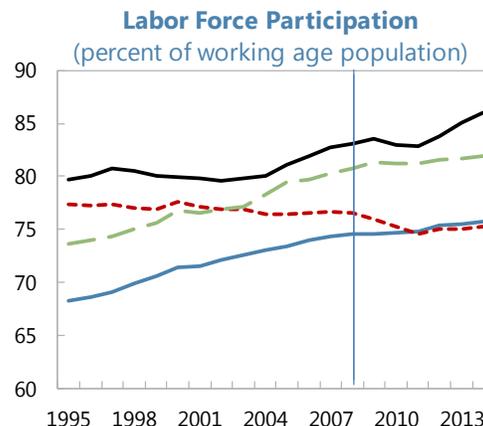
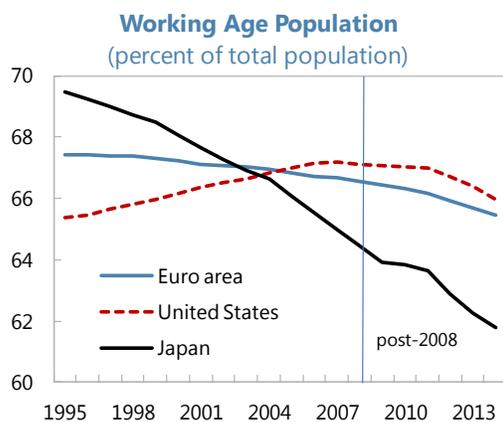
5. **The contribution of labor to per-capita growth turned negative during the crisis.** Before the crisis, the euro area benefited from increasing labor force participation and declining unemployment, which more than offset the shrinking working age population (as a share of total population) (see charts). During the crisis, labor force participation continued to increase but at a slower pace, while the working age population grew more slowly than total population. All of these factors, combined with higher unemployment, led to a decline in total labor inputs for the euro area (Figure 3). Similarly, in the United States and Japan labor inputs also fell during the crisis, but for different reasons. In the United States, the decline in labor force participation was a major driver, while in Japan labor inputs declined due mainly to the shrinking working age population (as a share of total population).

² A decomposition along a Cobb-Douglas specification of the output per capita would be $Y/N = A(K/N)^\alpha(L/N)^{1-\alpha}$, where Y, N, A, K, L, α are output, population, TFP, capital stock, labor input (in hours), and labor share, respectively.

Figure 3. Contribution to Growth in Hours Worked per Capita
(annualized average, percentage point)



Sources: European Commission AMECO; and IMF staff calculations.

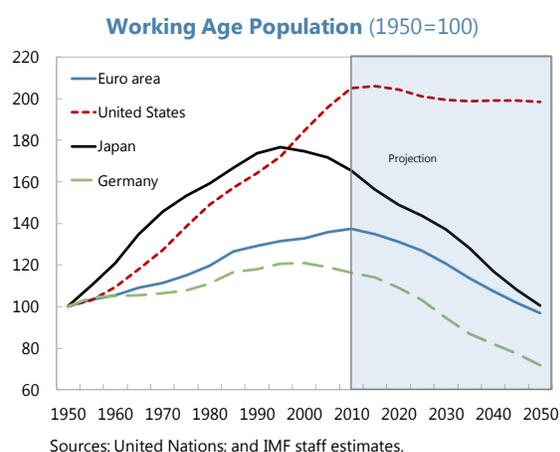


Sources: AMECO; and IMF staff calculations.

6. Aging is expected to hold

employment growth below pre-crisis levels.

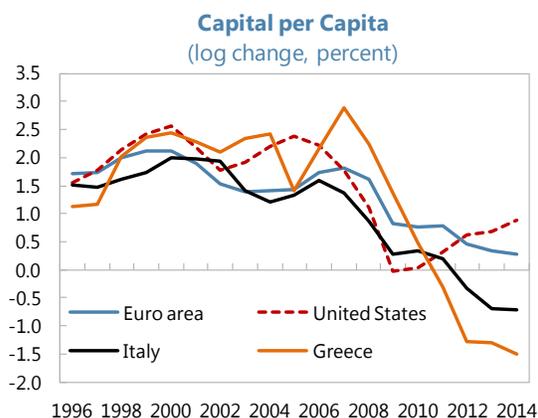
Working age population growth is likely to decline significantly in most advanced economies, particularly in Germany and Japan, where it will fall to -0.2 percent annually by 2020 (see chart).³ Aging will also reduce labor participation rates, offsetting the positive contribution of population growth to overall labor supply. The net effect is little expansion in the labor force over the medium term, compared to growth of about $\frac{1}{4}$ percent during crisis and $\frac{3}{4}$ percent during 2002–07 (IMF, 2015a). Raising employment growth above the pre-crisis levels can then be achieved only through a significant reduction in structural unemployment (see Section C).



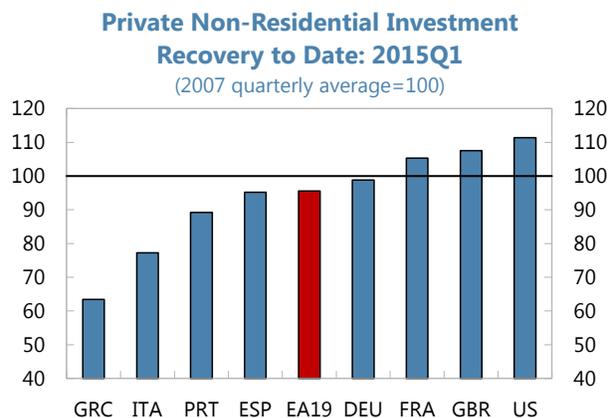
Capital

7. **The slowdown in capital accumulation accelerated during the crisis.** While the United States saw a larger decline in capital accumulation during the global financial crisis, investment has since picked up while in the euro area it continues to decline. The decline was particularly sharp in countries such as Greece and Italy (see charts).

³ In the case of Germany, this decline could be partly offset by continued net immigration (IMF, 2015a).

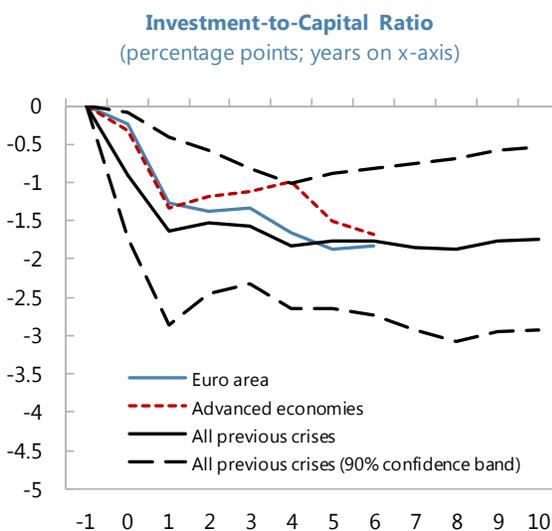


Sources: AMECO; WEO; and IMF staff calculations.



Sources: Eurostat; and IMF staff calculations.

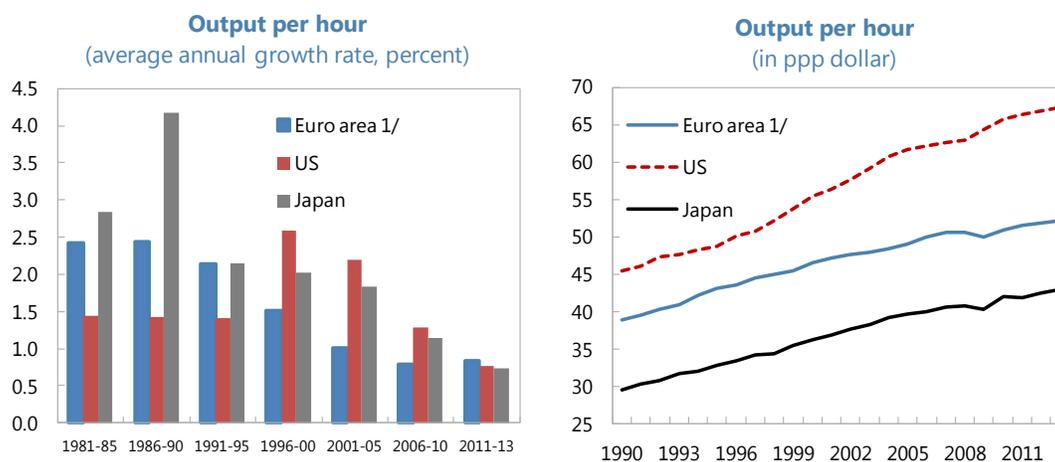
8. **Capital accumulation is likely to remain below pre-crisis levels over the medium term.** The ratio of investment-to-capital (I/K) has fallen significantly since the onset of the crisis, reflecting the weak economic recovery (see chart). This decline is broadly in line with experience from past financial crises, which suggests the I/K and hence capital stock growth will remain below pre-crisis levels for some time (IMF, 2015a). Country circumstances vary, but even for the United States where capital per capita growth has recovered partially, a complete recovery is likely to take a decade or more (Hall, 2014).



Sources: IMF (2015a) based on Laeven and Valencia (2014); euro area data from AMECO; and IMF staff calculations.

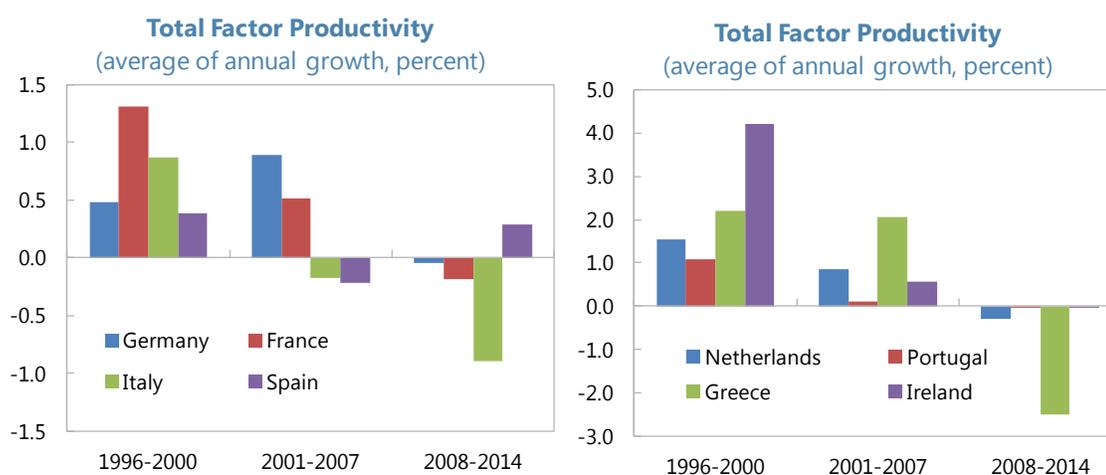
Total factor productivity

9. **Labor productivity began to slow before the crisis, due to declining TFP growth.** Labor productivity in the euro area (measured as output per hour worked) had grown steadily faster than in the United States until the mid-1990s, which helped narrow the productivity gap. Since the mid-1990s, the patterns of productivity growth between these two blocks changed dramatically as euro area productivity growth fell consistently below that of the United States until the onset of the crisis. As a result, the labor productivity gap between the euro area and the United States started widening again in the early 2000s. Empirical studies suggest that the widening gap between the euro area and the United States is driven mainly by slower TFP growth (see, e.g., van Ark and others, 2008). Indeed, within the euro area, TFP growth has slowed across most economies, and has been negative for Italy since the early 2000s and for Greece and a few other countries during the crisis (see charts).



Sources: The Conference Board *Total Economy Database*, January 2014; and IMF staff calculations.

¹ Based on 14 countries in the euro area, due to data availability.



Sources: European Commission AMECO; and IMF staff calculations.

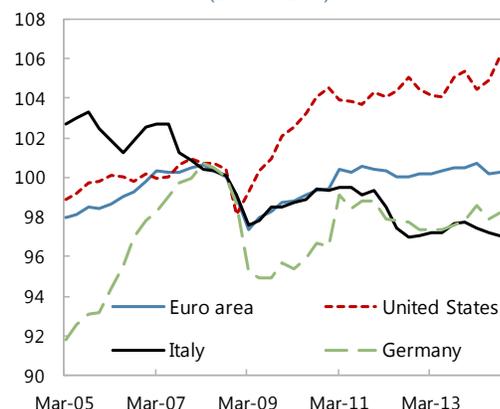
10. **Service sector productivity has led the decline.** Lower productivity growth in service sectors, especially due to slower adoption and diffusion of information and communications technology (ICT), is found to be an important factor in explaining the slowdown in TFP growth in Europe since the mid-1990s (van Ark and others, 2008; Dabla-Norris and others, 2015). Reversing the productivity slowdown in service sectors is therefore essential to raising TFP growth. However, unlike the United States where service sector productivity has picked up and surpassed its pre-crisis peak, it is growing only very gradually in the euro area and remains well below its pre-crisis peak in countries such as Germany and Italy (see chart).

11. **Looking forward, overall productivity growth in the euro area is likely to remain weak.** First, TFP growth in the United States is likely to slow as growth in ICT-producing sectors already started to decline prior to the crisis (Fernald, 2014), leading some to conclude that the productivity frontier is likely to expand less quickly (Gordon, 2012). This slowdown in expansion of the productivity frontier in the United States is likely to spill over to the rest of the world (IMF,

2015a). Second, although convergence is still possible, adopting and promoting innovations requires flexibility and adaptability, and the slow progress in addressing structural gaps in the euro area may delay the diffusion of technology.

12. **To sum up, potential growth in the euro area is expected to be subdued,** rising only slightly from 0.7 percent during 2008–14 to about 1.1 percent during 2015–20, significantly lower than the 1999–2007 average of 1.9 percent. In addition to low potential growth; the slow progress in addressing crisis legacies is also likely to weigh on aggregate demand.

Service Sector Productivity
(2008 = 100)

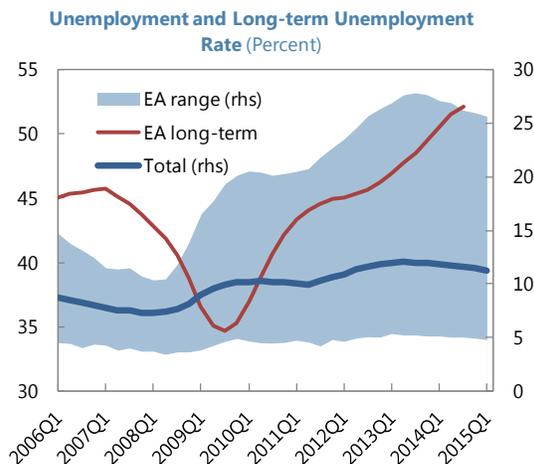
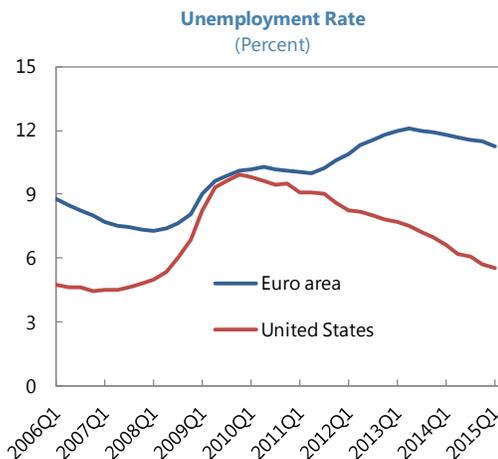


Sources: Eurostat; national statistics offices; Bureau of Labor Statistics; and IMF staff calculations.
Note: Euro area service sector covers travel, trade, accommodation & food, information & communication, finance and insurance, real estate, professional, science & technology; and for the United States trade, transportation & warehousing, information, finance, insurance, real estate, rental and leasing.

C. Crisis Legacies: Progress and Prospects

High unemployment

13. **The euro area unemployment rate remains high, especially for youth and the long-term jobless, raising the risks of hysteresis.** Despite recent improvements, the unemployment rate remains above 11 percent in the euro area, and near 25 percent in Greece and Spain (see charts). The share of long-term unemployed continues to increase, raising the risks of skill erosion and entrenched high unemployment. High youth unemployment could also damage potential human capital, and give rise to a “lost generation.” While weak demand plays a major role, more spending on active labor market policies would help increase employment opportunities, especially for the young (Banerji and others, 2014).



Sources: Eurostat; and IMF staff calculations.

14. **High unemployment is likely to persist for some time.** Looking at some key euro area countries, the natural rate of unemployment (non-accelerating inflation rate of unemployment or NAIRU) is projected to remain higher than during the crisis in Italy, and at the crisis level in France over the medium term (WEO database, April 2015). While the NAIRU is expected to decline significantly from unprecedented levels in Spain, it would still remain above 15 percent

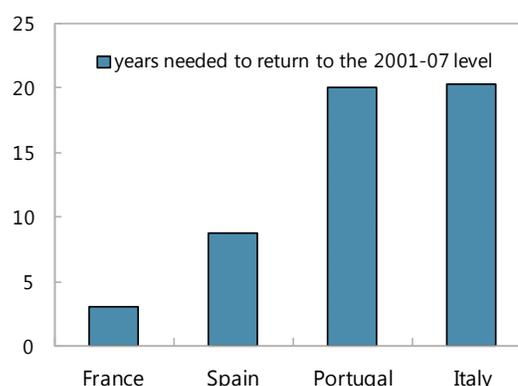
over the medium term. Based on historical Okun's law relationships, staff estimates suggest that, without a significant pick-up in growth, it would take Spain nearly 10 years, and Portugal and Italy nearly 20 years, to reduce the unemployment rate to pre-crisis levels (see chart).

High debt

15. **Deleveraging is holding back spending.**

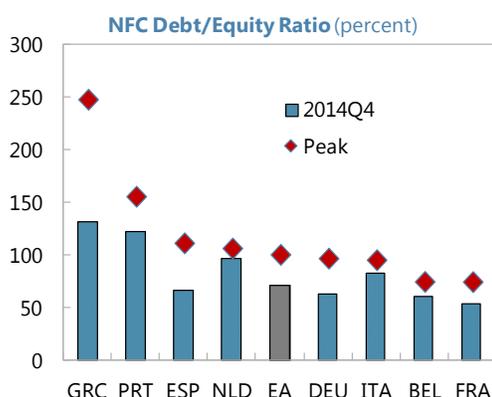
Private sector deleveraging is underway, with corporate debt-to-equity ratios falling in most euro area countries, supported by a continuous build-up in financial surpluses to pay down debt (see charts). Spain and Ireland stand out among the countries that have gone through a relatively strong reduction in non-financial corporate (NFC) debt-to-GDP ratios. In the case of Spain, the NFCs' debt reduction of nearly 20 percentage points from the peak has been driven mainly by declining corporate borrowing and debt repayment through asset sales (IMF, 2015b). The adjustment in net lending flows was accompanied by a fall in investment, a sharp increase in savings, and a significant reduction in employment (see chart; Murphy, 2014).⁴ A recent study by the European Commission (Pontuch, 2014) also finds that the fall in corporate and household debt-to-GDP ratios has been increasingly driven by negative credit flows with adverse knock-on effects on economic activity.

Reducing Unemployment



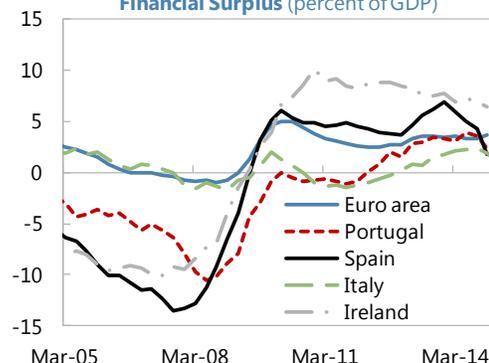
Sources: WEO; and IMF staff calculations.

Note: Okun's coefficient based on Ball and others (2014) is 0.9, 0.4, 0.3, and 0.3 for Spain, France, Italy, and Portugal, respectively. Total cumulative growth needed is calculated as the total reduction in the unemployment rate needed to reach the 2001-07 average rate divided by the country-specific Okun's coefficient. The number of years needed is then calculated as the total cumulative growth needed divided by the average growth rate over 2015-19 in the WEO baseline.



Sources: Haver Analytics; and IMF staff calculations.
Note: Non-consolidated; debt defined as loans and debt securities excluding financial derivatives.

Non-Financial Corporate and Household Financial Surplus (percent of GDP)

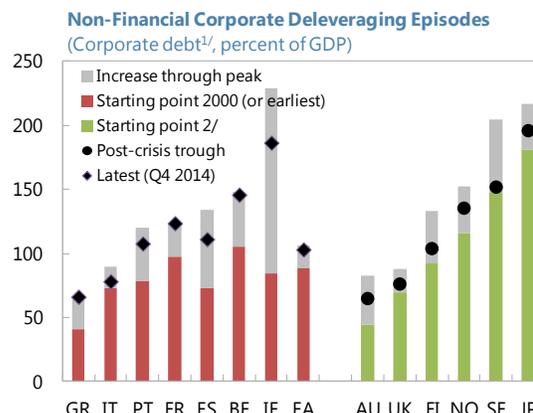


Sources: ECB; Eurostat; and IMF staff calculations.

⁴ The deleveraging process of NFCs has been uneven within the economy. Debt reductions have been more intense in the construction/real estate sector than in other sectors, and by SMEs rather than by large firms. More generally, the decline in debt, investment, and employment has been (appropriately) more acute in those sectors that were more leveraged before the crisis (Mendez and Menendez, 2013).



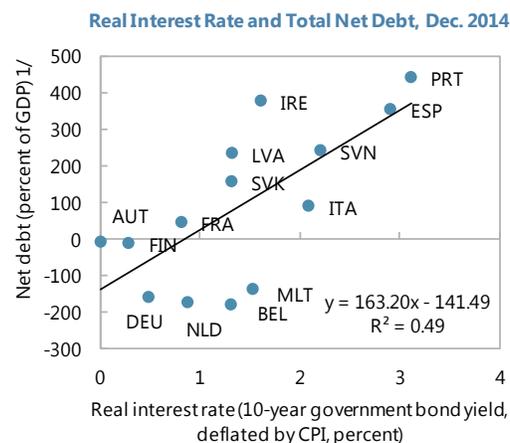
Sources: Haver Analytics; and IMF staff calculations.
 Note: Non-consolidated; debt defined as loans and debt securities excluding financial derivatives.



Sources: updated from Bornhorst and Ruiz-Arranz (2013).
¹ Non-consolidated; ESA2010 for euro area countries.
² Historic episodes: JP 89-97, UK 90-96, AU 88-96, FI 93-96, NO 00-05, SE 01-04.

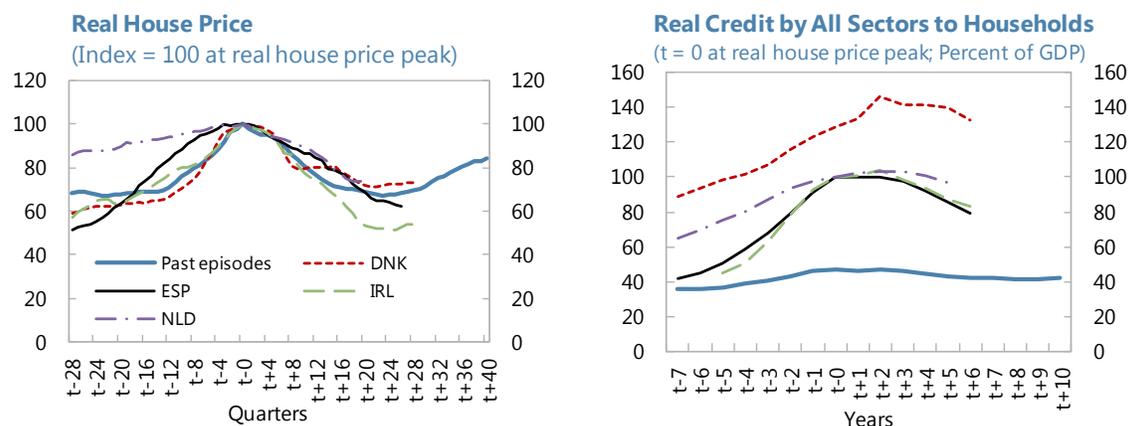
16. **The pressures for further corporate deleveraging will likely remain high in a number of countries.** IMF research (Bornhorst and Ruiz-Arranz, 2013) finds that, based on past episodes of significant corporate deleveraging, on average two-thirds of the increase in debt is subsequently reduced. If current deleveraging in the euro area follows a similar path, it would imply still sizable deleveraging needs for firms in a number of countries, and a significant headwind for investment recovery (see chart).⁵ Barkbu and others (2015) find that in addition to weak demand, expectations of low future growth and continued deleveraging also contributed to the investment decline during the crisis. On the other hand, in countries where the recovery has been relatively firm (such as Spain), more deleveraging will be facilitated by increases in nominal output, reducing the burden on spending.

17. **Following a large housing boom-bust cycle, households in some countries also suffer from high debt.** After five to seven years of adjustment, housing prices seem to be nearing a trough, similar to past episodes of house price declines (IMF, 2015c). However, domestic demand has been much weaker in the current episode than in the past. This is possibly due to higher household debt both at the peak and a large increase in debt during the boom (IMF, 2015b). Although household debt-to-GDP ratios have come down by 10-20 percentage points in countries with high household debt, they remain significantly above their pre-boom levels, raising the risks that the debt overhang will continue to weigh on spending for some time (see charts).



Sources: Eurostat; and IMF staff calculations.

⁵ For instance, if two-thirds of the accumulated debt were to be reduced, it would imply a further reduction of nine percentage points of GDP for the euro area as a whole.



Source: Box 1 in IMF (2015c).

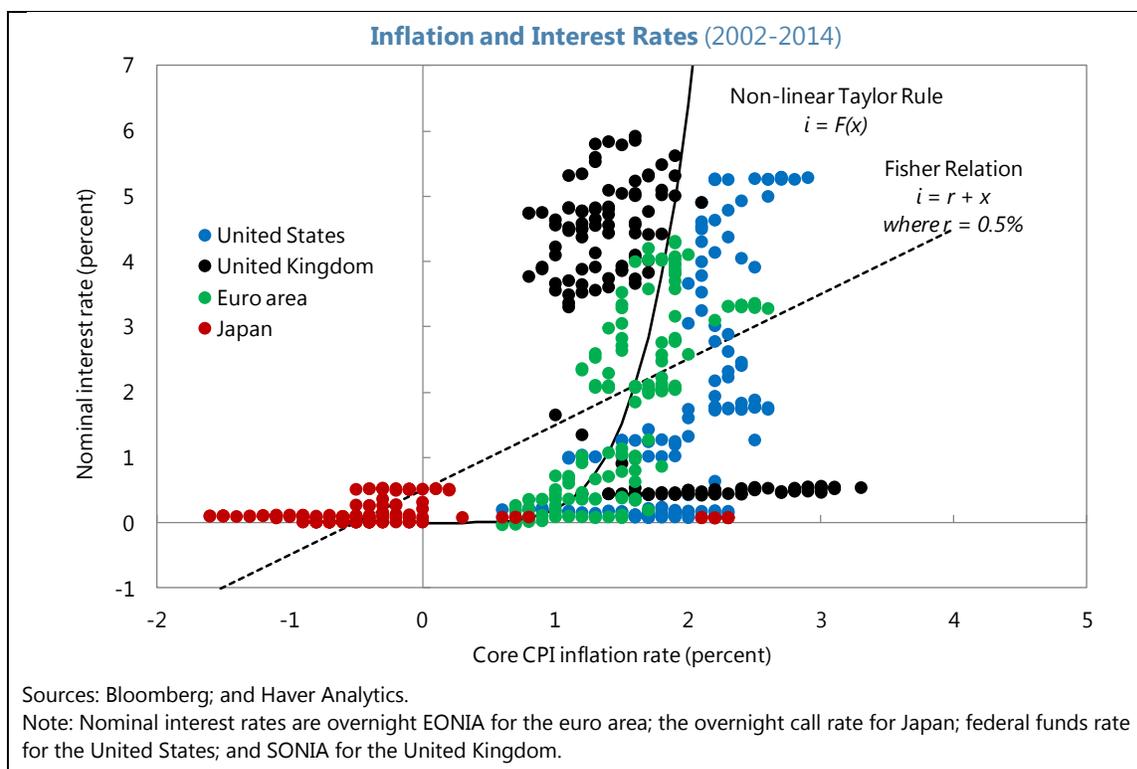
D. An Illustrative Downside Scenario⁶

18. **Notwithstanding the cyclical upturn and positive impact of past structural reforms, staff projects subdued growth and inflation over the medium term.** This baseline reflects the impact of long-standing structural weaknesses that lower potential growth, as well as high unemployment, heavy real debt burdens, and weak balance sheets that continue to suppress demand. These factors are also intertwined: lower potential growth makes it harder to reduce debt, while high unemployment and low investment due to the debt overhang delay capital accumulation, lowering potential growth.

19. **This leaves the euro area susceptible to negative shocks, which combined with limited policy space, could push the economy into stagnation.** In particular, shocks that dampen confidence about future prospects for a solid recovery could push the economy into a bad equilibrium of prolonged low growth and inflation. In such a situation, policy space in the euro area is limited, apart from unconventional monetary policy. The policy rate cannot be lowered further below zero (Bullard, 2013). And fiscal policy is constrained to provide stimulus to raise inflation rate. Without these tools, a negative shock could push the euro area into a self-reinforcing low growth-low inflation equilibrium similar to Japan's situation (see chart).

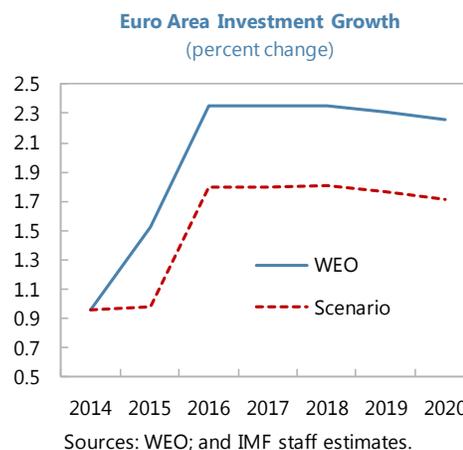
20. **Unaddressed crisis legacies could amplify shocks through various channels.** For instance, markets could take a disproportionately negative view of countries with higher debt, leading to greater increases in borrowing costs and raising the chance of a debt-deflation spiral. Low inflation could also hinder the unwinding of external imbalances in countries with a large output gap by making it harder for real prices and wages to fall or by forcing countries to adjust through painful cuts in nominal wages, prices and/or employment.

⁶ Simulations are provided by B. Hunt and S. Mursula (both RES).



21. **To highlight some of these channels, two illustrative simulations are considered.** In these scenarios, unconventional monetary policy is assumed to have reached its limit. Instead, the policy responses rely only on conventional monetary policy and fiscal policy. However, due to the zero lower bound and limited fiscal space, in response to shocks monetary policy cannot be eased further and fiscal policy cannot provide stimulus beyond the operation of automatic stabilizers. The simulations were conducted using the Flexible System of Global Models (FSGM) in coordination with the IMF's Research Department.⁷

Simulation outcomes are measured against the April 2015 WEO baseline. In this baseline, growth is projected to rise from 1.5 percent this year to 1.6 percent next year, and stay at this level throughout the medium term. Given the still large output gap (-2.3 percent of potential GDP), inflation is expected to remain low, close to zero this year, before rising to one percent next year and to 1.7 percent over the medium term. The output gap is expected to close around 2020.

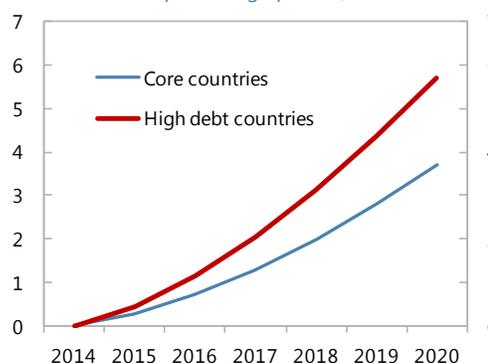


⁷ FSGM comprises three core models (G20MOD, EUROMOD, and EMERGMOD), each of which captures the global economy. FSGM is semi-structural with a single good, but private consumption and investment are structural (micro-founded); trade, labor supply and inflation are reduced form representations; supply is determined by an aggregate Cobb-Douglas production function; and monetary and fiscal policies are endogenously set with simple rules (Andrle and others, 2015).

22. **Model simulations first consider a shock to real private sector investment.** Such a shock could be triggered by a sudden drop in investor confidence (for instance, due to the intensification of geopolitical tensions, or lower expected future output) that reduces equity prices and private investment demand so that the euro area countries' investment growth is cut by one-fourth relative to baseline projections—equivalent to a half-percentage-point reduction per year or three percent cumulatively over the medium term (about half of the decline in euro area business investment during 2007–14.)

23. **The investment shock would lower output by around 1¼ percent below the baseline by 2020** (Figure 4). The declines in output are broadly similar across all euro area countries, except for Greece and Ireland where the drop in investment growth is significantly greater compared to the baseline. The impulse from lower investment growth to aggregate demand comes from the traditional knock-on effect to households via labor income and wealth effects. In response, inflation expectations and inflation fall, and financial conditions tighten, with real corporate interest rates higher by 65 basis points in 2020. In addition, weaker domestic demand depresses imports, while higher real interest rates lower competitiveness. On balance, the current account improves by 0.4 percentage points of GDP by 2020. The output gap would widen by nearly one percentage point, as potential growth is reduced slightly due to slower investment growth and capital stock accumulation.

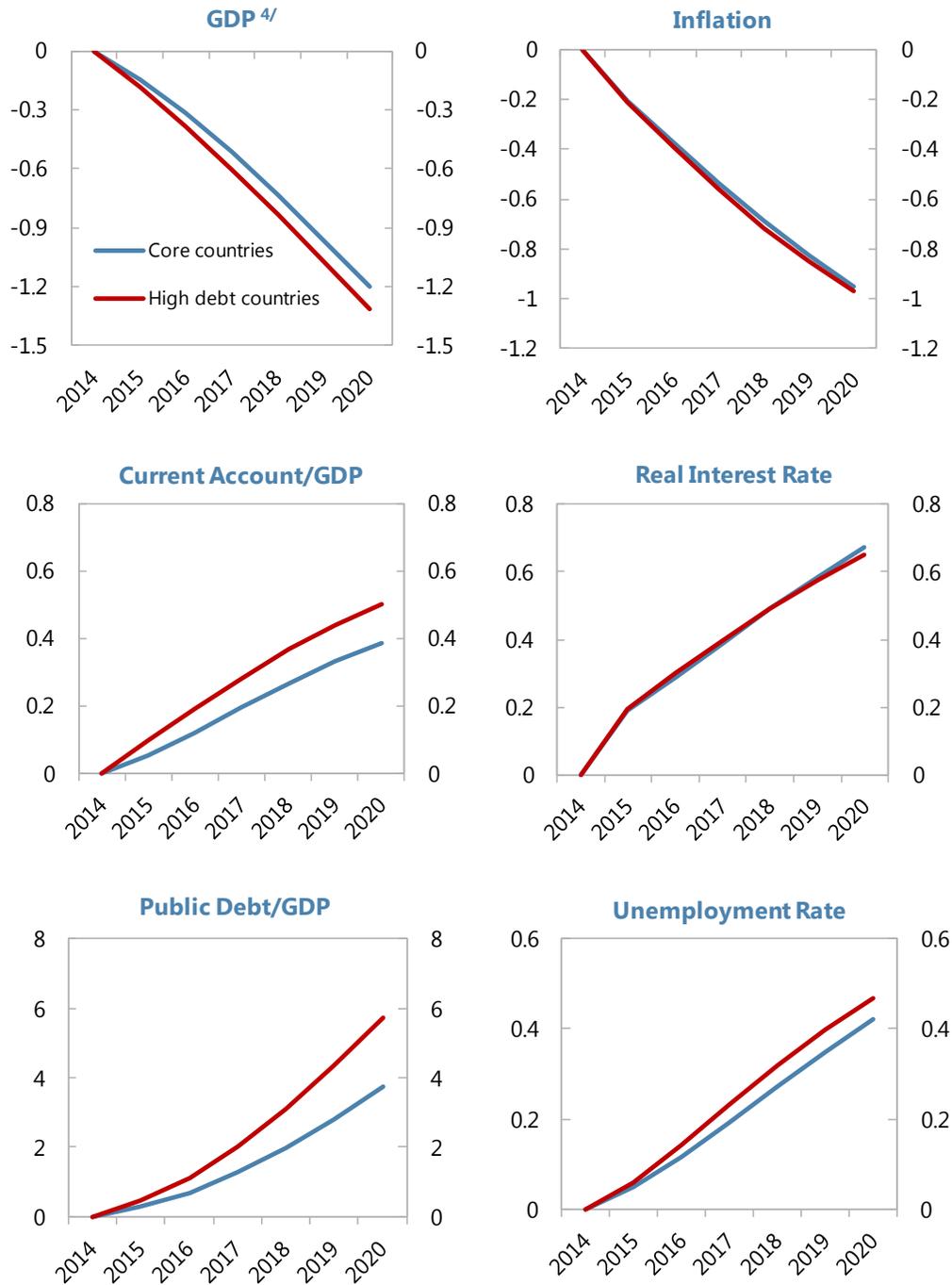
Simulation Results: Public Debt/GDP
(deviation from April 2015 WEO,
percentage points)



Source: IMF staff estimates.

24. **The public debt-to-GDP ratio would rise (by 4½ percentage points) reflecting larger overall deficits and lower nominal output.** The increase varies across countries, with highly indebted countries seeing larger increases: Greece (+12 percentage points), Italy (+5½), Portugal (+5¾) and Spain (+5¼). The more the public debt ratio increases, the greater are market concerns about debt sustainability. The model thus adds a second shock—an increase of 100 basis points in sovereign and corporate risk premia to capture the impact of high levels of debt in Greece, Italy, Ireland, Portugal, and Spain. As a benchmark, this magnitude is similar to the increase in Spanish 10-year sovereign bond yields during late June-July of 2012.

Figure 4. Simulation Results: Investment Shock ^{1 2}
(deviation from baseline³)



Sources: and IMF staff estimates.

¹ Core countries: Austria, Belgium, Finland, Germany, France, and Netherlands; High debt countries: Greece, Ireland, Italy, Portugal, and Spain.

² Investment shock: Private investment is cut by one-fourth of baseline average growth of total investment during 2015–19.

³ In percentage points, unless noted otherwise.

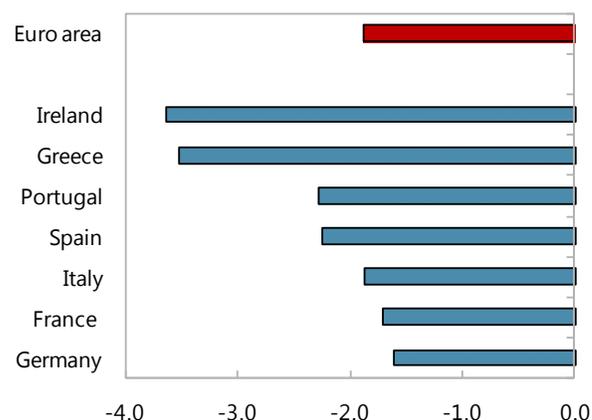
⁴ In percent.

25. **With an additional risk premium shock, the output loss would increase to nearly two percent by 2020, compared to the baseline** (Figure 5, Table 1, text chart). The output gap would widen by around 1¼ percentage points by 2020 and it would take an additional three to four years to close, compared to the baseline. With no policy response, negative shocks would push the euro area back into recession. The key results are:

- *Financial fragmentation.* While the risk premium in highly indebted countries is raised by 100 basis points by design with this shock, the real corporate interest rate would increase by 200 basis points in these countries, reflecting lower inflation.
- *Unemployment.* The unemployment rate would be higher by 0.6–1.2 percentage points. This is likely a lower-bound estimate as the model does not fully incorporate nominal wage rigidities. Nominal wage inflation is expected to decline by around 1.5 percentage points for the euro area with some cross-country variations. If nominal wage rigidities are fully present, employment would have to adjust more in countries with modest baseline wage growth.
- *Public debt dynamics.* The public debt-to-GDP ratio would also rise more in these countries (Greece: +17 percentage points; Italy and Portugal: +9; Spain: +8), due to larger declines in the fiscal balance and nominal GDP, compared to an average increase of 5¼ percentage points in the core countries.
- *Bad rebalancing.* Current account balances would improve in both surplus and deficit countries, with increases of around 0.7 percentage points in Germany and the Netherlands, and 2 and 0.7 percentage points in Greece and Portugal, respectively.

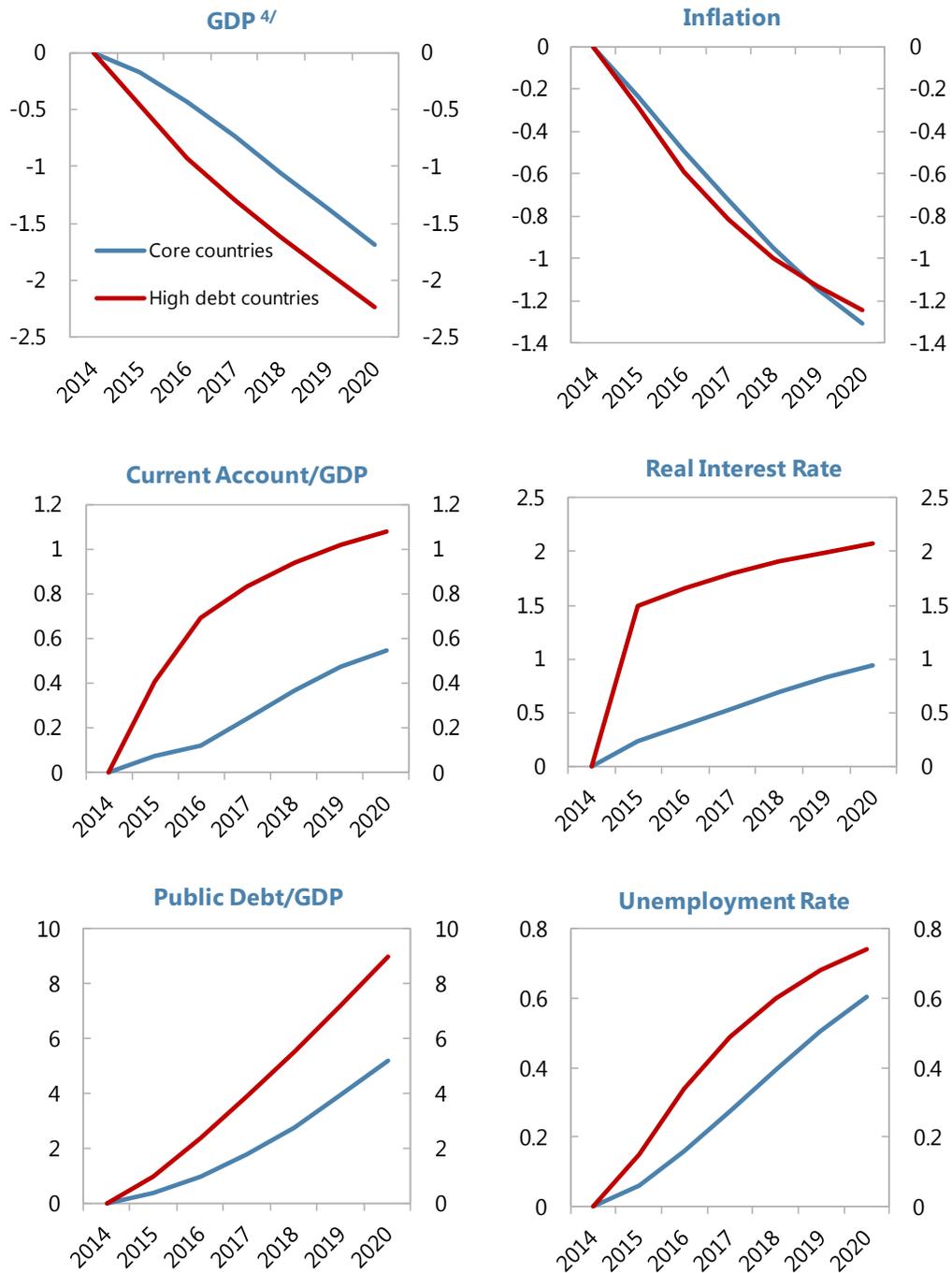
26. **Both scenarios highlight the potential for moderate shocks to push the euro area into a bad low growth-inflation equilibrium.** In addition to lower output, inflation would also fall close to zero through the medium term, as a result of the wider output gap. Low inflation could lead to debt-deflation dynamics. While not fully captured by the scenarios in this paper, debt-deflation-like dynamics could occur in countries with high public or private debt levels. This would further depress demand because low inflation or deflation redistributes wealth from debtors to creditors, pushing down the economy-wide propensity to consume. It would also delay the much-needed recovery in business investment and capital stock accumulation which in turn lowers potential growth, and generate a feedback loop that lowers expected future growth (see, e.g., Barkbu and others, 2015; Kalemli-Ozcan and others, 2015).

Simulation Results: Impact on GDP
(by 2020, deviation from baseline, percent)



Source: IMF staff estimates.

Figure 5. Simulation Results: Investment and Risk Premium Shock^{1 2}
(deviation from baseline³)



Sources: and IMF staff estimates.

¹ Core countries: Austria, Belgium, Finland, Germany, France, and Netherlands; High debt countries: Greece, Ireland, Italy, Portugal, and Spain.

² Investment shock: Private investment is cut by one-fourth of baseline average growth of total investment during 2015–19; Risk premium shock: sovereign and corporate risk premium increases by 100 basis points in Greece, Ireland, Italy, Portugal and Spain.

³ In percentage points, unless noted otherwise.

⁴ In percent.

27. **Low inflation would reverse rebalancing within the euro area.** Model results suggest that current account balances would improve in response to these shocks, but the improvement would reflect mainly import compression. Moreover, low inflation for the euro area as a whole would require deflation for the countries that need to achieve relative price adjustment and redress their loss of competitiveness against the surplus countries. Combined with downward nominal wage rigidities, this would imply more labor shedding, adding to an already severe high unemployment problem. Downward nominal wage rigidities and the feedback loop of low inflation are not directly built in the scenarios, suggesting the impact on output would likely be worse.

E. Concluding Remarks

28. **The weak medium-term prospect and limited policy space leave the euro area vulnerable to shocks that could lead to a prolonged period of low growth and inflation.** Model simulations suggest that a modest shock to investor confidence could push up risk premia and real interest rates, as policy space is constrained at the zero lower bound and fiscal policy space to provide stimulus is limited. Moreover, the lingering crisis legacies of high debt and unemployment could amplify the original shocks, creating a bad feedback loop and keeping the economy stuck in an equilibrium of stagnation.

29. **Insuring against the risks of stagnation would require addressing both longer-term structural issues and crisis legacies.** This suggests continued monetary accommodation to lift demand and inflation expectations, while strengthening bank and corporate balance sheets to enhance the effectiveness of monetary transmission. To permanently raise productivity, reforms should aim to address structural gaps in labor, product, and capital markets. To mitigate the impact of aging, policies should look to raise labor participation.

Table 1. Results From An Illustrative Downside Scenario¹

Economy	Real GDP	Inflation ^{2/}	Real Investment	Real Exports	Real Imports	Current Account ^{2/}	Real Corporate Interest Rate ^{2/}	Real Competitiveness Index ^{3/}
Germany	-1.6	-1.3	-2.0	-2.3	-2.3	0.6	1.0	1.3
France	-1.7	-1.2	-6.6	-2.2	-3.2	0.6	0.9	1.0
Italy	-1.9	-1.2	-6.5	-1.9	-3.1	0.6	2.1	0.5
Spain	-2.2	-1.2	-8.7	-2.6	-4.0	1.0	2.1	1.0
Greece	-3.5	-1.2	-16.5	-1.8	-7.2	2.0	2.0	0.4
Ireland	-3.6	-1.5	-17.5	-4.9	-3.6	4.9	2.3	6.0
Portugal	-2.3	-1.2	-7.7	-2.6	-3.7	0.7	2.0	0.5
Euro area	-1.9	-1.3	-7.1	-2.3	-3.0	0.7	1.3	1.0

Sources: IMF staff estimates.

¹ Percent deviation from the April 2015 WEO baseline for 2020, unless noted otherwise.

² Percentage point deviation from the April 2015 WEO baseline for 2020.

³ Measured by percent changes in REER relative to the April 2015 WEO baseline for 2020, where negative indicates real depreciation.

Note: This scenario contains two. Investment shock: Private investment is cut by one-fourth of baseline average growth of total investment during 2015–19; Risk premium shock: sovereign and corporate risk premium increases by 100 basis points in Greece, Ireland, Italy, Portugal and Spain.

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AN EARLY ASSESSMENT OF QUANTITATIVE EASING¹

Following a series of easing measures, the ECB announced a sovereign asset purchase program in January 2015. Since its start, sovereign QE has had a positive effect on financial conditions and inflation expectations. Its impact on the real economy will take more time and is likely to depend on supportive steps to strengthen bank and corporate balance sheets. Other steps to strengthen its effectiveness include increasing the flexibility for substitute purchases and asset eligibility and harmonizing the terms of securities lending by the Eurosystem to ensure smooth market-functioning.

A. Introduction

1. **The ECB has taken a series of easing steps since mid-2014.** These include a negative deposit facility rate and targeted longer-term refinancing operations (TLTROs) to support new lending. In September 2014, the ECB announced a private asset purchase program comprising asset-backed securities (ABS) and covered bonds (ABSPP and CBPP3) and began purchases in 2014Q4 to directly lower private borrowing costs. While private asset purchases have had a significant price impact, they fell short of reversing the contraction of the ECB's balance sheet and the trend decline in inflation expectations.
2. **In January 2015, the ECB announced the addition of sovereign assets to its asset purchase programs** (Annex 2 and Figure 4). The expanded asset purchase program (APP) is effectively open-ended and was larger than expected. The scale of additional sovereign asset purchases (about €840 billion in market value terms² under the *Public Asset Purchase Programme* (PSPP) signaled a substantial expansion of the ECB's balance sheet. This underscored the ECB's commitment to meet its price stability mandate and helped anchor inflation expectations. Since the start of sovereign QE in March 2015, the ECB has expanded its balance sheet by almost 19 percent (as of June 30). Combined purchases of public sector securities, covered bonds and asset-backed securities under the APP amount to €297 billion, with the split heavily skewed towards sovereign assets (€194 billion, Figure 4).
3. **The ECB also took steps to strengthen transparency and communications.** Starting in 2014, the ECB extended its staff projection horizon by one year to better guide market expectations and began publishing accounts of monetary policy meetings. This, with the ECB's regular press conferences after monetary policy meetings has increased transparency regarding the Governing Council (GC)'s view. In March 2015, the GC clarified its intention (i) to continue the purchases until it sees a sustained adjustment in the path of inflation and at least until September 2016; and (ii) to concentrate on trends in inflation, looking through transient factors that do not affect the medium-term outlook for price stability. In June, the GC reiterated the importance of fully implementing QE

¹ Prepared by S. Pelin Berkmen and Andreas (Andy) Jobst, with contributions from Benjamin Hunt, Suzanna Mursula, Dirk Muir (all RES) and research support from Jesse Siminitz.

² This implies a *nominal* volume of asset purchases of €672 billion at current market prices (as of end-April 2015).

and was unanimous in its intent to “look through” the recent bond market volatility, unless financial conditions endanger medium-term price stability.

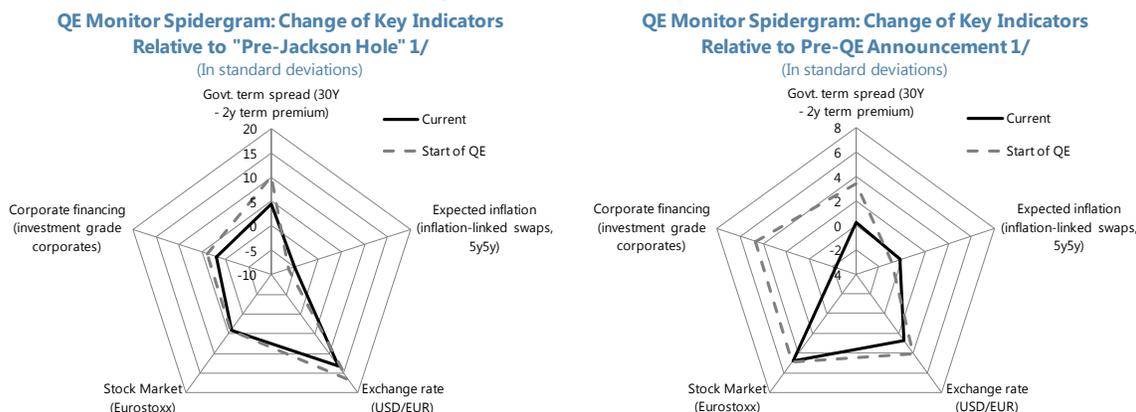
4. **This paper assesses the effectiveness and implementation of QE to date.** The next section (Section B) explores transmission channels and their impact on macro-financial conditions. Section C presents a simulation examining the impact of a further decline of the exchange rate, improved credit conditions, and higher inflation expectations; and their spillover effects to the rest of the world. Section D examines the design and implementation of asset purchases and explores their influence on the effectiveness of QE. Section E concludes with policy recommendations.

B. QE’s Transmission Channels and Initial Assessment

6. **The ECB’s QE had an immediate impact on financial conditions and expectations.** The initial market impact was stronger and broader than expected, with higher inflation expectations (expectations channel), lower term spreads across the euro area (portfolio rebalancing and signaling channels), a weaker euro (exchange rate channel), higher equity prices (asset price channel), an improvement in consumer and business confidence (broader confidence channel), and easier lending conditions (credit channel). While the recent surge in bond market volatility has unwound some earlier gains in asset prices, financial conditions are still easier than before.

7. **The full impact on the real economy will take time to materialize.** International experience with QE suggests that peak effects on growth could take between two to eight quarters and on inflation between three to 16 quarters (IMF, 2013b). Engen and others (2015) estimate that the response of unemployment and inflation to the Fed’s QE policies since early 2009 peaks in 2015 and 2016, respectively. In particular, a credit recovery typically takes more time, especially if banks’ asset quality is still weak (IMF, 2015).

Figure 1. Monitoring the Aggregate Effect of Sovereign QE (Financial Sector)
(as of June 22, 2015)



Sources: Bloomberg; and Fund staff calculations.
Note: 1/ Indicator variables are normalized between Aug. 22, 2013 and Aug 21, 2014 ("Jackson Hole" speech). The sign of the unit of measure (standard deviations) is reversed in cases where a negative change in the indicator implies a positive economic effect. Thus, the greater the area covered by the spidergram the

Sources: Bloomberg; and Fund staff calculations.
Note: 1/ Indicator variables are normalized between Aug 22, 2014 and Jan 22, 2015 (Announcement of QE). The sign of the unit of measure (standard deviations) is reversed in cases where a negative change in the indicator implies a positive economic effect. Thus, the greater the area covered by the spidergram the

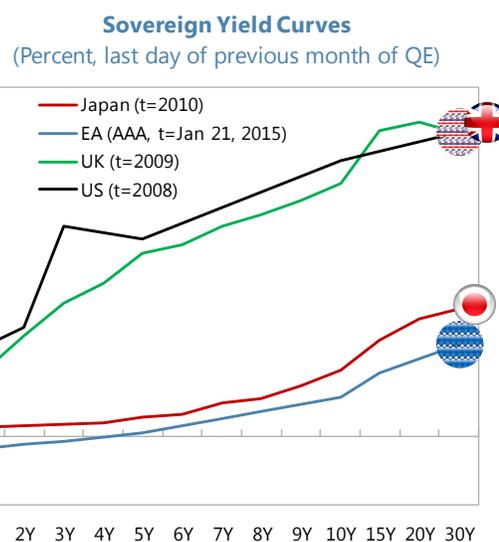
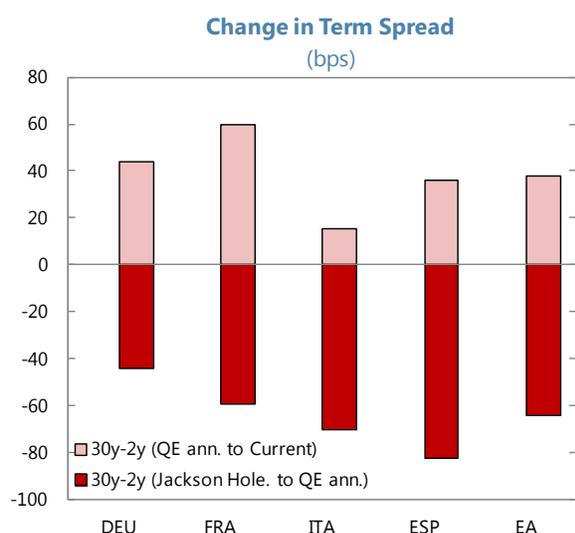
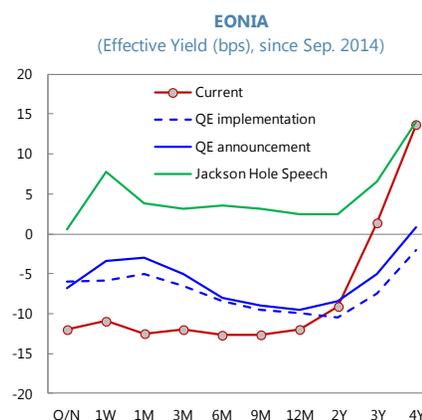
QE Monitor Dashboard

	6/22/2015	Changes relative to/since:				
		1 week ago	Start of QE 1/	In percent	QE Announc mt. 2/	"Jackson Hole" speech 3/
Sovereign Markets and Interest Rates						
30Y - 2y term premium (bps)	246.2	-1.1	76.4	45.0	47.8	-28.7
10Y - 3M term premium (bps)	170.6	-11.1	76.0	80.4	60.3	-12.1
10Y - 3M term premium (bps) - diff. between US and E	118.1	-5.7	-43.7	-27.0	-10.4	-35.4
10Y - 3M carry-to-risk ratio	1.6	0.1	0.2	14.4	0.4	-0.4
Euro Area 5-yr sovereign yield (bps)	66.5	-13.2	42.3	174.4	28.0	-4.2
Inflation Expectations						
Inflation-linked swaps (5y5y, percent)	1.79	-0.01	0.10	5.94	0.06	-0.16
Inflation-linked swaps (5y, percent)	1.24	0.01	0.29	30.87	0.50	0.25
Exchange Rates						
USD/EUR (nominal)	1.14	0.01	0.05	4.98	0.00	-0.19
EUR-USD Cross-currency basis swap (3m, bps)	-18.4	2.3	5.2	-22.2	-5.8	-5.9
3-month EUR-USD FX risk reversal 4/	-2.7	-0.3	-1.0	60.2	-0.7	-2.1
Stock Market						
Eurostoxx	142.6	6.1	-0.7	-0.5	10.7	19.6
Corporate Bond Market (Europe)						
Corporate bonds (investment grade, bps)	136.5	3.2	49.6	57.1	33.4	0.9
Corporate bonds (high-yield, bps)	464.2	14.7	74.6	19.1	38.2	54.7

Sources: Bloomberg and IMF staff calculations.
Notes: 1/ March 9, 2015; 2/ Jan. 22, 2015; 3/ Aug. 22, 2014; 4/ The risk reversal can be interpreted as the market view of the most likely direction of the spot exchange rate over a specific maturity date based on the skew in the demand for call options at high strike prices. It is calculated as the difference between the implied volatility of out-of-the-money call options minus the implied volatility of out-of-the-money put options at the same distance to the strike price for a given maturity date.

Portfolio rebalancing and signaling (Figure 5)

8. **Despite recent market corrections, term spreads remain low in selected countries and in the euro area as a whole.**³ Core countries' term spreads, however, have reverted to near their levels in September 2014. Initial declines were sizeable across the board, particularly given already low yields (relative to that of US and the UK government bonds). Given the price cap on negative rates (Section D), purchases initially focused on the longer end,⁴ strengthening the decline in term spreads. This decline reflected a combination of factors including expected short-term interest rates (signaling) and term premia (as a result of both the duration and scarcity effects given the *long maturity of purchases*). QE has also successfully signaled lower expected short-term interest rates. The announced program was larger than expected and practically open-ended, signaling the ECB's willingness to keep monetary policy accommodative until price stability is achieved. This has strengthened forward guidance and pushed short-term interest rates deeply into negative territory for maturities up to three years.

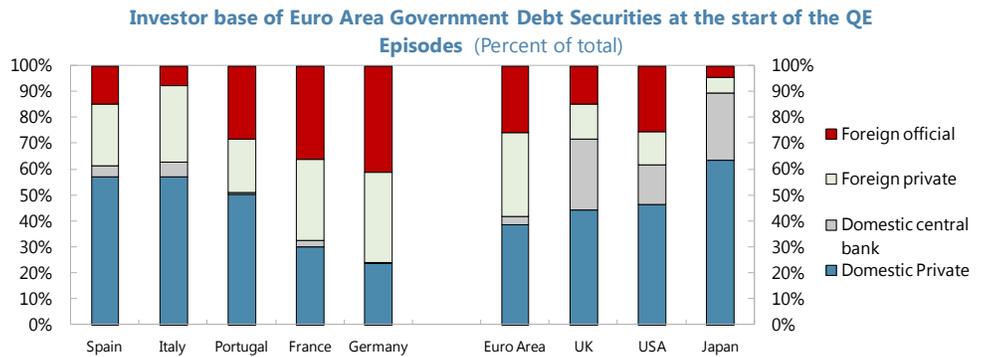


9. **Looking ahead, portfolio rebalancing in Europe will likely depend on the reaction of different types of sellers.** As of mid-2014, domestic private sector investors in the euro area held about 40 percent of their own government's debt securities, compared to about 60 percent in the U.K. and the U.S. and about 82 percent in Japan at the start of their QE episodes. There is wide variation across countries in Europe, with domestic residents holding about 25–30 percent of their

³ Selected countries include Ireland, Italy, Portugal, and Spain.

⁴ The size-weighted average maturity of Eurosystem holdings under the PSPP was 8.3 years after two months of purchases (Table 1 below).

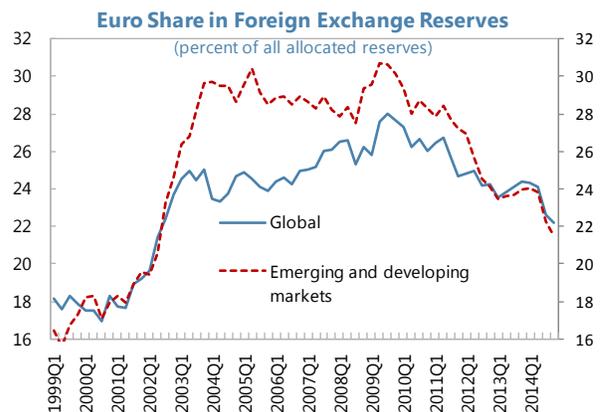
own bonds in France and Germany, and about 60 percent in Italy and Spain. The euro area aggregation, however, treats intra-EA holdings as foreign investment. After controlling for cross-country holdings within the EA, non-EA private sector investors held about 9 percent of the total, roughly comparable to other advanced economies, while other central banks account for most of non-EA holdings (Figure 4). Several factors could prompt these players to change their portfolios:



Source: Based on BIS data as of mid-2014 and using the methodology of Arslanalp and Tsuda (2012).

- *Global reserve management changes could generate large flows.* Since the crisis, the euro’s share in global reserves has been declining (22 percent in 2014). If negative rates prompt central banks and the private sector to further reduce their euro allocations, this could lead to additional euro weakening.

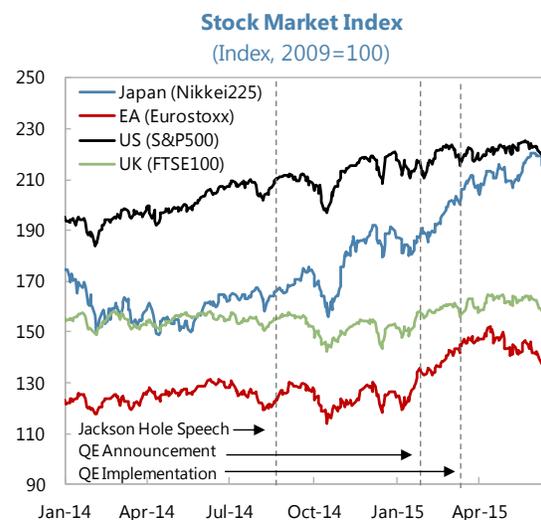
- *Domestic non-bank resident holders (such as pension funds, mutual funds and insurance companies) could diversify into foreign safe assets or other riskier domestic assets.* Given statutory and regulatory requirements, European pension funds and insurance companies, which currently account for roughly 14 percent of total securities holdings, could opt for safe foreign assets (i.e., U.S. government bonds), contributing to further weakening of the euro. On the other hand, a shift to riskier domestic assets would lower the private cost of borrowing.



- *Since the beginning of this year, euro area banks have sold about 4 percent of domestic government and other euro area government debt, accounting for roughly 16 percent of securities holdings.* If banks continue to sell, they could increase lending, as indicated by the ECB’s April 2015 *Bank Lending Survey* (BLS), or find other investments. According to the BLS, banks indicated that they have used the additional liquidity mainly for granting loans, particularly to non-financial corporations (NFCs) and for refinancing maturing debt and Eurosystem funding. Only a small percent of banks indicated that they have purchased other marketable assets. In both cases, this would comprise portfolio balancing towards greater risk-taking, which would support growth and ultimately inflation.

Asset price channel

10. **With the announcement of QE, European stock prices surged, catching up with other advanced economies.** The initial surge, driven by declines in risk premia and the weaker euro, was partly reversed, with inflows to equity markets slowing down more recently. Looking ahead, equity prices could rise further if QE generates higher inflation, confidence, and growth. In other QE episodes, equity prices continued to rise well after the QE launch, in some cases more than doubling.

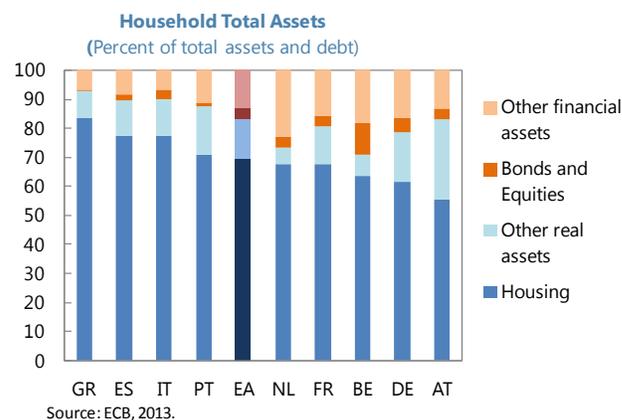


11. **Higher asset prices support spending by boosting wealth and collateral values:**

- *Wealth effects.* The generally low share of equity holdings by households is likely to limit the initial wealth effects stemming from higher stock prices (less so for households in Belgium and Germany given their larger holdings of bonds and equities). The overall impact on consumption will also depend on house prices, with households in countries with higher real estate ownership rate (Spain, Portugal and Italy) benefiting more than core countries.

However, these wealth effects might be mitigated by cyclical weaknesses in the demand for housing and oversupply in some countries. Overall, past empirical evidence suggests that while financial wealth effects are large, their impact on economy is limited given their limited share in wealth (ECB, 2013; Sousa, 2009).

- *Increased collateral values.* Higher asset values mean lower leverage, strengthening corporate balance sheets, and banks' assessment of credit risks. Higher real estate prices would also increase collateral valuations, supporting the credit channel.



Exchange rate channel (Figure 6)

12. **The euro has also depreciated substantially since mid-2014, despite recent corrections.** As of May 2015, the euro has declined by 7 percent in nominal effective terms since September 2014. Factors affecting the recent movement in the exchange rate include: (i) the divergent outlook for monetary policy stance among advanced economies; (ii) possible shifts to U.S. assets by European long-term investors; and (iii) asset sales and shifts in reserve allocation away from the euro

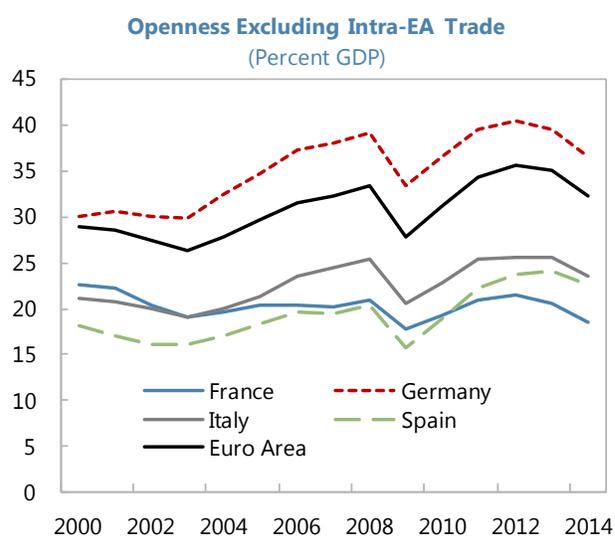
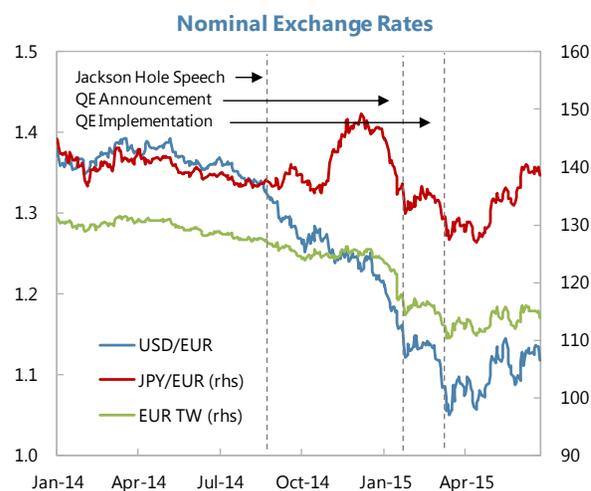
area. Overall, market expectations based on various indicators, including euro risk reversals,⁵ speculative positions, and correlation-weighted currency indices, suggest that the euro could weaken further going forward.

13. A weaker euro will support exports and inflation but the impact will differ across the euro zone. Broadly, the strength of the impact would depend on the degree of openness and trade elasticities. Excluding intra-euro area trade, exports and imports are about 30 percent of euro area GDP (similar to the U.S. and Japan, but lower than the U.K.). There is, however, cross-country heterogeneity, with Germany relatively more open than Italy, Spain and France. On the other hand, according to the European Commission's estimates, elasticities of exports with respect to exchange rate are higher for countries with negative external debt positions, such as Portugal, Italy, and Spain (European Commission, 2015).

Inflation expectations and confidence channels (Figure 7)

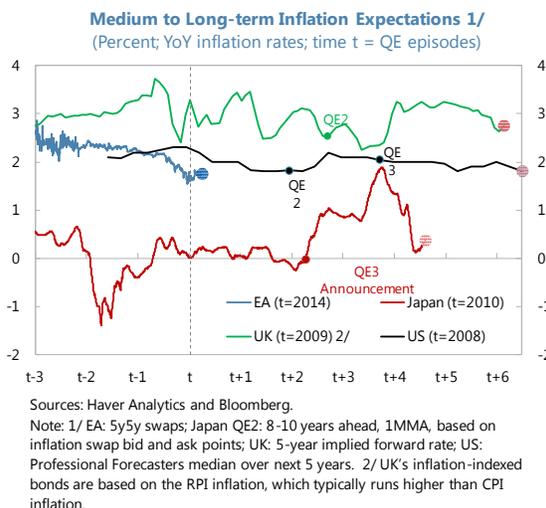
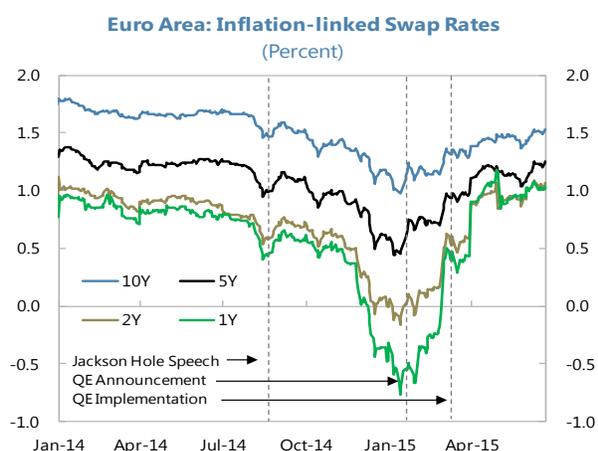
14. Inflation expectations at all time horizons have improved. Before the announcement of QE on January 22, inflation expectations across the board were on a declining trend (text figures). With QE, the secular decline in inflation expectations has been reversed, and the inflation outlook has improved, with the distribution of consensus forecast for 2016 inflation narrowing and shifting to the right. This is similar to the effect that QE has had elsewhere in anchoring inflation expectations. In the U.S. and the U.K., QE was launched early on during the global financial crisis, helping keep inflation expectations anchored. In Japan, inflation expectations picked up only after the BoJ's QQE was combined with a comprehensive package of fiscal and structural policies.

15. Confidence has also improved (Figure 7). As expectations of QE intensified in late 2014 and oil prices fell, the decline in confidence indicators since early 2014 was reversed. These broader confidence effects could be quite powerful. For example, to the extent that QE leads to an improved



⁵ The risk reversal can be interpreted as the market view of the most likely direction of the spot exchange rate over a specific period of time. It is calculated as the difference between the implied volatility of out-of-the-money call options minus the implied volatility of out-of-the-money put options at the same distance to the strike price for a given maturity date.

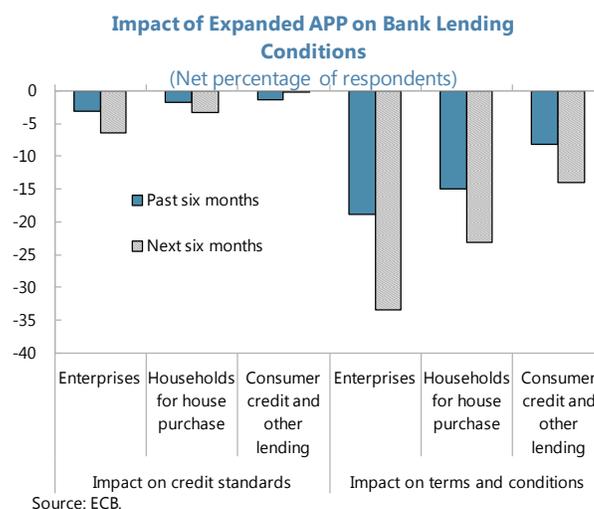
economic outlook, it might release pent-up demand and bring forward spending, creating a positive feedback loop. Some of this more general improvement in confidence may also push up asset prices, by reducing risk premia.



Credit channel (Figures 8 and 9)

16. **Financial conditions have improved, while fragmentation has declined** (Figure 8). QE has reduced wholesale funding costs as portfolio rebalancing effects have led to a compression of bank bond yields. The improvement in bank funding conditions since 2012 has recently translated into declines in deposit and lending rates. In particular, the dispersion between the core and selected countries has disappeared for deposit rates and shrunk considerably for lending rates. In addition, the divergence in deposit flows to banks has diminished, Target 2 imbalances have narrowed, and the decline in cross-border banking flows has slowed down. Nevertheless, it is still more expensive to borrow in selected countries, particularly in real terms, and deposit and bank flows have not recovered to pre-crisis levels.

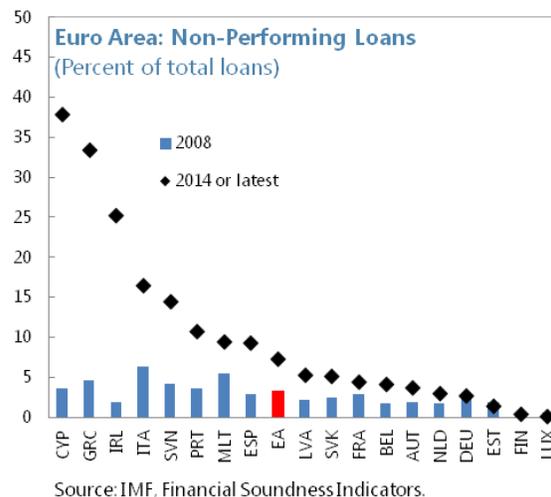
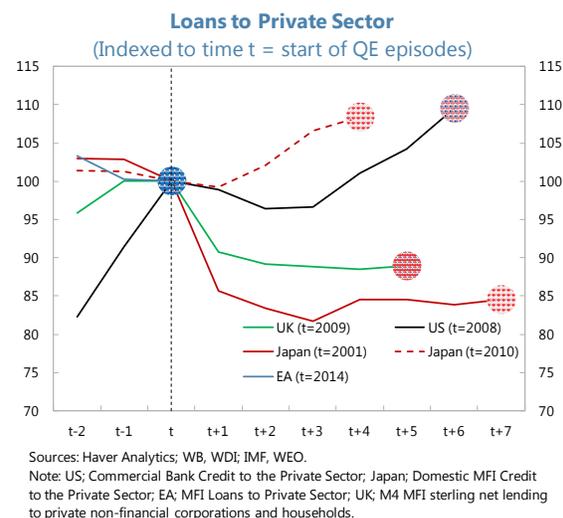
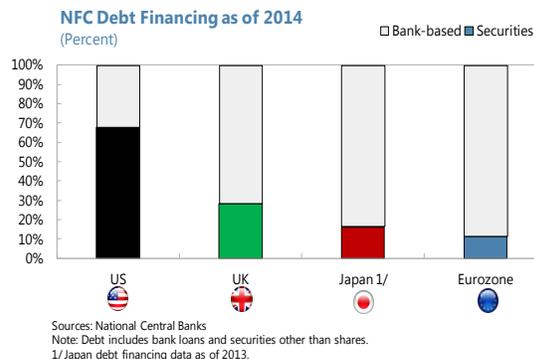
17. **Credit constraints have eased** (Figure 9). Credit demand has picked up and the contraction of credit to the private sector has nearly ended. The ECB's asset purchases have led to an easing of credit standards and terms as banks expect a boost to profitability due to capital gains, according to the Bank Lending Survey in April. Furthermore, with declining corporate bond yields, overall borrowing costs for firms have also fallen. Nevertheless, low inflation continues to keep real rates high affecting in particular more indebted countries.



18. **With the euro area largely a bank-based economy, the credit channel has been the main transmission channel of monetary policy to the real economy.** The euro area is not, however, exceptional in its bank financing. Both the U.K. and Japan have a very large share of financial intermediation through banks, but QE has worked there, through a combination of channels. In addition to channels discussed earlier, the ECB's asset purchases will support bank lending through lower lending rates, improved bank balance sheets and the corporate balance sheet channel through improved collateral values, higher expected growth, and lower leverage.

19. **However, credit recoveries after QE typically take more time.** In Japan (2001) and the U.S. (2008), credit picked up only two to three years after financial sector problems were dealt with. Even with sounder financial systems, credit could still respond slowly (e.g., Japan (2010) and the UK (2009), mainly due to weak investment demand.

20. **In the euro area, high NPLs remain an obstacle to a credit recovery.** The ECB's *Comprehensive Assessment (CA)* revealed high NPLs in several banking systems, with considerable variation among countries. High NPLs result in lower profitability and tie up substantial amounts of capital that could otherwise be used for new lending (Aiyar and others 2015). Rising asset prices and an improved outlook are likely to increase credit demand, including through higher collateral values and higher expected earnings, providing an opportunity for banks to restart lending. But weak bank balance sheets and the large private sector debt overhang will likely hold back investment and credit demand.

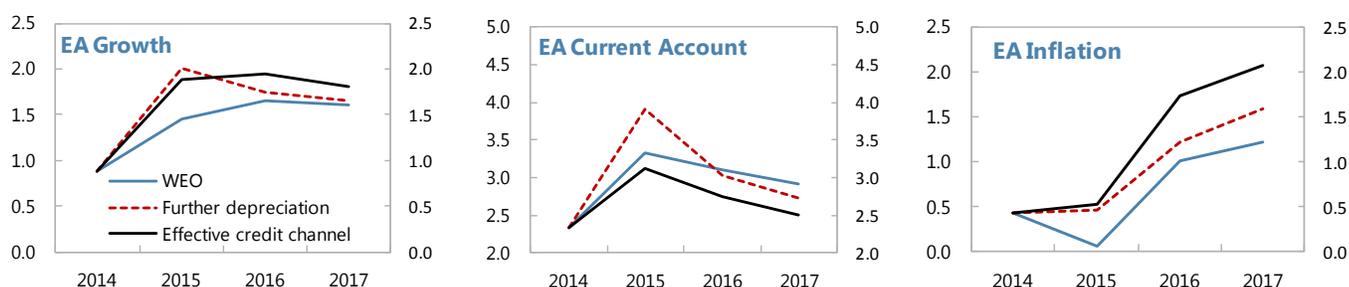


C. Simulations of Impact of QE and Spillovers⁶

21. **To gauge the potential additional impact of QE through different channels, a few illustrative simulations are considered.** The simulations were conducted using the *Flexible System of Global Models* (FSGM) in coordination with the IMF's Research Department.⁷ Simulation outcomes are measured against the April 2015 WEO baseline, which already includes the impact of QE on term premia and asset prices. In the baseline, growth is projected to rise slightly from 0.8 percent in 2014 to 1.6 percent in 2016, supported by easier financial conditions and low oil prices. But with the still large output gap (2¼ percent of GDP), inflation is expected to remain low, close to zero this year and rising to only one percent in 2016.

22. **Model simulations consider two scenarios of further depreciation and a faster recovery in credit.** They feature (i) a further depreciation of the euro—2.5 percent in 2015—with a die-off rate of 50 percent; and (ii) a fully functioning credit channel—simulated as a decline in *corporate borrowing rates*—and an associated increase in inflation expectations.⁸

23. **Further depreciation would increase growth initially through net exports and later through domestic demand.** Growth initially is almost entirely driven by net exports, but by 2016 and 2017, domestic demand picks up, as higher export revenues feed into the domestic economy and higher inflation reduces real interest rates, increasing consumption and investment. As a result, the current account increases above the baseline in 2015, but converges back to the baseline in 2016. Inflation picks up, but remains below the price stability objective in 2017.⁹



⁶ Simulations were provided by B. Hunt, S. Mursula, and D. Muir (all RES).

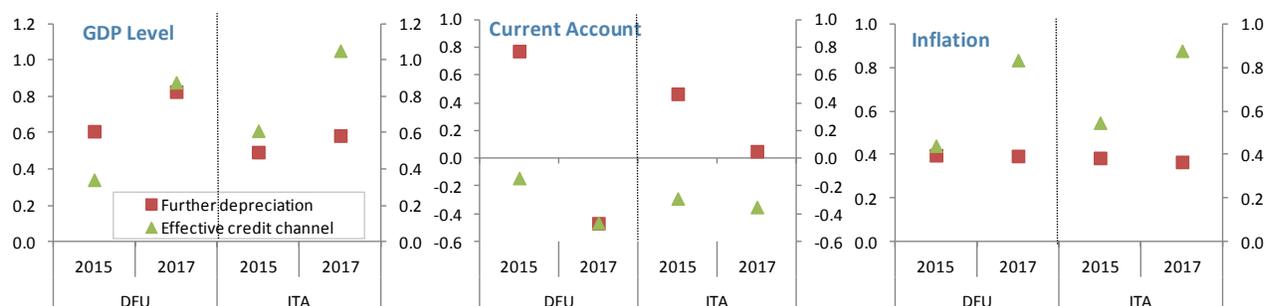
⁷ FSGM is a multi-region, forward-looking semi-structural model. Some key elements, like private consumption and investment, have micro-foundations, with others, such as trade, labor supply, and inflation, have reduced-form representations. Supply is determined by an aggregate Cobb-Douglas production function; and monetary and fiscal policies are endogenously set with simple rules (Andrle and others, 2015).

⁸ This would approximately correspond to a 3¼ percent shock in a quarterly model with a die-off rate of 85 percent. Corporate borrowing rates were reduced by 80 basis points in Italy, 25 basis points in Germany and France, and 50 basis points in the rest of the euro area. These would roughly reduce the current spread between selected and core countries to pre-crisis levels. The reduction in core countries captures higher lending due to an overall decline in the risk premium and other non-price effects. The change in inflation expectations is modeled as an exogenous 25 basis points increase, and after transmission through the model with nominal interest rates held fixed, leads to a reduction in real interest rates of about 40–50 basis points.

⁹ The large uncertainty around the exact impact of an REER shock reflects various factors, including sectoral shifts and structural reforms after the crisis, affecting both openness and trade elasticities.

24. **In contrast, a better functioning credit channel and higher inflation expectations would support growth primarily through domestic demand.** Lower lending rates and the increase in inflation expectations reduce real interest rates, stimulating both consumption and investment. Higher investment increases the capital stock, raising demand for labor, as well as increasing real wages. Rising income and wealth lead households to increase consumption further. As a result of stronger domestic demand, the current account declines below the baseline throughout the projection horizon. The larger capital stock increases potential growth, and inflation reaches the price stability objective by 2017. While a functioning credit channel is important for lifting domestic demand, a jump in inflation expectations is also important for supporting inflation and domestic demand by also helping to reduce real interest rates.

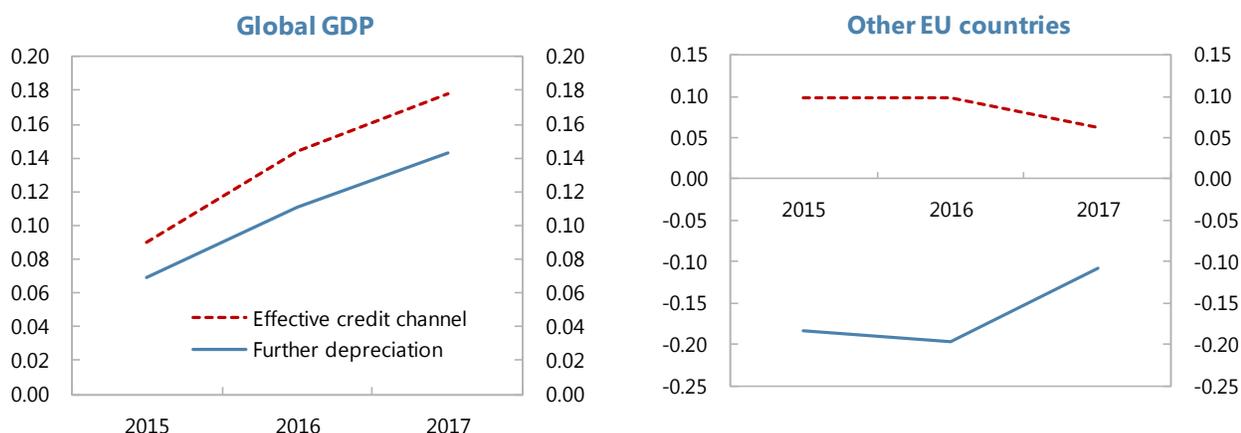
25. **More open economies would benefit more from the depreciation, while countries with credit constraints would benefit more from an improved credit channel.** For example, the initial growth impact of a further depreciation is larger for Germany, with a higher initial current account surplus, than for more closed economies such as France and Italy.¹⁰ On the other hand, Italy benefits more from a stronger credit channel and lower real rates. Inflation is sustainably higher in all countries.



26. **Spillovers to the global economy are positive, particularly from higher domestic demand.** Global GDP is above the baseline in both scenarios. Further euro depreciation initially hurts the euro area's immediate neighbors and other advanced economies, but as domestic demand picks up negative spillovers diminish over time.¹¹ Higher domestic demand in the euro area on the other hand would have immediate positive spillovers for most regions. However, the model captures mostly trade-related spillovers and does not take into account fully financial spillovers to other countries stemming from lower long-term yields.

¹⁰ The model's short-run real competitiveness index elasticities for real exports are -0.21 for Germany and Italy, and -0.18 for France and the rest of the euro area. The European Commission's research suggests that trade elasticities may be higher in some southern economies such as Italy and Spain, which would increase benefits accruing to these countries from further depreciation.

¹¹ Foreign demand is a more important determinant of exports than the exchange rate both in the model and empirical studies.



27. **Empirical studies suggest that longer-term spillovers to neighboring countries are positive.** In particular the pass-through from the euro area inflation rate to EE and some of the Nordic countries is relatively high (Arnold and others, 2015; Iossifov and Podpiera, 2014). As domestic demand and inflation in the euro area picks up, its neighbors are also likely to see higher inflation and greater demand for their products.

D. Implementation and Design of Asset Purchases

Addressing Potential Asset Scarcity

28. **The transmission channels of QE are also affected by the design and the implementation of asset purchases.** These relate to (i) the *scale and scope of the target market*, (ii) the *willingness of different financial institutions to sell assets*, and (iii) the *functioning of markets* in distributing excess liquidity and market-making.

Table 1. Overview of Asset Purchases under the PSPP
(as of June 30, 2015)

	Eurosysteem Purchases under PSPP, ex Supranational Debt (as of June 30, 2015)												
	Planned purchases (EUR billion)			Actual purchases (EUR billion)					In percent of target	In percent of PSPP 2/	ECB Capital Key 3/	Dev. from capital key	Avg. maturity (years)
	Target	In percent of eligible	Max. available	Mar-15	Apr-15	May-15	Jun-15	Cumul.					
ITA	118.3	14.9	326.8	7.6	7.6	8.2	8.2	31.6	26.7	16.0	15.7	0.3	8.8
FRA	132.4	11.7	282.8	8.8	8.6	9.5	9.4	36.3	27.4	18.4	18.1	0.3	7.8
DEU	195.6	25.0	195.3	11.1	11.1	12.1	12.0	46.2	23.6	23.4	23.0	0.5	6.9
ESP	83.8	17.1	165.3	5.4	5.5	5.9	5.9	22.8	27.1	11.5	11.3	0.3	9.8
NLD	38.5	14.6	65.8	2.5	2.5	2.7	2.7	10.3	26.9	5.2	5.1	0.1	6.8
BEL	22.4	8.5	65.8	1.5	1.5	1.7	1.7	6.4	28.5	3.2	3.2	0.1	9.1
AUT	18.4	12.3	37.3	1.2	1.2	1.3	1.3	5.0	27.3	2.5	2.5	0.0	7.7
PRT	17.1	37.8	21.3	1.1	1.1	1.2	1.2	4.5	26.5	2.3	2.2	0.1	10.6
IRL	11.7	19.2	28.3	0.7	0.7	0.8	0.8	3.0	25.8	1.5	1.6	-0.1	9.6
FIN	11.9	15.0	19.8	0.8	0.8	0.8	0.8	3.2	27.1	1.6	1.5	0.1	7.2
SVK	7.2	24.1	7.5	0.5	0.5	0.5	0.5	2.1	28.4	1.0	1.0	0.1	9.2
SVN	3.6	35.8	2.5	0.2	0.2	0.2	0.2	0.8	23.4	0.4	0.4	0.0	7.6
Other EA	11.3	14.7	19.2	0.4	0.6	0.5	0.5	2.0	17.5	1.0	1.3	-0.2	7.1
Euro Area	672.2	13.1	1,294.7	42.1	42.5	45.9	45.7	176.2	26.2	88.3	86.8	n.a.	8.1

Sources: Bloomberg L.P., ECB, and IMF staff calculations. Note: 1/ including estimated net issuance until end-2016 and current SMP holdings (where applicable), after application of security issue and issuer limits; 2/ excluding 12 percent of supranational debt purchases; 3/ excluding Greece and Cyprus, adjusted for supranational purchases.

29. **The potential scarcity of sovereign bonds may pose challenges for implementation.**

Staff analysis suggests that based on current trends, some NCBs might have difficulty meeting their target purchases due to the combined effect of the price cap on purchases (i.e., no purchase of securities with a yield less than 0.2 percent below the deposit rate), a shrinking net supply of government debt, and purchases of longer-dated debt securities held predominantly by long-term investors that are less inclined to sell. More specifically, the following factors could raise challenges for meeting the target volumes:

- *Nominal limits restrict the overall scale of the target market (Annex 2).* The impact of the *nominal* security issue and issuer limits of 25 and 33 percent, respectively, is offset somewhat as the Eurosystem’s purchase targets refer to settled (rather than nominal) amounts (which implies lower *nominal* amounts of purchases of bonds that trade above par). Targeting purchases in *market value terms* makes it easier to comply with *nominal* purchasing limits, and even more so at longer durations (where bonds trade at higher price premium). However, for some countries, even lower (implied) *nominal* target volumes come very close to the maximum eligible amount after applying nominal limits (Figure 4).
- *The target market is likely to shrink due to low net supply of government debt.* The Eurosystem is expected to purchase a nominal amount of government bonds that will exceed net new issuance by €239 billion annually (or about five percent of the eligible stock) (Figure 4). A shrinking target market enhances the effectiveness of portfolio rebalancing (Section B above) but also reduces the amount of securities available for purchase over time. However, targeting purchases in *market value terms* lowers the nominal amount of purchases (if bonds trade above par), and thus, could mitigate the extent to which asset purchases further diminish a declining stock of outstanding government debt.
- *Price cap on asset purchases varies with market conditions.* The cap on purchases of securities with nominal yields below the current minus 0.2 percent deposit rate reduces the pool of eligible sovereign assets subject to changes in market prices (Figure 2). This currently affects about 5 percent of the total eligible stock and about 14 percent of German government debt (as of June 21, 2015). The price cap could lengthen the average maturity of purchases, which benefits countries that issue longer-dated bonds but also risks overweighting purchases at longer maturities in smaller markets (Figure 2).
- *The scope for substitute purchases by NCBs is limited.* The shrinking pool of eligible securities raises the importance of other (eligible) non-government debt securities, such as agency and supranational debt (Annex 2).¹² However, the list of eligible agency debt remains restrictive even after recent amendments, suggesting a possible constraint on agency purchases in non-core countries. With approval from the Governing Council (GC), substitute purchases could also include other national public non-financial entities which are not currently eligible, and EU agencies.¹³ Also purchases of marketable debt instruments issued by supranational

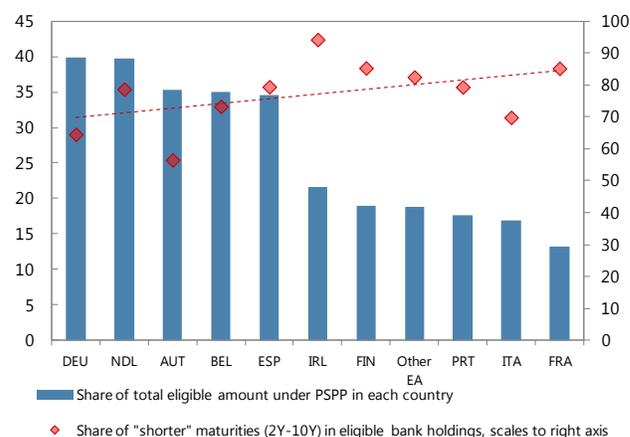
¹² The volume of eligible outstanding agency and supranational debt for potential “substitute purchases” is about €756 billion. Recognizing all issuers categorized as euro area agencies would increase the total volume from €357 billion to €430 billion.

¹³ Increased buying of debt in other jurisdictions does not seem to be explicitly ruled out.

organizations are possible if NCBs run out of eligible central government and national agency debt. However, purchases of supranational debt are undertaken exclusively by two designated NCBs on behalf of the ECB under full risk-sharing (and are capped at 12 percent of purchases) so any substitute purchases by NCBs would raise the overall purchases of supranational debt. This adds to the overall importance of the near-term supply of supranational debt and is particularly relevant in countries with smaller government debt markets relative to target purchase amounts. In addition, the eligibility criteria for private sector asset purchases are slightly more stringent than those for public sector purchases.¹⁴

- Weighting asset purchases by nominal outstanding amounts along the term structure shifts purchases towards longer maturities.* Since the market value of longer-dated bonds is on average higher than that of shorter-dated bonds, this implies a greater share of purchases of longer-dated securities in *market value terms*. However, banks' asset holdings decline dramatically beyond maturities beyond 10 years (chart below), and especially so in the more stressed economies. Since the share of purchases is higher for low-yielding debt issued in core economies, it further strengthens the duration effect of purchases but also increases demand for long-dated assets to a point where the security issue limit may become more binding.
- The pool of "willing" sellers shrinks at longer maturities.* Non-bank financial institutions, such as insurance companies and pension funds hold long-dated sovereign debt for asset-liability matching, and account for about 20 percent of the investor base in the euro area (next figure right). Regulatory requirements, such as asset-liability matching, and accounting standards, such as hold-to-maturity valuation, discourage them from selling debt securities. In addition, rising re-investment risk in a low-interest rate environment, disproportionately higher capital charges for riskier investments, and the lack of substitutes for sovereign debt as a liquidity buffer also serve as disincentives. For banks, yields on their government debt holdings (€271 billion) have fallen below the deposit facility rate (Figure 2), limiting their incentive to sell. At the same time, incentives to sell sovereign debt and re-invest in highly-rated foreign assets (such as U.S. government bonds) have increased as the difference between the U.S. and euro term spreads continues to widen in real terms.

Euro Area: Bank Holdings of Government Debt
(Percent)

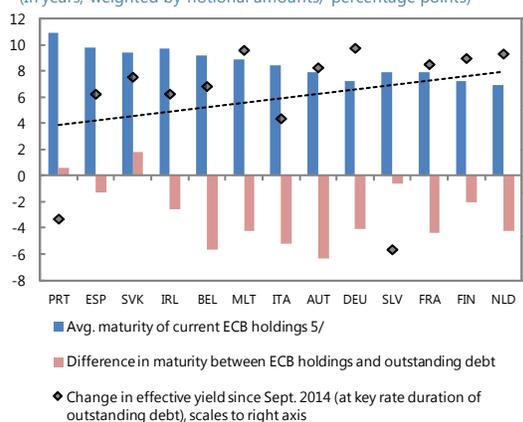


¹⁴ Whereas the best available credit rating determines eligibility ("first-best rule") under PSPP, the ECB requires ABS and covered bonds to have two ratings at the maximum achievable rating level ("second-best rule").

Figure 2. Size of Target Market and Maturity Term of Purchase under PSPP
(as of June 15, 2015)

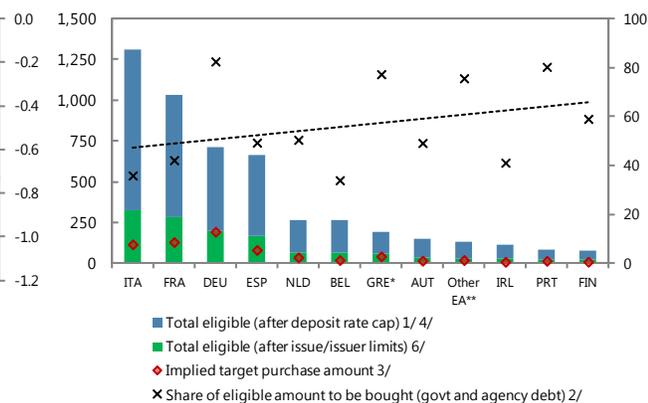
During the first month of sovereign QE, the Eurosystem bought government debt at maturities that far exceeded the average duration of the outstanding stock of each country.

ECB PSPP: Average Maturity of Bonds (Outstanding vs. Purchases) and Past Yield Changes, as of May 1, 2015 1/
(In years, weighted by notional amounts/ percentage points)



Some NCB might struggle to meet the target purchase volume even if "substitute purchases" of agency debt are considered.

ECB PSPP: Eligible Outstanding Amount and Target Purchase Volumes (until Sept. 2016), Nominal Amounts, as of June 15, 2015
(In EUR billion)



Sources: Barclays; Bloomberg LP; ECB; EBA (Oct. 2014); J.P. Morgan; and IMF staff calculations.

Note: 1/ Excludes purchases of public securities from Greece and Cyprus due to collateral restrictions and purchasing limits as well as other EA countries. The Eurosystem also did not buy any government debt securities in Estonia as of May 1, 2015. 2/ Calculations include eligible agency debt as per amended implementation details of April 15, 2015, and weighted according to the ECB capital key; eligible stock includes amount of net issuance (until 2016). 3/ Purchases based on ECB capital key in market value terms, converted into nominal amounts. 4/ excludes bonds ineligible due to nominal yield below deposit facility rate (-20 bps). 5/ Average maturity weighted by monthly purchases between March 9 and May 1, 2015. 6/ includes bonds ineligible due to nominal yield below deposit facility rate (-20 bps). (*) Greece (and Cyprus) are currently excluded from the PSPP. (**) includes Estonia, Latvia, Lithuania, Luxembourg, and Malta.

Improving Collateral Availability

30. **Sovereign debt purchases may also impair market functioning (so-called financial "plumbing") if they significantly diminish the availability of debt securities for securities lending.** Eurosystem assets purchased are also valued by market participants for their collateral services (Cœuré, 2015; Singh, 2014). As opposed to the order-book¹⁵ model of price formation in equity markets, government bond markets are mostly over-the-counter (OTC) and rely predominantly on market-makers, who compete for customer order flow through buy and sell quotations ("two-way prices"). These market-makers optimize their inventory of bonds by selling short and carrying open positions, which requires liquid hedging markets and efficient *securities financing transactions* (SFTs), i.e., repos and securities lending. Most government debt securities serve as liquid, fixed-duration and high-quality collateral for these activities.

31. **A decrease in the available debt securities that can be used as collateral in repo markets may adversely affect market-making for government bond markets.**¹⁶ In addition, since most sellers of sovereign assets are also important securities lenders, asset purchases could

¹⁵ An order book is the list of orders (manual or electronic) that a trading venue (in particular stock exchanges) uses to record the interest of buyers and sellers in a particular financial instrument.

¹⁶ Collateral scarcity raises the cost of short selling, which would curtail the ability of market-makers to generate two-way flows that are essential to efficient price discovery in government bond markets.

reduce the stock held by those that are more likely to engage in securities lending. Recent data on the current volume of securities lending and the utilization of government bonds suggest that the aggregate lendable collateral value has already declined by almost 12 percent (or €78 billion) since the end of August 2014, and is expected to further contract (Figure 4).

32. The importance of the Eurosystem’s securities lending activities varies across countries. Similar to portfolio rebalancing, the availability of collateral for market-making is influenced by the size of market, the composition of the investor base, the net issuance by governments, and the maturity of government bonds for securities lending:

- *Small supply of collateral in the core economies.* Banks, which tend to be more active lenders of collateral (Figure 4), generally hold a liquidity surplus in the core economies. They also face limited incentives to engage in cash-based securities lending due to the lack of attractive investment opportunities;¹⁷ instead, much like in Eurosystem’s securities lending, they are likely to prefer lending out government bonds in return for other government bonds in high demand (as “collateral swaps” via mutually offsetting repo and reverse repo transactions)—but this does not expand available collateral for market-making. In addition, most NCBs in the core economies, which account for a large amount of PSPP purchases, do not accept non-domestic government debt as collateral, preventing a *net* release of highly sought-after collateral, such as German government debt by the Deutsche Bundesbank.
- *Greater liquidity among banks in countries outside the core.* Negative deposit rates reduce incentives for banks to hold excess liquidity and encourage lending (or investment). For instance, in the case of Italy and Spain, the amount of government debt securities held by domestic investors has risen substantially since 2011—over 60 percent by end-2014. In addition, most investment securities held by euro area banks are valued on either a mark-to-market or fair value basis (for trading or assets for sale, respectively), with generally less than 20 percent being held to maturity, suggesting strong incentives for asset disposal or securities lending when interest rates decline. This also bodes well for the availability of collateral.
- *Shrinking pool of “willing” securities lenders.* Collateral scarcity is more likely to arise at longer maturities and in countries where the net supply of government bonds is small (or even negative). Banks tend to hold government bonds at the front end of the eligible range of maturities (e.g., more than 80 percent of government debt holdings of European banks have a residual maturity of less than 10 years) (Figure 2), and are less likely to engage in securities lending at longer maturity tenors. Moreover, non-bank financial institutions with long-term liabilities face supervisory standards that discourage active collateral management. Insurance companies and pension funds are generally less active in repo markets, and in most

¹⁷ This might push repo rates below the levels set by the ECB and NCBs in their securities lending program (which is already becoming apparent as *general collateral* (GC) repos on German and French government bonds, which trade at spreads of more than minus 20 bps to the 12-month EONIA rate (Figure 2)).

countries, are either barred (or discouraged) from engaging in securities lending and liquidity swaps with banks (or asset managers). Similarly, high (foreign) official sector holdings of government debt of some core economies (outside the Eurosystem) remove collateral from securities lending within the euro area.

33. **Based on these considerations, current securities lending by NCBs might be insufficient.**¹⁸ Securities lending aims to ease the reduced availability of collateral for market-making while avoiding sterilizing the impact of asset purchases on aggregate liquidity. The ECB's securities lending works well and has established clear and effective standards that helped build confidence in the availability of collateral (Annex 1). The ECB operates a *centralized* securities lending program (of own bonds bought under the PSPP) without maturity restrictions but at very small amounts per issue (of up to 2.5 percent of the notional amount). Although the ECB's securities lending allows collateral access to a wide range of market participants, it provides only a small backstop against potential collateral scarcity, since most of the securities lending remains decentralized under NCBs. Most of the current stock of PSPP (80 percent) is held by NCBs, whose securities lending is marked by considerable cross-country variation in conditions on pricing, haircuts, and eligibility.

34. **This could undermine transparency, and limit equitable access to collateral for market-makers across the euro area.** In the absence of sufficient *centralized* securities lending, purchases by NCBs could reduce access to collateral for market-making activities outside their domestic market. In addition, cash (or equity) cannot be posted straight in exchange for bonds (Annex 2), which excludes market-makers who often use these assets when borrowing securities.¹⁹

E. Conclusion and Policy Recommendations

35. **Given the risks of prolonged low inflation, the ECB should stay the course until inflation is on a sustained adjustment path.** Despite recent market corrections, various channels, particularly the expectations channel, likely play a significant role in transmitting an ECB balance sheet expansion into higher inflation. If inflation and inflation expectations fail to pick up after a reasonable period of QE, the ECB should stand ready to extend the asset purchase program beyond September 2016. The GC should look through current market volatility and transient changes in inflation in signaling its monetary policy stance. Continued clear communication of the GC's intentions will help mitigate excessive market volatility and reinforce its commitment to meeting the price stability objective.

¹⁸ Other major central banks that have completed a QE program adopted a centralized and active securities lending program. The U.S. Federal Reserve used the *System Open Market Accounts (SOMA) Program* (http://www.newyorkfed.org/markets/soma/sysopen_accholdings.html) (of up to 90 percent per issue). The Bank of England (BoE) adopted a three-stage process of lending to market counterparts, which comprised (i) direct lending by the H.M. Treasury's DMO of own inventory, (ii) the BoE's *Standard Repo Facility* (since 2009) if the DMO's inventory is exhausted, and (iii) the BoE would make a portion of their purchases available to the DMO for lending with a negotiated borrowing fee. The Bank of Japan lent JGBs via auction-based repo agreements (using the *New Gensaki* trade type) to provide a temporary and secondary source of JGBs to the market to enhance liquidity.

¹⁹ Also most NCBs do not use specialized agents for securities lending, which creates legal uncertainty regarding netting provisions due to sovereign immunity clauses.

36. **Dealing with bank and corporate balance sheet problems would increase the effectiveness of QE.** Reducing NPLs is a policy priority, not only to restore the health of the banking sector, but also to strengthen monetary transmission via the bank lending channel. It also remains essential that the accommodative monetary stance be supported by comprehensive and timely policy actions in other areas, not least structural reforms to boost potential growth.

37. **Potential implementation challenges could be overcome by expanding the flexibility of the current asset purchase program, and enhancing access to collateral for market-makers within a common securities lending framework:**

- *Expand flexibility of asset purchases.* The Eurosystem could widen the eligibility of agency debt, increase purchases of supranational debt (Table 2),²⁰ and relax the eligibility criteria for private sector assets, which are slightly more stringent than those for public sector purchases with the same risk. This would help NCBs meet purchasing targets in their home markets without breaching the single issue and issuer limits imposed by the program. Measured deviations from the capital key-based allocation of purchases might be warranted if purchases risk diminishing market liquidity at certain (longer) maturity terms. Substitute purchases of sovereign and agency debt in other jurisdictions do not seem to be explicitly ruled out by the implementation guidelines of the purchase program and should be considered if necessary.
- *Enhance market-making through harmonized securities lending.* The ECB should develop high-level principles to harmonize procedures for securities lending and encourage a common active lending solution with specialized securities lending agents for all NCBs²¹ (e.g., joint securities lending with specialized agents and coordinated by the ECB) to improve transparency, pricing, and the availability of collateral for market-making, supporting sufficient market liquidity (Figure 3).²² This would enhance the effectiveness of the Eurosystem's asset purchases, especially for securities in smaller markets or at maturities with low trading activity. The NCBs' acceptance of non-domestic government debt as collateral and price-based incentives could help ensure that dealers only access the ECB's centralized securities lending facility as a last resort.

²⁰ On July 1, the ECB added corporate bonds issued by 13 government-owned entities from across the euro area to the list of assets eligible for purchase.

²¹ This approach would ideally be supplemented with accessing the lending infrastructure of international central securities depositories (ICSDs). It would also require introducing a minimum fail charge (to prevent opportunistic settlement fails) and creating a legal arrangement that leverages the concept of the *Global Master Repurchase Agreement* (GMRA) Protocol to create legal certainty in NCB-sponsored securities lending.

²² As part of alleviating pressures on the availability of collateral, both the ECB and NCBs could also reduce the valuation haircuts for bond collateral, raise limit on securities lending per issue, extend standard maturity terms (or reducing the extra charge for rollovers), and accept equity as non-cash collateral.

Table 2. Detailed Analysis of Target Market under the PSPP
(as of May 8, 2015)

ECB Public Sector Asset Purchase Program (PSPP)
(nominal amounts, EUR billion)

Country	ECB target purchase amount (market value)	Implied ECB target purchase amount 1/	Government and agency debt securities						Supranational debt		Total reduction
			Government debt (current)		Agency debt (current)		Agency debt (potential)		Supranational debt (potential)		
			Eligible amount 2/	Share of purchases $p_1 = a/b$	Eligible amount 3/	Share of purchases $p_2 = (b+c)/a$	Max. eligible amount 3/	Share of purchases $p_3 = (b+c+d)/a$	Potential amount 4/	Share of purchases $p_4 = (b+c+d+e)/a$	
		[a]	[b]		[c]		[d]		[e]		$sum(p_1 \cdot p_4)$
Austria	23.5	18.4	37.3	49.3	—	49.3	5.3	43.2	2.5	40.9	-8.5
Belgium	29.6	22.4	65.8	34.1	—	34.1	—	34.1	3.1	32.6	-1.5
Finland	13.9	11.9	19.8	60.1	0.3	59.2	0.3	59.2	1.5	55.2	-4.9
France	169.4	132.4	282.8	46.8	30.3	42.3	41.8	40.8	17.8	38.7	-8.1
Germany	244.4	195.6	195.3	100.2	41.4	82.6	47.3	80.7	22.6	73.8	-26.4
Greece	24.7*	44.5*	57.5	43.0	—	43.0	—	43.0	2.6	41.1	-1.8
Ireland	15.0	11.7	28.3	41.3	—	41.3	—	41.3	1.6	39.1	-2.2
Italy	147.1	118.3	326.8	36.2	1.6	36.0	1.9	36.0	15.5	34.4	-1.8
Netherlands	47.8	38.5	65.8	58.5	10.3	50.6	10.3	50.6	5.0	47.5	-11.0
Portugal	20.8	17.1	21.3	80.4	—	80.4	0.6	80.4	2.2	71.0	-9.4
Spain	105.6	83.8	165.3	50.7	4.2	49.5	7.9	48.4	11.1	45.5	-5.2
All others	22.6	22.1	29.2	75.8	—	75.8	—	75.8	2.5	69.7	-6.0
Total	839.6	672.2	1,294.7	51.9	88.1	51.9	115.2	51.9	87.9	48.6	-3.3

Source: Bloomberg L.P., ECB, and IMF staff calculations. Note: 1/ applies market value of eligible bonds at end-April 2015 to infer the actual purchase amount in nominal terms. 2/ considers net issuance, subject to issue/issuer limits (incl. SMP) but includes bonds trading below the deposit rate cap. 3/ subject to issue limit but includes bonds trading below the deposit rate cap, and based on ECB capital key. 4/ subject to issue limit but includes bonds trading below the deposit rate cap, and based on ECB capital key, assuming that ECB purchases of supranational debt are conducted by NCBs (without risk-sharing).

Figure 3. Solutions for Active Securities Lending

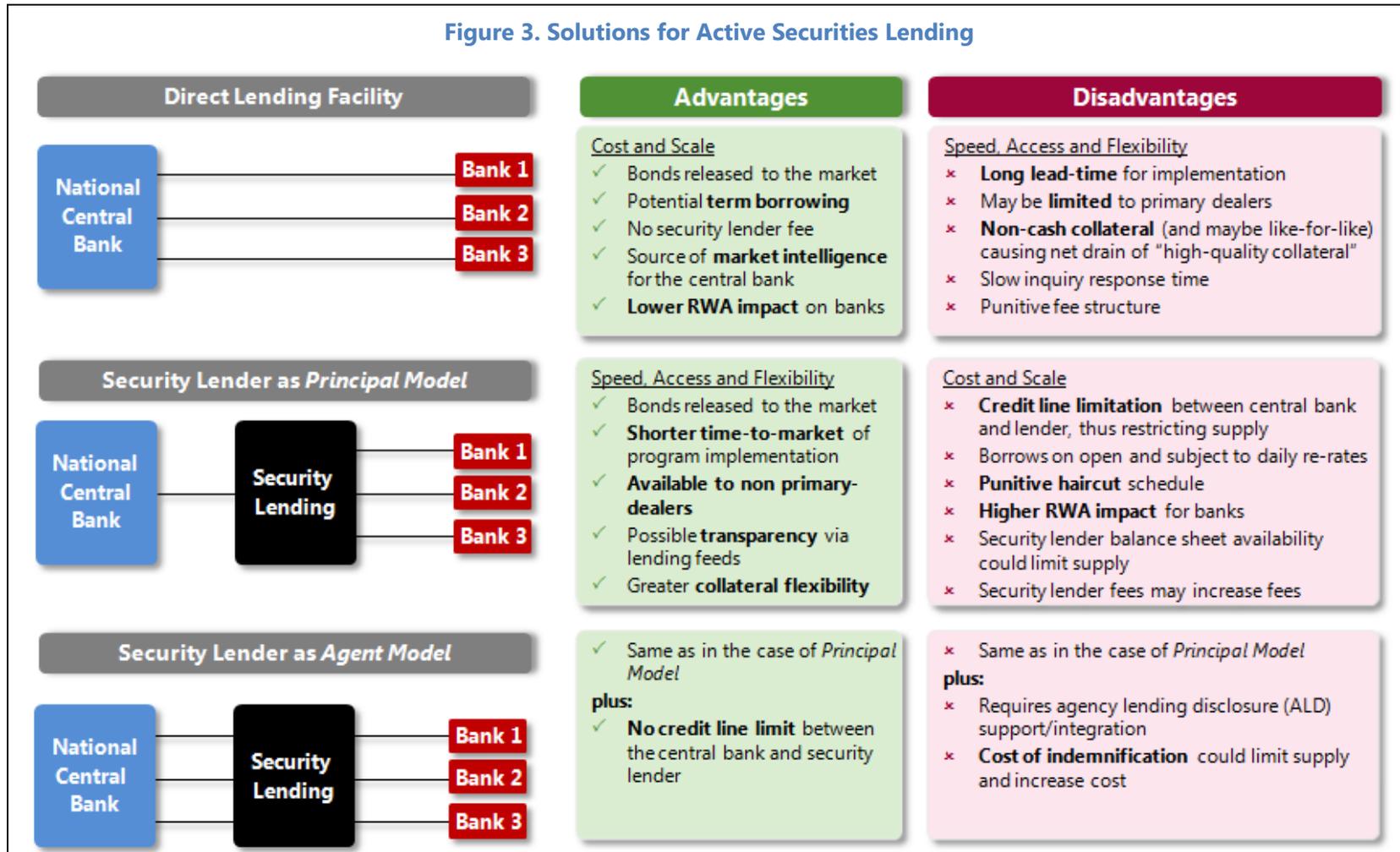
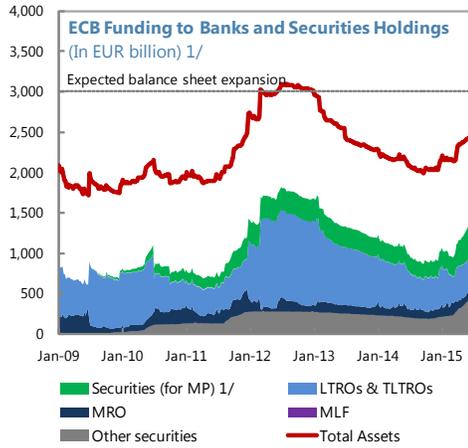


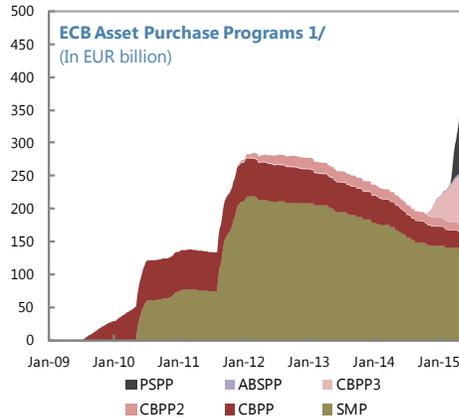
Figure 4. Monitoring Sovereign QE

The start of sovereign QE in March 2015 reversed the contraction of the ECB's balance sheet ...

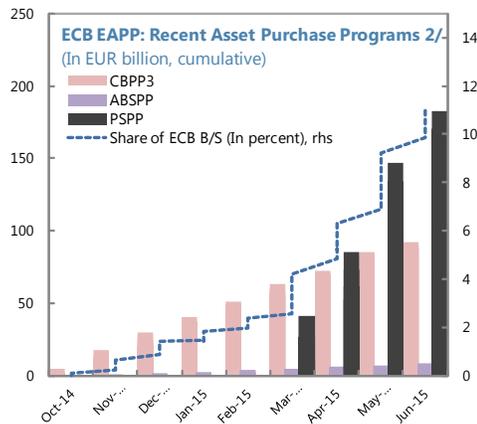


After six weeks, cumulative purchases under sovereign QE surpassed the total amount of private asset purchases over six months.

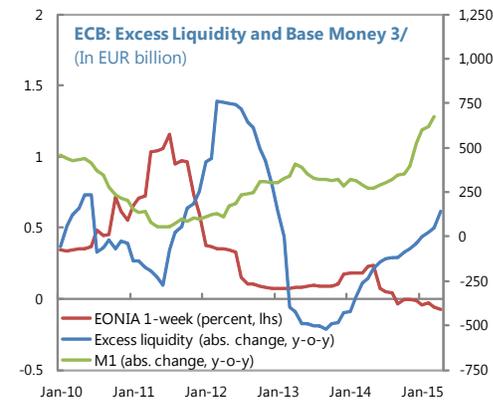
... after a successful implementation of two private asset purchase programs of covered bonds and asset-backed securities.



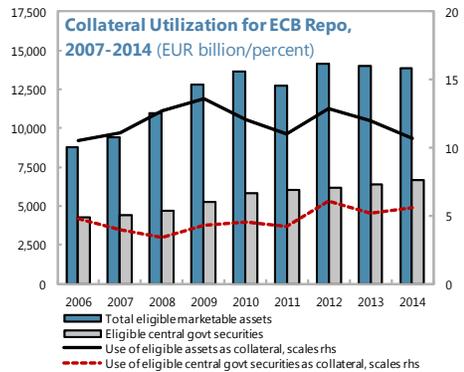
Sovereign QE added further momentum to improved liquidity conditions.



Sovereign QE has a large impact on aggregate liquidity due to a low encumbrance of government debt securities.



The implicit price cap for asset purchases (via the prevailing rate of the deposit facility) reduces the eligible amount of outstanding euro area government debt by about 4 percent (or €168 billion).



Sources: Bloomberg LP; Eurostat; ICAP; Markit; and IMF staff calculations.

Note: 1/ Securities held for monetary policy purposes (SMP, CBPPs, ABPP, and PSPP); 2/ Securities held for monetary policy purposes (without SMP and other CBPPs); 3/ Excess liquidity=current account+overnight deposits-min. reserve requirement-MLF.

Euro Area: Sovereign Debt with Neg. Yields, June 22, 2015 (In percent)

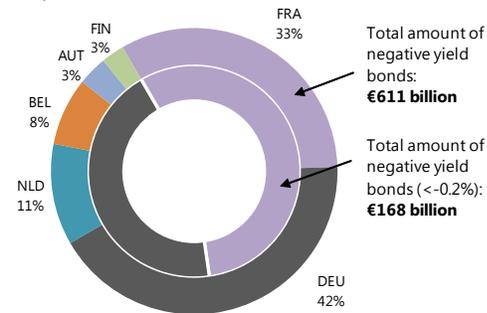


Figure 4. Monitoring Sovereign QE (Continued)

EA Government Debt 1/
(nominal amounts, EUR billion)

Country	Bank Holdings of EA Government Debt 1/						Share of eligible amount under PSPP (In percent)	ECB's Purchase Program (PSPP)				Memo Item: Agency Debt 2/			
	Total (eligible for ECB purchases, 2Y+)							Total Eligible Amount			ECB Target Purchase Amount	Implied ECB Target Purchase	Total Eligible Amount		
	> 2Y	2Y - 3Y	3Y - 5Y	5Y - 10Y	>10Y	Total		only eligible maturity tenor (30Y-2Y)	after accounting for net issuance	applying the issue/issuer limit 4/	1/	Amount 1/ 3/	only eligible maturity tenor (30Y-2Y)	applying the issue limit (25%)	
Austria	11.8	2.4	9.7	18.3	23.3	65.5	53.7	35.3	152.0	149.0	37.3	23.5	18.4	—	—
Belgium	20.5	12.7	23.6	31.2	24.6	112.7	92.1	35.0	263.0	263.0	65.8	29.6	22.4	—	—
Finland	3.0	0.8	3.0	7.7	2.0	16.5	13.4	18.9	71.0	79.0	19.8	13.9	11.9	1.2	0.3
France	142.0	17.8	38.6	64.0	20.9	283.3	141.3	13.2	1,068.0	1,131.0	282.8	169.4	132.4	121.4	30.3
Germany	170.4	37.8	68.7	95.8	110.9	483.6	313.2	39.8	786.0	781.0	195.3	244.4	195.6	165.8	41.4
Greece	12.7	0.0	0.0	0.2	8.3	21.2	8.5	4.7	180.3	194.3	57.5	24.7*	44.5*	—	—
Ireland	6.3	3.7	6.9	10.0	1.3	28.1	21.8	21.6	101.0	113.0	28.3	15.0	11.7	—	—
Italy	151.7	40.1	60.3	45.3	62.8	360.3	208.6	16.8	1,239.0	1,307.0	326.8	147.1	118.3	6.3	1.6
Netherlands	23.4	7.5	26.6	44.4	21.2	123.0	99.7	39.7	251.0	263.0	65.8	47.8	38.5	41.0	10.3
Portugal	16.1	2.1	5.3	4.9	3.2	31.5	15.4	17.7	87.0	85.0	21.3	20.8	17.1	—	—
Spain	95.5	38.2	40.6	70.1	38.5	283.0	187.4	34.5	543.0	661.0	165.3	105.6	83.8	16.9	4.2
All others**	12.2	4.3	6.1	9.0	4.1	35.6	23.5	18.8	124.8	128.8	29.2	22.6	22.1	—	—
Total	665.6	167.5	289.4	400.8	320.9	1,844.2	1,178.6	24.2	4,866.0	5,155.0	1,294.7	839.6	672.2	352.5	88.1

Bank Holdings at Yield Thresholds

(nominal amounts, EUR billion)

	Nominal yield below 5/ (In percent):		
	-0.2	-0.1	0.0
Austria	0.0	14.2	9.7
Belgium	0.0	0.0	16.6
Finland	3.0	0.8	6.9
France	74.2	67.8	8.9
Germany	170.4	37.8	34.3
Greece	0.0	0.0	0.0
Ireland	0.0	0.0	0.0
Italy	0.0	0.0	0.0
Netherlands	23.4	7.5	13.3
Portugal	0.0	0.0	0.0
Spain	0.0	0.0	0.0
Total	271.0	128.0	89.7

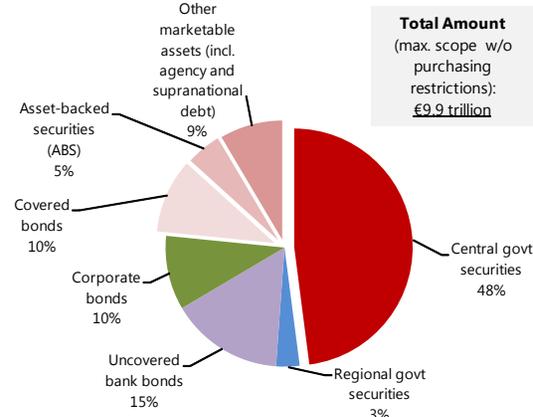
PSPP Net Displacement of EA Government Debt

(nominal amounts, EUR billion)

	Avg. gross issuance per month	Avg. net issuance per month	Implied ECB buying per month 1/	Avg. monthly displacement impact	Avg. annual displacement impact
Austria	1.5	-0.2	1.0	-1.1	-13.5
Belgium	3.3	0.0	1.2	-1.2	-14.2
Finland	1.0	0.4	0.6	-0.2	-2.4
France	17.3	3.3	7.0	-3.7	-43.9
Germany	13.3	-0.3	10.3	-10.6	-126.7
Greece	0.9	0.7	2.3*	-1.6*	-19.2*
Ireland	1.0	0.6	0.6	0.0	0.2
Italy	20.6	3.6	6.2	-2.6	-31.8
Netherlands	4.0	0.6	2.0	-1.4	-16.7
Portugal	1.1	-0.1	0.9	-1.0	-12.1
Spain	11.8	6.2	4.4	1.8	21.6
Total	75.8	15.0	34.2	-20.0	-239.4

Euro Area: Eligible Marketable Assets, end-2014

(In percent of total euro area market)

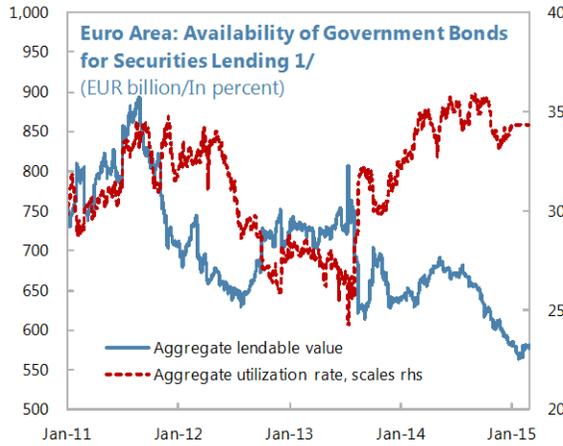


Sources: Barclays; Bloomberg LP; ECB; EBA (Oct. 2014); J.P. Morgan; and IMF staff calculations.

Note: 1/ Excludes purchases of public securities from Greece and Cyprus due to collateral restrictions and purchasing limits as well as other EA countries. The Eurosystem also did not buy any government debt securities in Estonia as of May 1, 2015. 2/ Calculations include eligible agency debt as per amended implementation details of April 15, 2015, and weighted according to the ECB capital key; eligible stock includes amount of net issuance (until 2016). 3/ Purchases based on ECB capital key in market value terms, converted into nominal amounts. 4/ Includes bonds ineligible due to nominal yield below deposit facility rate (-20 bps). 5/ non-cumulative. (*) Greece (and Cyprus) are currently excluded from the PSPP. (**) includes Estonia, Latvia, Lithuania, Luxembourg, and Malta.

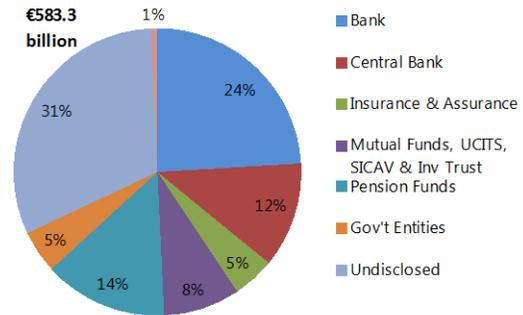
Figure 4. Monitoring Sovereign QE (Concluded)

The availability of government bonds for securities lending has been contracting since second half of 2013.

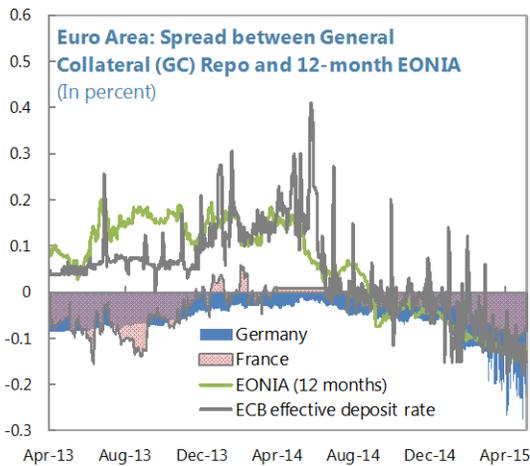


Banks represent a significant share of potential lenders of securities to offset a potential scarcity of collateral in the market.

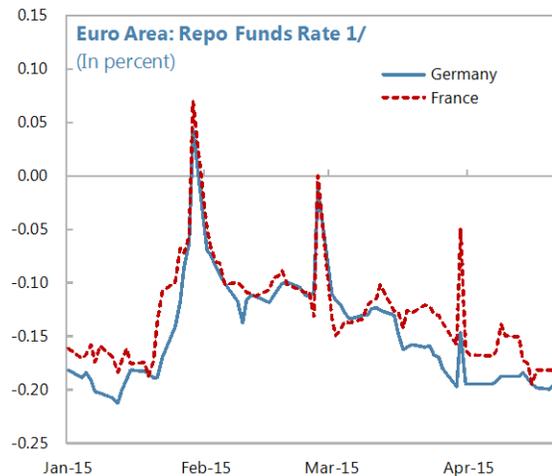
Euro Area: Distribution of Unencumbered Amount of Government Debt for Securities Lending, end-2014
(In EUR billion and percent)



Market-making in government debt securities has become less attractive as the the cost of borrowing collateral has dropped below the effective money market rate ...



... which also shows in a reduced willingness to reuse collateral for secured funding, pushing down the repo rates.



In aggregate, investors in the country of the issuer hold almost of the EA government debt ...

Composition of Investor Base in Euro Area Countries' Debt Securities, End-2014 1/
(nominal amounts, EUR billion/percent)

All Euro area	EUR billions				Total	Percent				Total
	Domestic	Non-domestic		Total		Domestic	Non-domestic		Total	
		Euro	Non-euro				Euro	Non-euro		
Central banks	270	236	1500	1736	2,006	4	3	20	23	27
Banks	1,216	427	300	727	1,943	16	6	4	10	26
Insurance companies	802	300	120	150	952	11	4	2	2	13
Pension funds	242	125	100	80	322	3	2	1	1	4
Investment funds	380	432	50	482	862	5	6	1	6	12
Others	620	218	90	308	928	8	3	1	4	12
Total	3,530	1,738	2,160	3,898	7,429	48	23	29	52	100

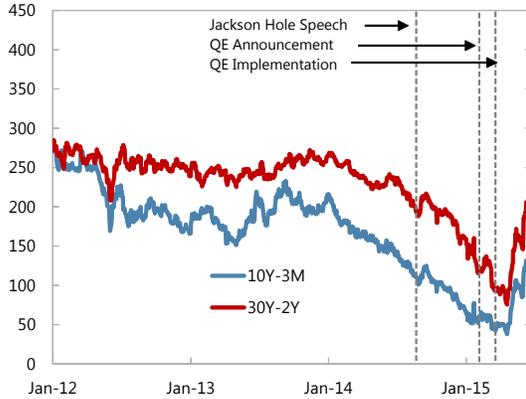
Sources: Barclays; Bloomberg; ECB; ICAP; J.P. Morgan; Markit; and Fund staff calculations.

Note: 1/ Includes the following EA countries: Austria, Belgium, Finland, France, Germany, Netherlands, Italy, Portugal, and Spain.

Figure 5. Portfolio Rebalancing and Signaling Effects

Term spreads narrowed sharply...

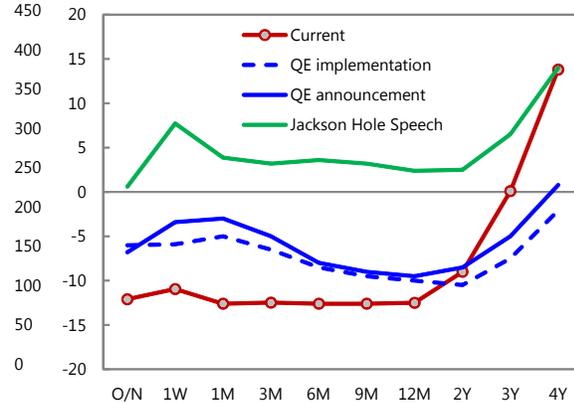
AAA Euro Area Term-Spread (bps)



The risk of unexpected increase in policy rates has significantly declined.

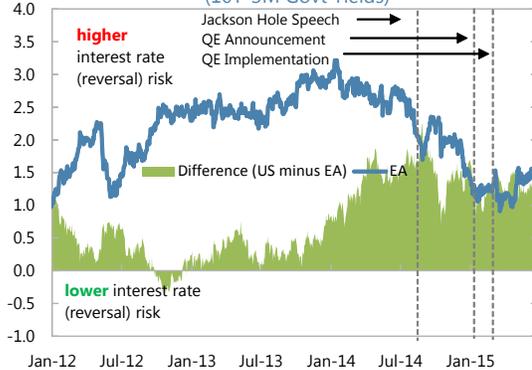
Partly reflecting a large decline in expected interest rates, which are now at negative territory even at relatively long horizons.

EONIA (Effective Yield (bps), since Sep. 2014)

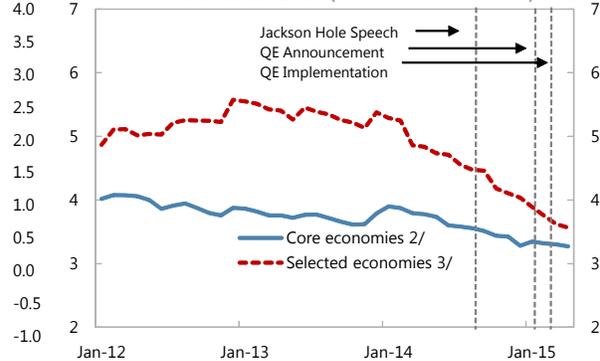


While it is too early to assess how these translate into portfolio rebalancing by the private sector, banks are already reducing their bond holdings.

Major Reserve Currencies: Carry-Risk Ratio 1/ (10Y-3M Govt Yields)



Euro Area: Bank Holdings of Domestic Government Debt (Percent of total assets)



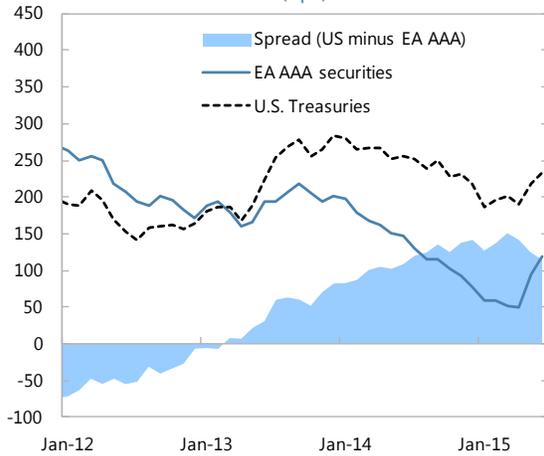
Sources: Bloomberg, L.P.; IMF Policy Paper, Global Impact and Challenges of Unconventional Monetary Policies (Oct. 2013), and Fund staff calculations.

Note: 1/ The carry-to-risk ratio is defined as the ratio of the spread difference between the 10-year and the 3-month risk-free rate (i.e., the term spread) to the implied volatility of the 3-month/10-year swaption; the lower the carry-to-risk ratio, the lower the risk of a reversal in the interest rate path towards monetary tightening. 2/ Core economies include DEU, FRA, and NLD; 3/ Selected economies include ESP, ITA, and PRT.

Figure 6. Exchange Rate Effects

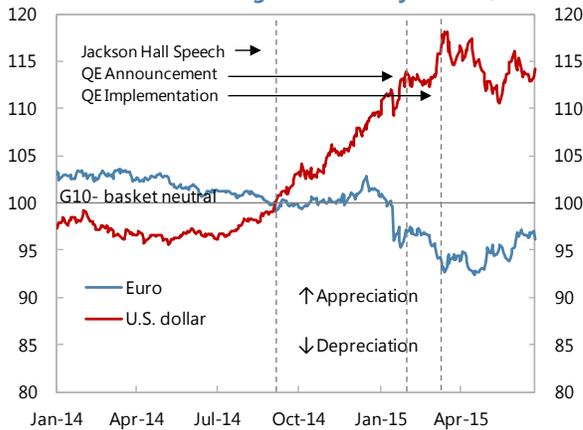
Following the increase real term spread with the US...

Real Term Spread Difference to the US
(bps)



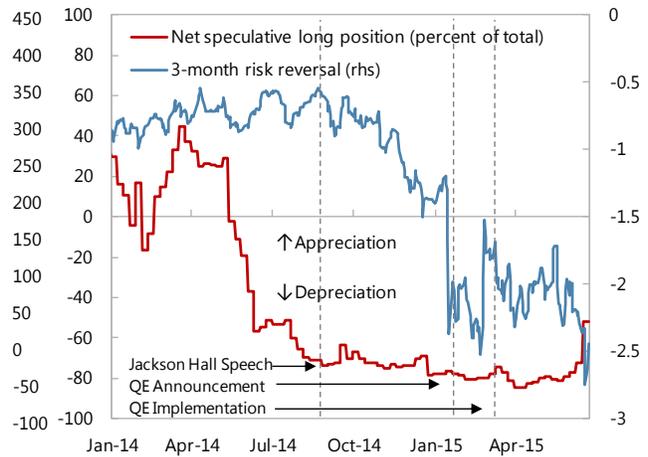
...relative to the basket of key currencies.

Correlation-Weighted Currency Index 2/



...the euro has weakened substantially, and markets expect it to remain weak

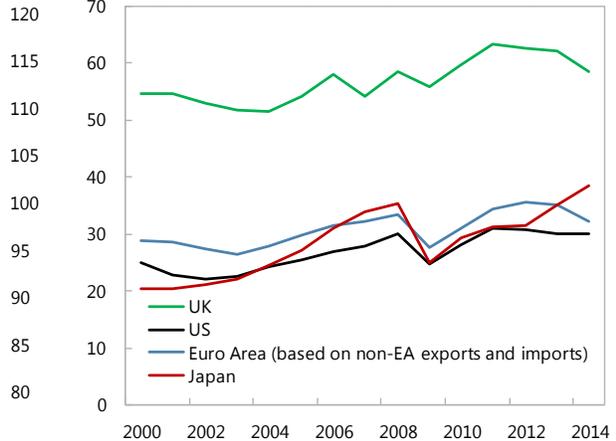
Euro Risk Reversal and Speculative Positions 1/



Non-euro area trade is as large as in the US and Japan, but is smaller than the UK.

Openness

(Exports and Imports in percent of GDP)



Sources: Bloomberg, L.P.; IMF, World Economic Outlook; and Fund staff calculations.

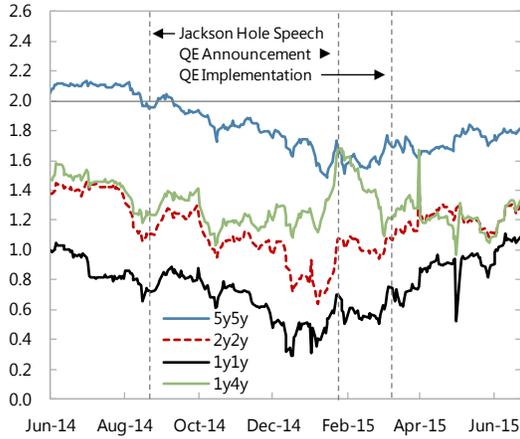
Note: 1/ The risk reversal can be interpreted as the market view of the most likely direction of the spot exchange rate over a specific maturity date based on the skew in the demand for call options at high strike prices. It is calculated as the difference between the implied volatility of out-of-the-money call options minus the implied volatility of out-of-the-money put options at the same distance to the strike price for a given maturity date. 2/ The correlation-weighted currency index provides an indication of the relative strength or weakness of one currency against a basket of the G-10 currencies and can then be used as the basis for hedging against exposure to adverse movements of the respective currency.

Figure 7. Inflation Expectations and Confidence

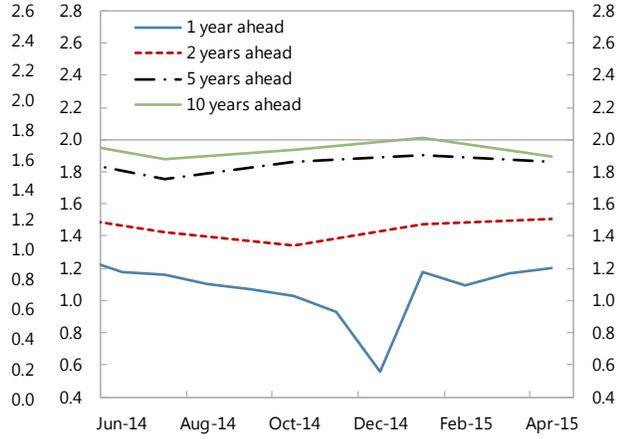
With the introduction of QE, the trend decline in inflation expectations was reversed...

...which was captured by a wide range of measures, including survey based ones.

Euro Area Inflation-Linked Swap Rates
(Percent)



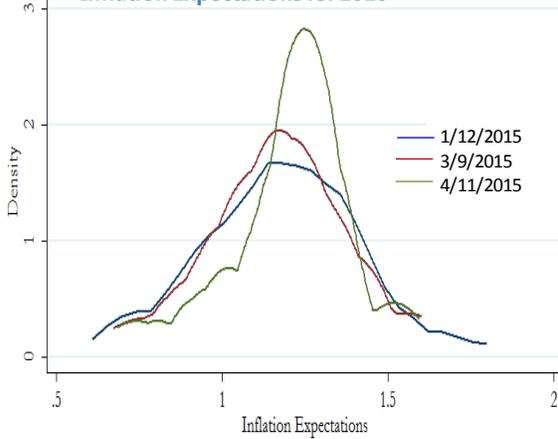
Euro Area Consensus Forecast - Inflation Expectations
(Percent, y-o-y)



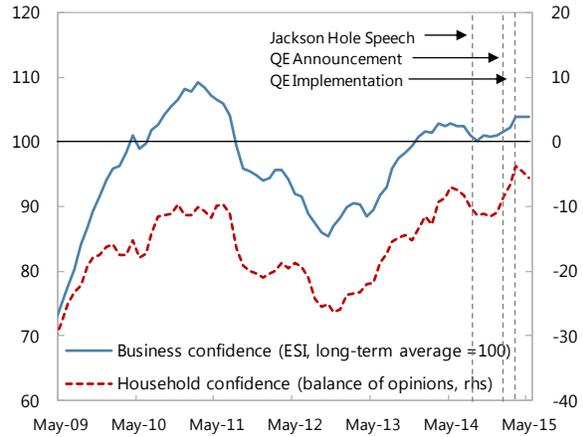
The distribution of inflation expectations has also tightened.

QE has boosted confidence on a broader basis.

Euro Area Consensus Forecast Distribution of Inflation Expectations for 2016



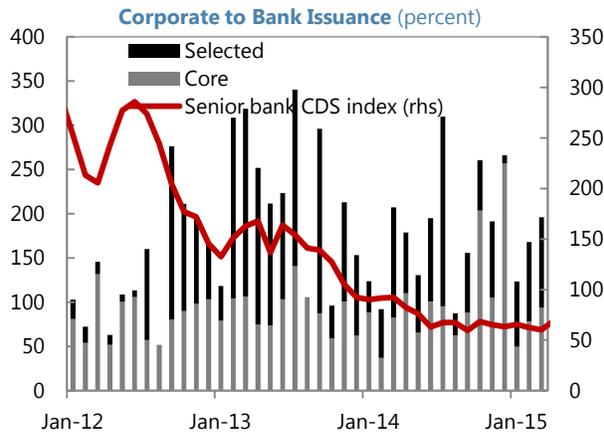
Euro Area Confidence Indicators



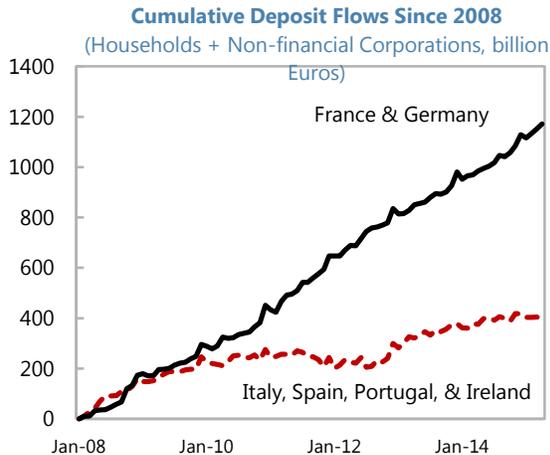
Sources: Bloomberg, L.P.; European Central Bank (ECB); Consensus Forecast; and Fund staff calculations.

Figure 8. Fragmentation

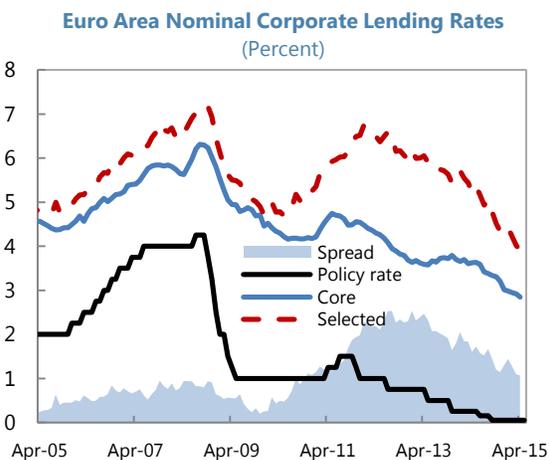
Banks (both in the core and selected countries) are issuing bonds at very low rates.



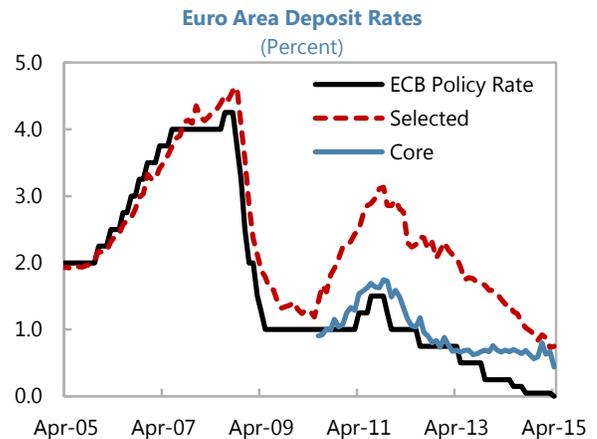
Deposit flows to selected countries picked up, but still remains lower than in the core.



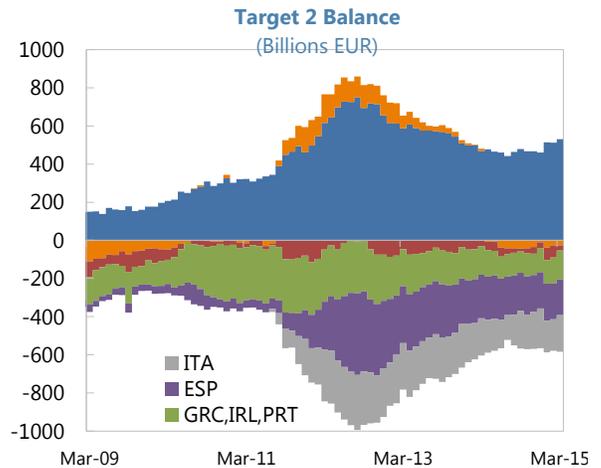
Fragmentation on the lending side also declined substantially with lending rates converging...



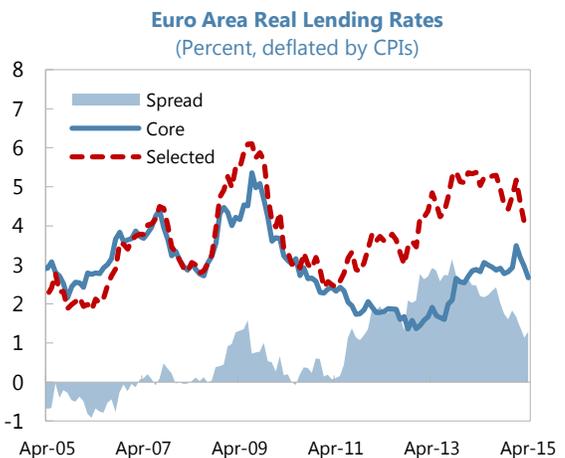
The dispersion in deposit rates has disappeared.



Target 2 imbalances have been improving steadily, but it still remains high relative to pre-crisis.



Differences in real lending rates also declined but mainly because of the increase in the core due to lower inflation.

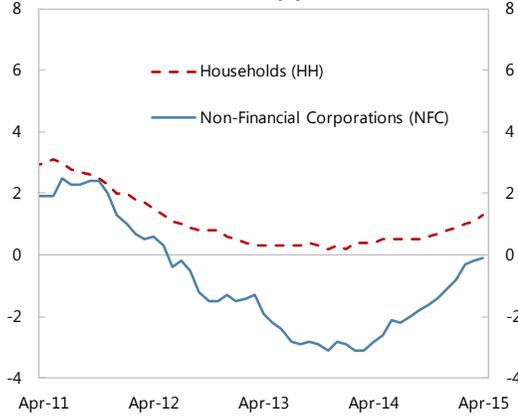


Sources: Haver Analytics; Dealogic; Eurostat; ECB; and Fund staff calculations.
Note: Core countries include DEU, FRA, NED. Selected countries include ESP, ITA, PRT.

Figure 9. Credit Developments

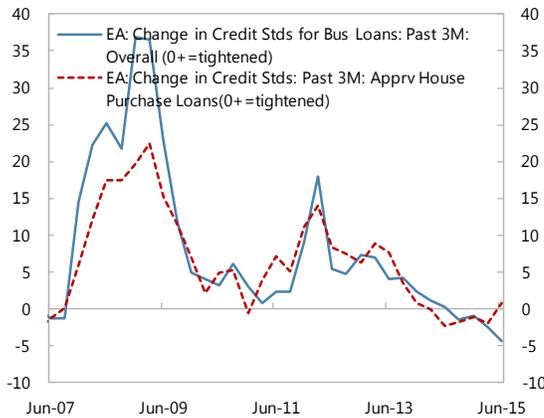
Credit is picking up...

Euro Area Credit
(Percent, y/y)



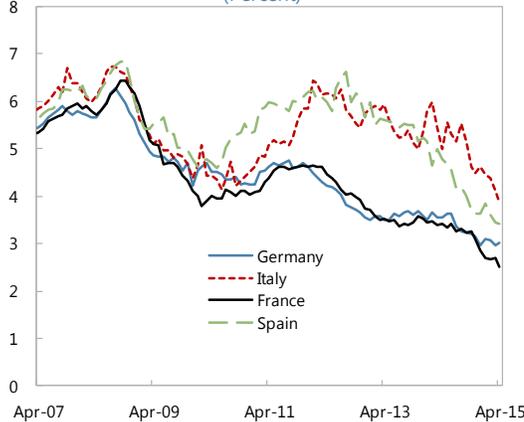
Bank lending standards are easing...

ECB Survey: Credit Standard to Private Sector



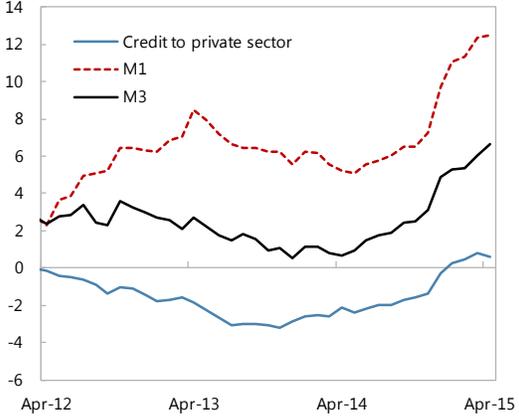
Lending rates across the board are declining...

Nominal Lending Rates for Small Loans
(Percent)



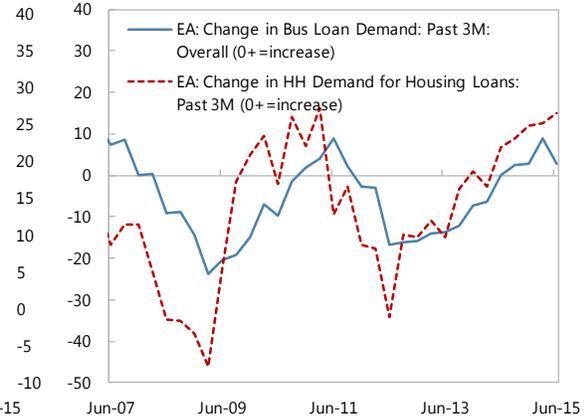
...as accommodative monetary policy finally passes through to financial conditions.

ECB Monetary Aggregates
(Percent, y-o-y)



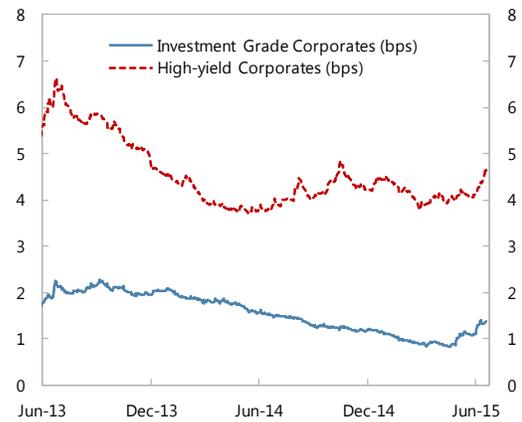
and credit demand is picking up.

ECB Survey: Credit Demand from Private Sector



... real cost of funding has been declining.

Euro Area: Corporate Bond Yields



Sources: European Central Bank; Haver Analytics; and Fund staff calculations.

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Annex I. Securities Lending under the Expanded Asset Purchase Program (APP)

On April 2, 2015, the ECB and several Eurosystem NCBs began making available securities purchased under the PSPP and asset holdings under the securities market program (SMP).

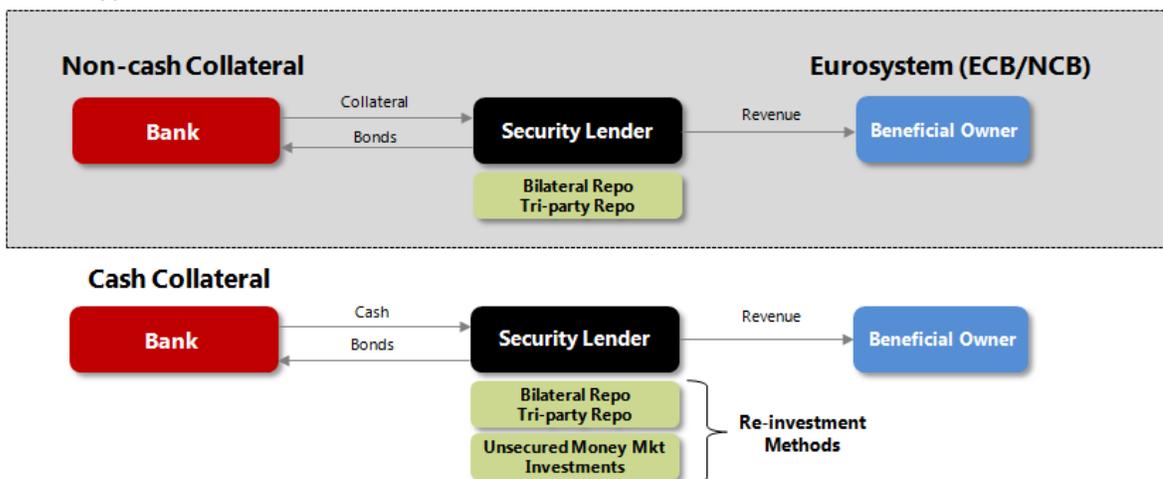
Holdings of securities purchased under the program are eligible for securities lending to facilitate bond and repo market liquidity. Securities are made available in a decentralized manner, mirroring the organization of the PSPP by replicating existing private sector solutions, with a small amount of securities purchases by the ECB itself under the PSPP being provided centrally via the existing settlement system for failed trades. The program primarily targets market-making institutions. Lending of PSPP-securities holdings takes place on a “cash neutral basis,” i.e., repo transactions against cash collateral are accompanied by a fully offsetting reverse repo transaction (and typically with the same counterparty).

More specifically, the Eurosystem follows a two-pronged securities lending program:

- *Centralized securities lending.* The ECB offers securities that it has directly purchased at a fixed fee of 40 bps for one week (which can be rolled over up to three times at an incremental cost of 10 bps per additional week). The amount lent for each bond cannot exceed the lower of €200 million or 2.5 percent of the outstanding notional amount. Lending is funded via non-cash repo at a collateral haircut of four percent (which is shown the stylized model of securities lending in Figure 3 below), and all securities that fulfill the PSPP requirements are accepted as collateral (even if their residual maturity is lower than two years). This allows borrowers to “upgrade” collateral by posting short-dated government debt in exchange for longer-dated, higher-yielding government debt, offering potential pricing benefit in an environment of continued spread compression. This should support collateral rates in selected economies (i.e., for instance as a result of swapping five-year German Bunds against a 30-year Italian treasury bond) and might also contribute to a reduced fragmentation of lending rates between core and selected economies. However, these conditions apply only to bonds bought directly by the ECB, which represents a maximum of 20 percent of all asset purchases under the risk-sharing arrangement of the APP.
- *Decentralized securities lending.* The Eurosystem NCBs, which complete most of the purchases under the PSPP, conduct their own securities lending programs, and are able to set different conditions and use different channels of lending securities to the market. They employ the channels for securities lending available under their existing infrastructure for mitigating settlement failures. This includes bilateral securities lending and lending relying on specialized securities lending agents (“agency lending”) or on the lending infrastructure of international central securities depositories (ICSDs). NCBs lend acquired bonds using collateral swaps or fails mitigation programs by ICSDs, and some NCBs are planning to make their securities available in Euroclear’s automated securities lending and borrowing program (SLB) for the purpose of mitigating settlement fails (caused by the lack of specific collateral). Bonds are lent at more expensive levels compared to general collateral (i.e., NCBs will require a negative spread on the general collateral (GC) rate), which are influenced by market conditions.¹ Several NCBs have added some restrictions to securities lending on the maturity of the operation as well as on the size of transactions. They might also apply their own risk management framework, which determines, for instance, collateral eligibility, pricing, haircuts, term and counterparty eligibility.²

The Mechanics of Securities Lending

Current Approach



Security lenders are not leveraged and lend for incremental revenue opportunities to improve portfolio yields. Bonds are only lent if they have value (“special”), i.e., there is a credit spread or the security borrower engages in maturity transformation (e.g., through collateral/“term upgrade” trades).

Securities lent are collateralized with:

- *Non-cash collateral*—Bonds borrowed *cannot* be collateralized with cash but require collateral that complies with the beneficial owner’s stipulations (e.g. securities).
- *Cash collateral*—Bonds borrowed *can* be collateralized with cash, which the securities lender can re-invest in repo or non-repo instruments. Due to the low interest rate environment, cash collateral is not attractive given the paucity of attractive investments.

¹ While EONIA and unsecured lending prices for Eurosystem banks cannot drop below the rate offered by the ECB/s deposit facility, repo rates can, and do. Despite the recent market correction, even general collateral repos of French and German government debt securities still trade at more than 20bps below EONIA (Figure 2).

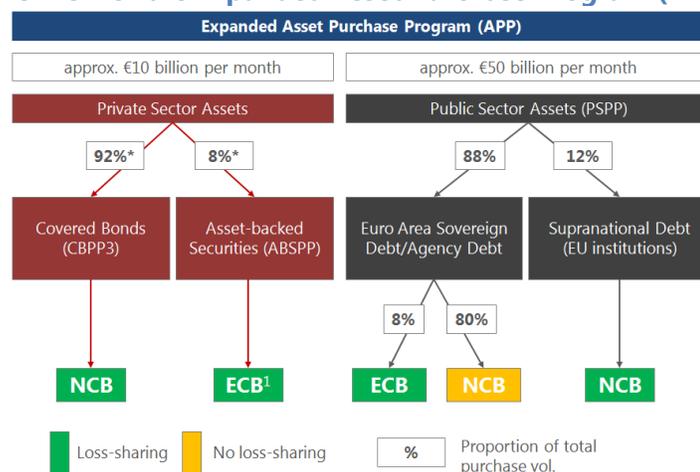
² Further details are provided at <http://www.ecb.europa.eu/mopo/implement/omo/pspp/html/pspp-lending.en.html#links>.

Annex II. The Expanded Asset Purchase Program (APP)

The expanded asset purchase program (APP) was announced on January 22 and started on March 9, 2015; it consists of combined monthly purchases of €60 billion in public and private sector securities with a residual maturity of at least two years (but not greater than 30 years) in the secondary market. The public sector securities purchase program (PSPP) represents about 80 percent of the volume generation under the APP. It comprises euro-denominated marketable debt instruments issued by euro area central governments, certain agencies located in the euro area or certain international or supranational institutions located in the euro area and complements existing purchases of covered bonds and asset-backed securities (under the CBPP3 and ABSPP). Purchases of government debt under the PSPP are conducted by both the ECB and national central banks (NCBs) in their home market, with the possibility of purchasing marketable debt instruments issued by agencies and international or supranational institutions located in the euro area if needed to meet each country's allocation based on the ECB's capital key ("substitute purchases").

Several restrictions are placed on asset purchases. The ECB introduced a cap on purchases of securities with yields below the -0.2 percent deposit rate (which does not apply to inflation-linked securities). Moreover, asset purchases are subject to a 25 percent limit on the notional amount of each issue ("issue share limit") together with a 33 percent limit on the total outstanding amount per issuer ("issuer limit"). The issue share limit covers existing Eurosystem holdings of securities used for monetary operations (i.e., stock under the Securities Markets Program) and any other portfolios owned by Eurosystem central banks.

Overview of the Expanded Asset Purchase Program (APP)



Note: *) empirically derived based on settled purchases as of June 7, 2015. 1/ via 4 European and 1 international asset management companies.

The general eligibility of assets for Eurosystem purchases under the APP is governed by the collateral standards defined for risk mitigation. Thus, Greek and Cypriot debt are currently excluded from purchases. Public sector securities in Greece are no longer eligible collateral for regular ECB refinancing operations after the conditions for the suspension of the minimum rating threshold for marketable debt instruments issued or fully guaranteed by the Hellenic Republic no longer applied (and as long as potential purchases would breach the current issuer limit of 33 percent due to the ECB's SMP holdings of Greek debt). In the case of Cyprus, securities are not eligible until the successful completion of the program (or during a new review period once the last review has been concluded).

POLICY OPTIONS FOR TACKLING NON-PERFORMING LOANS IN THE EURO AREA¹

A. Introduction

1. **Euro area banks are increasingly challenged by high levels of impaired assets.** The financial crisis and deep recession have left many euro area countries with high levels of nonperforming loans (NPLs) and corporate debt. For the euro area as a whole, NPLs stood at €932 billion (or 9.2 percent of GDP) at end-2014, more than double the level in 2009 (Figures 1 and 7). The ECB's *Comprehensive Assessment* (CA) of the largest euro area banks in October 2014 revealed a much larger stock of impaired assets than expected, indicating that balance sheet repair is far from complete. The CA showed that the nonperforming exposures (NPEs)² of the euro area's largest banks exceeded 20 percent of aggregate credit exposures in several economies.³ With 40 banks in ten countries carrying NPEs of 20 percent or more, problem loans represent a risk to financial stability.

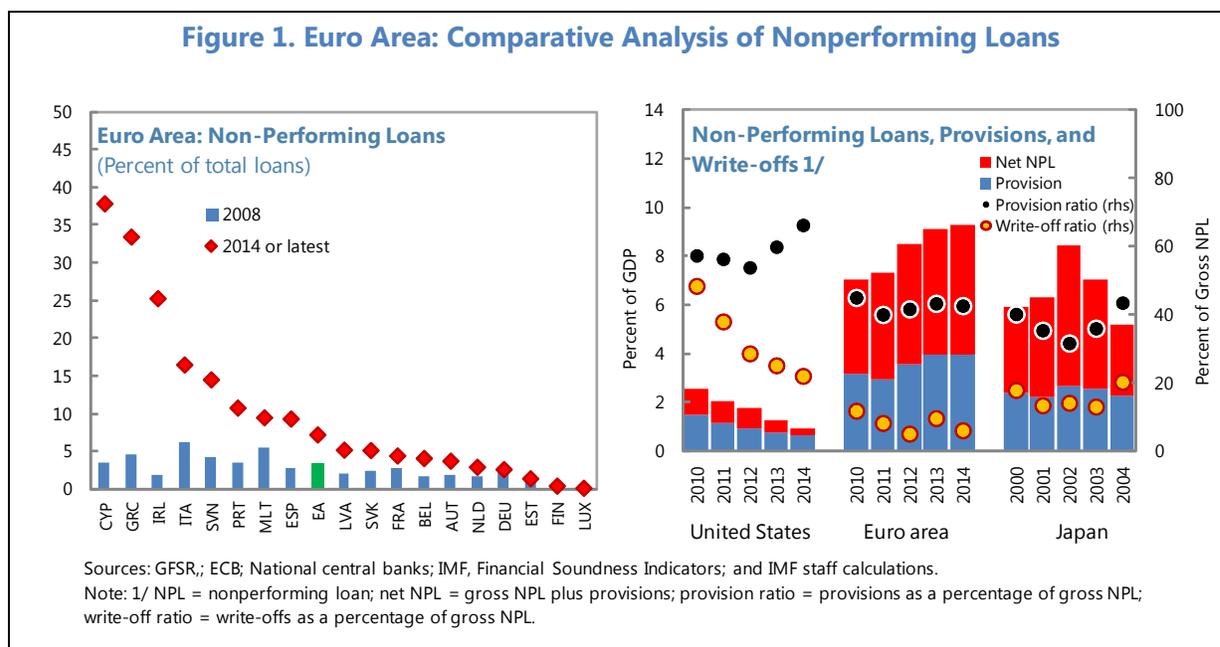
2. **The current low growth environment discourages banks from addressing their distressed assets problem.** As documented in the April 2015 *Global Financial Stability Report*, write-off rates of euro area banks remain low by international standards (6.2 percent), and are less than a quarter of that in the United States, despite the euro area's higher stock of distressed debt (Figures 1 and 7). Provisioning levels (slightly above 40 percent) are also much lower than in the United States (about 70 percent), where stricter supervision and accounting of NPLs support a more timely restructuring or liquidation of impaired assets. Limited capital buffers and low profitability constrain euro area banks' capacity to clean up their balance sheets, especially in countries where the level of impaired assets is high and the debt servicing capacity of borrowers is low. Accounting rules also hinder timely loss recognition and inflate loan loss reserves, while the lack of a well-functioning market for distressed assets, as well as costly debt enforcement and lengthy foreclosure procedures, complicate the disposal of impaired assets.

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² NPE refers to the notional amount of impaired on- and off-balance sheet exposures, weighted by risk, and without considering the loss mitigating impact of collateral.

³ One-third of banks that were subject to the CA (still) have very weak balance sheets. Half of these vulnerable banks are in Italy and Spain, with 16 banks in eight countries reporting NPEs of 30 percent or higher.

Figure 1. Euro Area: Comparative Analysis of Nonperforming Loans



3. **Reducing NPLs expeditiously will be crucial to restore the health of the banking sector and support credit growth.** Credit growth remains slow in countries where banks report a high level of impaired assets, insolvency procedures are weak, and the effectiveness of enforcement is low. Euro area banks with higher NPLs ratios in 2012-2013 have been lending less than banks with average asset quality operating in the same country under the same demand conditions. Staff calculations suggest that, given the current level of impaired assets, a timely resolution could release as much as €42 billion (or 0.5 percent of selected countries' 2014 GDP) of additional capital, which could unlock new lending of more than 5 percent of GDP (see below).⁴ Because of the uneven distribution of high NPLs and their capital intensity, the potential impact on credit supply could be much higher in some countries.

4. **Resolving impaired loans can also strengthen growth by encouraging corporate restructuring and enhancing monetary policy transmission.** NPL resolution would allow the debt of viable firms to be restructured (including through equity conversions), while hastening the winding-down of unviable firms. When businesses undergo debt restructuring, they have more room to invest and are better able to reorient their resources to more productive uses. Finally, reducing NPLs increases the effectiveness of monetary policy: banks that are concerned about capital adequacy and rising loan loss provisions are likely to be less responsive to changes in the policy rate.

⁴ This assumes sales at net book value and that there is sufficient demand for credit at attractive interest margins for banks (Section II). If country-specific, market-implied haircuts are applied to asset sales (Box 3), the aggregate capital relief (for a capital adequacy ratio of 13 percent) is about €23 billion. The haircut is meant to account for the "pricing gap"—the difference between the price for which the ceding banks are prepared to sell their NPLs and the price at which distressed debt investors are prepared to buy them.

5. **The objective of this paper is to assess the NPL situation in the euro area and suggest a comprehensive approach to accelerate NPL resolution.** The next section discusses the literature on the macro-financial implications of NPLs. Section C explores various impediments to NPL resolution in the euro area against the background of international experience. Section D recommends a comprehensive approach to addressing high levels of impaired assets in the euro area. To preview, the main elements of this approach are:

- *Enhanced supervision.* In parallel with efforts to foster a more conservative application of provisioning and collateral valuation practices, capital surcharges on long-held NPLs and time limits on NPL disposal could provide incentives for timely write-offs.
- *Structural reforms to enhance debt enforcement and facilitate asset recovery.* Impediments to debt restructuring (e.g., unfavorable tax treatment) should be tackled and reforms to debt enforcement and insolvency regimes (including out-of-court workouts) carried out to support market-led corporate debt restructuring.
- *Developing distressed debt markets.* Improved credit reporting, NPL securitization, and the creation of private and in some cases, public asset management companies (AMCs), could facilitate the development of a market for distressed debt.

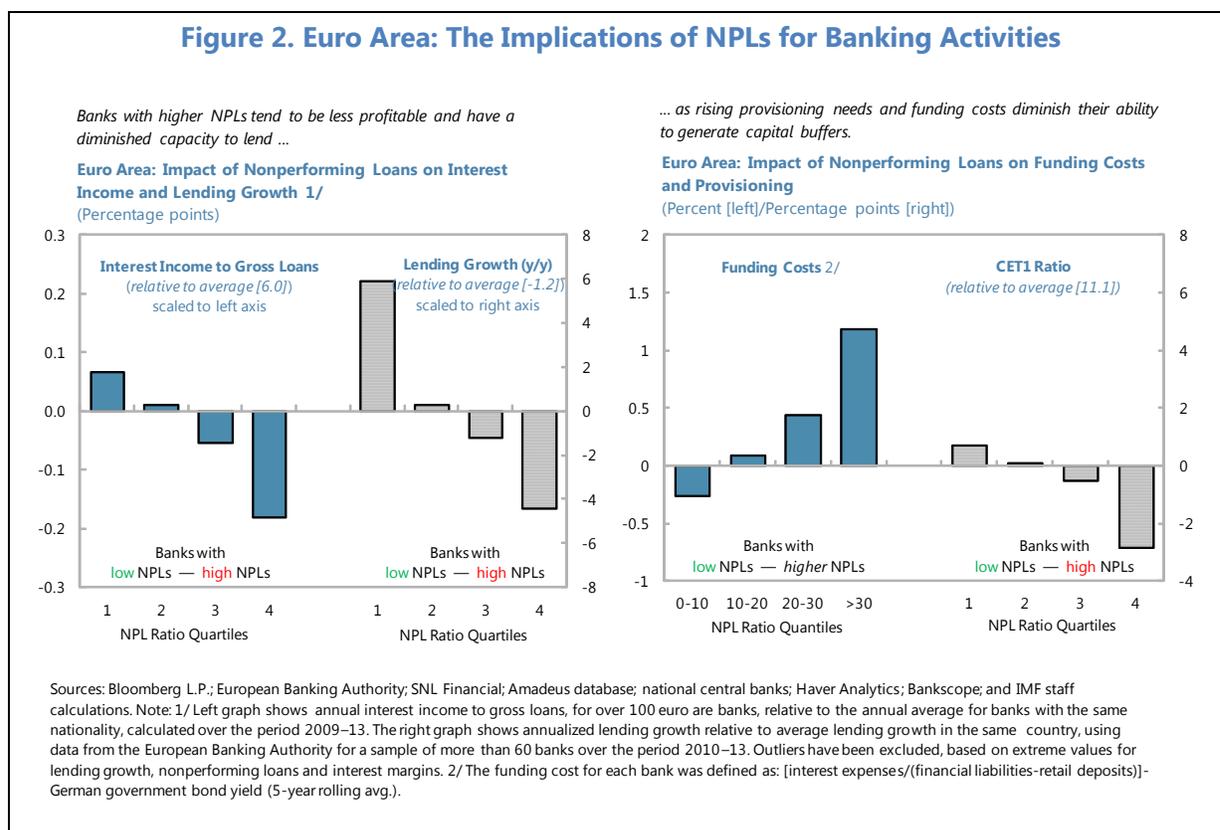
B. What are the Macro-Financial Implications of NPLs?

6. **High NPLs undermine the capacity of banks to lend in the recovery (Figure 2).** Growing NPLs require banks to raise provisioning levels, lowering net operating income. NPLs, net of provisions, also tie up substantial amounts of capital due to higher risk weights on impaired assets. Diawan and Rodrik (1992), Kashyap and others (1994), and Krosner and others (2007) find that high NPLs adversely affect banks' capital positions and raise their cost of capital, thereby resulting in higher lending rates and lower credit growth.⁵ Bending and others (2014) find a significant negative relationship between NPLs and the growth rate of corporate and commercial loans in a sample of 42 banks across 16 euro area countries. Given the dominance of bank lending in corporate sector finance in Europe, high NPLs also impair monetary transmission, as credit supply remains heavily influenced by the lending behavior of banks.

7. **Banks' reduced lending capacity is likely to disproportionately affect SMEs that are more dependent on bank finance.** Rajan and Zingales (1998) argue that firms that are dependent on external financing are particularly sensitive to financing constraints. Kannan (2010) stresses that smaller firms with fewer tangible assets producing fewer tradable goods are more at risk of being credit constrained. This is borne out by international experience: Inaba and others (2005) find that the deterioration of banks' balance sheets after the bursting of the bubble in Japan in the early 1990s hindered investment by firms heavily reliant on bank borrowing. And

⁵ In opposition to this view, Krugman (1998) argues that banks may "gamble for resurrection" when their balance sheets are damaged, engaging in excessive lending in the absence of a bank run as was the case with the U.S. thrifts and banks in Japan.

Klein (2014) shows that tight financial conditions for European SMEs have been a drag on the recovery. In the euro area, countries with the largest NPL ratios tend to be those in which SMEs account for large shares of output and employment (Al-Eyd and others, 2015).



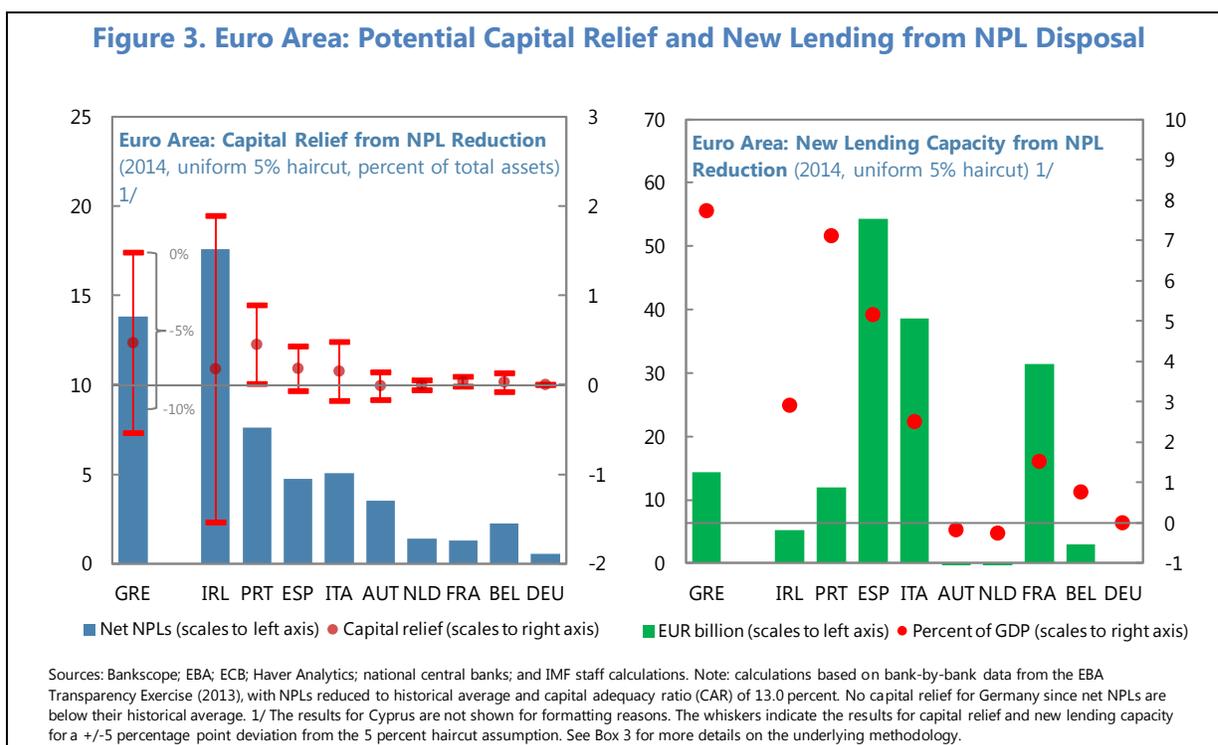
8. **Persistently high NPLs can also reflect an unresolved corporate sector debt overhang, which depresses the demand for investment.** Viable firms may be held back from investment due to deleveraging pressures. In the absence of debt restructuring, overextended companies have little incentive to invest because any return is used to service their debt. Based on aggregate firm-level data for 2000–2011, Goretti and Souto (2013) investigate the macroeconomic implications of high corporate debt and find a negative effect of the debt overhang on firm investment.

9. **Accelerating NPL write-offs could free up considerable capacity for new lending (Figure 3).** For a large sample of euro area banks supervised directly by the SSM, we calculate bank-by-bank the amount of capital that would be freed-up if NPLs were reduced to a level consistent with historical averages (between 3 and 4 percent for most banks). It is assumed that NPLs are sold either at the *net* (after provisioning) book value, or at a “haircut” of 5 to 10 percent. Up to €42 billion of capital could be released, amounting to 0.5 percent of the combined GDP of sample countries at end-2014 (or 0.2 percent of total assets of sample banks).⁶ The risk-

⁶ This corresponds to NPL sales at net book value.

weighting of performing loans is then compared, bank by bank, to the risk-weighting on NPLs. It is found that the freed-up capital could support new lending of up to €522 billion (5.6 percent of GDP), assuming that the aggregate capital adequacy ratio remains at 13 percent. Due to the uneven distribution of capital and NPLs, capital relief varies significantly across countries. Under the stylized assumptions above, Portugal, Italy, Spain, and Ireland would benefit the most. In reality, the haircut required on the book value of assets is likely to be influenced by several factors including the efficacy of the insolvency and debt enforcement regime (with larger haircuts required the longer the average time for collection) and the expected rate of return demanded by distressed debt investors. Annex 3 describes a country-specific methodology accounting for some of these factors.

Figure 3. Euro Area: Potential Capital Relief and New Lending from NPL Disposal



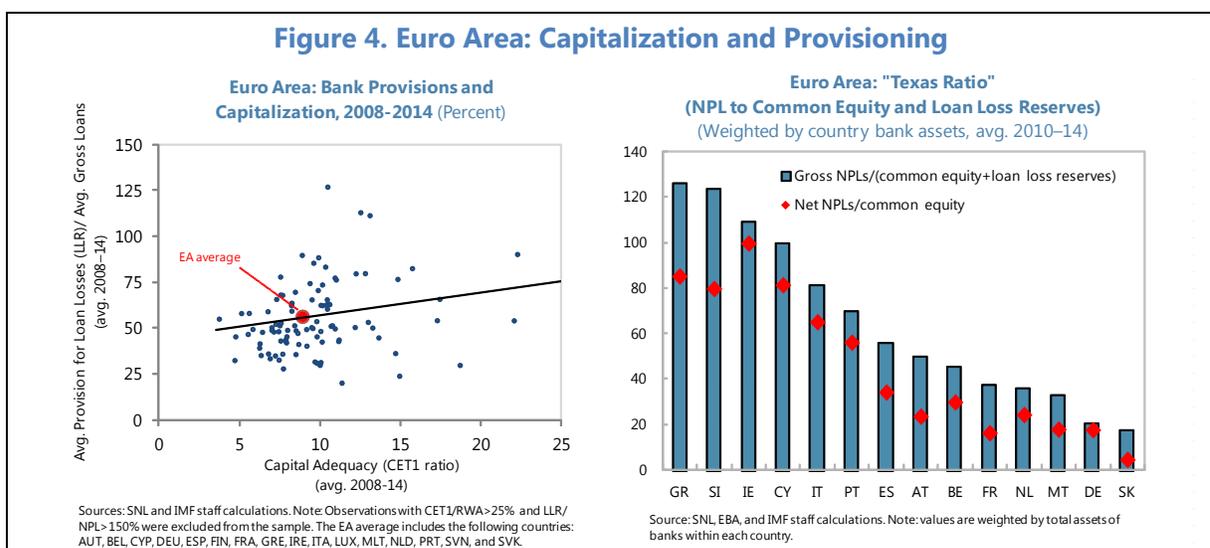
C. Impediments to NPL Resolution: European and International Context

Structural Obstacles to NPL Resolution in Europe

10. **The size of capital buffers and accounting standards and practices significantly influence banks' incentives to resolve NPLs.** Low profitability and thin capital buffers constrain banks' ability to increase provisions and discourage timely loss recognition as banks approach minimum capital requirements. NPLs in excess of the total loss absorbing capacity, i.e., common equity plus reserves, could exacerbate this situation (Figure 4). Moreover, accounting standards provide insufficient incentives for NPL resolution in several ways. First, the incurred-loss approach to provisioning for loan losses under IFRS leaves substantial room for judgment, which may result in insufficient provisions (though this will be addressed when IFRS 9 becomes effective in

2018).⁷ Second, while IFRS explicitly permits loan write-downs for impairment losses, it does not provide details on write-off modalities, which are left to the supervisors. Third, IFRS allows for the accrual of interest income from NPLs, providing an incentive for banks to retain NPLs to inflate profitability and coverage ratios. Lastly, while collateral is taken into account in impairment loss recognition under IAS 39,⁸ neither accounting nor regulatory rules have detailed guidance on its measurement.

11. **Tax regimes can also reduce incentives for NPL resolution.** In some countries, charge-offs and/or losses as a result of higher provisions are not eligible (or are subject to a certain cap) as deductions for income tax purposes. For example, until recently the tax treatment in Italy penalized banks that wrote off problem loans more aggressively, allowing tax deductibility for write-offs only in the state of insolvency. Tax deductibility of loan loss provisions was limited to 0.3 percent of outstanding loans—a clear disincentive to provisioning. A 2013 reform allowed provisions and write-offs to be fully deducted in equal installments over five years, and with a higher tax rate; and in June 2015, this period was further shortened to a year. To take another example, Spain recently eliminated taxes on debt-to-equity swaps in a similar move to encourage banks to recognize losses from impaired assets. Both countries now compare favorably with others in the euro area, where longer time periods for tax deductibility discourage accelerated write-offs.



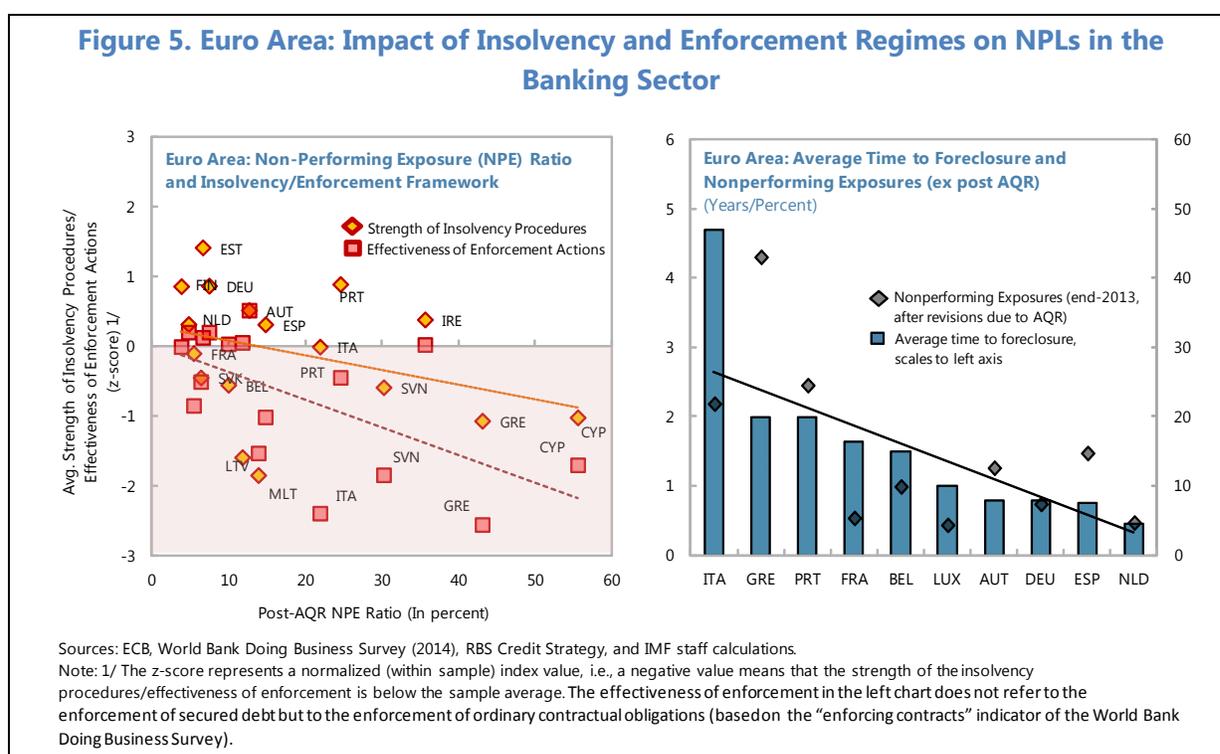
12. **In some countries, public creditors do not participate (or participate to a limited extent) in debt restructuring.** Priority or super-priority of public creditor claims, such as for taxes, in insolvency and foreclosure processes raises the difficulty for banks to

⁷ On July 24, 2014, the International Accounting Standards Board (IASB) published its guidelines for IFRS 9, a new principles-based approach for the valuation of financial assets and liabilities, including a single, forward-looking 'expected loss' impairment model that departs materially from the current 'incurred loss' model (see <http://www.ifrs.org/Alerts/PressRelease/Pages/IASB-completes-reform-of-financial-instruments-accounting-July-2014.aspx>).

⁸ The accounting standard IAS 39 sets out the principles for recognizing and measuring financial assets, financial liabilities and some contracts to buy or sell non-financial items.

restructure/foreclose on a distressed debtor. In some countries the tax authorities are not required to participate in out-of-court debt restructuring or are effectively granted priority because they cannot be affected by a restructuring process. In Spain, tax authorities are not bound by out-of-court debt restructuring decisions. In Portugal, on the other hand, legal changes in 2011 require tax authorities to participate in out-of-court workouts (although they remain at liberty to forgo and need to provide their consent for debt restructuring).

13. **Weak debt enforcement procedures and ineffective insolvency frameworks increase the cost of asset recovery and prevent the timely resolution of NPLs** (Figure 5). The ability to enforce credit claims in a predictable, equitable, and transparent manner is essential to efficient debt workouts. Lengthy foreclosure and judicial processes raise the legal cost of debt restructuring and hamper banks' ability to seize loan collateral, reducing the expected recovery rate on delinquent loans.



14. **In some countries, national debt enforcement and insolvency regimes are slow and inefficient, and reforms remain uneven.** This results in considerable variation in the speed and rate of asset recovery. The average length of foreclosure proceedings in Italy is almost five years compared to less than one year in Germany and Spain. Some recent steps have improved the prospects for harmonization, but there remains much ground to cover.⁹ In several countries, the

⁹ The current *European Insolvency Regulation* acknowledges differences of national insolvency regimes within the EU but creates mechanisms for the mutual recognition of insolvency processes and cooperation among courts and insolvency representatives in different Member States (“functional convergence”). The European Commission

(continued)

large share of heterogeneous SMEs in NPLs, combined with inefficient and costly court procedures, complicates asset recovery (e.g., Greece and Italy).¹⁰

15. **Banks are often poorly equipped in terms of expertise and available tools to undertake internal NPL resolution, and may face perverse incentives.** Banks may lack the experience, resources and restructuring tools to provide sustainable loan restructurings.¹¹ They may also lack specialized skills in real estate servicing and corporate turnarounds, which can be necessary to work out certain asset classes. And small banks typically do not enjoy the economies of scale to invest in internal management of nonperforming assets. Moreover, bank managers might be inclined to engage in loan forbearance in order to avoid loss recognition from NPLs in times of deteriorating credit conditions. They might also refrain from aggressive debt enforcement and recovery processes for reputational reasons or expend too many resources on loans with little prospect of recovery.

16. **Finally, the market for distressed debt in Europe is small compared to that in the United States, which complicates the disposal of impaired assets.** The market value of distressed debt transactions in Europe was only €64 billion compared to \$469 billion in the United States at end-2013, despite a stock of NPLs several times higher (Altman, 2014). A market for NPL disposal reduces the collection burden on banks and can help boost loan recovery values by providing a more cost-efficient alternative to lengthy court procedures if assets are restructured or liquidated outside the originating bank. The distressed debt market in Europe is relatively under-developed, and focused mainly on commercial real estate and consumer loans. In part this is explained by the lack of a liquid secondary market for loans and credit information sharing. Reliable credit registers containing, for example, data on the total amount of debt owed by each distressed debtor—which are critical for effective debt restructuring—do not exist in many euro area countries.

International Experience with NPL Resolutions

17. **International experience suggests that a comprehensive strategy is most effective in resolving NPLs** (Hagan, 2003; Liu and Rosenberg, 2013). Such a strategy typically includes: (i) tightened prudential oversight, (ii) foreclosure and insolvency reforms, and (iii) the development of a market for distressed assets. Realistic loan loss provisioning standards and strengthened

has recently taken a step toward establishing common general principles for EU countries through a non-binding *Recommendation* for a narrow area of insolvency law, namely, pre-insolvency regimes and out-of-court restructuring to support timely rehabilitation of distressed debtors (European Commission, 2014a and 2014b). Several euro area countries have already reformed their insolvency laws (Austria, Cyprus, France, Germany, Ireland, Italy, France, Latvia, Portugal, Slovenia, and Spain). Some countries have established out-of-court frameworks ranging from purely voluntary to hybrid/enhanced mechanisms.

¹⁰ Many SMEs draw on letters of credit or other ancillary facilities that may be secured by the same asset, which complicates collateral access in cases of bankruptcy, especially in cases of multiple creditors.

¹¹ Some national supervisory authorities (e.g., Greece, Cyprus, and Ireland) hired independent workout specialists to assess banks' NPL management capacity and found that banks were unable to properly assess affordability and were also hindered by poor interbank collaboration in the case of ordinary borrowers.

capital requirements give banks the proper incentives for loss recognition and debt restructuring. Promoting effective and orderly insolvency regimes facilitates both rehabilitating viable debtors and liquidating non-viable debtors. Developing a market for NPLs is crucial to provide an outlet for banks to sell and manage their bad assets regardless of whether the strategy is public or private-led. Governments have often been involved in removing key bottlenecks to debt restructuring, such as tax disincentives, or through supporting asset management companies (AMCs) to remove impaired assets (Woo, 2000).

18. **In almost all successful cases, supervisors have pushed for swift loss recognition, enhanced supervision, and exit of nonviable borrowers to accelerate the resolution process.** For example, in Sweden (1994), corporate firms with low interest coverage ratios and high leverage were identified for bankruptcy or liquidation. Similarly, in Korea (1998), the supervisor instructed banks to separate out nonviable firms, following specific forward-looking criteria and leverage levels. In Japan (2001), the FSA also required major banks to apply strict discounted cash flow analysis in their NPL assessments.¹² Some supervisors (e.g., Cyprus, Ireland, and Spain) have enhanced supervisory reporting of NPL portfolios and issued guidance for addressing NPLs through time-bound write-off schedules. Cyprus and Ireland also introduced explicit operational targets for banks to engage borrowers in loan restructuring discussions.

19. **Countries also attempted to strengthen their formal insolvency systems to facilitate reorganization and out-of court workouts** (Indonesia (1999), Thailand (1999), Turkey (2002), Japan (1999, 2008), and Korea (1998, 2006)). Countries enhanced their insolvency laws to encourage rehabilitation while creating a credible threat of bankruptcy for recalcitrant debtors. This was important for setting the proper incentives and expected payouts for negotiating agreements out-of-court (IMF, 1999). Reforms typically aimed to enable the rapid liquidation of non-viable debtors, allow for ownership changes in debt restructuring agreements, and introduce pre-pack procedures for quick court approval of debt restructuring plans negotiated out-of-court. Insolvency reforms were complemented by other reforms such as specialized courts (Indonesia, Thailand), reform of insolvency administrators (Indonesia), and the removal of tax and other regulatory impediments (Korea, Thailand).

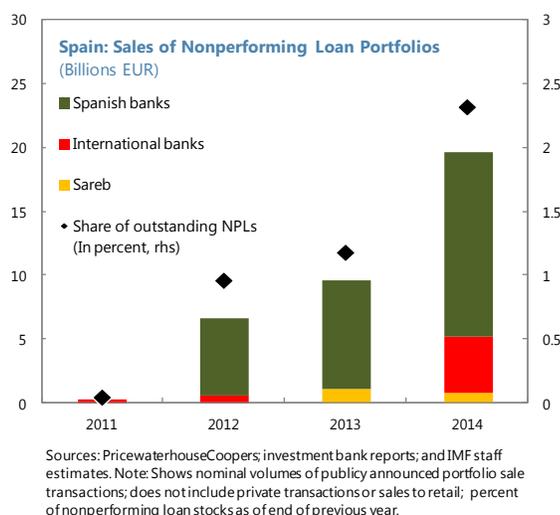
20. **In many cases, out-of-court workouts proved to be more efficient and less costly than court-led procedures.**¹³ These schemes varied from purely voluntary schemes to enhanced/hybrid schemes with more formal government involvement (Garrido, 2012). The former followed closely the example of the London Approach (UK) which was administered under the leadership of the Bank of England and targeted at large corporates. Crisis countries have also used temporary, formal, enhanced (such as creditor committees, and arbitration/mediation), and hybrid (such as majority voting and limited judicial intervention) frameworks with government

¹² Accounting standards have changed over time so that some strategies used in the past are no longer viable, but the general principle of encouraging rapid write-downs remains valid.

¹³ See Altman (1984), Betker (1997), Gilson and others (1990), as well as Franks and Sussman (2000).

involvement (Korea (1997 and 2004), Indonesia (1997), Thailand (1998), Malaysia (1998) and Turkey (2002)).

Figure 6. SAREB: The Role of an AMC in Starting a Market for Distressed Debt



21. **Asset management companies (AMCs) have also been used to facilitate NPL disposal and corporate restructuring** (Sweden, Indonesia, Malaysia, Korea, and Thailand).¹⁴ The rationale for AMCs is to separate bad from good assets allowing the ceding bank and the AMC to focus on their respective objectives—financial intermediation and asset recovery. Centralized AMCs have typically been public, though recent examples in Europe have included majority privately-owned AMCs (e.g., SAREB). These ventures were particularly effective in Asia, where they were instrumental in bridging the gap between the price at which banks are willing to sell and investors are willing to buy (“pricing gap”). More recently, the creation of SAREB in 2012 appears to have kick-started private transactions in NPLs in Spain (Figure 6 below).¹⁵

D. A Comprehensive NPL Resolution Strategy for Europe

30. *This section proposes a multi-faceted strategy for NPL resolution in Europe, combining regulatory/supervisory approaches and insolvency reforms with measures to develop markets for distressed debt. The suggested policy measures are informed by the international experience in addressing previous episodes of high NPLs.*

¹⁴ Other examples of AMCs include the *Resolution Trust Corporation* (RTC) in the United States (now part of the Federal Deposit Insurance Corporation (FDIC)), the Malaysian Danaharta, the Indonesian *Bank Restructuring Agency* (IBRA), and more recently, NAMA in Ireland, the SAREB in Spain, and BAMC in Slovenia (Table).

¹⁵ For a broader discussion of AMCs and prerequisites for their success, see Ingves and others (2005).

Supervisory Policies

22. **Pursue a conservative application of accounting standards.** The SSM and EBA should take steps to foster more robust provisioning, write-off, and income recognition. Specific guidance on loan loss provisions (following the approaches taken in Ireland and Cyprus) should focus on appropriate impairment triggers, provisioning methodologies for collectively assessed loans, and management judgment and assumptions.¹⁶ This should be accompanied by extensive dialogue between the SSM and the auditing standard-setters, including on approaches to reinforce implementation of IAS 39. Unreasonable accounting assessments should be referred to ESMA, the market authority, for follow-up. The SSM and EBA should also clarify supervision regarding write-offs and foster consistent practices across banks.¹⁷ In particular, a supervisory policy should be introduced underscoring the importance of timely write-off of uncollectible loans before having exhausted all legal means to collect the debt. Time-bound write-off requirements for uncollectible loans could also be considered where the domestic legal framework allows it. With regard to interest accrual practices, the adoption, for prudential purposes, of a nonaccrual principle for loans past a set delinquency threshold would be critical.

23. **Ensure that banks apply a conservative approach to collateral valuation.** While it is reasonable to take account of collateral in provisioning, a conservative approach should be adopted, reflecting various constraints in valuing and disposing of collateral. In particular, the value of collateral should reflect changes in market conditions, the costs of sale, and delays in realizing proceeds. Furthermore, collateral should be periodically valued by reliable and independent third parties and subject to enhanced supervisory scrutiny. In the case of real estate, banks should obtain sound appraisals of the current fair value of the collateral from qualified professionals. Real assets accumulating on the balance sheet as a result of workout activities should be valued appropriately and not be held for excessively long periods.

24. **Strengthen capital requirements to encourage asset disposal.** Conservative application of accounting standards could be supplemented by micro- and macro-prudential measures, such as time-bound targets for disposing delinquent assets and raising risk weights on impaired assets of a certain vintage (above the current 150 percent, for instance, for banks reporting under the “standardized approach”).¹⁸ If applied on a system-wide basis, such measures would generally fall under the category of Pillar II requirements of CRR, and thus would be initiated by NCAs. But the SSM could play a coordinating role among NCAs by encouraging the use of these instruments.

¹⁶ Detailed guidance to banks should include reference to the principles put forth by the Basel Committee (2006 and 2015).

¹⁷ In June 2015, the SSM created a joint task force with several NCAs to establish consistent and common supervisory practice for NPL resolution.

¹⁸ The application of these measures should be considered after a comprehensive assessment based on enhanced reporting for banks with elevated NPLs.

25. **Enhance prudential oversight.** The SSM has already followed a supervisory review approach to foster more active resolution of NPLs by placing banks with high NPLs under enhanced monitoring and setting objective targets for these banks to restructure or write off problem loans. The SSM should ensure that NCAs follow a similar approach for smaller banks. Banks with NPLs above a set threshold (e.g., 10 percent) should be subject to a more intrusive oversight regime to ensure that they conservatively recognize and proactively address asset quality problems. Prudential reporting requirements for NPL portfolios should be significantly enhanced through detailed submissions (on a quarterly or more frequent basis).¹⁹ Banks should also be required to include in their regular reports the interest income from NPLs, including restructured loans and those from accrued, non-cash earnings. For banks with high SME NPLs, the SSM could set targets for NPL resolution and introduce standardized criteria for identifying nonviable firms for quick liquidation and viable ones for restructuring (the “triage approach”).²⁰

26. **Require banks to develop internal NPL management capabilities.** Banks should be encouraged to develop a comprehensive NPL management plan, which determines rules and work practices for NPL resolution, such as: (i) removing impaired loans from regular loan servicing and adopting specific tools for early arrears, (ii) risk scoring to set case prioritization, and (iii) developing a customer charter to cater for hardship and sensitive cases, subject to clearly defined implementation targets. A series of voluntary and mandatory codes should be introduced to promote minimum standards in NPL workout activities. A code of conduct should be introduced to set minimum standards of customer engagement for target portfolios as has been adopted in Cyprus (all retail and SME loans), Greece (all retail and commercial loans), and Ireland (mortgages).

27. **Enhance disclosure.** Extended Pillar III reporting of NPLs and granular disclosure by supervisory authorities of NPL portfolios and NPL management performance would increase market transparency and discipline. Disclosures could usefully include the accrual treatment for NPLs, including the increase in NPLs due to loan deterioration (i.e., deterioration in loan principal), and from the accrual of interest income; and separate disclosure of fully provisioned unrecoverable loans from the general NPL pool.

28. **Strengthen the regulatory sanctions toolkit.** A review of the scope of supervisory enforcement powers should accompany the implementation of stricter supervisory policies. While the toolkit for regulatory sanctions is typically well-developed for capital and market abuse, it is often under-developed for NPL oversight. NCAs should review their sanctioning powers in this regard.

¹⁹ As adopted in Greece and Ireland, such reporting should include granular details on portfolio segmentation (i.e., distribution of days past due for various NPL categories), key performance statistics (i.e., cash recoveries, forbearance metrics, and collateral data), legal workout activity statistics, and loan modifications flow data.

²⁰ See Bergthaler and others (2015).

Insolvency Reforms to Facilitate Debt Restructuring

29. **Strengthen incentives for viable but distressed debtors and creditors to participate in meaningful restructuring.** The legal framework should consist of both *legal systems* designed to facilitate speedy in- and out-of-court solutions and an *adequate institutional framework* (including courts) to support the consistent and predictable implementation of these laws. Enforcement and foreclosure regimes are essential in enabling creditors to enforce/foreclose on their collateral, and, thus, should be swift and cost-effective. Many euro-area countries have reformed their insolvency regimes with pre-insolvency features, strengthened protection of post-commencement financing, or broadened restructuring toolkits (e.g., debt-to-equity swaps, see Bergthaler and others, 2015). The institutional framework, i.e., the regulations governing judges, insolvency practitioners and enforcement agents/bailiffs also should be strengthened, specialization increased, the supervision of such professionals enhanced, and the fee structure should incentivize value maximization. More specifically, the authorities should:

- *Enable the rapid exit of non-viable firms and the rehabilitation of viable firms.* A number of features could enhance insolvency laws: (i) expedient in-court approval of settlements negotiated out of court (“pre-packs”),²¹ (ii) post-commencement financing recognizing creditor priority to enable financing for the firm during restructuring, (iii) inclusive restructuring involving all creditors (including secured and public creditors) (Annex 2); (iv) pre-insolvency processes that enable restructuring before reaching non-viability, (v) majority voting in classes (including cram downs), and (vi) the facilitation of various restructuring tools, such as debt-equity swaps (e.g., through suspending the requirement for shareholders to approve corporate changes).
- *Augment out-of-court frameworks with hybrid features.* International practice suggests that out-of-court debt restructuring generates more rapid and cost effective results, especially if the restructuring occurs against the backdrop of strong insolvency procedures. Out-of-court frameworks that use hybrid and enhanced features, such as a stay on creditor actions, majority voting, mediation/arbitration, or a coordinating committee achieve the best results. Several euro area countries have recently introduced such out-of-court frameworks.

30. **Encourage outcome-based (or “functional”) convergence of insolvency and debt enforcement regimes across euro area countries to facilitate asset recovery.** The European Commission (EC) could issue further *Recommendations* (beyond the current guidance on pre-insolvency regimes and out-of-court restructuring (EC 2014a and 2014b)) to establish principles based on international best practices which Member States are assessed against (preferably by

²¹ “Pre-packs” refer to procedures under which the court expeditiously approves a debt restructuring plan negotiated between the debtor and its creditors in a consensual manner before the initiation of an insolvency proceeding. This technique draws on a significant advantage of court-approved restructuring plans—the ability to make the plan binding on dissenting creditors—while leveraging a speedy out-of-court negotiation process.

an independent agency other than the EC) or need to regularly report on. Functional convergence of insolvency regimes across EU countries would greatly facilitate the move towards an EU Capital Markets Union (EC, 2015). In the area of debt enforcement / foreclosure, the EU has adopted *Directives* to harmonize the legal regime for EU members, such as the late payment directive, cross-border garnishments, and the European payment order. Data collection on insolvency and enforcement processes should be unified and enhanced within the EU to enable adequate comparisons and proper assessments.

31. **Improve access to debtor information to enhance the effectiveness of NPL workouts.** Credit bureaus should include full details of borrowers' debts, including loans above a specific threshold and arrears to utility companies or tax authorities. Asset registers that record real estate, vehicle, machinery and equipment ownership should contain sufficiently granular information to facilitate reliable assessments of wealth. Authorities should also ensure that such repositories are centralized, electronic and economical. Improved links between asset registers and credit registers across national borders is needed in some regions to fully capture wealth and debt abroad.²²

External NPL Management and Distressed Debt Markets

32. **Support the development of markets for distressed assets to facilitate the disposal of NPLs.** In several countries the absence of a market for distressed assets limits the prospects for effective NPL disposal. A liquid secondary market for impaired assets (or foreclosed collateral) provides banks with a crucial instrument to manage the credit risk of NPLs (Jassaud and Kang, 2015). It allows banks to clean up their balance sheets, boost asset recovery and allocate capital to solvent lending. If the disposal of NPLs entails the restructuring or cancellation of debt, it also ameliorates the debt service capacity of debtors and frees up space for investment. Over time, a distressed debt market can facilitate corporate restructuring and a reallocation of resources to more productive investments. As the market increases in size and efficiency, it can also attract a wider range of institutional investors and instruments, promoting further development of capital markets.

33. **The market for distressed debt can only proceed as far as the market infrastructure allows.** Access to timely financial information on distressed borrowers, collateral valuations, and recent NPL sales are critical for the development of an active market for NPL restructuring. Facilitating the licensing of nonbanks for restructuring, as opposed to entities with a banking license, would lower the cost of entry into this market and allow for greater specialization. Promotion of NPL servicing and loan collection agencies and more efficient collateral auctions would help raise recovery values.

²² Some EU countries have recently taken steps to deal with identified shortcomings. Ireland has provided for and is introducing a new public credit register, a new real estate transaction register, and has made improvements to other national repositories.

34. **Structured finance techniques can also facilitate the removal of impaired assets from bank balance sheets** (Aiyar and others, 2015 and 2014; Barkbu and others, 2013). European institutions, such as the EIB/EIF, could play a role in fostering markets for distressed debt, for example through investing in senior tranches and/or providing guarantees on mezzanine tranches of NPL securitization transactions. This involvement may also foster transparency and homogeneity, setting the stage for a truly pan-European market. The securitization of NPLs has proven to be a successful resolution technique in many jurisdictions.

35. **In some countries, AMCs or other special purpose vehicles could help kick-start a market for distressed debt.** First, they bring *economies of scale*, which may help smaller banks in particular resolve problem loans. For example, centralizing impaired assets from several banks into an AMC may help reduce the fixed cost of asset resolution, increase the efficiency of asset recovery, allow for a more efficient packaging of assets for sale, and attract outside investors. Second, and relatedly, AMCs are likely to enjoy greater *bargaining power* due to their size, especially when credits are scattered within the system, collateral is pledged to multiple creditors, and the size of debtors is large relative to that of banks. Third, they encourage *specialization* by enabling banks to focus on new lending while allowing the AMC to concentrate on the recovery of impaired assets. This division of labor becomes increasingly important if NPLs are at systemically high levels and for smaller banks which lack workout expertise and resources. Fourth, (and related to the previous point), increased specialization can facilitate *better valuation and credit discipline*. The transfer of NPLs entails a separation of the loan administration away from their credit officers, which could foster a more objective assessment of credit quality. Breaking-up unhealthy ties between banks and corporate borrowers may also improve the collection on delinquent loans and facilitate a correct assessment of the ceding bank's external value by market participants. Finally, all these points together suggest that AMCs could be crucial to *price discovery*.²³ Economies of scale, central bargaining power and better valuation are likely to be key ingredients in bridging the pricing gap in situations where no market exists, or the market is extremely illiquid.²⁴

36. **AMCs could be private or public.** Larger banks may be in a better position to establish their own private AMCs. However, for smaller banks or in cases of market failure due to significant structural constraints or where NPLs have reached systemically high levels, consideration could be given to a national-level AMC with public participation. But any AMC should be: (i) *complementary* to other NPL resolution strategies (such as loan workouts in separate bank unit or bank-specific AMCs); and (ii) *combined* with strict supervisory policies,

²³ The case of SAREB (Spain, 2009) is instructive. The announcement of the initiative was a trigger for other banks—fearing massive upcoming asset sales—to adjust their asset values and start selling their NPLs. With the market kicking in, investors bought servicing platforms and turned from opportunistic to recurring buyers (Figure 6).

²⁴ In some cases, banks may choose to maintain NPL-AMCs on their balance sheets. On-balance sheet structures can help overcome structural constraints (mandatory licensing, tax implications, and insufficient data quality) and boost expected returns. Here, banks can continue servicing loans while the AMC focuses on providing management services for the restructuring and/or liquidation of impaired assets.

robust insolvency frameworks, and the removal of impediments to NPL resolution as described in the previous sections.

37. **To allow banks to sell NPLs without facing penalties, AMCs should comply with EU State aid rules.** Thus, they should either (i) involve no transfer of public resources or (ii) receive only such public sector support as is compatible with the EU treaty. The EC (DG Competition) has the exclusive mandate and power to ensure that granted State aid is compatible with the EU Treaty, and that any State aid provision is accepted in exchange for strict conditionality.²⁵ There are two general steps to the assessment process—the assessment of the *existence* of State aid (with a notification obligation of the granting Member State to the EC) and the assessment of the *compatibility* of State aid. If assets are transferred to the AMC “above market value” this would involve State aid. Such public support would trigger the bail-in of junior creditors and hybrid instruments holders under the BRRD, and the implementation of a far-reaching restructuring plan for the beneficiary bank in order to ensure its return to long-term viability.²⁶ In exceptional circumstances, exemptions to the restructuring and bail-in requirements could be granted, for example on the grounds that the public support addresses a market failure or serves a well-defined social objective such as the preservation of financial stability.²⁷

38. **A possible model for national AMCs without transfer of public resources would involve a limited lifespan, minority public ownership, and asset transfers at market prices.** The government should receive adequate remuneration (realistic pricing, equity warrants) for national AMCs to minimize fiscal costs. The following characteristics should be satisfied:

- *Semi-private ownership.* Public sector participation in equity and funding would demonstrate political commitment and attract private sector funding through shared ownership. But public ownership should be limited to a minority stake. AMC liabilities would be treated as only as contingent liabilities for the state, helping overcome potential fiscal constraints.
- *Transfer at market price.* Assets should be transferred from banks to the AMC at market prices. If there is no market, or if the market is undermined by severe illiquidity, prices should be determined using a model-based approach agreed with EC’s DG Competition (typically a robust pricing model would factor in risk premia in line with valuations of similar assets classes elsewhere).

²⁵ During the financial crisis, Member States providing state aid have been required to implement compensatory measures required by DG Competition. These measures included divestments, penalty interest rates, management removals, dividend suspensions and contributions from shareholders and subordinated debtors through dilution, conversion or write-down.

²⁶ Such measures were implemented in Spain and Slovenia, where NPLs were transferred to public AMCs, and banks submitted restructuring plans.

²⁷ Art. 107(3b) TFEU (Exception to Incompatibility): “The following may be considered to be compatible with the internal market: [...] (b) aid to promote the execution of an important project of common European interest or to remedy a serious disturbance in the economy of a Member State.”

- *Voluntary participation by banks.* Banks should have the option to work out loans internally or through their own AMCs, or sell them directly to the market.
- *Governance.* To avoid risks of moral hazard and warehousing of bad assets national AMCs should have a clear mandate to *acquire* assets within a limited time period and to maximize recovery value over a fixed life span. Clawbacks could be used to protect public investment in the event of losses.
- *Strengthening the recovery value of NPLs.* Special powers, such as time-bound fast track restructuring, might be needed to overcome structural deficiencies (inefficient enforcement processes, deficient insolvency laws, and clogged judicial systems).²⁸ Any such powers would be granted to *all* market participants, including banks that are resolving NPLs internally, in order to ensure a level playing field.

39. **Clarity is needed on the conditions under which a transfer of public resources to support NPL disposal would be permissible *without* triggering bank restructuring.** While the national AMC proposal above should avoid State aid (by virtue of market price asset transfers), there may be circumstances in which State aid would be needed to address risks to financial stability or market failures arising for example from costly enforcement and lengthy foreclosure procedures. Here, the EC should issue guidance clarifying *ex ante* the permissible design/implementation of AMCs involving public support to address a market failure or systemic risk, which would *not* result in a requirement to restructure the benefitting banks. In the current context, this guidance should take into account that NPLs have assumed systemic proportions in several euro area economies, hindering credit supply and impairing the monetary transmission mechanism. Greater flexibility under these conditions would allow earlier and more proactive steps to address potential risks to financial stability.²⁹

E. Conclusion

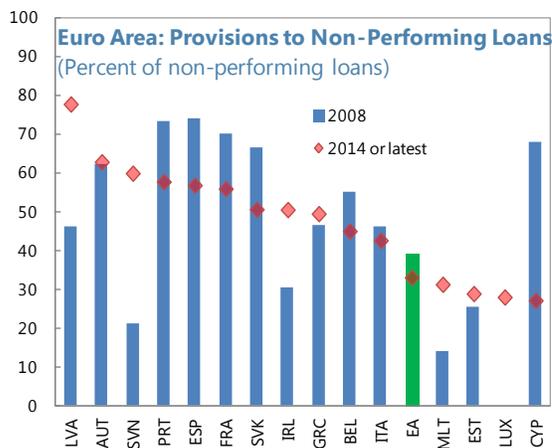
40. **Reducing the level of impaired assets is an important policy priority to restore the health of the banking sector and support credit growth in Europe.** High NPLs hold back credit supply by locking up capital that could be used to support fresh lending. They also reflect a large corporate and household debt overhang, which acts as a drag on credit demand. A comprehensive strategy is needed to address the NPL problem. This paper suggests three main elements to such a strategy: (i) enhanced supervision; (ii) insolvency reforms; and (iii) the development of a distressed debt market.

²⁸ Danaharta (Malaysia, 1998) offers an example of a public AMC in which special powers were an essential feature of the AMC program (Table).

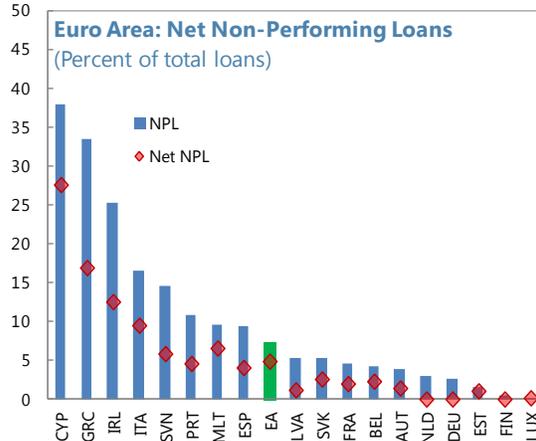
²⁹ In several countries, uncertainty about EU State aid rules have delayed the resolution of NPLs, such as in the case of Slovenia, or hampered the return of banks to financial health (Portugal and Spain).

Figure 7. Euro Area: Asset Quality Developments¹

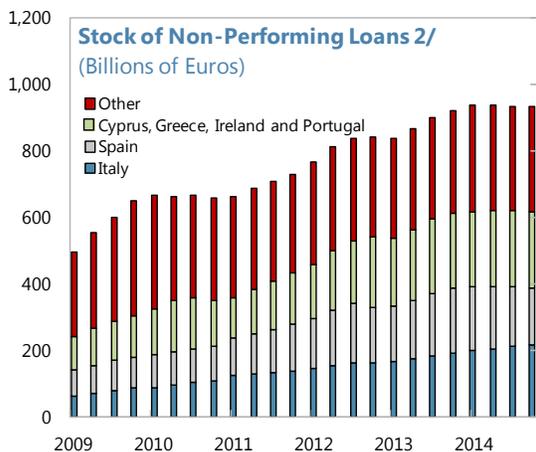
Provisioning levels have even fallen below 2008 levels in countries with the highest NPL levels.



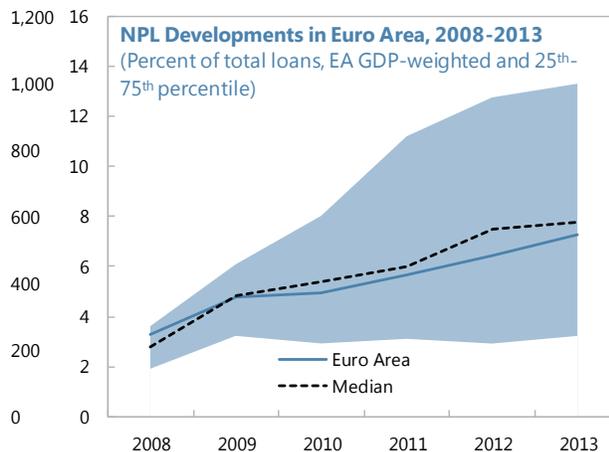
As a result, the distribution of net NPLs across EA countries is similar to that of gross NPLs.



The surge of NPLs has recently stopped in current and former program countries but continues in Italy.



The dispersion of NPL levels across EA countries has widened amid rising asset quality challenges across the board.

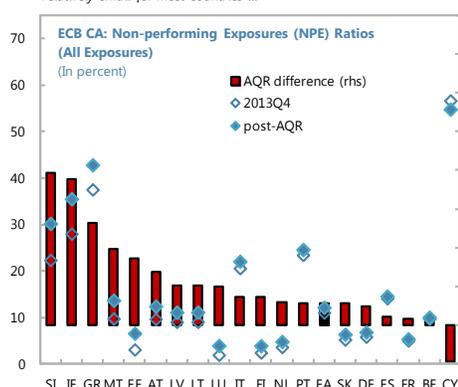


Sources: ECB; National central banks; IMF, Financial Soundness Indicators; and IMF staff calculations.

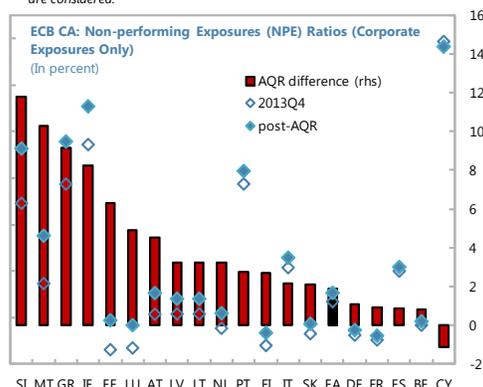
Note: 1/ Euro Area NPL ratios GDP-weighted. 2/ National definitions have been adjusted according to Barisitz (2013). Other comprises Austria, France, Germany, and the Netherlands. 3/ NPL = nonperforming loan; net NPL = gross NPL plus provisions; provision ratio = provisions as a percentage of gross NPL; write-off ratio = write-offs as a percentage of gross NPL.

Figure 7. Euro Area: Asset Quality Developments (Continued)

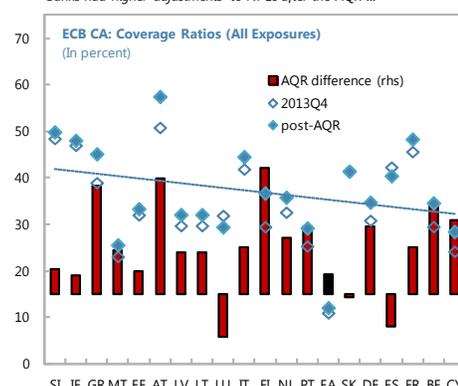
The adjustment to the NPE ratios after the completion of the AQR is relatively small for most countries ...



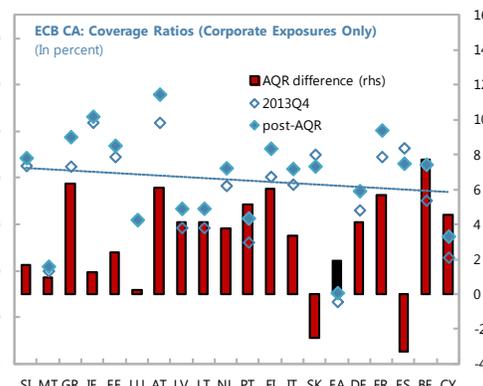
... but almost doubles for most countries if only corporate exposures are considered.



Provisioning levels tend to be somewhat higher in countries where banks had higher adjustments to NPEs after the AQR ...



... which was less pronounced for corporate exposures.

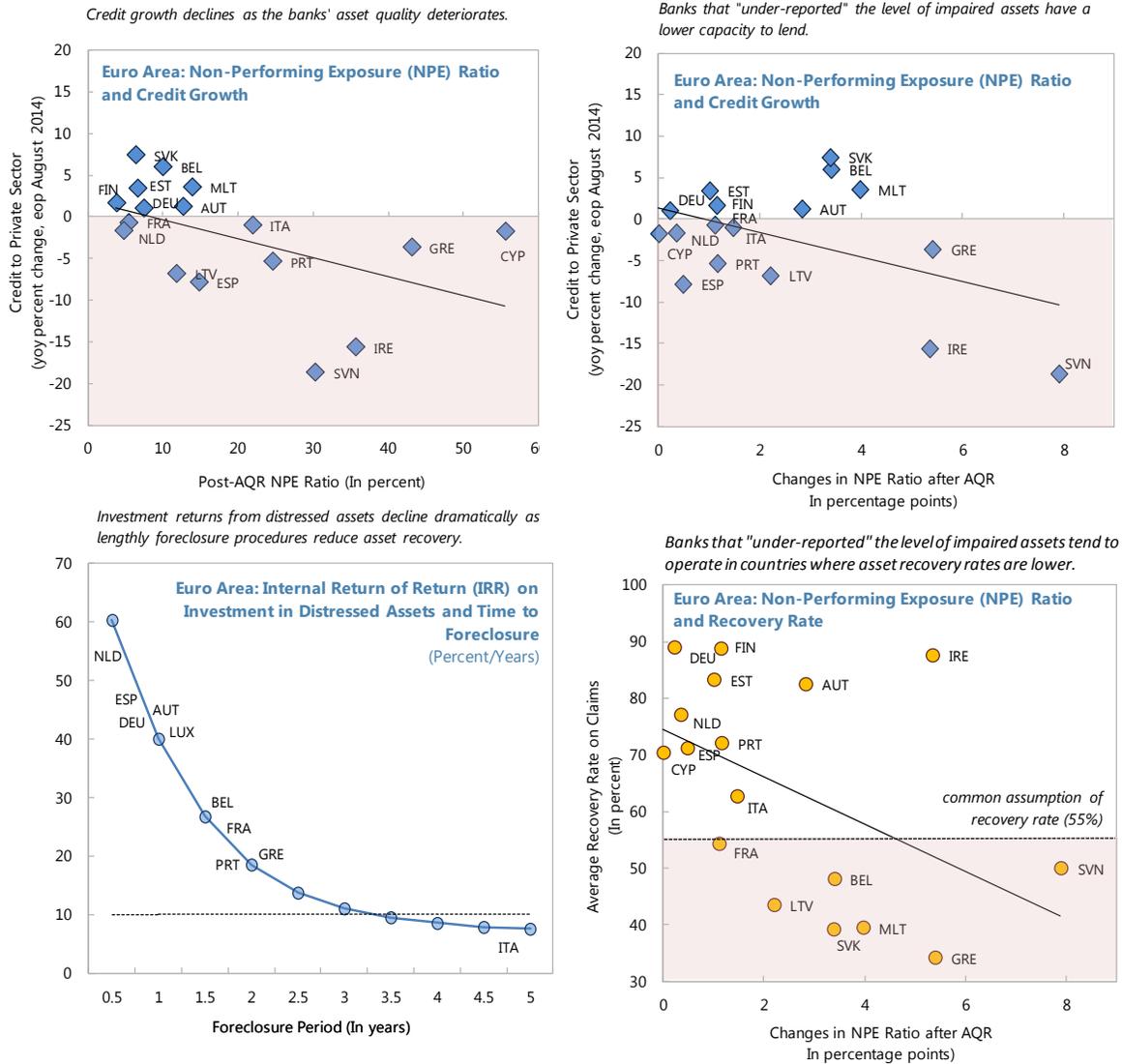


Euro Area Banks: Gross Non-performing Exposure (NPE) Ratios by Sector, locational 1/
(Weighted average; in percent of total assets)

	AT	BE	CY	DE	EE	ES	FI	FR	GR	IE	IT	LT	LU	LV	MT	NL	PT	SI	SK
2013																			
Total	4.6	3.4	39.4	4.0	2.5	12.2	1.7	3.2	25.3	32.2	17.6	8.9	5.0	9.7	6.3	3.7	7.9	20.2	5.0
Corporate	5.0	5.1	46.3	5.5	2.3	18.8	1.8	2.9	23.2	50.2	21.0	9.7	5.3	7.3	8.8	7.7	11.1	29.9	6.0
Retail	4.0	2.4	29.6	1.9	2.6	6.8	1.6	3.4	26.9	21.7	13.7	8.1	3.1	12.1	4.7	1.8	5.7	11.1	4.3
2012																			
Total	5.0	3.4	11.5	4.1	4.0	8.5	1.9	3.1	18.8	28.2	13.8	9.0	4.0	11.2	4.8	3.2	7.6	18.5	4.0
Corporate	5.2	4.9	12.6	5.8	4.1	12.5	2.2	2.9	16.6	44.5	15.6	10.4	4.7	10.3	6.1	6.6	9.2	25.9	4.1
Retail	4.8	2.2	9.7	2.0	3.9	4.7	1.7	3.3	20.6	17.9	11.7	7.2	1.6	12.1	3.4	1.3	6.2	8.6	4.0
since 2012																			
Total	-0.5	0.1	27.9	-0.1	-1.5	3.7	-0.2	0.1	6.5	4.0	3.8	0.0	1.1	-1.5	1.5	0.5	0.3	1.7	1.0
Corporate	-0.2	0.2	33.7	-0.2	-1.7	6.2	-0.4	0.0	6.6	5.6	5.4	0.7	0.7	-2.9	2.7	1.1	1.9	4.0	1.9
Retail	-0.8	0.1	20.0	-0.1	-1.2	2.1	0.0	0.1	6.3	3.8	2.0	0.9	1.5	0.0	1.4	0.4	-0.4	2.5	0.3
Memo item																			
Total (2013)	2.0	2.3	48.0	1.6	1.4	9.1	0.9	2.7	25.4	40.9	12.0	3.2	7.0	3.7	3.0	5.5	7.3	2.6	4.4

Sources: EBA; ECB Comprehensive Assessment; SNL European Central Bank 2014 Comprehensive Assessment database; and IMF staff calculations.
Note: 1/ Red = top 25 percent of distribution; green = bottom 10 percent of distribution; and light green, yellow, and light red = remaining of the distribution. The distribution is calculated for each category and restricts the definition of NPE to local exposures only.

Figure 7. Euro Area: Asset Quality Developments (Continued)

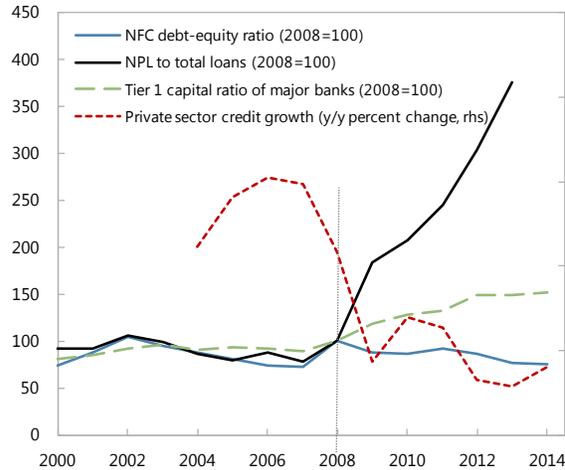


Sources: ECB, World Bank Doing Business Survey (2014), RBS Credit Strategy, and IMF staff calculations. Note: The z-score represents a normalized (within sample) index value, i.e., a negative value means that the strength of the insolvency procedures/effectiveness of enforcement is below the sample average.

Figure 7. Euro Area: Asset Quality Developments (Concluded)

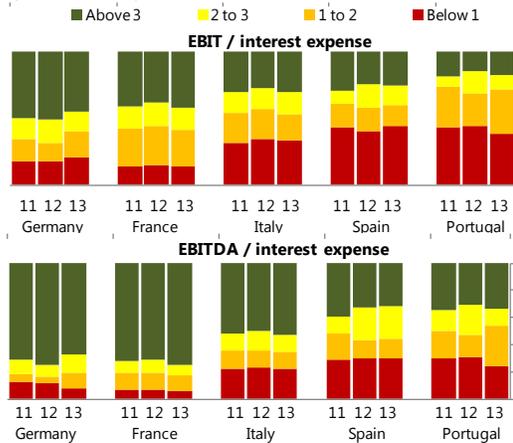
The aggregate asset quality of banks has deteriorated dramatically while credit growth plummeted.

Euro Area: Corporate Leverage, Credit Growth, Non-performing Loans, and Bank Capitalization

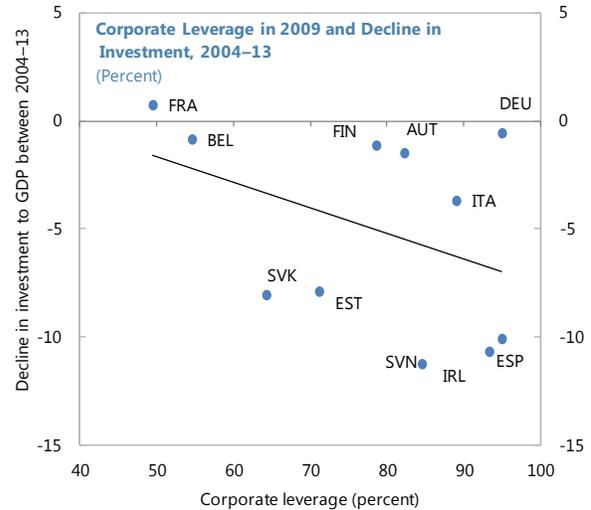


The debt servicing capacity of corporates remains weak and has deteriorated in select euro area countries ...

Corporate Interest Coverage Ratios 1/ (Percent of debt)

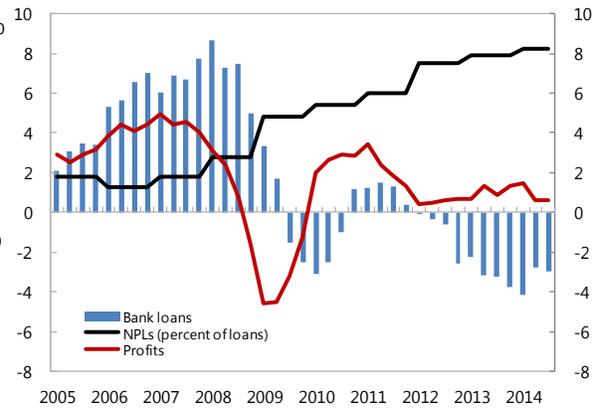


Higher leverage has weighed on investment demand.



... and NPLs in the banking sector keep rising as corporate profitability recovers.

Euro Area: Nonperforming Loans and Corporate Profitability (Nominal y-o-y, percent)



Sources: Bloomberg L.P.; European Banking Authority; SNL Financial; Amadeus database; national central banks; Haver Analytics; Bankscope; and IMF staff calculations.

Note: 1/ French data for 2012-13 are estimated using central bank data for a smaller number of firms. EBIT = earnings before interest and taxes. EBITDA = earnings before interest, taxes, depreciation, and amortization.

Table 1. Comparative Analysis of Selected European and International AMC Initiatives

AMC	Country	Type	Legal Setup, Ownership, Expected Life	Mandate & Management 1/	NPL Ratio, Govt. Debt/GDP, GDP Growth 2/	Absolute and Relative Transaction Size 3/				Capital Structure & Main Funding Sources (bn)	Main Asset Types and Transfer Criteria	Transfer Oblig.	Transfer Price & Profit Sharing	Special Powers
						bn	% GDP	% Assets	% of NPL					
Europe														
Securum, Dec. 1992	Sweden	Centralized; Nordbanken, Gota	Public 100%; SEK24bn; 10-15 years	Narrow, independent	NPL ratio: n/a Debt/GDP: 47% GDP(t): -1.2% GDP(t+1): -0.1%	SEK67 gross (at set-up)	4.5%	4.4%	n/a	33% equity and govt. funding	Complex corporate and Real estate loans	Yes	At net book value; No profit sharing	No
NAMA, Dec. 2009	Ireland	Centralized	Semi-private €100mn; 51% private, 49% public; 10 years	Broad, independent (but strong guidance)	NPL ratio: 9.8% Debt/GDP: 43% GDP(t): -6.4% GDP(t+1): -1.2%	€74 gross; €32 net	37.7%	5%	n/r	0.3% equity, 5% sub bond, 95% senior, govt guaranteed, bought by banks	Real estate loans, most developers, ABS	Yes	Avg. 57% discount to nominal value; valued at long term economic value	No
SAREB, Dec. 2012	Spain	Centralized	Semi-private; €1.2bn; 55% private, 45% public; 15 years	Narrow, mixed management	NPL ratio: 6% Debt/GDP: 69% GDP(t): -2.1% GDP(t+1): -1.6%	€108 gross; €51 net	9.3%	3%	77%	2.2% equity, 6.5% (€3.6) sub, 91.4% (€50.8) senior, mainly govt guaranteed	Real Estate loans and assets; price based selection	No	Discount by asset category from 32.4% to 79.5%; Avg. 53%; no profit sharing	No
BAMC, Feb. 2013	Slovenia	Centralized	Public 100%; €204mn; 10 years	Narrow, independent (own/third-party asset mgmt.)	NPL ratio: 13.3% Debt/GDP: 53% GDP(t): -1% GDP(t+1): 0.6%	€4.5 gross; €1.5 net	13%	8.9%	87%	17% equity, 83% (€1.0) senior govt. guaranteed	Complex Corporate and Real Estate assets	Yes	Avg. discount of 65%; valued at "Real long term value"; no profit sharing	No
Public initiative, Mar. 2015 4/	Italy	Centralized	Semi-private; possibly with minority government share	n/a	NPL ratio: 16.5% Debt/GDP: 132% GDP(t): 0.5% GDP(t+1): 1.1%	n/a	n/a	n/a	n/a	n/a	Standard Corporate/SME loans	n/a	n/a	n/a
SNB StabFund, Nov. 2008	Switzerland	Decentralized; UBS	SPV, 100% SNB; \$5.5bn repurchase option paid in as equity by UBS	Narrow, mixed mgmt.	NPL ratio: 0.9% Debt/GDP: 53 % GDP(t): 2.2% GDP(t+1): 0.3%	\$39.4gross; \$38.7 net	8.3%	1.1%	n/r	14% equity, plus Funding lines SNB 90%, UBS 10%	Illiquid ABS portfolio to stabilize UBS, depressed prices	No	2% below book value; First \$1bn profit to SNB, 50%-50% split thereafter	No
EAA, Dec. 2009	Germany	Decentralized; West LB	Public, 100% Government & NRW state; €3.1bn; 18 years	Narrow, independent mgmt.	NPL ratio: 2.9% Debt/GDP: 65% GDP(t): -5.6% GDP(t+1): 1.7%	€178 net NPL and performing	7.5%	2.2%	n/r	2% equity, govt.-guaranteed bonds and notes	Illiquid Real Estate loans and ABS, depressed prices	Yes	Net book value; No profit sharing	No
KKR/AM HI, 2015	Italy	Decentralized; UCG/ISP	Private	Narrow	NPL ratio: 16.5% Debt/GDP: 132% GDP: 0.5% GDP(t+1): 1.1%	\$2 test phase					tbd			
International														
Danaharta, June 1998	Malaysia	Centralized	Public, 100% government, RM 3.0bn; 6.5 years	Narrow, independent management, (own/third-party asset mgmt.)	NPL ratio: 18.6% Debt/GDP: 32% GDP(t): -7.4% GDP(t+1): 0.5%	RM20 gross; RM 9 net	5.1%	4.2%	n/a	20% (RM3.0) equity, 80% (RM 11.1bn) Government guaranteed bonds	Selectively Corporate and Real estate loans	No, but regulatory "carrot and stick" incentives	Participating banks retained the right to get 80% of any recoveries in excess of acquisition costs	Yes, restructuring/foreclo-sure powers
KAMCO, Sept. 1998	Korea	Centralized	Semi-private, 43% govt, 29% KDB and banks; SPV, 5 years	Narrow, independent mgmt. via JVs	NPL ratio: 7.4% Debt/GDP: 10% GDP(t): -5.5% GDP(t+1): 0.2%	KRW110 face value, KRW39.8 net	12%	13.8%	n/a	SPV funding: KRW 21.6tn bonds, of which 20.5 govt.-guaranteed	Selectively Corporate and Real estate loans	No, at bank request	45% of collateral value for secured loans and 3% on unsecured loans, avg. 35% of nominal	No
Maiden Lane LLC, II & III, 2008	USA	Decentralized, Bear Sterns; AIG	Semi-private; SPV (LLCs); 6-10 years	Narrow, independent mgmt.	NPL ratio: 1.3% Debt/GDP: 64% GDP(t): -0.3% GDP(t+1): 2.6%	\$79.8 net (30.0/20.5/29.3)	0.6%	0.8%	n/r	Thin equity structures, mainly funded by NY Federal Reserve	Portfolios picked to stabilize institutions	No	Net book value, structuring of first loss pieces, profit sharing with originating entity	No

Sources: Bloomberg L.P., Consensus Economics, European Commission Annual Macro-Economic Database, U.S. Federal Reserve, Haver, IMF (FSI, GFSR, WEO), company information, and broker reports. Note: 1/ narrow=financial objective only, broad=additional elements, such as contribution to economic recovery or employment; 2/ NPL ratio and sovereign indebtedness at end of previous year (t-1), realized real GDP growth (t), one-year ahead real GDP growth expectation in the month after set-up of AMC (t+1), n/a = not available, n/r = not relevant or suitable for comparison; 3/ GDP, banking assets and NPL volumes as of transaction date (or end-2014); 4/ broker reports.

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Annex I. The Regulatory Treatment of NPLs in the United States— Early Loss Recognition¹

There are significant differences in the approach to recognizing loan losses through provisions between IFRS (as applied in Europe), and GAAP (as practiced in the United States). Both apply the *incurred loss approach* (FSF, 2009), but although the accounting standards are comparable, a key difference is the regulatory requirement that overlays the accounting standard. This overlay limits the discretion that bank managers have in applying GAAP. This results in a more conservative U.S. GAAP treatment of NPLs for banks than is the case under IFRS.

There are two key regulatory requirements that are imposed in the US. Banks must (i) suspend and reverse interest income on NPLs once the loan is 90 days past due on any payment or is deemed uncollectible in whole or in part (i.e., the non-accrual principle);² and (ii) promptly charge off/write down the loan balance on the bank’s accounting statements to the recoverable collateral value after six months – applies particularly to retail credit.

For a charge-off, any loan balance that exceeds the recoverable value (less the cost to sell) should be charged against the loan loss reserve. In determining the collateral value, it should be today’s “spot price” with no adjustment for forecasted increase in collateral values. The act of charging-off the loan should not be confused with the forgiveness of the borrower’s debt. The bank must still be judged on its ability to collect defaulted loans – including through loan sales.

A nonaccrual loan may be returned to accrual status after the borrower has made a series of contractual payments. This improvement in the borrowers’ condition may arise from a modification of lending terms. However, given the concern that liberal modification leads to misstatement of loan portfolio condition, modification practices are subject to close regulatory scrutiny. There must be sound internal control processes governing any modification, and management information systems must monitor and verify that the modifications are working.

The effect of this treatment is that banks will recognize credit losses sooner in a weakening credit cycle. This aids earlier recovery (or failure if capital is insufficient), as evident in the recent crisis—though severe, system NPLs peaked at 5 percent of loans in 2009, and have since declined to less than 2 percent. The charge-off requirement with strong prompting by supervisors removes the disincentives to bank sales of NPLs, contributing to earlier price discovery for NPLs and underlying collateral. This leads to a quicker rebounding of asset markets.

¹ This Box was written by Michael Moore and Nolvía Saca Saca (both MCM).

² The exception to the non-accrual treatment applies if the loan is secured and in the process of collection, i.e., legal or other action is proceeding that will result in recovery or restoration to a current status.

Annex II. Treatment of Public Creditors' Claims in Corporate Debt Restructuring and Insolvency¹

In generally, the participation of all creditors, including public creditors (such as tax and social security authorities) makes corporate debt restructuring more effective. The treatment of public creditors range from granting them super-priorities in some countries to detailed guidance on how public creditors may take part in out-of-court debt restructuring or outright prohibition of participation in debt restructurings in other countries.

Despite the lack of absence of clear guidance from international best practice, there a several principles that would need to be considered. The UNCITRAL Legislative Guide recommends that priorities be “minimized”, especially, “priorities over secured claims”. The *World Bank Principles for Effective Creditor Rights and Insolvency Systems* state that “public interests generally should not be given precedence over private rights.” The *IMF's Orderly and Effective Insolvency Procedures* state that “the privilege [related to tax claims] has been justified on the grounds that giving the government priority with respect to tax claims can be beneficial to the rehabilitation process in that it gives the tax authorities an incentive to delay the collection of taxes from a troubled company.

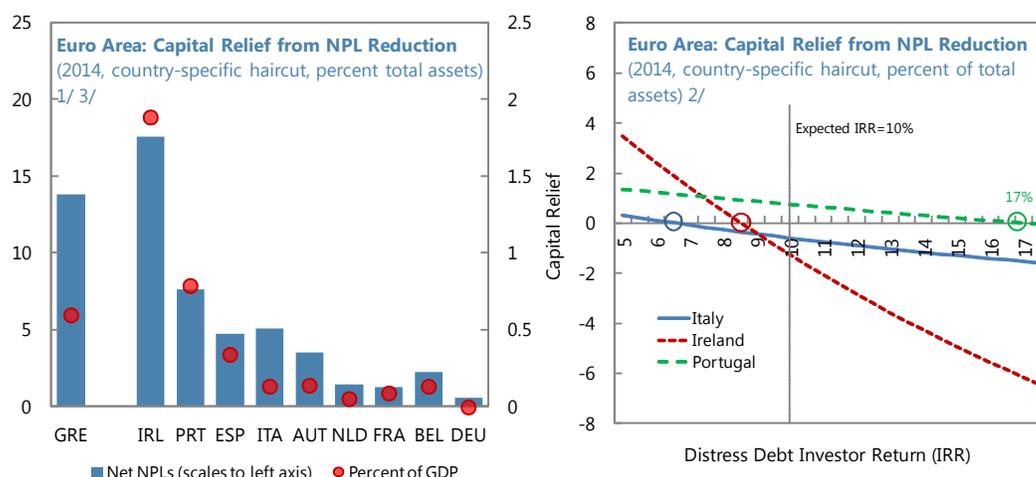
- *Ranking.* Since super-priorities (i.e., ranking ahead of secured creditors) may impact negatively on secured credit and access to finance. Specifically, (i) they should be limited to the tax claims in terms of period of time (e.g., last 12 or 24 months), (ii) interest and penalties should be treated as unsecured (or be subordinated) claim, and only principal should enjoy preferential treatment, or (iii) VAT and employee withholding taxes may be ranked preferentially (e.g., ahead of unsecured creditors).
- *Restructuring.* Subject to clear and predictable criteria, the best solution would be to allow public creditors' claims (including principal) to be restructured like any private sector claim. It should be considered whether and how this can be affected within the constitutional and legal framework in those countries which need an explicit legal basis for the tax administration to engage in debt restructuring. Information sharing between private and public creditors should be enhanced (e.g., credit register).
- *Guidance.* Clear and predictable guidance to the tax administration should be issued on how and under what conditions tax officials can participate in debt restructuring and insolvency to create a safe harbor for good faith application (which should shield staff from personal liability) subject to safeguards against fraud. Task forces of specialists (within the tax administration) could be established to deal with distressed business with tax liabilities. To the extent such guidelines are not advisable, due to the inexperience or lack of capacity of the tax administration, a certain degree of automaticity in debt restructuring could be envisaged.

¹ This Box was written by Wolfgang Bergthaler and Jose M. Garrido (both LEG).

Annex III. Capital Relief and New Lending Capacity from NPL Disposal¹

The market price of NPLs will typically reflect several factors, such as the efficacy of the insolvency regime and the rate of return demanded by investors. In this box we assume that banks reduce the current stock of NPLs (end-2014) by selling their distressed loans to external investors. This reduces the regulatory capital charge of their loan book in proportion to the share of NPLs (and their applicable credit risk weight). The selling price reflects the expected time to recover or liquidate NPLs (being lower where foreclosure times are extended and debt enforcement regimes weak) and would need to offer a sufficiently high return on investment consistent with general profit expectations in distressed debt markets. The sale results in a loss (gain) on disposal and reduces (increases) the benefit of capital relief if the selling price lies below (above) the net book value (i.e., the gross value of NPLs after deducting the current level of loan loss reserves). A selling price below the net book value is commonly referred to as the “pricing gap” (which can also be expressed as a “haircut” on the net book value). The selling price is calculated as the net present value of the loan, assuming an accumulated depreciation of the secured portion of each loan at the average lending rate and the usual servicing and management costs (of 10 and 2 percent, respectively). As opposed to the application of a uniform “pricing gap” across sample countries in the main text (see Figure 3), this approach is more granular and generates country-specific valuation haircuts that account for the uneven distribution and capital intensities of NPLs in the euro area.

Timely disposals of NPLs—combined with structural reforms—can free up a large volume of regulatory capital and generate significant capacity for new lending. For a large sample of euro area banks covering almost 90 percent of all institutions supervised directly by the SSM, we calculate bank-by-bank the amount of capital that would be released by removing NPLs from bank balance sheets. We assume that banks reduce their NPLs to a level consistent with historical averages (between 3 and 4 percent of gross loan book for most banks); meet a target capital adequacy ratio of 13 percent; and offer a 10 percent rate of return on investment. Importantly, for countries with elevated expected foreclosure times (Ireland, Greece, Italy and Cyprus), we reduce the expected foreclosure time to assess the potential impact of insolvency reforms on the pricing gap. Under these assumptions, the aggregate capital relief would amount to €22 billion (or 0.1 percent of total assets of sample banks at end-2014). This in turn could unlock new lending of over €358 billion (or almost 4 percent of GDP), provided that there is corresponding demand for the new loans. Portugal, Italy, Spain, and Ireland would benefit the most. Since the impact on capital varies significantly across countries, the additional lending capacity would range from some 2 percent of GDP in Italy to 31 percent of GDP in Ireland. In addition, reducing investors’ return expectations from 10 percent to 7.5 percent has a powerful impact: for example, in the case of Italy, this would result in additional capital relief of almost €7 billion and about €80 billion in new lending.²



Summary of Results 3/ 4/

Uniform haircut	Capital relief		New lending capacity	
	EUR bln	% TA	EUR bln	% GDP
-15%	-43	-0.2	—	—
-10%	-15	-0.1	0.2	0.0
-5%	13	0.1	167	1.8
no haircut	42	0.2	522	5.6
<i>Country-specific haircut, based on</i>				
10% IRR and full foreclosure time	6	0.0	284	3.1
10% IRR and foreclosure time reduced by 2 yrs.	22	0.1	358	3.9
7.5% IRR and foreclosure time reduced by 2 yrs.	35	0.2	487	5.3

Sources: Bankscope; EBA; ECB; Haver Analytics; national central banks; and IMF staff calculations. Note: calculations based on bank-by-bank data from the EBA Transparency Exercise (2013), with NPLs reduced to historical average and capital adequacy ratio (CAR) of 13.0 percent. TA=total assets. of sample banks. 1/ The results for Cyprus are not shown for formatting reasons. 2/ Assuming an expected return of distressed debt investors of 10 percent (IRR) and a foreclosure time of 4.7 years and 4.2 years for Italy and Ireland, respectively. 3/ For the country-specific haircut, the foreclosure time is assumed to decline by 2 years in Cyprus (not shown), Ireland, and Italy as a result of structural reforms; no haircut is applied in countries with "positive" haircuts due to the release of reserves upon NPL disposal. 4/ grey-shaded results are also shown on a country-by-country basis in the figures above.

Without enhanced insolvency frameworks in some countries, selling NPLs would result in much lower capital relief. In some countries, structural reforms and/or lower investment returns of distress debt investors are essential for external NPL resolution to have a net positive effect. Applying observed foreclosure times and imposing a minimum investment return of 10 percent would imply a large haircut relative to book value in some countries, such as Italy (-26 percent) and Cyprus (-66 percent), reducing the aggregate capital relief from NPL disposal to a mere €6 billion (or 0.1 percent of GDP of selected countries at end-2014).

¹ This Box was written by Andreas (Andy) Jobst (EUR), Jean Portier, and Luca Sanfilippo (both MCM).

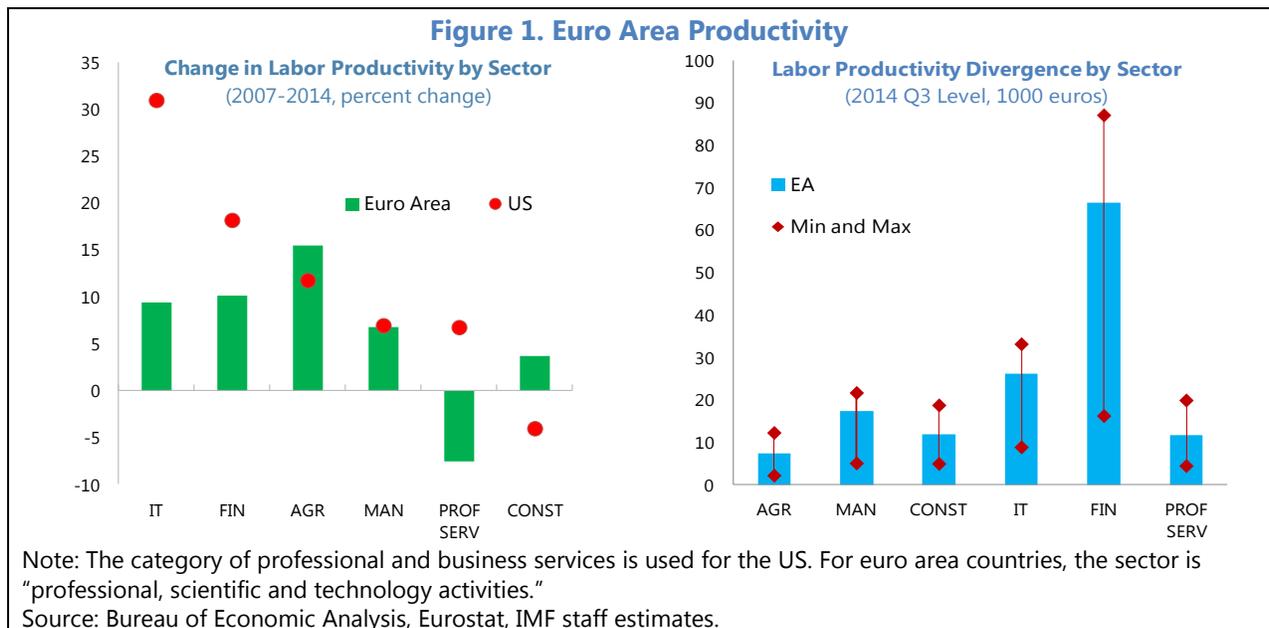
² Note that the importance of the selling price depends on the relative scale of the NPL problem. If NPL disposals are substantial, a high haircut may jeopardize the capital adequacy of the ceding bank. Also, in certain countries, the anticipation of a greater supervisory push for NPL resolution might decrease the market price of collateral, imposing additional losses on disposal that are not captured by this calculation.

EURO AREA STRUCTURAL REFORM GOVERNANCE¹

Faster progress on structural reforms is necessary to boost productivity, competitiveness and growth, achieve greater real economic convergence, and improve the resilience of the monetary union. Shifting to outcome-based benchmarking, stronger EU oversight with less discretion in applying existing rules, and better financial incentives for delivering on reform commitments could help accelerate progress on reforms. The governance framework should be simplified, and deeper reforms should be considered in the medium-term, including a greater role for the EU in promoting reforms to further convergence.

A. Why Structural Reform Governance?

1. **Insufficient progress on structural reforms.** Despite some progress on reforms, labor productivity in the euro area has trailed the United States, especially in crucial sectors such as services and information technology (Figure 1, panel 1). There are also significant productivity gaps within the euro area, especially in the service sectors (Figure 1, panel 2), attributed to lagging product market reforms (Coeuré, 2014). Hence, continued progress on structural reforms is needed to boost growth, productivity, and competitiveness, and further economic convergence (Juncker et al., 2015; Van Rompuy et al., 2012; Draghi, 2014). It is estimated that closing 10–20 percent of the gap in product and labor markets relative to best practices in the OECD could help raise euro area GDP by 3½ percent in 2019 compared to the baseline scenario (IMF, 2014a).²



¹ Prepared by Angana Banerji, James John, Sergejs Saksonovs and Tao Wu (EUR); Tidiane Kinda (FAD); and, Bergljot Barkbu and Hanni Schoelermann (EUO).

² Estimates are derived using the IMF's EUROMOD multi-economy model. Several recent studies echo these findings, e.g., Anderson et al. (2014), Barkbu et al. (2012), ECB (2015a), Hobza and Mourre (2010), Varga and int'Veld (2013).

2. **Declining impetus for reform.** While the positive effects of structural reforms on investor confidence, medium-term growth potential and productivity are generally not questioned, reforms can have short-term economic and political costs. And, in a vicious cycle, the lack of popular support for reforms is, in part, due to the failure to implement *comprehensive* measures which has led to perceptions of unfairness (Coeuré, 2014). Moreover, there is concern that better financial market conditions could make the need for structural measures seem less urgent.

3. **A governance framework to keep reforms on track.** There is growing recognition that structural reform governance needs to be improved to ensure that reforms continue to progress in the current economic and political environment. The Four President’s Report (Van Rompuy et. al., 2012) highlighted this need but was only partially implemented. The recent Five President’s report (Juncker et. al, 2015) lays out an ambitious vision for the economic governance of the European Economic and Monetary Union (EMU).

4. **Roadmap.** This paper builds on existing ideas for improving structural reform governance and outlines concrete proposals for incentivizing the implementation of reforms in the near term and over the longer haul. Section B takes stock of the current EU structural reform governance framework and describes the effectiveness of the various modalities for incentivizing and furthering structural reform objectives—policy coordination, SGP flexibility, fiscal transfers and financial penalties, and legislative options. Section C suggests ways in which these mechanisms might be improved in the near term—within the existing remit of the Treaty—to facilitate implementation. Beyond the near term, more fundamental governance changes would be helpful to ensure reforms in areas currently outside the EU’s jurisdiction and greater convergence within the monetary union (Section D). Section E concludes.

B. The Current Framework: How Effective?

The European Semester “has significantly strengthened the coordination of economic policies.” However, “the addition of numerous ‘packs’, ‘pacts’, ‘procedures’ and manifold reporting requirements have blurred its rationale and effectiveness.” Five President’s Report (Juncker et. al., 2015).

A Complex Framework

5. **Limited mandate of the EU institutions under the Treaty** (Figure 2).³ The modalities and scope for implementing structural reforms in the EU are enshrined in the Treaty on the Functioning of the European Union (the Treaty). However, Treaty provisions for the governance of structural reforms are less specific than those for fiscal governance, which leaves scope for interpretation of the rules and weaker EU enforcement tools over structural reforms. The Treaty limits the EU’s jurisdiction to areas of “exclusive” competence and “shared” competence with member states. In addition, the EU is empowered to enforce coordination mechanisms by adopting guidelines or

³ EU institutions refer to the European Commission (EC), the Council of the European Union (Council) and the European Parliament (Parliament).

arrangements within which member states are mandated to coordinate economic, employment and social policies; and it can guide, coordinate and supplement member state actions in certain areas.

6. **A range of processes and implementation tools.** The EU governance framework for structural reforms—which, in principle, applies to all EU countries⁴—consists of:

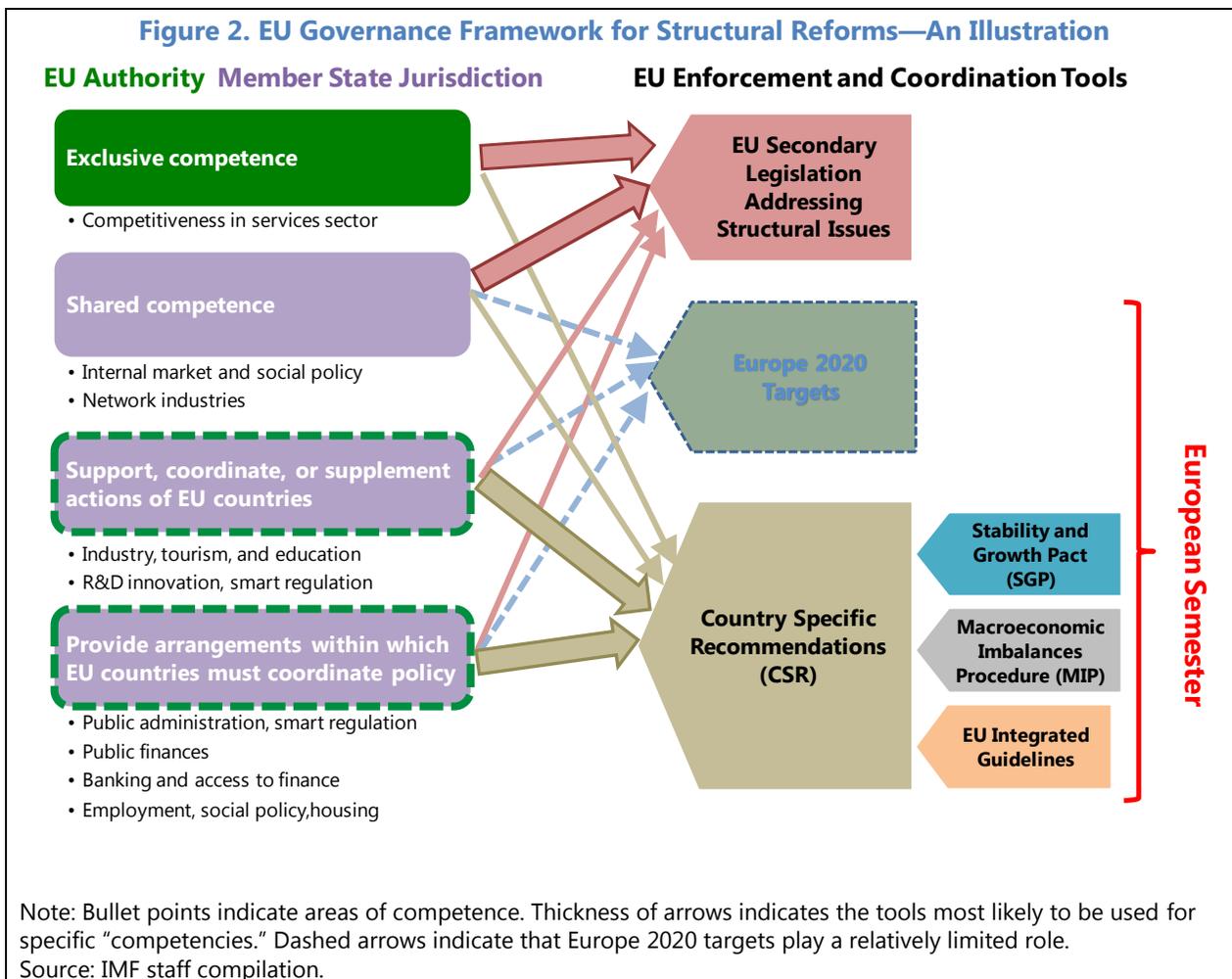
- **EU secondary legislation**, comprising Regulations, Directives and Decisions which set common standards. Regulations are directly enforceable in their entirety, whereas Directives are used to bring national laws in line with a specified objective, leaving national authorities some discretion over the speed and process by which to achieve Directives' goals.
- **Economic policy coordination under the European Semester.** Since 2011, EU countries coordinate fiscal, macroeconomic and structural reform policies through a common annual surveillance cycle—the European Semester—on the basis of national reform and stability or convergence programs. This coordination is based on Articles 121 and 148 of the Treaty (on economic policy coordination and employment policies), and in conformity with the Integrated Guidelines. Coordination was strengthened by the Six-pack and Two-pack legislation, which increased the EU's capacity to enforce reforms in euro area countries through financial sanctions under certain circumstances (see below).
 - *Country-Specific Recommendations (CSRs)*. Each year, during the European Semester, the EC assesses economic developments, including progress toward Europe 2020 targets,⁵ and proposes CSRs in a wide range of areas including product markets, R&D and innovation, employment and social policies, public administration and finances, and the financial sector. CSRs for EU countries and the euro area as a whole are discussed and recommended by the Council to member states, adding an element of peer pressure to the EC's public opinion.
 - *Macroeconomic Imbalance Procedure (MIP)*. The MIP seeks to reduce macroeconomic imbalances. Under its preventive arm, the EC takes macroeconomic imbalances into account when formulating CSRs. Countries found to have severe imbalances can be put under the corrective arm—the Excessive Imbalance Procedure (EIP)—which requires submission of a corrective action plan (CAP) with a clear roadmap and deadlines for implementing structural reforms.⁶ For euro area countries, failure to deliver a sufficient CAP or comply with commitments can lead to financial sanctions of up to 0.1 percent of GDP per year.
- **Stability and Growth Pact (SGP).** The fiscal framework explicitly recognizes the role of structural reforms in achieving a sound budgetary position. Hence, the EU can also incentivize the implementation of structural reforms via its fiscal governance role.

⁴ Non-euro area countries cannot be sanctioned under the MIP. The framework also does not apply to countries receiving support under financial assistance programs.

⁵ Europe 2020 targets: (i) 75 percent employment rate (20-64 years), (ii) 3 percent of EU GDP investment in R&D, (iii) energy sustainability, (iv) lower rate of early school leaving, and, (v) reduction in poverty and social exclusion.

⁶ The EIP entails recommendations and decisions that are different from the MIP preventive arm, and more frequent monitoring and assessment. It remains to be seen how an EIP would be aligned with the standard EU Semester.

7. **Complex framework.** While the economic governance framework has been strengthened significantly compared to the pre-crisis period (European Commission, 2014a), the arrangements remain complex, with a range of enforcement tools and overlapping processes (Figure 2). The interaction with the SGP—a separate but overlapping framework that has become increasingly complicated after the Six-pack and Two-pack legislations—adds to the complexity of the overall process. The introduction of coordination and rules-based frameworks via intergovernmental processes (e.g., “Euro Plus Pact,” “Fiscal Compact”) has further added to complexity.

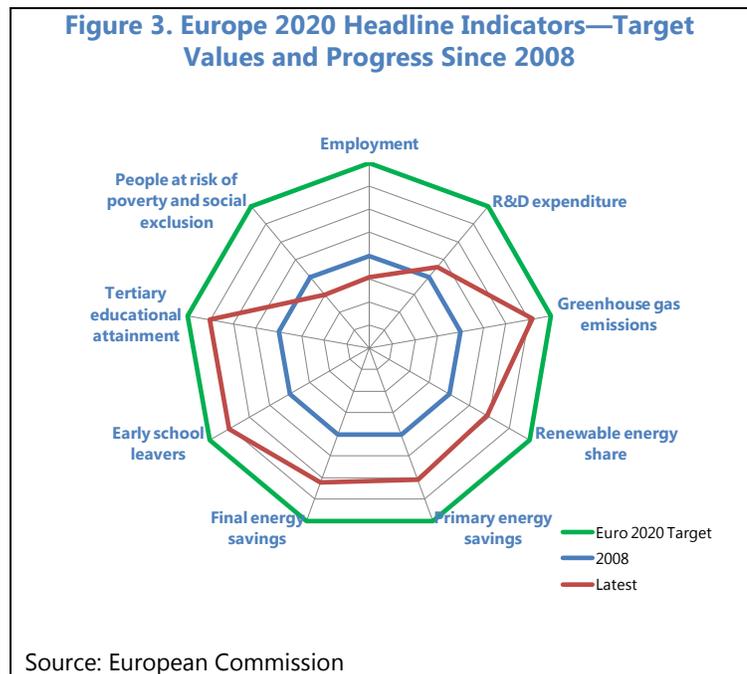


EU Legislation Has Been Effective

8. **Regulations and Directives.** EU legislation is a potent enforcement mechanism for reforms, but the EU can only legislate in areas where it has “exclusive” and “shared” competencies or provides arrangements for coordination. It cannot adopt legally binding legislation in areas—such as economic policy—where the EU’s powers are restricted to providing guidelines for coordination, unless considered strictly necessary to support the functioning of the Single Market (e.g., labor

mobility and pension portability). In case of non-compliance, enforcement works through infringement procedures, with an eventual imposition of fines upon non-compliant member states.

9. **Legislated reforms are implemented.** Legislation has generally been quite effective in enforcing desired outcomes. More than 99 percent of Internal Market Directives have been transposed into national law (European Commission, 2014b). And upwards of 85 percent of infringement cases are typically settled due to corrective actions taken before they reach the European Court of Justice. Progress toward Europe 2020 goals may also suggest better compliance under the legislative approach (Figure 3): more progress has been made in areas where the targets are legally binding and specified in Directives (energy, climate). In contrast, there has been less progress in areas where targets are not legally binding (employment, poverty), though the crisis has also contributed to these outcomes.

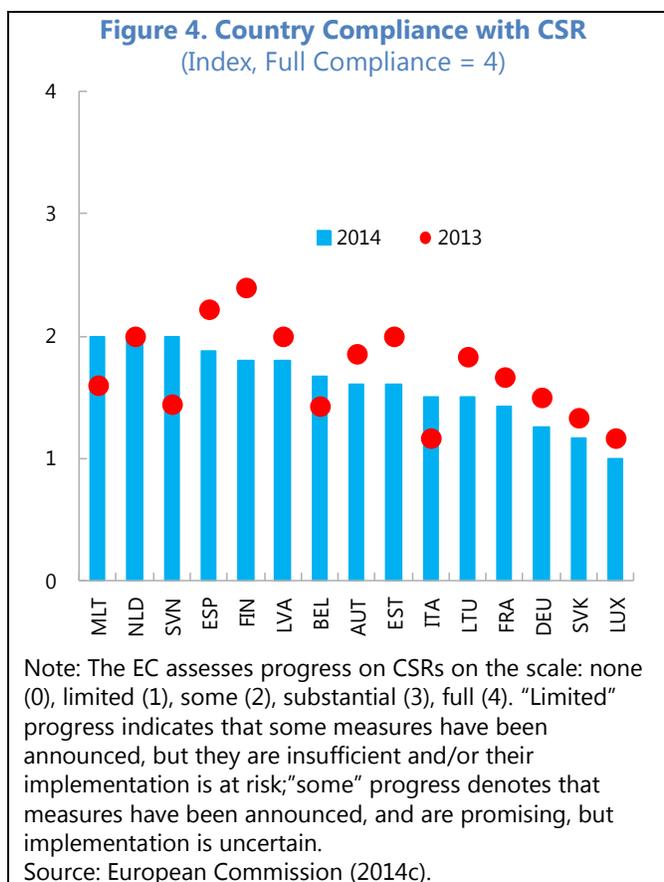


10. **But legislation is no silver bullet.** A prominent example of legislation that has been implemented but fallen short of desired outcomes is the Services Directive. Despite full transposition into national law by 2012, the Directive is constrained in promoting cross-border trade in services and labor mobility in part because persisting legal and administrative barriers to the Single Market limit the portability of welfare rights and access to regulated professions.

Policy Coordination: Pluses and Minuses

11. **Policy coordination has fostered debate.** The European Semester is an improvement over earlier surveillance of structural reforms via the so-called Lisbon process. The peer review embedded in discussions of CSRs has strengthened debate about country-specific and common policy challenges and responses among EU members (European Commission, 2014a and c). There have been notable successes. In line with their CSRs, Italy and Spain took measures to improve SME access to finance in 2014. While some CSR measures that were implemented may have been low-hanging fruit and already part of government plans, it is possible that absent policy coordination reforms could have been weaker (although the counterfactual is hard to establish). More generally, policy coordination has been an important mechanism to encourage action, including in larger countries, which could foster solidarity and evenhandedness.

12. **But progress has been slow.** It is still early to fully evaluate the relatively new framework, in part because the MIP has not been put to the test and smaller “imbalanced” economies have until recently been outside its scope due to financial programs.⁷ Moreover, market pressure has also played a role in incentivizing reforms. Nevertheless, the EC’s own assessment is that despite important progress in urgent areas after the crisis, compliance with CSR recommendations has been insufficient in light of the remaining reform challenges (Figures 4–5). It estimates that, for 2012 and 2013, only around 10 percent of all CSRs have been fully or largely implemented, although there has been “substantial or some progress” on more than half of the CSRs (Deroose and Griesse, 2014).⁸ Averaging across qualitative evaluations of compliance by the EC indicates that, on the whole, compliance with CSRs also seems to have fallen in 2014 compared to 2013 (Figure 4).



13. **The EU’s powers: too little, too late.** The EU cannot compel compliance as CSRs are not legally binding; it is up to member states to design and implement reforms. The EC and the Council can propose, monitor and assess reforms and outcomes, as well as issue warnings and recommendations when reforms are not consistent with the broad guidelines or risk jeopardizing the monetary union. The EU can also impose sanctions on euro areas countries (see next section) for which the EIP has been triggered, limiting the EU’s capacity to preempt imbalances from arising.

⁷ The European Commission (2014a) notes that the experience with the framework has been limited and remains untested due to the limited time span since its entry into force. It notes that progress on reforms has been stronger than under the Lisbon process.

⁸ According to the EC, there has been significant progress in financial sector, insolvency, and pension reforms where there was greatest need after the crisis, but less progress in service sector and some product market reforms. This paper does not evaluate the strength of the reforms envisaged in the CSRs other than to note that there is some overlap between the priority measures proposed by the IMF, EC and the OECD in various policy areas.

Figure 5. Progress Toward 2014 CSR Targets

	AUT	BEL	EST	FIN	FRA	DEU	IRL	ITA	LVA	LTU	LUX	MLT	NLD	PRT	SVK	SVN	ESP
Fiscal	Red	Red	Red	Yellow	Red	Red	Yellow	Red	Yellow	Yellow	Red	Green	Yellow	Yellow	Red	Yellow	Red
Labor	Red	Yellow	Yellow	Red	Red	Red	Yellow	Red	Yellow	Red	Red	Yellow	Yellow	Yellow	Yellow	Red	Yellow
Product	Red	Yellow	Yellow	Yellow	Red	Red	Yellow	Red	Yellow								
Financial	Green	Yellow	Yellow	Yellow	Red	Red	Yellow	Green	Yellow	Yellow	Yellow						
Infrastructure	Red	Red	Yellow	Yellow	Yellow	Yellow	Yellow	Red	Yellow	Yellow	Yellow	Yellow	Yellow	Red	Red	Red	Yellow
Public Administration	Yellow	Yellow	Red	Yellow	Red	Red	Red	Red	Yellow	Green	Red	Yellow	Yellow	Yellow	Red	Red	Yellow

Notes: CSR recommendations can be counted twice if they belong to two categories; hence, the number of colored squares does not always match the number of recommendations. Red, yellow, green indicate "no or limited," "some" or "substantial" progress respectively (see note on Figure 4). Fiscal = excessive deficit procedure, budget, tax, pension, healthcare; labor = labor tax wedge, wage-setting, work incentives, activation measures, labor participation, public employment services, vocational training; product = service and retail sector barriers, procurement, land use, competition; financial = banking system operation and supervision, SME credit, distressed assets restructuring, central credit registry; infrastructure = greenhouse gas emissions, energy efficiency, energy networks, competition in transportation sector, housing market; public administration = local governments, public services, administrative reforms to municipal structures, state-owned enterprises, business environment, EU funds, corruption, judicial reforms, and regulatory burdens.

Source: IMF Staff classification based on assessment in European Commission 2014c.

Limited Incentives

14. **Weak incentives of members.** Member countries may have limited incentives to pressure their peers if the wider and cross-border implications of reforms are not clear. Countries may also refrain from pressuring others in the hope of avoiding pressure themselves.

15. **Semi-automatic sanctions are part of the toolkit...** The provisions for sanctions vary:

- *EIP.* For euro area countries under the EIP, financial sanctions can be applied for an insufficient CAP or non-compliance with actions included in the CAP. If the EC recommends sanctions, the Council considers the decision on the basis of reverse qualified majority voting (RQMV), i.e., sanctions can be applied semi-automatically.
- *SGP flexibility.* Failure to implement structural reforms agreed under the SGP can lead to sanctions as well as suspensions of European Structural and Investment (ESI) funds under the excessive deficit procedure (EDP).⁹

⁹ Under the SGP's preventive arm, countries could receive a warning and ultimately a financial sanction in form of an interest-bearing deposit (Council decision by RQMV) if the failure to implement structural reforms under SGP

(continued)

- *ESI funds.* In the 2014-2020 programming period, ESI funds are more closely aligned with structural reform priorities and countries are encouraged to program the use of ESI funds to support the implementation of CSRs. Also since 2014, ESI funds can be reprogrammed at the EC's request and may be suspended for failure to take effective action under the EDP and/or the EIP.¹⁰

16. **...but excessive discretion in enforcement.** The EC has held back in applying the enforcement tools at its disposal (ECB, 2015b, Box 5). Since 2011, the EC has full discretion in recommending that an EIP be launched or when judging insufficient action.¹¹ To date, the EIP has never been opened—and thus no sanctions have been imposed—even though several countries have been diagnosed with excessive imbalances (Spain and Slovenia (2013); Italy, Croatia, and Slovenia (2014); and, Bulgaria, France, Croatia, Italy, and Portugal (2015)). In these cases, the EC stepped up recommendations and monitored policy actions in member states by means of an enhanced process of “specific monitoring” which foresees bi-annual missions and reporting. The EIP was not opened as the EC considered the policies outlined in revised national reform programs and stability or convergence programs to be appropriate for addressing the imbalances. Similarly, under the SGP, there are few precedents of the EC proposing “no effective action.” Thus, the system of semi-automatic sanctions has not resulted in any actual sanctions, although it could be argued that it is the prospect of sanctions that has incentivized countries to take action. Reform fatigue and opposition to additional integration among member states could further undermine the effective use of the EC's enforcement tools.

C. Proposals for Strengthening Incentives

“...closer coordination of economic policies is essential to ensure the smooth functioning of the Economic and Monetary Union... [there is a need to] develop concrete mechanisms for stronger economic policy coordination, convergence and solidarity.” EU Summit, October 2014

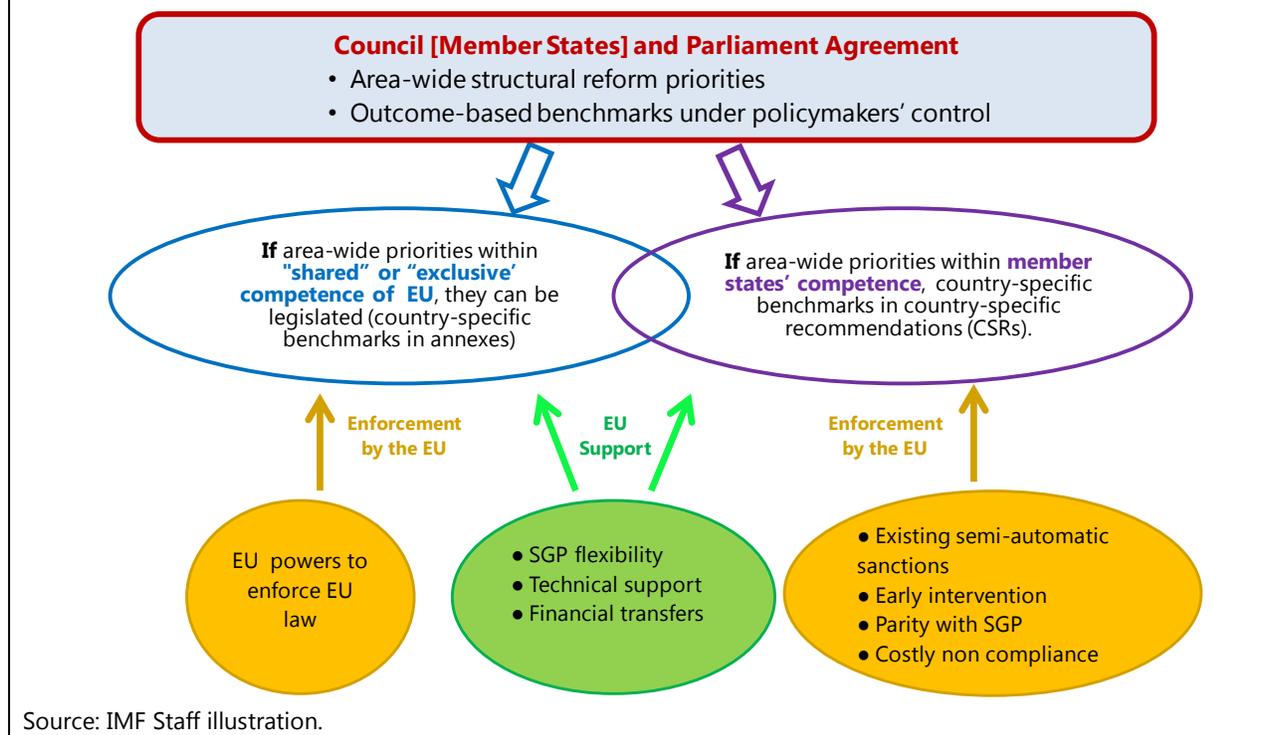
17. **Simplicity, accountability, transparency.** In the near term, the priority should be to strengthen the implementation of reforms by improving ownership and incentives through greater specificity, transparency, and accountability. This would help reduce excessive discretion in the application of the governance framework, level the playing field across the membership, and provide member states with the necessary support to take politically difficult actions. The following complementary and interrelated proposals—benchmarking in priority areas, making use of the EU's legislative authority, introducing greater specificity in CSRs, and improving incentive mechanisms—would not require Treaty changes. Figure 6 illustrates the proposals, which are elaborated further in subsequent sections schematically.

flexibility results in a significant deviation from the medium-term objective or the path towards it. In the corrective arm, such a failure could be considered an aggravating factor when assessing effective action, leading to stepped-up procedures with temporary suspension of parts of ESI funds (RQMV decision for the adoption of the first sanction). Persistent non-compliance could lead to financial sanctions of up to 0.7 percent of GDP for euro area countries.

¹⁰ The EC is legally obliged to propose suspension of payments or commitments if the conditions for suspension are met. Payments are only suspended in case of significant non-compliance and if immediate action is sought.

¹¹ <http://ec.europa.eu/transparency/regdoc/rep/3/2014/EN/3-2014-9005-EN-F1-1.Pdf>

Figure 6. Four Complementary Proposals for Strengthening the Governance of Structural Reforms: An Illustration



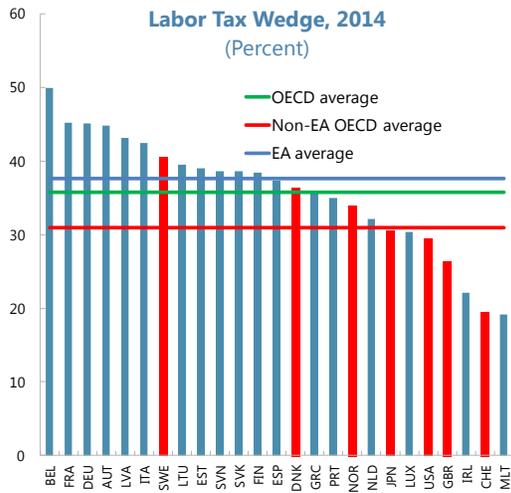
Proposal 1: "Outcome-based" Benchmarks on Area-wide Priorities

"The next step is to restart the convergence process in the euro zone in a sustainable way to lift growth potential...this requires benchmarking against best practice." J. Dijsselbloem, April 2015

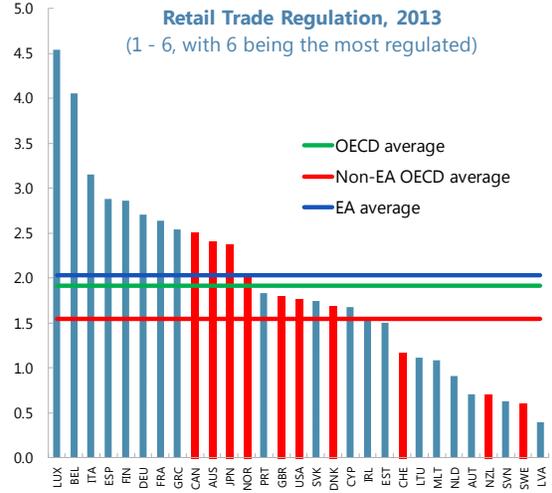
18. **"Outcome-based" benchmarks for area-wide priority reforms.** EU institutions could specify desirable area-wide priorities for structural reforms with outcome-based area-wide reform targets ("benchmarks"), which are sufficiently concrete, measurable, and directly under the control of policymakers.¹² Benchmarking could focus on priority reforms, namely those that further convergence (such as a common energy market, integration of services markets, or digital networks) and those that improve national productivity, competitiveness, the business climate and resilience to shocks (such as harmonizing and reducing the cost of doing business or the time it takes to enforce contracts). Figure 7 and Table 1 provide examples.

¹² The idea of benchmarking is not new. As far back as December 2003, the EU Council of Ministers adopted a shortlist of 14 structural indicators to be used in assessing national reform programs (Ioannou et. al., 2008). Benchmarks were also under consideration during the 2010–11 EU governance reforms. More recent proposals have been made by Padoan and Schäuble (2014), Dijsselbloem (2015) and Juncker et. al. (2015), whereas Draghi (2014) argues for greater specificity in reforms. Outcome-based targets are already used to some extent (e.g., headline targets in Europe 2020, numerical targets in several EU directives).

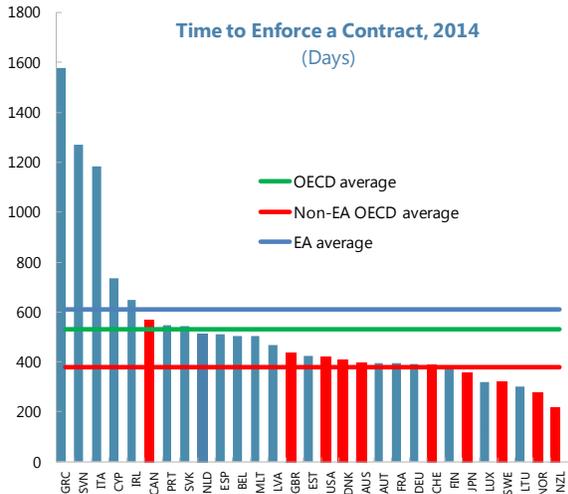
Figure 7. Structural Reform Indicators: Distance to OECD Best Practice



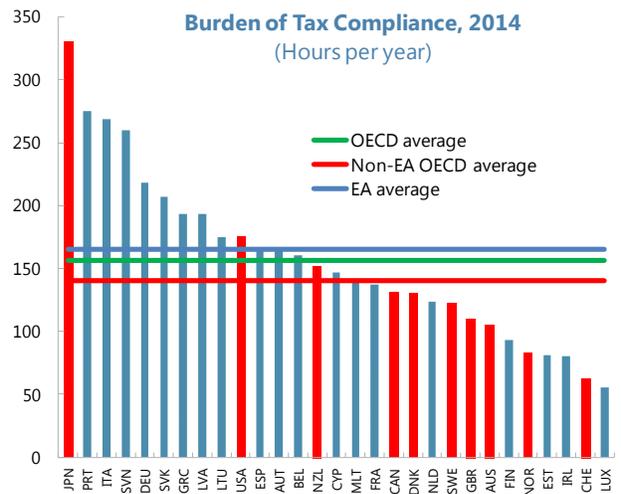
Source: European Commission, OECD.



Source: OECD.



Source: World Bank Doing Business Indicators.



Source: World Bank Doing Business Indicators.

Table 1. Possible Outcome-Based Benchmarks on Area-Wide Priority Reforms		
Productivity and Market Flexibility (National)	Qualitative Indicators	Quantitative Indicators
Labor market flexibility	<ul style="list-style-type: none"> • OECD Employment Protection Index • Nature of collective bargaining agreements (e.g., industry-level, firm-level, etc.) 	<ul style="list-style-type: none"> • Labor tax wedge • Share of involuntary temporary contracts • Unemployment and inactivity “traps” • Benefit replacement rates • Ratio of minimum to median wages • Collective bargaining agreement coverage
Improving the business environment	<ul style="list-style-type: none"> • Global Competitiveness (GC) indicators of quality of institutions, infrastructure, technological readiness, etc 	<ul style="list-style-type: none"> • Transport network density • WBDB (e.g., number of days to enforce a contract or complete insolvency proceedings)
Product market flexibility	<ul style="list-style-type: none"> • OECD Product Market and Network Regulation Indicators • GC indicators of goods market efficiency • Tariff and non-tariff barriers • EU Single Market Scoreboard indicators • Barriers to cross-border flow of services¹ 	<ul style="list-style-type: none"> • Measures of market concentration (e.g., Herfindahl-Hirschman Index) • Cost of starting a business (a component of WB Doing Business Indicators (WBDB))
Public administration Efficiency	<ul style="list-style-type: none"> • Government effectiveness (WB Governance Indicators) • GC indicators of wastefulness of government spending 	<ul style="list-style-type: none"> • Use of electronic government • Number of days to obtain business licenses • Number of hours to comply with tax rules • WBDB indicators
Pension reforms		<ul style="list-style-type: none"> • Change in net pension wealth • Gross/net replacement rates
Modernizing social protection		<ul style="list-style-type: none"> • Health expenditure • Net costs of childcare
Research and innovation		<ul style="list-style-type: none"> • Financial support for private R&D
Integration (EU)	Qualitative Indicators	Quantitative Indicators
Single market in goods and services	<ul style="list-style-type: none"> • Consumer market scoreboard (EC consumer evaluations) 	<ul style="list-style-type: none"> • EC Single Market Scoreboard • Postal services (prices and transit times)
Energy Union		<ul style="list-style-type: none"> • EC’s energy internal market indicators • Number of interconnections of electricity and other networks
Digital Single Market	<ul style="list-style-type: none"> • Efficiency of digital market (survey data) 	<ul style="list-style-type: none"> • EC’s Digital Agenda scoreboard and the Digital Economy and Society Index
<p>¹ Barriers to cross-border provision of services were identified by the EC on the basis of “mutual evaluations” done by member states and expert knowledge (see Monteagudo, et. al. (2012); an update of this study is expected in late 2015). Note: The distinction between qualitative and quantitative indicators is primarily based on the underlying data. Thus, indicators relying primarily on surveys are considered qualitative despite their numerical values. Some indicators (e.g., WBDB) are based on both qualitative and quantitative information. Net pension wealth is an OECD indicator measuring the incentive to remain in the workforce for an extended time. Source: Area-wide reform priorities from European Commission (2014b).</p>		

19. **Ambitious targets.** Area-wide goals could be based on regional and global best practices and outcomes (Figure 7). They will need to be given political legitimacy by the Council (and thereby the member states), and the European Parliament (step 1 in Figure 6). Setting and enforcing area-wide benchmarks may be legally easier in areas of “exclusive” and “shared” competence than in the areas where the EU is restricted to coordination. But even in the latter case, there is scope for greater specificity and benchmarking.

20. **Advantages: simplicity + transparency + accountability = ownership + implementation.** The shift to outcome-based targets would have a number of benefits.

- **Greater ownership.** The failure to implement CSRs is sometimes attributed to the top-down nature of the recommendations and the lack of member states’ ownership. Agreement on area-wide benchmarks at the political level (Council and Parliament) could help foster ownership as member states would be involved in setting these benchmarks. Benchmarking may also help generate popular buy-in for reforms by focusing the policy debate on desired outcomes. Member states would work with the EU to define a feasible, but ambitious timeframe for transitioning to the area-wide benchmarks. Finally, they would have some leeway in *how* they achieve targeted outcomes in that they would be able to develop their own action plans to achieve area-wide goals.
- **Enhanced credibility.** Outcome-based benchmarking would help simplify and better prioritize reforms, as well as facilitate monitoring and pre-emptive corrective action where necessary. The focus would be squarely on the ultimate objective, and by making differences in performance clearly visible and comparable across countries, the new approach would reduce the EC’s ability to exercise excessive discretion in utilizing its enforcement tools, increase accountability for action or inaction, and level the playing field across members. It can also help reduce the perception of an overbearing EU as benchmarks would reflect a collective commitment.

21. **Challenges: identifying and measuring outcomes.** Determining and quantifying the appropriate benchmarks will not always be easy as it may be difficult to find specific quantifiable indicators with all the desired characteristics—measurable with a fair degree of certainty, realistic and enforceable, directly under the control of policymakers, as well as closely and strongly linked to the ultimate structural reform objective. The structural reform indicators already used by the EU, multilateral institutions, policymakers and analysts in their surveillance and research could, however, be a good starting point for determining suitable benchmarks.¹³ Some of these indicators are produced relatively infrequently at present, and there may be a need for the EU to produce similar (or better) indicators at more frequent intervals. In some cases, benchmarks could be based on

¹³ These can be based on: (i) on qualitative information relying on questionnaire responses or opinion surveys; (ii) quantitative information; and, (iii) qualitative indicators based on aggregations of quantitative indicators. The EC already uses similar benchmarks for technical analysis of the impact of reforms and progress toward EU Directives (e.g., Monteagudo et. al, 2012 uses World Bank Doing Business Indicators (WBDB) to assess the potential economic impact of setting up national “points of single contact” for services activities and a “closing the gap” approach with best performing EU countries to assess the actual and potential additional impact of the Services Directive).

indicators that the EU already collects and monitors as well as Eurostat statistics, such as the common methodology for assessing administrative costs posed by regulations (European Commission, 2005). Table 1 provides a non-exhaustive set of potential indicators in EU reform priority areas (European Commission, 2014b).

- *A simple case.* France's 2014 CSR included a recommendation to "simplify companies' administrative, fiscal and accounting rules and take concrete measures to implement the Government's ongoing 'simplification plan' by December 2014." An outcome-based approximation of the same recommendation might be, "reduce the time it takes for a company to comply with tax rules to x hours" (similar to the indicator compiled by the World Bank), or "make electronic tax filing mandatory." While the suggested benchmarks may be narrower in scope than the original formulation, they have the advantage of being focused on a macro-critical outcome, are more transparent and easy to monitor, and, they could conceivably require a broader set of policy actions.
- *A more complex case.* Another example could be targets on employment rates such as in the Europe 2020 strategy. While these may seem quite specific and outcome-based, the actual employment rate can be difficult to target effectively as it is subject to confounding factors that influence employment, such as growth, but are not entirely under the control of policymakers. A more easily enforceable target might be one on the labor tax wedge or labor market duality (e.g., "reduce labor tax wedge or labor market duality to x percent in y years") as this can be directly influenced by policy and has been empirically shown to be one of the factors associated with higher employment rates.

Proposal 2: Legislating Priority Reforms

22. **"Upgrade" to EU legislation.** For priority reforms, area-wide benchmarks could be implemented via EU legislation, especially to further convergence where the necessary political consensus has already been achieved (Figure 6). If there is political willingness, this would be feasible in areas of "exclusive" and "shared" competence, giving the EU the power to push for faster progress on product market reforms as well as EU-wide initiatives to build a single market for services, capital, energy, transport and the digital sector. Legislation can also be used to benchmark reforms in areas where the EU has powers to coordinate. Directives and Regulations specifying concrete targets generally have a good track record in achieving desired outcomes (Table 2).

23. **Advantages of a legislative approach.** EU legislation would imply stronger enforcement powers than coordination mechanisms, because legislation, once adopted, must be implemented. Legislation may also be particularly helpful in harmonizing practices and laws to complete the Single Market. And it could strengthen the hand of national governments in pushing through reforms against opposition from local vested interests. It could also promote investor confidence as uniform EU legislation would be easier to navigate than several national laws, and EU laws may be less susceptible to reversals than national legislation. Outcome-based legislation can also foster greater buy-in for reforms by clarifying expectations and providing scope for even-handed application of sanctions for non-compliance across all euro area members.

Table 2. Examples of Outcome-Based Directives and Regulations

Directives/ Regulations	Targets and Benchmarks
Late Payment Directive	Harmonize the payment period for public authorities to businesses to 30 days (60 days if exceptional circumstances), businesses to pay within 60 days (unless agreed otherwise).
Deposit Guarantee Scheme Directives	Increase minimum protection for bank deposits to €100,000. Reach a target level for ex ante funds of DGS of 0.8% of their covered deposits (i.e., about €55 billion) to be reached within 10 years (4 year extension in exceptional circumstances).
EU energy package: Renewable Energy Directive	At least a 20 % share of energy from renewable sources in EU gross final consumption of energy in 2020.
Clean Power for Transport package: Deployment of alternative fuels infrastructure Directive	Common technical specifications for recharging and refueling stations.
Connected Continent package: Roaming Regulation	Maximum tariffs for calls, texts, and data downloads.

24. **Caveats and complications.** A legislative approach may not be appropriate for every reform, but it can take many forms. The choice would depend on the specific policy area, and whether the EU has powers to legislate in that area. For example, a legislative approach to improving insolvency regimes in the euro area could either comprise an EU insolvency law replacing national laws; the specification of a list of best practices that all national insolvency laws should adhere to; or, the specification of outcomes that would need to be delivered within the parameters of national laws. Moreover, legislation would require political consensus, which can take time, and it may be resisted by non-euro area countries to which it would also apply.

25. **Smart legislation.** The legislative approach can be consistent with the current EC initiative to reduce excessive legislation to cut red tape. In fact, these objectives may reinforce each other by better prioritizing reforms where greater harmonization is needed, and avoiding or removing unnecessary legislation that distracts from important policy goals. Smarter use of legislation would also help clarify the role of EU institutions vis-à-vis member states, allowing it to act selectively but forcefully on matters that have a bearing on the functioning of the EMU.

Proposal 3: Policy Coordination with More Teeth

26. **Shift to outcome-based CSRs.** Since euro area countries have vastly different starting points, they may need to transition to the area-wide benchmarks at different speeds. Complementing the legislative approach, CSRs could focus on country-specific intermediate benchmarks that measure progress toward the desired area-wide benchmarks (Figure 6), like the national targets to achieve Europe 2020 headline goals. This would simplify CSRs, making them more focused, specific, and transparent in contrast with past CSRs which have, until 2014, on average comprised between 4–8 major recommendations per country, with several

sub-recommendations (Table 3).¹⁴ Outcome-based CSRs would be easier to monitor and could increase ownership of CSRs through member state endorsement of the area-wide benchmarks.

Table 3. Alternative Specification of 2014 CSR Recommendations: Some Examples		
Country	2014 CSR recommendations	Approximate outcome-based benchmarks
France	Simplify companies' administrative, fiscal and accounting rules and take concrete measures to implement the Government's ongoing 'simplification plan' by December 2014.	Reduce administrative burden on companies (or time it takes to file taxes) to [X], where X is a WBDB indicator. ^{1/}
France	Remove unjustified restrictions on the access to and exercise of regulated professions and reduce entry costs and promote competition in services.	Ensure that costs of starting a business do not exceed [X] percent of income (WBDB); Reduce barriers to cross-border provision of services to [Y]. ^{2/}
Italy	Monitor in a timely manner the impact of the reforms adopted to increase the efficiency of civil justice with a view to securing their effectiveness and adopting complementary action if needed.	Ensure that civil disputes can be settled in [X] days and/or [Y] cost in percent of claims, where X and Y are WBDB indicators.
Italy	Adopt effective action to promote female employment, by adopting measures to reduce fiscal disincentives for second earners by March 2015 and providing adequate care services.	Ensure that marginal tax rates when switching from inactivity to unemployment (inactivity traps) are no more than [X] percent.
Portugal	Maintain minimum wage developments consistent with the objectives of promoting employment and competitiveness.	Ensure that the ratio of minimum to median wage does not exceed [Y].
Spain	Address unjustified restrictions to the establishment of large-scale retail premises, in particular through a revision of existing regional planning regulations.	Ensure planning permissions can be obtained within [X] days or, that the number of procedures for obtaining construction permits is no more than [Y], where X and Y are WBDB indicators.
Germany	Reinforce efforts to accelerate the expansion of the national and cross-border electricity and gas networks.	Ensure that electricity and gas networks have a minimum of [X] interconnections.
Austria	Reduce the high tax wedge on labor for low-income earners by shifting taxation to sources less detrimental to growth, such as recurrent taxes on immovable property, including by updating the tax base.	Ensure that the labor tax wedge is no more than [X] percent.
<p>1/ Alternatively the common methodology used in the EU to assess the impact of regulations, especially administrative costs, could be used (European Commission, 2005).</p> <p>2/ The assessment of barriers could be based on Monteagudo, J. et. al., (2012).</p> <p>Source: European Commission; IMF Staff Proposals.</p>		

27. **Peer comparison and competition.** The EC already rates progress under the CSRs on a five category scale (no/ limited/some/substantial progress, or fully implemented). A streamlined MIP dashboard summarizing scores on performance toward benchmarks could provide a picture of the

¹⁴ CSRs have been streamlined in 2015.

overall track record for reforms, allow better differentiation of country risk and prospects, and could increase the pressure on countries to reform. Such a system may be particularly useful in pressuring the larger countries to reform in order to preserve their relative standing among peers.

28. **Even-handed enforcement, timely and credible action.** Benchmarking reforms could also reduce the scope for excessive discretion in the application of sanctions by increasing transparency. Semi-automatic sanctions would be allowed to work and their credibility enhanced. Benchmarking can also reduce political complications by providing early warning and scope for pre-emptive action. Reforms take time to implement and bear fruit, and should ideally be implemented in good times when it is possible to cushion redistributive effects. Moreover, sanctions may lack credibility in a downturn. Thus, reforms should be encouraged well before imbalances become excessive and economic circumstances deteriorate. To do so, the EC should take progress toward CSR structural benchmarks into consideration when triggering the EIP.¹⁵

Proposal 4: Strengthening Incentives

More support from the EU

29. **Funding reforms.** Direct financial transfers from the EU could help cover reform costs and support reform. Financial transfers have been successfully used in other countries to foster the implementation of center-led reforms, including Australia, Finland, Germany, Italy, and the United States. For instance, in 2009–2013, the federal government in Australia provided A\$6.7 billion (0.1 percent of GDP) to states conditional on commitments to increase skill levels. The U.S. federal government also provides grants to incentivize states, e.g., to ensure adoption of federal education standards and to expand low-income health care coverage via Medicaid, including under the Affordable Care Act.

30. **Better prioritization of EU transfers.** The scope for direct fiscal transfers from the EU budget is limited as common agricultural policy and structural funds, which are generally not designed to support structural reforms in member countries, absorb more than 70 percent of the EU budget. Nevertheless, ESI funds could be better prioritized and linked more closely to benchmarks to support priority reforms. Should financial sanctions be applied widely, the proceeds could conceivably be recycled as EU financial transfers to support reforms.

31. **Allowing use of incentives embedded in the SGP.** The EU can incentivize structural reforms via the SGP framework. Under the preventive arm, the implementation of structural reforms with verifiable impact on the long-term sustainability of public finances should be taken into account when assessing progress toward the MTO. Under the corrective arm, progress on structural reform can be taken into account when recommending or extending a deadline for the correction of an excessive deficit. The 2011–13 governance reforms enhanced the links between the fiscal and the

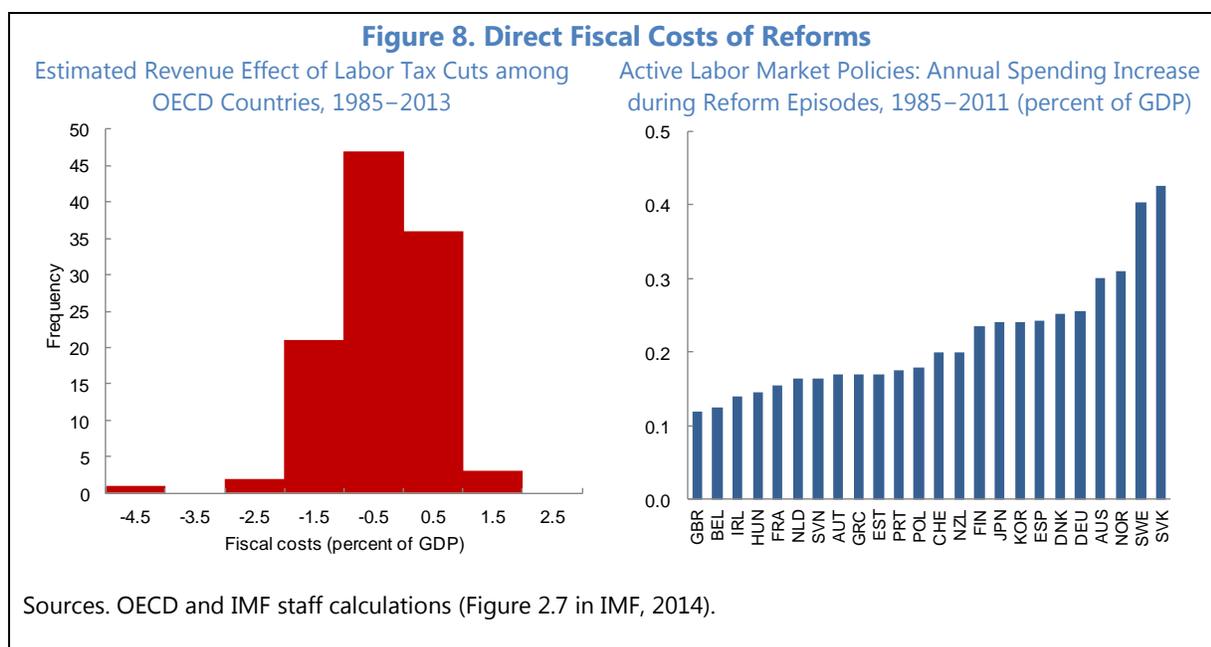
¹⁵ Extending the EU's powers to sanction countries under the preventive arm of the MIP, similar to the SGP, could simplify the framework. However, CSRs are not legally binding, and penalties under the preventive arm may violate the principle of "proportionality" as long as the EU's powers are restricted to coordination.

structural reform frameworks.¹⁶ In 2015, the EC provided guidance on applying the built-in flexibility in the SGP for structural reforms. Countries can now secure SGP flexibility for major planned reforms with long-term positive budgetary impact that are “well specified” and have “credible timelines.” Under the preventive arm, a maximum deviation from the MTO of 0.5 percent of GDP is allowed, provided this deviation can be made up within four years. Under the corrective arm, the deadlines to meet the 3 percent of GDP deficit target can be extended.

- **Full use of SGP flexibility with safeguards.** The EC could identify an *ex ante* list of permissible reforms—based on CSR benchmarks measuring national progress toward area-wide reform goals—that could qualify for SGP flexibility. This would help focus the discussion on implementation rather than on identification of reforms. Where possible, costing estimates could be based on historical experience, and cross-country estimates. For example, a 1 percentage point cut in the tax wedge is, on average, associated with a revenue loss of 0.3 percent of GDP per year (IMF, 2014b, Figure 8.1) and active labor market policies (ALMP) during reforms episodes have cost, on average, about 1 percent of GDP (Figure 8.2). To ensure that flexibility for “permanent” reforms will not compromise the integrity of the SGP framework, countries could pre-commit to binding compensatory fiscal measures in a multi-year framework if agreed structural reforms are not implemented or if the expected returns do not materialize in the specified timeframe. “Safeguard” clauses have been used in Italy’s 2015 budgetary plans.¹⁷ Alternatively, flexibility could be provided on a *post hoc* basis. An outcome-based specification of reforms could reinforce this process.
- **Allow ambitious reforms in countries with good track records.** A broader category of reforms should be permitted as the budget may help foster reforms by mitigating their distributive effects, thereby facilitating political consensus. SGP flexibility could be targeted toward appropriate compensation for those affected by reforms to help overcome political obstacles or to incentivize reforms (e.g., a limited window of tax incentives to accelerate the restructuring of balance sheets by banks and corporations). The flexibility provided under the SGP could be increased in countries with a successful track record of reforms, accompanied by appropriate safeguards (see previous bullet). This would allow more ambitious and comprehensive reforms with higher growth dividends and better reflect the fact that gains from structural reforms take time to materialize. For instance, it cost Finland 0.8 percent of GDP in higher spending on ALMPs in 1992 to facilitate the reduction of employment protection. The OECD (2014) estimates that comprehensive reforms in France would take 5–10 years to have a sizeable impact on potential growth and generate noticeable fiscal space.

¹⁶ Under the EDP, countries must present an Economic Partnership Program, outlining structural reforms for a durable correction of the deficit, while those receiving EU financial assistance prepare a Macroeconomic Adjustment Program also including structural reforms.

¹⁷ Medium-term expenditure frameworks with rolling spending limits could also be considered (e.g., Sweden).



32. **EU technical support.** Several euro area countries face absorptive and administrative hurdles in implementing reforms, including, for example, the inability to attract the best people to provide the necessary expertise and manage the implementation of reforms. In such cases, support from EU institutions can be helpful. It can take the form of voluntary technical assistance; EU-wide knowledge hubs with expertise on how to meet targets; or, direct funding for experts to design and deliver reforms. In Portugal, for example, tax administration improved significantly after the government hired an expert to head the responsible agency. In some countries, EU funding can address absorptive and administrative limits for implementing reforms (e.g., technical assistance as in the Youth Guarantee Scheme).¹⁸

Enforcing commitment to reform

33. **Making non-compliance more costly.** There could be merit in ensuring greater parity with penalties under the SGP framework to simplify the governance framework and take into consideration the fact that structural reforms have direct and indirect effects on the fiscal deficit. Non-compliance could be made somewhat more costly by including provisions for *non-interest* bearing deposits for failure to comply with the EIP, with repeated offenses also triggering enhanced conditionality-based EU monitoring. By increasing transparency, benchmarking could increase the likelihood of these penalties being used, thereby improving incentives to reform.

34. **Leveraging conditional access to ESI funds.** With economic governance conditionality for ESI funds becoming operational in 2015, the EC should make appropriate use of the possibility to reprogram and align the use of ESI funds as closely as possible to the implementation of CSR

¹⁸ The recently announced “Structural Reform Support Service” goes in this direction (European Commission Statement/15/5218).

benchmarks to strengthen the financial incentives for reform (e.g., implementation of the Internal Energy Market legislative package has been linked to ESI Funds). Moreover, where possible, an immediate suspension of payments rather than commitments would be more effective.

35. **Binding commitments.** Extracting commitments from individual countries on achieving reform benchmarks would enhance the legitimacy of sanctions and penalties if they need to be imposed. The commitment should be public, high-level, and sufficiently binding so that there would be a presumption of penalties and sanctions upon failure to meet the agreed outcomes. Requiring that any waivers from sanctions or penalties be fully transparent and a systematic use of a “comply-or-explain” process (Juncker et. al., 2015) would enhance the credibility of the framework.

D. Beyond the Near-term: Moving to a Structural Union

36. The above proposals can help promote the implementation of structural reforms in the near-term, but they bump up against constraints embodied in the Treaty. More fundamental changes to the governance framework could help ensure broader and deeper reforms in euro area countries in areas currently outside the EU’s jurisdiction, but this may entail further Treaty amendments. Deeper reforms in the governance framework should build on the principles embedded in the above proposals—namely, greater clarity and specificity in setting the reform agenda; a clearer division of labor between the EU and member states; a greater say of the EU in a broader set of reforms especially if they are critical for the monetary union; less discretion in assessing compliance with benchmarks, but more flexibility in how benchmarks are achieved; and, finally, larger financial incentives for reform, including under the SGP. *Reforms listed in Section A can start sooner as they only require political consensus but not Treaty change.*

Under the Current Treaties

Encouraging innovation in member states

37. **Ex ante support by national productivity councils (NPC).** NPCs could be set up to assist governments *ex ante* in translating area-wide reform targets into national action plans, possibly with some EC participation. NPCs play a useful role in other federations such as Australia, Belgium, Germany, the Netherlands and New Zealand, although their design and functions vary (Table 4).¹⁹ NPCs could be tasked with: designing reforms; monitoring implementation and preliminary outcomes; and proposing amendments to the action plan as necessary to achieve the desired outcome. Governments would be in charge of actual implementation. The dialog between NPCs and governments regarding reform proposals and implementation could improve transparency and help educate the public about the need for and impact of reforms. To the extent member states have

¹⁹ Also advocated by Allard et. al., 2010. More recently, Sapir and Wolff (2015) propose the creation of a network of independent national competitiveness councils (modeled after Belgium) at the level of the euro area to ensure that wage developments are in line with those in trading partner countries and prevent competitiveness problems.

leeway to experiment with different approaches to reach the same goals, they would be “laboratories of democracy.”²⁰

38. **Critical design issues.** Cross-country examples and national fiscal councils can provide a template for the appropriate governance framework for NPCs. It would be important to ensure strict operational independence from politics, accountability, a strong presence in the public debate, and adequate resources (Debrun and Kinda, 2014).

Transparency and accountability of EU institutions

39. **Ex post evaluation by independent “EU structural council.”** Greater powers for EU institutions ought to come with greater *ex post* accountability, in part to address the perceived “democratic deficit” (lack of control over EU decisions). The EC’s discretion increased after the Twopack, the Sixpack and the Treaty on Stability, Coordination and Governance (TSCG) without a corresponding increase in checks and balances. A Chief Economic Analyst (CEA) was appointed in 2012 to review *ex ante* the EC’s application of the rules; however, these reports are addressed only to the Commissioners and are not public. An independent evaluation process, governed by the Parliament, for the EC’s monitoring and enforcement of the governance framework could be considered, with a presumption of publication of assessments and reviews. The evaluation should be independent of the EC and operationally at arm’s length from the Council and the Parliament.

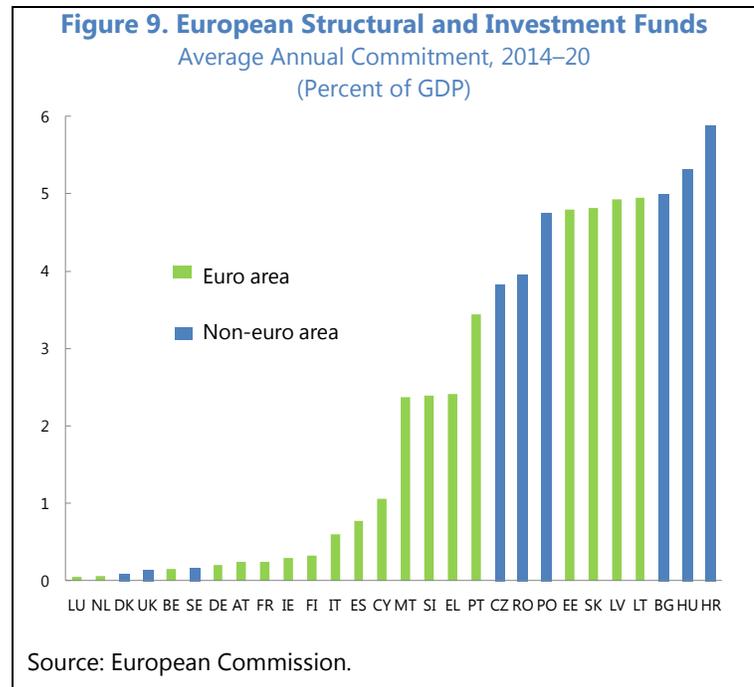
40. **Clarifying and simplifying the governance framework.** The framework should be clarified and simplified. This would help explain the context for EU-led reforms including in areas where the EU’s role is currently subject to interpretation (e.g., labor and social policies).

Better Incentives

41. **Uniform incentives.** The January 2015 EC guidance on SGP flexibility does not specify the magnitude of fiscal space that countries under the corrective arm may obtain in exchange for structural reforms. Extending the 0.5 percent of GDP fiscal space for structural reforms to all countries would simplify and clarify procedures and help focus the discussion on reform implementation. These changes could be considered in the context of reforms to the fiscal framework (such as merging the preventive and corrective arms of the SGP).

²⁰ Portugal’s 2014 CSR measure for “a functionally independent central evaluation unit at the government level, which assesses and reports every six months on the implementation of these reforms, including consistency with the ex-ante impact assessment, with corrective action if needed” goes in this direction.

42. **Bigger and better functioning EU budget.** Providing meaningful and strong incentives for structural reforms will require a much bigger and better functioning EU budget, with disbursements closely linked to the full implementation of a set of *ex ante* agreed measures. Currently, the average annual commitment of ESI financing represents a relatively small share of GDP (Figure 9) for most EU countries except smaller states. In contrast, federal transfers to states in the United States totaled 3.3 percent of GDP in FY 2014 alone.²¹ A substantially expanded EU budget—funded by a dedicated revenue stream for example—might be able to provide direct fiscal transfers to incentivize and support structural reforms in member countries, in addition to other benefits such as helping to smooth asymmetric shocks.²² The idea of a common euro area fiscal capacity was widely discussed in the context of the Van Rompuy et. al. 2012 report, but did not gain political traction at the time.



Reforms Requiring Treaty Change

43. **Greater EU role.** In an increasingly complex global economy, addressing challenges can require reforms that cut across a broad range of areas. There is evidence of sizable interactions between labor and product market reforms linking the effectiveness of deregulation in one market to the level of regulation in the other market (e.g., Berger and Danninger, 2006; Bassanini and Duval, 2006). The mutually reinforcing effects of structural reforms underscore the need for reforms to be considered together. Therefore, it may not be meaningful to limit the EU's role to a narrowly defined area of "exclusive and shared competence" since its ability to achieve goals in one area can depend crucially on policies in another area outside its purview.

44. **Which reforms?** The EU should have the ability to enforce reforms that achieve two goals (Draghi, 2014). The first goal would be to allow member states to thrive within the monetary union. This would require reforms that increase growth, competitiveness, and productivity, and reduce

²¹ Grants to state and local governments, excluding direct spending by the federal government in states, or taxes paid by state residents to the federal government. Data are from the Office of Management and Budget and the Congressional Budget Office.

²² Allard et. al. (2010) proposed additional EU revenues through EU-wide taxes, e.g., green levies, to provide transfers to incentivize structural reforms in member countries particularly where potential spillovers are large.

vulnerabilities at the national level. The second goal would be to complete the Single Market to improve the resilience of the monetary union and foster further convergence in the absence of common area-wide public sector risk-sharing. This would include reforms that achieve sufficient flexibility in factor markets and greater private sector risk-sharing to enable a faster adjustment to shocks. Some reforms can contribute to achieving both objectives.

E. Summary and Conclusions

45. **Reforms should continue.** It is important to keep up the momentum for structural reforms to improve flagging productivity, sustain and boost the recovery, and build a stronger monetary union. The 2010–11 reforms strengthened the governance framework and provided the EU more scope and authority to push reforms forward, but implementation challenges are evident even at this early stage.

46. **Political commitment for reform.** In the near term, the current framework could be made to function better by increasing ownership (by garnering collective political commitment toward ambitious area-wide reforms); strengthening existing incentives (via greater specificity, outcome-based benchmarking, transparency and accountability); and providing stronger and even-handed support for reforms. A simpler framework, dynamic *ex ante* experimentation with reforms by national productivity councils, and independent *ex post* evaluation of the implementation of the governance framework would improve transparency and ownership. Deeper reforms are needed in the medium-term, including a broader role for the EU to ensure the resilience of the EMU. These reforms should ideally be combined with amendment of the fiscal framework to increase synergies between the two, while reducing overlaps and complexity. **Deep political commitment and political capital is required to bring about these changes to the economic governance framework of the EU to ensure the resilience of the monetary union.**

Table 4. National Productivity Councils of Australia and Belgium: A Brief Summary

	Mandate	Areas	Members	Powers	Independence
Belgium Conseil Central de l'Economie, 1948	Economic organization; dialog between employers and workers on economic issues; guidance to Government on economic policies. Role has been expanded over time, making the delivery of opinions or reports compulsory. Special role in wage bargaining.	Labor markets; competition policy; structural policy; sustainable development; European policy; sectoral developments; firm-level governance.	Representatives of private sector trade unions, employers, and academics. Chaired by a leading figure independent of the administration and represented organizations.	Produces reports on issues that are binding on the social partners. <u>Special role in wage bargaining</u> : produces technical report on the maximum available margin of growth in labor costs (based on main trading partners) which provides basis for collective bargaining agreements.	Joint, inter-professional advisory body, with equal representation of employers and workers organizations. Presence of members known for technical expertise. President of the Council, appointed by the King after consultation with the Council, independently guides debates.
Australia Australian Government Productivity Commission 1998	Advice on policy or regulatory issues <i>Inter alia</i> it contributes to: improving productivity and overall economic performance; reducing unnecessary regulation; developing efficient and internationally competitive industries; facilitating adjustment to structural changes in the economy and avoiding social and economic hardships arising from those changes; promoting regional employment and development.	All levels of government, all economic sectors, social and environmental issues. Topics covered so far: income distribution; sustainability; manufacturing productivity; labor costs; services exports; barriers to setting up and closing businesses.	The Board is composed of 4–11 Commissioners with relevant qualifications and experience; at least one has extensive experience in dealing with the social effects of economic adjustment and social welfare service delivery, and one in working in Australian industry. The Chairman, Deputy Chairman and Commissioners, have fixed-term appointments.	Conducts public inquiries at the Government's request on policy or regulatory issues bearing on economic performance and community wellbeing. Also produces research at Government's request to support its annual reporting, performance monitoring and other responsibilities.	Commission is an independent advisory body but a Government agency reporting to the Treasurer. It operates under the powers and protection of its own legislation, with its own budget and permanent staff, operating at arm's length from other government agencies. The Government largely determines its work program, but the Commission's findings and recommendations are based on its own analyses and judgments and are open to public scrutiny.
Sources: http://www.pc.gov.au/ ; and http://www.eesc.europa.eu/ceslink/?i=ceslink.en.escs-in-member-states-cce-crb					

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