Economics | Euro Area
13 April 2015

Towards the end of the banks/sovereign nexus

Europe Economics +44 20 7995 1476
MLI (UK)
europeaneconomics.merrilllynch@baml.com

Gilles Moec +44 20 7996 7574
Europe Economist
MLI (UK)
gilles.moec@baml.com

Ruben Segura-Cayuela +44 20 7995 2102
Europe Economist
MLI (UK)
ruben.segura-cayuela@baml.com

Financial crises "double whammy"

Fiscal policy becomes more potent after a financial crisis, as the economy becomes less responsive to monetary policy and the private sector's generalized preference for deleveraging needs to be offset by public spending or tax cuts. However, very quickly after a brief period of coordinated fiscal push, governments throughout the developed world ditched the textbook and moved into all-out austerity in 2010, even though the recovery was shaky. We argue here that the large effective and potential financial burden of supporting the financial sector (both on and off the governments' balance sheet) explains this premature conversion to fiscal restraint. This is the "double whammy" effect of financial crises: beyond the direct, negative impact on aggregate demand, they also reduce the potency of counter-cyclical economic policies.

Banks/sovereign loop in the EA was worse, absent QE

In the Euro area, the impact of the banks/sovereign negative feedback loop was even more acute than in the rest of the developed world, given the tardiness in addressing the structural issues of the banking sector and more fundamentally because, in the absence of QE, banks played the role of marginal lender to the government - thanks to the ECB's generous liquidity policy - at the expense of funding the private sector.

But things are improving

However, thanks to progress in the capital position of banks and the new "presumption of bail-in" - which in our view could only come after the most acute systemic banking risks were actually alleviated thanks to government support (e.g. in Spain) - member states' exposure to the financial sector has now fallen. This liberates more room for manoeuvre for counter-cyclical fiscal policy. The recent shift, in the Euro area, from all-out austerity to a neutral, or even slightly stimulative, fiscal stance would not be sustainable, in our view, if government faced massive contingent liabilities.

And QE will help reduce the loop even further

At the same time, to wean banks off lending to the governments at the expense of the private sector without jeopardizing the governments' funding capacity - which would be equally detrimental to economic growth - the Euro area needed to find an alternative marginal lender. This is achieved by QE. In a nutshell, QE is the necessary complement to banking union and the Single Resolution Mechanism to break the banks/sovereign nexus. This is another, indirect, transmission mechanism of QE to the real economy. Under cover of QE, we think that the regulatory authorities will try to incentivize banks to reduce their exposure to sovereigns. This is the message that Daniele Nouy, head of SSM, sent in a recent interview in the Handelsblatt, in which she opined that holdings of government bonds should be limited to a quarter of banks' equity.

Unauthorized redistribution of this report is prohibited. This report is intended for alexandra.fletcher@baml.com.

BofA Merrill Lynch does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.
Refer to important disclosures on page 10 to 11.

Bank crises change the fiscal textbook

Economies which experienced acute financial crises tend to mend more slowly than when faced with other types of exogenous shocks. This has become a frequent explanation of the surprisingly slow recovery which followed the 2008/2009 Great Recession. A recent paper by the IMF[1] estimates that when recessions come after a major rise in bank credit, it takes three years for output to return to peak, against 1.5 years in "normal" recessions. Intuitively, it is fairly easy to understand why. After a financial crash, which significantly constrains available liquidity, firms and households are incentivised to de-leverage, which postpones any rebound in capital expenditure and consumption, while banks, focusing on re-building their capital base to deal with increased asset impairment, restrict the supply of credit.

Post-financial crash, policy recommendations are also likely to differ from the usual textbook approach. With monetary policy impaired - since both the demand and supply of credit are less reactive to changes in central banks' rates - fiscal policy becomes the weapon of choice to support the economy, and public spending needs to increase to offset higher saving in the private sector. Another version of this view - popularized by Blanchard - is that in the aftermaths of a financial crisis, fiscal multipliers should be higher than usual.

However, in 2010, while the recovery was still shaky, the developed world consciously chose another route: after the initial somewhat-coordinated push of 2008-2009, the US and the EU called for fiscal restraint. While the EU's preference for fiscal austerity is now routinely derided and seen as the key ingredient in Europe's counter-performance over the last few years, we think it is worth remembering that the Obama administration also chose austerity in 2010.

Irrespective of their prior ideological leanings, and within various institutional set-ups (fiscal rulebook in a monetary union or full national sovereignty on budgetary issues) governments of all ilk, in the developed world, chose restrictive fiscal policies. The similarity in the magnitude of the fiscal tightening (measured as the change in underlying balance as estimated by the OECD) across the US, the UK and the Euro area between 2009 and 2011 is remarkable (respectively 1.6%, 1.7% and 1.4% of GDP).

We argue here that the political and financial cost of bailing out banks, at the onset of the Great Recession, can explain this collective choice, with particularly negative effects in the Euro area. In this approach, the burden of shoring up the financial system led to fiscal restraint, which is another channel through which the financial crisis had lingering effects over domestic demand.

Bailouts evict traditional fiscal support

Nearly everywhere in the developed world, taxpayers paid to shore up their financial systems with little visible impact on economic activity, since bailouts did not remove the need for balance sheet shrinkage in the banking industry. It is not surprising that they were reluctant to engage in any additional activist policy which they would see as increasing, in the long run, their liabilities.

Indeed, on top the immediate cost of the bailouts, public debt trajectories could be affected by the impact on governments' funding rates of "off-balance sheet" liabilities. Beyond the public cash actually spent on recapitalisation and asset

[1] "From Banking to sovereign stress: implications for public debt". March 2015.

impairment relief, governments explicitly extended massive guarantees to the banking sector and often made it plain that, if need be, recapitalisations could go much further. According to the European Commission's state aid data, between 2008 and 2013 EU governments spent EUR 636bn in total on bank recapitalisation and asset relief, but a total of EUR 1490bn had been pre-approved by the European authorities (c.11% of GDP), i.e. could have been legally triggered if the need had arisen. In addition to this, European governments at peak offered EUR 905bn in guarantees, another 6% of GDP (Table 1 and Table 2). Even strong economies, with lots of room for manoeuvre on fiscal policy, were potentially facing large liabilities as a consequence of their support of the local banking sector (more than 25% of GDP for Germany).[2]

Obviously, at some point some probability of these potential liabilities would have to be factored in, raising risk premia. This "ticking bomb" of off-balance sheet liabilities could reasonably call for restraint on the other item of public finances.

The weight of actual, rather than potential, support for the financial sector should not be understated either. Chart 1 shows that the impact of financial sector support on the governments' fiscal position was very similar to that of the post-crisis lower aggregate demand (the "cyclical component" of the deficits), in both the UK and the Euro area.

This does not mean that ideological preferences play no role. We do not believe there is a mechanical relationship between higher spending to bail out banks and subsequent lower spending on social transfers and public investment. However, we think that the deterioration in public debt trajectories triggered by the bailouts made the argument of the usual "fiscal orthodox" line easier to sell.

In a nutshell, while financial crises make fiscal multipliers larger than usual, they also tend to "evict" public spending because of the need to shore up the financial system, making "traditional" fiscal support less likely. It is when the fiscal support is the most needed that it is the least available.

Table 1: Government's Financial Sector Support (% of 2013 GDP)

	On-balance sheet liabilities			Off-balance sheet liabilities
	(a)+(b)	(a) Recapitalis.	(b) Asset impairment relief	
US	4.5%	n.a.	n.a.	n.a.
UK	7.4%	5.3%	2.1%	12.0%
EA	4.9%	3.4%	1.5%	12.9%
DE	5.3%	2.3%	2.9%	5.2%
FR	1.3%	1.2%	0.1%	6.8%
ES	9.3%	6.0%	3.2%	14.2%
IT	0.5%	0.5%	0.0%	10.7%

Source: EC state Aid Scoreboard, IMF Fiscal Monitor October 2014

Table 2: Financial Crisis Aid (% of 2013 GDP)

	Used amounts		Approved amounts	
	On-balance sheet liabilities	Off-balance sheet liabilities	On-balance sheet liabilities	Off-balance sheet liabilities
UK	7.4%	12.0%	19.1%	26.9%
EA	4.9%	12.9%	10.8%	29.0%
DE	5.3%	5.2%	7.2%	17.0%
FR	1.3%	6.8%	1.6%	19.0%
ES	9.3%	14.2%	30.7%	34.6%
IT	0.5%	10.7%	1.4%	7.1%
IE	39.9%	197.0%	142.4%	362.6%
PT	6.6%	21.0%	21.9%	30.4%
GR	22.4%	65.5%	26.9%	55.3%

Source: EC state Aid Scoreboard

[2] Notice that state aid does not necessarily lead to higher debt, since it can be contingent. Also higher debt does not need to lead to higher deficits, if losses are not crystallised. These accounting issues explain the discrepancies between the data on tables 2, 3 and 4.

Something then needs to give. In the US, vigorous monetary policy action - in the form of early QE - managed to offset much of the fiscal drag. To put things simply, if fiscal support is unavailable and sensitivity to interest rates is lower, then monetary policy needs to "go an extra-mile'. In our view, QE in the US has been instrumental in making sure the economy remained on the recovery track in spite of a i) effective fiscal drag and ii) unprecedented threats of "catastrophic withdrawals" in public spending, with the various "debt ceiling" and sequester episodes. The UK is another example of a country which managed to control the impact of a major fiscal drag - after a just as major public bailout of the financial system - thanks to extraordinary monetary support.

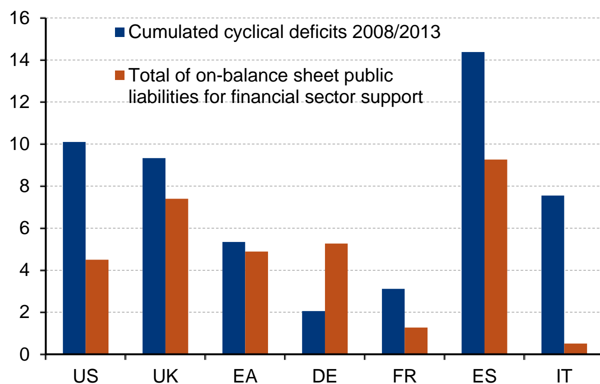
In the Euro area, in our view, the "banks/sovereign" nexus played a more acute role than in the US and the UK, not simply because monetary policy did not offer as much support, at least until very recently, but more fundamentally because the "banking issue" had a more durable, complex and pervasive effect on the economy and policy-making.

The banks/sovereign nexus is bad everywhere, but it's even worse in Europe

The reaction of the US authorities - after the initial "bail in" temptation on Lehman Brothers - was remarkably swift. Forcing a recapitalisation and imposing management decisions on banks complemented state support on liquidity. In Europe, while support came very quickly, there was comparatively little attempt at dealing with the structural issues surrounding the national banking systems. Probably to some extent because European policy-makers considered that this was primarily an "Anglo-Saxon crisis", the onus was on dampening the contagion effects of a New York born financial meltdown, without necessarily a clear awareness of the depth of the local difficulties.

This timing difference is plain to see in banks' capital to asset ratio across the regions (see Table 3). For simplicity of analysis, we look here at total assets, not risk weighted assets. This measure, which we take from the IMF's financial stability report, is therefore close to a leverage ratio. Before the Great Recession, the ratio was already much higher in the US than in Europe (roughly twice as large), but what is striking is that within only three years, it had already improved

Chart 1: Increase in cyclical deficits vs. financial sector public support



Source: EC state Aid Scoreboard, IMF, CBO, BofA Merrill Lynch Global Research

Table 3: Capital and reserves/total assets

	Level			Delta	
	2007	2010	2013	2007-2010	2010-2013
Germany	4.3	4.3	5.5	0	1.2
France	3.7*	4.9	5.4	1.2	0.5
Italy	4.6	5	5.5	0.4	0.5
Spain	6.7	6.1	6.3	-0.6	0.2
Ireland	4.4	5.5	8.1	1.1	2.6
Portugal	6.5	6.7	6.9	0.2	0.2
Greece	6.8	7.3	8.3	0.5	1
US	10.3	12.7	11.8	2.4	-0.9
UK	5.5	5.4	5**	-0.1	-0.4

Source: : IMF, Global Financial Stability Report, ,
Note: *: 2008; **: 2012

by more than 2 percentage points. The best European performer during this period (France) managed an increase of only 1.2 pp, from a very low starting point.

The irony, then, is that the Europeans ended up spending slightly more government money on their banks than the Americans (4.9% of GDP instead of 4.5% of GDP for on-balance sheet expenditure alone) while triggering a much smaller improvement in their banks' capital position. To some extent, this mechanically reflects the difference in size between the two banking systems - the same public spending in % of GDP has a much lower impact on the financial position of the much larger European banking sector - but we also consider that, at least at the onset of the crisis, European governments failed to emulate their US counterpart in making public support conditional on significant and rapid efforts from banks under their jurisdiction to deal with their underlying problems.

Europe's tardiness in dealing with the structural issues of the banking sector proved particularly toxic given the much more central role it plays in funding the economy, relative to the US. Indeed, in the US bank loans accounted for only 20% of the total liabilities of the corporate sector before the Great Recession, roughly half the proportion found in the Euro area (see Chart 2).

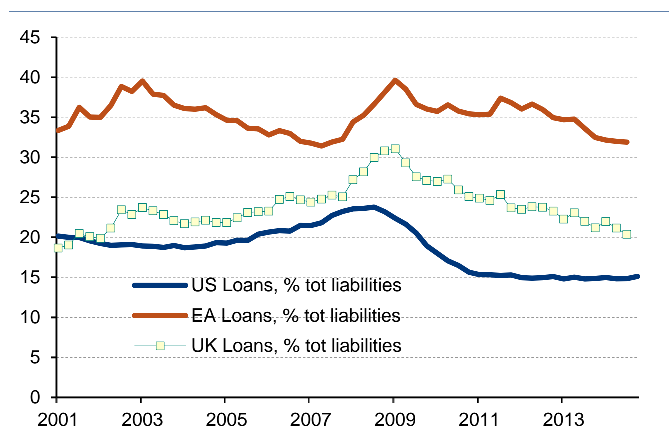
It was not only a matter of quantities but also, as suggested above, of price. As we have argued before (see EEW), the health of the demand and particularly the supply of credit are key to understand the broken transmission of monetary policy, the very limited sensitivity of lending rates to policy rates in most of the periphery for most of the post-crisis period and the increased sensitivity of lending rates to sovereign yields.

Table 4: Financial needs for government bail-outs & impact on EDP debt (% of 2013 GDP)

	A. Financial needs to support Financial Sector from 2008 to 2013				B. Impact on EDP Debt
	% of GDP	from 2008 to 2010	from 2011 to 2013	Cumulated deficit/ surplus	Debt up to 2013
BE	3.9	5.1	-1.2	0.2	4.8
DE	8.8	10.9	-2.1	1.4	8.8
EE	0.0	0.0	0.0	0.0	0.0
IE	37.3	28.7	8.6	25.2	27.7
GR	24.8	1.1	23.6	12.1	23.0
ES	4.9	2.3	2.6	4.3	5.3
FR	0.0	0.0	-0.1	-0.1	0.1
IT	0.2	0.3	-0.1	-0.1	0.3
CY	10.5	-0.2	10.7	0.1	11.0
LV	5.0	5.7	-0.7	3.6	5.4
LU	5.7	5.7	0.0	-0.1	5.5
MT	0.0	0.0	0.0	0.0	0.0
NL	6.1	8.3	-2.2	0.7	8.0
AT	3.1	2.8	0.3	1.9	5.8
PT	10.4	3.7	6.8	2.8	10.3
SI	14.2	3.9	10.3	10.9	14.2
SK	0.0	0.0	0.0	0.0	0.0
FI	0.0	0.0	0.0	0.0	0.0
EA	5.1	4.9	0.2	1.7	5.2
UK	6.3	6.9	-0.7	1.9	8.0

Source: ESCB, Eurostat

Chart 2: NFC loans, % of total liabilities



Source: ECB, FRB

Another consequence of the belated reaction of the European public sector was, that by the time the banking sector was blatantly on the brink of collapse in number of countries, the governments there had already lost market access – or at the very least was already paying crippling interest rates – precisely on account of the market's anticipation of the bailout costs. Spain probably is the best example of this type of behaviour. Exactly at the time public sector support became crucial, its cost was impossible to shoulder.

This gets us to the second significant difference between the US and the Euro area as far as the "banks/sovereign nexus" is concerned: the "imperfect mutualization issue". In the US, even if various bodies compete in the regulation of the banking industry, two centers of decision matter: the White House and Congress, as it is ultimately a federal issue. In the Euro area, a major difficulty arose from a discrepancy, across member states, between banks' need for funds and fiscal capabilities. Ireland is the best example of this. As it can be seen in Table 2, the total of approved support to the financial sector there - on and off-balance sheet potential liabilities - amounted to 500% of GDP, while the effective cost of support exceeded twice local GDP.

This was actually another factor behind the tardiness in the European approach to sorting out the banking sector. First, as it took time for the Euro area to cobble up a viable financial solidarity mechanism which could contain the effects of the financial crisis in the most fragile member states, the situation there continued to fester. Second, once the mechanism was in place, the loss of national sovereignty that a recourse to European solidarity entailed drove some states to delay such request. Again, Spain provides an interesting example. While it had become obvious by 2011, in our view, that Madrid could not properly shore up its banking system on its own financial resources, the government waited until the summer of 2012 before asking for an EFSF loan to recapitalize its banks. In the meantime, the deepening banking crisis - and the uncertainty on the sustainability of public finances - had further damaged the economy.

The European periphery settled in a particularly toxic negative feedback loop in which banks' funding costs and ultimately market access were compromised by a growing perception of the inability of their sovereigns to provide effective protection, while the "presumption of bailout" of a fragilized banking sector made the governments' own funding costs entailed a significant risk premium which jeopardized public debt trajectory. The victim there was those countries' real economy, which had to deal with i) the direct effect of a dysfunctional banking sector on domestic demand, ii) higher interest rates and iii) compressed "ordinary" public spending, as governments were trying their best to prove that their public debt trajectory remained sustainable so that they could maintain market access, or more simply, when they had lost market access, because this was a key condition for tapping into the European financial stability mechanism.

The political balance within the central bank - compounded by, until recently, the absence of clear deflationary pressure at the aggregate regional level - made it impossible to break this negative feedback loop via direct purchases of government bonds, which at the very least would have isolated sovereign funding costs from the consequences of the banking crisis.

Instead, the ECB approach - understandable from an emergency management point of view - added another layer to the banks/sovereign nexus by turning the banks into the lender of last resort of their local sovereign. Indeed, the ECB, by allowing access to long term cheap liquidity, through the LTROs, allowed banks

to engage in safe carry-trade, parking liquidity into government bonds at a time when non-residents were leaving the periphery in droves.

Banks always tend to skew their asset allocation towards government bonds in bad cyclical times, as the demand for credit from the private sector diminishes while the quality of the banks' loan books deteriorates. Still, the ECB's generous approach to liquidity clearly was a facilitator.

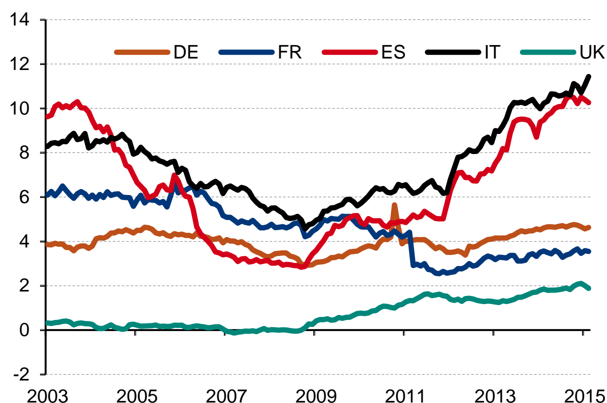
Italy in our view managed to avoid a recourse to the EFSF/ESM only because banks, which in 2009 held only 14% of the stock of public debt, ended up absorbing 75% of the increase in public debt between 2009 and 2014.

This was probably an acceptable "second best" to QE in terms of maintaining some funding capacity for embattled governments, as well as keeping the banking sector alive in the absence of clear progress on recapitalisation and balance sheet clean-up, but such approach presented the major risk of keeping the real economy into a recessive regime. Indeed, in this configuration, peripheral banks could make a more than decent living purely on the carry-trade, with little incentives for them to try to re-start lending to the private sector.

Beyond institutional progress on banking union, QE is the necessary condition for breaking the banks/sovereign nexus

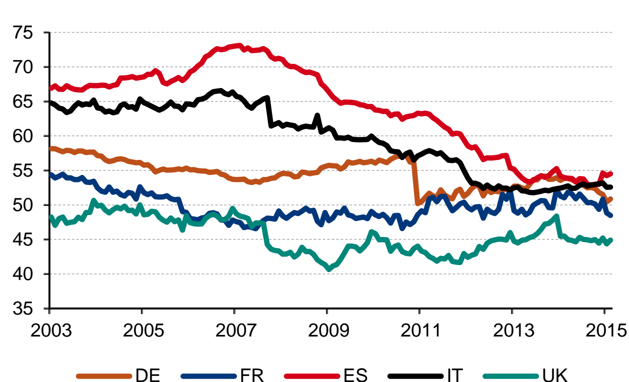
The two key institutional elements allowing the Euro area to deal with the banks/sovereign nexus are i) the Single Resolution Fund, funded by the banks and ii) the possibility, finally adopted on 8 December 2014, for the ESM to recapitalize banks directly, i.e. without leaving the financial cost, ultimately, on the balance sheet of the sovereign in the concerned banks' jurisdiction. These two instruments' capability is limited (1% of insured deposits for the first one and EUR 60bn for the second) but this is a first, important step towards a mutualization of the banking risk across the Euro area, which is in our view made possible by the federalization of banking supervision under the SSM framework.

Chart 3: MFIs' holdings of government securities, % Tot assets



Source: ECB, BofA Merrill Lynch Global Research

Chart 4: MFIs' Private sector loans, % Tot assets



Source: ECB, BofA Merrill Lynch Global Research

In both cases, however, in principle mutualized support can be triggered only after a bail-in of the private creditors. This leaves the "financial stability" issue unanswered. Indeed, if the Euro area was faced with a major banking incident in which "burning" private shareholders and bondholders would trigger an unstoppable, generalized crisis, it remains unclear how a collective response would be organized.

Yet, the Europeans came to the bail-in principle quite late, after having allowed banks a lot of time to recapitalise and address their asset impairment issues, often with public support (the Single Resolution Mechanism is operational only since January 2015). The most threatening systemic banking crisis in the Euro area had for long been that of Spain, given the size of the financial sector there. Spain dealt with the Cajas issue - with financial help from the ESM - before the resolution framework was implemented and the "bail in principle" was established. The lesser need for government support of banks is reflected in the fact that the off-balance sheet liabilities of Euro area governments in the form of guarantees to banks fell from a peak at 7.9% of GDP in 2009 to 4.7% of GDP in 2013 (see Table 5).

In other words, the Europeans have consecrated the "bail-in principle" only after the probability of a systemic banking crisis had significantly fallen. This does not mean that the principle is void of practical consequences. Cyprus was a key warning, and more recently Portugal dealt with the difficulties of BES without creating any major market hiccup for the government. Bail-ins are a credible threat, but with a lower probability of widespread usage, because the Europeans made sure that their banks had made sufficient progress before implementing the new system.

The Euro area has thus made significant progress in reducing governments' exposure to the banking risk. This is normally consistent with a lower risk premium on government bonds, and allows for more leeway on counter-cyclical fiscal policy. Indeed, the "eviction effect" of traditional growth-supporting public spending by higher actual or potential liabilities arising from supporting the financial sector is now lower.

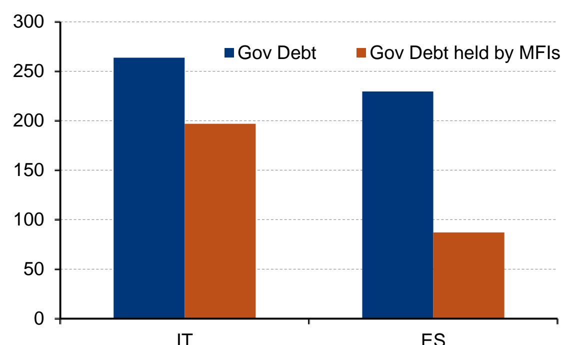
However, in our view, without QE, the Euro area would still face difficulties in significantly reducing the banks' preference for government bonds, which creates an "eviction effect" at the expense of lending to the private sector.

Table 5: Contingent liabilities (% of 2013 GDP)

	UK	Euro area	EA Group 1	EA Group 2
2007	1.7	0	0	0
2008	19.2	5.1	11.5	1.4
2009	34.2	7.8	14.3	4
2010	22.7	5.7	7.7	4.6
2011	10.4	5.7	6.5	5.2
2012	0.5	5.7	5	6.1
2013	0	4.7	2.8	5.8

Source: ESCB, Eurostat, BofA Merrill Lynch Global Research
Note: The first group includes Germany, Ireland, Latvia and the Netherlands. The second group is composed of the other 14 euro area countries.

Chart 5: Change in government debt, 2008-2013 (EUR bn)



Source: BdI, BdE

A year ago, Bundesbank Governor Jens Weidmann made the point in an op-ed in the Financial Times that given the occurrence of actual sovereign restructuring in Europe (Greece) it made little sense to maintain, in the calculation of the regulatory capital ratio to maintain the fiction of a "zero risk weight" for government bonds. Raising the risk weight on this asset would reduce the relative profitability of storing liquidity into govies instead of lending to the private sector.

We think that Jens Weidmann, on substance, had a very valid point. The "only" problem in his reasoning at the time was that there was no credible alternative to domestic banks to fund peripheral governments. If collectively the Europeans want to wean governments off bank funding and liberate bank resources for lending to the private sector in a non-disruptive way, then they have to find an alternative marginal lender to the banks.

The ECB, with QE, offers this alternative lender. In our estimate, between March 2015 and September 2016, which is the shortest possible time span for QE, the central bank will have absorbed 7.8% of public debt in Italy and 12.6% in Spain. This is actually a bit higher than the share of those public debts currently held by domestic banks (respectively 7.3% and 8.7%) (see Table 6).

We noticed, two weeks ago when the money supply data for February were published, that while the recovery in lending to the private sector was confirmed, banks had been net sellers of government bonds for EUR25bn. We want to be prudent given the volatility in this series, but this would suggest that the normalization of bank asset allocation has started.

In the US, the Fed absorbed via QE 30% of the additional public debt accumulated since 2008. In the Euro area, assuming - contrary to the views we expressed here - that the central bank stops QE after 18 months, the ECB would hold 38% of the "marginal public debt" (see Table 7). This obviously changes the sustainability conditions of public debt. Indeed, if one considers - which is our view logical since the ECB did not mutualize QE across the Eurosystem - that we should look at the balance sheet of the governments and the central banks in a consolidated manner (through the central bank's dividend, governments pay coupons to themselves) then we should focus, when assessing sovereign risks, only on the share of public debt which is held outside of the central bank.

With reduced exposure to the banking risk, and a more sustainable public debt, governments now have wide room for manoeuvre on counter-cyclical fiscal policy. The recent shift, in the Euro area from all out austerity to a neutral, or even slightly stimulative fiscal stance would not be sustainable, in our view, if government faced massive contingent liabilities and could not count on a marginal lender.

Table 6: Public debt "absorbed" by QE vs. bank holdings

	IT	ES
2010-2014 diff in % of gov debt held by banks out of total	6.30%	8.73%
QE purchase as % of total gov debt	7.76%	12.56%

Source: BofA Merrill Lynch Global Research
Note: For Italy, we assume a total amount of 7.6bn of gov. bond purchases per month, as for March 2015 (see here). For Spain, we assume a total amount of 5.4bn of gov. bond purchases per month, as for March 2015 (see here). It might be an upward biased estimate due to the fact that it may include purchases of national agency body's bonds.

Table 7: Public debt "absorbed" by QE

	US (USD bn)	UK (GBP bn)	EA (EUR bn)
Marketable gov. debt increase, 2008-2014	6721	799	1946
QE size	1985	375	745.2
QE size, % gov. debt increase	30%	47%	38%

Source: BofA Merrill Lynch Global Research
Note: For ECB QE, we assume a total amount of 41.4bn of gov. bond purchases per month, as for March 2015 (see here). It might be an upward biased estimate due to the fact that it may include purchases of national agency body's bonds.

Under cover of QE, we think that the regulatory authorities will try to incentivize banks to reduce their exposure to sovereigns. This is the message that Daniele Nouy, head of SSM, sent in an interview in the Handelsblatt on April 1st, in which she opined that holdings of government bonds should be limited to a quarter of banks' equity (currently this exceeds four times equity in some peripherals).

Important Disclosures

BofA Merrill Lynch Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking revenues.

Other Important Disclosures

Individuals identified as economists do not function as research analysts under U.S. law and reports prepared by them are not research reports under applicable U.S. rules and regulations. Macroeconomic analysis is considered investment research for purposes of distribution in the U.K. under the rules of the Financial Services Authority.

BofA Merrill Lynch Global Research policies relating to conflicts of interest are described at http://www.ml.com/media/43347.pdf.

"BofA Merrill Lynch" includes Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") and its affiliates. Investors should contact their BofA Merrill Lynch representative or Merrill Lynch Global Wealth Management financial advisor if they have questions concerning this report.
"BofA Merrill Lynch" and "Merrill Lynch" are each global brands for BofA Merrill Lynch Global Research.

Information relating to Non-US affiliates of BofA Merrill Lynch and Distribution of Affiliate Research Reports:

MLPF&S distributes, or may in the future distribute, research reports of the following non-US affiliates in the US (short name: legal name): Merrill Lynch (France): Merrill Lynch Capital Markets (France) SAS; Merrill Lynch (Frankfurt): Merrill Lynch International Bank Ltd., Frankfurt Branch; Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd.; Merrill Lynch (Milan): Merrill Lynch International Bank Limited; MLI (UK): Merrill Lynch International; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited; Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd.; Merrill Lynch (Canada): Merrill Lynch Canada Inc; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa; Merrill Lynch (Argentina): Merrill Lynch Argentina SA; Merrill Lynch (Japan): Merrill Lynch Japan Securities Co., Ltd.; Merrill Lynch (Seoul): Merrill Lynch International Incorporated (Seoul Branch); Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd.; DSP Merrill Lynch (India): DSP Merrill Lynch Limited; PT Merrill Lynch (Indonesia): PT Merrill Lynch Indonesia; Merrill Lynch (Israel): Merrill Lynch Israel Limited; Merrill Lynch (Russia): OOO Merrill Lynch Securities, Moscow; Merrill Lynch (Turkey I.B.): Merrill Lynch Yatirim Bank A.S.; Merrill Lynch (Turkey Broker): Merrill Lynch Menkul Değerler A.Ş.; Merrill Lynch (Dubai): Merrill Lynch International, Dubai Branch; MLPF&S (Zurich rep. office): MLPF&S Incorporated Zurich representative office; Merrill Lynch (Spain): Merrill Lynch Capital Markets Espana, S.A.S.V.; Merrill Lynch (Brazil): Bank of America Merrill Lynch Banco Multiplo S.A.; Merrill Lynch KSA Company, Merrill Lynch Kingdom of Saudi Arabia Company.

This research report has been approved for publication and is distributed in the United Kingdom to professional clients and eligible counterparties (as each is defined in the rules of the Financial Conduct Authority and the Prudential Regulation Authority) by Merrill Lynch International and Bank of America Merrill Lynch International Limited, which are authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority, and is distributed in the United Kingdom to retail clients (as defined in the rules of the Financial Conduct Authority and the Prudential Regulation Authority) by Merrill Lynch International Bank Limited, London Branch, which is authorised by the Central Bank of Ireland and subject to limited regulation by the Financial Conduct Authority and Prudential Regulation Authority - details about the extent of our regulation by the Financial Conduct Authority and Prudential Regulation Authority are available from us on request; has been considered and distributed in Japan by Merrill Lynch Japan Securities Co., Ltd., a registered securities dealer under the Financial Instruments and Exchange Act in Japan; is distributed in Hong Kong by Merrill Lynch (Asia Pacific) Limited, which is regulated by the Hong Kong SFC and the Hong Kong Monetary Authority is issued and distributed in Taiwan by Merrill Lynch Securities (Taiwan) Ltd.; is issued and distributed in India by DSP Merrill Lynch Limited; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch International Bank Limited (Merchant Bank) and Merrill Lynch (Singapore) Pte Ltd. (Company Registration No.'s F 06872E and 198602883D respectively). Merrill Lynch International Bank Limited (Merchant Bank) and Merrill Lynch (Singapore) Pte Ltd. are regulated by the Monetary Authority of Singapore. Bank of America N.A., Australian Branch (ARBN 064 874 531), AFS License 412901 (BANA Australia) and Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this report in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of BANA Australia, neither MLEA nor any of its affiliates involved in preparing this research report is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this report in Brazil and its local distribution is made by Bank of America Merrill Lynch Banco Múltiplo S.A. in accordance with applicable regulations. Merrill Lynch (Dubai) is authorized and regulated by the Dubai Financial Services Authority (DFSA). Research reports prepared and issued by Merrill Lynch (Dubai) are prepared and issued in accordance with the requirements of the DFSA conduct of business rules.

Merrill Lynch (Frankfurt) distributes this report in Germany. Merrill Lynch (Frankfurt) is regulated by BaFin.

This research report has been prepared and issued by MLPF&S and/or one or more of its non-US affiliates. MLPF&S is the distributor of this research report in the US and accepts full responsibility for research reports of its non-US affiliates distributed to MLPF&S clients in the US. Any US person receiving this research report and wishing to effect any transaction in any security discussed in the report should do so through MLPF&S and not such foreign affiliates. Hong Kong recipients of this research report should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities. Singapore recipients of this research report should contact Merrill Lynch International Bank Limited (Merchant Bank) and/or Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this research report.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Merrill Lynch.

This research report provides general information only. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This report is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of any specific person. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this report and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this report.

Securities and other financial instruments discussed in this report, or recommended, offered or sold by Merrill Lynch, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or

derivative is suitable for all investors. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

BofA Merrill Lynch is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned in this report. Investors in such securities and instruments effectively assume currency risk.

UK Readers: The protections provided by the U.K. regulatory regime, including the Financial Services Scheme, do not apply in general to business coordinated by BofA Merrill Lynch entities located outside of the United Kingdom. BofA Merrill Lynch Global Research policies relating to conflicts of interest are described at http://www.ml.com/media/43347.pdf.

Officers of MLPF&S or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

MLPF&S or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. MLPF&S or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Merrill Lynch, through business units other than BofA Merrill Lynch Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented in this report. Such ideas or recommendations reflect the different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Merrill Lynch is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this report.

In the event that the recipient received this report pursuant to a contract between the recipient and MLPF&S for the provision of research services for a separate fee, and in connection therewith MLPF&S may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom MLPF&S has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by MLPF&S). MLPF&S is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities mentioned in this report.

Copyright and General Information regarding Research Reports:

Copyright 2015 Merrill Lynch, Pierce, Fenner & Smith Incorporated. All rights reserved. This research report is prepared for the use of BofA Merrill Lynch clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Merrill Lynch. BofA Merrill Lynch research reports are distributed simultaneously to internal and client websites and other portals by BofA Merrill Lynch and are not publicly-available materials. Any unauthorized use or disclosure is prohibited. Receipt and review of this research report constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained in this report (including any investment recommendations, estimates or price targets) without first obtaining expressed permission from an authorized officer of BofA Merrill Lynch.

Materials prepared by BofA Merrill Lynch Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Merrill Lynch, including investment banking personnel. BofA Merrill Lynch has established information barriers between BofA Merrill Lynch Global Research and certain business groups. As a result, BofA Merrill Lynch does not disclose certain client relationships with, or compensation received from, such companies in research reports. To the extent this report discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this report. BofA Merrill Lynch Global Research personnel's knowledge of legal proceedings in which any BofA Merrill Lynch entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving companies mentioned in this report is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Merrill Lynch in connection with the legal proceedings or matters relevant to such proceedings.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Merrill Lynch and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This report may contain links to third-party websites. BofA Merrill Lynch is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this report and is not incorporated by reference into this report. The inclusion of a link in this report does not imply any endorsement by or any affiliation with BofA Merrill Lynch. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Merrill Lynch is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of the report and are subject to change without notice. Prices also are subject to change without notice. BofA Merrill Lynch is under no obligation to update this report and BofA Merrill Lynch's ability to publish research on the subject company(ies) in the future is subject to applicable quiet periods. You should therefore assume that BofA Merrill Lynch will not update any fact, circumstance or opinion contained in this report.

Certain outstanding reports may contain discussions and/or investment opinions relating to securities, financial instruments and/or issuers that are no longer current. Always refer to the most recent research report relating to a company or issuer prior to making an investment decision.

In some cases, a company or issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such company or issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with MLPF&S or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BofA Merrill Lynch nor any officer or employee of BofA Merrill Lynch accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this report or its contents.