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To: Collins, Michael  
Subject: Citi research - Banking Union  
Attachments: Citi - Banking Union.pdf



Dear colleague,

Citi Research has this afternoon published Willem Buiters's latest piece of analysis, which looks at some of the possible impacts and consequences of a eurozone 'Banking Union'.

As ever, if you have any comments or feedback I would be very interested to hear your thoughts.

Kind regards  
Michael

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## Global Economics View

### Three unanticipated consequences of banking union

Banking Union for the euro area is essential for the survival of EMU, but may have unintended consequences in our view; among these are:

- increased likelihood of strategic sovereign default in countries where the banking sector is dependent on Eurosystem funding
- pressure for mutualisation or Europeanisation of financial repression
- likely bailing in of unsecured bank creditors in euro area member states where the sovereign would be willing and able to rescue and recapitalise its banks using its own fiscal resources instead.

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See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

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# Three unanticipated consequences of banking union

## 1. Introduction

This note focuses on three unanticipated and probably unintended likely consequences, in our view, of the banking union agreed at the last EU summit on June 29, 2012. They are: (a) an increased likelihood of strategic sovereign default in countries where the banking sector is dependent on Eurosystem funding; (b) the possibility of mutualisation or Europeanisation of financial repression; and (c) the likely bailing in of unsecured bank creditors in euro area member states where the sovereign would be willing and able to rescue and recapitalise its banks using its own resources.

The quest for banking union in the euro area (EA) is driven by the desire to sever the potentially dangerous link between national sovereigns and the banks in their national jurisdictions in the euro area. Both the IMF (2012a,b) and the BIS (2012) have stressed the need to end the destructive feedback loops between weak banks and weak sovereigns. In the words of the International Monetary Fund: "Recapitalization of weak banks—including through direct support from EFSF/ESM resources—will help break the adverse feedback loops between sovereign and banking stress at the national level." (IMF (2012a); the BIS extends this argument to include the overleveraged household and non-financial corporate sectors in a number of EA member states: "As things stand, each sector's burdens and efforts to adjust are worsening the position of the other two. The financial sector is putting pressure on the government as well as slowing deleveraging by households and firms. Governments, with their deteriorating creditworthiness and need for fiscal consolidation, are hurting the ability of the other sectors to right themselves. And as households and firms work to reduce their debt levels, they hamper the recovery of governments and banks. All of these linkages are creating a variety of vicious cycles." (BIS(2012, page 8)).

Banking union for the EA consists of the following key elements:

1. A single supreme supervisor for EA banks
2. A common regulatory framework and a single supreme regulator
3. A single EA bank resolution regime and resolution/recapitalisation fund
4. An EA-wide deposit guarantee regime and fund, with mutualised fiscal backing and covering redenomination risk
5. An EA-wide guarantee fund for new issuance of unsecured term liabilities by banks.

Banking union has a variety of meanings. Under the circumstances faced by the euro area today, we consider properties (1), (2) and (3) below to be essential for the survival of the euro area; property (4) would be extremely helpful in preventing or at least mitigating exit fear contagion should Grexit occur. Property (5) is not essential for the survival of the euro area, but is likely to be necessary for the restoration of even a semblance of normality for term bank funding – itself a necessary condition for a resumption of effective bank intermediation in the euro area. Of the five elements of a properly functioning banking union for the euro area, only two (numbers (1) and (3)) were proposed formally at the June 2012 summit (and then only in part), and provisionally agreed:

- (1) **A single supreme supervisor for euro area banks.** Under the summit proposal the ECB will be the lead banking supervisor. With no experience as a supervisor and limited staff, the ECB will clearly have to rely initially on the national supervisors for much of the detailed supervisory activities. It is also unclear whether the ECB will even just pro forma be in charge of supervising all of the EA banks, just the cross-border banks, the cross-border banks and the national systemically important banks or some other subset of the bank population.
- (2) **A common regulatory framework and a single supreme regulator for euro area banks.** This has not yet been proposed but, as we argue in Section 3, this is a necessary condition for banking union and the proper functioning of the monetary transmission mechanism in the euro area in the presence of continuing material differences in national sovereign

creditworthiness, which we take to be a continuing feature of the European sovereign landscape for the duration of this crisis and well beyond.

- (3) **A single euro area bank resolution regime and resolution fund/recapitalisation fund.** Thus far, only the bank recapitalisation fund has been proposed formally and will be activated if the German Constitutional Court rules in favour of the ESM on September 12, 2012. The ESM will be able to recapitalise banks directly without having to go through the national sovereign, as is the case for the EFSF. The total amount of resources for the ESM, €500 billion when it is fully capitalised, is of course very small for a facility that will be providing funds both for the recapitalisation of banks and for liquidity support for sovereigns. We expect proposals for a euro area resolution authority to be part of the proposals for banking union that will be developed by the European Commission (EC), by the President of the European Council Herman van Rompuy and by the Eurogroup during the months to come.

On June 6, 2012, the European Internal Market Commissioner, Michel Barnier, proposed a Directive for establishing a framework for the recovery and resolution of credit institutions and investment firms for all 27 EU member states.<sup>1</sup> The Directive aims for resolution regimes at the national level only, however. We expect that earlier European Commission proposals for a European Resolution Authority (ERA) could well be resurrected at the level of the euro area.<sup>2</sup>

- (4) **A euro area-wide deposit guarantee (including redenomination risk guarantee) regime and fund, with mutualised fiscal backing.** Although it was widely discussed before, during and after the June 2012 summit, this has not yet been proposed, mainly because the amounts of money involved could be huge, unless the coverage of the guarantee were to be severely restricted, as we expect it to be. Household deposits in the euro area are about €5.9 trillion. A European Commission study in 2010 estimated that 72% of household deposits by value (and 95% of all household deposit accounts) fall under the €100,000 euro area deposit insurance limit. The amount of insured deposits in the six periphery countries is approximately €1.3 trillion, still more exposure than is likely to be acceptable to the German tax payers, MPs and Constitutional Court at this point.<sup>3</sup>

- (5) **A euro area-wide guarantee fund for new issuance of unsecured term liabilities by banks.** This has not yet been proposed, and indeed has not been widely discussed recently. However, in view of the widespread bank restructuring, recapitalisation and resolution we anticipate during the next few years, and the likely associated bailing in of unsecured bank creditors other than depositors, but including senior unsecured creditors, it is likely

<sup>1</sup> European Commission (2012), Proposal for a Directive Of The European Parliament And Of The Council establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directives 77/91/EEC and 82/891/EC, Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC and 2011/35/EC and Regulation (EU) No 1093/2010, Provisional Text, [http://ec.europa.eu/internal\\_market/bank/docs/crisis-management/2012\\_eu\\_framework/COM\\_2012\\_280\\_en.pdf](http://ec.europa.eu/internal_market/bank/docs/crisis-management/2012_eu_framework/COM_2012_280_en.pdf)

<sup>2</sup> European Commission (2011), DG Internal Market and Services Working Document, Technical Details Of A Possible Eu Framework For Bank Recovery And Resolution, [http://ec.europa.eu/internal\\_market/consultations/docs/2011/crisis\\_management/consultation\\_paper\\_en.pdf](http://ec.europa.eu/internal_market/consultations/docs/2011/crisis_management/consultation_paper_en.pdf), 06-01-2011.

<sup>3</sup> See: *the Economist* June 2, 2012, "The fear factor; Preventing a big European bank run", <http://www.economist.com/node/21556266> and European Commission (2010).

Unanticipated and possibly unintended consequences of banking union will likely be:

- a) an increased likelihood of strategic sovereign default;
- b) the possibility of mutualisation or Europeanisation of financial repression;
- c) likely bailing-in of unsecured bank creditors despite the bank's sovereign being able and willing to recapitalize banks using its own fiscal resources.

As noted, we believe that banking union, in the limited sense of points (1), (2) and (3) is necessary for the survival of the euro area. Item (4) would help cope with the consequences of a possible Greek exit, especially exit fear contagion and the resulting deposit flight from other EA periphery countries. Item (5) is necessary to re-establish a euro area banking system that actually functions and intermediates, rather than one that merely survives. We also believe, however, that banking union will have some unexpected, unintended and probably undesired by many consequences. Three of these are analysed below. They are (a) an increased likelihood of strategic sovereign default, once a European bank recapitalisation fund/resolution fund is established, in countries where the banking sector is dependent on external funding (from the Eurosystem or a national Emergency Liquidity Assistance facility or ELA); (b) the possibility of mutualisation or Europeanisation of financial repression - German, French and Dutch banks could be 'induced' to purchase Italian and Spanish sovereign debt in the primary markets (in auctions) at yields below that which they would require if these purchases were voluntary, once the ECB supercedes the national authorities as bank supervisor; (c) the likely bailing in of unsecured bank creditors (including possibly unsecured senior bank creditors) in EA member states where a fiscally strong sovereign would prefer (and be able) to rescue and recapitalize its banks using domestic tax payer resources rather than tapping the unsecured bank creditors. Once a European bank recapitalisation facility (along the lines of the future ESM) is established which require bail-ins of unsecured bank creditors as a condition for accessing its resources, the European Commission would be likely to invoke competition/state aid objections to recapitalization by a national sovereign without bailing in unsecured bank creditors.

## 2. Strategic sovereign default and banking union

The theory of strategic sovereign default implies that the sovereign is more likely to default the higher its debt and the larger its structural primary budget surplus

The theory of strategic (aka rational/selfish/nationalistic or opportunistic) sovereign default assumes that, since gun boat diplomacy went out of fashion, the only costs to the sovereign of defaulting on its debt are a fixed cost (which can be thought of as reputational, although it is not necessarily related to the effect of past default on the market's perception of the likelihood of future default), a temporary loss of access to the capital markets and a perhaps more persistent increase in funding costs even after market access is regained. Given this, the cost of sovereign default will be higher the larger the sovereign's post-default borrowing needs are likely to be. On the assumption that the authorities repudiate their debt completely if they default at all, a reasonable guide to post-default sovereign borrowing needs is the primary (non-interest) budget deficit of the sovereign. It makes sense to consider the cyclically corrected or structural primary balance of the sovereign to abstract from temporary, reversible future expected funding gaps. The benefits from default are, obviously, higher the higher the stock of debt outstanding. According to this approach to sovereign default, a sovereign is more likely to default the higher its debt and the larger its cyclically corrected or structural primary budget surplus.

Note that the theory of strategic sovereign default assumes that sovereign default is *punished*. It therefore addresses bad faith default (unwillingness to pay) rather than bad luck default (inability to pay). In practice, of course, the two forms of default do not neatly dichotomise. Consider the hypothetical example of a sovereign of a rich country, with ample liquid resources to honour its debt in full, who nevertheless

chooses to repudiate its debt because it fears that not doing so would lead to political unrest and/or conflict on an unacceptable scale. Is the inability to put together a coalition that can implement a socially and politically acceptable fiscal burden sharing in the polity a case of inability to pay (because of insufficient social capital) or unwillingness to pay?

Presumably, markets punish sovereigns that default with a temporary exclusion from the sovereign debt markets because it is feared that without imposing a penalty, the default would be likely to be repeated, if not by the same sovereign, then possibly by others encouraged by the example of cost-free sovereign debt repudiation. There is in fact considerable evidence that a history of sovereign default is a very good guide to the likelihood of future sovereign default (see e.g. Reinhart and Rogoff (2004), Reinhart, Rogoff and Savastano (2003) and Kohlscheen (2007)). In EMs and even in the euro area, there are some countries whose sovereigns have been serial defaulters, sometimes over a period of many decades or even centuries. Escape from the serial sovereign defaulters club is possible, but not easy. Even the poorest of the euro area member states are rich by historical standards and by the standards of today's emerging markets and developing countries. Ability to pay is therefore not the issue, but rather the collective willingness to pay, as filtered through and expressed by the sovereign. The cost-benefit analysis of sovereign default that underlies the strategic approach can therefore not be dismissed lightly.

In Figure 1 we show the general government gross and net debt stocks as percentages of GDP, the general government primary balance as a percentage of GDP and the general government structural primary balance as a percentage of GDP for the 17 EA member states and assorted other advanced economies, as a reminder that public debt problems are not confined to the euro area or even to the European Union.

Figure 1. Euro Area and selected other Advanced Economies – General Government Debt and Fiscal Balances (% of GDP)

	Gross Debt		Net Debt		Primary Balance		CAPB	
	2011	2012E	2011	2012E	2011	2012E	2011	2012E
EA	88	90	68	70	na	na	na	na
EU	82	85	65	67	na	na	na	na
Austria	72	74	52	54	-0.5	-0.9	-0.4	-0.4
Belgium	99	99	83	84	-1.0	0.5	-0.7	1.2
Finland	49	52	-60	-57	-1.0	-2.0	0.4	0.2
France	86	89	80	83	-2.9	-2.2	-1.6	-0.9
Germany	82	79	56	54	0.7	1.0	0.6	1.2
Greece	161	153	161	153	-2.3	-1.0	-0.1	1.2
Hungary	80	76	79	75	7.5	1.2	-3.1	2.0
Ireland	105	113	96	103	-6.7	-4.4	-4.9	-2.2
Italy	120	123	100	102	0.8	3.0	1.9	4.8
Netherlands	66	70	32	36	-3.5	-3.2	-3.0	-1.8
Portugal	107	112	100	111	-0.2	0.1	1.1	2.3
Spain	68	79	57	67	-6.6	-3.6	-5.1	-1.6
Cyprus	72	74	na	na	na	na	na	na
Estonia	6	6	0	2	0.9	-2.1	na	na
Luxembourg	21	24	na	na	na	na	na	na
Malta	71	71	na	na	na	na	na	na
Slovakia	45	47	na	na	-4.0	-2.7	-3.8	-2.1
Slovenia	47	52	na	na	-4.3	-3.0	-2.1	-1.2
UK	82	88	78	84	-5.8	-5.3	-3.5	-2.6
US	103	107	80	84	-7.3	-6.1	-5.0	-4.0
Japan	230	236	127	135	-9.1	-8.9	-7.2	-7.6

Note: All measures refer to General Government. Net Debt is Gross Debt minus Financial Assets; Primary Balance shows government net borrowing or net lending excluding interest payments on consolidated government liabilities; Cyclically Adjusted Primary Balance (CAPB) shows the underlying fiscal position when cyclical or automatic movements are removed. Figures for 2012 are predicted values.

Source: IMF and Citi Research

It is clear from Figure 1 that, using the simple metrics of the general government gross or net debt in excess of 90 percent of Annual GDP (see Reinhart and Rogoff (2009)) threshold beyond which public debt appears to be associated with a material negative impact on real economic growth, and a positive cyclically adjusted general government primary balance, Italy, Portugal and Greece appear to be the most likely candidates for strategic sovereign default. Indeed, for 2011, with an actual primary surplus of 0.8% of GDP, a structural primary surplus of 1.9 percent of GDP, a 120 percent of GDP gross debt stock and a 100 percent of GDP net debt stock, the simple version theory appears to be refuted, as it implies that the Italian sovereign should already have defaulted strategically. So what did this simple/simplistic approach leave out? Contagion effects on other private and sovereign debt markets outside the jurisdiction of the defaulting sovereign are not relevant to a nationalistic strategic sovereign default decision, unless these contagion effects cause damage that rebounds on the defaulting sovereign.

However, simple model of strategic sovereign default disregards the "rule of law externalities" from sovereign default...

Part of the explanation could be the fixed cost of sovereign default to the defaulting sovereign. This includes, in addition to any moral or ethical objections to not honouring a debt one is capable of servicing in full, what in Buiter (2010) are called 'rule of law externalities': *"When the state itself defaults on its obligations, the rule of law inevitably is harmed. Social capital and trust are destroyed. When the party to the social contract that is supposed to enforce private contracts impartially is itself involved in a breach of contract, respect for all contracts and respect for the rule of law is undermined. Governments, the political elites and sometimes even the polity as a whole tend to be aware of the long-term social cost of this weakening of the rule of law. This is why sovereign defaults tend to occur only in countries that have either been shocked by extraordinary events, often beyond their control, or that are*

...and uncertainty creating an option value of market access ...

...and the fact that a default by the sovereign could severely damage the domestic banks that are heavily exposed to the sovereign

But the costs of a strategic default are reduced by banking union, because of the mutualisation of financial repression and the presence of an EA-wide bank recapitalization fund.

So strategic sovereign default becomes more likely as a result of banking union in countries where currently banks are weak and/or dependent on Eurosystem or ELA funding.

*deeply polarized and internally divided, with little social capital, weak and corrupt political institutions and ineffective political leadership.” (Buiter (2010, p. 31).*

Another obvious weakness of the simple version of the theory of strategic sovereign default outlined above is the absence of uncertainty. Even if the structural primary balance is positive, it is possible, indeed likely, that there are future contingencies that would make it valuable for the sovereign to be able to borrow. So even if you don't expect to have to borrow, future market access has positive option value, and by defaulting today, the sovereign destroys or at least impairs the option value of future market access.

Another important modification of the simple model of strategic default is that in the EA periphery countries, including Italy, the banks are highly dependent on funding by the Eurosystem or, in a number of cases (but not in Italy at the moment) on funding by the Emergency Liquidity Assistance (ELA) facilities run by the national central banks for their own account but subject to approval by the Governing Council of the ECB. In the EA periphery nations, including Italy, banks hold large amounts of their own sovereign's debt, in some cases as a result of financial repression. Default by the sovereign could severely damage the banks that are heavily exposed to the sovereign (see Figure 2 below). It could be the case that the sovereign, having repudiated its debt, is now deemed a good risk by the markets, and might be able to issue new debt in sufficient quantity to compensate its banks for the losses suffered as a result of that same sovereign's default on its old debt. This would, of course, contradict the key assumption of the theory of strategic sovereign default that the price of sovereign default is a period of exclusion from the capital markets. Because, in the example just given, it is clearly the willingness to pay rather than the ability to pay that is lacking ('won't pay', not 'can't pay' is the issue), the markets are likely to judge the recent default as a good predictor of future strategic default propensities, and may not be too keen to accommodate the sovereign's desire to issue new debt. A sovereign whose default is likely to cause the collapse of its banking sector will probably think twice before resorting to strategic default, in our view.

Here banking union makes a difference. Once there is a European bank recapitalisation facility that does not go through the sovereign but directly to the banks, as the ESM will be able to do once it is activated, a nation's banks will no longer be subject to financial repression by the national authorities (see Section 3), and they should therefore, over time, become less exposed to the national sovereign. In addition, should a strategic default by a national sovereign still threaten that nation's banking sector with collapse because of legacy exposure to its sovereign, the European bank recapitalisation facility (the ESM) would likely come to the rescue. The net result is that one of the costs to the sovereign of a strategic default – the likelihood of a collapse of (part of) the domestic banking sector and the economic crisis that would follow - are reduced by banking union. Consequently, we believe strategic sovereign default becomes more likely as a result of banking union in countries where currently banks are dependent on Eurosystem or ELA funding.



### 3. The possible mutualisation of financial repression as a result of banking union

In those euro area periphery member states where the sovereigns are encountering barely sustainable or quite unsustainable funding costs in the markets but still have to fund themselves in the markets because they are not (yet) on sovereign programmes with the troika (European Commission (EC), ECB and IMF) or on other programmes associated with EFSF/ESM support, financial repression in the primary markets for sovereign debt has become one mechanism through which the domestic authorities can ensure that the sovereign can fund itself at affordable rates even when secondary market yields rise to unsustainable levels.

Financial repression here means pressure exercised by national authorities (such as regulators, supervisors, officials from the ministry of finance or the Treasury etc.) on banks and other regulated financial institutions to purchase more sovereign debt than they would voluntarily, and at yields lower than they would accept voluntarily. Such financial repression would normally depress the profits of the banks subject to it. However, as pointed out in Buiters and Rahbari (2012), the banks were the beneficiaries in December 2011 and February 2012 of heavily subsidised LTROs by the ECB (€ 2 trillion gross and €1 trillion net). As a result, the spread of the repressed sovereign yields in the primary market auctions over the subsidised funding costs of the banks were still quite attractive.

The additional exposure of the banks to sovereigns of questionable creditworthiness also did not, for many banks in the periphery, create material additional solvency risk. Many of these banks were already so heavily exposed to their national sovereigns, even prior to the most recent financial repression episode, that a default of the sovereign would likely have brought down many of the banks in its jurisdiction in any case.

**National-level financial repression by bank supervisors has led to a heavy concentration of a nation's sovereign debt in the banking system of that nation.**

The result of this national financial repression has been a heavy concentration of a nation's sovereign debt in the banking system of that nation, as shown in Figure 2.

**Figure 2. Selected Countries - Holdings of Domestic Government Securities by Euro Area Banks, May 2012**

Country	Bn EUR	% of total stock of outstanding marketable sovereign debt	% of MFIs capital and reserves	% MFIs balance sheet size
Italy	328.6	19.8	88.7	7.8
Greece	19.4	9.7	49.0	4.4
Spain	245.6	31.9	66.1	7.0
Portugal	30.0	23.8	67.2	5.1
France	169.9	10.2	33.7	1.9
Ireland	17.0	14.3	18.3	2.8
Germany	201.5	14.3	49.7	2.3
Belgium	68.7	20.2	95.9	5.1

Note: MFIs stands for Monetary Financial Institutions. Holdings of domestic general government debt securities by MFIs ex Central Banks for all countries except for Ireland and Spain, for which we show holdings by credit institutions. Domestic group of credit institutions for Ireland.

Source: National Central Banks, ECB, and Citi Research

Once the ECB is at the top of the bank supervision pyramid in the EA, however, such national-level financial repression should become more difficult and may well become impossible ultimately. True, there will remain for the foreseeable future 17 distinct national regulatory systems in the EA and 17 national regulators to go along with that, but there can be no doubt that, at last – after more than 12 years of EMU -

there will be a strong push for regulatory convergence in the banking sector and financial markets generally, coming from the EC, the European Banking Authority (EBA), the European Securities and Markets Authority (ESMA), the European Insurance and Occupational Pensions Authority (EIOPA) and the European Systemic Risk Board (ESRB). The ESRB, the macroprudential guard dog of the EU, has the ECB President as Chair of its General Board, and the Governing Council of the ECB provides 19 of the 37 voting members of the General Board.<sup>4</sup> The balkanisation of the financial and capital markets in the euro area along national lines, which is the result of the current combination of umbilical ties between the national sovereign and the banks in its jurisdiction and of the 'national safety first' approach of national banking sector regulators is undermining the transmission of the common monetary policy, with borrowers in North and East Tirol (Austria) paying half the interest rates similar borrowers in South Tirol (Italy) pay for loans from the same banking group (see Financial Times (2012)). Even the first steps toward banking union (the single supervisor, common regulations with a single supreme EA regulator, and a single EA bank resolution regime and fund) can be expected to have an immediate impact on this balkanisation of the euro area money markets, capital markets and financial intermediation generally.

**Banking union will likely result in 'mutualization' of financial repression by single supervisor, that is, it will spread the repression across all member states of the euro area.**

We conjecture that, because financial repression will still be needed to fund the sovereigns of countries like Italy and Spain (and in the future also possibly the sovereigns of countries in the 'soft core' of the euro area, like France, Belgium, Austria and the Netherlands), there is a distinct possibility that financial repression will become 'mutualised', that is, spread across all member states of the euro area. If this prospect of the Europeanisation of financial repression materialises, then once the ECB becomes the supreme euro area banking supervisor and the power of national banking regulators is eroded, German, French and Dutch banks would likely be 'convinced/encouraged' to purchase Italian and Spanish sovereign debt in the primary markets (at auctions) receiving rates lower than they would accept voluntarily, just as Italian (Spanish) banks today are 'induced' to purchase Italian (Spanish) sovereign debt at prices higher than they would pay voluntarily.

We believe that the mutualisation or Europeanisation of financial repression is the most likely outcome of banking union in the euro area. But, like any Europeanisation of previously national sovereign competencies, this one would prove to be politically controversial. It would be resisted not just by the banks in the EA periphery but also by the legacy national supervisors and regulators, who would have residual powers to block and obstruct EA-level policies and other initiatives for years to come.

Should the mutualisation of financial repression prove politically impossible for the duration of the crisis, then some combination of more mutualisation of periphery sovereign debt (aka one-sided transfer Europe) and more restructuring of periphery sovereign debt is the likely result. Because, in our view, there is too much sovereign debt in the euro area as a whole (core and periphery) - once we allow for the likely future migration of bad assets of euro area banks to the balance sheets of euro area sovereigns - mutualisation of sovereign debt, which merely reshuffles debt from the periphery to the core, is not a viable solution. Even if mutualisation of sovereign debt were economically viable (say because the capital needs of the euro area banking sector are less than we expect), significant debt mutualisation is unlikely to be politically acceptable to the voters and tax payers of the core euro area member states, who would have to make the transfers to the periphery required to implement it. It is conceivable, but in our view highly improbable, over a

<sup>4</sup> They are the President and Vice President of the ECB and the 17 Governors of the national central banks of the euro area.

time horizon covering the likely remaining duration of this crisis (another three years or so), that issuance of mutualised new sovereign debt will be agreed on a scale sufficient to enable the EA banking sector to absorb sovereign debt that is jointly and severally guaranteed by the 17 sovereigns of the EA, in amounts sufficient to keep the peripheral sovereigns funded without this requiring the EA periphery banks to accumulate significant further amounts of their own sovereign's risky debt, and without the use of financial repression. Instead, much more limited sovereign debt mutualisation - mainly ex-post, as OSI (official sector involvement) complements PSI in future euro area sovereign debt restructuring - plus significant additional sovereign debt restructuring in the periphery through PSI would most likely be the consequence of a failure to mutualise financial repression following banking union.

#### **4. Bailing-in of unsecured bank creditors following banking union more likely, even if national sovereign is willing and able to recapitalise/rescue its banks using its own fiscal resources.**

An important feature of the MoU signed by Spain to obtain the €100 bn support facility from the EFSF and, eventually, from the ESM, is that banks drawing on these resources will have to 'bail in' their unsecured creditors, up to and including unsecured subordinated bank debt holders (see EFSF (2012)). Existing common equity gets diluted or wiped out. Owners of preference shares and of hybrids such as convertible debt and holders of subordinated unsecured bonds have haircuts imposed on their assets or have them converted into equity. The Spanish MoU does not include senior unsecured creditors among those to be bailed in as a result of bank recapitalisation through the EFSF/ESM. We believe, however, that this is likely eventually, both in Spain and elsewhere, partly because without bailing in unsecured senior bank creditors (other than depositors) there may not be sufficient financial resources available to recapitalise those banks that are intended to continue as going concerns. In addition, public and parliamentary opinion in the core euro area member states demands it, as was clear from the statement by the parliamentary leader of the German social democrats (SPD) in the Bundestag, Walter Steinmeier, that the SPD would not continue to support euro zone bailouts for banks unless creditor involvement was agreed.<sup>5</sup> We don't think he excluded senior unsecured creditors in this statement.<sup>6</sup> In addition, the ECB has apparently relaxed its previously unqualified opposition to bailing in unsecured senior bank creditors and now accepts that when a bank is resolved (liquidated or wound up) rather than recapitalised as a going concern, senior unsecured creditors can be bailed in.<sup>7</sup>

<sup>5</sup> See The Irish Times, Friday, July 20, 2012, "Bundestag gives backing for bailout of Spanish banks", <http://www.irishtimes.com/newspaper/world/2012/0720/1224320449492.html>.

<sup>6</sup> In many European nations, unsecured senior bond holders are pari passu with depositors. Obviously, if bailing in depositors is not deemed desirable, depositors will need to be made senior to other senior unsecured bank creditors.

<sup>7</sup> See "Finally, a bail-in of senior unsecured bank creditors is on the table" FT Alphaville: The bail-in Spain - ECB edition <http://t.co/rCksaOQw>

Thus far, recapitalisation of banks in the euro area has not touched senior unsecured creditors.

Spain will likely set the precedent for all future bank recapitalizations, that the prior bail-in of unsecured bank creditors is required.

Thus far, recapitalisation of banks in the Euro area (and in the UK and Switzerland) has not touched senior unsecured creditors.<sup>8</sup> Indeed in most EU countries even subordinated debt holders have not been bailed in during bank recapitalisations. Ireland is an obvious exception. In a number of euro area countries that have many weak banks but fiscally strong sovereigns (Germany is an example), the sovereign may well prefer to recapitalise the weak banks using its own fiscal resources rather than by bailing in unsecured bank creditors. Since the beginning of the crisis in 2007, the European Commission has not invoked the EU's rules on state aid to stop any bank recapitalisations using national tax payer resources, although such rescue operations clearly undermine any notion of a level playing field. On a number of occasions, the EC's Competition Directorate has imposed sanctions on the rescued banks following its recapitalisation using national tax payers' funds.

We believe that things will be different following banking union. Indeed, the Spanish MoU for its bank rescue programme probably sets a precedent that has to be heeded in all subsequent bank rescues, regardless of who funds these. Clearly, given the paucity of financial resources in the ESM available for recapitalising banks, any government wishing to recapitalise the banks in its national jurisdiction using its own tax payers' money will be allowed to do so. But the EC is likely to resurrect the competition policy/state aid requirements for symmetric treatment across countries of bank shareholders and unsecured bank creditors, once the ECB is the EA banking supervisor (and *a fortiori* more once the ESM is activated and can recapitalise banks directly without going through the sovereign). The requirement that access of Spanish banks to the financial resources of the EFSF/ESM presupposes the bailing in of unsecured bank creditors (for the time being only up to and including subordinated debt holders) is likely to define a standard for bank restructuring for the EA as a whole. Even were the German (say) government to use its own fiscal resources to bail out German banks, this is likely to require the prior bail-in of unsecured creditors in the future, following the precedent set in Spain.

## References

BIS (2012), "BIS Annual Report 2011/2012", 24 June 2012.  
<http://www.bis.org/publ/arpdf/ar2012e.htm>

Buiter, Willem H. (2010), "Sovereign debt problems in advanced industrial countries," *Citi Economics, Global Economics View*, 26 Apr. 2010.

Buiter, Willem H. and Ebrahim Rahbari (2012), "The ECB as lender of last resort for sovereigns in the euro area", CEPR Discussion Paper No. 8974, May 2012, forthcoming in the *Journal of Common Market Studies*.

EFSF (2012), Spain Memorandum of Understanding on Financial-Sector Policy Conditionality, 20 July 2012,  
<http://www.eurozone.europa.eu/media/776299/2012-07-20-mou-spain.pdf>

European Commission (2010), "Report from The Commission to the European Parliament and to the Council, Review of Directive 94/19/EC on Deposit Guarantee Schemes"  
[http://ec.europa.eu/internal\\_market/bank/docs/guarantee/20100712\\_report\\_en.pdf](http://ec.europa.eu/internal_market/bank/docs/guarantee/20100712_report_en.pdf)

<sup>8</sup> In 2011 two small banks were restructured in Denmark, with haircuts imposed on all unsecured creditors, including non-insured depositors.

Financial Times (2012), "EU business rivals divided by rates", July 29, 2012, <http://www.ft.com/cms/s/0/c624cbf4-d7da-11e1-80a8-00144feabdc0.html#axzz227ocdY80>

IMF (2012a) "2012 Article IV Consultation with the Euro Area. Concluding Statement of IMF Mission", 21 June 2012, <http://www.imf.org/external/np/ms/2012/062112.htm>

IMF (2012b), "Euro Area Policies: 2012 Article IV Consultation—Selected Issues Paper, IMF Country Report No. 12/182, July 3, 2012. <http://www.imf.org/external/pubs/ft/scr/2012/cr12182.pdf>

Kohlscheen, Emanuel (2007), Why are There Serial Defaulters? Evidence from Constitutions. *Journal of Law and Economics*, Vol. 50, No. 4, 2007. Available at SSRN: <http://ssrn.com/abstract=926509>

Reinhart, Carmen M., and Kenneth S. Rogoff (2004), "Serial Default and the "Paradox" of Rich-to-Poor Capital Flows." *American Economic Review*, 94(2): 53–58.

Reinhart, Carmen M. and Kenneth S. Rogoff (2009), "This time is different: eight centuries of financial folly", Princeton University Press.

Reinhart, Carmen M., Kenneth S. Rogoff and Miguel A. Savastano (2003), "Debt Intolerance," *Brookings Papers on Economic Activity*, 34, 2003-1: 1-74.

## Appendix A-1

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