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SPECIAL COMMENT

Counter-cyclical Central Banking Policies and their Longer-Term Implications

Table of Contents:

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Summary

» The measures taken to cushion the impact of the ongoing global financial crisis have led to historically unique policy responses. While pursued on some occasions in the past, the current scale and pervasiveness of such policies, as negative real policy interest rates and the related "quantitative easing" (QE), is unprecedented in modern times.

» This special comment does not so much focus on how these unorthodox policies are faring, rather we consider the long-term impact and how the eventual transition away from these policies will affect the state of play, once the current crises have largely passed. We consider the complex questions posed by the current policy responses of advanced countries' central banks in terms of how they are progressively withdrawn and what follows in their wake.

» Crisis-fighting policies by the central banks have implied the deliberate reduction of real policy interest rates into negative territory as well as the considerable expansion of their balance sheets, mostly through the absorption of large amounts of government bonds. These policies, also known as financial repression, have had significant spillovers into developing economies, unleashing other restrictive policies, like capital and interest rate controls. They also affect the bank sector globally.

» The large liquidity provisions in advanced economies are expected to be progressively withdrawn as economies return to moderate growth, bringing interest rates gradually back into positive territory. For developing economies, an equally progressive removal of restrictions will happen as the normalization of the situation in advanced economies will, in itself, reduce their excess liquidity.

» The implications of these policies for the banking system are potentially more significant: a likely long period of real returns below those observed in the recent past, parallel to a widespread and more exacting regulation of the sector. These could adversely affect operating conditions, albeit aiming to increase the stability of the system. As some of those policies will remain even after the original accumulated exposures are unwound, the consequences in terms of reduced profitability are of a long-term nature.

Where we are now

The overall aim of policy actions in response to the global financial crisis is to allow financial markets to operate properly, by providing liquidity to banks and/or sovereigns at reasonable costs (in other terms, an extension of Walter Bagehot's "Lender of Last Resort" function, which is possible due to a central bank monopoly rights to issue legal tender, in principle, without limits). The considerable dimension of these interventions is illustrated by the very large monetary easing provided by major central banks worldwide (largely via so-called "quantitative easing" or QE[1]), including the US Federal Reserve Bank (Fed), the euro area's European Central Bank (ECB), the Bank of Japan (BoJ), and the Bank of England (BoE), and with it, the amount of indirect monetary support provided to sovereigns (see Figure 1).[2]

FIGURE 1

Central Banks Balance Sheets

	ECB/Eurosystem	Fed	BoE	BoJ
Balance sheet at end-2007 (%GDP)	16.7	6.4	6.6	21.7
Balance sheet at end 2011 (% GDP)	29.1	19.4	19.3	30.5
Share of government debt in balance sheet (%GDP)	10.6*	17.4	17.7*	17.8

*Estimates

Sources: ECB, EUROSTAT, FED, BoE, BoJ.

Not only did the balance sheets of these major central banks increase by around 200% in GDP share terms compared to the pre-crisis period, [3] but a substantial share of these assets take the form of government debt. Importantly, the ECB holds the lowest share of government bonds in its balance sheet among the central banks listed above.[4]

All these policies have the side effect of increasing the level of connection between governments, central banks, and the financial sector, and constituting what we may call "financial repression".

Following the work of Reinhart and Sbrancia (2011), financial repression is defined as potentially including i) directed lending to the government by captive domestic agents (beyond the central bank, also domestic banks and pension funds), ii) explicit or implicit caps on interest rates, iii) restrictions to capital movements and the exchange rate, iv) a tighter connection between government and banks, either explicitly through public ownership, "bailed out" banks or through "moral suasion," v) high reserve or liquidity requirements, vi) securities transaction taxes, and vii) forced placement of non-marketable government debt. Importantly, some of those elements are *already* part of the ongoing global "macroprudential regulation" discussions, including those at the level of the G20, the Financial Stability Board, and the Basel Committee.

1 QE is the *additional* buying up of government bonds in the secondary market, over and above any normal operations a central bank might have with those instruments. These programmes are as a rule financed by un-sterilised central bank monetary expansion (i.e., without offsetting policy actions by the central bank, like the tendering of fixed term deposits, which would keep constant the amount of money in an economy).

2 Another major global central bank, the Swiss National Bank -SNB, also saw its balance sheet balloon from less than 25% to over 61% of GDP between 2007 and 2011, but this did not reflect an increased exposure to its sovereign. Rather, the culprit here was the increase in foreign currency assets in its balance sheet, as the SNB, issuer of an internationally accepted reserve currency, announced in 2010 a policy of *unlimited* buying of foreign currency to hold the value of the Swiss Franc fixed in relation to a given euro exchange rate. In other terms, it was *a reaction* to the capital flows generated by other central banks' policies of very low interest rates (this is a subject that will re-emerge in the section of this work that deals with developing countries). Another peculiarity of the SNB is its ownership structure: the SNB is a listed company, with a diverse and significant share of *private* ownership (albeit slightly more than 50% are in the hands of Swiss cantons and regional state owned banks), which limits the fiscal downside of those actions for the Swiss sovereign. Please refer to http://www.snb.ch/en/mmr/reference/pre_20110906/source/pre_20110906.en.pdf for the SNB policy and to http://www.snb.ch/en/mmr/reference/shares_structure/source for the SNB Shareholder structure.

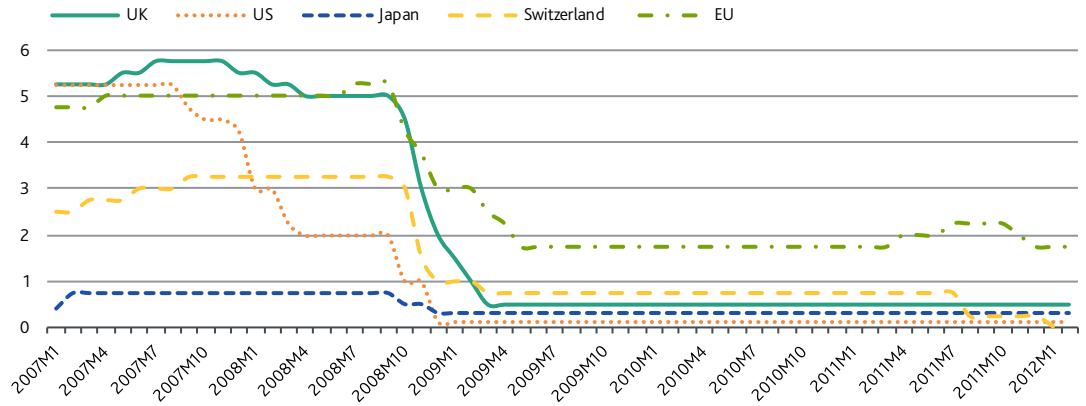
3 Japan had a smaller increase, of around 40%, but it started from a higher level.

4 The figures for the ECB/Eurosystem and, on a lesser scale, for the Bank of England, are likely overestimates of their exposure to government debt, as to err on the side of conservatism, the item "other assets" in their balance sheets was added to clearly identified government bonds. This would imply an even smaller direct exposure to government debt for the ECB.

How we got here

Faced with persistent economic weakness since 2007, central banks have used a series of policy tools. Beyond their traditional monetary policy ones (i.e., interest rates, which in advanced economies are now negative in real terms, see Figure 2), they have resorted to policies that have increased the size of their balance sheets.

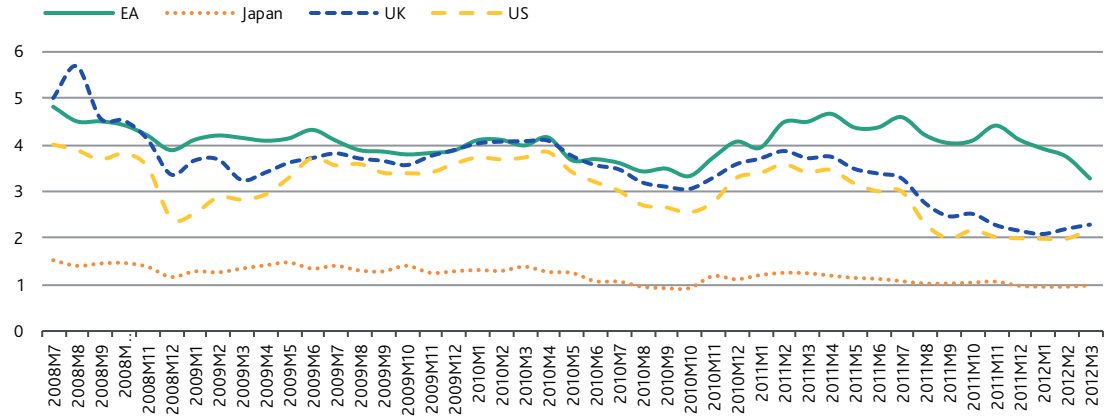
FIGURE 2
Policy rates



Source: IMF.

By their own *stated* aims (namely, the lowering of longer maturity yields), these operations have experienced some success (Figure 3): between their respective introduction and the end of the first quarter of 2012, government 10-year yields have fallen by 11%, 25% and 39% in the euro area (EA), the UK, and the US, respectively, yielding negative real returns for the holders of those US dollar- and British pound-denominated assets.[5]

FIGURE 3
Longer maturity rates



Source: IMF.

[5] Negative real returns on government debt are actually one of the defining elements of a "financial repression" situation.

We outline below the specific policy actions for each individual major central bank:

Fed: With its benchmark policy interest rate very close to zero, the Fed started so-called large-scale asset purchases (LSAPs) in November 2008, when it announced it would acquire $600 billion of debt and mortgage-backed securities of US federal housing agencies. In March 2009, it also decided to expand its purchases of agency and longer-term Treasury bonds by $1.75 trillion. In November 2010, the Fed announced a further round of QE, worth $600 billion in Treasury bonds. This was complemented a year later by "Operation Twist," i.e., the exchanging of medium-term bonds in the Fed balance sheet for lower interest 10-year Treasuries, thereby also reducing market funding costs.

BoE: With the onset of the crisis, the British central bank had already purchased around £173 of UK government bonds (gilts) by October 2010. After two separate decisions to ramp up the programme since 2010, the total amount of BoE purchase of gilts reached £324 billion (or over $600 billion) by mid 2012.

BoJ: Reflecting the long-term nature of the economic weakness caused by the bursting of Japan's own financial bubble in the 1990s, the BoJ has the longest running QE programme among major central banks. The first large increase in its government bonds purchasing programme dates to 2001, and it reached ¥35 trillion (around $270 billion) by the mid-2000s. With the global financial crisis, the BoJ cranked up its programme from October 2010 so that, after three successive increases, it reached an accumulated total of ¥56 trillion (around $730 billion) by the end of 2011.

ECB: the EA's central bank created its own very limited government bond purchase programme, the Securities Market Programme (SMP) in May 2010 with the stated objective of supporting the proper functioning of financial markets to enable the transmission of monetary policy,[6] not to provide additional liquidity[7] or funding. This reflects some important differences in the ECB institutional set-up when compared to other central banks. First, the ECB has much stricter institutional limits concerning direct budgetary financing to sovereigns than the aforementioned institutions;[8] second, the "ownership" structure of the ECB means it has no "fiscal principal."[9]

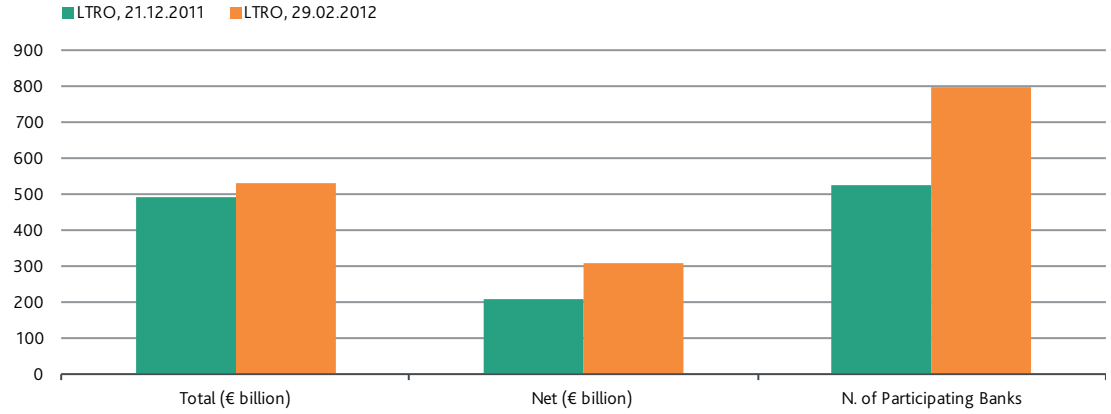
As a result, the direct ECB sovereign exposure via the SMP is a paltry 8%[10] of its balance sheet, and around 2% of the euro area GDP, which is an order of magnitude below that of the other monetary authorities described above.[11]

Nevertheless, the two three-year loan long-term liquidity operations (LTRO) provided by the ECB in late 2011/early 2012 (which implied a combined extension of credit to EA banks of around €500 billion, net of other types of ECB loans that were retired: see Figure 4) relied on an extension of the eligible collateral list to include lower-rated bonds from stressed EA sovereigns held by financial institutions (and also loans). Albeit this exposure is indirect (as the banks remain the original holders of the sovereign debt), in the limit it can be potentially quite significant: the amounts in Figure 1 above essentially assume that all the securities pledged as collateral and all the amounts in the unspecified balance sheet item called "Other Assets" are government bonds, therefore providing an upper bound on the exposure. This last point highlights two of the most noteworthy elements of the

6 See Official Journal of the European Union, may 2010 (http://www.ecb.int/ecb/legal/pdf/l_124201005 20en00080009.pdf).
7 As the SMP bond purchases were sterilised via offsetting one-week deposit tenders by the ECB, they do not imply an extension of the monetary basis.
8 Known as the "no bail out clause", there is a blanket prohibition of monetary financing to euro-area governments, originally enshrined in Article 104 of the Maastricht Treaty (after the 2008 consolidation of the EU legal framework under the "Treaty on the Functioning of the European Union", this became Article 21 of protocol 4).
9 The owners of the ECB "capital" are not the national treasuries, as is usually the case, but the national central banks of the euro area: therefore, contrary to traditional national central banks, there is no single, direct link to a Ministry of Finance that could lead to a push for government debt monetisation.
10 The share had fallen to below 7% by late May 2012, as the SMP had stopped being used since February 2012.
11 Albeit the share can be significantly higher, when compared with the individual GDP of some of the "stressed" EA members states, like Greece.

EA crisis: a level of interconnectedness between the bank system and the sovereign which is greater than in other regions of the world, and the limited transparency of those exposures. Arguably, the LTROs increased further this interconnectedness, making EA banks key bearers of the costs related to the unwinding of these policies.

FIGURE 4
ECB's Long-Term Liquidity Operations



Source: ECB

Even if successful in terms of their stated aims, these policies have not only created increased exposures in the economies involved, they have also generated significant spillovers for other economies, especially developing ones. Namely, the massive additional liquidity and associated negative real interest rates have generated capital flows ("hot money") looking for yield in higher-growth, higher (real) interest rate economies. This forces those on the receiving end of the flows into additional sub-optimal policy actions. [12]

Financial Repression in Developing Countries

Some developing economies are dealing with the effects of large capital inflows created by the loose monetary policy in advanced economies described in the previous section. The consequences of those large capital inflows can include economic overheating, inflationary pressures and currency appreciation. Such sudden inflows may also create asset price bubbles, and usually come associated with the risk of sudden withdrawals.

Tighter regulations on their domestic financial systems and on capital inflows are some policy tools that have been used to deal with those issues. Some developing economies also have policies that effectively generate real negative interest rates, similar to advanced economies.[13] In addition, the banking systems of many developing economies – which frequently have a significant share of state-owned banks – have been used as a captive market for allocating government bonds.

Figure 5 provides a summary of the policies being followed by selected developing economies.

[12] For more on this subject, see Moody's "Currency Appreciation Pressures Creates Challenges for EM Sovereign Credits".

[13] They do that not only because of the traditional "financial repression" reason of forcing captive domestic agents (private and public) to absorb government's debt at low interest rates, but also to keep a narrow real interest rates differential with advanced economies and hence avoid further capital inflows.

FIGURE 5

Financial Repression Policies in Developing Countries

Country	Interest Rate Ceilings, Capital Controls and/or Reserve Requirements	State Owned Banks, State Intervention and Captive Domestic Markets
BRICS		
Brazil	* Several taxes over financial transactions: Investments in capital markets; Bond(2010), derivatives (2011), foreign loans, consumer loans (2011), portfolio inflows (2008-2010). * Reserve requirements on short term dollar positions (2011)	* Public sector banks account for nearly 40% of the banking system loans.
Russia	*Tax on corporate profit if payments on foreign currency debt exceeds central bank's refinance rate by a fixed amount. (2010)	* Public-sector banks account for nearly 45% of the banking system assets.
India	*The Reserve Bank of India regulated interest rates on savings deposit accounts in Indian commercial banks (until October 2011). * Until its liberalization, the regulated rate on savings deposits was 4%, which yielded a negative real return to depositors.	* Domestic banks represent a captive audience to finance government debt. * Public-sector banks account for nearly three-quarters of the banking system loans, and 70% of the banking sector assets.
China	* Ceiling on deposit rates and floor on lending rates.	* Most of the banking system is owned by the government. * China has a significant quasi-fiscal exposure via a credit expansion that was provided by a state-owned bank system.
Asia		
Indonesia	*Limit of foreign currency bank accounts (2010) * Minimum holding periods on capital inflows (2010, 2009).	
Philippines	* Limits on capital inflows (2010)	
Thailand	* Tax on foreign bond revenues. (2010) * Increase in limits of investment abroad. (2010)	
South Korea	* Limits on foreign exchange exposures (2009) * Limits on currency forward transactions (2009, 2010) * Tax for non-residents on government bond's profits. (2010)	
Latin America*		
Peru	* Reserve requirements (2009, 2011) * Managed FX (2010) * Foreign investments restrictions to pension funds (2010)	
Colombia	* Liquidity requirements (2008)	
Bolivia	* Tightened reserve requirements and bank deposits.	
Others		
Hungary	* Capital controls on capital inflows (2011)	
Turkey	* Central Bank cuts borrowing interest rate at the bottom of the interest rate band when the economy experiences large capital inflows. * Raised reserve requirements	

Venezuela and Argentina also followed financial repression policies (capital and foreign exchange rate controls, captive domestic markets). However, we are not listing them here as these policies were not a reaction to the ongoing global financial crisis and the advanced economies' policy reaction to it.

Sources: IMF, Citibank, Reinhart et al

Exit strategies: some historical examples

Having established their widespread use, what does the historical experience tell us about the resolution of such extraordinary policy measures? This section will look at possible solutions, assuming that elements beyond growth resumption (due to the subdued long-term growth expected from high-income countries) and fiscal consolidation (which will worsen growth prospects in the short run) will be necessary.

It is important to point out that the (still-partial) separation of central banks from national treasuries is a recent phenomenon: well into until the 20th century, beyond the issuing of currency, the domestic financing of national governments was among the functions of a monetary authority.[14] The links with fiscal authorities get even more apparent when one realizes who receives the profits originating from central banking activities. A monetary authority will typically generate profits from "seigniorage" (the monopoly or quasi monopoly rights to issue legal tender, which itself is derived from and upheld via government legal acts),[15] which are then transferred to the national treasury,[16] the entity usually responsible for the paid-in capital of the monetary authority.[17]

This underlying relationship with the national sovereign means that there are several historical precedents in which a national monetary authority was used as a tool to improve the fiscal position of a sovereign. The historical precedents also demonstrate that the accumulated exposures were unwound in a staggered fashion, sometimes over decades.

This leads us to conclude that, whatever is the route chosen to exit the current situation, it will likely be a progressive one, barring, of course, the possibility of policy or political "accidents," without sudden attempts by the policy makers involved (essentially, central banks and their respective national ministries of finance) to unwind the accumulated exposures. As in the previous historical experience, this is simply because the abrupt sale of such large amounts would risk causing significant market instability.

[14] An example of that is provided by the BoE. It was created in the 17th century, initially as a private institution with a royal regulatory charter (for which it also had to pay the Exchequer –the Ministry of Finance– for its periodic renewal): that charter enabled it to, among other things, provide loans to the British sovereign. During the following centuries, this institution enabled the UK to finance both the Napoleonic and two World Wars. The BoE was fully nationalized in 1946 (operational independence concerning monetary policy was only granted to it by the Exchequer in 1997). Peculiarly, to this day the BoE is not the sole issuer of tender in the territory of the UK: even after the Bank Charter Act of 1844, three commercial banks in Scotland and four in Northern Ireland still have the legal right to print money (additionally, the regional governments of the Channel Isles can also issue tender, albeit they have a different institutional status than other parts of the UK).

[15] While seigniorage is typically the greatest source of central bank's profits, other elements include obligatory reserves –non-remunerated or remunerated at below market rates, the management of foreign exchange reserves and operations linked to the provision of liquidity to the financial system (fees derived from activities such as bank supervision may also add to profits, but usually in a fairly minor way).

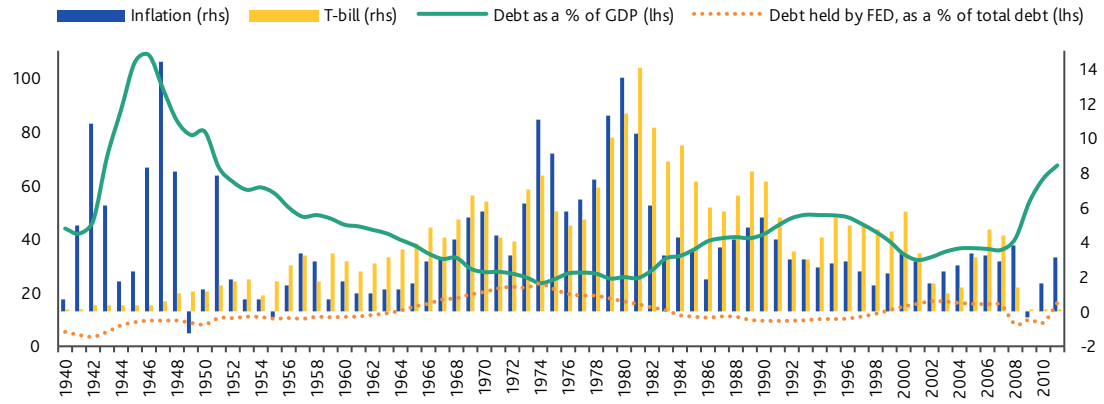
[16] For instance, in 2011 the US Fed transferred to the US Treasury Department profits in the amount of $77.4 billion (of course, losses may also occur: they indeed happened for the Fed in 1914-1915, just after its creation in 1913). As another example, the Deustche Bundesbank, the German central bank (in the euro area, the participating national central banks -NCBs, albeit integrated into the ECB structure, still survive as separate legal entities) transferred in 2011 around €0.6 billion in profits to the German Federal Ministry of Finance (as the Bundesbank has the statutory obligation of transferring 80% of its profits to the German Government up to a value of statutory reserves of €2.5 billion, via its Ministry of Finance, all its 2011 profits were transferred to the German Government).

[17] There several exceptions to this pattern. For example, in the case of the Fed, "participating member banks", i.e., all nationally chartered banks and, depending on some criteria, state chartered banks, own a share of the Federal Reserve System capital (and are paid a 6% dividend on this, after which deduction profits are transferred to the Treasury). As described earlier, in the case of the ECB, the national centrals banks (NCBs) of the EA member states are the entities responsible for its paid-in capital (while, on their turn, their respective national Ministries of Finance hold their own paid-in capital on behalf of their respective sovereigns).

The Unwinding of Exposures

Although a few countries such as the US or UK have a market for floating-rate government debt, most the developed country sovereign debt is not indexed to inflation or exchange rates. That implies that an inflationary spur is an indirect way to reduce the debt stock in real terms, whomever its holder. From a policy point of view, this is feasible as monetary authorities can directly affect the price level, either via unsterilized monetary creation or by simply not counteracting price shocks. Arguably, as Reinhart and Sbrancia (2011), pointed out, part of the post-WWII debt reduction strategy in several countries included the use of inflation. This was the case for the US, where the Fed deliberately held interest rates below inflation levels for a decade (Figure 6).[18]

FIGURE 6
The FED and Financial Repression



Sources: BEA, BLS, FED, OMB

Partially due to that deliberate "financial repression" policy strategy, the stock of public debt to GDP in the US between 1946 and 1952 fell by a remarkable *50* percentage points of GDP. [19] Of course, strong growth also helped along with the lack of a global military conflict to finance.

An obvious potential problem with this strategy is that it may affect future inflationary expectations: if the monetary authority is perceived as not prioritizing price stability, it might unleash an inflationary spiral. Nevertheless, under the current circumstances of subdued growth and significant levels of unused productive capacity, such short-term dangers seem limited (bar external developments, such as an energy price shock). Additionally, as long as the monetary authority is not adding to its existing exposure to the sovereign, merely reducing those previously accumulated during a very particular period of time, and that a communication strategy that transparently conveys to economic agents the limited and temporary objectives of such a policy, there is no apparent *a priori* reason why long-term inflationary expectations should become unanchored by such a policy.

Another way to deal with this question is simply by debt forgiveness. This is a far rarer strategy, but one that has at its core the notion that a debt exposure by a domestic monetary authority to its domestic fiscal authority is akin to offsetting assets and liabilities within an entity with a single balance sheet (namely, that of the national authorities).

[18] From March 1942 the FOMC formally instructed all regional Reserve Banks to buy all Treasury bills offered at⅜ per cent: a s imilar policy was followed for Treasury bonds (but without a formal instruction) at 2.5. This situation remained largely unchanged until the 1951 "Treasury-Fed Accord".

[19] A rather more extreme example of this strategy is the German hyperinflation of the 1920s.

A noteworthy feature of those strategies is that they do not necessarily constitute credit negative policies for the sovereigns. If successful, they would obviously be credit positive. This is not necessarily the case in sectoral terms: namely, especially the financial repression route could have many and significant negative implications for the future of the banking sector. This will be demonstrated in the next section by a detailed description of the several ways in which financial repression affects the banking sector.[20]

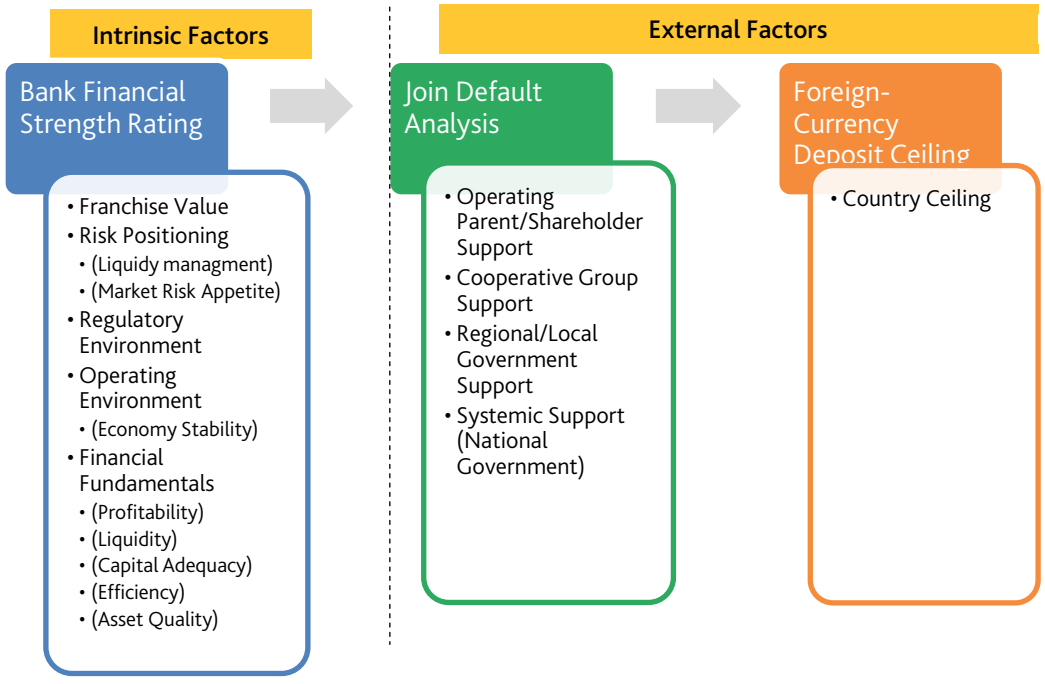
Bank sector effects from financial repression

A summary of the broad analytical concepts contained in Moody's bank rating process[21] will help to put in context the potential credit implications that may emerge from the different forms of financial repression described above.

Moody's bank rating methodology consists of two main blocks: (i) banks' intrinsic or stand-alone strength (Bank Financial Strength Rating or BFSR), and (ii) the likelihood that a bank will receive financial support from outside entities to avoid default (Joint Default Analysis or JDA).

The BFSR provides the foundation for our bank credit analysis and is intended to provide a globally consistent measure of a bank's financial conditions before considering external support factors that might reduce default risk, or, alternatively, country risks that might increase default risk.

FIGURE 7
Moody's Bank Rating Methodology



[20] Some concrete examples of those negative consequences can already be observed, and are partially reflected in Moody's recent ratings actions towards euro area banks: see, for instance, "Key Drivers of Austrian Bank Rating Actions", "Key Drivers of Danish Bank Rating Actions", "Key Drivers of German Bank Rating Actions", "Key Drivers of Italian Bank Rating Actions", "Key Drivers of Spanish Bank Rating Actions" and "Key Drivers of Swedish Bank Rating Actions".

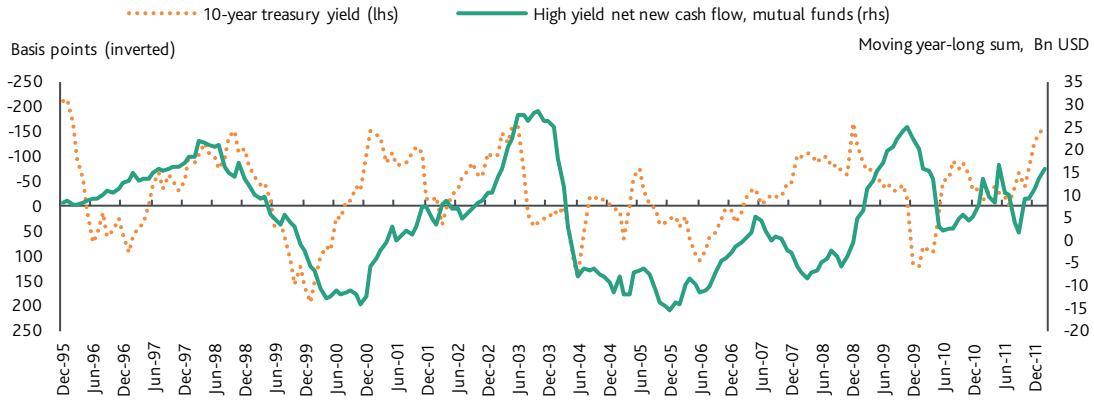
[21] See Moody's Global Bank Rating Methodology page for a more detail explanation.

Of the different sources of support a bank might receive we highlight here national government support. The assessment of the ability of a government to support a bank is largely summarized in its own rating, but there are other inputs to evaluate the overall support from a government. First is the willingness of the government to commit public funds to support a bank. Moody's believe that the likelihood of government bank support is positively correlated with the government ownership. Second, the default dependence (or correlation) between the government and the underlying rating of the bank in question. For example, as banks increase their holdings of sovereign debt, sovereign risk can have negative effects on the banking sector, with negative spillovers to the economy, which, in turn, reinforces the negative feedback effects between banks and sovereigns.

Protracted low interest rates

Very low interest rates help to at first recapitalize the banking system by supporting a greater net interest margin (NIM).[22] As banks can borrow cheaply and generally reduce interest paid to depositors they can still collect interest on existing loans made earlier at higher rates over a longer period. But, as old loans mature, low interest rates lead to a compression of NIMs. More generally, a lengthy period of low rates makes it harder to earn a real positive rate of return. In order to counteract such a fall in profits, banks might reduce payouts on saving and deposit accounts and also increase fees. Some banks may also dedicate economic resources to finance more speculative activities and assets, both domestically and/or abroad (the "hot money" described above), as they seek higher-yielding assets (Figure 8).

FIGURE 8
US High Yield Mutual Funds vs. 10-Year Treasury Yield



Source: Investment Company Institute, Federal Reserve and Moody's calculations.

As real rates fall and asset prices increase, the value of collateral also rises, which might induce financial institutions to extend more credit and increase their own leverage to acquire riskier assets. Increases in asset prices are generally associated with lower price volatility and hence lower perceived risk. This in turn boosts the desired allocation of capital in risky assets which further narrows measured risk spreads.[23]

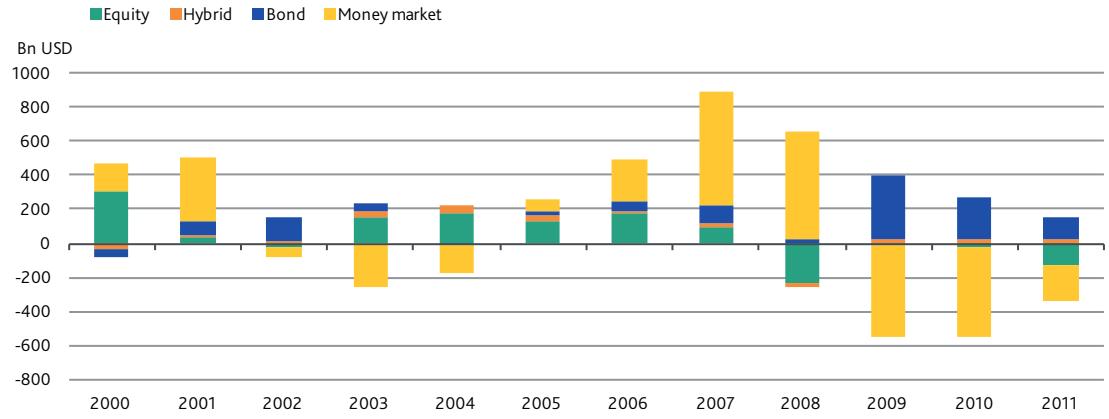
In other terms, the success of policy actions designed to contain this crisis can generate a new upsurge of risky portfolios, thereby even seeding a possible *next* one: the long period of low interest rates and ample liquidity that preceded the current crisis has been identified by many as an important contributing factor to it.

[22] The difference between the interest expense a bank pays (the cost of funds) and the interest income a bank receives on the loans it makes.
[23] See BIS, Annual Report 2009/2010, Basel, 2010.

Also, while low policy rates and higher long-term rates may increase banks' profits by borrowing short-term and lending long-term (i.e., from maturity transformation, given expected higher future inflation and interest rates), an unexpected rise in policy rates accompanied by a similar increase in bond yields will result in a fall in bond prices, imposing considerable potential losses on banks (to the extent that they hold bond portfolios). As a result of that, banks would face difficulties in rolling over their short-term debt as markets lose confidence as a result of the losses, setting off renewed asset sales and a spiral of price declines.

Money market funds in particular, as big buyers of commercial paper and debt, saw their margins shrink dramatically as central banks started to lower rates following the financial crisis. Given this associated increased risk of negative net returns (i.e., net after investment management fees), investors started to withdraw money from money market funds already in 2009 (see Figure 9).

FIGURE 9
U.S. Mutual Fund Investing, Annual Flows by Asset Class



Source: Investment Company Institute and Moody's calculations.

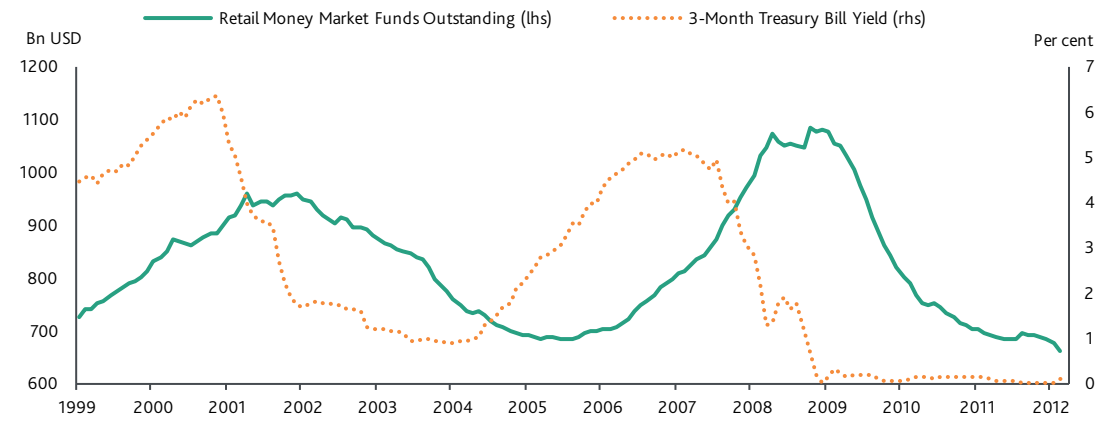
There were earlier episodes of significant drops in short-term rates followed by considerable declines in money market holdings (see Figure 10). This had important implications for the overall liquidity of the financial system as money market funds are key providers of short-term credit for many large firms (one reason why central banks did not lower policy rates all the way to the "zero bound" during the financial crisis was to avoid paralyzing money markets).

Additionally, the excess bank reserves and easy access to central bank liquidity that are at the core of the current monetary policies crowd out short-term money markets with potentially adverse long-term effects. As central banks supplant money markets in the provision of liquidity, the infrastructure needed to support money markets as well as market-based liquidity management by banks might shrink, and rebuilding such capabilities as central banks unwind these policies could prove very costly.[24]

Finally, both insurers and pension funds have historically relied on bonds to meet their future obligations. As bond yields deteriorate, insurers must tighten underwriting standards and raise premiums as pension funds are faced with record shortfalls. Some pension funds have tried to lift yields by buying longer-maturity bonds (as low policy rates have been accompanied by considerably higher longer-term rates). This strategy is not without risk. When the policy of low interest rates is reversed and the value of existing bonds fall, pension funds would be particularly hit as longer-maturity bonds drop more in value than shorter-maturity bonds when interest rates increase. More generally, insurers and pension funds, with specific return targets, will have to undertake more risky investments to achieve those targets.

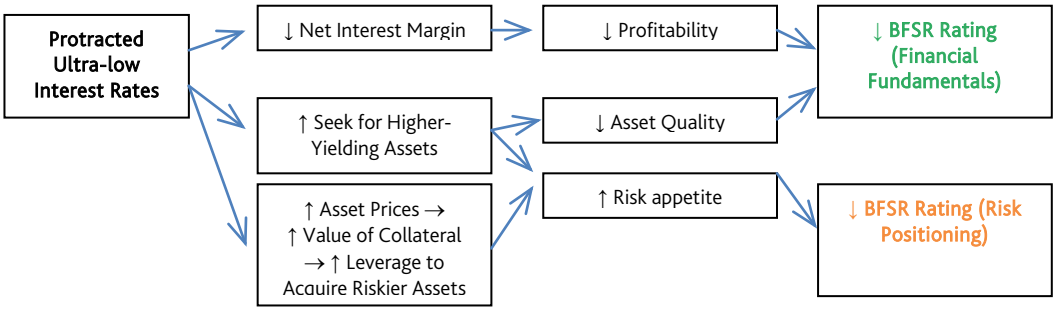
[24] See IMF background paper "Exiting from Monetary Crisis Intervention Measures", January 2010.

FIGURE 10
US Money Market Funds Outstanding vs 3-Month Treasury Bill Yield



Source: Federal Reserve and Moody's calculations.

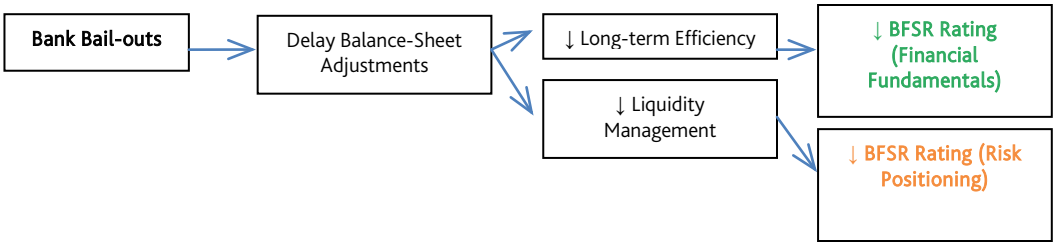
Credit ratings implications summary:



Bank Bailouts

Bank bailouts help to stabilize conditions in the short run, but undermine the incentives for structural balance sheet repairs. [25] This is the case whether it is a direct bailout through a central bank's large-scale purchase of assets or indirectly via lending to bank systems facing market distress (as was the case of the ECB's LTROs). These measures are very effective as means of supplying necessary liquidity to troubled institutions but they cannot and are not designed to solve underlying solvency problems. Similarly, low policy rates, by reducing the opportunity cost of carrying non-performing loans on the portfolio, may also slow down or hinder the necessary balance sheet adjustment of financial institutions.

Credit ratings implications summary:



[25] This said, the direct bank bailouts so far observed in the EU have been subject to rather stringent re-structuring programmes dictated by the European Commission (which must approve all actions that imply state support for a company or bank in a European Union Member State).

Regulatory Incentives to Hold Government Bonds

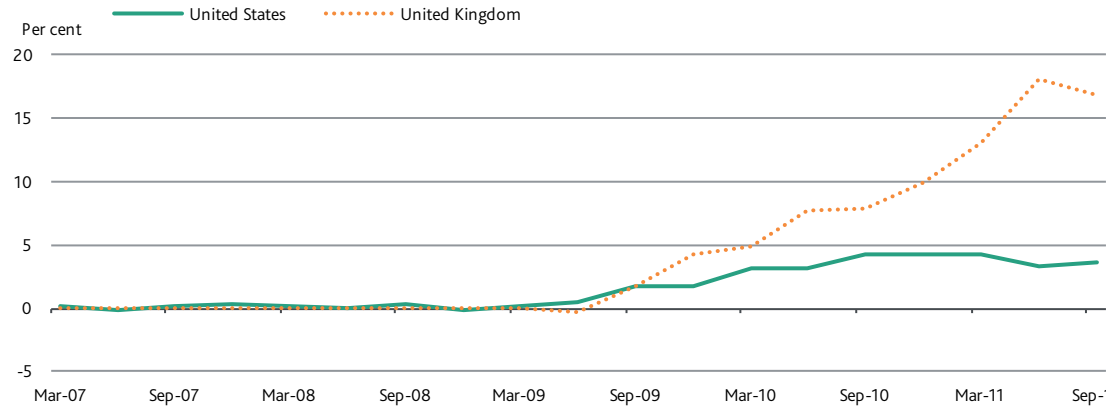
Bank and capital regulations that favor government debt, as well as pension fund regulation and moral suasion with the government directing asset allocations towards sovereign debt (see Figure 11), effectively impose low real returns on these financial institutions. This also promotes inefficient capital allocation and crowd out more productive investment, depressing future economic growth.

Rising levels of sovereign debt on banks' balance sheets results in banks and sovereigns being more closely intertwined as the current euro area situation illustrates: banks already depend heavily on the government for financial support in times of stress.

The financial crisis has shown that the capacity of authorities to provide support is intrinsically linked to the government's own financial strength as reflected in its debt rating. As financial regulators, even if in unintended and indirect ways, incentivize banks to increase their exposures to public sector debt, sovereigns risks can have greater negative spillover to banks, beyond depressing the value of explicit or implicit government guarantees. Rising sovereign risks also translates into lower market value for government bonds, thus a drop in collateral values and hence potential higher funding costs for banks, increasing solvency concerns.

FIGURE 11

Cumulative Net Purchases of Government Securities by Banks Relative to Total Outstanding Amount at End-2006

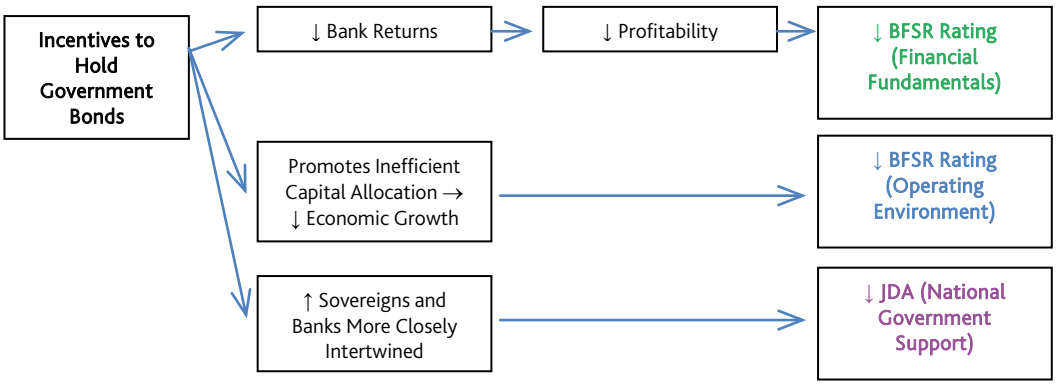


Source: International Monetary Fund, Global Financial Stability Review, April 2012.

All these factors might generate negative effects as growing banking sector stress creates higher contingent liabilities for the sovereign, increasing further the need for government support.[26] Further second-round effects might also develop as a stressed banking sector may be prompted to deleverage by curbing new lending, depressing economic growth, and lowering tax revenues.

[26] See IMF, Global Financial Stability Report, Washington, April 2012.

Credit ratings implications summary:

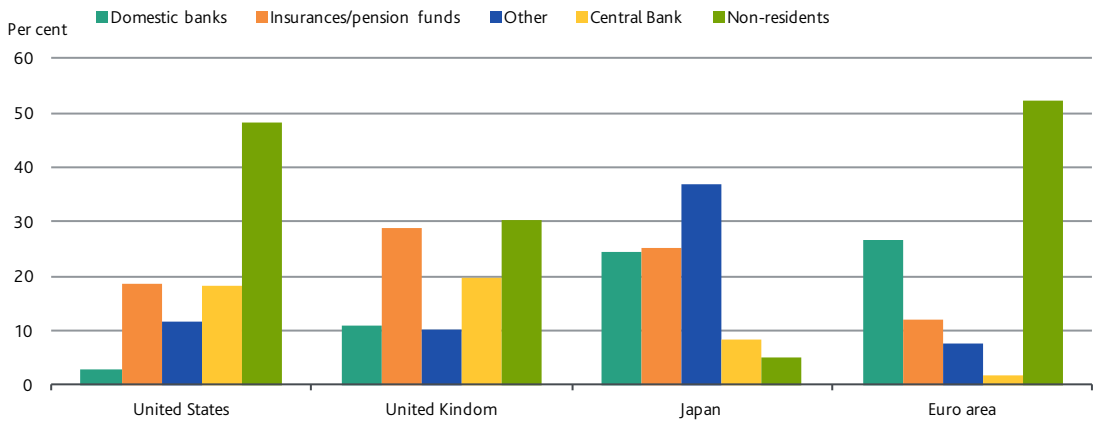


Holding of Government Bonds by Non-Market Players

The increased holding of government bonds by non-market players, either in the form of domestic and foreign central banks, or the imposition of larger holdings of those instruments on the balance sheets of banks and other financial institutions through regulatory standards may call into question the information content of bond prices in relation to their underlying risk profile. The large concentration of financial assets on the balance sheets of central banks may prevent or degrade market signals to policy makers (see Figure 12).

Some analyses[27] go a step further and even question the future role of government securities as benchmarks in the pricing and evaluation of riskier assets. Generally fixed-income securities have so far been priced as a spread to government debts of the same maturity and used as risk-free rate proxies in asset valuations.

FIGURE 12
Sovereign Debt Holdings
(per cent of total, June 2011 or latest available)



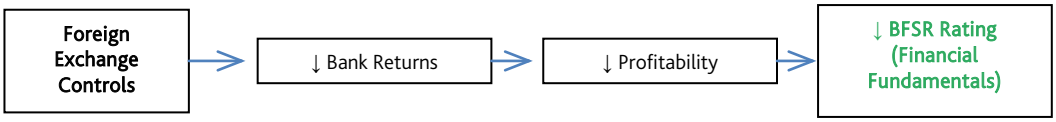
Source: International Monetary Fund, Global Financial Stability Review, April 2012.
Note: Other for Japan includes a 29% stake by Japan Post Group.

[27] See again IMF, Global Financial Stability Report, Washington, April 2012.

Capital or Foreign Exchange Controls

Financial repression can also involve policies designed to influence the market price of the nation's currency: those generally result in a *de facto* tax on banks. As an example among developing countries, China's government intervened in the foreign currency market through purchases of foreign exchange, initially to maintain a fixed nominal exchange rate with the US dollar and later to restrain the renminbi appreciation. To prevent this from leading to large increases in the domestic money supply, the Chinese government increased the required reserve ratio of banks and it sold large quantities of central bank bills to banks. Both requirements were effectively a tax on banks as the nominal rate that banks received on both reserves and central bank bills was below the rate that banks would have received had they lent the funds themselves.

Credit ratings implications summary:

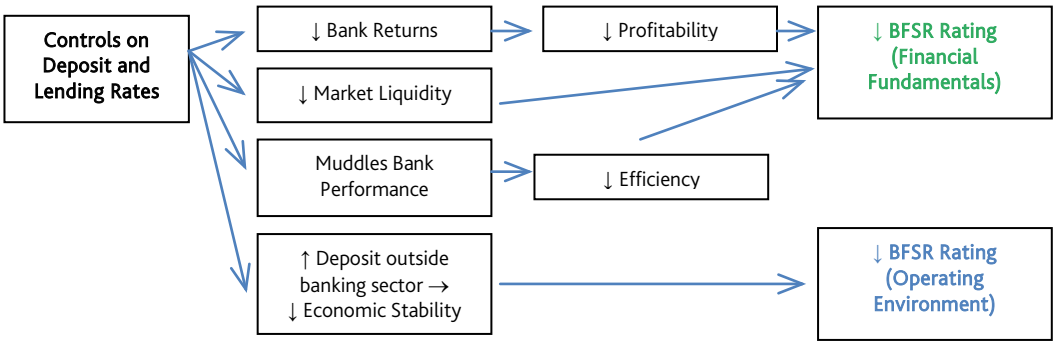


Ceilings/Controls on Deposit and Lending Rates

This is arguably the most traditional form of financial repression: a combination of controls or ceilings on interest rates paid on deposits and implicit taxes on banks, which reduces bank profitability and market liquidity beyond muddling indicators of bank performance (thereby creating disincentives to improve performance).

Also, ceilings on deposit rates in the formal banking system induce savers to deposit funds outside it in search for higher rates, supporting the development of a shadow bank system. This, in turn, makes banks more dependent on capital market funding. Similarly, the imposition of lending rates below market rates leads to a large demand for credit that is not met, directing borrowers to access the shadow bank system. Reflecting such pervasive constraints, the Chinese shadow bank system is estimated to be responsible for a full quarter of the domestically provided credit.

Credit ratings implications summary:

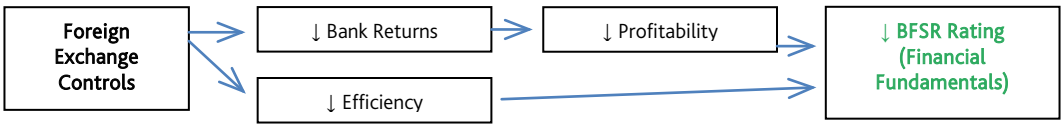


Financial Transactions Taxes and Bans on 'Undesirable' Trading Practices

Another set of measures that governments have taken to control capital flows are taxes on financial transactions and short-selling bans, which jeopardize market liquidity. In particular, a shorting ban on

CDS may limit banks' ability to hedge exposures. Also, the effects and overall success of taxes on financial transactions depends very much on their design and on the comprehensiveness of their coverage.[28]

Credit ratings implications summary:



Conclusions

Crisis fighting policies by advanced countries' central banks have involved the deliberate lowering of policy rates into negative territory, and a significant expansion of their balances sheets, mostly by the absorption of large amounts of government bonds. These policies have had significant spillovers into developing economies, unleashing other restrictive policies, including capital and interest rate controls.

The unwinding of these non-orthodox monetary policies, which can be broadly classified as "financial repression" implies some complex choices. The large liquidity provisions in advanced economies are expected to be progressively withdrawn as economies return to a moderate but positive growth, bringing interest rates gradually back into positive territory. The financial system should bear part of the costs of this unwinding, especially in the case of the euro area, albeit the lack of upward inflationary expectations may signal that this should be possible without monetary authorities causing uncontrolled inflationary spirals and further market instability. Nevertheless, the correct timing and sequencing of these measures will necessarily be fundamental to achieve this outcome. The same conclusion and provisos apply to the offloading of their accumulated exposures to government debt.

For developing economies, an equally progressive policy flexibilisation is likely to happen, as the normalisation of the situation in advanced economies will in itself reduce the "wall of money" they face. The removal of the introduced restrictions will enable them to fully benefit from the welfare and growth enhancing effects of a more complete global financial integration.

From the sovereign credit risk perspective, while the initial implementation of policies like QE creates potential vulnerabilities, their use should be seen in the light of the (potentially dire) consequences of the lack of policy actions. Their successful unwinding would constitute a credit-positive event.

On the other hand, the implications of these policies for the banking system are likely more significant and pessimistic: in essence, the likely long period of returns below those observed in the recent past, plus heavier regulation of the sector, significant distortion of micro-economic incentives and signals faced by financial institutions and the deeper enmeshing of the fates of the banks and sovereigns all combined should imply harmful consequences for the sector's operating environment and performance, resulting in negative credit implications for the banking sector, and especially for those in euro area countries. This is the case even if the ultimate regulatory objective is effectively a greater stability for the banking sector. As some of those policies –for instance, greater regulation of the sector– will remain even after the original actions and accumulated exposures are unwound, the negative implications are of a long-term nature.

[28] For example, the financial transactions tax introduced in Sweden in the mid-1980s (therefore, previous to its EU membership) was considered a failure, as its relatively high costs and Swedish-only coverage led to widespread avoidance by moving the taxed transactions outside of the country.

Moody's Related Research

Statistical Handbook:

» Moody's Country Credit Statistical Handbook, November 2011 (137182)

Special Comments:

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» Key Drivers of Austrian Bank Rating Actions (142002)

» Key Drivers of Danish Bank Rating Actions, May 2012 (142284)

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» Key Drivers of Swedish Bank Rating Actions, May 2012 (142124)

» Currency Appreciation Pressures Creates Challenges for EM Sovereign Credits, October 20120 (128461)

Rating Methodologies:

» Bank Financial Strength Ratings: Global Methodology, February 2007 (102151)

» Narrowing the gap – a clarification of Moody's approach to local versus foreign currency government bond ratings, February 2010 (118820)

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Related Research:

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» Financial Stability Review, Banque de France, April 2012

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