

Same Story, Different Place? Post-Crisis Recapitalization of Banks in Japan and Europe

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Abstract

This paper compares the recapitalizations of the Japanese banking sector in the 1990s with those in the ongoing European debt crisis. The analysis points to four main policy implications: First, recapitalizing banks by insuring or purchasing troubled assets alone is not likely to solve the problem of banks' weak capitalization as this measure is not able to adjust the extent of the recapitalization to the banks' specific needs. Second, the amount of the recapitalization should be based on actual capital shortages and not risk weighted assets to avoid that banks decrease their loan supply. Third, banks should face restrictions regarding the amount of dividends they are allowed to pay out. Finally, banks have to be induced to clean up their balance sheet and reduce the amount of bad (non-performing) loans to rebuild confidence in the European banking system.

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Eight years after the start of the global financial crisis, Europe’s economic recovery remains weak, even though the European Central Bank (ECB) cut rates to record lows and launched massive quantitative easing programs. We argue that one of the main causes for the slow recovery is that the European banking sector remains very fragile, although authorities have provided enormous amounts of liquidity to European banks. The resulting weak loan supply and, in turn, the low efficiency of financial intermediation has significantly weakened the transmission of monetary policy measures to the real economy, with dire effects for real economic activity.

A sufficient bank capitalization seems to be a critical factor in this context. For example, in a recent study, Gambacorta and Shin (2016) find that bank capitalization has a strong effect on their loan supply. In particular, the authors show that a 1 percentage point increase in bank’s equity-to-total assets ratio is associated with a 0.6 percentage point increase in the yearly loan growth. The importance of a sufficient bank capitalization for an efficient supply and allocation of credit is also consistent with what regulators experienced during their fight against recessions with expansionary monetary policy in the last decades. Especially, the Japanese crisis in the 1990s and early 2000s has shown vividly how important a well-capitalized banking sector is for a successful stimulation of the economy through monetary policy measures (e.g. Caballero et al., 2008 and Giannetti and Simonov, 2013).

If a banking system remains systematically undercapitalized, the economy potentially suffers significantly from a credit misallocation problem, now commonly known as “loan evergreening” or “zombie lending”. In particular, undercapitalized banks have an incentive to rollover loans from existing borrowers that struggle financially to avoid having to declare outstanding loans as non-performing. Due to these zombie loans, the impaired borrowers acquire enough liquidity to be able to meet their payments on outstanding loan commitments. Thereby, banks can avoid that these borrowers default on their loan payments, which would lower the banks’ net operating income, force them to raise provisioning levels, and increase the likelihood that they violate their minimum capital requirements (see Aiyar et al., 2015 and Jassaud and Kang, 2015). Effectively, by “evergreening” these loans, banks can delay taking a balance sheet hit in the hope that their borrowers regain solvency and are able to repay their loan commitments. This behavior leads to credit misallocation. While unproductive firms receive subsidized credit to just keep them alive, loan supply is shifted away from creditworthy productive firms.¹

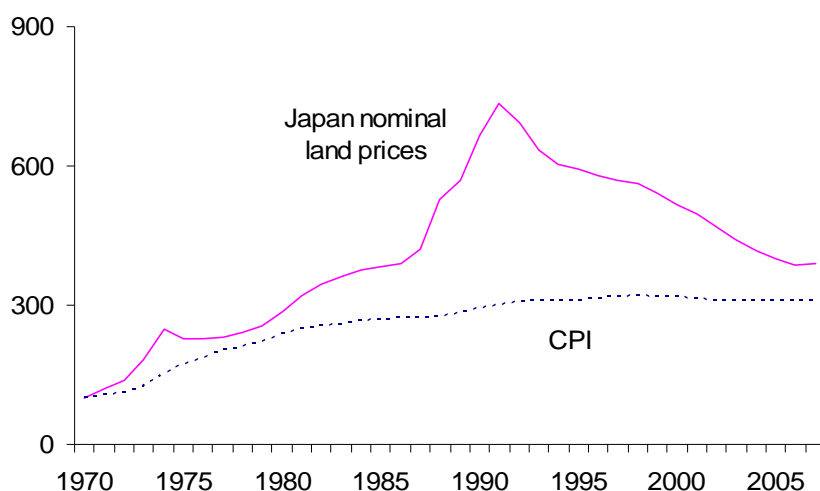
In this paper, we describe the crises episodes in Japan and Europe with a focus on bank capitalization and lending policies and, on this basis, derive policy implications that may help to overcome the recessionary environment in the Eurozone.

¹See Kane (1989), Peek and Rosengren (2005), Caballero et al. (2008), Giannetti and Simonov (2013), and Acharya et al. (2016a).

The Japanese Story

In the early 1990s, a massive real estate bubble collapsed in Japan (see Figure 1). This caused problems for Japanese banks in two ways: First, real estate assets were often used as collateral and, second, banks also held the affected assets directly so that the decline in asset prices had an immediate impact on their balance sheets. These problems in the banking system quickly translated into negative real effects for borrowing firms.

Figure 1: NOMINAL RESIDENTIAL LAND PRICES AND THE CONSUMER PRICE INDEX (CPI) IN JAPAN



Source: Bank of Japan, Government of Japan (taken from Wilcox, 2008).

Subsequently, the Japanese government introduced several measures to stabilize the banking sector and spur economic growth. Among these measures were a series of direct public capital injections into impaired banks, mostly in the form of preferred equity or subordinated debt. Table 1 provides an overview of the different recapitalization programs as well as the date and the total amount (in trillion Yen) injected by the Japanese government. However, these programs failed to adequately recapitalize the Japanese banking sector (see Hoshi and Kashyap, 2010).

Table 1: CAPITAL INJECTION PROGRAMS IN JAPAN

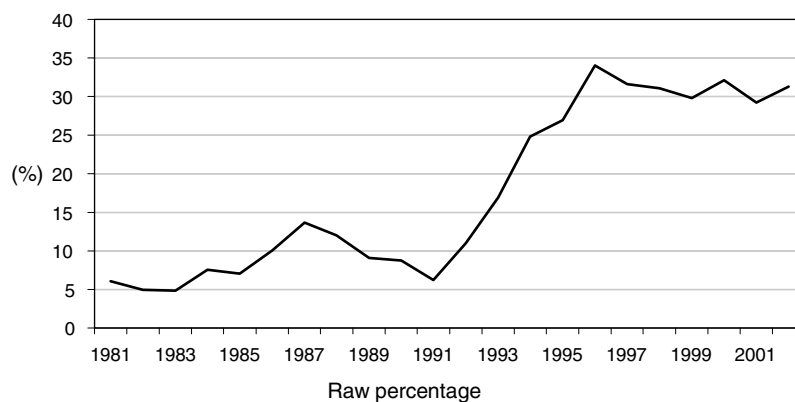
Legislation	Date of injection	Amount injected
Financial Function Stabilization Act	3/1998	1.816
Prompt Recapitalization Act	3/1999-3/2002	8.605
Financial Reorganization Promotion Act	9/2003	0.006
Deposit Insurance Act	6/2003	1.960
Act for strengthening financial functions	11/2006-3/2009	0.162

Source: Hoshi and Kashyap (2010).

Peek and Rosengren (2005) were among the first to provide empirical evidence that the inadequate recapitalization of the Japanese banking sector had major consequences for the allocation of credit to the real economy. More specifically, they show that firms were more likely to receive additional loans if they were in poor financial conditions. They interpret this finding as consistent with the “zombie lending” incentives of undercapitalized banks. Figure 2 shows that the percentage of zombie firms increased from roughly 5% in 1991 to roughly 30% in 1996. Moreover, Giannetti and Simonov (2013) find that banks that remained weakly-capitalized after the introduction of the recapitalization programs provided loans to impaired borrowers while well-capitalized banks increased credit to healthy firms. The authors estimate that credit supply to healthy firms could have been 2.5 times or 418 billion Yen higher in 1998 if banks would have been recapitalized sufficiently.

This misallocation of loans then translated into significant negative effects for the real economy. In particular, due to zombie lending behavior, credit supply was shifted from creditworthy productive firms to unproductive firms, which reduced overall productivity and led to market distortions. As zombie lending kept distressed borrowers artificially alive, the respective markets were congested, which led to distorting effects on healthy firms competing in the same industries. These negative spillovers on healthy firms include, for example, depressed product market prices and higher market wages. Caballero et al. (2008) show that, as a result of these spillover effects, healthy firms that were operating in industries with a high zombie firm prevalence had lower employment and investment growth than healthy firms in industries that did not suffer from zombie firm distortions. For example, they estimate that due to the rise in the number of zombie firms, the typical non-zombie firm in the real estate industry experienced a 9.5% loss of employment and a 28.4% loss in investment during the crisis period.

Figure 2: PREVALENCE OF FIRMS RECEIVING SUBSIDIZED LOANS IN JAPAN

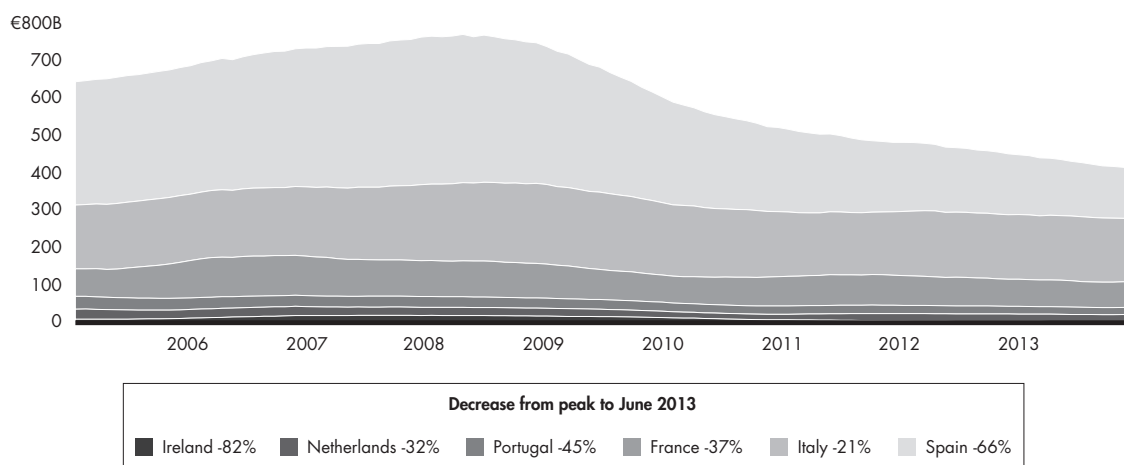


Source: Caballero et al. (2008).

The European Story

In recent years, the Eurozone has been following a similar path as the Japanese economy in the 1990s and early 2000s. Starting in 2009, countries in the periphery of the Eurozone drifted into a severe sovereign debt crisis. At the peak of the European debt crisis in 2012, the anxiety about excessive national debt led to interest rates on government bonds issued by countries in the European periphery that were considered unsustainable. In particular, from mid-2011 to mid-2012, the spreads of Italian and Spanish 10-year government bonds had increased by 200 and 250 basis points, respectively relative to German government bonds. Since the deterioration in the sovereigns' creditworthiness fed back into the financial sector (Acharya et al., 2014a and Acharya and Steffen, 2014), lending to the private sector contracted substantially in Greece, Ireland, Italy, Portugal, and Spain (the GIIPS countries), as shown by Figure 3. For example, in Ireland, Spain, and Portugal, the volume of newly issued loans fell by 82%, 66%, and 45% over the 2008-2013 period, respectively.²

Figure 3: VOLUME OF NEW LOANS TO NON-FINANCIAL CORPORATIONS UP TO 1 MILLION EURO, 12-MONTH CUMULATIVE FLOWS



Source: Restoring Financing and Growth to Europe's SMEs", IIF/Bain report, 2013.

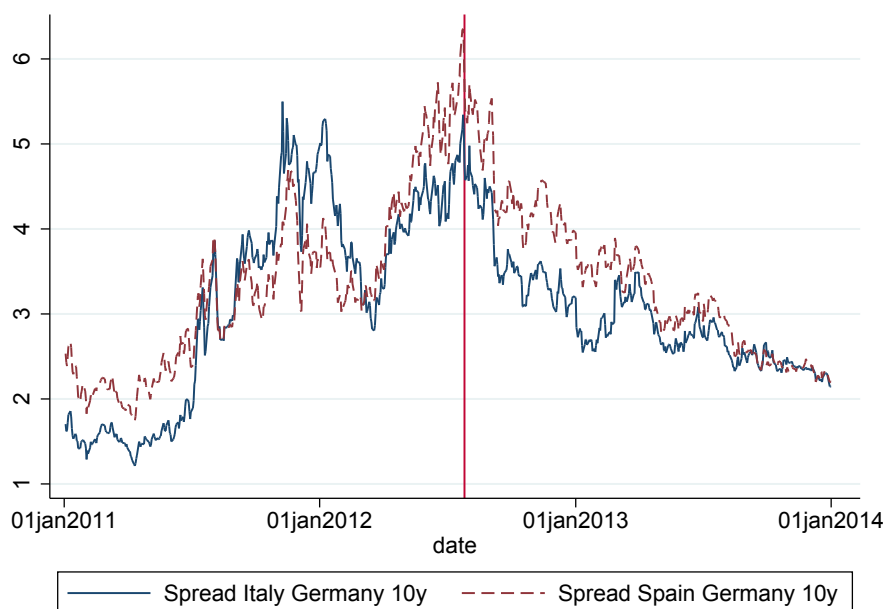
However, the impact of the European debt crisis on bank lending is more complex compared to the Japanese banking crisis (see Acharya et al., 2015), which was mainly caused by the burst of an asset price bubble and the resulting impairment of banks' financial health. While the European debt crisis also caused a hit on the banks' balance sheets due to the substantial losses on their sovereign bondholdings, in addition, it created risk-shifting incentives for weakly-capitalized banks from countries in the European periphery to increase their risky domestic sovereign bondholdings even further. This incentive then led to a crowding-out of lending to the real economy, thereby intensifying

²"SMEs in peripheral Eurozone face far steeper borrowing rates" by Patrick Jenkins, *Financial Times*, October 10, 2013.

the credit crunch (see Crosignani, 2015 and Acharya and Steffen, 2014).

This vicious circle between poor bank health and sovereign indebtedness became a matter of great concern for the ECB as it endangered the monetary union as a whole. As a result, the European Central Bank (ECB) began to introduce unconventional monetary policy measures to stabilize the Eurozone and restore trust in the periphery of Europe. Especially important in restoring trust in the viability of the Eurozone was the ECB’s Outright Monetary Transactions (OMT) program, which the ECB’s president Mario Draghi announced in his famous speech in July of 2012, saying that “[...] the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough.”

Figure 4: SPREAD BETWEEN GERMAN AND SPANISH/ITALIAN 10 YEAR SOVEREIGN BOND YIELDS



Source: Thomson Datastream.

There is clear empirical evidence that the announcement of the OMT program significantly lowered sovereign bond spreads (e.g., Krishnamurthy et al., 2014), as shown by Figure 4. By substantially reducing sovereign yields, the OMT program improved the asset side, capitalization, and ability to access financing for banks with large GIIPS sovereign debt holdings, and thereby the financial stability of these banks. First, bonds in the banks’ trading book, which are marked to market, increased in value, thereby improving the banks’ equity position.³ Second, due to the positive effect of the OMT announcement on the banks’ equity position and their financial stability, investors regained faith in the banking sectors of the stressed European countries, which improved

³For example, Italian-based UBI Banca states in its annual report of 2012: “The effects of the narrowing of the BTP/Bund spread entailed an improvement in the market value of debt instruments with a relative positive net impact on the fair value reserve of Euro 855 million [...]” Given UBI Banca’s total equity of 8,608 million, this amounts to a gain of 9.9% of total equity.

the ability of banks from these countries to acquire funding from financial markets.

Due to its positive effect on the banks' capital ratios, it was expected that the OMT announcement would lead to an increase in bank loan supply, thereby benefiting the real economy. However, when Mario Draghi reflected on the impact of the OMT program on the real economy during a speech in November 2014, he noted that "[...] these positive developments in the financial sphere have not transferred fully into the economic sphere. The economic situation in the euro area remains difficult. The euro area exited recession in the second quarter of 2013, but underlying growth momentum remains weak. Unemployment is only falling very slowly. And confidence in our overall economic prospects is fragile and easily disrupted, feeding into low investment."

An important reason for why the regained financial stability did not fully transfer into economic growth is that, while an indirect recapitalization measure like the OMT program allows central banks to target the recapitalization to banks holding troublesome assets, it does not allow them to tailor the recapitalization to a bank's specific needs (Acharya et al., 2016a). As a result, some European banks remained undercapitalized even after the OMT announcement. Indeed, there are a lot of signs that Europe's weak economic recovery is a repeat of Japan's zombie lending experience. For example, in 2013, in Portugal, Spain and Italy, 50%, 40% and 30% of debt, respectively, was owed by firms which were not able to cover their interest expenses out of their pre-tax earnings.⁴

Acharya et al. (2016a) confirm that zombie lending is indeed an explanation for why the improved financial stability of the European banking sector after the announcement of the OMT program did not fully translate into economic growth. Based on syndicated loan data, the study shows that after the OMT announcement banks that benefited more from the announcement increased loan supply to the corporate sector relatively more than banks that benefited less, but only to low-quality borrowers to whom they had a pre-existing lending relationship. Moreover, Acharya et al. (2016a) show that these results can indeed be traced back to zombie lending behavior by banks that regained some lending capacity due to the OMT announcement but still remained weakly-capitalized. In particular, the study finds that these banks extended loans to existing low-quality borrowers at interest rates that are below the rates paid by the most creditworthy European borrowers (high-quality public borrowers in non-GIIPS European countries), which is a strong indication for zombie lending behavior.

Furthermore, Acharya et al. (2016a) find no evidence that the OMT announcement had a positive impact on real economic activity through the bank lending channel: neither investment, employment, nor return on assets change significantly for firms that were connected to banks that benefited significantly from the OMT announcement. This result is further evidence for the misallocation of loans to unproductive firms due to

⁴"Europe's other debt crisis", *The Economist*, October 26, 2013.

zombie lending incentives. In particular, if the zombie firms' financial problems would have been caused by temporary financial constraints (e.g., due to limited access to bank financing) and not fundamental economic problems, these firms should have recovered after they regained access to bank financing.

Finally, Acharya et al. (2016a) show that, similar to the negative spillover effects during the Japanese crisis, the rise in zombie firms after the OMT announcement had a negative impact on non-zombie firms operating in the same industries due to the misallocation of loans and distorted market competition. In particular, high-quality non-zombie firms in industries with an average increase in the fraction of zombie firms (i.e., 8.9%) invested between 11.6% and 13.3% of capital less and had between 3.6% to 4.4% lower employment growth rates compared to a scenario where the fraction of zombies would have stayed at its pre-OMT level. An industry at the 95th percentile experienced an increase of zombie firms of 30%, implying that high-quality non-zombie firms invested between 39% and 44% of capital less and had 12% to 15% lower employment growth rates. These findings highlight that the distorted market competition, induced by the credit misallocation, hampered real economic growth and thus weakened the impact of the OMT program's indirect bank recapitalization effect.

Hence, in many ways the problems experienced in Japan and Europe are very similar. Both regions went through a severe banking crisis (although triggered by different causes) and failed to adequately recapitalize their struggling banking sector. As a result, zombie lending incentives arose in both cases and prevented a faster economic recovery as significant amounts of bank loans were misallocated to low-quality zombie firms at very advantageous interest rates.

Policy Implications

There are several key lessons that can be learned from the Japanese crisis episode in the 1990s and 2000s that can help to overcome the European debt crisis. A crucial issue relevant for the severity of both crises is the fact that authorities in both Japan and Europe were not very determined to adequately recapitalize their banking systems.

In Japan, a likely explanation for the cautious introduction of recapitalization measures is that authorities were afraid to face strong public resistance when announcing large scale recapitalization measures as the initial smaller support measures had already caused public outrage. In addition, Japanese officials generally feared to spark a panic on financial markets when disclosing more transparent information about the banks' health.

In Europe, introducing proper recapitalization measures is challenging due to the political circumstances and constraints. Contrary to a single country like Japan, in the Eurozone, nineteen member states have to come together and decide on a particular

policy measure. In addition, even if a particular policy is helping the Eurozone as a whole, it might not be optimal for each individual country as the economic situations are very different across the Eurozone. Hence, policy makers from the negatively affected countries might resist the respective policy.

As a consequence of these political dynamics and the resulting hesitant introduction of effective counter-measures, banks that remained weakly-capitalized had an incentive and the opportunity to “evergreen” loans to their impaired borrowers to avoid further losses in the short-run, which led to a credit misallocation to weak and unproductive firms. In both Japan and Europe, this inefficient financial intermediation and the resulting market distortions led to significant real effects for the economy and a very slow recovery (Caballero et al. (2008) and Acharya et al. (2016a)). To avoid that the economic development in the Eurozone becomes a complete repetition of Japan’s “Lost Decade”, policy makers in Europe should promptly overcome the political backlog and implement measures targeted at improving the banks’ capitalization and their balance sheet quality. In this respect, there are several lessons that can be drawn from the similarity of the Japanese and the European crises episodes.

First, insuring or purchasing troubled assets alone is not likely to solve the problem of banks’ weak capitalization level as this measure is not able to adjust the extent of the recapitalization to the banks’ specific needs. As shown by Giannetti and Simonov (2013) on the basis of the Japanese crisis, banks that regain some lending capacity after the introduction of a recapitalization measure, but which stay weakly-capitalized, shift their loan supply to low-quality borrowers. Acharya et al. (2016a) find the same bank behavior after the announcement of the ECB’s OMT program. Hence, for an asset purchase program to be effective, it must be either large enough such that its recapitalization effect sufficiently recapitalizes all banks (which would involve buying a much broader range of assets than current European programs allow) or such a program should be combined with a targeted bank recapitalization program. A good example for such a targeted program is the implementation of the Supervisory Capital Assessment Program (SCAP), commonly known as stress-tests, in the U.S. In particular, after a much more rigorous stress-test than the European stress-tests, U.S. authorities required banks with a capital shortage to recapitalize. However, U.S. authorities offered banks a public alternative to private funding in the form of preferred shares (at the cost of a penalty fee), in the case that private funding was not available. This program was quite successful as it significantly increased the stability of the U.S. banking sector (see Greenlaw et al., 2012).

Moreover, the recapitalization measures should determine the banks’ capital shortages in absolute term, rather than as a fraction of risk weighted assets. In Fall 2011, the EBA conducted a capital exercise that required a subset of European banks to increase their core tier 1 capital to 9% of RWA by the end of June 2012. Gropp et al. (2016) show that banks met this requirement mainly by reducing their risk-weighted assets (i.e., decreasing

their loan supply), as opposed to an increase in their equity capital. In contrast, in the U.S., the SCAP stated the capital shortages in absolute terms, which was an important factor for its positive effect on the banks' stability. Moreover, another important reason for requiring banks to recapitalize to a certain unweighted leverage ratio is that in this case banks cannot meet the requirements by just reallocating their portfolio and shifting to assets with lower risk-weights instead of actually acquiring new equity (Acharya et al., 2014b).

To speed up recapitalization process, European policy makers should significantly restrict the payouts of dividends (including internal dividends such as employee bonuses). Using U.S. capital-requirement rules, Acharya et al. (2016b) calculate the total capital shortfall in the 51 banks that were part of the 2016 stress test of the European Banking Authority to be 123 billion Euro. However, despite this large capital shortfall, the 34 publicly listed banks in their sample distributed, on average, over 60% of their earnings to shareholders in 2015 (i.e., 40 billion Euro in dividends). Based on the 90 European banks in their sample, Shin (2016) estimate that if banks would have chosen to retain earnings rather than paying them out as dividends, their retained earnings would have been 63% higher in 2014. Moreover, for the sub-sample of banks from Spain, France and Italy, retained earnings would have been more than double what it was at the end of 2014 if these banks would not have paid dividends.

Finally, European authorities have to induce banks to clean up their balance sheets and reduce the amount of non-performing loans. This may require the government to implement adequate incentives for banks or introduce appropriate regulation. This is an important measure as it helps to rebuild confidence in the European banking system, which is significantly lacking at the moment as can be seen from the very low ratios of the market price of equity relative to book prices of European banks. Given less uncertainty about the banks' actual balance sheet health also improves their ability to acquire new equity capital on financial markets.

If the European banking sector is not recapitalized using external public funds and investors are hesitant to invest additional equity (due to great uncertainty about banks balance sheet quality), ultimately, the recapitalization of the European banking sector relies on the general economic recovery. However, the European economy will be able to fully recover only with a healthy and effective financial system, which creates a viscous cycle: the banking crisis leads to an inefficient capital allocation which harms the real economy, and the worsening of the real economy increases the banks' non-performing loan problem which further weakens the banks' capital buffer. Hence, if European authorities are not able to coordinate on a comprehensive bank recapitalization program, an alternative way out of the European debt crisis might be the implementation of large scale expansionary fiscal policy to spur economic growth and break the viscous cycle between low bank health and sluggish economic growth.

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