

# Banking Union and Bank Regulation: Banking Sector Stability in Europe

by Franziska Bremus and Claudia Lambert

Despite the most recent period of calm on the financial markets, the long-term resilience of the European financial system is not yet assured, even several years after the financial crisis began. However, the stability of the financial system plays a crucial role for real economic development and consequently for growth and prosperity. The financial crisis has shown that stricter regulation is required to improve the stability and resilience of the banking system. Further, it has become evident in recent years that banking supervision requires better international coordination in this age of globalization.

The present report first analyzes current developments with regard to the European banking system: what regulatory and institutional changes have been introduced since the crisis? How have market structures and the stability of the banking system developed?

Second, the report proposes recommendations to further promote the stability of the banking system: the European banking sector has not been fully consolidated and this should be driven forward as a matter of urgency. The transparency of the new regulatory and institutional structure should be increased. The close ties between banks and governments must also be loosened further. Beyond the adjustments planned to date, policy makers should promote alternative financing sources for small and medium-size firms, e.g. the direct access to capital markets.

In response to the financial and sovereign debt crisis, various steps have been taken in recent years to reform the architecture of European financial markets.<sup>1</sup> On the one hand, regulations for individual banks were tightened as part of the new Basel III regulatory framework.<sup>2</sup> On the other hand, the crisis has demonstrated that the regulation and supervision of individual banks is not sufficient to ensure the stability of the entire banking system. The systemic relevance of banks is key—that is, the feedback loop between individual banks and the entire financial system. To better monitor financial stability from a macroeconomic perspective and to identify systemic risks, various institutions have been created in recent years to oversee macroprudential regulation.

The crisis has shown, particularly in Europe, that the regulation of banks which often conduct cross-border operations must be coordinated and directed at the European level—and not at the national level, as has been the case to date. Consequently, a joint European banking supervision is to be implemented as part of the banking union. One important objective of centralized, joint supervision and regulation is to break the vicious cycle of sovereign and bank risk. As a result, the European banking union is intended to resolve the discrepancy between the national focus of financial market supervision and the cross-border dimension of the banking industry.

Since the crisis in the euro area has calmed and the reports of bailouts for banks and governments have fizzled out, the debate on the development of a long-term,

<sup>1</sup> We would like to thank Lino Zeddi for his research support to this Economic Bulletin. The present report is part of a series of DIW Economic Bulletin reports outlining the elements of a strategy to institutionally restructure the Monetary Union. See F. Fichtner, M. Fratzscher, M. Podstawski, and D. Ulbricht, "Making the Euro Area Fit for the Future," DIW Economic Bulletin, no. 9 (2014).

<sup>2</sup> See Basel Committee on Banking Supervision, Basel III: A Global Regulatory Framework For More Resilient Banks and Banking Systems (Basel: Bank for International Settlements, December 2010, revised in June 2011).

stable financial system has recently been relegated to the backburner. Nevertheless, a continuous discussion that considers interactions between institutional and regulatory innovations is crucial to making the European financial system more resilient and less susceptible to crises in the long term. Even though the new regulatory framework of Basel III, macroprudential regulation, and the banking union represent a step in the right direction, further adjustment is still needed in some areas.

The present report first summarizes the most important regulatory and institutional changes since the recent financial crisis with a focus on the European banking sector.<sup>3</sup> The second section then outlines the development of market structures and the stability of the European banking sector since the crisis using micro- and macroprudential indicators. Finally, it discusses the shortcomings of the new financial market architecture which need to be addressed in order to promote a more robust financial system.

### Institutional and Regulatory Innovations

In order to better coordinate the work of national regulatory authorities at an international level, several institutions were established in the years following the crisis.

#### New Institutional Framework

The Financial Stability Board (FSB) was set up in April 2009. Its purpose is to help supervisors and central bankers to identify potential threats to global financial market stability. The FSB cooperates with the International Monetary Fund to identify macroeconomic and financial risks.<sup>4</sup> The committee's remit also includes promoting the international exchange of information between supervisory authorities, drawing up plans for cross-border crisis management, and making recommendations for efficient regulatory practice.

At European level, cooperation between the national supervisory authorities was strengthened by the creation of the European Banking Authority (EBA) in 2011. In addition, the European Systemic Risk Board (ESRB) was set up as an interface between the System of European Central Banks and the supervisory authorities. One of the aims of these new European institutions is to iden-

tify systemic risks at an early stage, publish guidelines, and issue warnings in the event of adverse developments.

In Germany, for instance, the ESRB's recommendations are implemented through the Financial Stability Act (Finanzstabilitätsgesetz, FinStabG). This law led to the founding, in spring 2013, of the Committee for Financial Stability (Ausschuss für Finanzstabilität, AFS) which is responsible for macroprudential regulation. The AFS analyzes risks to the stability of the financial system at the national level and, on this basis, issues recommendations and warnings. Members of the AFS include representatives of the German Bundesbank, the Federal Ministry of Finance, the Federal Financial Supervisory Authority, and the Chairman of the Management Board of Germany's Federal Agency for Financial Market Stabilisation<sup>5</sup> (FMSA).<sup>6</sup> The purpose of this cooperation between the various supervisory authorities is to harmonize micro- and macroprudential regulation.

### Stricter Regulation: Basel III

The financial crisis showed that the banks' equity ratio was too low to adequately absorb losses. In addition, it became clear that many banks did not have sufficient liquidity to remain functional in the event of shocks to the interbank market.

In the wake of the financial crisis, the Basel Committee on Banking Supervision thus formulated new regulatory guidelines (Basel III).<sup>7</sup> These regulations are implemented throughout Europe by means of the EU Capital Requirement Directive IV (CRD IV) and the EU Capital Requirements Regulation (CRR) and aim to make banks more stable without overly compromising their efficiency. They impact two core areas.

First, capital requirements have been tightened. Both the equity ratio and the quality of bank capital should be gradually improved. On the one hand, the risk weighting is stricter, creating higher stocks of risk-weighted assets. On the other hand, risk-weighted assets now need to be secured with equity of at least 10.5 percent. Debt ratios have also been regulated in this regard: the ratio of equity capital to unweighted total assets—known as the leverage ratio—must be at least three percent.

<sup>3</sup> The shadow banking sector and other areas of the financial system are not taken into account in this report.

<sup>4</sup> A. Dombret, "Finanzstabilität wahren: Rahmen, Werkzeuge und Herausforderungen," guest contribution in the Federal Ministry of Finance's Monthly Report (December 2012).

<sup>5</sup> The FMSA manages the Financial Market Stabilisation Fund (SoFFIN) and the restructuring fund (bank levy).

<sup>6</sup> Federal Ministry of Finance, "Financial Stability Act," Monthly Report (January 31, 2013).

<sup>7</sup> [www.diw.de/de/diw\\_01.c.413274.de/presse/diw\\_glossar/basel\\_iii.html](http://www.diw.de/de/diw_01.c.413274.de/presse/diw_glossar/basel_iii.html).

Second, the banks are obliged to hold a minimum level of liquidity. Basel III requires banks to have enough short-term liquid assets, such as cash, to secure their short-term ability to pay in the event of a crisis; but a minimum of long-term financial deposits is also required to prevent banks needing to sell long-term assets at a loss on a large scale to meet their payment obligations if there is a crisis. Two key figures are used to check if these criteria have been met—the short-term Liquidity Coverage Ratio (LCR) and the medium-term Net Stable Funding Ratio (NSFR).

The minimum LCR is the difference between a bank's cash outflows and inflows for the next 30 days in relation to its high quality liquid assets.<sup>8</sup> Under Basel III, this ratio should be at least one, i.e. a bank's liquidity cushion, which includes, for example, cash or Central Bank credit, must be at least as large as expected net outflows over the next 30 days. This is to ensure that banks have sufficient liquidity should investors withdraw capital at short notice.

The structural liquidity ratio (NSFR) sets the available resources in relation to a bank's long-term expected funding needs.<sup>9</sup> Here, too, the ratio is required to be one or more. The intention is to reduce the banks' dependence on the functioning of the interbank market by reducing disproportionately mismatched maturities. Banks should also be better able to stably refinance their business activities over a time frame of one year.

## Introducing Standardized Regulations

Before the financial crisis, the level of international integration in banking markets had risen sharply. As a result, many banks had significantly increased their foreign lending. In addition, they had expanded their network of overseas branches and subsidiaries. Overall, European banking had become increasingly interna-

tional.<sup>10</sup> So far, supervisory legislation has only taken account of this fact to a limited extent: new regulations were often initiated at EU level before being converted into national law - often with restrictions. Regulatory authorities have also been established at national level to date. The financial crisis has shown that harmonizing European banking supervision legislation is necessary to mitigate the impact of national interests on regulation and thereby increase the stability of the European banking sector.<sup>11</sup>

To this end, the Single Rulebook was adopted in July 2011. It was to ensure that the new rules were applied uniformly in all EU member states. Thus, the directive had to be implemented to the same degree by all European financial institutions. Harmonizing European banking supervision legislation reduces distortions of competition in the European banking market. It also reduces the incentives for banks to be guided in their business decisions by different (national) regulatory standards with varying degrees of stringency.<sup>12</sup>

The regulations for deposit insurance were also further unified in February 2014. Adjustments mainly affect shorter withdrawal periods on deposits if a bank runs into difficulties and a simplification and harmonization of payment modalities. The national insurance systems also have the ability to lend money to each other on a voluntary basis.<sup>13</sup> As far back as 2011, EU Directive 94/19/EC replaced the prevailing national legislation of EU countries and increased the deposit guarantee in the EU member states to 100,000 Euros per bank and depositor. The objective of this insurance increase was to protect depositors from losses and to increase confidence in the banking system.

## Identifying Systemic Risks: Macroprudential Regulation

However, member states do have scope when addressing systemic risks, i.e., risks that not only affect individual banks but also the stability of the entire financial system. One indicator being monitored as part of macroprudential regulation is, for example, the ratio of ag-

<sup>8</sup> The LCR is calculated as the volume of highly liquid assets in proportion to net cash outflow, i.e., the difference between cash inflows and outflows in the context of a given stress scenario. Flow rates are set at a certain level which could be five to ten percent in the case of savings deposits, depending on the specific type. For customer deposits, which are subject to deposit insurance, national regulation authorities can set an outflow factor of three to five percent. However, the inflow rate of deposits was set to zero percent across the board.

<sup>9</sup> The NSFR is the ratio of a bank's stable liabilities to required refinancing. In the numerator of this ratio, a bank's liabilities (*available* "stable" funding) are given different weighting factors depending on the stability of the funds. The denominator of the NSFR—*required* "stable" funding—is the sum of all weighted assets. The weighting factors in the numerator increase as the funds become more stable. Thus, the higher the proportion of stable funding, the higher the NSFR. As such private deposits with a maturity of over one year are included with a weighting of 100 percent. Deposits with maturities of less than one year are weighted at 90 or 80 percent.

<sup>10</sup> See F. Allen, T. Beck, E. Carletti, P.R. Lane, D. Schoenmaker, and W. Wagner, "Cross-Border Banking in Europe: Implications for Financial Stability and Macroeconomic Policies," CEPR (London: 2011).

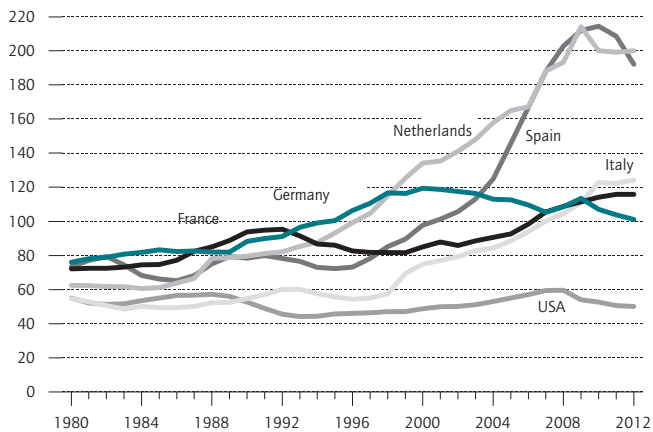
<sup>11</sup> See N. Véron, "Tectonic Shifts. Finance & Development," IMF Periodical 51, no. 1 (March 2014).

<sup>12</sup> See J. F. Houston, C. Lin, and Y. Ma, "Regulatory Arbitrage and International Bank Flows," Journal of Finance 67, no. 5 (2012): 1845–1895.

<sup>13</sup> Council of the European Union, "Deposit Guarantee Schemes: Council Confirms Agreement with EP," news release 72, Brussels, February 18, 2014, 6562/2/14 REV 2, OR. en.

Figure 1

**Domestic Credit to the Private Sector**  
In relation to GDP in percent



Source: World Bank, World Development Indicators.

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Lending had increased considerably in many European countries up until the financial crisis.

gregate credit of the banking sector to GDP. Since the economic and credit cycles are not completely synchronized in the individual countries, it is useful and important at this point to set country-specific reference values for this indicator.

Some of the standards of the new regulatory framework Basel III are not implemented directly and uniformly. Instead, the rules which are summarized in the CRD IV Directive are implemented by the respective national legislation. . In addition to a capital conservation buffer of 2.5 percent, which applies equally to all countries, quotas for the countercyclical capital buffer are to be determined for each country. This buffer can be adjusted annually by the respective national supervisory authorities.<sup>14</sup> The idea of this buffer is to use times of economic boom, i.e., periods of above-average credit growth, to accumulate capital which can then be consumed in times of economic downturn.

<sup>14</sup> In 2019, the capital conservation buffer should be 2.5 percent with an annual adjustment of 0.625 percent. As long as the full amount is not reached, banks should withhold a portion of their profit after taxes to gradually strengthen their capital adequacy. In times of crisis, the buffer can be consumed and therefore also fall under the 2.5 percent level. In contrast, the countercyclical capital buffer is subject to national regulations.

Some European countries implemented additional macroprudential tools.<sup>15</sup> Sweden, for instance, introduced upper limits on loan to value ratios (Loan-to-Value Cap, LTVC) as long ago as October 2010, which set the amount of credit in relation to the market value of the object being financed. The objective was to limit bank losses in the event of a loan default. Switzerland is one of the major financial centers in which, since 2012, an additional countercyclical capital buffer can be activated should undesirable developments occur in the credit markets.<sup>16</sup> Overall, however, the implementation of macroprudential measures has progressed rather slowly.

**Supervision and Resolution Under One Roof: The Banking Union**

In addition to harmonizing the legal basis for banking regulation in Europe, in December 2012, European finance ministers agreed on joint banking supervision (the Single Supervisory Mechanism, SSM). From November 2014, the European Central Bank (ECB) will supervise 6,000 banks in the euro area. However, it will only directly monitor the 128 largest, systemically relevant banks.<sup>17</sup> All the remaining banks in the euro area will continue to be supervised by their national regulatory authorities. The ECB currently performs an inventory of the risks in the balance sheets of systemically relevant financial institutions in Europe, known as the Asset Quality Review (AQR). The AQR assesses the capital adequacy of these banks according to uniform regulatory standards before the ECB takes over regulation.<sup>18</sup>

The second key element of the banking union, in addition to its role as a joint supervisory authority, was the Single Resolution Mechanism (SRM) adopted at the end of 2013. The SRM is intended to enable authorities to orderly restructure and resolve failing banks. The large and internationally networked banks, in particular, require a restructuring mechanism at the European level. To loosen the connection between sovereign and bank risk, in future, owners and creditors are to be initially liable in the event of the bank becoming insolvent, be-

<sup>15</sup> European Systemic Risk Board, Flagship Report on Macro-prudential Policy in the Banking Sector (Frankfurt am Main: 2014).

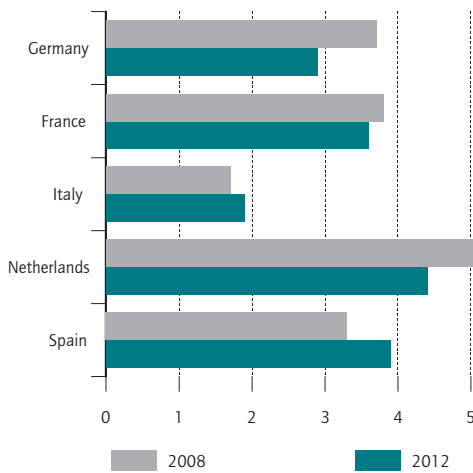
<sup>16</sup> See Swiss National Bank, Umsetzung des antizyklischen Kapitalpuffers in der Schweiz: Konkretisierung der Rolle der Schweizerischen Nationalbank (Bern: February 2014).

<sup>17</sup> This corresponds to approximately 85 percent of the aggregated balance sheet total of all banks. See Speech by Dr. Joachim Nagel, Executive Board of the Bundesbank on January 16, 2014, Europäische Bankenunion: Ein neues Kapitel der Bankenaufsicht.

<sup>18</sup> For a detailed discussion of the opportunities and risks of AQR, see M. Fratzscher, C. Lambert, and M. Rieth, "Neue Banken- und Fiskalarchitektur für Europa: Krisen vermeiden, statt sie nur zu bewältigen," Wirtschaftsdienst, Sonderheft, 94<sup>th</sup> edition (2014).

Figure 2

**Total Banking Sector Assets**  
In relation to GDP



Source: ECB, Consolidated Banking Data.

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Total banking sector assets are many times higher than GDP in several European countries.

fore there is recourse to public funds. The so-called bail-in principle was implemented through the Banking Recovery and Resolution Directive (BRRD).<sup>19</sup> A bank-paid resolution fund is set up for the financing of the restructuring of banks. This fund is assumed to accumulate 55 billion euros over a period of eight years from 2016.<sup>20</sup>

**Structure and Stability of the European Banking Sector Since the Crisis**

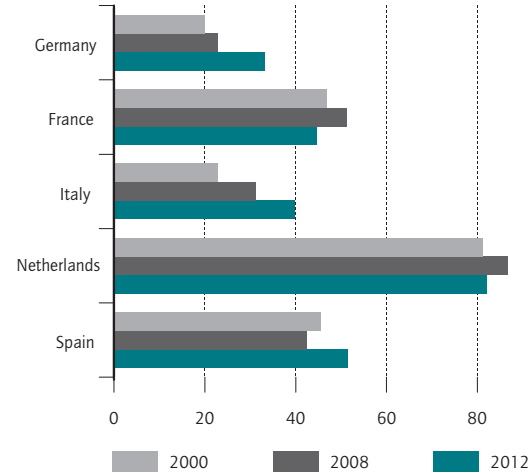
The institutional and regulatory changes of recent years have helped improve data availability with regard to financial stability indicators in many countries. For example, the International Monetary Fund (IMF) provides information on key indicators of macroprudential regula-

<sup>19</sup> The directive prescribes the following bail-in hierarchy: first the owners are liable, then the junior bond holders, then senior bond holders, and then depositors with deposits of more than 100,000 euros. If a bank needs to be restructured, first there is a bail-in by these private investors amounting to at least eight percent of total assets, before the resolution funds kicks in. If that is not sufficient then the government will step in—either with its own funds or loans from the ESM. Direct recapitalization via the ESM is only possible once all these other possibilities have been exhausted.

<sup>20</sup> See Federal Ministry of Finance, "Europäische Bankenunion: einheitlicher Abwicklungsmechanismus steht," press release no. 25, May 21, 2014. Initially, banks will pay into the national resolution fund. After two years, 60 percent of the volume of the national fund will then be mutualized.

Figure 3

**Market Share of the Five Largest Banks**  
In percent



Source: ECB, Structural Financial Indicators.

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The development of market concentration in the banking sector has varied across the major euro area countries.

tion for a large number of countries.<sup>21</sup> Further, the World Bank supplies a wide array of additional data on the development of the financial markets for over 200 countries.<sup>22</sup> A variety of financial and structural data on countries in the euro area are available from the ECB.<sup>23</sup> Using this information, the following outlines how structures in the European banking sector have evolved since the crisis, for instance, with regard to the size of the sector, capitalization, and profitability.

**Size of European Banking Sector Belies Risks**

At the beginning of the crisis, the banking sectors in many industrialized countries had never been so large, in terms of credit volume to GDP.<sup>24</sup> While the volume of bank loans to the private sector up until the end of

<sup>21</sup> See IMF, Financial Soundness Indicators, available online at fsi.imf.org/.

<sup>22</sup> See World Bank, Global Financial Development Database, available online at econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTGLOBALFINREPORT/0,,contentMDK:23269602~pagePK:64168182~piPK:64168060~theSitePK:8816097,00.html.

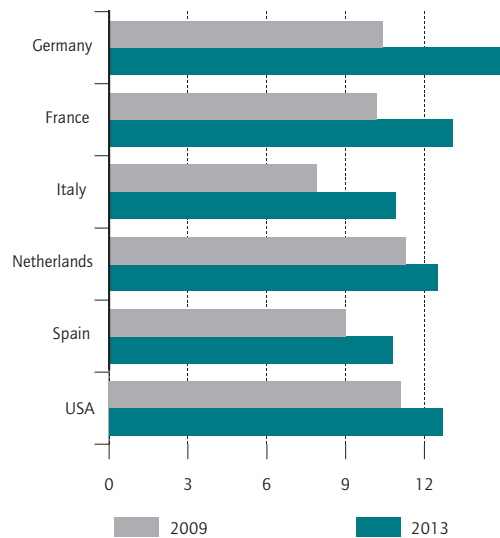
<sup>23</sup> See ECB, Monetary and Financial Statistics, Consolidated Banking Data and Structural Financial Indicators, available online at sdw.ecb.europa.eu/browse.do?node=2018773.

<sup>24</sup> See A.M. Taylor, "The Great Leveraging," NBER Working Paper, no. 18290 (Cambridge, MA: 2012).

Figure 4

**Core Capital**

As a percentage of risk-weighted assets



Sources: IMF, *Financial Soundness Indicators*; calculations by DIW Berlin.

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There has been a pronounced increase in the core capital ratio since the crisis.

the 1980s amounted to less than 100 percent of GDP in many countries, it had increased rapidly in many places by the time the crisis broke out (see Figure 1). Bank loans to the private sector relative to GDP between 1980 and 2009 in the Netherlands, for example, rose by 150 percentage points and the loan volume in Spain also almost tripled during that period. An economy's credit growth is an important indicator of future crises;<sup>25</sup> credit booms may signal that the economy or individual sectors are overheating.

Although in many countries there has been a decrease in loan volumes since the crisis, the banking sector in European countries remains huge. For comparison: in the US, bank lending to the private sector is only about half of GDP,<sup>26</sup> bearing in mind that capital markets play a larger role for firm financing than in Europe.

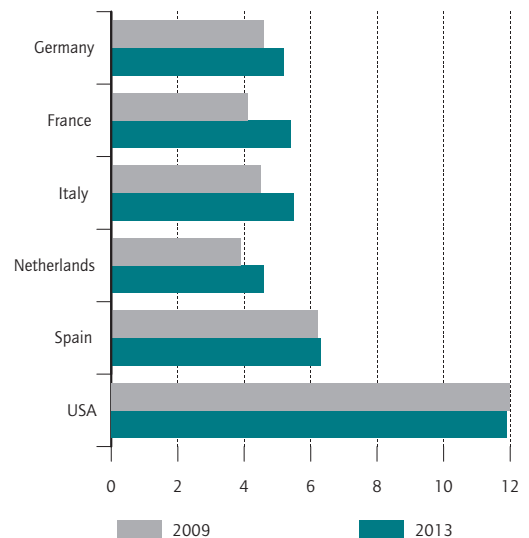
<sup>25</sup> See M. Schularick and A. M. Taylor, "Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870-2008," *American Economic Review*, vol. 102, no. 2 (April 2012): 1029-1061.

<sup>26</sup> This does not take into account the shadow banking sector which, in 2011, had a volume of 23 trillion US dollars in the US and 22 billion US dollars in the euro area. See T. Adrian, A. B. Ashcraft, and N. Cetorelli, "Shadow Bank Monitoring," *Federal Reserve Bank of New York Staff Reports*, no. 638 (2013).

Figure 5

**Equity Capital**

As a percentage of total assets



Source: IMF, *Financial Soundness Indicators*.

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The equity capital ratio has risen in many European countries since the crisis but remains low compared to the US.

Also measured as the total assets of all domestic banks in relation to GDP, the size of the sector in larger euro area countries such as Germany, France, and the Netherlands declined slightly between 2008 and 2012 (see Figure 2). Nevertheless, the total assets of banks at the end of 2012 still amounted to approximately three times the GDP of the Monetary Union.

Market concentration of the banking sector has developed differently in the euro area countries in recent years. While the share of total bank assets held by the five largest banks in Germany, Spain, and Italy has continued to increase since the crisis, it has fallen in France and the Netherlands (see Figure 3). On average, the market concentration of the banking system in the euro area has hardly changed since the crisis. If we compare the dominance of the major banks beyond the countries under consideration here, the market share of the five largest banks in Germany is rather low at approximately 30 percent. In contrast, the importance of the major banks in the Netherlands is particularly high with the five largest Dutch banks holding about 80 percent of the entire banking sector's assets.

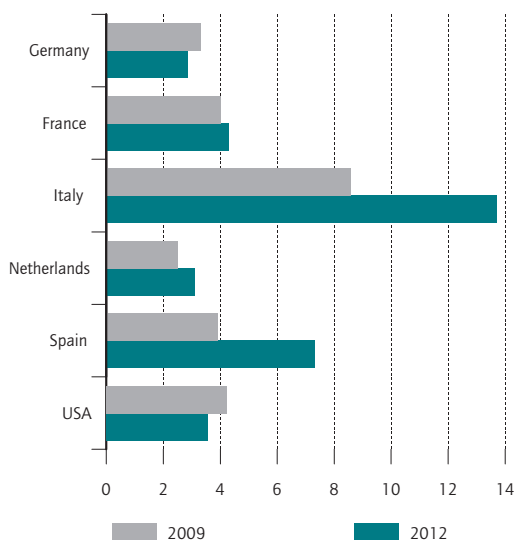
On the one hand, high market concentration can promote stability: a banking sector with a small number of



Figure 6

### Non-Performing Loans

As a percentage of gross loans



Source: IMF, Financial Soundness Indicators.

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In Italy and Spain, the percentage of loans at risk of default has increased considerably since the crisis.

large banks might be easier for the regulatory authorities to monitor.<sup>27</sup> In addition, with high market concentration and greater market power, banks can command higher profit margins, thus making it easier to build up capital buffers using retained earnings.<sup>28</sup> This improves the resilience of banks to shocks.

On the other hand, high market concentration in the banking sector belies risks for the stability of the industry. If a small number of large banks dominate the market, this creates moral hazard on the part of the banks: since they can expect government support in the event of a crisis due to their systemic importance (“too big to fail”), there are incentives to take more risks than without this implicit government guarantee. Furthermore, where the market is more concentrated, shocks that affect individual major banks have a bigger impact on the economy as a whole.<sup>29</sup> The development of the size and

<sup>27</sup> For a literature review on the subject of competition, bank size, and stability in the banking sector, see T. Beck, D. Coyle, M. Dewatripont, X. Freixas, and P. Seabright, “Bailing out the banks: reconciling stability and competition,” Center for Economic and Policy Research (CEPR) (London: 2010).

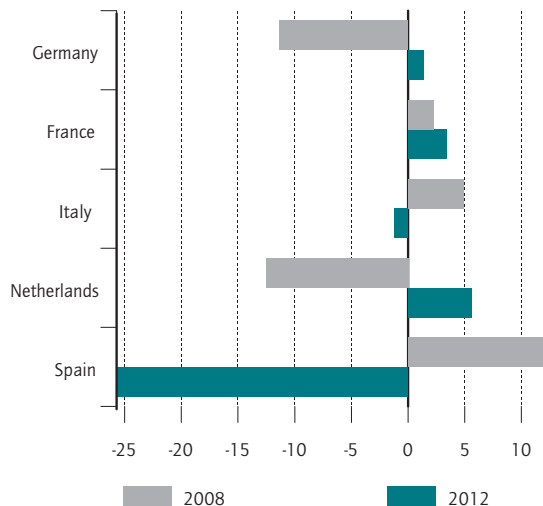
<sup>28</sup> See F. Allen and G. Douglas, “Competition and financial stability,” *Journal of Money, Credit and Banking*, vol. 36, no. 3 (2004): 453–480.

<sup>29</sup> For more details on the mechanisms, see F. Bremus, “Marktstrukturen im Bankensektor,” *DIW Wochenbericht*, no. 13 (2014); and F. Bremus, C. M. Buch,

Figure 7

### Return on Equity

In percent



Source: ECB, Consolidated Banking Data.

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The average return on equity of banks in many European countries is low.

concentration of the banking system should be monitored as part of macroprudential supervision and competition policy. The larger and more concentrated a banking system is, the more important it is to have a functioning supervisory and resolution mechanism.

### Debt-Equity Ratio of Banks Remains High

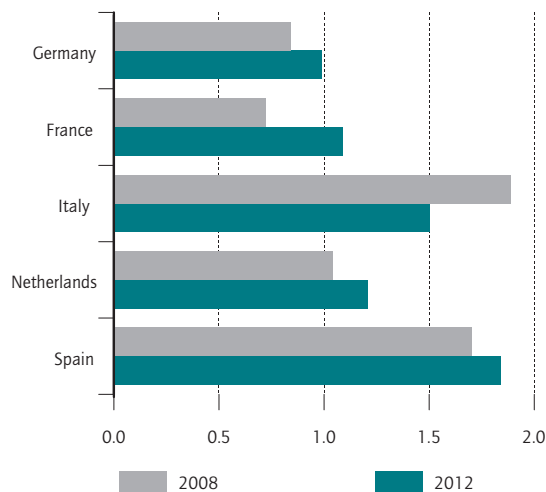
According to Basel III, both the equity ratio and the quality of the capital are to be gradually improved. Considerable progress has been made in the euro area since 2009 with regard to core capital in relation to the banks’ risk-weighted assets. For example, German banks have increased their core capital ratio from an average of about 10 percent to, most recently, approximately 15 percent (see Figure 4). On the one hand, this is due to the reduction of risky claims, and on the other hand, capital was built up by retaining earnings or raising fresh capital—either through the market or through government support measures. In Spain and Italy, too, core capital relative to risk-weighted assets has risen to, most recently, just under 11 percent. The core capital ratio thus lies above the regulatory requirement of 10.5 percent.

K. N. Russ, and M. Schnitzer, “Big Banks and Macroeconomic Outcomes: Theory and Cross-Country Evidence,” NBER Working Paper, no. 19093 (2013).

Figure 8

**Net Interest Income**

As a percentage of total assets



Source: ECB, Consolidated Banking Data.

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The profitability of the banks in terms of interest income has improved again in many countries since the crisis.

The “simple” capital ratio, i.e., the ratio of equity to banks’ (unweighted) assets, also known as the leverage ratio,<sup>30</sup> is however, significantly lower (see Figure 5). Although, on average, capitalization has increased in many places and Basel III criteria have been met, based on the leverage ratio, it is still weak in many countries. Particularly in Germany and the Netherlands, the banking sector is only weakly capitalized with a leverage ratio of around five percent; on average, total assets amount to 20 times the banks’ equity. It is striking that the US banking sector is much better capitalized with a leverage ratio of approximately 12 percent. A comparison of debt-equity ratios indicates that banks in the euro area must do more to increase their loss-bearing capacity.<sup>31</sup>

The quality of bank assets, measured as non-performing loans in relation to gross loans in the banking system, is poor, particularly in Italy and Spain (see Figure 6); in Italy, the volume of non-performing loans increased from approximately eight percent of loans in 2008 to almost 14 percent in 2012. In Spain, this figure nearly doubled between 2008 and 2012 and stood at seven percent in 2012. Bank balance sheets must therefore be

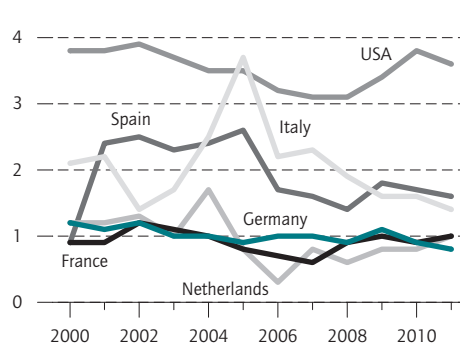
<sup>30</sup> [www.diw.de/de/diw\\_01.c.413293.de/presse/diw\\_glossar/leverage\\_ratio.html](http://www.diw.de/de/diw_01.c.413293.de/presse/diw_glossar/leverage_ratio.html).

<sup>31</sup> Some experts even claim that equity capital relative to total assets should be 20 to 30 percent. See A. Admati and M. Hellwig, “The bankers’ new clothes. What’s wrong with banking and what to do about it” (2013).

Figure 9

**Net Interest Margins**

In percent



Source: World Bank, Global Financial Development Database.

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Average net interest margins have been low in many European countries since the crisis.

adjusted further. In Germany, non-performing loans in relation to total loans declined slightly, also thanks to the economic recovery.

**Average Profitability of European Banks Comparatively Low**

The burden of non-performing loans is also reflected in the banks’ profitability. In Spain and Italy, average return on equity was negative in 2012 (see Figure 7) - so the banking sector had to deal with losses there.<sup>32</sup> In the rest of the economies considered here, however, returns in relation to equity were positive in 2012. Return on equity in Germany remained low at approximately one percent. But also in the remaining countries of the Monetary Union, banks were significantly less profitable on average compared to US financial institutions. In the US, returns on equity capital recently reached approximately nine percent. On the one hand, this is because of the more favorable economic situation. On the other hand, the more consistent and faster cleanup of the banking sector has contributed to the more stable development of profitability in the US.

The low returns on equity capital could be interpreted as a sign of continuing overcapacity in the banking sector; where there are a large number of banks with similar business models, competitive pressure between the

<sup>32</sup> However, preliminary data from the IMF’s Financial Soundness Indicators reveal positive returns on equity capital for 2013.



banks is high and profit margins are low. However, lower returns on equity are not an indication of overcapacity in the financial system per se: the return on equity can also be low if banks build up reserves. However, interest income and interest margins, which are particularly low in Germany by international standards (see Figures 8 and 9), indicate overcapacity.<sup>33</sup> Low profit margins and fierce competition in the banking sector can lead to banks taking excessive risks.<sup>34</sup> Further, it is more difficult to build up capital buffers using retained earnings. If this excess capacity is not adjusted and banks do not develop sustainable business models in the medium term, this can have a negative impact on the stability of the financial system.

### Increasing Share of Government Bonds in Bank Portfolios

Low margins in the lending business have also contributed—alongside other factors—to European banks having increasingly invested in government bonds during the financial and sovereign debt crisis (see Figure 10).<sup>35</sup> A glance at the diversification of banks' government bond portfolios shows that the share of domestic government bonds, based on the banks' euro area government bond portfolios, has also increased since the crisis (see Figure 11). Previously, it had declined considerably in the course of financial market integration in Europe. Among the countries being considered here, the highest percentage of national government bonds in the banks' euro area portfolio was observed in Italy, followed by Spain. But in other European countries, too, sovereign and bank risk became increasingly interconnected.<sup>36</sup>

### Conclusions and Policy Recommendations

The findings above show there needs to be more progress made on the consolidation of the European banking sector to improve the efficiency of the financial system and enable it to withstand future crises in the medi-

<sup>33</sup> See, for example, M. Hellwig, "Die Risiken trägt der Steuerzahler," Die Weltwoche, August 30, 2013, [www.weltwoche.ch/ausgaben/2013-35/die-risiken-traegt-der-steuerzahler-die-weltwoche-ausgabe-352013.html](http://www.weltwoche.ch/ausgaben/2013-35/die-risiken-traegt-der-steuerzahler-die-weltwoche-ausgabe-352013.html); or M. Hellwig, "Deutschland und die Finanzmarktregulierung fünf Jahre nach der Krise," Ökonomenstimme, July 12, 2013, [www.oekonomenstimme.org/artikel/2013/08/deutschland-und-die-finanzmarktregulierung-fuenfjahre-nach-der-krise/](http://www.oekonomenstimme.org/artikel/2013/08/deutschland-und-die-finanzmarktregulierung-fuenfjahre-nach-der-krise/).

<sup>34</sup> M. Keeley, "Deposit insurance, risk and market power in banking," *American Economic Review* 80 (2009): 1183–1200.

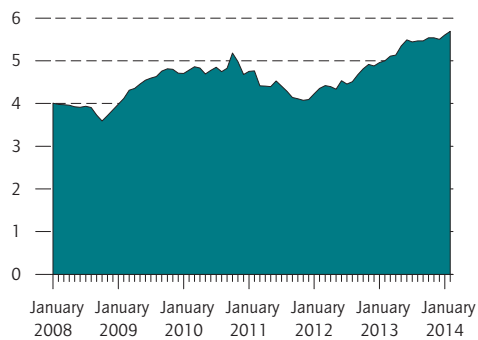
<sup>35</sup> S. Merler, "The liquidity quandary," Bruegel Blog, October 23.

<sup>36</sup> [www.diw.de/de/diw\\_01.c.412686.de/presse/diw\\_glossar/staatsanleihen.html](http://www.diw.de/de/diw_01.c.412686.de/presse/diw_glossar/staatsanleihen.html).

Figure 10

### Government Bonds from Euro Area Countries

As a percentage of total bank assets in the euro area



Source: ECB, *Monetary and Financial Statistics*.

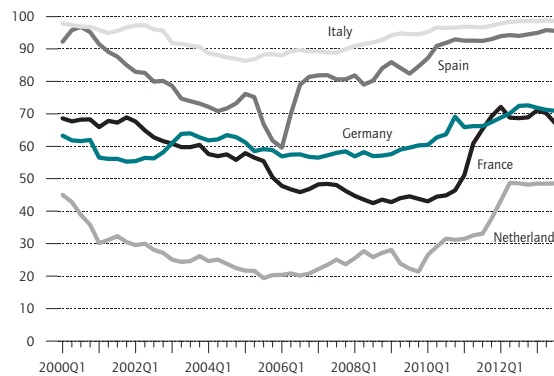
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Financial institutions in the euro area have invested more in government bonds from the euro area since the crisis.

Figure 11

### Share of Domestic Government Bonds

As a percentage of the euro area government bond portfolio



Sources: ECB, *MFI Statistics*; calculations by DIW Berlin.

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Financial institutions have held a higher share of domestic government bonds since the crisis.

um and long term. It is not only banking systems in the crisis countries that need further adjusting. The German banking sector, too, is still not healthy and sufficiently resilient to crises. The institutional and regulatory changes in Europe are a step forward and ought to contribute to the future stability of the European bank-

ing system. But there is still evidence of vulnerabilities. Some areas requiring further work are discussed in the following sections.

### Decoupling Bank and Sovereign Risk

Despite the institutional and regulatory reforms, the solvency of a country remains closely linked to the solvency of the banking sector. To effectively decouple the connection between governments and banks, a less privileged treatment of government bonds in the context of banking regulation is necessary.<sup>37</sup> As part of liquidity and capital adequacy regulations contained in Basel III, government bonds are given preferential treatment - risk-weights are set at zero.<sup>38</sup> Government bonds can be used as liquid assets to meet liquidity criteria. Investing in government securities is therefore particularly attractive for banks.

The introduction of risk weights for sovereign debt securities ought to contribute to a decrease in the share of government bonds on the balance sheets of banks and, therefore, to better portfolio diversification. In addition, the Single Resolution Mechanism (SRM) is particularly relevant on this point. One critical factor in the application of the bail-in principle is, among other things, the close ties between banks: for example, the portfolios of German banks include a large share of securities from other financial institutions.<sup>39</sup> But the liability of private investors is only credibly enforceable if there is no risk of contagion throughout the entire banking system. If the new SRM regulations on the liability of private creditors are not applicable in practice, the mutual dependence between banks and sovereigns will remain.

### Reducing Excess Capacity

The financial stability indicators suggest that excess capacity persists in the European banking sector. The European Systemic Risk Board has also indicated that the EU banking sector is too large and increasingly concen-

trated.<sup>40</sup> Part of the required market shakeout in the aftermath of the crisis has yet to be implemented in Europe; in contrast to the US, only very few banks in Europe have been closed or restructured since the crisis. But the rapid restructuring and cleanup of ailing banks' balance sheets is essential in order to permanently overcome the financial and sovereign debt crisis.

A first step in this direction is the Asset Quality Review currently being conducted by the ECB which is aimed at revealing risks and, if there is any doubt, restructuring or closing ailing banks.<sup>41</sup> An essential prerequisite for the cleanup of the European banking sector is a credible and workable resolution and/or restructuring mechanism. The decision to establish the SRM reflects the idea that market exits should no longer be prevented by government intervention.<sup>42</sup> The question is, however, whether the SRM construct is actually suitable for quickly and efficiently resolving banks. Only practice will reveal whether closing ailing banks is feasible under the SRM in the short term. However, there is a risk that the planned decision process would be too cumbersome in the event of a resolution. Also, the size of the European resolution funds could be too small to resolve a larger number of banks without resorting to taxpayers' money.

### Deposit Insurance: Beware of Side Effects

As described in the first section, deposit insurance was increased to 100,000 Euros per depositor and bank during the crisis. However, this high degree of coverage can prevent savers from carefully monitoring and critically assessing their bank's investment decisions, and, if necessary, changing the bank. There is, therefore, an incentive for banks to take excessive risks.<sup>43</sup> Various studies have shown that the amount of deposit insurance has an impact on the risk-taking behavior of banks:<sup>44</sup> for example, in the US, the decision made

<sup>37</sup> See C. Buch, T. Körner, and B. Weigert, "Towards deeper financial integration in Europe: What the banking union can contribute," Working Paper 02 (Wiesbaden: Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung, 2013).

<sup>38</sup> See also J. Pockrandt and S. Radde, "Reformbedarf in der EU-Bankenregulierung: Solvenz von Staaten und Banken entkoppeln," DIW Wochenbericht no. 42 (2012).

<sup>39</sup> See T. Hildebrand, J. Rocholl, and A. Schulz, "Flight to Where? Evidence from Bank Investments During the Financial Crisis," Working Paper (Berlin: ESMT, 2012).

<sup>40</sup> European Systemic Risk Board (ESRB), "Is Europe overbanked?" Report of the advisory committee, no. 4 (Frankfurt am Main: June 2014).

<sup>41</sup> See also an interview with Sabine Lautenschläger (Bundesbank) "Stresstest soll streng ausfallen," November 25, 2013.

<sup>42</sup> See also I. Schnabel, "Das europäische Bankensystem: Bestandsaufnahme und Herausforderungen," Wirtschaftsdienst, 94<sup>th</sup> edition (2014).

<sup>43</sup> See, for example, D. Anginer, A. Demirgüç-Kunt, and M. Zhu, "How does deposit insurance affect bank risk? Evidence from the recent crisis," *Journal of Banking and Finance* (2013) (forthcoming); A. Demirgüç-Kunt and E. Detragiache, "Does deposit insurance increase banking system stability? An empirical investigation," *Journal of Monetary Economics*, vol. 49, no. 7 (2002): 1373-1406; J. R. Barth, G. Caprio, and R. Levine, "Bank regulation and supervision in 180 countries from 1999 to 2011," *Journal of Economic Financial Policy*, vol. 5 (2013): 111-219.

<sup>44</sup> R. Gropp and J. Vesala, "Deposit insurance, moral hazard and market monitoring," *Review of Finance*, vol. 8, no. 4 (2004): 571-602.

in 2008 to raise the insurance coverage from 100,000 to 250,000 US Dollars per depositor and bank also increased the risks on the balance sheets of US banks.<sup>45</sup> It is therefore necessary to consider whether the positive effects of higher deposit insurance outweigh the negative effects of reduced market discipline.

### Setting Appropriate Employee Incentives

In addition to reform proposals at banking sector level, the Liikanen Group has urged banks to introduce incentive-based salaries for bank managers.<sup>46</sup> Remuneration for managers should be better aligned with the long-term success of the bank. False incentives may already exist at loan officer level.<sup>47</sup> Since employee performance is also measured according to the number of loan contracts sold, current assessment of credit risks may not be stringent enough. Decisions that can endanger the stability of the financial system obviously affect the entire bank, and not just the management level. To ensure the stability of the financial system therefore, incentives should already be aligned at the lowest microeconomic level. Performance incentives for bank employees should be focused on the long term so that risk controls work properly at the individual loan level.

### Increasing Transparency

Another weakness of the new European financial market architecture is the lack of transparency. Both the institutional structure and the many new regulatory rules are confusing and complicated. The competencies of the newly created institutions are not always clearly distinguishable. The new constructs are rather opaque for many market participants. This harms market discipline and allows financial institutions to use avoidance strategies. Various experts and commentators therefore argue for simpler regulation.<sup>48</sup> They are, for example, in favor of abolishing capital regulation based on risk-weights.<sup>49</sup> The reason for this recommendation is that

capital ratios based on risk-weights are not very meaningful: during the crisis, they did not reflect the actual loss-bearing capacity and were, therefore, also not good indicators of a bank's stability. It is precisely the zero-weighting of certain securities that masks potential risks these titles may conceal.

In addition, the availability of regulatory data should be improved further. Even though, in this respect, progress has been made since the crisis, public access to information on financial stability is still insufficient in many countries.<sup>50</sup> However, greater transparency with a view to improving the stability of the financial sector is essential in detecting undesirable developments in good time.

### Accessing New Sources of Financing

In addition to all efforts to make the European banking system more crisis-proof, other areas of the financial system should not be overlooked. As discussed in the second section, the European banking system is very large compared to that in the US, for instance. The importance of the banking system for financing companies in Europe reinforces the close connection between real and financial economic developments. To better diversify financing sources for companies in Europe, it would be helpful to promote access to bond markets, for example.

In addition, a financial system less based on banks could ensure that it is not only bank balance sheets that are affected in the event of weaknesses in the real economy but the risk could be spread across a wider circle of investors. This could, in turn, break the vicious circle of banking and government solvency.

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<sup>45</sup> C. Lambert, F. Noth, and U. Schüwer, "How do insured deposits affect bank risk? Evidence from the 2008 Emergency Economic Stabilization Act," DIW Diskussionspapier, no. 1347 (2004).

<sup>46</sup> High-level Expert Group on reforming the structure of the EU banking sector, chaired by Erkki Liikanen: Final Report. Brussels, October 2, 2012.

<sup>47</sup> TBerg, "Loan officer incentives and the limits of hard information," NBER Working Paper, no. 19051 (2013).

<sup>48</sup> See N. Haldane, "The dog and the Frisbee," lecture at Federal Reserve Bank of Kansas City's 36<sup>th</sup> economic policy symposium: The changing policy landscape, Jackson Hole, Wyoming, 2012.

<sup>49</sup> See A. Admati, P. DeMarzo, M. Hellwig, and P. Pfleiderer, "Comments on Enhanced prudential standards under section 165, and early remediation requirements under section 166 of the Dodd-Frank Act," Working Paper

(Stanford University and Max Planck Institute for Research on Collective Goods, April 30, 2012).

<sup>50</sup> For a discussion on data availability and progress, see L. Kodres, "Data Needed for Macroprudential Policymaking," chap. 14 in M. S. Brose, M. D. Flood, D. Krishna, and B. Nicholls, eds., *Handbook of Financial Data and Risk Information* (2013).

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