

Solution Needed for Winding Up Banks



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Volume 3, No 6
14 June, 2013
ISSN 2192-7219

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Implicit State Guarantees Exacerbate Problem: Separated Banking System Alone Not a Solution

by Benjamin Klaus and Dorothea Schäfer

Many banks are now too big, complex, and closely interconnected to be liquidated. When they run into difficulties, they threaten the entire financial system of their economic area. Five years of financial crisis have not alleviated but exacerbated this problem. The cost of stabilizing banks is enormous, posing serious challenges to the states affected. In addition, such state guarantees create dangerously false incentives: they encourage managers and investors to engage into high risk-taking, and favor the further expansion of banks. At present, solutions are being sought in the introduction of a separated banking system, with the aim of creating smaller, less complex financial institutions that would be easier to unwind and of protecting the deposit and loan-granting part more effectively from the risks of proprietary trading. In February 2013, the German federal government presented its plans to break up German universal banks into retail and trading institutions.¹ However, this article shows that under various scenarios for such a separation, many financial institutions would still exceed the size at which a bank has ever been liquidated successfully—that is, without disastrous consequences for the economy as a whole. The government proposals also envisage the deposit bank and the “residual bank” remaining united within a holding structure; it is questionable whether this would suffice to ensure “unbundling” and thus the feasibility of liquidation. The authors are therefore not convinced that the proposed legislation can achieve its declared objective of enabling the liquidation of large banks and avoiding the associated state guarantees that aggravate the problem.

In the aftermath of the bankruptcy of the US investment bank Lehman Brothers and numerous government interventions in the banking sector during the financial crisis, European and US supervisory bodies are faced with the problem of not being able to resolve large and highly interconnected banks in an orderly manner. But as long as it is not possible for banks to become insolvent, taxpayers cannot be relieved of their liability for the major banks.

The cost of this liability is significant. For instance, Ireland had to spend more than 40 percent of its gross domestic product on supporting its banks between 2008 and 2011. In Greece, it was more than a quarter of GDP. The UK had to spend more than eight percent (see Figure 1).²

In Germany, the cost of restructuring the banking sector during this period was 1.8 percent of gross domestic product. The cost of setting up Bad Banks—in Germany, this was Erste Abwicklungsanstalt (EAA) (Bad Bank of WestLB) and FMS Wertpapiermanagement (Bad Bank of Hypo Real Estate)—is not included in these figures.³ The nominal value of the transferred portfolios was more than 70 billion euros for HRE and around 200 billion euros for WestLB. In 2011, the International Monetary Fund estimated the cost of the bank bailout up to that point at more than ten percent of gross domestic product.⁴

² L. Laeven and F. Valencia, “Systemic banking crises database: An update,” IMF Working Paper WP/12/163 (2012).

³ On the definition of costs included, the authors wrote, “Fiscal costs are defined as the component of gross fiscal outlays related to the restructuring of the financial sector. They include fiscal costs associated with bank recapitalizations but exclude asset purchases and direct liquidity assistance from the treasury.”

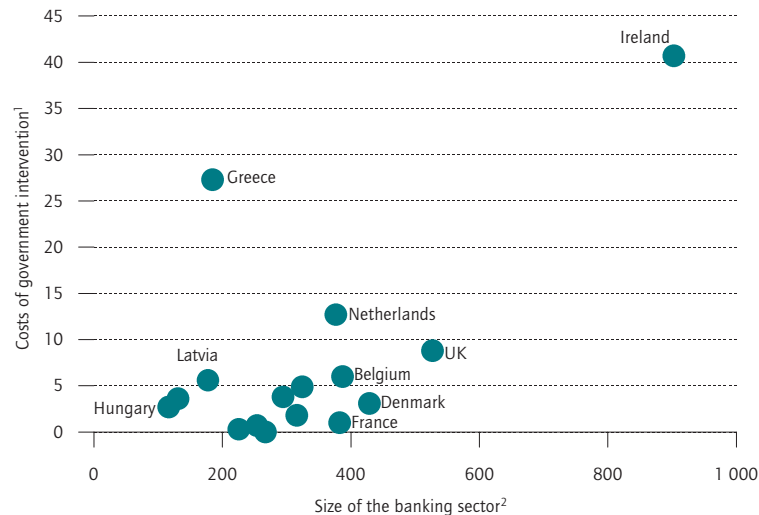
⁴ D. Schäfer, “Nachhaltige Finanzmärkte – Eine Bestandsaufnahme nach fünf Jahren Finanzkrise” (2012). Accompanying paper for the sub-committee »Nachhaltige Ordnungspolitik« of the »Enquetekommission des Deutschen Bundestages, Wachstum, Wohlstand, Lebensqualität,« Politikberatung kompakt 69.

¹ The German Parliament has passed the law on May 17, 2013. On June 7, the Bundesrat (the German upper house) approved the law.

Figure 1

Government Interventions and Financial Sector

In relation to gross domestic product, in percent



1 2008 to 2011.

2 End of 2007.

Sources: L. Laeven and F. Valencia, (2012); Own calculations.

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Banks had to be rescued in many countries. The costs to the respective governments were sometimes immense. For example, between 2008 and 2011, around 40 percent of Ireland's GDP was used to support its banks.

However, the problem is not just the financial cost but also the wrong incentives being created by the implicit government guarantees. As long as the explicit (and/or implicit) social liability continues, bank executives and traders can be expected to continue their excessively risky behavior. This applies to both the investment and financing side. An implicit public guarantee represents a significant incentive for high risk-taking and, if successful, very lucrative investment and trading strategies and to finance them with extreme leverage.

Furthermore, systemically important banks would benefit from lower refinancing costs, as the creditors of bank bonds can expect the government with a higher likelihood to safeguard a systemically important institution from failure. Estimates of the amount of these implicit government subsidies vary, although a cost advantage for systemically important banks of 60 basis points per annum before the financial crisis can be considered a rather conservative benchmark.⁵ With Data from

⁵ The cost advantage on the financing side results from the improved rating of these systemically important banks. It can be proven empirically that the implicit government guarantee is included in their credit rating. K. Ueda and B. Weder di Mauro, "Quantifying Structural Subsidy Values for Systemically Important Financial Institutions," IMF Working Paper, no. 128 (2012).

2002 to 2007 it is possible to calculate that the world's largest banks were therefore able to claim implicit government subsidies worth around 70 billion US dollars per year. This represents approximately 50 percent of these banks' average pre-tax profits for the same period.⁶

A sustainable financial system is unthinkable without the credible threat that banks, too, could fail.⁷ Previous attempts to simplify the handling of distressed banks, known as "living wills" and "bridge banks," called for a restructuring of business activities only in the event of a crisis. But because banks have little incentives to develop realistic plans for their own destruction (living wills), and the transfer of complex banking activities to another institution (bridge banks) under time pressure in a crisis can cause new problems, these approaches alone have little prospect of reducing the probability of government intervention in systemically important institutions.

Risk Screening and Liquidation Expectations of a Separated Banking System

The public essentially expects a separated banking system to solve two problems. First, sight and savings deposits should be protected from excessive risk appetite. The separated system will remove the possibility of banks financing risky trading activities through insured and therefore relatively cheap deposits. If this financing option is removed, it is expected that the financiers of trading activities would demand more realistic and higher risk premiums, the business would become more expensive and, therefore, growth in the trading business would be curbed. Conversely, credit and deposit business could be relieved of jointly bearing the risks of trading and, therefore, become less expensive.

Second, it should be possible to resolve major banks in order to reduce any costs incurred by the taxpayer in the event of a crisis. Dam and Koetter (2012) have shown that, based on data from the pre-crisis period, increased expectations of government interventions in Germany when a bank is in distress are associated with the bank management having a higher risk appetite.⁸ If it were possible to split major banks into smaller units which are

⁶ A. Haldane, "On being the right size," speech held on October 25, 2012, www.bankofengland.co.uk/publications/Documents/speeches/2012/speech615.pdf.

⁷ D. Schäfer, "Nachhaltige Finanzmärkte: Finanztransaktionssteuer und hohe Eigenkapitalpuffer sind unverzichtbar," Wochenbericht des DIW Berlin, no. 8 (2013).

⁸ L. Dam and M. Koetter, "Bank Bailouts and Moral Hazard: Evidence from Germany," *Review of Financial Studies* 25 (8) (2012): 2343–2380.

easier to restructure using the separated banking system, the threat of failure would revive shareholders and management and have disciplining effect. The general public would also be relieved of the financial burden.⁹

Universal and Separated Banking Systems: A (Historical) Comparison

The current banking system in Germany is a universal banking system. The banks are allowed to carry out all activities defined in the German Banking Act.¹⁰ In principle, banks in Germany are not restricted to certain types of business. They are allowed to conduct capital market transactions, such as managing IPOs, loan securitization, constructing all kinds of derivatives, investing in companies and issuing or trading in bonds, as well as accepting deposits and granting loans. Sight and savings deposits can be used to finance capital market activities, such as purchasing securities or financing leveraged transactions with derivatives, or transactions that have high income opportunities with low capital deployment. Also, irrespective of the intended uses, all banks have access to money from the central bank. Conversely, funds used in capital markets are used to grant all types of loans.

The Historical Separation of Investment and Commercial Banking in the US

Such freedoms do not exist in a two-tier banking system. In the US the two-tier banking system was introduced in 1933 in response to the stock market crash of 1929 and the subsequent Great Depression. It remained in place for more than 60 years.

During this period of strict separation in the banking industry, US commercial banks were neither allowed to perform IPO activities for private companies, sell insurance contracts, invest in companies, set up investment funds, nor to trade in shares and real estate. These activities were reserved for the investment banks with their capital market-oriented financing model. In addition, since the launch of the Bank Holding Compa-

ny Act (1956), commercial banks were restricted in their geographic expansion. They were prohibited from operating branches in several US states. In the 1990s, these legal restrictions were gradually relaxed. The Glass-Steagall Act of 1933 and, consequently, the strict separation of bank types were finally abolished in 1999.

The lifting of restrictions on geographical segmentation and on the two-tier banking regime—exacerbated by globalization—was accompanied by a strong process of concentration. In the meantime, the number of banks in the US that have insured their deposits with the Federal Deposit Insurance Corporation (commercial and universal banks) has decreased from around 12,000 in the early 1990s to below 7,000.¹¹

Since the beginning of the millennium, banks in the US—as in Germany and the European Union in general (see Figure 2)—have grown disproportionately higher than GDP. Between 2000 and 2007, the total assets of the entire US banking sector increased by an average of 8.5 percent.¹² The four largest banks in the US increased their balance sheet totals fifteen-fold from 509 billion US dollars in 1990 (nine percent of gross domestic product) to 7,590 billion US dollars in 2011 (50 percent of gross domestic product). The five largest banks' share of total assets has risen to over 50 percent. This represents a tripling of their share from 1970. The official ratio of total assets in the banking sector to gross domestic product in the US is currently at around 80 percent.¹³ However, the figure would be much higher if the same accounting standards that are applied in the European Union were also applied in the US.¹⁴ In comparison, in 2011 the ratio was 370 percent in the EU.¹⁵

Effective Lending Also Possible With Smaller Banks

Recent research suggests that limiting the size of banks is the most effective instrument in reducing their vulne-

⁹ Due to the threat of greater cost internalization, it is not surprising that the share prices and credit insurance premiums of affected banks have reacted negatively to the publication of proposals to institutionally separate commercial and investment banking. Subsequent dilutions of the proposals, however, have received positive feedback. A. Schäfer, I. Schnabel, and B. Weder di Mauro, "Structural Reforms matter. An Event Study Analysis," Working Paper (University of Mainz, 2013).

¹⁰ www.bundesbank.de/Redaktion/DE/Downloads/Kerngeschaeftefelder/Bankenaufsicht/Gesetze_Verordnungen_Richtlinien/gesetz_ueber_das_kreditwesen_kwg.pdf?__blob=publicationFile.

¹¹ S. Binder and D. Schäfer, "Banken werden immer größer," Wochenbericht des DIW Berlin, no. 32 (2011).

¹² Binder and Schäfer, "Banken werden immer größer" (2011).

¹³ R.W. Fisher and H. Rosenblum, Vanquishing too big to fail, Dallas Federal Reserve Bank, Annual Report, (2013). www.dallasfed.org/fed/annual/.

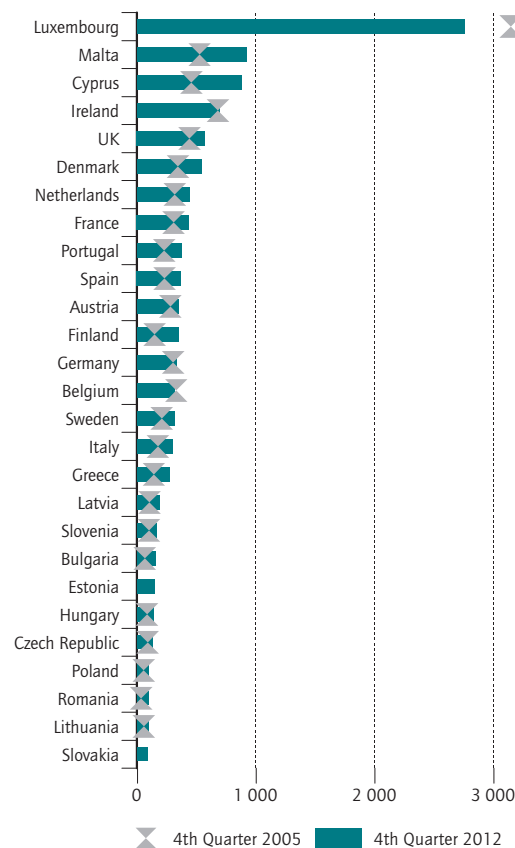
¹⁴ On the effects of US Generally Accepted Accounting Principles (U.S. GAAP) in reducing balance sheet totals, see also German Council of Economic Experts, Verantwortung für Europa wahrnehmen – Jahresgutachten 2011/12 (Wiesbaden: 2011).

¹⁵ High-level Expert Group on reforming the structure of the EU banking sector (2012), ec.europa.eu/internal_market/bank/docs/high-level_expert_group/liikanen-report/final_report_en.pdf.

Figure 2

The Importance of the Financial Sector in Europe

Balance sheet assets¹ in relation to GDP, in percent



¹ The aggregated balance sheets of monetary financial institutions include banks and money market funds.

Source: European Central Bank, calculations by DIW Berlin.

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In most European countries, the crisis has not diminished the importance of the financial sector. On the contrary, the balance sheet assets of monetary financial institutions taken together have grown much faster than gross domestic product in most countries.

rability to insolvency in case of systemic shocks.¹⁶ One argument against restricting the size of a bank, however, is that small or medium-sized banks cannot grant large loans. Also, the custom of banks accompanying export companies is said to be endangered because small and medium-sized banks are usually only active regio-

nally and the high demand for financing of exporting domestic firms cannot be met.

Nowadays, however, major financing is often syndicated. A bank will put together a consortium on behalf of the customer to ensure the loan can be financed jointly. Large loans, therefore, do not necessarily require the existence of large banks.

Size is a Decisive Factor in the context of Resolving Banks

There is currently (Knightian) uncertainty as to whether a bank can be liquidated.¹⁷ Sustainability requires sufficient safety buffers in these circumstances. There are many indications that the size of a bank is a crucial factor as to whether it can be resolved. The biggest bank ever to be liquidated was Lehman Brothers which had total assets of 700 billion US dollars. The resolution of this bank triggered devastating shocks in the financial markets and marked the beginning of a financial and economic crisis that has continued for five years.

A bankruptcy of this size was an isolated incident: in the past five years, 465 banks have been closed in the US, but around 99 percent had total assets of less than 20 billion US dollars.¹⁸ The probability of small and medium-sized banks being liquidated has been high in recent years, but for large banks with total assets of more than 100 billion euros, it was virtually non-existent.

To date, the largest bank to have been liquidated after the insolvency of Lehman Brothers, although with some difficulty but nothing like the same devastating consequences, was the US bank Washington Mutual, with total assets of around 300 billion US dollars.

Even the Cypriot Laiki Bank Group, which is the subject of much discussion and about to be liquidated, is a very small bank compared to the major banks in Europe with total assets of almost 34 billion euros (December 31, 2011).¹⁹

Even the smallest of the major banks (see Table 1) is almost four times the size. The total assets of Deutsche Bank are 60 times higher. 17 of the largest banks in the European Union had balance sheet assets exceeding 500 billion euros at the end of 2011.

¹⁶ F. Vallascas and K. Keasey, "Bank resilience to systemic shocks and the stability of banking systems: small is beautiful," *Journal of International Money and Finance* 31 (6) (2012): 1745-1776. Fisher and Rosenblum, *Vanquishing too big to fail* (2013): "The solution for ending 'too big to fail' is not bigger government but smaller, unsubsidized banking institutions governed by the market discipline of creditors at risk of loss."

¹⁷ F. Knight, *Risk, Uncertainty, and Profit*. (Boston, New York: Mifflin, 1921).

¹⁸ D. Schäfer, "Nachhaltige Finanzmärkte" (2013).

¹⁹ www.laikibankgroup.com/EN/InvestorRelations/FinancialInformation/AnnualReports/Documents/MPB/MarfinPopularBankAnnualReport2011EN.pdf.

Even if a European restructuring law did exist, resolving banks of a similar size to the Washington Mutual is probably always going to be a challenge that governments will shy away from.

Separated Banking System Not Necessarily Superior

A separated banking system is not necessarily preferable to a universal banking system. Separated banks have fewer risk diversification options than universal banks, both on the asset and on the liability side. This is a disadvantage from the point of view of the stability of an individual bank. Also, a far-reaching ban on IPO and commissionable activities, as under the Glass-Steagall Act, would prevent commercial banks from compensating for declines in the deposit and lending business by fee-income from capital market transactions. The banks' customers might possibly miss being offered "credit and capital market services from one source" in a separated banking system. Last but not least, it is also expected that the transition to a separated banking system might have consequences for the house bank principle, which is popular in Germany. If, for example, banks were no longer permitted to invest in companies, this could have consequences for the company's corporate governance.²⁰ If abolishing the universal banking systems makes it difficult for creditor banks to participate in defaulting borrowing customers, the probability of a corporate reorganization may also decrease.²¹

In contrast, there are very significant disadvantages in large universal banks. In particular, large universal banks have accelerated their balance sheet growth in the past. However, recent empirical results show that complexity-related incentive and governance problems at universal banks may overcompensate for any possible diversification benefits. As a result, the fair market values of financial conglomerates are lower than the sum of the fair market values of their individual activities.²²

²⁰ M. Ferreira and P.P. Matos, "Universal Banks and Corporate Control: Evidence from the Global Syndicated Loan Market," (April). Review of Financial Studies (forthcoming), Darden Business School Working Paper, no. 2038027 (2012). D. Schäfer, "Universal banking and corporate control" in G. Franke, G. Gebhardt, and J. Krahnen (eds.), German financial markets and institutions: selected studies (2001). Schmalenbach Business Review: Sbr (2002), special issue 1, 79–105.

²¹ D. Schäfer, Hausbankbeziehung und optimale Finanzkontrakte (Berlin, Heidelberg, New York: 2003).

²² L. Laeven and R. Levine, "Is there a diversification discount in financial conglomerates?" Journal of Financial Economics 85(2) (2007): 331–367; and M. M. Schmid and I. Walter, "Do Financial Conglomerates Create or Destroy Economic Value?" Journal of Financial Intermediation 18 (2) (2009): 193–216.

Table 1

The Balance Sheet Assets of the Largest Banks in the EU in 2011

In billions of euros

Deutsche Bank	2 164
HSBC	1 968
BNP Paribas	1 965
Crédit Agricole Group	1 880
Barclays	1 871
RBS	1 804
Santander	1 252
Société Générale	1 181
Lloyds Banking Group	1 162
Groupe BPCE	1 138
ING	961
Unicredit	927
Rabobank Group	732
Nordea	716
Commerzbank	662
Intesa	639
BBVA	598
Standard Chartered	461
Danske Bank	461
DZ Bank AG	406
Landesbank B-W	373
KBC	285
Handelsbanken	276
SEB	265
Banca Monte dei P.S.	241
Erste Bank	210
Swedbank	208
RZB AG	150
UBI	130

Source: data from a report by the High-level Expert Group on reforming the structure of the EU banking sector (2012), SNL.

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After five years of financial and economic crisis, many European banks are still "too big to fail".

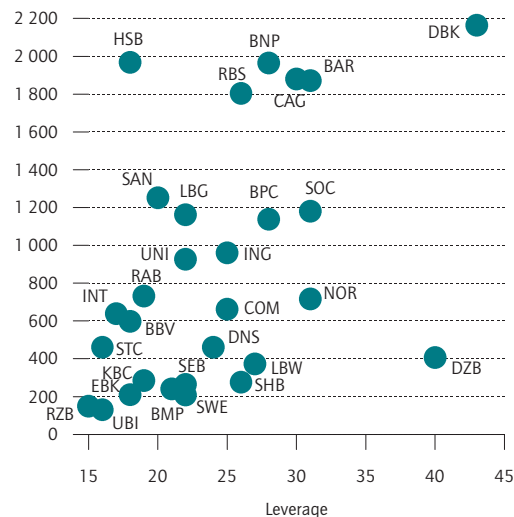
The business models of the major banks are also becoming harmonized worldwide. This means that the greater diversification opportunities at the microeconomic level—the level of the individual bank in the universal banking system—lead to fewer possibilities of risk diversification at the macroeconomic level.²³ The banks have relied on an externally financed growth strategy and high leverage (see Figure 3). This was accompanied

²³ High-level Expert Group on reforming the structure of the EU banking sector (2012).

Figure 3

Total assets and leverage¹ of large European banks in 2011

In billions of euros



¹ Based on core capital.

Source: data from a report by the High-level Expert Group on reforming the structure of the EU banking sector (2012), calculations by DIW Berlin.

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Also, the funding model has not changed fundamentally. Many major European banks continue to follow a debt-financed growth strategy with high financing leverage.

by a high degree of complexity of the financial conglomerates and huge stocks of trading assets.²⁴

Separated Banks Not All the Same—Different Approaches to Structural Reform Debate

In principle, the separated banking system provides the opportunity for banks to shrink rapidly and therefore makes them easier to be resolved. However, implementation at the level of national governments and the specific separation regulations will decide whether this opportunity is actually seized.

Approaches for separating the activities vary. Proposals range from famous historical variants, such as strict narrow banking, to moderate, crisis-related proposals from

the US, UK, and the European Union (see Box 1). The latter have some similar structural features. However, there are also significant differences (see Table 2). The two-tier banking proposal from the European Union was drafted last year by a group of experts led by the governor of the Finnish central bank, Erkki Liikanen (Liikanen proposal).²⁵ The group was tasked with the explicit aim of combining the advantages of the universal and a two-tier banking systems.

Liikanen Proposal

The EU variant of the two-tier banking system provides for proprietary trading and all assets or derivative positions which serve to market making to be outsourced to a separate legal entity, a form of trading bank. The loan business with private equity and hedge funds (including brokerage services for hedge funds) as well as loans to off-balance sheet special purpose entities and similar facilities are reserved solely for the trading bank. The separation of the normal bank - with deposits and lending for businesses and households - and the trading bank would only be required if trading activities made up a substantial part of the business of the bank, or if the volume of these activities were considered significant for financial stability.

Critics of the proposal argue that outsourcing market making in the context of a two-tier banking system could adversely affect the financial costs of companies. In addition, they fear that the separation of market making would lead to less liquidity in securities markets and this would run contrary to the new liquidity requirements of Basel III (liquidity coverage ratio and net stable funding ratio), according to which banks will have to have sufficient unencumbered high-quality liquid assets. It would therefore be necessary to check for possible interactions with other regulatory initiatives prior to the implementation.

The final decision on the separated banking system should be preceded by a two-step process. The first step is to take stock: first, banks with a share of potentially separated transactions of more than 15 to 25 percent of total assets or over 100 billion euros.

Only in the second step should the EU Commission determine the specific threshold at which the separation rules are to be applied. Once a bank exceeds this threshold, trading business should be outsourced to a

²⁴ The very large financial conglomerates are also all involved in the market for over-the-counter derivatives and largely dominate it. EU Commission, Commission Staff Working Paper Impact Assessment, accompanying the document "Proposal for a Council Directive on a common system of financial transaction tax and amending Directive 2008/7/EC," 12 (2011), ec.europa.eu/taxation_customs/taxation/other_taxes/financial_sector/index_en.htm.

²⁵ High-level Expert Group on reforming the structure of the EU banking sector (2012), ec.europa.eu/internal_market/bank/docs/high-level_expert_group/liikanen-report/final_report_en.pdf.

Table 2

Three reform proposals

	Volcker	Liikanen	Vickers
Reform Approach	Institutional separation of commercial banking and certain investment activities	Subsidiarisation: proprietary and higher-risk trading must be placed in a separate legal entity	Ring fencing: structural separation of activities via a ring fence for retail banks
Deposit-taking institutions may:			
deal as principal in securities and derivatives	No	No	No
invest in hedge funds and private equity	No	No	No
engage in market making	Yes	No	No
do underwriting business	Yes ¹	Yes	Restricted
hold non-trading exposures to other financial intermediaries	Unlimited	Unlimited	Restricted (inside the group)
Holding company with banking and trading subsidiaries	Not permitted	Permitted	Permitted
Geographical restrictions	No	No	Restrictions for ring-fenced banks in UK on provision of services outside the European Economic Area

¹ Underwriting in response to client/counterparty demand.

Source: prepared by DIW Berlin.

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A separated banking system should alleviate the problems. Three basic types are currently being discussed. The draft bill proposed by the German federal government is based on the Liikanen Group's proposal.

legally independent trading bank after a transitional period. The commercial banks with deposits and lending business are still permitted to conduct capital market transactions within certain limits (see Box 2). The trading bank may belong to the same group of companies as the bank with the deposits and lending business. Both types of banks are equally subject to EU banking regulations. Medium and small banks are not affected by the separation.

Planned Implementation of Liikanen Proposal by German Federal Government

The German federal government introduced a bill on February 6, 2013 to implement the two-tier banking system in Germany.²⁶ Commercial banks that conduct deposit and lending business, or have financial holdings with a commercial bank of this type have to outsource their trading activities to a legally independent trading bank if these have exceeded 100 billion euros in the previous fiscal year, or the total assets of the entire institution have reached at least 90 billion euros in the last three financial years and at least 20 percent of this has come from trading activities.

The banks holding the deposits are not permitted to conduct their own transactions and trading, or lending and guarantee business with hedge funds and highly leveraged, alternative investment funds, i.e., heavily funded by borrowed capital.²⁷ However, market making, the permanent placing of buying and selling prices, would still be allowed in principle. Here, the German federal government deviates from the Liikanen proposal.²⁸

However, the German Federal Financial Supervisory Authority (BaFin) can prohibit a deposit-bearing institution from conducting certain transactions, such as market making, irrespective of the thresholds and order them to be transferred to a trading bank if they are concerned that the solvency of the deposit-bearing institution is at risk.

²⁶ www.bundesfinanzministerium.de/Content/DE/Downloads/Abt_7/Gesetzentwurf-Abschirmung-Bankenrisiken.pdf?__blob=publicationFile&v=1. The bill also includes provisions for planning the reorganization and liquidation of banks and possible sanctions against the management.

²⁷ Alternative investment funds are investment assets traded on a money market that do not have to comply with European Union Directives on investments in securities, dipbt.bundestag.de/dip21/btd/17/122/1712294.pdf, 23.

²⁸ "Speculative transactions for own account, i.e., trading securities and other financial instruments pursuant to section 1, paragraph 11 of the German Credit Services Act (Kreditwesengesetz, KWG) in their own name for own account which do not represent a service for others [are] prohibited; in particular these are transactions that aim to exploit short-term market fluctuations."

Box 1

Variants of the Separated Banking System

Narrow banking

In the range of proposals for a separated banking system, "narrow banking" is the most restrictive form. The literature discusses various forms of narrow banking. In what is known as the Chicago plan,¹ narrow banks are required to hold reserves with the central bank equal to their total deposits. Lending would be financed by uninsured savings and time deposits, as well as by equity.² In a less restrictive form, a narrow bank is permitted to use insured deposits for lending to households and small businesses with good credit ratings. In addition, they may also invest in liquid securities with a low interest rate and default risk. Narrow banks are only permitted to issue loans whose maturity is not significantly different from that of their customer deposits. The remainder of the loans, for example, long-term corporate lending, are granted by legally independent financial institutions. These institutes also carry out investment banking and are exclusively financed by equity and debt.

The combination of complete equity and deposit funding with short-term and low-risk lending, and highly liquid, fixed-interest securities investments, also reduces the leverage of narrow banks and creates matching maturities between assets and their financing. The strict separation of deposit and payment transactions, on the one hand, and financial institutions with long-term lending and capital-market services, on the other hand, should make it easier to resolve failing institutions and prevent the spread of risks across the financial system.³ The universal banks themselves would have to bear the high adjustment costs of implementing this system, with probable negative consequences for the cost of credit.

Critics of the narrow banking approach also fear that investors could migrate to the unregulated sector,

where the rate of return is higher.⁴ Under certain circumstances, narrow banking is even an incentive to shift lines of business to the non-regulated sector.⁵ In the event of a crisis in an unregulated sector, the government could see itself forced to bail out banks in this sector, too, if investor losses were potentially so high that overall financial stability were also at risk.

Volcker Rule

Known as the "Volcker Rule," this proposal was put forward by former US Federal Reserve Chairman, Paul Volcker, and is part of the broader Dodd-Frank Act aimed at reforming the US financial market. The rule prohibits domestic banks, and also the deposit-bearing branches and subsidiaries of foreign financial institutions, from implementing activities deemed highly risky. These include proprietary trading and investing in hedge funds and private equity funds. Proprietary trading refers to the buying of securities, derivatives, options, or other financial instruments with the intention of profiting from short-term price changes. The retention of instruments over a long-term period or for investment purposes, however, is exempt. Other exceptions include the purchasing of financial instruments for hedging purposes (hedging), the purchasing and selling of securities on behalf of clients (market making), as well as issuing securities and placing them on the capital market (underwriting).

Traditional deposit and lending business (including some less risky capital market services) is also institutionally separated from riskier transactions to avoid conflicts of interest and reduce risk appetite. Conflicts of interest and increased willingness to take risk may arise, for example, if lending business and proprietary trading are combined with securities under the umbrella of a holding company. Banks have information about the creditworthiness of companies from long-term lending relationships. If the bank also issues the company's shares, it might be an incentive to place the securities on the stock market at a time when the

¹ R. Phillips, "The Chicago plan and New Deal banking reform," in D. Papadimitriou (ed.), *Stability in the Financial System* (1996).

² G. Pennacchi, "Narrow Banking," *Annual Review of Financial Economics* 4 (2012): 141-159.

³ J. T. Chow and J. Surti, "Making banks safer: Can Volcker and Vickers do it?" IMF Working Paper, no. 11/236 (2011).

⁴ R.G. Rajan, "Has finance made the world riskier?," *European Financial Management* 12 (4) (2006): 499-533.

⁵ D. Duffie, "Drawing boundaries around and through the banking system" *The Financial Development Annual Report* (2012).

company's business situation had deteriorated. In proprietary trading, the bank would then benefit from the low issue price. Another aspect is to avoid contagion between different business areas within a bank. If the resulting losses in proprietary trading reach a sufficiently large scale and threaten the solvency of the entire bank holding, its deposit and lending business are also affected under certain circumstances resulting in far-reaching consequences for the real economy.

However, the practical implementation of the Volcker Rule is a particular challenge. Differentiating proprietary trading from other activities such as market making, hedging, and securities transactions on behalf of customers is also a significant hurdle. The workload for banking regulation will increase significantly in the future if the aim is to prevent banks circumventing round separation regulations by re-labeling transactions.⁶

Critics of the Volcker Rule, however, fear a reduction in market making and market liquidity. This could specifically affect corporate bonds and securitizations, whose liquidity has so far benefited from proprietary trading, and mean correspondingly higher financing costs for the companies concerned. The fact that trade in US government bonds continues to be unrestricted shows that this aspect is taken seriously. Other countries such as Japan, Canada, the UK, and the European Union have also asked to exempt trade in government bonds from the limitations of the Volcker Rule.⁷ Also, the threat that long-term capital market activities will shift to the shadow banking sector must be countered. Since shadow banks are not subject to the same restrictive capital requirements and disclosure requirements as banks, stability risks could build up there unnoticed and endanger the real economy.

The Vickers Commission Proposal

In September 2011, the Independent Banking Commission, under the direction of John Vickers (Vickers

Commission), presented a separation proposal to ensure the future stability of the banking system while, at the same time, maintaining the UK's position as an international financial center.⁸ Banks were obliged to protect their deposit and lending business (deposit bank) from riskier capital market activities (trading bank). The deposit bank had to be legally and operationally independent of the parent company; banks were not permitted to conduct activities outside the defined range of tasks. They would be subject to the usual capital and liquidity requirements. In particular, the regulation specified that the deposit bank accepts deposits from private clients and provides overdrafts for small and medium-sized enterprises. In addition to these "mandatory activities," the deposit bank is permitted to grant, inter alia, loans to households and businesses and to manage the assets of high net worth private clients. However, they will not be permitted to offer services outside the European Economic Area, transactions with financial institutions (outside their own holding company) that are not deposit banks, and, in particular, to conduct capital market activities such as proprietary trading, market making, and emissions trading.

With the separation of the individual functional areas in the subsidiaries of the holding company, the diversification effects of the universal banking model should be maintained and, at the same time, the deposit banks are better protected from risks. However, this raises the problem of demarcation. It must be stipulated what specific activities the deposits banks are allowed to carry out. The deposit banks will not be able to work without capital market activities entirely. If they want to protect themselves against risk with derivatives, for example, these may only come from institutes of the same parent company. This requirement reinforces the interrelated nature of the universal bank and might endanger the objective of making liquidation easier in the event of a crisis.⁹

⁶ Financial Stability Oversight Council, Study and Recommendations on Prohibitions on Proprietary Trading and Certain Relationships with Hedge Funds and Private Equity Funds (2011).

⁷ D. Duffie, "Market making under the proposed Volcker Rule," Rock Center for Corporate Governance at Stanford University Working Paper, no. 106 (2012).

⁸ www.ecgi.org/documents/icb_final_report_12sep2011.pdf.

⁹ J. T. Chow and J. Surti, "Making banks safer: Can Volcker and Vickers do it?" IMF Working Paper, no. 11/236 (2011).

Box 2

Permitted Transactions

According to the separated bank proposal from the High-level Expert Group on reforming the structure of the EU banking sector (Liikanen Group), commercial banks are permitted to carry out the following activities:

- lending to large, small and medium enterprises,
- trade financing,
- consumer loans,
- mortgage loans,
- loans to banks,
- participation in syndications,
- performing a simple securitization for financing purposes,
- asset management,
- investment and debt in regulated money market funds,
- use of derivatives for own asset and liability management,
- purchases and sales of assets for the purposes of liquidity management,
- providing hedging services to non-banks using swaps or options up to a previously defined risk limit,
- securities underwriting and related activities.

Effects of Separated Banking System: Banks Become Smaller—But Still Remain Large

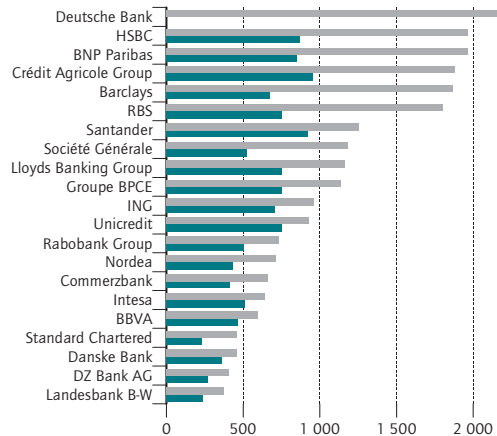
If the different scenarios of separating Europe's major banks are explored —(1) separating all activities that are not lending and deposit business, (2) separating trading assets, (3) separating securities transactions, and (4) separating trading business and market making in accordance with the Liikanen proposal—one finds that a separated banking system reduces the size of the bank. However, the new deposit and lending banks to be protected rarely reach the size range of those banks that have been successfully liquidated in the last five years. Even many of the residual banks would retain a balance sheet size of more than 300 billion euros if the proposed regulations were imposed. If lending business is consolidated with deposits, this results in 17 deposit-bearing banks with total assets of around 300 billion euros each being created from the 21 largest European financial institutions. Ten of these banks would even have total balance sheet assets of more than 600

Figure 4

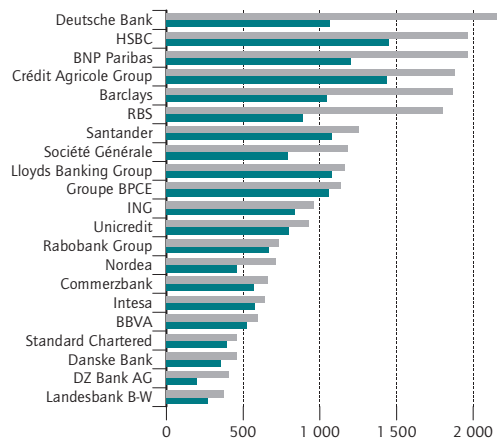
Balance sheet totals with different separation points in 2011

In billions of euros

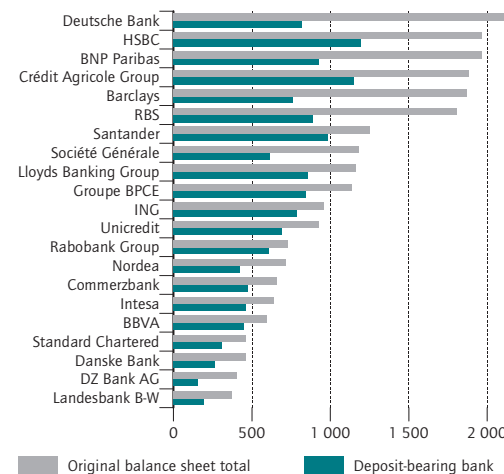
Summary of lending and deposit business



Trading assets



Securities business



Source: calculations by DIW Berlin based on data from a report by the High-level Expert Group on reforming the structure of the EU banking sector (2012).

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Separation of lending, trading, and securities business: balance sheet totals often remain critical.

billion euros (see Figure 4). Of the residual banks (trading banks), at least five would have total balance sheet assets of around 1,000 billion euros.

Outsourcing trading assets would allow protected, deposit-bearing commercial banks with total assets of between 200 billion and more than 1,400 billion euros to be created. Nevertheless, eight of those would have assets of more than 1,000 billion euros. Of the residual banks, five would have total assets of over 500 billion euros.

If the entire securities business were separated, it would give rise to protected institutions conducting lending and deposit business with total assets between 150 billion and 1,100 billion euros. Nevertheless, four of the remaining banks would have balance sheet assets of more than 1,000 billion euros.

If the criteria of the Liikanen proposals are applied, of the current major EU banks, this would give rise to at least 17 banks that need protecting with total assets of 300 and more billion euros (see Figure 5). Given these sizes, it remains to be seen to what extent the new non-deposit bearing banks (residualbanks) would actually be easier to resolve. In addition, the resolution of those banks worth protecting because they hold deposits ought to remain a major challenge for policy and regulation. Against the backdrop of no single European restructuring regime in place and an untested German national regime, the two-tier separation is probably not sufficient to make it easier to resolve major banks.

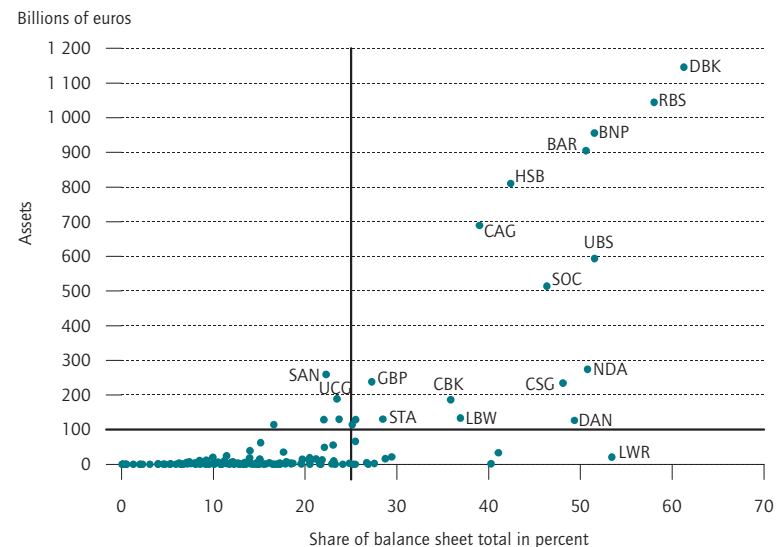
The allowed holding structure could be an additional obstacle for rapid restructuring. The bank management and owners have no incentive to disentangle the deposit-bearing bank from the remaining bank in such a manner that, in the event of difficulties, it quickly becomes clear which parts should be resolved and which should remain. The “burden” to provide this clarity, therefore, is the sole responsibility of the banking supervisory authority which requires staff with appropriate expertise. The banking supervisory authority should be strengthened with personnel who can meet these requirements.

Risk Protection Can Fall Victim to Regulatory Arbitrage

The Liikanen Group did not recognize the differentiation of market making and proprietary trading. If this was the case, however, financial institutions could declare proprietary trading activities as market making in order to circumvent the threshold for outsourcing proprietary trading to a legally independent trading bank.

Figure 5

Potential Assets to be Separated by Liikanen 2012



BAR = Barclays Plc, BNP = BNP Paribas SA, CAG = Crédit Agricole Group, CBK = Commerzbank AG, CSG = Credit Suisse Group AG, DAN = Danske Bank A/S, DBK = Deutsche Bank AG, GBP = Groupe BPCE, HSB = HSBC Holdings Plc, LBW = Landesbank Baden-Württemberg, NDA = Nordea Bank AB, RBS = Royal Bank of Scotland Group Plc, SAN = Banco Santander SA, SOC = Société Générale SA, STA = Standard Chartered Plc, UBSN = UBS AG, UCC = UniCredit SpA

Source: SNL, calculations by DIW Berlin.

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The Liikanen proposal alone will not solve the "too-big-to-fail" problem. Even after its implementation, major EU banks will still be left with balance sheet assets of around 300 billion euros and more.

The Liikanen proposal, therefore, provides for the separation of both activities in the trading bank. The German federal government's bill does not follow this proposal. The risk of re-declaring transactions in proprietary trading is, therefore, realistic. Also, there is a risk of regulatory arbitrage from banks outsourcing the functions to be separated to the shadow banking sector. Shadow institutions have neither the same capital requirements nor information obligations as banks. Stability risks which endanger both the financial sector and the real economy equally are, therefore, much more difficult to discover at an early stage than in the regulated sector. This type of regulatory arbitrage would compromise achieving the two core objectives of the separated banking act, being able to wind down banks and risk protection.

Restricting Size Remains Important

Even after the introduction of a separated banking system, the new financial institutions would still be very large and their balance sheets would exceed the gross domestic product of some countries. Therefore, in a separated banking system, measures are required that

bring more robustness against shocks and limit growth in terms of size. Primarily, it is important to announce a sufficiently high capital ratio (leverage ratio) irrespective of risk weighting.²⁹ In contrast to the risk weighting in Basel III, a leverage ratio basically forces banks to hold more equity in the form of share capital or retained earnings when their balance sheet grows. Since this procurement, from the point of view of the individual bank, is generally more expensive than borrowing external capital, and additional equity also attenuates the return on total equity, a sufficiently high and obligatory leverage ratio would act as a brake on balance sheet growth.

Conclusion

The G20 Summit in November 2008 aimed at increasing the extent of regulation and supervision of systemically important financial institutions and led the Financial Stability Board (FSB) to develop a framework to reduce the systemic risks posed by these institutions.³⁰ Important elements of this framework are the development of procedures for better restructuring or liquidation, and additional capital requirements relative to the systemic importance of the institution.

The fact that large, complex and highly interconnected national and international banks cannot be easily resolved has, in the course of the financial crisis, resulted in government intervention with enormous costs for taxpayers. In addition to the size and complexity of these institutions, the resolvability of banks is crucially affected by their degree of interconnectedness, the substitutability of the services offered, and their “similarity” with other institutions with respect to their exposure to securities and loans. Nevertheless, empirical evidence suggests that particularly their size and complexity are significant factors. The two-tier bank proposals aim at reducing the complexity of the banks first by separating their business activities. This would also reduce the size of the institutions, but they would probably still be larger than the critical size at which banks have been closed in the past.

In addition, the new banks would have to remain tied to a bank holding company. Since the management of the holding company and the owners have no incentive to unbundle the activities of the deposit bank from the residual bank, it remains unclear to what extent the implementation of the Liikanen proposals would actually meet the expectations from a two-tier banking sys-

tem—effective ability to resolve banks and shield deposits from the risks of propriety trading. The planned dual separation is probably only the first step in making it easier to liquidate banks. Depending on the practicality of the upcoming singled European Restructuring Act, it may be necessary to further divide up the major banks in future. To solve the problem of the general public being liable for systemically important banks, it could also be an option to divide up major banks into units that are manageable with the existing liquidation regime, without necessarily having to give up the universal banking system. Providing banking regulatory bodies with better personnel is essential. As has been repeatedly demanded in other areas, the (newly separated) banks must be required to have a non-risk weighted capital ratio (leverage ratio) of at least five percent to ensure that their stability is increased and that renewed growth in the size of these banks financed entirely by debt is curbed from the outset.³¹

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JEL: G20

Keywords: Too-big-to-fail, structural reform, financial architecture, leverage ratio

First published as »Implizite Staatsgarantien verschärfen die Probleme – Trennbankensystem allein ist keine Lösung«, in: DIW Wochenbericht no. 4/2013.

*This article reflects the personal opinion of the author and does not necessarily represent the opinion of the institutions the author belongs to.

²⁹ D. Schäfer, “Banken: Leverage Ratio ist das bessere Risikomaß,” Wochenbericht des DIW Berlin, no. 46 (2011).

³⁰ www.financialstabilityboard.org/publications/r_111104bb.pdf.

³¹ Schäfer, “Banken: Leverage Ratio” (2011); German Council of Economic Experts, Vom Binnenmarkt zur Bankenunion: Ein Vorschlag des Sachverständigenrates zur Begutachtung der gesamtwirtschaftlichen Entwicklung (2012). www.sachverstaendigenratwirtschaft.de/fileadmin/dateiablage/gutachten/ga201213/ga12_iii.pdf.



Prof. Dr. Dorothea Schäfer, Research
Director Financial Markets at DIW Berlin

SEVEN QUESTIONS TO DOROTHEA SCHÄFER

»Separated Banking System Not Enough«

1. Professor Schäfer, Europe is preparing for draft legislation that will see the introduction of a separated banking system. What problems will this create? *First, it is hoped that this system will make it easier to wind up large banks. Second, the aim is to protect the deposits of ordinary citizens from the risks caused by investment banking and trading.*
2. Do you believe that separated banks will really fulfil this hope? *At the moment, the legislation is only proposing that proprietary trading, i.e., the business that banks conduct on their own behalf, will be split off. However, the first problem is that, even after proprietary trading is detached, the banking institutions remain very large. The second problem is market making which involves transactions where, for example, stocks are bought on behalf of a client and resold at a later date. The German government wants market making to be exempt from the banking separation legislation and for only proprietary trading to be split off. Consequently, every bank would be able to claim that its proprietary trading transaction are actually to be classified as market making.*
3. So this means that the banks would simply be able to reclassify their business in order to evade the separation? *Yes, the way in which the German government has structured the draft law clearly allows banks to declare market making as proprietary trading which means it no longer needs to be separated.*
4. Does this whole initiative still even make any sense? *Well, that is the question. Although the law on banking separation would actually exist, ultimately, no bank would be subject to this legislation because all the*

trading activities that are supposed to be separated off would no longer be classified as such. Even if the very large banks with balance sheet totals of approximately 2,000 billion euros were simply split down the middle, we would still have two large banks with balance sheets of 1,000 billion. A separated banking system just isn't sufficient to guarantee the resolvability of banking institutions. In my opinion, we need to separate banks not just into two but rather three distinct units. The result would be banking institutions with balance sheet totals that might actually be resolvable.

5. So restricting the size of banks is one objective. The other is to safeguard the deposits of ordinary citizens. Will separating the banks achieve this? *This will only become clear once it has been implemented since these banks can't really be separated from one another but rather have to remain within a holding structure. The management of the overall bank, of course, has no interest in unbundling to such an extent that there is no connection between the individual banking institutions. Thus, the full responsibility for the unbundling would be borne by the banking supervisory body which, in my opinion, does not have the human resources to properly implement such a process.*
6. Presently, the taxpayer takes on the risks of the systemically important banks. Will separating the universal banks really solve this problem? *If the universal banks are divided up into financial units that can be feasibly resolved, the problem of tax payer liability would no longer exist. Of course, the tax payer will always remain liable for deposits under deposit-guarantee schemes. But this overall responsibility for the entire liabilities side of the bank's balance sheet would be eliminated by the separation.*
7. What is your personal assessment of the draft legislation on banking separation? *The draft law is well meaning but the ultimate impact is likely to be marginal.*

Real Estate Booms and Price Bubbles: What Can Germany Learn from Other Countries?

by Christian Dreger and Konstantin A. Kholodilin

When speculative price bubbles on real estate markets burst, the effects for the real economy are often devastating taking the form of substantial losses in production and employment. This paper discusses the degree to which institutional frameworks can prevent speculative bubbles from emerging and expanding. Comparing experiences in different countries indicates that, in Germany, institutional regulations are more likely to counteract the risk of undesirable developments. Despite the recent substantial price increases, no speculative bubble can be identified in Germany so far—but the risk has increased. In times of the euro area debt crisis, real estate is regarded as a safe investment, which boosts demand. And although a reintroduction of the former subsidy for owner-occupied home purchases would create new housing space, it could also lead to price hikes in the property market. A particular problem is the banks' recent tendency to grant mortgages to households on the basis of lower and lower equity capital.

When real estate is vastly overvalued over a prolonged time period, this is referred to as a speculative real estate bubble: the actual purchase price is significantly lower than the intrinsic value that would be justifiable based on economic factors. At the same time, buyers are confident that there will be further price increases and thus expect to be able to sell their property at a profit in the future. There is less risk aversion. Liquidity restrictions become less binding, as credit is becoming more readily available.

Real estate prices that are inflated through speculation can stimulate demand for goods in the short and medium term, thereby causing inflation risks. Moreover, this development also leads to an inefficient allocation of scarce resources. This applies to private households, which are living beyond their financial means, and also to firms. Inflated property valuations stimulate investment demand and contribute to the development of overcapacities. When the trend is reversed, the imbalances suddenly become apparent and may be accompanied by significant distortions in the real economy. This correlation was evident, for example, in the most recent financial crisis, triggered by the bursting of the US real estate bubble.

In order for economic policy to be able to play a preventive role, early identification of real estate bubbles is essential. This requires isolating the share of price formation attributed to speculation. With this in mind, the authors of the present paper have developed an early warning system.¹ According to this system, the probability of the speculative price increases goes up when an expansionary monetary policy makes it easier to grant credit. However, the formation of price bubbles is a complex process, which is determined by a multitude of factors. The institutional framework is particularly cruci-

¹ See C. Dreger and K. Kholodilin, "An Early Warning System to Predict Speculative House Price Bubbles. Economics," Open Access, Open Assessment E-Journal 7 (2013).

al. It varies dramatically from country to country (see Table 1). Whether a price development is influenced by speculation or not, depends, largely, on the framework conditions in credit and mortgage markets and the existing regulations.

The institutional environment is often neglected in early warning systems since institutions only change gradually over time. However, they determine whether the specific orientation of a monetary or lending policy will result in a bubble or not. While the European Central Bank organizes its monetary policy for the entire euro area, there are only a few countries in the currency union where speculative price spirals have occurred. The present paper will analyze whether certain regulations reduce the probability of real estate bubbles occurring and can make the real economy more resilient against crises.

In order to better assess the development of the German real estate market, it is worth considering recent experiences in other countries.

Subprime Crisis in the US

In the US, particularly since 2001, a speculative bubble formed, which led to an increase in real estate prices of more than 50 percent. Even in the years preceding the crisis, rising property prices were recorded, albeit to a lesser extent (see Table 2). The bubble was fueled by an expansionary monetary policy, which ensured low financing costs. Financial innovations in the form of securitization, i.e., pooled credit agreements with a variety of liability obligations, also played a decisive role. This entailed mortgages being granted unconditionally, particularly to borrowers with poor creditworthiness on the subprime market. The banks frequently combined credit claims with high-quality titles, creating easily transferable bonds that were similar to securities and then sold them on, for example, to European and Asian banks.

Furthermore, the share of mortgages with variable interest rates increased to more than half, and remained as high as 45 to 50 percent in 2010. When the lending rates increased again, many households were unable to service their loans. Forced sales resulted in high capital losses for the banks. The banking crisis led to an economic crisis that spread worldwide as US imports fell and foreign banks were also involved in the US real estate market.

First and foremost, the crisis can be attributed to insufficient risk awareness among the key players. Risks can be assessed more accurately if banks maintain more long-term relationships with borrowers. Further,

fixed mortgage rates also help to make a household's financial burden more transparent. In addition, a reliable check of the creditworthiness of households would probably have allowed to avoid undesirable developments.

Real Estate Crises in the UK and Ireland

In the UK and Ireland, price bubbles in real estate markets started as early as the mid-1990s and continued up until the beginning of the financial crisis. In the UK, real price increases of almost 170 percent were recorded, and in Ireland as high as 250 percent.

Among the catalysts of the speculative bubbles in both countries were low interest rates, which reduced the costs of financing property ownership. The trend towards urbanization brought further price increases in its wake, particularly in Ireland. At the same time, increasing income and high employment rates led to a growing demand for real estate. However, this development can only be partially explained by fundamental data. The high growth rates of the real economy were also a consequence of the real estate bubble, which stimulated consumer expenditure of private households through putative capital gains.² Higher real estate prices result in an increase in the value of securities that households can borrow against in order to be eligible for new loans.

The price bubble led to a massive expansion of the mortgage portfolio, which now constitutes the most important component of private debt. Variable interest rates predominate here. With regard to loans with fixed interest rates, these interest rates are usually fixed for short periods of up to two years. Presently, house prices in Ireland are at half of the record values documented before the financial crisis, and in the UK, they are 20 percent below. Thus, it is possible that the market may cool off again in future. However, prices in London, the country's main conurbation, have already begun to rise again, predominantly due to growth in foreign demand.

Real Estate Crisis in Spain

The Spanish real estate market is characterized by high ownership rates. The proportion of people who live in their own home is 83 percent. In Germany, this figure is only 53 percent. Mortgages with variable interest rates are more readily available than in Germany. Furthermore,

² See C. Dreger and H-E Reimers, "The long run relationship between private consumption and wealth. Common and idiosyncratic effects," Portuguese Economic Journal 11 (2012): 21-34.

Table 1

Selected Real Estate Market Characteristics

In percent

	Home ownership rate 2010	Loan-to-value ratio 2007	Share of loans with variable interest rate, ¹ 2010	Share of securitized loans in total property loans 2008	Share of interest-only loans 2009-2010
Germany	53.2	70	15	9.1	
US	66.5	80	45-50	98.8	
UK	70.0	92		41.3	43
Ireland	73.4	83	67	42.4	10
Spain	83.0	73	91	34.8	
Denmark	67.1	75-80		2.2	50
Norway	82.9	75			
Sweden	70.8	75	51-53	0.3	
Netherlands	67.2	101	18	53.9	79

¹ New and existing loans.

Sources: Eurostat; US Census Bureau; ECB; European Mortgage Federation; Research Institute for Housing America; calculations of DIW Berlin.

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A high loan-to-value ratio, variable interest rates, and poor repayment performance increase the probability of a price bubble occurring.

the securitization of receivables was widespread, which increased the willingness of banks to extend credit.

The real estate boom in the years preceding the financial crisis was fostered by two main factors. On the one hand, strong population growth led to shortages of housing space: since the creation of the euro area, more than five million people have immigrated to Spain. On the other hand, the European Central Bank followed an expansionary monetary policy. Low nominal interest rates in conjunction with rather high inflation resulted in negative real interest rates that stimulated real estate demand. At the same time, the elimination of currency risks led to large foreign capital inflows, which were often invested in property. As a consequence of this development, the number of new properties by far exceeded demand. For a short time, more properties were being constructed in Spain than in Germany, France, and Italy combined. At the same time, the government liberalized land use, allowing agricultural land to be converted into building land more easily.

Under these circumstances, real property prices almost doubled over a period of 10 years (see Figure 1). When interest rates eventually increased, many households were no longer able to repay their loans, which meant that the commercial banks and savings banks had to cope with massive bad debt losses. Investment in real estate was no longer profitable. Since then, the construction share in aggregated economic output has tailed off. The value of real estate has depreciated by approximately a third.

Real Estate Crisis in the Netherlands

The Netherlands has not yet recovered from its real estate bubble. A few months ago, the government nationalized SNS Reaal, one of the country's biggest banks, in order to prevent it going bankrupt due to bad real estate loans. This indicates that the banking sector is still in an extremely fragile state. It was not possible to bring private investors on board quickly enough. Although the financial sector is contributing to the economic recovery, the government is still heading for a higher budget deficit. This, in turn, means that the country is in risk of being excluded from the diminishing group of countries with triple-A credit rating.

The property boom in the Netherlands was, above all, fueled by tax incentives. Mortgage interest is tax deductible, which costs the treasury almost ten billion euros every year. What was actually intended to serve as a financial aid for home builders ended up as an incentive to pile up even more debt.³ A large number of Dutch citizens not only took out loans to purchase real estate but also used housing as security to enable them to increase their consumer spending and benefitted from loan subsidies. Furthermore, mortgages can be paid off over very long periods—in fact, in the first few years, it is common that only interest payments are made. Currently, mortgage debt, measured against economic output, is the highest in the world (see Figure 2) with each citizen owing an average of 38,000 euros. In Germany,

³ At the time of the crisis, the ratio of real estate debt to GDP was over 100 percent.

Table 2

Phases of Increasing and Falling Real Property Prices

	Start	End	Duration	Change	Average annual change
			In years	In percent	
Expansion phase					
Germany	3rd quarter 2008	4th quarter 2012	4 ½	8.6	1.8
US	3rd quarter 1992	2nd quarter 2006	14	62.2	3.5
UK	2nd quarter 1995	3rd quarter 2007	12 ½	165.8	8.1
Ireland	1st quarter 1993	2nd quarter 2007	14 ½	247.7	9.0
Spain	1st quarter 1996	2nd quarter 2007	11 ½	116.6	6.9
Denmark	4th quarter 1992	2nd quarter 2007	14 ¾	169.3	6.9
Norway	4th quarter 1992	1st quarter 2008	15 ½	186.7	7.0
Norway	4th quarter 2008	4th quarter 2012	4 ¼	29.0	6.2
Sweden	3rd quarter 1995	1st quarter 2011	15 ¾	141.8	5.8
Sweden	3rd quarter 2012	4th quarter 2012	½	1.2	2.3
Netherlands	4th quarter 1984	2nd quarter 2008	23 ¾	205.0	4.8
Contraction phase					
Germany	4th quarter 1994	3rd quarter 2008	14	-22.1	-1.8
US	2nd quarter 2006	4th quarter 2011	5 ¾	-27.2	-5.4
UK	3rd quarter 2007	4th quarter 2012	5 ½	-16.7	-3.3
Ireland	2nd quarter 2007	4th quarter 2012	5 ¾	-47.9	-10.7
Spain	2nd quarter 2007	4th quarter 2012	5 ¾	-33.9	-6.9
Denmark	2nd quarter 2007	3rd quarter 2012	5 ½	-28.3	-5.9
Norway	1st quarter 2008	4th quarter 2008	1	-9.9	-9.9
Sweden	1st quarter 2011	3rd quarter 2012	1 ¾	-4.7	-2.7
Netherlands	2nd quarter 2008	4th quarter 2012	4 ¾	-20.2	-4.6

Source: calculations of DIW Berlin.

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Price bubbles develop over a prolonged period of time.

the corresponding figure is 14,000 euros and the EU average is even lower.

Furthermore, before the financial crisis, loans were extended to a level of 100 and 120 percent of the property value. Over the last four years, real property prices, that had previously skyrocketed by 200 percent, dropped by 20 percent. Up to date, the downturn has been relatively moderate, which means that there is a real risk of a further slump in real estate prices. A large number of private households, which bought property shortly before the onset of the crisis, are now burdened with significant debt.

Presently, many citizens want to sell their houses but there are hardly any buyers, particularly as the country has once again slipped into recession. Unemployment is on the rise and mortgage interest payments can frequently no longer be met. This may result in a higher number of forced sales in the future. The downturn on the property market also has consequences for the construction industry, which, in turn, has a negative impact on the real economy. The falling house prices jeo-

pardize mortgage-backed securities and could lead to massive loan defaults.

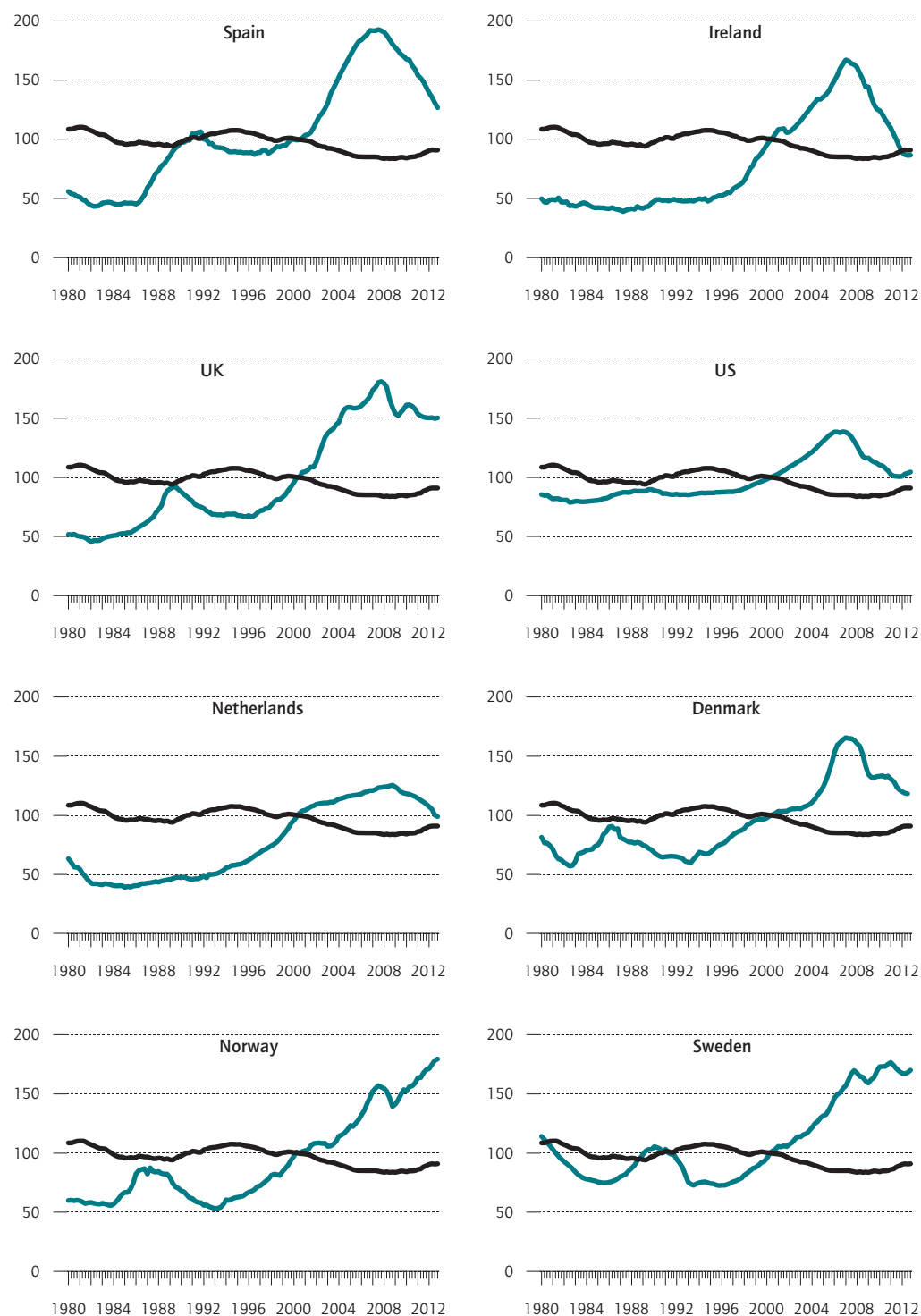
Real Estate Boom in Scandinavia

Sweden and Norway are now regarded by international investors as a safe haven for investment, especially compared with the crisis-hit euro area. Norway in particular is profiting from consolidated public finances, a sovereign wealth fund of 435 billion euros, and an abundance of raw material reserves. However, as a result of capital inflows, local currencies are under strong pressure to appreciate, which increases the price of exports. Therefore, the central banks are attempting to maintain the exchange rate parities by lowering interest rates. For instance, Denmark has been experimenting with negative money market interest rates for some time now. According to figures provided by the Danish National Bank, the deposit rate is currently at minus 0.1 percent, in order to reduce the attractiveness of the national currency for international investors. Hence, investors are paying a premium to the state in order to be able to lend money.

Figure 1

Real property prices in selected countries—Compared to Germany

Index 2000 = 100



Source: calculations of DIW Berlin.

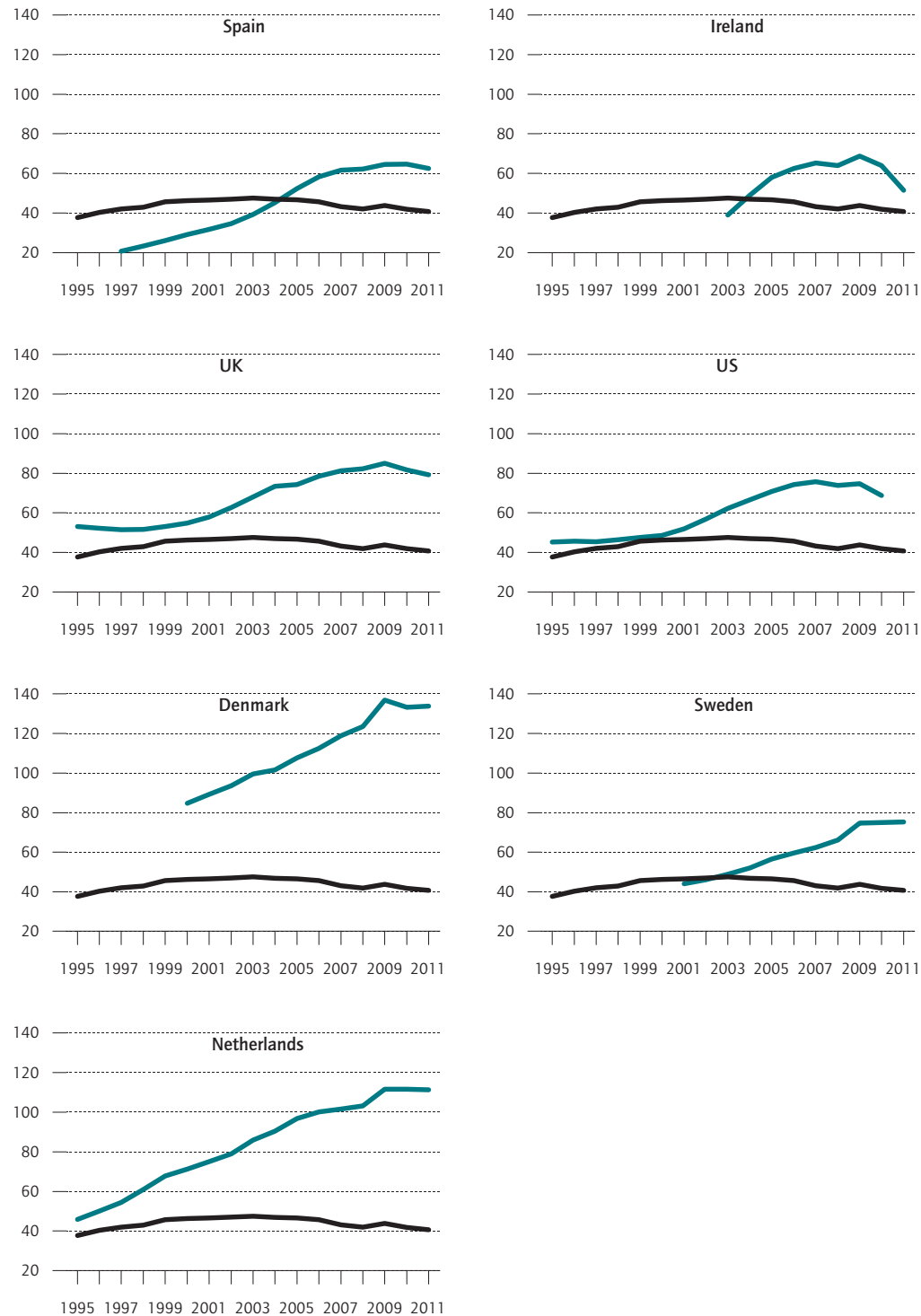
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Real property prices in Germany used to show a lack of dynamic growth.

Figure 2

Real estate lending in selected countries—Compared to Germany

In relation to GDP in percent



Source: calculations of DIW Berlin.

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Mortgage lending to private households in Germany has been running parallel to economic output for a long time now.

However, the low interest rates reduce the financing costs for real estate and are one of the causes of the current price increases. Real property prices in Norway have more or less tripled since the early 1990s and continue to rise, while in Sweden they have increased by 140 percent. The development is accompanied by a growing indebtedness of private households, which is currently at 200 percent of disposable income in Norway. The situation in Sweden is similar. The majority of loans are for real estate. The proportion of homeowners is between 70 and 80 percent, not least because of tax incentives. For instance, mortgage repayments are tax deductible, but rents are not.

Private households do not have a sufficient buffer to protect them from the impact of a collapse of housing prices, which could result in increased defaults on payments and exert pressure on the banks' balance sheets. If prices plummeted, households would see their main financial safety diminish. Denmark experienced this kind of development several years ago. In order to limit the risks, the loan-to-value ratios for home loans have been reduced from 90 to 85 percent. This did not heavily alter the price dynamics up to date. Since the hands of the central banks are largely tied, changes in taxation should be adequate to halt the development. One option would be to make it more difficult to deduct interest payments from taxable income.

Trend Reversal Following a Long Period of Stagnation in Germany

German reunification was followed by very large-scale investment in residential properties and office space in Eastern Germany. The government had provided tax incentives for the purchase of real estate. And investors expected high growth rates in Eastern Germany after a short transition period. They were also relying on growth impulses through the capital city effect of Berlin acting as a stimulus for growth. Their expectations were not met. The increase in real property prices ended in 1994, when East Germany's catch-up process faltered. Investment in construction fell in the following decade and this significantly hampered economic growth in Germany. Nominal purchase and rent prices stagnated at a low level, with real prices dropped by 22 percent overall by 2008. After more than a decade of stagnation, a trend reversal has been observed in the last years. Vacancy rates for residential properties have decreased considerably; in Leipzig they have halved in the past decade. Rents are rising perceptibly, especially in large cities. In Munich, new rents increased by 12 percent on average in nominal terms in the past five years, while in Berlin the corresponding figure was as high as 16 percent.

However, the evolution is not dominated by speculative factors. The main reason seems to be a housing shortage. For instance, in the metropolitan regions, demand is mostly significantly higher than supply. For example, in the German capital, the number of private households increased at an average rate of 14,500 per year between 2005 and 2011, while the housing stock only grew by 3,500 per annum. Currently, the number of private households exceeds the number of housing units by 9,000. It is highly unlikely that this gap will be bridged in the near future.

Conclusion

In Germany, the institutional framework appears to be an obstacle to the emergence of price bubbles on the real estate market. Interest rates are often fixed for ten to twenty years, implying that the financial burden for private households is easier to calculate. With a general increase in interest rates over the next ten years borrowers could run into difficulties with variable interest rates. Moreover, the banks are still very cautious about mortgage lending. A high proportion of the purchase value is demanded as a down payment, frequently 30 percent. After all, the ownership rate on the German real estate market is extremely low by international standards.

The number of new mortgage loans to private households in Germany has been stable since 2003, while the ratio between the stock of mortgage loans and GDP has even decreased. In Germany, there is no hint of the explosive lending policy, which is characteristic in the countries with speculative price developments. In addition, financial innovations such as securitization, which ensured a sudden upsurge in lending, only play a peripheral role. Overall, German banks are behaving conservatively by international standards. This also counteracts a speculative bubble.

Although there is presently no evidence of a significant price bubble in Germany, some speculative factors could still have an impact, for example, the low real interest rates. Provided that the economy in Germany achieves a sustained higher growth path, speculative price increases are more likely. Furthermore, even in times of debt crisis in the euro area, real estate is regarded as a safe investment, which boosts demand. And although reintroducing the Germany's former subsidy for owner-occupied home purchases would create new housing space, it could also fuel price increases on the real estate markets. A particular problem is the banks' recent tendency to grant mortgages to households on the basis of lower and lower deposits. Experiences in other countries

show that less restrictive lending practices can contribute to the development of bubbles.

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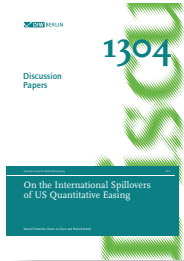
JEL: C21, L93, R31

Keywords: Speculative bubbles, real estate market, fundamental development

First published as »Zwischen Immobilienboom und Preisblasen: Was kann Deutschland von anderen Ländern lernen?«, in: DIW Wochenbericht No. 17/2013.

Discussion Papers Nr. 1304/2013

Marcel Fratzscher, Marco Lo Duca, Roland Straub



On the International Spillovers of US Quantitative Easing

The paper analyses the global spillovers of the Federal Reserve's unconventional monetary policy measures. First, we find that Fed measures in the early phase of the crisis (QE1), but not since 2010 (QE2), were highly effective in lowering sovereign yields and raising equity markets in the US and globally across 65 countries. Yet Fed policies functioned in a procyclical manner for capital flows to emerging markets (EMEs) and a counter-cyclical way for the US, triggering a portfolio rebalancing across countries out of EMEs into US equity and bond funds under QE1, and in the opposite direction under QE2. Second, the impact of Fed operations, such as Treasury and MBS purchases, on portfolio allocations and asset prices dwarfed those of Fed announcements, underlining the importance of the market repair and liquidity functions of Fed policies. Third, we find no evidence that FX or capital account policies helped countries shield themselves from these US policy spillovers, but rather that responses to Fed policies are related to country risk. The results thus illustrate how US unconventional measures have contributed to portfolio reallocation as well as a re-pricing of risk in global financial markets.

JEL-Classification: E52, E58, F32, F34, G11

Keywords: Monetary policy, quantitative easing, portfolio choice, capital flows, Federal Reserve, United States, policy responses, emerging markets, panel data

Discussion Papers Nr. 1303/2013

Stefan Bach



Has German Business Income Taxation Raised too Little Revenue over the Last Decades?

This study presents comprehensive macroeconomic measures on the revenue from business taxation in Germany. A comparison of the tax base reported in tax statistics with the corporate income derived from national accounts gives hints to considerable tax base erosion. The high weight of reported tax losses underlines this result. The average implicit tax rate on corporate income was around 21 percent since 2001, and thus falling considerably short of statutory tax rates and effective tax rates discussed in the literature. For lack of detailed accounting data it is hard to give precise reasons for the presumptive tax base erosion.

JEL-Classification: H25, H26, H22

Keywords: Business income taxation, implicit tax rates, tax base erosion