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Are Universal Banks Bad for Financial Stability? Germany during the World Financial Crisis

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This case study explores the contribution of universal banking to financial stability in Germany during the recent financial crisis. Germany is a prototype for universal banking and has suffered from a rather small number of banking crises in the past. We review the banking literature and analyze the major institutional and regulatory features of the German financial system to establish a nexus between universal banking and stability. We focus on the following questions. First, which banks failed and did they because they were universal or because of other reasons? Second, which types of distress beside outright bank failures resulted from the crisis and how did German universal banks dealt with them? We show that only few German banks failed and these banks did so not because they were universal banks but because they were publicly owned. Most banks instead contributed to reduce the impact of the recent crisis.

Keywords Universal banking, Germany, Banking crises.

JEL Classification G21, G24, G31

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1 Introduction

When to design a regulatory framework, legislators have to decide whether to allow universal banking or to mandate a strict separation between commercial and investment banking. This decision should be based on knowledge of the comparative advantages of universal banks in terms of efficiency and stability. There is a large body of research on efficiency with the consensus view that universal banks benefit mainly from scope economies in collecting and processing information through their different types of finance. The major cost with respect to efficiency results from universal banks' increased market power and their abilities to absorb rents or quasi-rents (*Gande, 2008*). The nexus between universal banking and financial stability is, however, less explored although at least since the 1930s universal banks are regarded by politicians mostly as being more fragile than specialized banks and thus blamed for destabilizing the financial system. This concern was indeed one of the major reasons for the Glass-Steagall Act in the U.S. as well as for its currently anew debated reinstallation. The evidence, however, is not at all always in favor of this view (*White, 1986*).

We take this discrepancy as a starting point for our inquiry into the stability implications of universal banking. We follow a case-study approach with a focus on the specificities of the German universal banking system during the recent world financial crisis. We do so in order to include the institutional peculiarities and the historical facts standing behind the development of a country's banking system that may affect financial stability as well. Accounting for the associated richness of the available information can hardly be done in a cross-country analysis where most institutional features are doomed to be just noise—at least if one does not already have a strong sense for how institutions matter in banking.

We define universal banking as a system where banks combine commercial banking with investment banking. Commercial banking activities are interest-spread-based, such as lending and acceptance of deposits. Investment banking activities are commission-based and may include brokerage and underwriting of securities, proprietary trading, real estate and insurance (*Barth et al., 2006*). Universal banks are often understood as financial firms that completely integrate these different business types within a single corporate entity. However, real world universal banks also often comprise many separately incorporated and capitalized subsidiaries and are organized as financial conglomerates with commercial and investment banking activities operated by legally distinct entities under the joint roof of a Bank Holding Company (BHC, *Santos, 1998*).

The German case is for three reasons very instructive. First, while universal banking is common in many countries (*Barth et al., 2006*), the German system is often regarded as its prototype since banks offer the whole range of financial services, although sometimes by different means. Second, Germany, as opposed to other advanced economies, has experienced a rather small number of banking crises since at least the beginning of the 19th century (*Tilly, 2008*). Third, given the relatively fast and strong economic recovery in Germany, the economic damages caused by the recent financial crisis were rather limited compared to other countries (*Projektgruppe Gemeinschaftsdiagnose, 2011*).

Given this evidence, we ask what role German universal banks played during the recent

financial crisis. This crisis originated outside Germany, on U.S. markets for subprime mortgage loans which—through the originate-to-distribute model of securitization—ended up in structured products (*Dewatripont et al., 2010; Rajan, 2010*). German banks were neither engaged in the origination of subprime loans nor did they—except for few banks—follow the business model of securitization. However, they became investors in these products, mostly through their off-balance-sheet conduits. Taking this as a starting point, we concentrate on the propagation of the financial crisis and address the following two questions: First, which banks failed in Germany and did they because they were universal or because of other (institutional) reasons? Second, which types of distress beside outright bank failure resulted from the crisis and did German universal banks put additional strain on the macroeconomy? The goal of our paper will not be to conduct a comparative analysis and to compare the German banking system with that of other countries. Nor do we claim that universal banks are necessarily improving stability. We shall rather argue that only few German banks contributed to the propagation of the crisis, and they did so not primarily because they have been universal banks. Furthermore, given the institutional features of the German financial system, most universal banks contributed to reduce financial fragility and to dampen the macroeconomic consequences of the recent world financial crisis.

The paper proceeds as follows: Section 2 discusses the role of universal banking for financial stability from a theoretical perspective. Section 3 describes the characteristics of universal banking banking regulation in Germany. Section 4 presents an overview over the course of the recent financial crisis in Germany and addresses this paper's two central questions. Finally, section 5 concludes with an outlook on likely effects of recent institutional changes on financial stability in Germany.

2 Universal banks and financial stability: Mapping the issues

According to contemporary banking theory, banks perform two economically valuable functions: First, by collecting and processing information they shall decrease asymmetric information or agency problems with borrowers (e.g. *Diamond, 1984*). Acquiring private information, however, makes banks themselves prone to asymmetric information problems, especially in times of financial turbulences. Second, banks provide liquidity by, e.g., pooling individual liquidity risk (e.g. *Diamond and Dybvig, 1983, Diamond and Rajan 2001*). In providing liquidity, however, financial institutions make themselves vulnerable to liquidity shocks (*Allen and Gale, 2000*). However, banks do not operate in isolation, nor are they the only institutions that shape the financial system of a country. There are also financial markets, and regulations guide the businesses of banks. Accordingly, in order to assess the vulnerability and stability of a country's financial system, one has to take into account the three elements which characterize a financial system.

Against this general background, we ask in this section how the information and incentive problems created by universal banks are related to stability and whether universal banks are more or less prone to liquidity shocks. Although we focus banks, we put them into the context of their linkages to financial markets and to the institutional environment.

2.1 Size and competition

Since the Great Depression, universal banks have been considered as being on average larger than more specialized institutions. Since size may have important implications especially with respect to asymmetric information and agency problems, it may also influence financial stability. These influences can be direct or indirect through implied changes in competition. The direct implication boils down to the problems associated with too-big-to-fail, TBTF (*Benston, 1994*). If banks get large because several lines of business are undertaken under one roof, it will be costly for governments to let these banks go bankrupt. Unwinding universal banks is particularly costly because of their complexity and their interconnecting role for the financial system. When information about the behavior of larger banks is unreliable or missing, the implied government guarantee induces those banks to take on more risk and thus to jeopardize the financial system.³

With respect to the impact of size on competition, one has to disentangle two issues. One relates to how universal banks affect competition, another to how changes in competition affect financial stability. There are no clear answers to either issue, though. As for the first, when banks form themselves as universal banks there will be, *ceteris paribus*, a smaller number of banks acting on the market. At first sight, this may lower competition. However, *Bernanke (1983)*, for example, emphasized that bank loans and financing on securities markets are only imperfect substitutes from a borrower's perspective because of asymmetric information problems. Therefore, competition may not change when a securities firm and a commercial bank merge into one universal bank as their business lines are rather separate. Indeed, if a formerly specialized bank starts to operate as a universal bank by expanding its activity, we may observe even fiercer competition because the formerly specialized bank enters into competition with the incumbents of the other segment.

As for the relationship between competition and financial stability, the implications are also ambiguous (*Allen and Gale, 2004a; Carletti, 2008; Martinez-Miera and Repullo, 2010*). The reason is that asymmetric information problems can have different effects. On the one hand, when facing only little competition, banks are able to extract more rents or quasi-rents. Markets will remain thin and the development of valuable new financial instruments slow, so that liquidity problems may emerge more easily and have stronger effects for the economy. On the other hand, with fiercer competition, bank profits are smaller. Hence, banks are hampered to generate capital internally or to raise capital externally, making them more vulnerable to risk. In addition, less capital implies higher leverage, which in turn is associated with strong risk-shifting incentives for banks. These incentives are even stronger in the presence of deposit insurance (*Keeley, 1990*).

2.2 Diversification and bank-internal contagion

A major benefit attributed to universal banks is that they can diversify across different assets and funding sources, which allows them to counterbalance regional liquidity needs and to diversify their asset holdings across industries (*Bordo et al., 1996; Calomiris, 2000*). This may help to overcome problems associated with asymmetric information. For example, *Diamond (1984)* argued that the ability of banks to diversify reduces moral hazard at the banks' level as diversification improves the information on a bank's behavior derived from its performance.

³ Government bail-out guarantees may also increase the risk-taking of competitor banks (*Gropp et al., 2011*).

Moreover, adapting the argument of *Stein* (1997), a diversified bank may also be able to direct resources to its most efficient use at any time as headquarters holds the respective property rights. Hence, when the risk-return profile of its business lines changes, a universal bank can more easily reallocate funds than external capital markets ever could in the presence of information asymmetries.

Given the improved ability to manage their risks, it is rather natural that universal banks can and should take on riskier assets and a more fragile capital structure. The point is whether universal banks take on excessive risks, i.e., risks that substantially increase their own fragility or that of the whole banking sector beyond what can be justified by the implied reduction in agency costs. *Boot* and *Schmeits* (2000) argue that universal banks may indeed take on too much risk. Universal banks not only diversify but often delegate the different business lines to different managers. It is this conglomeration (as opposed to pure diversification) that may generate the incentives at the level of line managers to externalize the risk of their own business and to free-ride on lower funding costs, because conglomeration reduces the sensitivity of funding costs to risk-taking at the subsidiary level. In addition, *Freixas et al.* (2007) develop the argument that universal banks may also abuse deposit insurance and refinance their investment banking activities by insured deposits. This will induce the banks to increase risk-taking in the investment banking branch excessively.

In addition to stronger incentives to take on more risk, another potential reason for why universal banks are bad in terms of financial stability is that diversification may facilitate bank-internal contagion. If the investment arm of a universal bank experiences heavy losses, the bank as a whole may suffer from a tighter overall funding constraint, which may cause liquidity problems in the commercial banking arm, too. However, the risk of bank-internal contagion may be low when there are conflicts of interest within a bank about the allocation of resources. The effects on financial fragility, therefore, crucially depend on the organization of banks. In a BHC, the reallocation of liquidity in response to an asymmetric liquidity shortage may differ from that of an integrated universal bank (*Dietrich and Vollmer, 2010*): If there are small idiosyncratic liquidity shocks, the integrated universal bank can settle them by reallocating funds rather easily from one business to another. In a diversified BHC, subsidiary managers develop specific expertise about their respective business lines. The specificity of human capital is good in terms of generating profits but may create conflicts of interest, and gives room to rent extraction, especially in times of asymmetric liquidity shocks, making it harder to let funds flow freely across business lines. Hence, each subsidiary and the BHC as a whole face higher liquidity risk than an integrated universal bank.

In times of large liquidity or earnings shocks, however, this drawback of BHCs may redound to its advantage. Then, the selfish bank managers will not come to any agreement on supporting each other, which may prevent a bank-internal spill-over. A subsidiary hit by a shock will face heavy financial difficulties but the others remain rather unaffected. The parent bank may even decide to cut internal financial linkages completely off and to shut down its ailing subsidiary in order to protect their other business lines by taking advantage of its limited liability. Both mechanisms are available to lesser extent to universal banks which organize their businesses mainly in-house. However, contagion in terms of *Allen and Gale* (2000) may threaten the financial stability of a BHC. As opposed to an integrated universal bank, the subsidiaries of a BHC are legally distinct entities that can write contracts with each other or with

the parent. In general, these contracts are legally binding. Credit lines are such contracts. When a subsidiary in trouble draws on the credit line granted by its parent, it may squeeze more liquidity out of the other party than compatible with stability leading to a failure of the BHC as a whole. This cannot happen to a universal bank that organizes its business in-house.

2.3 Informational advantages and financial relationships

Universal banks are able to capitalize on informational advantages and thus to reduce agency costs due to scope economies in gathering information from different types of finance, for example from lending and underwriting securities. Monitoring loans may benefit later securities underwritings, as it reduces uncertainty of the underwriter and thus the fee meant to compensate for pricing risks. Conversely, a universal bank that underwrites securities is also better informed about the firm which in turn tends to benefit lending. The reason is that a universal bank often has an equity stake in the borrowing firm, serves as a proxy voter for private investors, or may even have a seat on the firm's supervisory board (*Petersen and Rajan, 1995; Rajan, 1996*).

Maintaining financial relationships has two implications for stability of universal banks. First, *Diamond and Rajan (2001)* argue that the incentives for banks in tight lending relationships are best provided by short-term debt. In doing so, banks reduce risks associated with misbehaving debtors but make themselves vulnerable to liquidity risk (*Diamond and Rajan, 2000*). Sticking to existing financial relationships also reduces the potential for diversification and may thus further increase fragility. Second, universal banks may have the incentive and opportunity to underwrite securities of unsound firms and to place them on the financial market without disclosing their private information about the firm. For example, if a universal bank has granted a loan and receives some private information about the customer's ability to repay her debt, the bank could swap the loan against a security and sell it to the uninformed public (*Santos, 1998*). Alternatively, a universal bank may place a security that is junior to the existing loan in order to make the loan safer. Or the bank can even shift securities held in its trading book into trust accounts of some unsophisticated investors. The underlying conflict of interest tends to increase risk, and a specialized investment bank would not be subject to it.

Rational market participants, however, would understand a universal bank's incentives and accept securities only with a price discount (*Rajan, 1995*). Indeed, there is only little empirical support for the alleged conflict of interest in the U.S. *Kroszner and Rajan (1994, 1997)* use data from the period before the introduction of the Glass-Steagall Act and test the hypothesis that securities underwritten by affiliates of commercial banks underperformed securities underwritten by investment banks and find no evidence that universal banks systematically fooled their investors. However, *Ferreira and Matos (2009)* find that universal banks having seats on firm boards charge higher interest rate spreads and face lower credit risk. These authors see this as evidence of the benefits of universal banking accruing mostly to banks not to their customers. But this finding also lends itself to the 'conflicts-of-interest' hypothesis.

Another type of adverse incentive is related to banks' business models. When banks pursue an 'originate-and-distribute' instead of a 'buy-and-hold' policy, they may have little incentives to carefully screen and monitor borrowers (*European Central Bank, 2008*). Even if they hold the riskiest tranches from securitization on their balance sheets, they may consider them as being in default states only if a systemic crisis occur which is both unlikely to happen

and most likely to be fought by the government (*Rajan, 2010*).

2.4 Market liquidity

Allen and Gale (2004b) argue that financial systems become (more) fragile if a bank, which is subject to uncertain liquidity withdrawals, also has access to a secondary asset market. In that case, a liquidity demand shock forces a bank to liquidate its asset holdings. If there is an aggregate liquidity shortage, cash-in-the-market-pricing leads to severe asset devaluation which in turn induces all depositors to withdraw irrespective of their liquidity needs. In contrast, a bank that cannot sell its assets does not need to fear all depositors running in the case of a liquidity shock (although some of them will) because a liquidity shock does not affect asset prices. This latter case can be interpreted as one of separating commercial and investment banking activities, while the former represents a universal banking firm.

Fecht (2004) specifies this argument and shows that financial systems are most fragile in hybrid banking systems. With a bank-based financial system and only a small number of sophisticated investors trading on financial markets, these markets are not only thin but also quantitatively negligible so that banks' exposure to asset price volatility shall be small. With a market-based financial system and a large number of sophisticated investors, banks do not need to trade in the financial markets at all. Hybrid financial systems, however, where banks trade on financial markets to a significant scale, are most fragile.

As this survey has shown, the literature gives no unambiguous answer to the question whether or not universal banks are bad for financial stability. To take a balance of all arguments and to draw a bottom-line is difficult, because stability implications of universal banks may depend on the financial system and on the regulatory environment where they operate. Therefore, it seems to be more fruitful to control for these influences and to turn to Germany as a special case looking at the performance of universal banks in this specific banking system during a specific period of time.

3 Banking and bank regulation in Germany

3.1 Evolution and scope of universal banking

Traditionally, the German banking sector builds on three pillars (*Tilly, 1998; Guinane, 2002*): Credit banks (Kreditbanken), including—currently four—big banks (Großbanken⁴), regional banks (Regionalbanken), and private banks (Privatbanken), form the first pillar. They are private legal entities subject to the private company law and organized as limited partnerships with share capital (Kommanditgesellschaften auf Aktien) or joint stock corporations (Aktiengesellschaften). Already since the first half of the 19th century, these banks have operated as universal banks offering the whole range of retail, wholesale and investment banking services. They are often represented in their client firms' boards and have thus privileged access to information about their borrowers' debt and liquidity management. Regional and industry diversification allows them to diversify risks easily.

The second pillar consists of savings banks (Sparkassen and Landesbanken) which are

⁴Deutsche Bank AG, Commerzbank AG, Dresdner Bank AG (up to November 2009, when it has been taken over by Commerzbank), UniCreditbank AG (since January 1999, formerly Bayerische Hypo- und Vereinsbank AG), and Postbank AG (from privatization in December 2004 to the take-over by Deutsche Bank AG in November 2010).

owned by cities, municipalities, districts, or federal states (Bundesländer), and subject to public economic law. They can be traced back at least to the late 18th century and used to offer saving opportunities to people with low and middle income. All deposits have been legally guaranteed by the owner, which made them very attractive. Nowadays, the Bundesländer are in charge of the savings banks legislation, according to which these banks cannot do their business outside the areas of their respective owners (regional principle). Moreover, the scope of their business is defined by the legislation according to public objectives. Among others, local savings banks shall foster the people's sense to accumulate wealth and shall also support the weaker businesses in the region, in particular SMEs, in the interest of the public. They cannot raise capital externally and have to build up capital cushions by retaining earnings. There are also legal limits concerning individual loan sizes, shareholdings in firms, and proprietary trading of securities. Savings banks are subject to the supervision of the finance ministers of the respective Bundesland.

Co-operative banks (Kreditgenossenschaften and Genossenschaftliche Zentralbanken) form the third pillar. Like Sparkassen, they are mainly locally rooted, but private legal entities owned and controlled by their members. Historically, their aim was to aid the poor and working people by collecting funds mostly from members in order to grant short-term loans to their members. Since activities of co-operative banks have been limited to small geographic regions, where the habits of each members are known by the others, co-operative banks have used informational advantages and offered better terms to their members than credit banks or savings banks could (*Bonus*, 1986).

Because of the regional principle, savings banks and co-operative banks have been subject to idiosyncratic liquidity or solvency shocks. To shield single institutions against these shocks, the savings banks and the co-operative banks each founded regional central institutions. On behalf of their member banks, regional central institutions take deposits and grant loans to their respective member banks, serve as intermediaries on interbank and capital markets, operate as clearing houses, conduct investment banking activities, and act as lender of last resort. They are called Landesbanken in the case of savings banks, and Genossenschaftliche Zentralbanken in the case of co-operative banks. In contrast to co-operative central institutions, public Landesbanken are owned not only by their member savings banks but also by the Bundesland serving it as Hausbank and supporting its economic policy objectives.

The current structure of the German banking system as a whole has been the result of a gradual yet persistent change since 1990 (Table 1). A strong consolidation process has taken place and the number of banks in Germany has declined considerably between 1990 and 2009, with the strongest decline in the co-operative sector. The few big banks have the largest share of assets among credit banks and run a nationwide network of branches (mostly in major and medium-sized cities). The share in assets of regional banks is much smaller. Although they sometimes also operate a nationwide branching network, they focus on businesses in their home region. The number of savings banks and cooperative banks is large but this is owed to the regional restrictions on their operations. Savings banks have almost the same share in total assets as credit banks but the share of co-operative banks is much smaller. Co-operative banks are, hence, on average smaller than savings and credit banks. This, however, is not true for the central institutions of co-operative as well as savings banks. Their numbers have been falling since 1990 with today only two central institutions for co-operative banks (DZ Bank, WGZ Bank)

and nine for savings banks remaining.⁵

---TABLE1 about here---

Banks in all three pillars offer universal banking services, yet to a different degree.⁶ Big banks play a leading role in lending and deposit taking and also conduct investment and trust banking, both as in-house business and through legally distinct affiliates. Their organizational structure is top-down, i.e., the affiliates are strongly dependent on the parent. In contrast, neither credit co-operatives nor local savings banks can be characterized as full-scale universal banks because they primarily conduct deposit and lending activities. However, they are able to supply investment banking services through their central institutions to their customers. The organizational structure of co-operative and savings banks is bottom-up, i.e., local banks are owners of their respective central banks.

The importance of either banking group in German universal banking can be illustrated by the banks' net commission income as a percentage of their total net revenue (*Rich and Walter, 1992*). Net revenue comprises net commission income plus net interest income, i.e., interest income on assets minus interest paid on liabilities. In consequence, pure investment banks show a high percentage of net commission income while for traditional commercial banks the opposite is true; universal banks should lie in the middle. Table 2 shows an increasing share of investment banking income for all types of banking institutions during the 1990s that fell after 2000 due to the dot-com-crash (except for co-operative and local savings banks). Moreover, credit banks and especially big banks show the largest share of investment banking activities. Hence, even if German legislation allows all banks to supply universal banking services, there is some institutional diversity and the four nationwide operating big banks are most heavily engaged in investment banking.

---TABLE2 about here---

3.2 Bank regulation and supervision

Bank regulation in Germany started in 1931 with the introduction of a unified banking supervision. Before, only specialized banking institutions (like savings banks or mortgage banks) or special business lines of banks were supervised. In 1934, a banking law was passed that established licensing procedures, made banks subject to liquidity requirements and created an obligation to disclose information on its financial status. Banks were supervised by a newly created supervisory institution (Aufsichtsamt für das Kreditwesen, later: Bundesaufsichtsamt für das Kreditwesen). This authority existed side by side with a separate supervisory institution for insurance companies and—since 1995—with a supervisory body for security trading and pure investment firms. In 2002, all three bodies were merged into the newly created Federal

⁵Bayerische Landesbank (BayernLB), Bremer Landesbank Kreditanstalt Oldenburg-Girozentrale, HSH Nordbank, Landesbank Baden-Württemberg (LBBW), Landesbank Berlin, Landesbank Hessen-Thüringen--Girozentrale (Helaba), Norddeutsche Landesbank - Girozentrale (NORD/LB), Landesbank Saar (SaarLB), WestLB. SachsenLB was assumed by LBBW in 2007.

⁶Perhaps the most important legal restriction refers to the separation of insurance (EU Directives 2002/83/EC, Article 6(1)b and 73/239/EEC, Article 8(1)b as amended by 92/49/EEC, Article 6)

Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin). BaFin is acting as a Federal agency reporting to the Ministry of Finance.

According to the German Banking Act, Article 7, and as laid down in the German Supervision Directive (Aufsichtsrichtlinie), the BaFin shares its legal supervisory responsibilities with Deutsche Bundesbank. BaFin defines the rules under which financial institutions conduct their day-to-day business and monitors banks. In particular, it is responsible for all sovereign measures, such as licensing and closing down individual banks. Deutsche Bundesbank is assigned the operational tasks in bank supervision. It evaluates documents, reports, and annual accounts, performs the ongoing monitoring process and conducts regular audits of banking operations. Its supervisory review process is not limited to commercial banking activities but also covers a banks' investment banking activities. Bundesbank uses its relationships to banks and its general proximity to the markets to perform its responsibilities (*Deutsche Bundesbank*, 2000b). Bundesbank has been also responsible for the supervision of systemic risk.

Public banking supervision and regulation is supplemented by private supervision and self-regulation through the bankers' federations ('corporatist' or hybrid regulatory regime). The government provides incentives for individual banks to become federations' members and declares the federations' rules to be generally binding. In line with the three pillar structure of the German banking system there are three major bankers' associations, one for the credit banks (Bundesverband deutscher Banken, BdB), one for the savings banks (Deutscher Sparkassen- und Giroverband, DSGV), and one for the co-operative banks (Bundesverband Deutscher Volksbanken und Raiffeisenbanken, BVR).⁷ Membership in one of them is in fact mandatory (*Streeck and Schmitter*, 1985; *Bebenroth et al.*, 2009).

In accordance with this corporatist tradition, Germany used to have no public deposit insurance scheme. The first private deposit insurance scheme was introduced in the 1930s by the co-operative banking sector and was meant to finance member banks when running into financial difficulties during the great depression. The savings banks and the credit banks followed in the 1960s. After the failure of Herstatt Bank in 1974, the private credit banks further expanded their scheme by introducing a de facto blanket guarantee for all deposits to pre-empt interventions by the government and statutory regulations (*Deutsche Bundesbank*, 1992; *Beck*, 2000). The safety net for savings banks works as a guarantee network in which member banks agreed to mutually ensure the survival of each other. Such an agreement also exists among co-operative banks. Accordingly, not only deposits but virtually all debt of savings and co-operative banks is covered. In practice, this meant a financial institution in distress be assumed by another member bank of the same group. Until 2005, the safety net for Landesbanken and Sparkassen went even beyond this mutual agreement. For them, the respective Bundesländer and municipalities as the co-owner provided guarantees according to which they assumed the liability for any debt (Gewährträgerhaftung) and for the going concern (Anstaltslast) of Landesbanken and Sparkassen. The former has recently been declared to distort competition. As of July 2005, new debt issues are no longer be backed by the government and coverage of existing debt will expire by 2015.

Since the early 1990s, other institutional changes took place. Although a regulatory

⁷Other federations exist, e.g. for other public banks like development banks (Bundesverband öffentlicher Banken), but are less important.

capital requirement for banks already existed ever since the 1950s, Germany adopted the international standards according to the Basel accord in 1992. In 1994 the European Commission mandated the EU member states to establish standardized deposit insurance and investor compensation schemes.⁸ Germany adopted these directives in 1998. Since then, the German federal government is legally in charge for providing the minimum deposit guarantee. The German legislation, however, has vested the banker's federations with the respective administrative powers. The federations, therefore, although organized as private entities, operate on behalf of the state, and their operations count as acts of the public administration (Claussen, 2003).

The insurance schemes operated by the banker's federations work in conjunction with the hybrid structure of banking supervision. The public BaFin is in charge not only for banks but also for securities markets and insurances, and the banker's federations shall be regarded as being better informed about its member banks than any public-only authorities. While the bureaucratic burden of this kind of supervision is high, it seems to work quite efficiently. According to a recent survey among 808 German banks (Paul et al., 2008), the majority of responding bank managers evaluate supervisors' strategies as clear, transparent, and not discriminating. With respect to qualitative banking supervision, bank managers regard regulations concerning credit risks associated with loans to be most clear; in contrast, regulations of operational risks are regarded as less clear (especially by smaller banks).

4 German banks during the world financial crisis

4.1 The course of the crisis

Although Germany's banking system has been relatively stable for decades, some German banks have been in the epicenter of the recent crisis ever since the first turbulences. Already in July 2007, when the first subprime-related asset backed securities were downgraded, four public banks got into trouble: three Landesbanken (SachsenLB, WestLB, and BayernLB) and the SME financier IKB-Deutsche Industriebank AG. IKB was immediately supported by the government-owned KfW-Kreditanstalt für Wiederaufbau which held a 90 percent majority stake in IKB at that time. In August 2007, SachsenLB was rescued after its failing Irish conduit drew on a credit line and thus pushed its parent on the brink. Because of the savings banks guarantee network, the liabilities of SachsenLB were jointly guaranteed by the regional savings banks and the Free State of Saxony, and SachsenLB was assumed by Landesbank Baden-Württemberg (LBBW) to be effective as of December 2007.

The year of 2008 started with the sharpest fall on the world's stock markets since September 2001. Landesbank WestLB was recapitalized by its owners, the State of Northrhine-Westfalia and the regional savings banks. In July 2008, KfW sold its majority interest in IKB to the U.S. investment company Lone Star. In September 2008, right after the failure of Lehman Brothers, HypoRealEstate (HRE), a Frankfurt-based financial institution specialized mainly in public and infrastructure projects and parent of the Irish commercial estate financier Depfa Bank, got a bail-out by the Federal Government and private bankers' federation BdB under the mediation of BaFin and Deutsche Bundesbank, with the volume of the rescue

⁸Directives EC1994/19 (deposit guarantee schemes) and EC1997/9 (investor compensation schemes).

package being continuously increased in the subsequent course of the crisis.

After Lehman, the German chancellor declared a blanket guarantee on all bank deposits held by non-institutional investors. In October 2008, the parliament passed a bill to pave the way for the formation of a new government agency, the Bundesanstalt für Finanzmarktstabilisierung (FSMA), to be responsible for the management of the crisis and running the Fund for Financial Market Stabilization (Sonderfonds für Finanzmarktstabilisierung, SoFFin). SoFFin's first action was to provide debt guarantees to HRE. In the second half of October 2008, there were rumors that Landesbank BayernLB was in financial distress, too. In November and December 2008, the Landesbanken BayernLB and LBBW were recapitalized by their respective owners (Bavaria, Baden-Württemberg, and the regional savings banks) and private Commerzbank AG by SoFFin.⁹ Landesbank HSH Nordbank applied for debt guarantees with SoFFin, and WestLB divested toxic assets taking advantage of a guarantee by the SoFFin. In January 2009, Commerzbank was partly nationalized with the Federal Government holding a stake of 25 percent in the bank. Aareal Bank AG (a small private real estate financier) successfully applied for a public recapitalization through SoFFin, although its financial position was rather sound. In April 2009, a bill was passed that allowed the expropriation of bank owners until end of October 2009 in order to secure the stability of the financial system. By the threat of this new law, HRE has been completely nationalized by October 2009.

German banks suffered from large-scale write-downs on securitized financial products and on loans. Markets for structured finance were, however, less developed in Europe than in the US. By 2007, total issuance volumes of asset backed securities, collateralized debt obligations and residential mortgage-backed securities were only 20 percent of those issued in the US. Moreover, two-third of structured finance products originated in the US were transferred abroad, while 60 percent of European issues remained in Europe, mainly on the banks' balance sheets (*European Central Bank*, 2008:8-10). Accordingly, actual (and estimated) write-downs on securitizations and loans in Europe, particularly in Germany and the UK, put heavy strains on banks (Table 3). German banks' write-downs were 17 percent of total write-downs. They are concentrated among credit banks and savings banks (especially Landesbanken). Accordingly, the banking sector as a whole suffered from heavy losses, mainly in 2008. Big banks, specialized banks and Landesbanken were hit the most. These are banks which are particularly engaged in investment activities. Local savings banks and local credit co-operatives still made profits though they were small compared to pre-crisis years.

---TABLE 3 about here---

The number of outright bank failures in Germany was rather small, yet public financial assistance to the banking system was considerable. Since the onset of the crisis, the European Commission approved about 590bn Euro for state aid to the German financial sector (about 12 percent of total assistance in EU27), of which 400bn Euro are meant for schemes that guarantee bank debt, 80bn for recapitalization schemes, and the remainder for ad hoc measures. The total state aid associated with guarantees and recapitalization of 480bn Euro

⁹In 2009 Commerzbank AG inherited many problems when taking over Dresdner Bank AG, a former subsidiary of Allianz.

corresponds to about 24 percent in relation to Germany's nominal GDP. This number is below the Euro area average (26 percent) and rather small compared to the US (33 percent), the UK (62 percent), or Ireland (315 percent; *Sachverständigenrat*, 2010). The actual usage in Germany was much smaller, though, with a total of some 192bn Euro in 2008 and 263bn Euro in 2009.¹⁰ In terms of recapitalization measures, however, Germany stands out in EU27 with one of the largest actual volumes in 2009 (about 41bn Euro, second only to the UK; *European Commission*, 2010).

By the time of writing, the total actual volume is 85bn Euro (guarantees: 55.3bn Euro, recapitalization: 29.3bn Euro) with four banks still taking part in the recapitalization measure:¹¹ Commerzbank AG (18.2bn Euro), HRE (7.7bn Euro), WestLB (Landesbank, 3bn Euro), and Aareal Bank AG (0.38bn Euro). Among the nine institutions currently taking part in the guarantee scheme are four private banks (all but Commerzbank are real estate financiers). The others are public banks (or banks operating on behalf of the government) and the Deposit Insurance Company of the private banking association (BdB) which has been seen as being too poorly endowed to face a full blown panic. Since end of 2010, FMSA shall not accept new applications for any type of financial assistance.

4.2 Which banks failed?

The characteristics of those banks that have taken part in public rescue schemes provide useful information regarding the vulnerability of German universal banks.¹² The number of banks being bailed out is rather small and this group is heterogeneous: one big private bank (Commerzbank AG), two real estate financiers (HRE AG and Aareal Bank AG) with one being especially involved in financing public infrastructure and real estate projects, five public Landesbanken and one small bank (IKB AG) which grants loans to SMEs mainly on behalf of the government.

The four big banks are the only German banks that can be regarded as being both, truly universal banks and TBTF. Of them, only Commerzbank got into severe problems. The others did not rely on any direct government financial assistance during the world financial crisis. Another German bank that could be considered as being TBTF, failed and had to be nationalized was HRE. It is, however, not a universal bank but a specialized institution. The majority of distressed banks have been public banks or banks operating on behalf of the government. Hence, it may not have been just size or being universal that may actually matter for adverse incentives arising from implicit government guarantees.

Among the failed banks in Germany, most of them, especially Landesbanken, did so because they were infected by the distress of their off-balance-sheet special purpose vehicles operating in foreign derivatives markets (*Acharya and Schnabl*, 2010). These banks not only were the majority owners of their vehicles but also granted credit lines, which were much higher than the banks' own book capital. Once the vehicles got into trouble, the parent banks

¹⁰Granted guarantees have been about 125bn Euro since October 2008. By year-end 2010 this figure has fallen to about 60bn Euro.

¹¹The following Data taken from FMSA website, <http://www.fmsa.de>, visited on March 22, 2011.

¹²There is no information that other German banks than those bailed out were about to fail because of the crisis.

had to support them since credit lines constituted legal claims of one legal entity on another.¹³ Theory would have predicted that banks could just cut-off its failing business arm in order to protect the main bank, if it only did not have the credit line granted. So why this credit line? Most likely, the credit lines granted by Landesbanken to their off-balance-sheet vehicles were not meant to support them in times of distress. Instead, a line allowed for sufficient flexibility to lever up the position of the conduit when times become extraordinary. There were many institutional and political reasons for doing so:

- Granting off-balance-sheet credit lines to special purpose vehicles (e.g. conduits or special investment funds) allowed to economize on equity capital since banks were not required to hold capital against the conduits' assets but only to the credit and liquidity enhancement provided to conduits (*Acharya and Schnabl, 2009*). While this was also true for private banks, state-owned Landesbanken pioneered the use of conduits in 1998 and were especially eager to found asset-backed commercial paper conduits before the outbreak of the financial turmoil (*Olson, 2007*).

- In the early 2000s, Landesbanken became highly liquid and leveraged (*Sachverständigenrat, 2010*). A major reason here lied in the repeal of 'Gewährträgerhaftung' for Landesbanken in 2005 that was associated with a ten years transition period in which all bonds issued before will be guaranteed by the government of the Bundesland. This transition period induced Landesbanken to raise a lot of funds prior to the repeal. This liquidity was possibly meant to stand ready for exciting investment opportunities for the special purpose vehicles.

- There was a political economy reason, too, as politicians wanted to generate non-tax income from running their own bank but had to mask this intention.

- Landesbanken have no longer been truly committed to maintain lending relationships. They changed their business model, moving towards transaction-based banking thereby relying heavily on wholesale funding sources and on market valuation of assets. As a result, they made them rather prone to liquidity risks.

In contrast to Landesbanken, local savings and co-operative banks traditionally have a strong deposit base and pursue a conservative, relationship-based lending policy, and there is no information that these banks got into severe solvency or liquidity problems during the crisis. One reason is that savings banks and co-operative banks set up internal firewalls between their commercial banking arms and their investment banking arms. These firewalls are safeguarded by the specific organizational structure of these banking groups as they are organized in a bottom-up fashion with many legally and organizationally distinct local banks jointly owning their respective central institutions (Genossenschaftliche Zentralbanken and Landesbanken). This structure not only prevents internal spill-overs in times of distress but also mitigates the incentives for central banks to take on excessive risks, e.g. to swap loans against securities and to sell them to the uninformed public on behalf of their member banks. While such a swap may be in the interest of the local bank that has granted the loan, it is not in the interest of all other local banks co-owning the central institution as they do not profit from the swap but might fear

¹³For example, SachsenLB run a Dublin-based conduit (Ormond Quay) that mainly invested in U.S. mortgage derivatives. It was this credit line that eventually brought about the failure of SachsenLB a few weeks later.

reputational contagion if the central institution acts in the interest of single local banks initiating bad loans in the first place.

Given the structure of the financial system in Germany, such conflicts of interest are potentially more relevant for credit banks, especially big banks. They offer investment banking services in-house or through dependent affiliates. With this top-down organization, headquarters (or the parent bank) may have incentives to swap bad loans against securities and to sell them to the uninformed public. That such conflicts of interest may already exist for some time is indicated by the existence of the 'conflict-of-interest policies' that some big banks (e.g., Deutsche Bank AG) pursue. They disclose information about their strategies to mitigate conflicts of interest. Part of this strategy is to publish what fees they receive from fund companies and securities dealers when selling financial instruments. In addition, they also publish what measures they take to prevent potential conflicts of interest.

Such efforts notwithstanding, credit banks were not successful in completely avoiding cases of conflicts of interest. We do not possess direct evidence on the relevance of conflicts of interest during the financial crisis and have to take recourse on other indicators. Some evidence stems from the bank associations which maintain arbitration panels ('Ombudsman') where customers may appeal against decisions taken by their single banks. The purpose of these procedures is to settle conflicts without costly court procedures. The number and outcomes of complaints are given in Table 4 for BdB (credit banks) and BVR (co-operative banks); similar data for the savings banks is available only for 2009. The table shows that the number of complaints rose significantly during the crisis; complaints about banks' securities business became the most important matter of dispute. There are, however, significant differences between credit banks and co-operative banks with much higher numbers for credit banks. Moreover, a higher number of complaints against credit banks were settled in favor of the customer.¹⁴ This information is provided by the bank associations which are also in charge of supervising their respective member banks. Hence, the problem of potential conflicts of interest shall be noticed by the private bank supervisors.¹⁵

---TABLE4 about here---

In summary, the evidence presented here indicates that German banks at a whole did not take excessive risks before the outbreak of the crisis with few exceptions which did so primarily not because they were universal banks but because they were in public ownership. While German universal banks thus did not put their solvency at risks, we now take a different perspective and look at the role of German universal banks for the allocation of liquidity in the Euro area and for potential supply-side restrictions on bank lending (credit crunch) in Germany during the crisis.

4.3 Liquidity allocation and credit crunch

¹⁴The number of complaints against savings banks in 2009 was even smaller than for co-operative banks. See www.sparkasse.de/s_finanzgruppe/schlichtungsstelle.

¹⁵By the time of writing, there was only one final decision taken in a court procedure in Germany on conflicts of interest. On March 22, 2011, the German Federal Supreme Court (Bundesgerichtshof) ordered Deutsche Bank to pay EUR 0.5m damages to a nonfinancial firm for selling structured financial products (CMS Spread Ladder Swaps) to customers. Total claims filed against Deutsche Bank are estimated being around EUR 1bn (FAZ, 2011).

Already since the onset of the crisis in August 2007, the European interbank money market was disturbed so that the allocation of central bank liquidity was impeded. In the Euro area this liquidity is provided by the Eurosystem. It conducts regular open market operations with a large number of financial institutions. Up to 1,700 banks and other financial institutions are eligible as counterparties in weekly main refinancing operations and between 300 and 500 of them participate regularly. For standing facilities the number of eligible counterparties is even larger and covers 2,400 financial institutions (*Chailloux et al.*, 2008). The Eurosystem demands collateral for each operation and uses the same type of collateral for open market operations and standing facilities. Though the Eurosystem charges interest rates on its monetary operations that do not depend on the underlying collateral, it accepts collateral not at face value but with haircuts. These haircuts are based on the collateral's risk profile according to Chapter 6, Guidelines of the Eurosystem Credit Assessment Framework (ECAAF).

Monetary operations are conducted through the National Central Banks which set individual eligibility criteria for collateral in accordance with ECAAF. Before the start of the financial turmoil, the bulk of liquidity providing operations of the Eurosystem was provided through Deutsche Bundesbank (Figure 1), and German banks formed by far the largest portion of financial institutions participating in weekly main refinancing operations.¹⁶ German banks have accessed the ECB's lending facilities on better terms because of the wide-spread use of well-rated debt instruments in Germany which could be used as cost-efficient collateral. In large parts, these ECB loans were raised only to provide liquidity to non-German banks on interbank markets in the Euro area. German banks, hence, acted as intermediaries, raising money from the Eurosystem and transferring it to other banks in the Euro area (*Deutsche Bundesbank*, 2011a, 2011b; *Projektgruppe Gemeinschaftsdiagnose* 2010).

---FIGURE 1 about here---

After the failure of Lehman Brothers, however, this pattern changed. German banks, still in excess of liquidity, stopped to fulfill this crucial intermediation function. They reduced significantly their supply of liquidity to Euro area interbank markets. Instead, they re-deposited the liquidity with the Eurosystem's deposit facility (Figure 2). The Eurosystem, in an attempt to emulate the function of the interbank money market, responded with quantitative and qualitative easing and started to accept lower-quality debt instruments as collateral in its refinancing operations. In consequence, non-German banks' access to the Eurosystem's lending facilities increased and their share in the Central Bank's liquidity providing operations rose. Because of the glut of central bank money, German banks were not only reluctant to supply liquidity to the interbank market but even received a large inflow from other member countries of the Euro area. This inflow resulted in sharp increases in the TARGET2-balances of Deutsche Bundesbank vis-a-vis ECB (*Deutsche Bundesbank*, 2011a, 2011b; *Projektgruppe Gemeinschaftsdiagnose*, 2011). These figures indicate that the German banking system as a whole did not suffer from liquidity shortages because of the disturbances on Euro area interbank markets. As opposed to banks in other Euro area members, German banks were able

¹⁶ According to *Deutsche Bundesbank* (2011a), German banks account for more than 50 percent of the Eurosystem's total refinancing operations.

to cover their liquidity needs without having to take access to the Eurosystem's unconventional policy measures. Instead, German banks reduced their usage of the Eurosystem's refinancing operations from EUR 250bn in early 2007 to EUR 103bn by end of 2010 (*Deutsche Bundesbank*, 2011b). While this may also be due to the broad branching network of German banks which guarantees a stable inflow of liquidity from the nonbank sector, German universal banks have good access to high-quality collateral debt instruments to be used in secured interbank money market transactions.

---FIGURE 2 about here---

A major problem with the crisis, as many observers were concerned about, was a credit crunch that may cause damage to the real economy (*Projektgruppe Gemeinschaftsdiagnose*, 2008). The epicenter of the crisis has been on derivatives markets, yet the lending to firms and households could be adversely affected because the exposure of banks to these markets resulted in capital losses putting strain on other activities, too. A detailed analysis of lending conditions in Germany is beyond the scope of this paper, hence we focus on two pieces of information, which are very instructive. One is based on the quarterly Bank Lending Survey, which provides qualitative information about banks in the Euro area.¹⁷ According to this survey, the factors related to supply-side lending restrictions increased less sharply in Germany than in the Euro area as a whole (Figures 3, 4). Moreover, the joint economic forecasting by the leading research institutes in Germany judged that until 2010 the decrease in lending was primarily the result of lower economic activity and thus of credit demand. Only after the economic recovery took off, supply-side factors gained in importance. In particular, loan write-offs owing to the preceding deep recession put a strain on banks' balance sheets. Moreover, survey data from non-financial firms indicate that, although the difficulties in raising loans increased during the crisis, they have not been exceptionally severe (compared, e.g., to the early 2000s).

---FIGURES 3, 4 about here---

The other piece of information results from a closer look at bank lending in East Germany, which actually took off after almost 10 years of stagnancy (Figure 5). East Germany was less exposed to the world recession because of its little degree of direct trade and financial openness (*IWH*, 2010). Most interestingly, not only locally rooted savings and co-operative banks but also private universal banks, which have been rather exposed to international markets, have contributed to the strong credit expansion in the East. This observation indicates that universal banks in Germany have benefited on diversification both across regions and business lines. When funding conditions got worse because of the tensions in money and capital markets, German banks have nevertheless been able to expand business lending in East Germany implying that resources have been redirected from West Germany. With the strong, export-led economic recovery starting in early 2010 this pattern reversed again. This may also indicate that the fall in bank lending in Germany was mainly due to loan demand and to lesser

¹⁷Area wide data is published by ECB, national data by the respective National Central Banks.

extent due to supply factors.

---FIGURE 5 about here---

5 Institutional changes and future financial stability

Though it is difficult to take a balance of all arguments it seems to be a fair verdict to say that German banks did not significantly contribute to the breakout of the financial crisis but had a stabilizing influence in its course. While this is not solely due to the fact that most German banks do universal banking, they in addition act in a financial system that helps universal banks to have a stabilizing effect. This seems to be in line with the current public debate on how to reform the banking sectors in Germany which is not at all related to ban or restrict universal banking. Instead, the regulatory overhaul focuses on bankers' boni, capital regulation, consumer protection, taxes on financial transactions, bank levy and stabilization fund, cooperation among supervisors across borders and business types, removing walls between the three pillars of private, public and co-operative banks, as well as trading restrictions for specific times (*Lehmann and Hoffmann, 2010*).

While the institutional features of the German financial system helped to make universal banks more stable during the recent financial crisis, the recent reforms changed the institutional framework under which German banks act. Some scepticism is in order whether these changes are appropriate to reduce future financial fragility. First, the fact that government financial assistance has been made mainly in terms of guarantees may cause some worries about the future stability of the German banking system. Along with the historically low short-term interest rates prevailing in the Euro area, banks have incentive to take on higher risks on the asset side, to strongly lever up their balance sheet, and to refinance themselves mainly through short-term debt (*Dietrich and Hauck, in press*). Second, there are serious concerns regarding the efficacy of the special rescue scheme for banks. In particular, neither is it ensured that BaFin gathers sufficient information on the financial status of banks in real time, nor do banks which can also apply for a restructuring or a resolution have an incentive to do so without unduly delay (*Hellwig, 2010*).

In reaction to the crisis, the German federal government has been particularly keen to push forward its proposal on a special resolution scheme for banks, which has been enacted as the Restructuring Fund Act on December 9, 2010, effective as of January 2011 (*Deutsche Bundesbank, 2011c*). According to this scheme, BaFin is allowed to interfere with the operative business of banks already in run-up to an imminent danger to the financial system and to break up a failing bank in systemic-friendly manner. The operations associated with a restructuring or resolution of banks will be funded by a newly created Restructuring Fund which is fueled by a new bank levy.

The bank levy does not make much sense from an economics point of view and it seems that its introduction has been merely a matter of politics in order to calm down public opinion. The major problems associated with the German bank levy are (see *Blum and Dietrich, 2010*): It may only because of additional funds being available to a governmental authority that politicians are tempted to misuse the money, especially the more time will have passed since the last banking crisis. Moreover, the levy as it is designed (more or less like a lump sum

transfer only depending on the volume of uninsured debt) itself does not provide any incentive for banks to reduce systemic risk. Quite the contrary, knowing that there will be a bail-out, banks are induced to take on more risk--if not because of the standard moral hazard, at least because the bail-out funds will subsidize debt and thus risk-shifting. It may also affect the incentives for the bankers associations, which are currently running the deposit insurance schemes, to supervise their member banks carefully. The restructuring fund will have to store, and that means to invest, the collected levy, but in a truly systemic crisis it is most likely that, because of devaluations across almost all asset classes, the liquidity available to the restructuring fund will be at least unpredictable—if not disappeared.¹⁸

At the European level, the political leaders of the EU member states agreed in September 2010 to establish three supranational European Supervisory Authorities (ESAs) in addition to the existing national agencies: the European Banking Authority (EBA), the European Securities and Markets Authority (ESMA), and the European Insurance and Occupational Pensions Authority (EIOPA).¹⁹ Their major objectives are to set and enforce standards for the national supervisory agencies, to co-ordinate the flow of information between them, and to take over responsibility in the event of a systemic emergency. The European Council is to declare an emergency situation by mutual consent. In addition, a European Systemic Risk Board (ESRB) has been established. It is responsible for the macro-prudential oversight of the financial system and shall issue confidential warnings addressed to the European Council which may mandate the ESAs to adopt corrective actions. For that purpose the ESRB will require systemically important banks to stress test their financial position on a regular basis and publish the respective results. Unlike the European Central Bank, however, neither of the new agencies will be politically independent. More importantly, however, this measure creates a new layer in the system of bank supervision which may interfere with the hybrid supervision in Germany, especially with respect to the incentives to gather and share the relevant information in a timely manner.

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¹⁸Even investing solely in government bonds cannot protect the fund's liquidity. Ex post, government bonds may sharply devalue when the government is already heavily indebted at the onset of a crisis (see the Greek example). Ex ante, the restructuring fund may even be abused for financing public debt thereby threatening financial stability.

¹⁹Also at the EU level, deposits up to 100.000 Euro have to be insured by the deposit insurance schemes of the member states as of January 2011. For Germany, this upgrade is meaningless since the existing schemes effectively cover all deposits anyway.

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Tables and Figures

Table 1:

The structure of the German banking system (1990-2009)

Banking type	Number of banks			Percentage share of banking group in total assets		
	1990	2000	2009	1990	2000	2009
Credit banks	335	315	278	25.0	32.1	33.1
Big banks	6	5 ^{a)}	4	9.9	20.9	21.8
Regional banks	268	223	170	13.5	9.5	9.0
Foreign subsidiaries	60	87	104	1.6	1.7	2.3
Savings banks	586	575	441	37.3	35.3	32.1
Local savings banks	575	562	431	21.0	n.a.	n.a.
Central savings banks	11	13	10	16.3	n.a.	n.a.
Cooperative banks	3053	1798	1159	16.2	11.0	11.8
Credit cooperatives	3049	1795	1157	12.1	n.a.	n.a.
Cental coop.banks	4	3	2	4.1	n.a.	n.a.
Specialized banks	66	224	61	21.5	21.5	23.0
Total	4040	2912	1939	21.5	100.0	100.0

Source: Deutsche Bundesbank.

Table 2:
Net commissions as percentage of net revenue (1990-2009)

Banking type	1990	1995	2000	2005	2009
Credit banks	26.0	23.5	39.4	32.1	31.0
Big banks	28.2	28.5	42.0	34.2	31.0
Regional banks	22.0	18.0	36.5	28.1	31.8
Foreign subsidiaries	n.a.	n.a.	n.a.	n.a.	n.a.
Savings banks	n.a.	n.a.	n.a.	n.a.	n.a.
Local savings banks	14.1	14.0	19.1	19.6	21.0
Central savings banks	14.1	12.8	18.8	16.0	9.0
Cooperative banks	n.a.	n.a.	n.a.	n.a.	n.a.
Credit cooperatives	14.2	14.8	19.1	21.4	20.6
Central coop. banks	29.0	19.8	21.2	25.4	23.7
Total	18.5	17.0	26.9	24.0	23.0

Source: Own calculations based on Deutsche Bundesbank.

Table 3:

Total Write-downs on Securitized Financial Products and on Loans (2007-2010)

Country or Country group	Reported between Q2:2007 and Q4:2009	Estimated for 2010
US	680	205
UK	355	100
Euro-Area	415	250
Germany	261	65
Credit banks	140	-3 ^{a)}
Savings banks	100	47
Other banks ^{a)}	21	21
Other European banks ^{b)}	82	74
Total	1532	629

Notes: ^{a)} Incl. co-operative banks. – ^{b)} Denmark, Norway, Iceland, Sweden, Switzerland. – ^{c)} Write-up.
Source: Sachverständigenrat (2010).

Table 4:

Number and Outcome of Complaints, Member Banks of Bundesverband deutscher Banken and Member Banks of Bundesverband Deutscher Volks- und Raiffeisenbanken (2005-2009)

Area	2005	2006	2007	2008	2009
Bundesverband deutscher Banken:					
Total number of complaints	2,791	3,753	3,610	4,837	6,519
- Securities business (%)	24.4	19.3	22.0	38.6	47.7
- Lending business (%)	36.8	26.8	24.9	20.7	16.5
- Payment Business (%)	23.1	32.9	32.5	25.9	23.3
- Others (%)	17.7	21.0	20.6	14.8	12.5
Complaints not followed up by customer	457	607	617	744	1005
Admissible complaints	1,616	2,548	2,608	3,359	4,682
Complaints resolved in favour of customer	851	1,423	1,403	1,792	2,076
Bundesverband Deutscher Volks- und Raiffeisenbanken:					
Total number of complaints	1,458	1,372	1,696	1,646	815
- Securities business (%) ¹⁾	24.9	24.2	14.8	33.2	27.6
- Lending business (%) ¹⁾	30.6	26.7	20.9	18.2	20.0
- Payment Business (%) ¹⁾	19.4	22.6	21.9	15.4	16.2
- Others (%) ¹⁾	25.1	26.5	42.4	33.2	36.2
Complaints not followed up by customer	406	378	346	397	369
Admissible complaints	478	442	368	362	388
Complaints resolved in favour of customer	82	73	64	54	46

¹⁾ Retail banking with private households.

Source: Bundesverband Deutscher Banken, Bundesverband der deutschen Volksbanken und Raiffeisenbanken.

Figure 1:
Liquidity providing operations of the Eurosystem (in bn EUR)

Source: Calculations of *Projektgruppe Gemeinschaftsdiagnose* (2011) based on National Central Banks.

Figure 2:
Deposit facility with National Central Banks (in bn EUR)

Source: Calculations of *Projektgruppe Gemeinschaftsdiagnose* (2011) based on National Central Banks.

Figure 3:
Change in Credit Standards as Applied to the Approval of Loans or Credit Lines to Enterprises in Germany

Source: Deutsche Bundesbank, Bank Lending Survey.

Figure 4:
Change in Credit Standards as Applied to the Approval of Loans or Credit Lines to Enterprises in the Euro area

Source: *European Central Bank*, Bank Lending Survey.

Figure 5:
Change in Bank Loans (outstanding amounts) in Germany and in East Germany (yoy, in percent).

Source: Authors' calculations based on *Deutsche Bundesbank*.