

Germany: Technical Note on Banking Sector Structure

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GERMANY

BANKING SECTOR STRUCTURE

TECHNICAL NOTE

JULY 2011

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GLOSSARY

BIS	Bank for International Settlements
DSGV	Deutscher Sparkassen-und Giroverband
EBA	European Banking Authority
EC	European Commission
ECB	European Central Bank
EU	European Union
FMSA	Agency for the Stabilization of the Financial Markets
FSAP	Financial Sector Assessment Program
GIIPS	Greece, Ireland, Italy, Portugal, Spain
GDP	Gross Domestic Product
IMF	International Monetary Fund
LB	Landesbanken
MFIs	Monetary and Financial Institutions
NPLs	Nonperforming loans
OECD	Organization of Economic Cooperation and Development
ROE	Return on equity
SIFIs	Systemically Important Financial Institutions
SMEs	Small and medium-sized enterprises
SoFFin	Sonderfonds Finanzmarktstabilisierung
UK	United Kingdom
US	United States

I. INTRODUCTION¹

1. **The prospects of the German “Three Pillars” system of private, public sector, and cooperative banks is a matter of ongoing debate.** The need for a thorough reform of the Landesbanken (LB) is now widely accepted, although finding political consensus on a durable solution is elusive. However, the issues extend beyond the LB. The underlying issue is how Germany can maintain its relatively stable financial system, effective financial intermediation, and low costs to customers, while correcting some of the weaknesses, such as low profitability (including when adjusted for risk) and susceptibility to excessive political influence. This issue must be addressed in the context of prospective changes to the global financial landscape and regulatory changes following the global crisis.
2. **Informed public discussion on possible reforms must be based on a good understanding of the costs and benefits involved, and on the external pressures to which the system may be subjected to.** The aim of this note is to lay out some of these issues and considerations, and to quantify certain aspects of the functioning of the system.
3. **This note is organized as follows:** Section II describes the evolution of the Germany’s three-pillar banking system. Section III presents the capitalization. Section IV discusses credit and the intermediation of savings. Section V analyzes bank profitability and efficiency. Section VI examines the benefits of public involvement. Section VII discusses the governance in the banking system.

II. EVOLUTION OF THE SYSTEM

4. **Germany’s banking system comprises three “pillars”—private commercial banks, public sector banks, and cooperative banks—distinguished by the ownership structure and business orientation (Krahnen and Schmidt (2004), Table 1):**
 - **The private-owned commercial banks represent the largest segment by assets,** accounting for 36 percent of total assets of the banking system. They are currently composed of (a) three large banking groups,² one of which is foreign-owned; (b) medium and small-sized banks; (c) and some branches of foreign banks. The large banking groups are centered on universal banks, operating retail and corporate banking as well as investment banking. Some banking groups are very internationally oriented. Other banks are more regionally-focused or otherwise specialized (for example, in real estate or consumer loans).

¹ Prepared by Pierluigi Bologna, Daniel Hardy, Anna Ivanova, and Piyaporn Sodsriviboon.

² Postbank continues to exist as legal entity, but is owned and consolidated by Deutsche Bank and therefore not counted here.

- **The public sector banks include savings banks—Sparkassen—and their associated LB, representing 31 percent of total banks’ assets (Box 1).³**
 - The mandate of Sparkassen and LB is, broadly to support economic development in the respective region, and also to subsidize local public goods. Sparkassen are collectively required to offer financial services for all German citizens in all German territories. As a result, Sparkassen have a dense network, serve all income-level clients, and provide a range of universal banking activities with a focus on retail and small- and medium-sized enterprises (SMEs) relationship banking. They are established by law but effectively belong to municipalities or rural regions.⁴ They are subject to a regional principle; each operates within its own region and competes with the commercial banks and cooperative banks but without other Sparkassen.
 - LB were originally designed to act as central banks of the Sparkassen and operate according to a regional principle comprising one or more federal states. However, they have been increasingly involved in recent years in wholesale funding, investment banking, and international business activities, thus directly competing with commercial banks. In the past, Sparkassen and LB were backed by mutual guarantee schemes (*Gewährträgerhaftung and Anstaltslast*). The mutual guarantees were of key importance for LB to get an AAA rating and lower their cost of funding. The guarantees were terminated in July 2005. However, the grandfathering arrangement from 2001-05 remains valid until 2015. In addition, public sector banks also provide subsidized lending on behalf of the government, both in conjunction with the federal and regional development banks and on their own.
- **The third pillar includes a large number of small cooperative banks, amounting to about 2/3 of institutions by number or 11 percent of total bank assets, and their apex institutions.** The cooperative banks are owned by their members who, in turn, are usually their depositors as well as borrowers. The cooperative banks operate a mutual guarantee scheme and are subject to a “regional principle” similar to that applied to Sparkassen but their key role is to support their members, which represent about half of their customers. However cooperative banks also provide banking services to the general public. The two regional institutions of credit cooperatives act as central institutions for cooperative banks.

³ In addition to owning commercial banks, the public sector involvement in banking takes place also through development banks. The development bank at the Federal level (KfW) is supplemented by the development banks at the Länder level.

⁴ A few are owned by foundations.

Box 1. Overview of Landesbanken

LB are heterogeneous by ownership structure and business profile. LB are mostly owned by their regional Sparkassen associations and federal states. In some cases, however, they are crossly owned by other LB, the national Sparkassen association, and some private equity. In recent years, some LB have been transformed into stock companies.

Ownership Structure of Landesbanken

Landesbanken	Total Assets (Billion of Euros)	Ownership Structure (Percent)				
		RSBA 1/	States	S-Finance Group or Other LB	Private	Others
LBBW	417.4	40.5	40.5	18.9	-	-
Bayern LB	340.7	6.0	94.0	-	-	-
West LB	251.2	50.1	48.2	-	-	1.7
Nord LB	244.6	50.0	50.0	-	-	-
Heleba	180.7	85.0	15.0	-	-	-
HSH Nordbank	175.7	5.3	85.5	-	9.2	-
LB Berlin	144.8	-	-	98.7	-	1.3
Bremer LB	19.0	-	-	92.5	-	7.5
Saar LB	18.9	14.9	35.2	49.9	-	-

Source: Heleba, Bank of America Merrill Lynch (2010)

1/ Regional Savings Banks Association(s)

Most LB are involved not only in a traditional role of central banking for Sparkassen, but also in other less sector- and region-specific activities, including real estate financing, financial market operations, and ship financing. Some have had significant overseas operations.

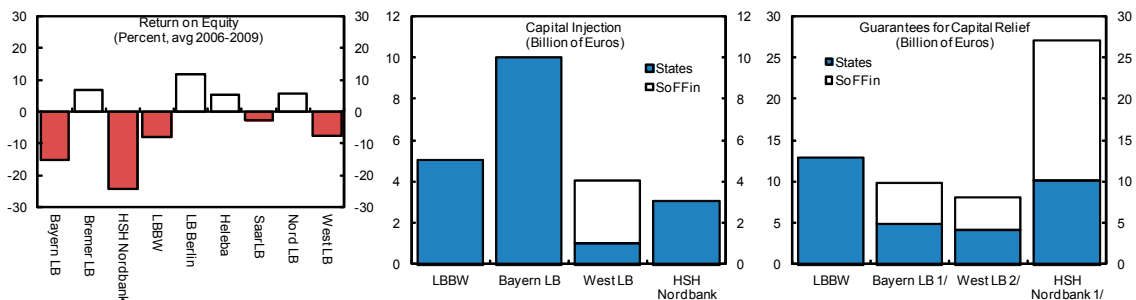
Business Profiles of Landesbanken

Landesbanken	Business Profile						Scope of Business
	Corporate or Private	Real Estate	Public Sector	Ship and Special Financial	Central Institutions for Savings Banks		
LBBW	yes	yes	no	no	yes	yes	Global or Regional (depending on activity)
Bayern LB	yes	yes	yes	yes	yes	yes	Global or Regional (depending on activity)
West LB	yes	yes	yes	no	yes	yes	Global or Regional (depending on activity)
Nord LB	yes	no	yes	yes	yes	yes	Global or Regional (depending on activity)
Heleba	yes	yes	yes	yes	yes	yes	Global or Regional (depending on activity)
HSH Nordbank	yes	yes	no	yes	yes	yes	Global or Regional (depending on activity)
LB Berlin	yes	yes	no	no	yes	yes	Regional
Bremer LB	yes	yes	no	yes	yes	yes	Global or Regional (depending on activity)
Saar LB	yes	yes	yes	yes	yes	yes	Regional

Source: Heleba, Bank of America Merrill Lynch (2010)

Performances of many LB have been poor, and troubled LB have received considerable state aids. For several LB, expansionary investments have turned into significant losses in the course of the global crisis. To stabilize the situation, both SoFFin and public owners stepped in to provide significant capital injection and guarantees for LBBW, Bayern LB, West LB, and HSH Nordbank. These banks have been required to submit restructuring plans and subject to close scrutiny by the EC. Of which, LBBW's restructuring plan was approved by the EC on December 15, 2009.

Landesbanken: Performance and Government Support

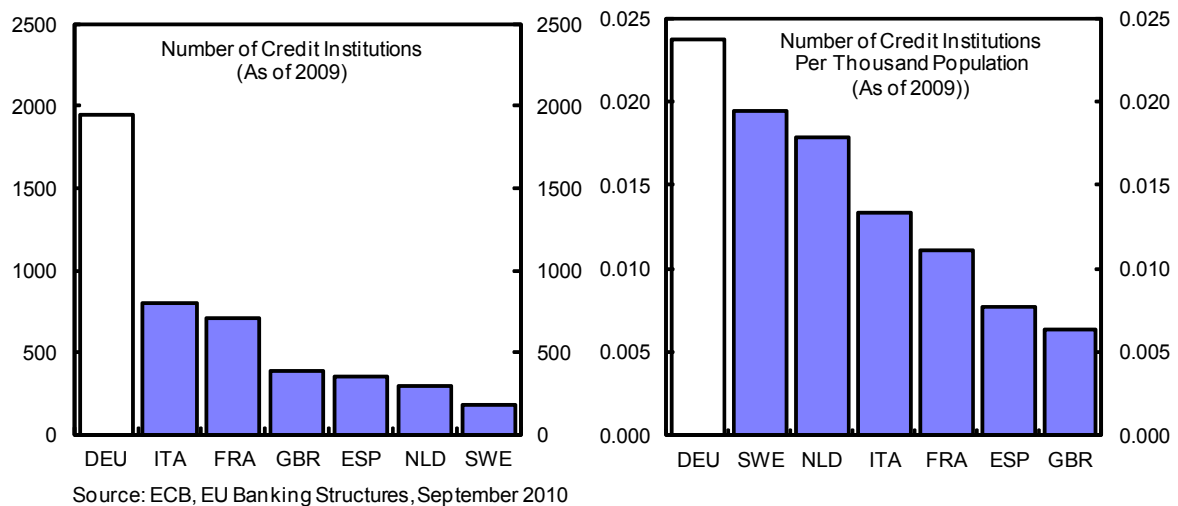


Source: Bankscope, Deutsche Bundesbank, DSGV

1/ SoFFin Guarantees for Bayern LB and HSH were for liquidity purpose.

2/ WestLB asset relief guarantee comprises €4 billion from state, €1 billion from Sparkassen, and €4 billion from SoFFin in which were temporarily granted by state (49.6%) and Sparkassen (50.4%).

5. **Thus, the German banking system includes a large number of institutions in both absolute and relative terms, totaling to 1,919 in 2010 (text figures).⁵** This number is somewhat misleading because the public sector and cooperative banks are closely linked to one another within their respective pillars, through mutual guarantees, the “regional principle,” joint operation of certain businesses and back-office facilities, and the presence of apex institutions, such as the Landesbanken for the Sparkassen.



6. **The three-pillar structure has barely changed over the past decade, but consolidation has been steady.** The number of banks has decreased by 44 percent since 1990. Consolidation has taken place largely within the existing segments, and mostly in the Sparkassen and cooperative sectors, to attain economies of scale—in most cases as a result of stress rather than proactive business considerations. Unlike in other European countries, current German law does not allow private-owned banks to take stakes in public-owned banks that are created by law (such as most Sparkassen) rather than incorporated. However, some LB have bought private banks. A few cases of consolidation have recently occurred between private banks, in part driven by the financial crisis.⁶ Some consolidation was of a cross-border nature, with foreign banks acquiring domestic institutions.⁷ However, the level

⁵ The European Central Bank (ECB) (2005) finds that banking consolidation is more widespread among the countries with a large number of credit institutions. Nevertheless, the number of credit institutions in Germany remains the largest among euro area countries.

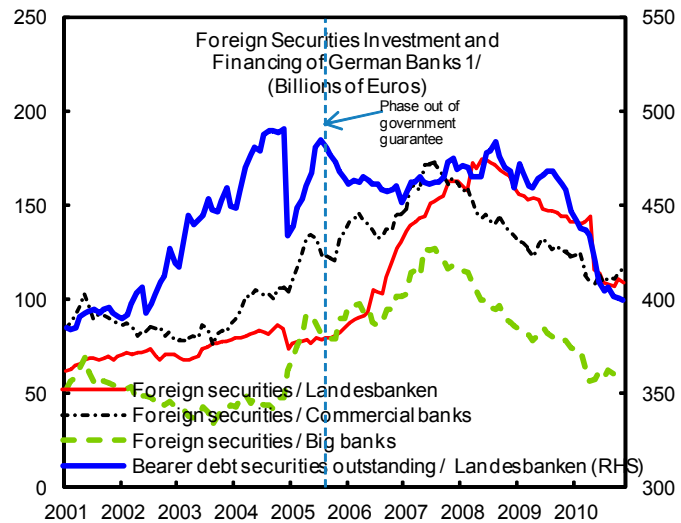
⁶ These include the take-over of Dresdner Bank AG by Commerzbank AG and the take-over of Deutsche Postbank AG by Deutsche Bank AG. The latter is also a consequence of strategic refocusing of Deutsche Bank.

⁷ Unicredit-HVB, and ING-DiBa are the most notable cases.

of public involvement in the system remains substantially unchanged and continues to be much higher than in other European Union (EU) countries.⁸

7. Large parts of the German banking sector were hit hard during the crisis, but the exceptional government measures helped to stabilize the system. Once the crisis hit, the direct exposures to toxic assets that had built up in previous years (Figure) and the indirect effects of the turmoil in the money markets,

put several institutions into serious difficulties, requiring state aid to stabilize the system. A number of banks, particularly commercial banks and LB⁹, became distressed and had to be rescued with taxpayers' money. In October 2008, the German federal government established the Sonderfonds Finanzmarktstabilisierung (SoFFin), a €480 billion rescue package to provide guarantees and recapitalization. Additional funds were also allocated for asset relief measures. The access to SoFFin funds has been closed at the end of 2010.¹⁰ As of December 2010, the usage of the SoFFin's recapitalization funds comprised €29.2 billion or 1.2 percent of GDP and outstanding guarantees amounted to €63.6 billion or 2.5 percent of GDP. These measures have successfully stabilized the German financial sector. Since the crisis, following substantial write-offs and deleveraging, exposures to US structured credit securities have significantly declined. The balance sheets of troubled institutions will, however, take time and continued efforts to be cleaned up.



Source: Deutsche Bundesbank

1/ Exposures to toxic assets are as part of foreign securities.

⁸ La Porta et al (2002) present the extent of government ownership of banks, defining as government owned those banks amongst the top 10 where the government holds more than 20 percent of the equity. Lower shares of public ownership would result from the application of a 50 percent threshold, although La Porta et al (1999) suggest that 20 percent of ownership is typically sufficient for control. La Porta et al (2002) show that, in 1995, the assets share of the public banks was 38 percent in Germany, 28 percent in Italy, 26 percent in France, 7 percent in Spain, 10 percent in Netherlands, 0 percent in the United States (US) and United Kingdom (UK). According to Fiorentino et al (2009), in 2004 there were no public banks in Italy but public banks in Germany still accounted for 33 percent of the banking system's assets.

⁹ Savings and cooperative banks were relatively stable due to their retail oriented business model.

¹⁰ The access to SoFFin funds has been effectively closed as of December 31, 2010. However, temporary financial sector support measures have been replaced by a permanent bank resolution framework to facilitate more timely and efficient resolution of systemically-important banks. The framework includes an establishment of the restructuring fund administered by the same agency, which administered crisis relief measures (Agency for the Stabilization of the Financial Markets (FMSA)). The restructuring fund will be financed by an ex-ante bank levy.

8. **State aid rules will require structural changes.** During the recent crisis the European Commission (EC) approved state aid packages for a number of public sector banks (LB), as well as for some private commercial banks. The banks that received temporary approval for rescue measures under the state aid rules (with in-depth investigations pending) will need to adjust their business models and improve governance to ensure long-term viability. These banks presented restructuring plans to the European Commission, which include cost-cutting, downsizing, refocusing, and ownership change.

III. CAPITALIZATION

9. **The banking system currently appears to be in aggregate adequately capitalized, but the quality of capital continues to be weak in some institutions.** Total capitalization rose to nearly 15 percent in 2009, largely thanks to substantial public intervention and balance sheet contraction.^{11,12} Public support by public sector owners and SoFFin was largely in the form of silent participation, a hybrid capital, which adds to the high share of hybrid instruments already pre-existing in the capital structure of all the largest German banks. In 2010, the share of hybrid capital ranges between 33 and 76 percent of banks' Tier 1 capital for seven of the eight largest German banks,¹³ in which a number of LB have recently made progress in transforming their silent participation to Tier 1 capital prior to the European Banking Authority (EBA) stress tests.

10. **The sizable nonequity component in banks' capital structure together with the low internal capital-generation capacity will make it more challenging for some German banks to meet the new Basel III capital requirements.** The effect of the new standards will, however, be different for the different groups of banks. Sparkassen and cooperative banks are likely to be able to meet the new requirements with limited effort thanks to their better quality of capital. The regional and larger banks, on the other hand, will have to undergo important adjustments of their capital structure, by significantly increasing the equity component and progressively phasing out the hybrid capital.

11. **The high leverage of many German banks in part reflects structural features, but may also give rise to a potential weakness.** Despite the improvement observed since

¹¹ The cooperative sector has been a positive exception in this regard with no public money being needed. The sector was able to solve all issues arising from the financial crisis on its own, with problems at some weaker institutions effectively dealt within the pillar.

¹² Both total capital ratio and tier 1 ratio, which accounts for 73 percent of the total regulatory capital, increased by more than 1 percentage point during 2009.

¹³ German banks have had in the past a significant incentive to issue hybrid capital instruments instead of common equity. This form of capital is not only less expensive than common equity, but also increases return on equity as interest payments on these instruments are tax deductible (in addition to its neutral effect on the stock of equity). Such a feature has been very attractive for banks in the context of a structurally low and uncertain profitability. However, as the crisis has clearly shown, hybrid instruments have very little loss absorption capacity, reason for which they will not be considered part of banks' regulatory capital under Basel III and will need to be phased out.

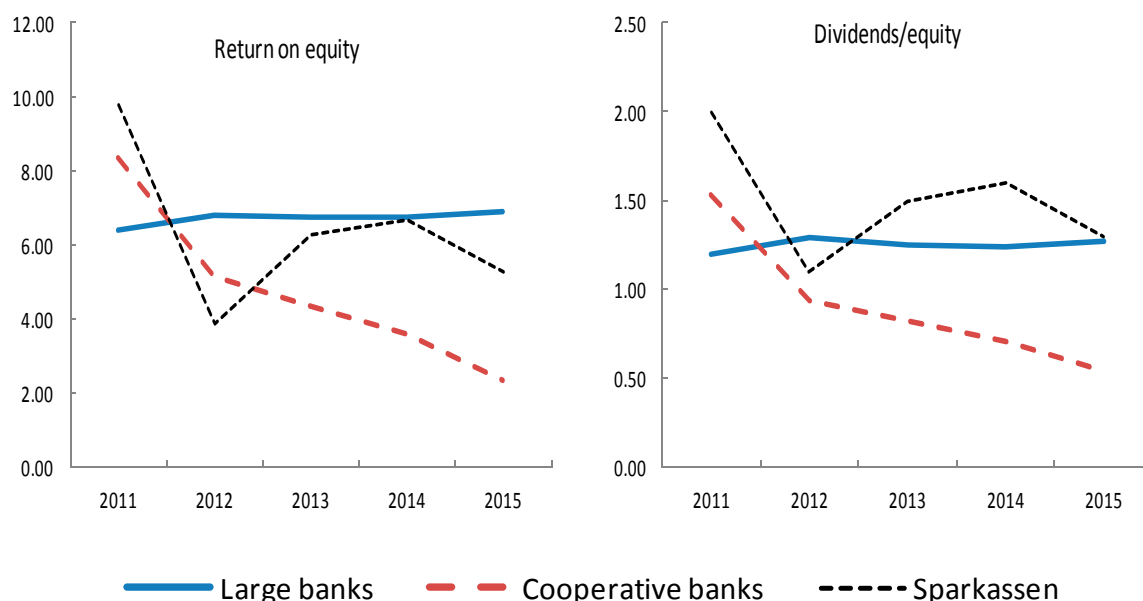
the crisis, German banks' leverage is still high by international comparison (Figure 3). To an extent, the leverage is a reflection of the tiered structure of the sector, where retail Sparkassen and cooperative banks place excess deposit funding with their respective apex institutions. However, the retail banks are not obliged to do so. Furthermore, in the past, some (larger) banks adopted strategies significantly reliant on market funding. The (indicative) leverage ratio introduced by Basel III might put additional pressure, particularly on the business model of the more highly-leveraged institutions.

12. The baseline stress test projections undertaken as part of the FSAP Update, and other evidence, suggests that meeting the new Basel III requirements will be a challenge for some German banks (Deutsche Bundesbank, 2010b). The large banks, which have generally relied less on equity capital, have the most obvious challenge also in light of the intense international competition, which de facto is likely to bring forward the implementation of Basel III.¹⁴ But throughout the system, low profitability makes it difficult to attract more high-quality capital, or build it up internally through retained earnings while providing an adequate return to existing owners (many banks effectively do not have access to equity markets). Meanwhile, the concurrent need to reduce leverage will ceteris paribus put additional downward pressure on return-on-equity. Projections suggest that even under a baseline scenario of continued steady growth, return on total regulatory capital (ROC) will be modest on average, in part because additional capital will have to be built up (text figure).¹⁵ Dividend payouts from many banks will need to be very low to meet capital requirements. The considerable uncertainty that is inevitably attached to such medium-term projections adds to concern.

¹⁴ Additional pressure could also derive from the implementation of the Dodd–Frank Wall Street Reform and Consumer Protection Act for those banks with significant operations in the US.

¹⁵ These projections are based on the baseline scenario of the stress tests run based on supervisory data. The payout-ratio of well capitalized banks was assumed to be 40 percent of earnings, in line with empirical evidence for the commercial and cooperative banks. The FSSA and accompanying technical note on stress testing provides more detail on the methodology. For the smaller banks, the trend is determined largely by the evolution of interest rates and the cost of funding (i.e., availability of deposits). In both cases, the outlook suggests that banks will face some challenges.

Germany: Projected Bank ROC and Dividend Payout Yield (In percent)



Source: Deutsche Bundesbank based on IMF staff estimates.

13. **The current regulation allowing saving banks and LB a zero risk-weight for the interbank loans within the pillar leads to a de facto under-estimation of capital requirements.**¹⁶ Events during the global crisis proved that this zero weighting is not commensurate with the risk actually faced by the Sparkassen. Such a regulatory treatment also favors an increase of leveraging and interconnectedness of the banking system, with a potential negative impact on its financial stability. The levy recently introduced by the German authorities, being based on the interbank and derivative exposures, could provide an incentive to reduce leverage and system interconnectedness, but the low level of the levy makes it unlikely that it will have a decisive influence on bank behavior.¹⁷ As a consequence, it does not fully offset the need to consider a possible revision of the current regulatory treatment for some interbank claims.

14. **Capital requirements do not recognize the contingent liability—or the diversification gains—generated by the system of mutual guarantees.** Within the public sector and, to a lesser extent, the cooperative pillars, all institutions putatively fully guarantee

¹⁶ The minimum requirement for interbank claims is usually 20 percent, but when a mutuality arrangement is in place, the existing regulation makes interbank loans between the institutions involved in such arrangement equivalent to loans to domestic subsidiaries. The same treatment (based on mutuality arrangement) also exists for the cooperative sector.

¹⁷ In August 2010, the German government approved draft legislation on the bank restructuring framework, which established the restructuring fund to be financed by a bank levy.

one another.¹⁸ While this guarantee is not legally binding, the banks concerned do insist on its strength. Among retail banks, the guarantee yields diversification benefits: banks from an economically strong region effectively stand behind banks from weaker regions. However, the guarantee increases systemic interconnectedness, and the retail banks also guarantee the apex institutions, which have a history of being subject to large shocks. Thus, if the guarantee is to be taken seriously, participants in such schemes should make provisions against “expected” losses (as captured in principle by contributions to the schemes’ reserve funds) and a capital charge for “unexpected” losses.

15. **The public sector banks are subject to less market discipline than most private banks, which could justify closer supervision and possibly higher capital requirements, although there should be some recognition of the oversight exercised by the respective associations.** Only some of the larger banks have issued equity in the market. Hence, publicly available information on their performance, risks and stability is limited, and there is less scope for outsiders to challenge management.¹⁹ Furthermore, most of the public sector banks have not issued any actively traded instruments, nor is there an active market in related derivatives. There is a market for credit default swaps and fixed-income securities for several apex institutions, which are also rated, but prices and ratings are affected by mutual guarantees and implicit government support. However, supervision by the banking associations may largely substitute for some aspects of market discipline, at least for the smaller retail banks. Yet, the Third Pillar of the Basel II capital accord envisages market discipline as one essential element of financial stability, alongside general capital requirements and institution-specific capital requirements. Capital requirements should be higher, or supervisory oversight should be closer than they would be otherwise for banks that are relatively weak in terms of Third Pillar requirements.²⁰

IV. CREDIT AND THE INTERMEDIATION OF SAVINGS

16. **Asset quality is comparatively good as reflected in non-performing loans (NPL) ratios (Figures 3 and 4).** The overall NPL ratio for the banking system increased slightly after the crisis, mainly owing to a deterioration of the loan portfolio of commercial banks and LB. The NPL ratio of Sparkassen and cooperative banks is still structurally higher than that of commercial banks, owing to a higher portion of lending to SMEs (“the Mittelstand”). Aggregate NPLs remain lower than in 2003, the latest period of stress for German banks

¹⁸ The system of contributions and guarantees to the protection scheme within the cooperative pillar is more indirect, as the protection scheme gets frequent contributions from each member of the system. As a result, every guarantee granted by the protection scheme has principally an underlying asset, including physical capital.

¹⁹

²⁰ Viñals et al, (2010) remind the importance of timely and effective supervisory actions, and the need for it to question common wisdom, as part of the toolkit for enhanced supervision.

before the most recent crisis, and lower than the level observed in most EU countries.²¹ The long lag with which data becomes available and the changes in the NPL definition in 2009 make any cross-country comparison problematic and the assessment subject to uncertainties.²² German banks will likely continue to benefit from relatively high-quality of household credit and resilient corporate performance.

17. The relatively low cyclicality of NPLs may contribute to, and be supported by the “house bank” relationship between banks and many of their borrowers, which smoothes credit conditions over the cycle. Thus, German banks were able to intermediate the real economic sector during the recent crisis. There was no evidence of a broad-based credit crunch—a contraction in loan supply from bank-side factors—during the crisis (Deutsche Bundesbank, 2010a). The contraction of bank lending during the financial crisis was mostly demand-driven and was significantly explained by real economic variables. In particular, the decline in bank lending was more evident for large banks, whereas Sparkassen and cooperative banks typically lending to SMEs have provided stable supply of loans, and they managed to expand their retail lending throughout the crisis (see Figure 1). Nevertheless, it should be noted that tightening credit standards owing to the re-pricing of risks as well as the need to increase banks’ capital could affect the credit supply.^{23, 24}

18. Moreover, German consumers and firms benefit from a system that provides good range and availability of financial services. A long-lived intermediary can provide intergenerational risk sharing such that it holds the household assets and offers deposit contracts to each generation, while it can hedge against swings in asset prices by averaging gains and losses over time (Allen and Gale, 1995). Furthermore, unlike profit-maximizing firms, Sparkassen and cooperative banks maximize the aggregate rents and surplus for their owners or members. These banks therefore have incentives to increase services, including branching and low-cost lending, to their customers beyond what profit-maximizing firms might offer. Thus, German intermediaries may be able to increase social welfare through the provision of services and intertemporal smoothing of returns that a more short-term oriented market has limited incentive to provide.

²¹ Loan losses during the crisis were contained by government supported programs for corporations.

²² It should also be noted that the level of provisioning in the German banking systems is relatively low but yet appears adequate. It is the consequence of the NPLs’ definition vis-à-vis the loan loss provisioning approach, rather than that of an under-provisioning. The forward looking Basel II quantification of NPLs, based on the concept of expected loss, is more conservative than the accounting loan-loss provisioning which follows the incurred loss model.

²³ IMF (2010) finds that banks’ need for additional capital could constrain banks’ lending, with the stronger effect among large commercial banks.

²⁴ In many countries, this effect should be welcomed insofar as credit conditions were excessively loose and systemic stability was imperiled by low profitability.

19. **The availability of retail deposits generally contributes to the stability of credit supply.** At the aggregate level, loans to customers are mostly funded by deposits and borrowing from non-banks, which allowed a relatively stable credit supply throughout the recent crisis (See Figures 1 and 2). Nonetheless, significant differences in the funding structure exist across the system. Smaller Sparkassen and cooperative banks benefit most from a large and stable access to household deposits. Given the importance of Sparkassen and cooperative banks—together providing more than half of the total credit to domestic non-banks, such a sound deposit base reduces the risk of a credit crunch. Larger private commercial banks and the LB, on the other hand, rely to a greater extent on less stable wholesale funding. Going forward, tightening liquidity regulation and the stricter demand for collateral in some segments of the covered bonds and securitization markets, together with the relative shortage of unsecured funding, could lead to greater competition for deposits.

20. **Greater competition from internet banking, consumer behavior change and demographic changes will continue to put pressures on banks.** Despite the currently small market share, commercial internet banking has grown rapidly and directly competes with Sparkassen and cooperative banks in the same lines of products, namely deposits and mortgage and consumer lending. Banking modernization coupled with changes in consumer behavior and demographics is likely to continue to affect the market share of Sparkassen and cooperative banks.

V. PROFITABILITY AND EFFICIENCY

Profitability

21. **German banks have on average shown low profitability compared to that of European peers.** Regardless of the measures used, none of the pillars compares favorably in performance with their European comparators (Table 2 and Figure 3). According to Bundesbank statistics, average after-tax ROE of the private banks, at 7.5 percent, was slightly above that of Sparkassen and cooperative banks over 1994–2007, and slightly below when the sample period is expanded to include 2008–09.²⁵ Profitability of LBs has been especially low compared to that of the aforementioned groups; their after-tax ROE averaged only 3.8 percent over 1994–2007. The system's low profitability is expected to remain in the medium-term, as it appears to be largely structural rather than cyclical (Brunner et al., 2004).

22. **German banks' profitability has recovered fairly well immediately following the crisis.** During the crisis, private commercial banks and LB suffered substantial losses from their investment portfolios, whereas Sparkassen and cooperative banks showed relatively stable profitability and had continuous access to stable funding from retail deposits. Net losses were nonetheless posted at an aggregate level both in 2008 and 2009, followed by recovery in 2010 in the context of Germany's economic rebound.

²⁵ Bundesbank data is comprehensive but aggregated. In what follows, use is made of less comprehensive but more granular data available from private sources such as Bankscope.

23. **Especially for the larger banks, low profitability has not been compensated for by lower volatility** (text figure and table). The trade-off between risk and return suggests higher returns should be generally associated with higher volatility and vice versa. Indeed, the relative performance of German banks appears more favorable when adjusting for risk—particularly for Sparkassen and cooperative banks, where lower return on equity (RoE) is associated with somewhat lower volatility — but performance remains generally below-average.^{26 27} Commercial banks and LB have been achieving below average returns, yet with higher volatility.

	Mean of Return on Equity	Std. Dev. of Return on Equity	Sharpe Ratio	Risk-Adjusted Performance (Percent)	Percentile among 100 largest European banks		
					Return on Equity	Sharpe Ratio	Risk-Adjusted Performance
Landesbanken	-0.8	14.7	-0.3	1.1	2	3	3
Commercial banks	6.4	11.7	0.3	5.3	23	21	21
Sparkassen	3.6	2.0	0.3	5.0	11	17	17
Cooperative banks	4.8	2.9	0.6	7.8	16	33	33
100 Largest European Banks	9.9	7.7	0.9	9.9			

1/The sample includes 1,603 German banks and 100 largest European banks. Data are from 2000–2009.

For robustness check, different time intervals are tested, but do not alter the qualitative results.

Sources: Bankscope; IMF Staff Calculations

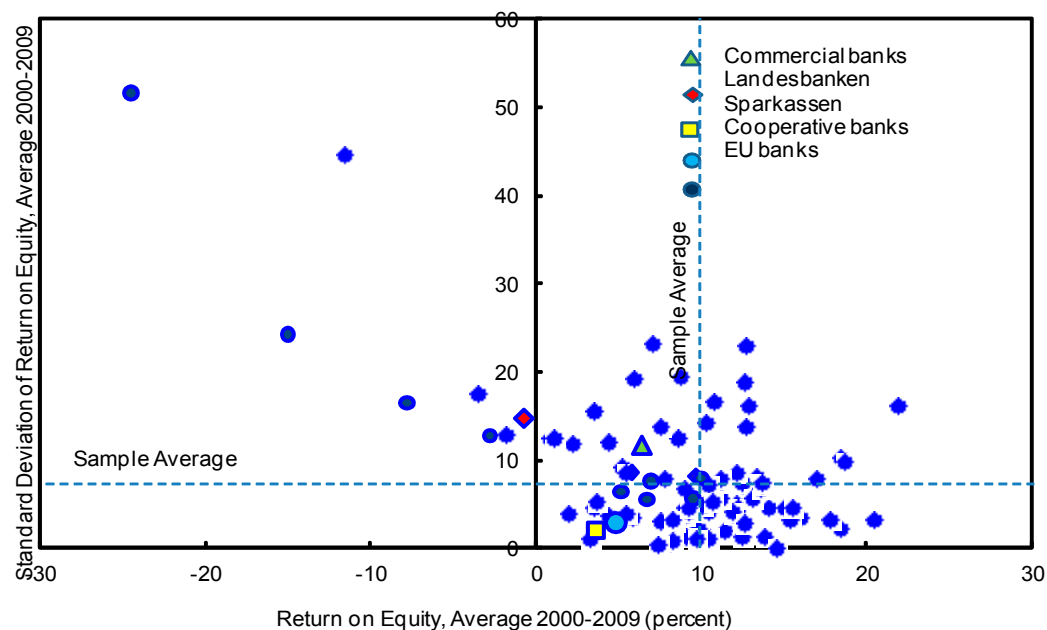
²⁶ Two measures of risk-adjusted returns commonly used in Finance are applied: Sharpe ratio as in Sharpe (1966) and the risk-adjusted performance based on Modigliani and Modigliani (1997). Sharpe ratio calculates the reward per unit of risk, $\frac{E(r_i) - r_f}{\sigma_i}$. Meanwhile, the risk-adjusted performance uses the market opportunity

cost of risk, or trade-off between risk and return to adjust all portfolios to the level of risk in the unmanaged market benchmark then matches a portfolio's risk to that of market and measures the returns of this risk-matched portfolio, $RAP_i = (\sigma_M / \sigma_i)(r_i - r_f) + r_f$.

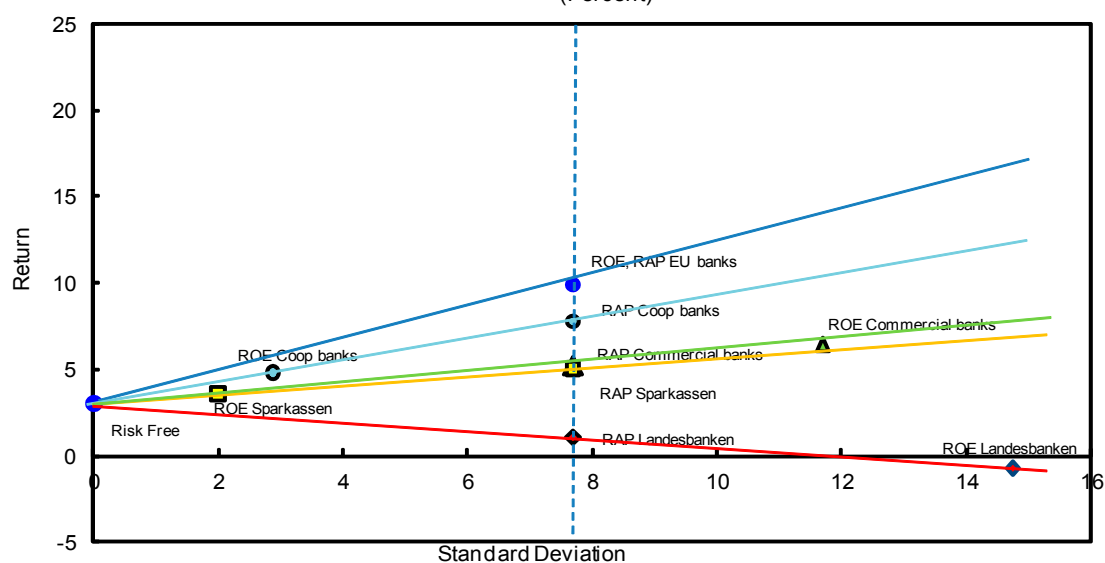
where r_i is return on equity of bank i
 r_f is one-year German treasury bill rate, or estimated German bond yield with residual maturities of one-year
 σ_i is a standard deviation of the return on equity of bank i
 σ_M is a standard deviation of the return on equity of 100 largest European banks

²⁷ Moody's (2010) too indicates the ratio of pre-provision income to risk-weighted assets of German banks has been the weakest in the western European banking systems.

Average Return and Volatility of
German Banks vs 100 Largest EU Banks, 2000-2009



Risk-Adjusted Performance of German banks
(Percent)



Source: Bankscope, IMF Staff Calculation

Cost and revenue performance

24. The weak profitability of German banks is mainly attributable to weak revenue-generation and, less importantly, relatively high operational costs (See Table 2), and relative cost efficiency remains at levels comparable to those of the EU peers.

Nonetheless, German banks—and particularly Sparkassen—show higher than average cost-to-income ratio, driven by the higher operational costs still faced, notwithstanding the ongoing consolidation (Table 2).²⁸ The difference between before- and after-tax profits is relatively larger for Sparkassen and cooperative banks than for other types of bank. Operating costs are relatively high despite the reduction in funding costs attributable to explicit and implicit public guarantees. Without public guarantees, the funding costs of the respective German banks would have been higher.²⁹

25. Revenue and thus profit efficiency is structurally low. Accounting for the relatively low-risk nature in a large part of German banks—Sparkassen and cooperative banks—the efficiency score adjusted for risk (so-called risk-return efficiency) is somewhat higher than cost and profit efficiency, which could reflect the optimization of risk-return by German banks (Koetter, 2006). Of course, the cooperative banks do not aim to maximize profits, but rather the sum of profits and consumer surplus of their members, which inevitably compress banks' profitability. Their presence, and that of public sector banks that are under less pressure to exit unprofitable business lines, could reduce opportunities for purely profit-maximizing banks.³⁰ Arguably, the poor returns in the domestic market have led the larger and more internationalized banks to take on increase leverage and invest heavily abroad in search for higher returns. Inadequate risk pricing in some cases and a lower proportion of high-value-added output, including non-interest income, also play a role (Brunner et al., 2004).

26. Efforts to improve efficiency over time may be hindered by structural rigidities in the system. For example, successful management practices of an individual Sparkasse or cooperative bank may not be smoothly extended through competition to operations in another region, because of the “regional principle,” or to another institution.³¹ Successful management of a private commercial bank may lead that bank to a slow gain of market share, but hardly to a take-over a bank from another pillar. Thus, what might be termed dynamic efficiency and innovation are slowed.

²⁸ Weill (2009) estimates the cost efficiency scores for the EU banking markets using stochastic frontier analysis and provides evidence of a convergence in cost efficiency between EU countries. The estimated cost efficiency is somewhat comparable, but on the low side among 10 EU countries.

²⁹ Admittedly, also (large) banks in other countries have benefited from implicit support from their governments. The market-implied contingent liabilities can be calculated using the so-called Systemic CCA framework. The method requires the financial market data and accounting information for individual financial institutions and their cross-dependence to infer the joint market-implied contingent liabilities. The method was also applied in the context of stress testing for the US FSAP. The market data of German banks, particularly the numbers of listed banks, however, are very limited. The data limitation, therefore, constrains the full assessment of the extent of implicit government guarantee.

³⁰ Hesse and Cihak (2007) find that a high presence of cooperative banks constrains weak commercial banks in the retail market. This leads the commercial banks to seek to rely on less stable revenue sources such as corporate banking or investment banking.

³¹ Unless the other institution is near failing and a take-over is arranged by the relevant banking association.

27. **Margins for improvements exist.** Further consolidation among savings and cooperative banks can provide the base to improve the efficiency of their cost structure, reducing operational costs relative to income, and hence strengthening their business viability and stability. The continued improvements in banks' efficiency are likely to positively affect financial stability and support economic growth. Koetter and Porath (2007) suggest that measures to enhance efficiency could improve banks' profitability, thus reducing pressure on banks to run into excessive risk-taking investments in search for yield. In turn, the reduction in risk exposure promotes financial stability. Enhancements in efficiency can also lead to a more effective credit allocation and help spur growth (Koetter and Wedow (2006), and Hasan et al. (2007)).

VI. BENEFITS OF PUBLIC INVOLVEMENT

28. **Sparkassen contribute to the social expenditures through the distribution of earnings to their public owners.** As all other banks, they are obliged to maintain their financial viability and fulfill their regulatory requirements, but profits beyond what are needed for those purposes can be disbursed to the municipalities or districts to which they belong. Kleff et al (2010) find the payout rule allows typically about 25 percent of the Sparkassen to distribute profits to their associated public owners.³²

29. **Sparkassen are also obliged to provide country-wide financial services, and additionally support community tasks on public goods in their region, including cultural activities, education and science, sports, and environment (text table).** They further engage in the community through their 661 foundations, thus serving and spending for community services. Nonetheless, it should be noted that this benefit amounts to only about 0.02 percent of GDP per annum, also in part as a consequence of the weak profitability. Moreover, some of the "social" expenditures may have a promotional purpose; private and cooperative banks also sponsor various projects, presumably as a form of advertising.

³² Kleff et al (2010) analyze the payout decision of Sparkassen in four federal states, and find the profitability and portfolio risk are important determinants of the Sparkassen' payout decision. They note that the payout rules is depended on some measures of banks' capitalization, including reserves to total assets or reserves to total debts. The well-capitalized Sparkassen are not forced to pay out the earnings, but they are allowed to distribute a sum between zero and the maximum amount according to state law to their public owners.

Public Benefits of Sparkassen

Dividend pay-out				
	Share of profit after taxes (Percent)	Share of Sparkassen assets (Per mil)	Share of Lander tax (Per mil)	Share of GDP (Per mil)
2007	8.604	0.180	0.884	0.077
2008	11.965	0.128	0.632	0.055
2009	7.633	0.175	0.924	0.078
Social spending of Sparkassen 2/				
	Share of profit after taxes (Percent)	Share of Sparkassen assets (Per mil)	Share of Lander tax (Per mil)	Share of GDP (Per mil)
2007	21.236	0.444	2.181	0.191
2008	34.847	0.373	1.841	0.161
2009	19.245	0.442	2.329	0.198
Implicit subsidies 1/ 2/				
	Share of profit after taxes (Percent)	Share of Sparkassen assets (Per mil)	Share of Lander tax (Per mil)	Share of GDP (Per mil)
2007	43.023	0.900	4.419	0.386
2008	56.108	0.600	2.964	0.259
2009	43.577	1.000	5.274	0.448

Source: DSGV, Deutsche Bundesbank, and IMF Staff Calculations

1/ Including community spending and annual spending of the foundations of Sparkassen

2/ Estimated implicit subsidies through lower financing rates. Further subsidies might also be embedded in the structurally low commission income.

30. **Sparkassen also provide implicit subsidies through lending at lower than market rates.** Preliminary conservative estimates suggest that the implicit subsidies have averaged 0.05 percent of GDP per annum in the last decade (Box 2 and table above).³³ Furthermore, in the latest years these subsidies seem to have moved in an anti-cyclical way, which may have helped smooth economic fluctuations. While the implicit subsidies could be considered part of the public benefits, lending at low rates further squeezes profit margins. Furthermore, it is debatable whether this approach represents a well-targeted mechanism to correct a market failure; it is not clear that beneficiaries of these subsidies were any more deserving than those who paid for them, or whether a more transparent method of subsidization would be more effective. For example, insofar as municipal projects enjoyed

³³ Subsidies have been estimated through a direct comparison of the income structure of savings and cooperative banks. Both groups of banks, despite showing some difference in size, have a comparable business model, focused on retail banking, subject to tight territorial limits, subject to limited possibilities of internal growth. Both groups of banks benefit from a very good knowledge of their customer base and of the economic conditions in their business area. The two groups of banks should, therefore, have comparable loan portfolios and show on average a comparable interest income. In practice, however, savings banks show an interest rate margin structurally lower than cooperative banks, which could reflect a possible under-pricing of credit risk and hence the implicit subsidies provided. This is likely to be a conservative estimate as further subsidization could exist in the form of lower fees applied to customers. This is true also given that some subsidization could exist for the cooperatives, but to a lesser extent.

relatively cheap financing, public investment is indirectly subsidized at the cost of general municipal revenue or funding for enterprises.

Box 2. Earnings Distribution and Implicit Subsidies by the Sparkassen

Sparkassen appear to provide some loans at lower than market price, thereby implicitly subsidizing access to credit. The subsidies have been estimated through a direct comparison of the interest income structure of Sparkassen and cooperative banks. Both groups of banks, despite showing some differences in size, have a comparable business model, focused on retail banking, subject to territorial limits, and with limited possibilities for internal growth. Both groups of banks benefit from a very good knowledge of their customer base and of the economic conditions in their respective business area. The two groups of banks should therefore have comparable loan portfolios and earn on average a comparable interest income. In practice, however, Sparkassen appear to charge an interest rate margin structurally lower than cooperative banks. Such a difference is likely to reflect the under-pricing of credit risk by the Sparkassen and hence the implicit subsidies provided by them. This estimate is likely to be conservative, because further subsidization could exist in the form of lower fees applied to customers. Elements of subsidized lending could exist also for the cooperative banks in favor of their members, but the incentives in this case appear to be lower, given that members benefit also from the earnings distribution by their cooperatives.

The implicit subsidies are countercyclical. Empirically, implicit subsidies are negatively correlated with output, whereas positively correlated with unemployment.

Impact of Implicit Subsidies on Savings Banks Profits 1/

Constant	0.006 (0.001)
GDP (t-1)	0.030 (0.009)**
Implicit Subsidies	-2.39 (0.643)***
Deposit rate	-0.061 (0.022)**
R-squared	0.904
Adjusted R-squared	0.857

Source: IMF Staff Estimates

1/ Dependent variable is profits before tax of savings banks.

The table presents the estimated coefficients corresponded to each variable. Standard deviations are shown in parenthesis.

, * show significance at 5 and 1 percent respectively.

The Determinants of Implicit Subsidies by Savings Banks 1/

	i	ii	iii	iv	v
Constant	-0.0007 (0.000)	-0.0009 (0.001)	-0.0007 (0.000)	-0.0002 (0.000)	-0.0007 (0.000)
Unemployment	0.0134 (0.004)***	0.0166 (0.007)*	0.0136 (0.004)**	0.0119 (0.003)***	0.0135 (0.004)***
GDP(t-1)		-0.0031 (0.003)			
Industry orders			0.0005 (0.001)		
Building permits				-0.0060 (0.005)	
Output gap					0.0008 (0.002)
R-squared	0.483	0.499	0.508	0.544	0.486
Adjusted R-squared	0.425	0.356	0.386	0.43	0.358

Source: IMF Staff Estimates

1/ Dependent variable is the implicit subsidies by savings banks

The table presents the estimated coefficients corresponded to each variable. Standard deviations are shown in parenthesis. *, **, *** show significance at 10, 5 and 1 percent respectively.

31. **These pecuniary benefits of public ownership may not represent a good return on public assets.** The same assets invested in a more diversified portfolio would likely yield higher returns for the same risk, or lower risk for the same return. Furthermore, public accountability and democratic control over these quasi-fiscal activities is limited.

32. **The arguments based on public benefit are even less applicable to the case of the LB.** While the traditional role of the LB in providing services for the Sparkassen was diminished, their poor business strategies and risk management significantly burdened taxpayers even before the recent crisis. The LB have been providing very poor financial

returns; the returns on public capital invested in them seem poor relative to those offered on many alternatives. The public sector costs of the LB, including the estimated opportunity costs and direct capital injection, are considerable: the annual opportunity cost is estimated to have averaged 0.25 percent of GDP (3 percent of Länder tax revenue) since mid-2000s, and the out-of-pocket costs amounted to 0.75 percent of GDP (9 percent of Länder tax revenue) in 2009 (Figure 6).³⁴

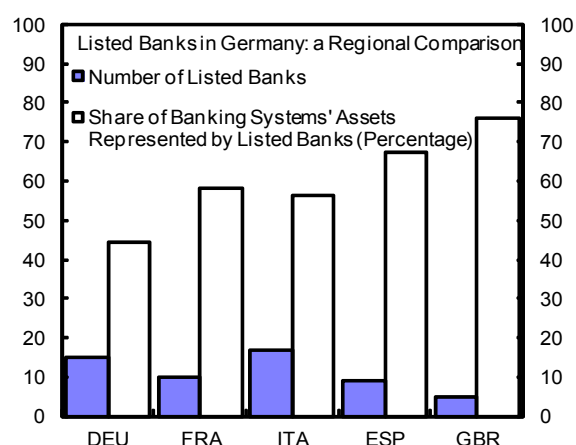
VII. GOVERNANCE

33. **The German banking system stands out for the degree of public ownership, with 441 public sector credit institutions (text figure).** The German banking system exhibits a lower degree of openness to private shareholders compared to that in other major EU countries, including France, Italy, Spain, and the UK. In particular, the share of the banking system assets listed on a stock exchange was less than 45 percent, well below a sample average of 65 percent.

34. **Most of these institutions are not in a strict legal sense owned by government, but created by legislation, which also specifies their mandates.** The associated governance structures entail that multiple levels of government are involved:

Sparkassen are answerable to their respective local governments, but LB are answerable to Länder governments, regional Sparkassen associations or the national association, and, in a few cases, other investors.³⁵ Also, the Sparkassen associations exercise strong oversight over their members (as the cooperative association oversees its members). These ownership groups have divergent interests: a local government that owns a Sparkasse may wish that institution to engage in public-policy (or politically) motivated activities in the locality, but with regard to an associated Landesbank its main interest may well be in receiving high dividends. A land government, however, may be much less interested in the profitability of its Landesbank and more keen to preserve its stability.

35. **A process of introducing private capital into parts of the German banking system could be an important way to improve governance and increase market discipline.** The involvement of private shareholders in banks' capital, even with the public



Source: Bankscope, Bloomberg, Banks' Financial Reports and IMF Staff Calculations.

³⁴ The opportunity costs of LB are estimated as in Cihak and Traa (2006), comparing the returns on equity of LB with that of alternative investment—the average of returns on equity of 100 largest European banks.

³⁵ The cooperative banks fully own their apex institutions.

sector retaining a participation in the banks, would increase monitoring of banks' activity, with a number of possible related improvements. Under these circumstances, banks would face clearer incentives to improve efficiency, to achieve a balanced risk-return profile, and better disclosure and transparency is promoted. A well-designed process of introducing private equity and even privatization would not lead to the neglect of the important social role played today by many public banks.³⁶

36. The introduction of private capital could potentially improve bank productivity and profitability. A comparison between the German and the Italian banking systems, which in the past showed similar characteristics, provides evidence that Italian banks experienced a significant increase in productivity in the year of privatization, which also remained higher thereafter, particularly when privatization was followed by a merger (Fiorentino et al, 2009).³⁷ Empirical evidence in a number of countries seems to support the theoretic argument that reducing government involvement in the banking system is likely to foster improvements in terms of capital adequacy, profitability and risk exposure (Cornett et al, 2010). Furthermore, the existing literature also shows that banks in public sector ownership tend to be less efficient (Perotti and Vorage, 2010). Other European banking systems, such as those of France and Austria, have witnessed a process whereby financial groups retained a decentralized, regional ownership base, but introduced private equity through a listed subsidiary of the apex institution or holding company.

³⁶ In the experience of Italy, such a role is carried out by the public non-profit foundations owned by local municipalities, which retained minority but significant participations in the ex-savings banks. The proceeds from the disposal of part of the holdings in the local banks and the dividend-income from their retained participations in the banking system grants them the endowment needed to carry-out their social function.

³⁷ It should be also noted that the ongoing consolidation has not had a negative impact on the availability of credit for the SMEs, particularly important in the context of the German economy (Schmider *et al*, 2007).

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Table 1. Germany: Banking Sector Structure

	2003						2008						2010					
	Number of			Total Assets			Number of			Total Assets			Number of			Total Assets		
	Institutions	Branches	Employees	(Billions of Euro)	(Percent of Total)		Institutions	Branches	Employees	(Billions of Euro)	(Percent of Total)		Institutions	Branches	Employees	(Billions of Euro)	(Percent of Total)	
Depository institutions	2,226	36,575	725,550	6,472			1,981	39,531	685,550	7,956			1,919	...	....	8,455		
Commercial banks	261	5,105	...	1,804	28		273	11,277	...	2,455	31		280	...	....	3,056	36	
<i>of which:</i>																		
Big banks	4	2,221	...	1,045	16		5	8,536	...	1,467	18		4	...	....	2,107	25	
Regional and other banks	173	2,861	...	671	10		164	2,656	...	791	10		168	...	....	746	9	
Branches of foreign banks	84	23	...	88	1		104	85	...	197	2		108	...	....	204	2	
Landesbanken	13	571	40,500	1,346	21		10	482	39,250	1,563	20		10	...	....	1,508	18	
Savings banks	491	14,757	271,900	1,000	15		438	13,457	251,400	1,071	13		429	...	....	1,084	13	
Regional institutions of credit cooperatives	2	12	5,400	187	3		2	12	5,100	273	3		2	...	....	265	3	
Credit cooperatives	1393	13,201	168,250	566	9		1197	12,344	159,250	668	8		1138	...	....	706	8	
Mortgage banks	25	76	...	872	13		19	56	...	842	11		18	...	....	726	9	
Banks with special functions	14	31	11,400	524	8		17	31	13,450	896	11		18	...	....	911	11	
Building and loan associations	27	2,822	17,600	173	3		25	1,872	16,400	188	2		24	...	....	199	2	

Sources: BaFin, Deutsche Bundesbank

Table 2. Banking Performance Indicators in Selected Countries

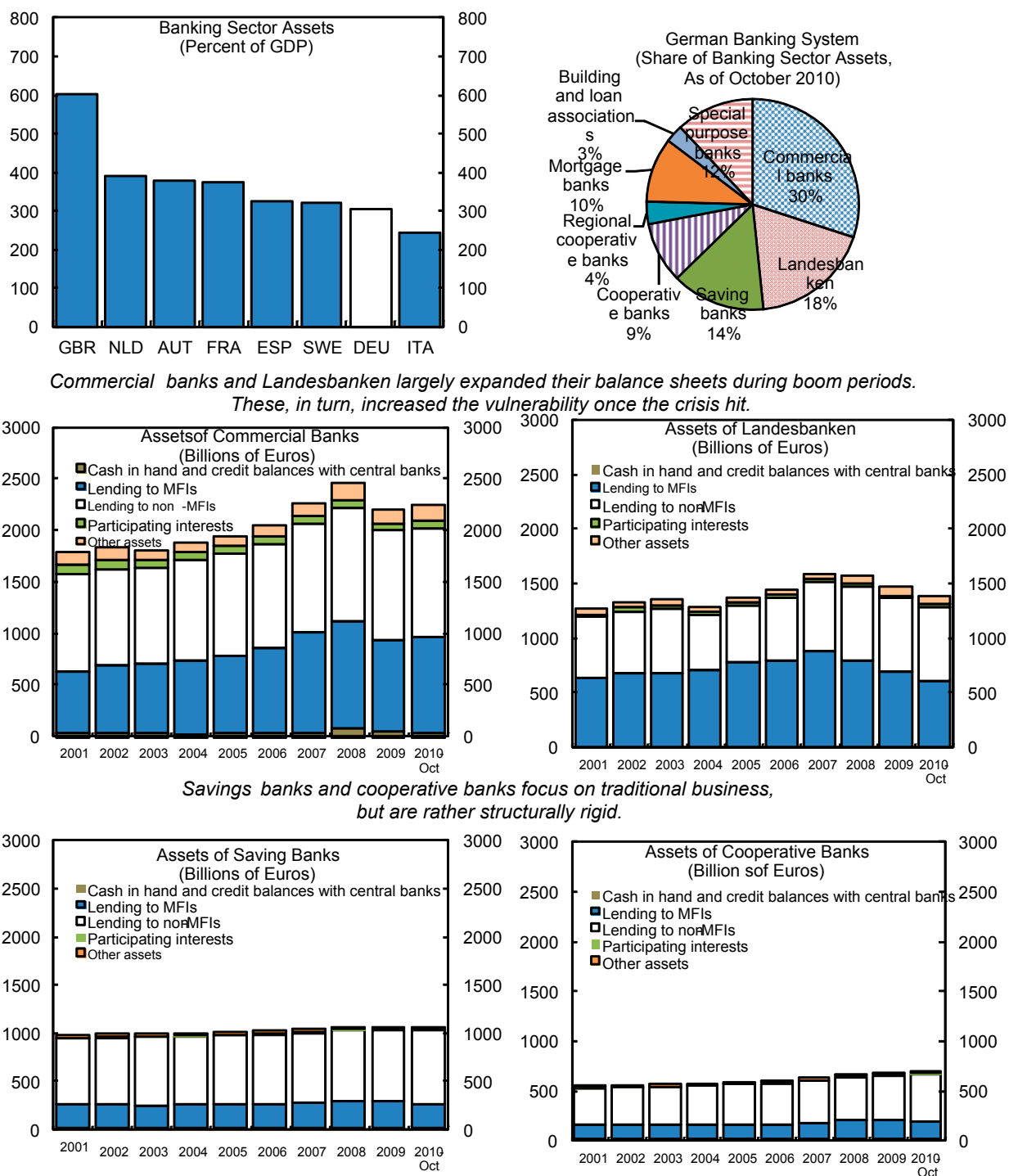
(Percent of total balance sheet)

	DEU				FRA				ITA				ESP				SWE				NLD				AUT			
	2006	2007	2008	Avg. 1/	2006	2007	2008	Avg. 1/	2006	2007	2008	Avg. 1/	2006	2007	2008	Avg. 1/	2006	2007	2008	Avg. 1/	2006	2007	2008	Avg. 1/	2006	2007	2008	Avg. 1/
<i>All banks</i>																												
Net interest income	1.3	1.3	1.3	1.3	0.5	0.3	0.4	0.6	1.7	1.6	1.7	2.0	1.5	1.5	1.5	1.8	0.8	0.8	0.8	1.0	1.0	0.9	1.0	1.2	0.9	0.8	0.8	1.0
Net non-interest income	0.5	0.4	0.1	0.4	1.4	1.0	0.5	1.1	1.1	0.9	0.6	0.9	0.9	0.9	0.7	0.9	1.9	1.2	1.0	1.3	1.0	1.1	0.1	0.9	1.2	1.2	1.1	1.2
Net interest and non-interest income	1.9	1.7	1.4	1.8	1.9	1.4	0.9	1.8	2.8	2.6	2.3	2.9	2.4	2.4	2.3	2.7	2.7	2.0	1.8	2.3	2.0	2.0	1.1	2.1	2.1	2.0	1.9	2.2
Operating expenses	1.3	1.2	1.2	1.3	1.1	0.9	0.9	1.2	1.6	1.5	1.5	1.7	1.1	1.0	1.0	1.4	1.3	1.2	1.1	1.4	1.4	1.2	1.1	1.5	1.3	1.2	1.1	1.4
Net operating result before provisions and taxes	0.6	0.5	0.3	0.5	0.8	0.4	0.0	0.6	1.2	1.1	0.8	1.2	1.4	1.4	1.3	1.3	1.5	0.8	0.8	0.9	0.7	0.7	0.0	0.6	0.7	0.8	0.9	0.8
Net profit/loss after taxes	0.3	0.3	-0.3	0.1	0.6	0.3	-0.1	0.4	0.7	0.7	0.3	0.6	0.8	0.9	0.6	0.7	1.4	0.7	0.5	0.8	0.5	0.6	-0.4	0.4	0.8	0.5	-0.1	0.4
Loans	46.6	46.8	46.4	46.9	32.7	32.6	31.4	34.9	44.2	43.7	44.5	45.1	63.3	62.9	61.4	58.8	38.7	44.1	40.2	40.2	52.1	51.0	59.0	56.1	45.4	43.9	41.1	46.3
Capital and reserves	5.5	5.3	5.9	5.3	4.2	3.8	4.0	4.4	6.8	8.0	7.9	7.1	7.2	7.0	7.5	7.9	5.9	5.5	4.9	5.7	3.3	4.0	3.3	3.5	5.8	6.7	6.3	5.5
Cost-income ratio	67.7	69.6	81.4	73.0	58.0	68.8	95.5	67.8	57.1	58.0	64.4	59.5	44.2	41.9	43.1	50.7	46.4	58.8	58.3	61.1	67.5	62.5	97.2	71.1	64.7	59.4	55.1	64.6
<i>Commercial banks</i>																												
Net interest income	1.3	1.3	1.3	1.3	0.3	0.2	0.4	0.4	...	...	...	...	1.4	1.3	1.4	1.6	0.7	0.8	0.8	1.0	...	...	...	...	...	...	...	...
Net non-interest income	0.7	0.5	-0.1	0.5	1.2	0.9	0.3	1.0	...	...	...	...	1.0	0.9	0.8	0.9	1.9	1.2	1.0	1.3	...	...	...	...	...	...	...	...
Net interest and non-interest income	2.0	1.8	1.1	1.8	1.5	1.0	0.7	1.5	...	...	...	...	2.4	2.2	2.2	2.5	2.7	2.0	1.8	2.2	...	...	...	...	...	...	...	...
Operating expenses	1.4	1.3	1.3	1.5	1.0	0.8	0.8	1.0	...	...	...	...	1.0	0.9	0.8	1.2	1.2	1.2	1.0	1.4	...	...	...	...	...	...	...	...
Net operating result before provisions and taxes	0.6	0.6	-0.1	0.3	0.6	0.2	-0.1	0.4	...	...	...	...	1.5	1.3	1.3	1.3	1.5	0.8	0.8	0.9	...	...	...	...	...	...	...	...
Net profit/loss after taxes	0.3	0.5	-0.6	0.1	0.5	0.2	-0.2	0.3	...	...	...	...	0.9	0.9	0.7	0.7	1.4	0.7	0.5	0.8	...	...	...	...	...	...	...	...
Loans	47.9	48.0	44.9	47.7	26.7	27.7	26.8	29.9	...	...	...	...	54.4	53.3	51.2	50.3	37.7	43.3	39.3	39.2	...	...	...	...	...	...	...	...
Capital and reserves	3.8	3.6	4.4	4.1	3.1	2.7	2.8	3.3	...	...	...	...	7.0	7.0	7.5	7.9	5.7	5.3	4.2	5.3	...	...	...	...	...	...	...	...
Cost-income ratio	71.1	69.4	110.2	82.6	62.6	80.5	112.9	73.7	...	...	...	...	39.6	40.8	38.4	46.8	45.9	58.7	57.9	60.9	...	...	...	...	...	...	...	...
<i>Landesbanken</i>																												
Net interest income	0.7	0.7	0.8	0.7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Net non-interest income	0.2	0.1	0.1	0.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Net interest and non-interest income	0.9	0.9	0.9	0.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Operating expenses	0.5	0.5	0.5	0.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Net operating result before provisions and taxes	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Net profit/loss after taxes	0.4	0.0	-0.4	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Loans	94.7	94.4	94.2	93.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Capital and reserves	4.5	4.3	4.2	4.4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cost-income ratio	62.5	55.2	51.4	58.8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<i>Saving banks</i>																												
Net interest income	2.2	2.0	1.9	2.2	...	...	...	...	...	...	...	...	1.6	1.8	1.6	2.0	2.6	2.4	2.6	3.0	...	...	...	...	...	...	...	...
Net non-interest income	0.6	0.7	0.6	0.6	...	...	...	...	...	...	...	...	0.8	0.9	0.7	0.8	1.7	1.5	1.0	1.4	...	...	...	...	...	...	...	...
Net interest and non-interest income	2.8	2.7	2.6	2.8	...	...	...	...	...	...	...	...	2.4	2.7	2.3	2.8	4.3	3.9	3.6	4.5	...	...	...	...	...	...	...	...
Operating expenses	1.9	1.9	1.8	1.9	...	...	...	...	...	...	...	...	1.2	1.1	1.1	1.5	2.5	2.3	2.5	3.0	...	...	...	...	...	...	...	...
Net operating result before provisions and taxes	1.0	0.8	0.8	0.9	...	...	...	...	...	...	...	...	1.2	1.5	1.2	1.2	1.8	1.6	1.2	1.5	...	...	...	...	...	...	...	...
Net profit/loss after taxes	0.2	0.2	0.1	0.2	...	...	...	...	...	...	...	...	0.7	0.9	0.5	0.7	1.4	1.2	-0.5	1.1	...	...	...	...	...	...	...	...
Loans	59.9	59.1	59.0	60.2	...	...	...	...	...	...	...	...	73.3	73.9	73.4	68.9	78.9	75.6	82.8	78.6	...	...	...	...	...	...	...	...
Capital and reserves	5.1	5.2	5.3	4.8	...	...	...	...	...	...	...	...	7.2	6.8	7.3	7.5	15.1	16.4	12.2	15.4	...	...	...	...	...	...	...	...
Cost-income ratio	65.9	69.6	68.8	66.7	...	...	...	...	...	...	...	...	48.8	42.0	47.7	55.0	58.8	59.9	68.1	65.8	...	...	...	...	...	...	...	...
<i>Credit Cooperatives</i>																												
Net interest income	2.3	2.1	2.0	2.3	1.1	0.9	0.7	1.3	...	...	...	...	2.0	2.1	2.1	2.5	...	...	...	...	...	...	...	...	...	...	...	...
Net non-interest income	1.2	0.8	0.8	0.9	1.8	1.7	0.9	1.3	...	...	...	...	0.7	0.6	0.5	0.7	...	...	...	...	...	...	...	...	...	...	...	...
Net interest and non-interest income	3.4	2.9	2.8	3.2	2.9	2.6	1.7	2.6	...	...	...	...	2.6	2.7	2.7	3.1	...	...	...	...	...	...	...	...	...	...	...	...
Operating expenses	2.2	2.1	1.9	2.2	1.5	1.3	1.2	1.6	...	...	...	...	1.5	1.4	1.5	1.8	...	...	...	...	...	...	...	...	...	...	...	...
Net operating result before provisions and taxes	1.2	0.9	0.9	1.0	1.5	1.2	0.5	1.0	...	...	...	...	1.1	1.3	1.2	1.3	...	...	...	...	...	...	...	...	...	...	...	...
Net profit/loss after taxes	0.5	0.3	0.2	0.3	1.1	1.0	0.2	0.7	...	...	...	...	0.7	0.8	0.6	0.8	...	...	...	...	...	...	...	...	...	...	...	...
Loans	59.2	58.1	56.4	59.5	49.7	49.6	46.9	49.0	...	...	...	...	80.3	82.9	83.6	77.3	...	...	...	...	...	...	...	...	...	...	...	...
Capital and reserves	5.8	5.9	5.8	5.5	7.7	7.9	8.1	7.5	...	...	...	...	9.7	9.5	10.2	10.5	...	...	...	...	...	...	...	...	...	...	...	...
Cost-income ratio	64.7	70.5	68.4	68.9	50.2	52.0	71.1	60.5	...	...	...	...	56.7	52.9	55.4	57.9	...	...	...	...	...	...	...	...	...	...	...	...

Source: OECD's Bank Profitability, Deutsche Bundesbank
1/ Average 2001-2008

Figure 1. Germany: Balance Sheets of German Banks

The German banking system is based on the "Three-Pillar" system, comprising private banks, public banks -savings banks and Landesbanken, as well as cooperative banks.

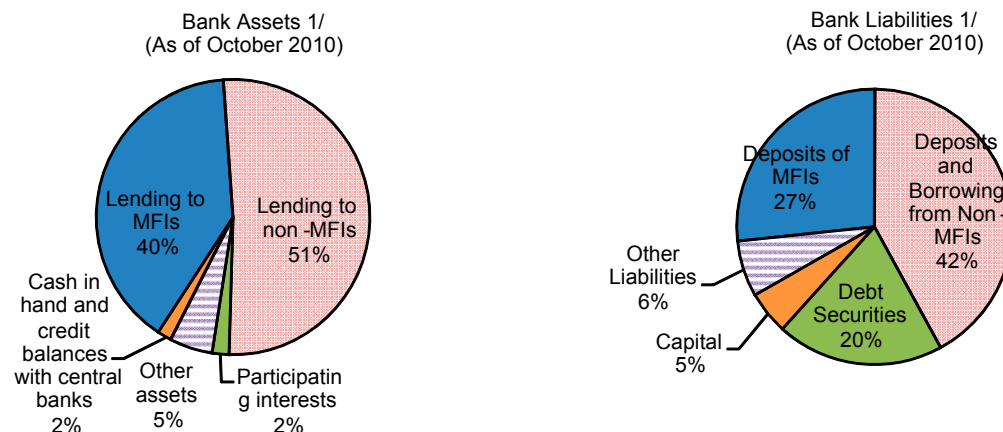


Savings banks and cooperative banks focus on traditional business, but are rather structurally rigid.

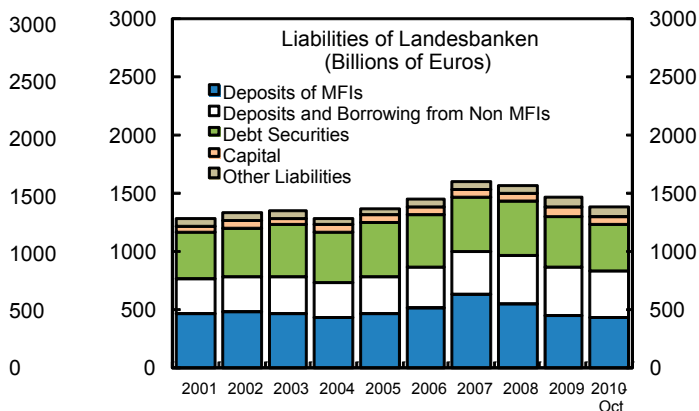
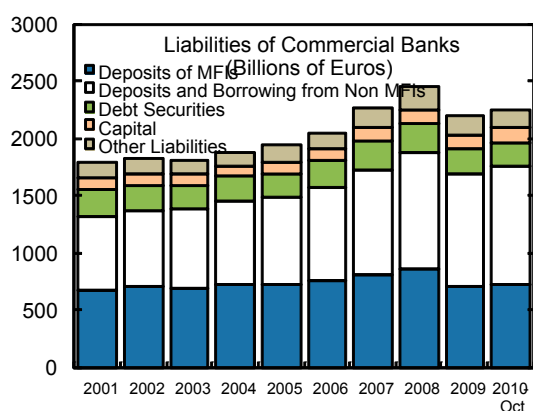
Source: Deutsche Bundesbank

Figure 2. Germany: Liabilities of German Banks

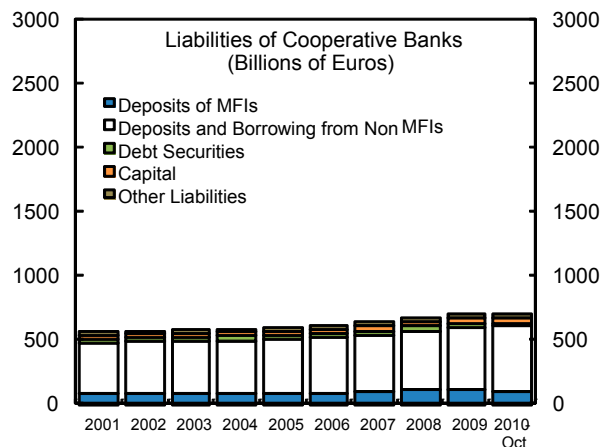
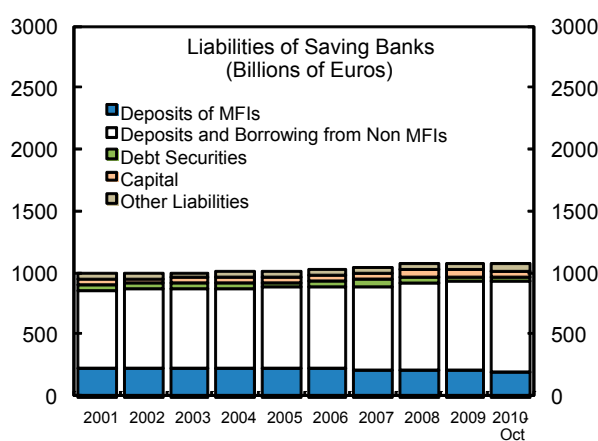
German banks play an important role of intermediation, serving as a backbone of the German industry.



Some large banking groups and Landesbanken increased their wholesale and international business activities, but these have been refocused since the crisis.



Savings banks and cooperative banks are domestically-oriented, mainly taking stable deposits.

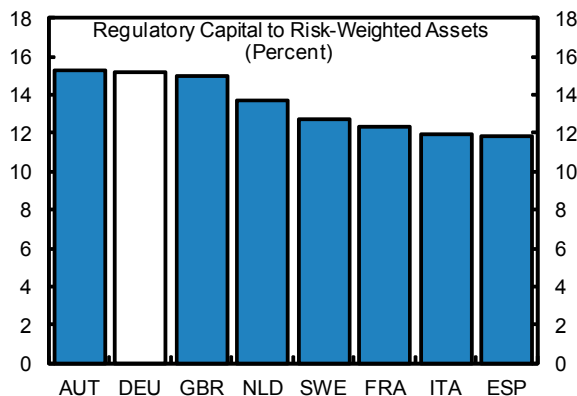


Source: Deutsche Bundesbank

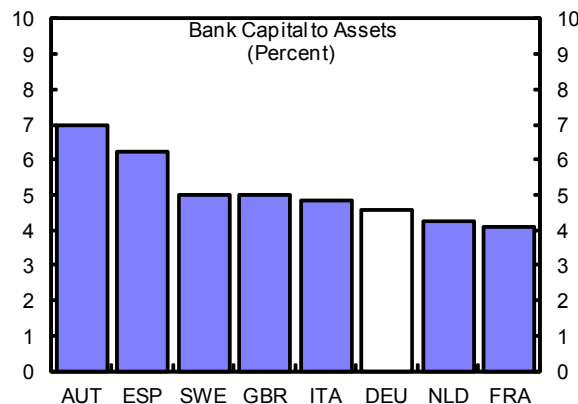
1/ Balance sheet total for all categories of banks

Figure 3. Germany: Financial Soundness Indicators by Cross-Country Comparison 1/

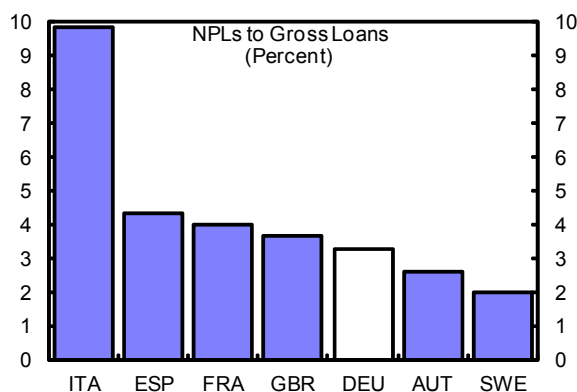
German banks are adequately capitalized.



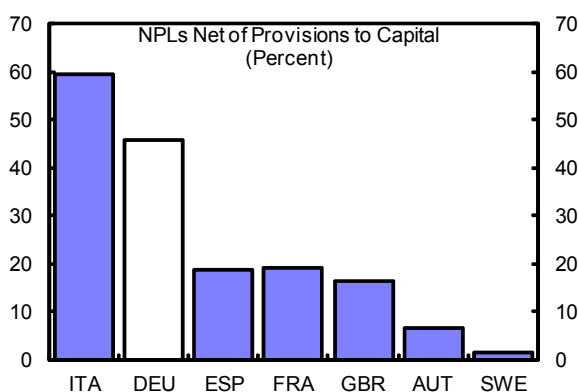
Nonetheless, German banks are highly leveraged, compared with peers.



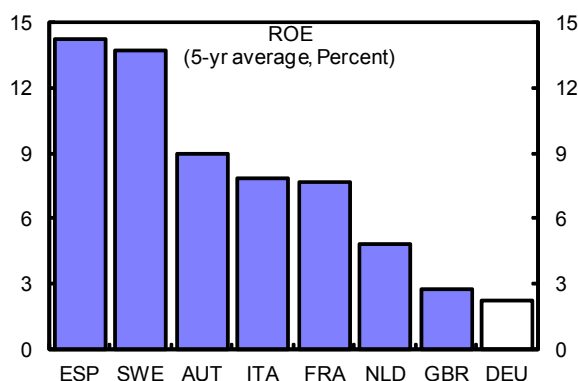
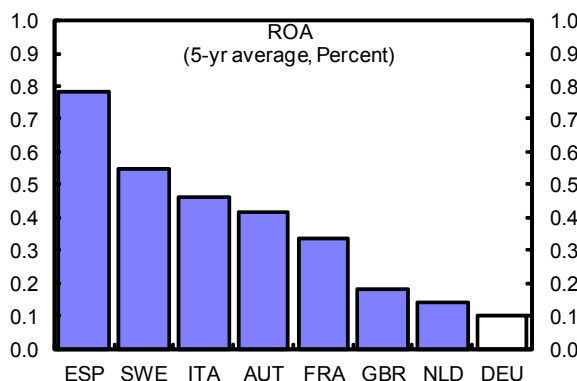
NPLs ratio are comparable with those of peers.



But, NPLs net of provisions is substantially higher.



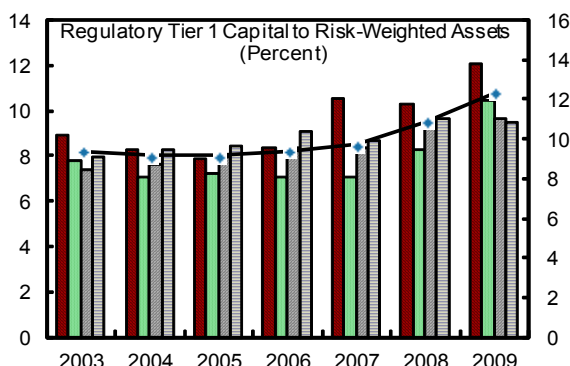
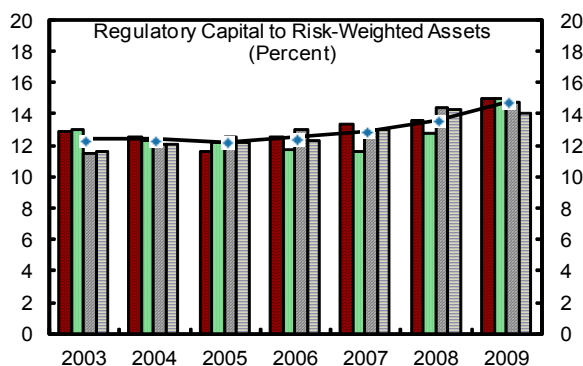
German banks exhibit poor performance, as their returns record the lowest among advanced countries.



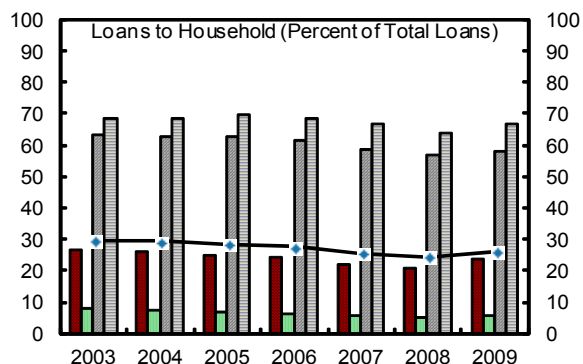
Source: Deutsche Bundesbank, Global Financial Stability Report, IMF's Financial Soundness Indicator Database
 1/ Data for Germany, Austria, and the Netherlands are as of Q3:2010. Data for Italy are as of Q2:2010. Data for Spain and United Kingdom are as of Q1:2010. Data for France and Sweden are as of 2009.
 2/ ROA and ROE are averaged over 2006-2010.

Figure 4. Germany Financial Soundness Indicators by Type of Banks

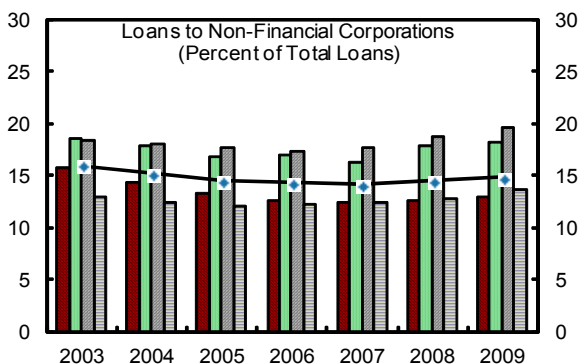
In aggregate, German banks are well-capitalized across all segments.



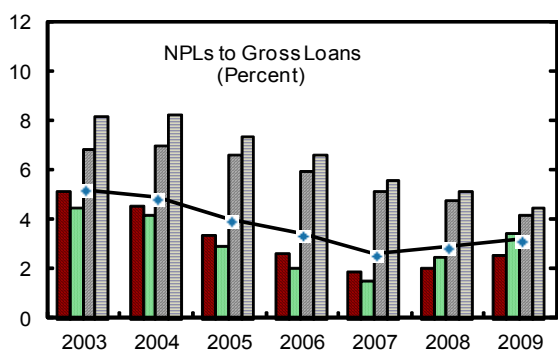
The banks significantly intermediate the German corporations.



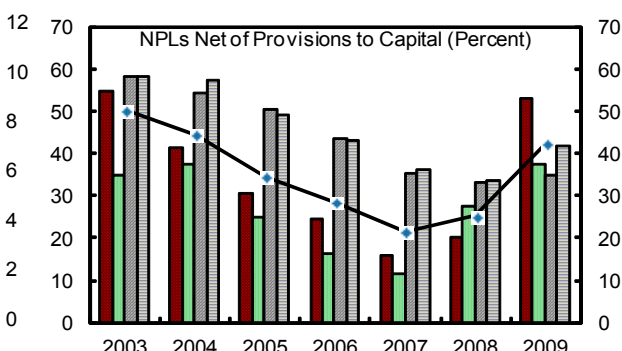
Particularly, savings banks and cooperative banks are the major lenders to German households.



NPL ratios have increased since the crisis.



Risk pricing may be inadequate.

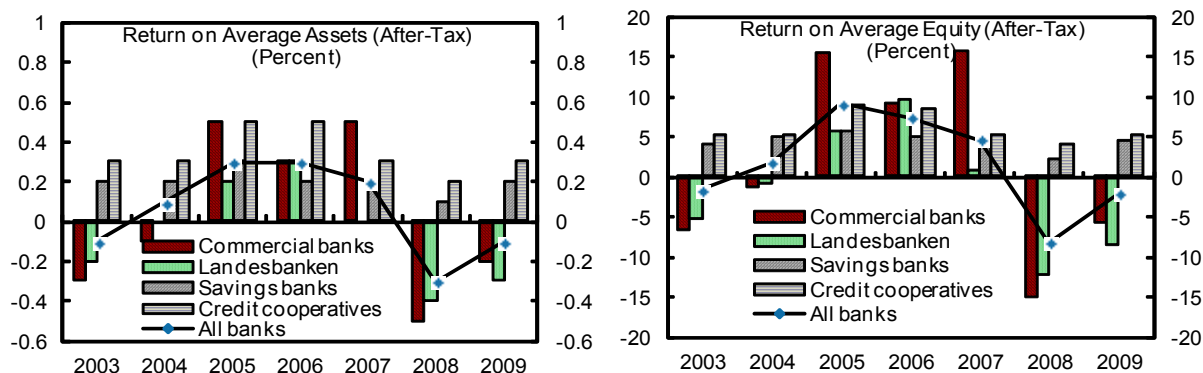


■ Commercial banks ■ Landesbanken ■ Savings banks
■ Credit cooperatives —●— All banks

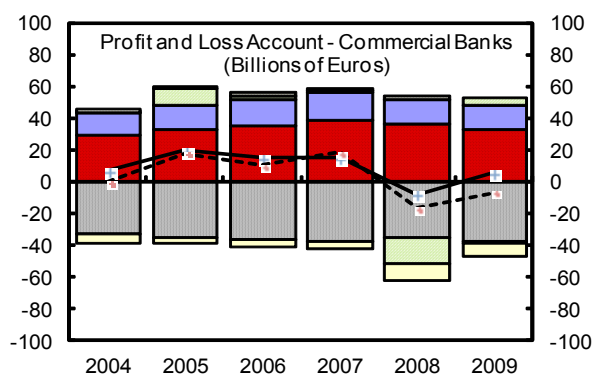
Source: Deutsche Bundesbank

Figure 5. Germany: Bank Performance Indicators

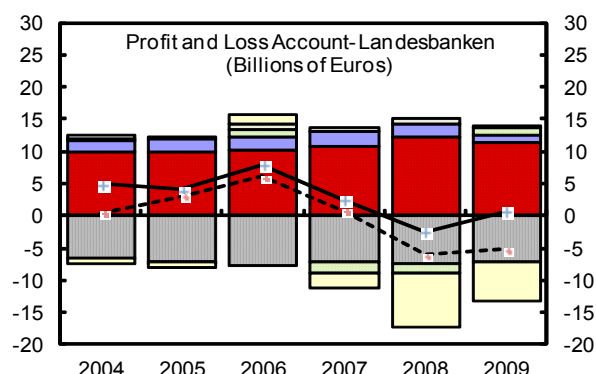
German banks' returns continue to recover, but remain low.



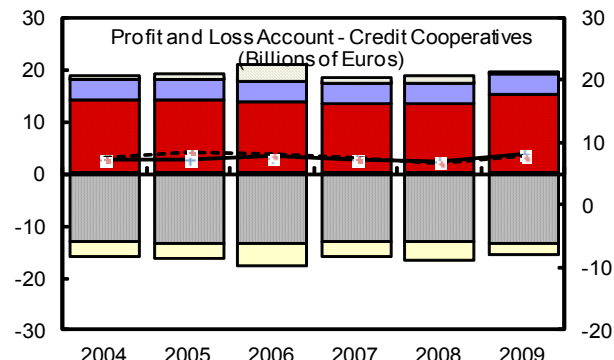
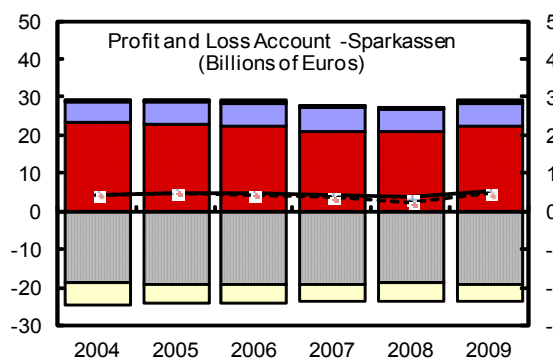
Commercial banks' results are recovering.



Landesbankens have been providing very poor profitability.



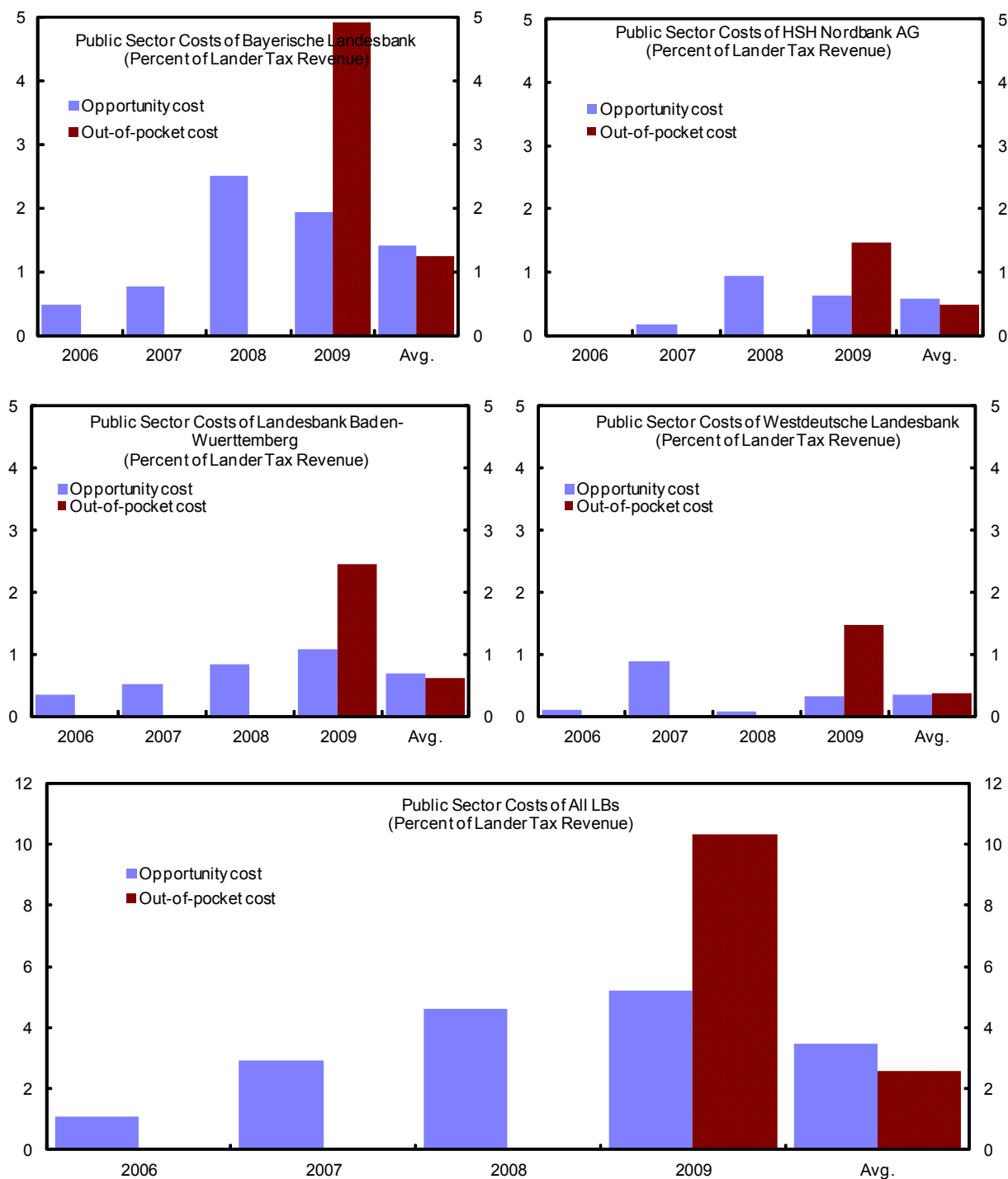
On the other hand, the results of savings and cooperative banks have been stable.



■ Net interest received
 ■ General administrative Spending
 ■ Net other operating income or charges
 —●— Operating results

■ Net commission received
 ■ Net profit on financial operations
 ■ Net income from the valuation of assets
 - - - Profit before tax

Source: Deutsche Bundesbank

Figure 6. Germany: Public Sector Costs of Landesbanken

Source: Cihak and Traa (2006), IMF Staff Calculations

1/ The out-of-pocket costs include only the capital injections provided by the government.

2/ The opportunity costs compare the returns on Landesbanken investment with an alternative investment in the 100 largest European banks.