DEUTSCHE BUNDESBANK

Globalisation:
the role of institution-building
in the financial sector

Case study on German experience

prepared for the G-20

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I. Introduction

The German financial sector has proved very robust in the past 50 years. Unlike that of a number of other developed nations, it has been spared systemic crises. West Germany's rapid rise to become a leading global economic player was greatly facilitated by the stability and efficiency of its financial sector.

The volume and structure of the German financial system can be gauged by the funds invested or raised within the system by non-financial sectors and non-residents. At the end of 2001, the outstanding amount that households, non-financial enterprises, general government and non-residents had invested via the German financial system represented a ratio of around 391% of GDP (see Table 1). This was close to the comparable ratio for the USA (395%).

Table 1

Volume and structure of the German financial system

- % of GDP -

	Amounts outstanding at end of 2001							
	Funds invested				Funds raised			
	Intermediaries		Shares		Intermediaries		Shares	
Sectors	Total	of which: banks	and other securities	Total	Total	of which: banks	and other securities	Total
Resident non-financial sectors	**154**	**95**	**112**	**266**	**167**	**138**	**122**	**289**
- Households	130	64	44	174	76	72	-	76
- Corporations	15	22	63	78	68	45	81	149
- General government	9	9	5	14	22	21	41	63
Resident financial sectors	**223**	**19**	**89**	**312**	**201**	**-**	**108**	**309**
- Banks	185	-	72	257	154	-	95	249
- Insurance companies	38	19	17	55	47	-	13	60
Non-residents	**53**	**50**	**72**	**125**	**27**	**18**	**78**	**105**
Total	**430**	**164**	**273**	**703**	**395**	**156**	**308**	**703**
Memo item: Total excluding resident financial sector	207	145	184	391	194	156	200	394

Note: Figures may not sum to precise totals owing to rounding.

In contrast to the clear capital market orientation of the United States and other Anglo-Saxon countries, the German financial system can be considered a "hybrid" system lying somewhere between a purely bank-based and a purely market-based system. By the end of 2001, German non-financial sectors channelled financial investments equivalent to about 154% of GDP to intermediaries, of which 95 % of GDP to banks, whereas the capital market attracted funds amounting to 112% of GDP. It must be noted, however, that the intermediation provided by banks is even higher than these figures suggest, since banks are the most important issuers on the securities market. At the end of 2001, they had net outstanding issues to refinance their business amounting to 23% of GDP.

A noteworthy feature of the German financial system is the fact that credit institutions mostly operate as multi-business “universal banks”, providing an extensive range of financial services to all of their customers. In addition, German banks usually operate as “house banks” of their commercial clients, with the potential advantage that such long-term relationship banking can enable them to better evaluate risks.

The number of banks in Germany is very large, ensuring strong competition between institutions, but also squeezing their profitability. However, while the market shares of individual banks are mostly relatively small, Germany’s five largest credit institutions account for a ratio of around 28% of the banking system’s total assets, which is similar to the corresponding scores in the USA (27%) and Japan (30%).[1]

Germany’s financial system has not changed dramatically over the past few decades, mainly because major steps to deregulate the system and the liberalisation of international capital movements occurred very early. From the mid-1980s, however, Germany's capital market orientation gradually strengthened, helped by a large number of reforms in response to the enhanced competition among national financial systems in the context of globalisation and growing European integration. While corporate bonds still make up only a small fraction of the securities market (which is dominated by bank and government bonds), funding via the stock market (albeit partly owing to temporary factors) has become markedly more important, although it is still at a relatively low level. Moreover, the modernisation of the German financial system allowed insurance companies and mutual funds (the latter mostly belonging to banks or insurers) to play a more significant role as financial intermediaries.

Among the most important institutional innovations of recent years were the creation of the Federal Securities Supervisory Office and the later establishment of the Federal Financial Supervisory Authority (*Bundesanstalt für Finanzdienstleistungsaufsicht*, or *BaFin*), which combines the tasks of the previously separate supervisory agencies for banks, insurance companies and securities markets under one roof. Exercising exclusively all sovereign functions, *BaFin* closely cooperates with the Bundesbank, whose role in carrying out the ongoing monitoring of banks and investment firms (other financial services provides) has been strengthened at the same time.

Institution-building, in the sense of ensuring a satisfying functioning of the financial system, has also progressed in the field of payments. In Germany, the Bundesbank remains involved in the provision of payment services, while deliberately leaving most operational tasks to the private sector. This dualism enhances the reliability and efficiency of the payment system, provides for equal access of all banks and strengthens the Bundesbank’s expertise required to competently perform its oversight function. A new real-time gross settlement system for large-value payments (RTGS^{plus}) offered by the Bundesbank marks the most important recent innovation.

[1] The figure for Germany was revised upward compared with data released earlier in international publications. For USA and Japan see Group of Ten, Report on Consolidation in the Financial Sector, January 2001, p. 408.

RTGS^{plus}, designed in cooperation with market participants, is strictly geared to the liquidity-saving needs of the market and therefore enjoys a high degree of acceptance.

This paper aims to shed light on the institutional framework of the German financial sector's remarkable stability and efficiency. To that end, Part II of the study briefly outlines the macroeconomic and legal framework which contributed to the stability and efficiency of the system. Parts III to VI review the specific institutional set-up of the financial sector: rules governing the operations of banks, insurance companies and capital markets as well as those applying to the payment system. Part VII draws a few lessons which might be useful, in particular, for emerging-market countries when considering institutional reforms.

II. Germany's macroeconomic and legal framework conducive to fostering stability and efficiency in the financial sector

A. Structure of the German economy

A common structural feature of developed economies is the diminishing importance of agriculture and industry in favour of services, in terms of both value added and the number of persons employed. A key factor behind this development is the increase in real income, which implies a higher demand for services. While the earlier move from agriculture to industry was facilitated by improving earning prospects, the shift from industry to services is proceeding more sluggishly (thereby contributing to structural unemployment) as labour partly needs to migrate to lower-wage jobs. Tertiarisation is occurring even more slowly in Germany than in many other developed nations, also reflecting the fact that the industrial base was traditionally strong and fuelled the country's rapid post-war rise in output, productivity and income.

The structure of the German economy, like that of other large developed countries, is highly diversified and therefore not heavily dependent on the well-being of particular sectors or activities. This is a considerable advantage as it reduces the risk that disruptions in individual branches of the economy may drag the rest of the economy into crisis.

While Germany was characterised for a long time by a prevailing pattern of small and medium-sized enterprises (SMEs), their significance has diminished somewhat in recent years. As a response to the increasing challenges posed by globalisation, many SMEs have merged into more competitive units. The important role which SMEs have traditionally played in the German economy also partly explains the more bank-based character of the country's financial system.

Another structural feature is the pronounced openness in terms of imports and exports. True, there are many other countries which are more open. However, they are mostly rather small economies. For a large European country, the German economy has a very closely knit web of international trade links. This feature emerged immediately after the Second World War, driven by a comprehensive and quick deregulation of the domestic real economy. The German "economic miracle", or *Wirtschaftswunder*, owed much to the successful track record in exports. In that respect, the development in Germany may be regarded as an example of export-led economic growth. The fact that early steps were also taken to deregulate the financial sector (regulation of long-term interest rates was lifted in 1952) helped to liberalise international capital movements at an early stage (capital account convertibility was achieved in 1958), thus enhancing the international integration of the German economy (with further beneficial effects for its competitiveness).

B. Economic governance

Economic governance in Germany is basically guided by the concept of what is termed a “social market economy”. This term, popularised by Ludwig Erhard (Federal Minister of Economic Affairs from 1949 to 1963), denotes an economic system in which – in line with the underlying principles of the German Constitution – market forces are largely given a free rein yet the state defines certain “rules of the game” and, where necessary, seeks to ensure equality of opportunity and social equity. To meet social concerns, the state should mainly endeavour to strengthen the incentives for a proper functioning of the market economy by fostering competition and providing help towards self-help for its citizens. Private property occupies a prominent position in a social market economy. Ownership rights may be infringed only in extreme cases. The freedom of contract can likewise be constrained only under very specific conditions that must be compatible with the citizens’ far-reaching constitutional rights.

Market forces clearly prevailed in the real economy soon after the Second World War. Price controls were lifted very early, causing the supply of goods to grow quickly. In subsequent periods, the state increasingly intervened with regulatory measures and tax increases aimed at achieving a more even income distribution and other welfare objectives. This tended to reduce the efficiency of market forces. As a consequence, the labour market in particular is no longer proving flexible enough to respond satisfactorily to structural changes. The current economic policy debate in Germany is focusing on again strengthening the market elements of a historically very successful concept of economic governance.

C. The importance of price stability

Economic governance based on the principles of a social market economy is reflected in the way German monetary policy was organised after the Second World War. Twice in the past century, inflation caused the German currency to collapse entirely. It was only the 1948 currency reform, resulting in the introduction of the Deutsche Mark, which created the basis for a healthy monetary and financial system. Bearing in mind the upheavals of the past, it is not surprising that the German people are especially fearful of inflation and that innovative safeguards have been introduced to preserve the value of money.

The Deutsche Bundesbank, established in 1957, was mandated by parliament to manage the supply of money and credit with the objective of safeguarding the purchasing power of the Deutsche Mark, in continuation of the successful policy pursued since 1948 by its predecessor, the *Bank deutscher Länder* (*BdL*; decentralised system of Land central banks with joint headquarters at Frankfurt am Main). Building on existing practice, the Bundesbank was also assigned the task of ensuring an efficient system of domestic and cross-border payments. These functions highlight the Bundesbank's special responsibility for monetary and financial stability in the interplay among the various policymakers – parliament, the government, the central bank and the social partners. By focusing strictly on price stability, the Bundesbank played its part in ensuring that prices fully perform their information and allocation functions and that financial assets are not eroded by inflation, thus ensuring in particular that the less well-off groups in society are not discouraged from contributing to their social security by saving. One further advantage was that lending in Germany could widely be based on long-term contracts. "Long-termism" consequently became a key feature of the German stability culture. However, the Bundesbank was only able to fully perform its task of pursing a monetary policy strictly oriented to price stability after the Bretton Woods System of fixed exchange rates was abolished. Prior to that, the Bundesbank's monetary policy was sometimes thwarted by its obligatory purchases of foreign exchange and the concomitant ample supply of liquidity to the banking system and the economy at large.

The most important institutional feature of the German central bank in connection with the overarching theme of this study has been the fact that the Bundesbank became completely independent in its monetary policy from the Federal Government. The *de facto* independence of the *BdL*[2] was followed by a formal provision in the Bundesbank Act stating that, in exercising the powers conferred on it, the Bundesbank shall be independent and not subject to instructions from the Federal Government. This also comprises far-reaching personal and financial independence.

There has always been a broad consensus between the central bank and the Federal Government on the beneficial effects of price stability. However, there have also been occasional conflicts, usually reflecting different time horizons of policymakers. In the mid-1950s, for instance, the Federal Government pressured the *BdL* to refrain from tightening its monetary policy in order to help improve the conjunctural situation. The *BdL*, however, believed that maintaining lower interest rates would jeopardise price stability, and therefore proceeded to increase its lending rates. Peeved by this move, Federal Chancellor Konrad Adenauer held a famous speech in which he publicly declared that the central bank's monetary policy was the "guillotine" of the economy. But thanks to its fine track record of monetary stability, its effective independence and, above all, the stability culture meanwhile prevalent among the German people, the *BdL* emerged strengthened from this episode, whereas the Chancellor came under heavy public criticism for his intervention. The upshot was that this conflict paved the way for the Bundesbank's statutory independence and a sustained monetary policy geared to maintaining price stability. Owing to the positive track record of German monetary policy, the Bundesbank's commitment to price stability and its independence became the model for institution-building in the field of monetary policy at the European level.

Based on the recognition that monetary policy can only be successful in the longer run if it is bolstered by prudent fiscal policy, the German Constitution stipulated from

[2] The creation of the *BdL* in 1948 had preceded the foundation of the Federal Republic of Germany (1949). While the *BdL* was formally subject to instructions from the western occupying powers, they did not exercise their rights. The Federal Government had no control over the *BdL* because the Bank was a decentralised Land-based institution. Consequently, the German Constitution of 1949 called for the creation of a Federal central bank.

its inception that borrowing by the Federal Government must not exceed its total investment expenditures. Similar provisions exist in the Land constitutions. It must be admitted that these so-called “golden rules” actually were no hard budget constraints as public investment was always defined rather broadly. Moreover, at the end of the 1960s the German Constitution was amended such that Federal borrowing may exceed Federal investment expenditures if this is necessary to avert a disturbance of the overall economic equilibrium (without defining “disturbance”). However, since the start of European monetary union (EMU) these provisions have been overridden by the more stringent principles, rules and procedures of the European Stability and Growth Pact. Furthermore, in order to reduce the potential for conflicts, the Bundesbank has successfully advised all Federal Governments to keep the volume of short-term or floating-rate debt at low levels, thus ensuring greater independence of public finances from monetary policy measures.

Monetary policy can also be undermined by excessive wage increases. In Germany, responsibility for negotiating wages rests with the social partners, ie the trade unions and employers’ federations where no company-specific arrangements apply. Under these conditions, the Bundesbank considered it crucial to keep inflation expectations anchored at a low level so as to prevent anticipated price increases from unleashing a wage-price spiral and to signal to the social partners that they themselves would have to bear most of the economic costs of excessive wage increases. Overall, this policy was successful in terms of constraining wage claims, greatly facilitated by the fact that the Bundesbank enjoyed exceptionally high credibility among the German public.

D. Reliable collateral and insolvency legislation

Legal certainty is an important precondition for the proper functioning of a market economy. This requires, firstly, legal concepts and instruments that are closely geared to the practical needs of economic agents and, secondly, effective procedures for enforcement. Regarding the financial sector, reliable collateral and insolvency legislation is a key requirement for market efficiency.

A standard method of containing credit risk (and thereby reducing the cost of capital) is the demand for collateral from the borrower. Providing collateral is generally even a *conditio sine qua non* for gaining access to long-term bank borrowing. Under German law there are various legal techniques for providing collateral, designed to cater for different economic needs. No collateral framework is, however, of any use without efficient enforcement rules in the event of insolvency. The new German Insolvency Code adopted in 1999 ensures such effective protection of creditor rights, but also introduced a few minor restrictions to prevent a premature disbanding of the debtor.

German collateral law forms part of the German Civil Code and deals with moveable goods (such as machinery or securities), debtor rights (such as financial claims against third parties) and real estate. There are two main methods available under German law for using moveable goods or debtor rights as collateral: the classic pledge and the transfer of ownership (with assignment for security purposes). Moreover, special procedures apply for providing collateral by encumbering real estate. The characteristics of these instruments are as follows.

(i) Classic pledge

Under a classic pledge the asset is transferred to the creditor, while the ownership of the pledged asset remains with the collateral provider.[3] The pledge is an ideal instrument in situations where the transfer of possession of the collateral raises no practical problems, ie where easily transportable assets are involved (jewellery, small antiques) or where control is transferred within custody systems (bullion, securities) or where rights are used (such as company shares). The pledge is established informally (no written agreement or other formalities are required). It is also important to note that no court involvement is needed for enforcement of the pledge. In the event of default the collateral taker may seek satisfaction by selling the pledged asset at exchange prices.[4]

(ii) Transfer of ownership (with assignment for security purposes)

Since a transfer of ownership does not require the collateral taker to have physical possession, this method is an ideal instrument in cases where the debtor wants to use mobile equipment such as machinery, goods and commodities as collateral. Transfer of ownership is thus a widely used instrument for securing loans to finance the acquisition of capital goods or for securing supplier credits. The transfer of ownership may be established informally and the enforcement requires neither court involvement nor any specific procedures (like a public sale or auction in the case of a pledge) since the collateral taker is already the owner. This method may also be used for receivables and other claims.

(iii) Mortgage and land charge

In Germany, encumbrances of real estate are only valid if established in a notarial deed and if entered into the public land register (*Grundbuch*). Therefore, the land register always provides perfect and complete information about ownership and encumbrances of real estate. In consequence, real estate is widely used as collateral. There are two possibilities provided by the German Civil Code: the accessory mortgage (*Hypothek*) and the non-accessory land charge (*Grundschuld*). While an accessory mortgage requires the existence of an underlying obligation (typically a loan), the non-accessory land charge is valid independently of such an underlying claim. Both allow for the sale of the encumbered real estate by way of a court-organised auction. In practice, the land charge is widely preferred since it does not require the cumbersome link to an underlying obligation.

As mentioned, the value of all methods of using collateral depends on the ability of the collateral taker to obtain speedy satisfaction in the event of insolvency. In Germany, the Insolvency Code provides collateralised creditors a right of satisfaction from the asset outside the normal insolvency proceedings.[5] In addition, preferential

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[3] Under German law a pledge is an accessory security interest requiring the existence of an underlying claim (which may, however, be defined flexibly).

[4] Where exchange prices do not apply, the collateral taker may seek satisfaction via a public auction or, if a financial claim was pledged, via the collection of cash proceeds.

[5] Minor restrictions exist for specific kinds of collateral which remain in the debtor's possession.

treatment applies to creditors contributing “fresh money” to the insolvent company. They rank ahead of any general insolvency creditors.

To sum up, it can be said that the use of collateral under German law has always been very flexible and efficient. Collateralisation requires no previous court involvement, neither for its constitution nor for its realisation. The collateral taker can seek satisfaction from the collateral, which is widely insulated against the insolvency administrator and other creditors. EU directives regarding collateral legislation largely build on the liberal and non-bureaucratic German concepts.

III. Proven and strengthened principles of banking supervision

A. Structure of the German banking system

"Universal banks" – the type of bank that is predominant in Germany – conduct all types of financial business. There are only a few specialised banks. They are often part of banking groups, thus helping to provide a universal range of high-quality services. The specialised credit institutions include, for example, mortgage banks and building and loan associations as well as the public development bank *KfW* [6]. The stability of universal banks can benefit from offsetting profits and losses in different business areas. Such positive effects at the micro level can help stabilise the overall banking system. More recently, however, German universal banks are increasingly concentrating on business areas in which they have comparative advantages (“focused universal banks”).

The universal banks in Germany can be classified into three groups (or “pillars”): commercial banks, savings banks and cooperative banks.

(i) The group of commercial banks comprises institutions operating internationally or nation-wide as well as regional banks, foreign banks and smaller companies (“private bankers”). The main common feature of this otherwise very heterogeneous group is their legal status of private-law enterprises.

(ii) The much larger number of savings banks (including the overarching Land banks which provide, *inter alia*, various operational facilities and services for retail-oriented savings banks) are based on public law and owned by public authorities (owners and guarantors of savings banks are local authorities, while Land banks are owned and supported by the Land Governments). When the savings banks emerged in the 19th century, they helped to provide equal access of the population to banking services and to foster broad-based asset formation. Following an agreement with the EU Commission, the savings bank system will lose its public financial guarantees from 2005 in order to ensure a level playing field in the German financial sector.

(iii) The cooperative bank sector includes the numerically largest group of institutions, which tend to be rather small, however (with almost 1,500 banks at the end of 2002; see Table 2). The cooperatives equally date back to the 19th century and, as in the case of savings banks, were a response to an inadequate

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[6] Kreditanstalt für Wiederaufbau.

provision of banking services in the regions. The cooperative banks have a private-law status. They originally focused on small businesses and farmers, who are still their main owners. The underlying principles were those of self-help and solidarity.

Measured in terms of business volume, the commercial banks have a market share of around 35%, while the savings banks account for almost 40% and the cooperative banks for over 10%. Specialised institutions account for the remainder.

Table 2

Number of universal banks licensed in Germany by type of institution, 1972 – 2002

Year	Commercial banks[1]	Savings banks	Cooperative banks	Total
1972	314	788	5,756	6,858
1982	244	607	3,827	4,678
1992[2]	334	730	2,915	3,979
2002	297	532	1,492	2,321

1 Excluding subsidiaries and branches of foreign investment banks which have been included in the official statistics only since 1992. – **2** Increases owing to German reunification.

Since 1990 the number of banks has roughly halved, with the cooperative sector accounting for most of the decline. However, no strong tendencies towards concentration are apparent. As mentioned, the combined market share of the largest institutions is similar to that in the USA and Japan. The low degree of concentration in Germany reflects the fact that bank mergers and acquisitions have occurred to date exclusively within each of the three pillars (no cross-sector concentration), while the three categories of banks remain in sharp competition with each other.

The banking industry has organised itself in national associations matching the three pillars. The associations promote cooperation between the credit institutions of the same pillar and thus help to strengthen their members' competitiveness. Moreover, the associations provide deposit protection schemes, thereby playing an important role within the overall prudential framework.

B. Supervisory framework

1. Basic regulations

German banking supervision is rooted in market-based principles. The managers of credit institutions bear sole responsibility for their business. Therefore, banks may disappear from the market as a result of mergers, takeovers or insolvency. The supervisory authorities do not intervene directly in the institutions' individual operations. Rather, the banks have to observe quantitative and qualitative general provisions, open their books to the supervisory authorities and provide other information. The key instrument of banking supervision is the credit institutions' obligation to meet stringent liquidity and solvency criteria at all times.

The legal basis for banking supervision is the Banking Act adopted in 1961 and last amended in 2002. The Act defines what institutions are to be supervised and contains provisions aimed at limiting the risks of banking business. It designates *BaFin*[7] and Bundesbank as the bodies responsible for the supervision of banks and investment firms as well as the organisational framework in which they cooperate. The Act regulates prudentially relevant matters such as licensing, ongoing monitoring, on-site inspections and crisis management (see Box 1).

Box 1

Supervisory activities stipulated by the Banking Act:
type of activity and its focus

Licensing

- Has the minimum initial capital been paid in?
- Are the managers trustworthy and do they have the required qualifications (theoretical and practical skills; managerial experience)?
- Are the organisational arrangements for the proper operation of the business in place?

Ongoing monitoring

- Evaluation of monthly returns, annual accounts and auditor reports
- Monitoring of compliance with capital requirements
- Assessment of liquidity
- Examination of permitted maximum amount of ownership shares in other firms
- Monitoring of large exposures
- Monitoring of loans of €1.5 million or more
- Exchange of views with the managers and auditors

Crisis management

- Warning or dismissal of managers
- Prohibition of the distribution of profits or granting of loans
- Prohibition of taking deposits
- Ban on payments and sales
- Temporary closure of business with customers
- Transfer of management powers to a special commissioner

Revocation of the licence

- Are the conditions for granting the licence no longer met?
- Do the losses amount to half of the liable capital?
- Do the losses amount to 10% of the liable capital in each of three successive years?

During the past two decades amendments to the Banking Act have been shaped by the harmonisation of EU prudential legislation on the way towards a single European financial market. Important developments were the harmonisation of the licensing criteria for credit institutions and investments firms, the harmonisation of capital requirements and the recognition of home country control for branches of credit institutions and investment firms from other states of the European Economic Area (EEA).

[7] Federal Financial Supervisory Authority (*Bundesanstalt für Finanzdienstleistungsaufsicht).#*

Following the implementation of the new Basel capital adequacy provisions (Basel II) at the end of 2006, prudential emphasis will shift further away from quantitative and compliance-based activities (such as evaluating the institutions' accounts and auditor reports) towards a more qualitative supervision (for example, more audits of banking operations to assess capital adequacy and risk management procedures). Therefore, on-site inspections will become increasingly important. In the process, direct contacts between banking supervisors and banking managers will intensify, given the increasingly sophisticated nature of banking operations and risk management.

2. Organisational features

The tradition of involving the central bank in banking supervision already existed in Germany before the adoption of the Banking Act. As the result of a systemic banking crisis, ongoing supervision of all banks was introduced for the first time in 1931. This task was first conferred on a special body controlled by the central bank (which itself was controlled by the government). In 1939, the legal competence for supervision was transferred to a newly established supervisory office reporting to the government, while leaving material supervision with the central bank. After the Second World War, banking supervision was initially decentralised and placed under the responsibility of the federal states, which likewise relied on the *BdL* and the later Bundesbank for ongoing supervision. The Banking Act of 1961 transferred the supervision of credit institutions to the newly created Federal Banking Supervisory Office, with the Bundesbank remaining integrally involved in material supervision. This took due account of the Bundesbank's unique expertise relating to the functioning of the German banking system. Indeed, the Bundesbank always has to be aware of the financial standing of its counterparties in monetary policy operations. Moreover, it was recognised that the supervisory process benefits from the Bundesbank's specific insights into the money, capital and foreign exchange markets as well as into the payment system, reflecting its broader responsibility for an efficient functioning of financial markets. Last but not least, the Bundesbank was able to use its network of branches for on-site supervisory purposes, thus obviating the need for the supervisory agency to build up a local infrastructure of its own.

The creation of the integrated regulator *BaFin* in May 2002, based on the Law on Integrated Financial Services Supervision, was a response to the observed cross-sector integration of financial institutions and markets, with its increasingly blurred dividing lines between products and marketing channels. *BaFin* is a legal entity under public law in the portfolio of the Federal Ministry of Finance. In accordance with the Banking Act and other special legislation, *BaFin* is entrusted as central body with the supervision of banks, insurance companies, investment firms and the securities market. While subject to control of the Ministry, the agency is independent in functional and organisational terms. *BaFin's* independence is underpinned in financial terms by its funding scheme, according to which its operations are completely financed by levies from the supervised institutions.

Exercising exclusively all sovereign functions and supervisory actions, *BaFin* closely cooperates with the Bundesbank in the field of banking regulation and supervision. In this context, the Bundesbank shall pay heed to guidelines issued either by *BaFin* (in agreement with the Bundesbank) or by the Federal Ministry of Finance (in consultation with the Bundesbank). While the Bundesbank is involved in the day-to-day monitoring of banks, encompassing in particular the evaluation of financial statements and auditor reports as well as performing and assessing on-site inspections, all regulatory measures concerning institutions, especially general decrees and administrative acts including audit orders, are taken by *BaFin*. As a rule, *BaFin* shall base its regulatory measures on the Bundesbank's audit findings and appraisals, while reserving the right to perform its own on-site audits in a limited number of cases in which the overall supervisory responsibility suggests such direct inquiries. Overall, the Bundesbank's role in banking supervision has been strengthened. The existing resources of *BaFin* and Bundesbank, their specific fields of expertise and the synergies from cooperation can therefore be deployed more efficiently. This holistic prudential approach involving a single regulator and the central bank is generally termed "cross-sector-plus supervision" as a synonym for a modern organisational framework for supervisory tasks.

3. Reporting and accounting requirements

As mentioned, banking supervisors constantly monitor whether regulated institutions have adequate capital available and have invested their resources in such a way that they can draw on sufficient liquidity at all times. For this reason, the banks are obliged to report the information needed to assess their capital adequacy and liquidity at monthly intervals to *BaFin* and Bundesbank. In order to give supervisors a wider picture of the credit institutions' business development, the banks are obliged additionally to submit monthly returns to the Bundesbank. The Bundesbank passes on these returns to *BaFin* along with its opinion. In order to limit banks' reporting outlay, the monthly balance sheet statistics which are collected for monetary policy analysis serve simultaneously as monthly returns for supervisory purposes. A further key instrument for assessing the banks' income, liquidity and solvency situation is provided by their annual accounts along with the statutory reports prepared by external auditors (for details on reporting requirements see Annex 1).

Supervisors also have a vested interest in ensuring sound accounting rules. Accounting practices in Germany have traditionally been defined by the prudence principle. Its main elements are creditor protection, the principle of valuation at amortised cost, the principle of lower of cost or market, the imparity and realisation principles as well as the principle of capital preservation. These methods of accounting prevent income from being reported before gains have actually been realised or the risk of losses has been permanently averted. They match the supervisors' interests. From the perspective of banking supervision undisclosed contingency reserves perform an important buffer-role for the financial system during periods of stress, thus enhancing its stability.

From 2005, publicly traded banking groups will be obliged to draw up their consolidated accounts in accordance with International Accounting Standards (IAS; in future, International Financial Reporting Standards, IFRS). It is likely that IAS reporting will also gain increasing importance for the annual accounts of the individual institutions, which are the main source of information for German supervisors. Under IAS, the increasing role of fair value accounting and the comprehensive valuation of uncompleted transactions (derivatives) will imply considerable volatility risks for the prudentially relevant variables, especially the regulatory capital. This raises new challenges for supervisors regarding the future assessment of capital adequacy.

4. Monitoring of credit business

To contain banking risks stemming from credit exposures, the Banking Act limits single large exposures to the same borrower to 25% of the liable capital or own funds. Large exposures are defined as loans which amount to 10% or more of the institution's liable capital or own funds. All large exposures in the aggregate must not exceed 800% of the liable capital or own funds.

The monitoring of exposures of €1.5 million or more is an additional significant prudential instrument for both banking supervisors and lending institutions. Credit institutions, insurance companies and investment firms have to report loans of €1.5 million or more to a Bundesbank credit register. The Bundesbank adds up the reported loans for each borrower and subsequently informs the lending institutions of their borrowers' aggregate indebtedness and the number of lending institutions involved. Institutions required to submit such reports may enquire about the level of indebtedness of a potential borrower before they themselves grant a loan which is subject to the reporting requirements, provided that the potential borrower consents to such an inquiry. As far as *BaFin* and Bundesbank are concerned, the credit register assists them in gaining timely insight into the exposures of lending institutions. This could be highly relevant not least in the event of a crisis.

In early 2003, all EU central banks which operate a credit register signed a Memorandum of Understanding (MoU) setting out principles for an exchange of information obtained from these supervisory instruments.[8] The MoU equally aims at assisting lending institutions in analysing credit risks and providing the supervisory authorities with available additional information. The information exchange will start within the next two years.

C. Crisis management framework

1. Powers of *BaFin*

With a view to nipping problems experienced by individual banks in the bud, *BaFin* may issue orders to an institution or its managers which are appropriate to stop or prevent irregularities. In the case of violations of regulatory provisions, a series of increasingly severe measures are available (see Box 1 above). *BaFin* has also police powers to combat unauthorised business. Its staff may enter business premises in order to perform inspections, conduct searches and confiscate items which may be used in evidence. Moreover, the Banking Act lists the remedial measures which may be taken if the institution has inadequate capital or liquidity or if there is a concrete danger of insolvency. These range from blocking the distribution of profits or the granting of loans, prohibiting the acceptance of deposits to excluding managers from business activities. As a last resort, *BaFin* can revoke an institution's licence.

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[8] These are the central banks of Austria, Belgium, France, Germany, Italy, Portugal and Spain.

2. Deposit protection schemes

In Germany, there have long been voluntary self-help facilities with private management and funding in the form of deposit protection schemes for non-banks applying separately to the three categories of universal banks. As a corollary, all three groups of banks have their own audit associations that undertake to identify risks at an early stage and thus help to minimise the potential burden on the schemes. Consequently, the task of prudential supervision is assisted and augmented in material terms by the work of the deposit protection schemes' audit associations.

Additional statutory regulations governing the protection of deposits have existed in Germany only since 1998 following the implementation of an EU directive. On account of European legislation, all private and public-law institutions which accept deposits have to belong to a statutory deposit protection scheme. Pursuant to the EU directive, the statutory claim to compensation is limited to deposits denominated in euro or another EEA[9] currency and must not exceed 90% of the deposits per creditor, limited to a maximum amount of €20,000. The institutions' compulsory contribution to the statutory protection scheme amounts annually to 0.08‰ of the balance sheet item "liabilities to customers".

However, members of voluntary deposit protection schemes which safeguard the viability of the institution are exempt from that rule, as is the case for all German savings banks and cooperatives. The schemes of the savings bank and cooperative bank sectors provide full protection for deposits since their strategies aim at preventing default of the institutions.[10] Both the statutory scheme and the schemes safeguarding the viability of institutions are subject to supervision by *BaFin*.

The private-law compensation fund established for commercial banks protects unsecuritised liabilities to non-bank creditors up to an amount of 30% of the liable capital of the defaulted bank as shown in its most recently published annual accounts. By supplementing statutory protection the voluntary protection scheme ensures more generous compensation for depositors.[11] For competitive reasons, nearly all commercial banks conducting deposit business have joined the voluntary protection scheme of their association. At all events, they have to inform their customers as to whether they are a member of the voluntary scheme.

In all systems, there are obligations to pay up further capital if the fund's assets fall below a minimum level. As a result, non-bank deposits in Germany are protected virtually in full. Under these conditions, the risk of moral hazard on the part of institutions (which has not been apparent in Germany) calls for particularly efficient

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[9] European Economic Area.

[10] The annual contribution made by the savings banks and the cooperative banks to their deposit protection schemes amounts to 0.3‰ and 0.5‰, respectively, of the balance sheet position "loans and advances to customers". The liability of the local authorities that still exists in the case of savings banks will be abolished in 2005. After that date, the savings banks' deposit protection facility will be solely responsible for ensuring the viability of its member institutions.

[11] The member institutions of the commercial banks' deposit protection scheme pay an annual contribution amounting to 0.3‰ of the balance sheet item "liabilities to customers" into the deposit protection fund.

supervisory procedures including vigilance on the part of the banks' audit associations.

3. Liquidity assistance for banks in distress

The Bundesbank pursues a cautious policy with regard to granting financial assistance to banks which, in spite of strictly supervised liquidity requirements, experience a liquidity crisis. In order to avoid the moral hazard that could arise from a guarantee of liquidity support for distressed institutions, the Bundesbank has not assumed any precommitted lender-of-last-resort function. Therefore, any direct involvement of the Bundesbank in addressing a financial crisis could only be decided on an *ad hoc* basis, reflecting an attitude of "constructive ambiguity".[12] This approach is supported by the general experience that the circumstances of crises vary substantially and that the measures to be taken should be conditioned by the specific features of the problems.

Consequently, the Bundesbank encourages the banks to identify and master financial crises as far as possible "upstream" of the central bank. In addition, in an effort to supplement the three pillars' own crisis management frameworks, the Bundesbank, together with representatives of all categories of banks, in 1974 (following the Herstatt Bank crisis) established the Liquidity Consortium Bank, which may grant liquidity assistance to financially sound institutions against good collateral. This facility includes a limited drawing line on the Bundesbank and could provide further limited liquidity support which would be shared by the Bundesbank with a ratio of 30%. To date the Liquidity Consortium Bank has been called on only in a few minor crises.

4. International cooperation

At the start of 2003, the supervisory authorities and central banks of the 15 EU member states signed a confidential Memorandum of Understanding (MoU) on the exchange of information in a crisis, in the light of the increasing integration of European financial markets and the greater probability of a crisis with systemic dimensions affecting more than one member country. The MoU aims to improve the practical arrangements for coping with crises at EU level. It includes a series of principles and procedure for cross-border cooperation between banking supervisory agencies and central banks, relating to the flow of information needed and the practical requirements for cross-border communication.

IV. New measures to safeguard clients of life insurers

At the end of 2001, following a period of strong growth in insurance business, total funds invested by resident non-financial sectors and non-residents with German insurers amounted to the equivalent of 47% of GDP, of which 43% of GDP was held by households. This compares with investments in the banking sector of 145% of GDP and 64% of GDP, respectively (see Table 1 above). The significant amount of household investment with German insurers mainly reflects the important role of life

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[12] The European System of Central Banks has established a procedure to ensure that any official contribution to liquidity assistance does not have undesirable implications for monetary policy.

insurance policies. A recently launched initiative by the Federal Government to supplement the statutory pay-as-you-go pension scheme with funded elements is likely to give a further boost to the insurance industry.

The German insurance sector is very fragmented. This is particularly the case in the life insurance segment. However, there are a few important institutions whose soundness is not only vital for a large number of policyholders but also for the stability of the German financial system. In the latter respect, it should be noted that five of the ten biggest reinsurance companies in the world are licensed in Germany.

Insurance supervision in Germany is governed by the Insurance Supervision Law of 1901 and the Law Concerning the Insurance Contract of 1908. So far, legislation was guided by the twin objectives of safeguarding the interests of the policyholders and enabling the insurers to fulfil their liabilities under the insurance contracts at any time. Much emphasis is given to principles conditioning market access and contractual terms. Rules regarding the investment in proper assets equally play an important role. In this respect, for example, no more than 35% of the insurers' "restricted assets" may be invested in shares or other equity instruments. Moreover, investments in debt market products have to comply with rating requirements. While in recent years the insurers' appetite for risk tended to rise, the macroprudential risks for the stability of institutions are now monitored much more systematically under the new approach of "cross-sector-plus supervision" than was the case before. In line with this, the traditional audits of balance sheets and risk management procedures, including on-site inspections, have been supplemented since 2002 by preventive stress tests.

When in 2002 the ongoing downturn in stock markets began to bite heavily into profits and reserves of insurance companies, *BaFin* agreed to a loss-smoothening application of the obligatory lower-of-cost-or-market accounting rule of the German Commercial Code. This provided *BaFin* an opportunity to press for the creation of a private safety net for averting losses to holders of life insurance policies. In December 2002, such a scheme was established for the first time with the consent of *BaFin*. For that purpose, a company called Protector Life Insurance was set up, underwritten by the entire life insurance industry. Currently, "Protector" has funds of more than €5 billion at its disposal. According to its mandate, the resources may be used to take over and continue the client contracts of a defaulting company. Two alternative avenues have to be explored before Protector may intervene. First, all possible options for safeguarding the company have to be considered in cooperation with *BaFin*. Second, if such attempts fail, a search is made for a possible takeover within the industry. Protector went into action for the first time in mid-2003 after a medium-sized life insurer could not meet supervisory capital requirements as a result of stock market losses.

The ongoing European harmonisation of supervisory rules for financial services will probably bring about a further strengthening of prudential requirements for the German insurance sector in the medium term. In future, the industry's minimum capital requirements are likely to be based more than at present on a risk-oriented approach, which encourages companies to carefully gauge and monitor their exposures. Also, supervision of reinsurers in Germany is currently largely limited to auditing their accounts. It is therefore to be welcomed that various international initiatives have been launched with the aim of strengthening the prudential regime for reinsurance companies.

V. Capital market reforms in the wake of globalisation

The revival of the German capital market after 1948 was a very difficult task owing to the loss of nearly all securities in physical form, the widespread demise of their real countervalues, the break-up of major issuers such as large banks and conglomerates, and the currency reform which virtually erased all financial assets. In addition, the saving ratio of households in the post-war years was very low because savers' confidence had suffered serious blows. Consequently, in contrast to the approach adopted for the real economy, the new post-war capital market was initially strictly regulated, with the objective of channelling the scarce resources primarily into housing construction and infrastructural investment. In a sense, Germany in the early post-war years was in a similar situation to many developing economies and practised a policy which since the 1970s has been labelled "financial repression".

Pfandbrief securities, issued by banks and collateralised by claims on real estate or the public sector (see Box 2), played an important role in the revival of the bond market in Germany. Until the end of the 1980s banks remained far and away the most important issuers on the bond market. Following high and persistent budget deficits, this position was taken over by the public sector, with Federal Government bonds providing benchmarks for European long-term interest rates. Until recently, corporate issues remained negligible. For a long time, banks were also the major players on the buyers' side of the bond market as households had a strong preference for saving deposits. It was only in the 1970s that bond yields began to outpace interest rates on saving deposits, which led to a rapid broadening of the investor base.

The equity market was less affected by the war-related disruption of the economy than the bond market. At the end of the 1950s, when the so-called "economic miracle" was making itself felt, share prices recovered sharply. However, despite efforts by successive Federal Governments to popularise shareholding, eg through the partial privatisation of renowned state-owned companies and the sale of their shares at low prices, the equity market remained stunted until the early 1980s. This contrasted sharply with the much more important role played by equity financing in other highly developed economies.

In spite of the moderate role initially assumed by the German capital market in the financial system, by the mid-1970s the Deutsche Mark had become the world's second most important reserve and investment currency. This "by-product" of Germany's economic and monetary success partly relied on strongly expanding "offshore markets". In the 1980s, when many other developed countries were making rapid progress in deregulating and liberalising their financial systems, the ensuing globalisation of markets and enhanced competition among national financial industries caused the German authorities to launch an ongoing reform process. These initiatives crucially helped to strengthen the capital market orientation of the financial system and thereby to bolster Germany's role as an international financial centre (with Frankfurt am Main as its focus).

Box 2

The *Pfandbrief* as the traditional type of ABS instrument in Germany

Asset-backed securities (ABS) can be an important instrument for promoting bond markets. In Germany, this type of instrument has a long tradition in the form of the *Pfandbrief*, which dates as far back as 1769. The original purpose of the *Pfandbrief* was to give large Prussian landowners access to cheap credit by permitting private regional entities to issue securities collateralised by real estate of their borrowers (mortgage loans).

Whereas other kinds of mortgage-backed securities may be issued by special-purpose entities, only credit institutions meeting demanding criteria are eligible to issue *Pfandbrief* securities. The major issuers are private mortgage banks and public-law credit institutions. Their lending business is mostly confined to housing loans secured by mortgages and loans to government. There are also two special mortgage banks which grant long-term shipping loans against shipping mortgages and, on that basis, issue ship mortgage bonds.

Pfandbrief issuers are subject not only to general prudential supervision but also to special legislation. The Mortgage Bank Act (*Hypothekenbankengesetz*) subjects private issuers to strict investor protection terms in order to guarantee the quality of the *Pfandbrief*. Collateral is permitted in the form of mortgages or land charges, the latter instrument being widely preferred in practice owing to its greater flexibility. The issuance of *Pfandbrief* securities by public-law credit institutions is regulated on the same investor protection grounds by the Act Relating to *Pfandbrief* Securities and Similar Instruments Issued by Public-law Credit Institutions (*Gesetz über die Pfandbriefe und verwandten Schuldverschreibungen öffentlich-rechtlicher Kreditinstitute*). The *Pfandbrief* instrument has spread from Germany to many other countries, particularly in Europe. Ireland joined this group of countries most recently, modelling its legislation closely on German law.

Given the widespread use of the *Pfandbrief* in Europe, the EU Investment Services Directive has set minimum standards. According to the present-value cover principle, capital and interest claims on *Pfandbrief* issuers must be secured by capital redemptions and interest payments on mortgage loans and loans to government. If an issuer defaults, the cover pool must primarily be used to repay capital and interest of *Pfandbrief* holders.

Pfandbrief securities and similar products represent the largest segment of the European bond market, with more than three-quarters of the market share being held by German issuers. Maturities range from one to ten years, with medium-term maturities of five to seven years predominating. In the 1990s traditional small-sized *Pfandbrief* securities began to be replaced by syndicated jumbo issues having a minimum volume of €500 million, thereby distinctly deepening the liquidity of the secondary market.

The reform process started in the mid-1980s (for details see Annex 2). Among the first steps was the admission of floating-rate bonds and certificates of deposit. Subsequent amendments to the Stock Exchange Act facilitated equity financing and created the legal basis for establishing a financial futures exchange. Moreover, since 1990 four Financial Market Promotion Acts have been adopted to bring the operating framework of the capital market more into line with the evolving international standards. As a corollary to deregulation, measures have been taken to strengthen market integrity, market transparency and investor protection. In the process, a Federal Securities Supervisory Office was newly established in 1994 (which has meanwhile merged into *BaFin*).

The comprehensive overhaul of the regulatory framework for the German capital market has contributed to a distinct rise in the contribution of equities to corporate finance. Stock market capitalisation rose from 9% of GDP in 1981 to 31% in 2002 (after peaking at 67% in 2000). However, bonds issued by non-financial corporations continue to play only a minor role, partly owing to discriminatory taxation rules (which might be abolished soon). Under the current trade earnings tax (levied by communities) half of the interest paid on "permanent debt" (with a maturity of more than one year) is included in the assessment basis, whereas interest on short-term loans remains tax-free. In principle, this burden can be avoided by issuing longer-term bonds on foreign markets through foreign subsidiaries which then forward the funds to their parent companies as short-term loans. Corporate bonds currently account for less than 3% of outstanding domestic debt issues, although the trend is rising owing to the improved market conditions brought about by EMU.

The competitiveness of the German capital market benefits greatly from its very efficient infrastructure for the clearing, safe custody and settlement of securities. These services are provided under an integrated network at transaction costs that compare favourably by international standards (for the structure of the system see Annex 3).

The “Financial Market Promotion Plan 2006” seeks to further increase the attractiveness of the German capital market. Measures aiming at continued deregulation include reforms of the rules governing mutual funds and hedge funds as well as a broadening of the markets for the securitisation of claims.

VI. Major features of the payment system

A. Involvement of the Bundesbank

1. German and European mandates

As the effectiveness of monetary policy requires a smoothly operating payment system, central banks have a strong vested interest in such systems. In line with this, the Bundesbank Act of 1957 mandated the central bank to arrange for the execution of domestic and international payments. The Bundesbank has invariably adopted a broad interpretation of this task, including an oversight function. The most recent amendment of the Bundesbank Act (effective from May 2002) confirmed its traditional responsibilities in this field by explicitly mandating the central bank to contribute to the stability of the payment system. European legislation equally calls for an involvement of central banks. The provisions of the Treaty establishing the European Community as well as the Statute of the European System of Central Banks (ESCB) and of the European Central Bank (ECB) stipulate that the ECB and the national central banks of the euro area (Eurosystem) have to promote the smooth operation of payment systems. Moreover, the ESCB/ECB Statute allows the Eurosystem to provide facilities for this purpose and to issue regulations to ensure efficient and sound payment systems within the EU and with other countries.

In discharging its mandates, the Bundesbank assumes three major functions in the German payment system. It acts as a provider of primary liquidity, as a provider of payment services and as an overseer. In fulfilling these functions, which are described below, the Bundesbank seeks to ensure security and efficiency of the payment system as its overriding objectives.

2. Providing primary liquidity

In the Eurosystem minimum reserve requirements are an important monetary policy instrument for managing the interbank money market (as was formerly the case in Germany when the Bundesbank conducted its monetary policy independently).[13] At the same time, minimum reserve requirements are used by the Bundesbank and the Eurosystem as a whole to provide primary liquidity to the payment system. The credit institutions' minimum reserves may be used as working balances to settle payments as the reserve requirements have to be met only on a monthly average, thus allowing payment-induced daily fluctuations in the balances. In that respect, the fact that the Eurosystem pays interest on minimum reserve balances is an advantage for euro-area banks compared with credit institutions in countries where the central bank does not remunerate any credit balances. Furthermore, an undisturbed flow of payments throughout the day is made considerably easier and faster by the collateralised, but unremunerated intraday credit offered by the Bundesbank within the framework of the Eurosystem. Using primary liquidity including collateralised intraday credit for interbank settlements increases not only the efficiency but also the overall security of the payment system.

3. Providing payment services

In addition to its fiscal agent function for public authorities, the Bundesbank provides payment services for interbank transactions. Here, a distinction can be made between individual (large-value) payments and retail (small-value) payments.

In Germany, as in many other countries, the central bank provides a large-value payment system as the core of its activities in the payment field. The system serves the execution of a comparatively small number of payments. Several reasons argue in favour of the Bundesbank's involvement in the clearing and settlement of large-value payments. The involvement of the Bundesbank assists the implementation of monetary policy by facilitating the rapid distribution of liquidity in the market. Furthermore, a robust large-value payment system helps to maintain financial stablity by containing systemic risks. Last but not least, the Bundesbank ensures competitively neutral access of smaller and bigger institutions to interbank clearing.

RTGS^{plus} is the current highly advanced Bundesbank facility for the execution of large-value payments. At the same time, it is the German access link to the European central banks' real-time gross settlement network (TARGET[14]). RTGS^{plus} is characterised by the following advantageous features.

- The system was developed in close cooperation with the banking industry. This has ensured that it is consistently geared to user requirements.

[13] The credit institutions' obligation to hold balances of a given amount at the central bank (minimum reserve requirement) stabilises the banking system's demand for central bank money. This makes it easier for the central bank (in this instance, the Eurosystem) to assess and provide liquidity to the market.

[14] Trans-European Automated Real-Time Gross Settlement Express Transfer.

- All credit institutions or investment firms domiciled in the EEA may participate directly in the system.

- The security of a gross system with intraday finality of payments is reinforced by liquidity-saving elements (for example, offsetting payments are drawn on as cover).

- Participants can control the use of their liquidity in accordance with their own needs. It is possible to opt for one of various types of payment speed (express or limit payments) and execution times (“from” and “up to” payments). Participants can modify the parameters at any time up to final settlement.

- The processing of payments is very transparent (for example, at all times participants can access real-time information on the status in a payment cycle).

- As a result of the large volume of payments processed, $RTGS^{plus}$ is very cost-effective. Therefore, the fees are relatively low, while fully covering costs.

Regarding retail payments, the central bank has traditionally provided clearing and settlement facilities in Germany. This started more than 100 years ago, when the Bundesbank’s predecessor was the only institution that, by means of its branches, enabled financial institutions to channel cashless payments nation-wide. Nowadays, the Bundesbank’s Retail Payment System (RPS) still fulfils a supporting and complementary role (accounting for about 16% of all retail payments transferred between banks). The vast majority of payments are exchanged by the banking system within its own internal networks. There are a number of reasons why the Bundesbank finds it useful to remain involved in the clearing of retail payments. The central bank can offset market imperfections in terms of access to a nation-wide efficient payment infrastructure. Also, market oversight of payments is made easier by the central bank’s direct involvement, given the benefits of its own expertise. Finally, the central bank can act as a driving force in ensuring high-quality standards in interbank payments, including the promotion of technological progress.

4. Oversight functions

In discharging its oversight functions, the Bundesbank does not confine itself to the large-value and retail payment systems (as is the case in many other countries), but also covers payment instruments (such as e-money), the cash leg of securities transactions and the payment flows associated with correspondent banking relationships. In the process, the Bundesbank reviews compliance with various standards for the design and operation of payment systems (such as G-10 core principles for systemically important payment systems) and for the security of e-money. Moreover, resources are devoted to monitoring and analysing developments in the field of cashless payments in order to evaluate potential risks. To promote efficiency and security in payments, the Bundesbank performs its oversight function through ongoing cooperation with the banking industry as well as through close cooperation with *BaFin*, where appropriate.

B. Self-commitments of the banking industry to promote cashless payments

In line with the underlying principles of economic governance in Germany, the Bundesbank has always largely relied on initiatives of the banking industry with regard to implementing satisfactory payment system standards and state-of-the-art technologies. However, the Bundesbank pursues a policy of enhancing payment efficiency by encouraging the associations of the banking sector to proceed on the basis of voluntary intra-industry agreements. Such voluntary agreements ensure that adequate account is taken of the needs of the banking industry when standards are being drawn up. The agreements often need to be exempted from the general ban on agreements affecting competition (as stipulated by the Act to Prevent Restrictions on Competition). The waivers are granted if cooperation can prevent an inefficient segmentation of the payment system that would result from rival procedures and technologies. Attention is paid to ensuring that voluntary agreements do not restrict competition among the credit institutions with regard to business conditions (such as business hours, transit times, prices and credit entry terms). Also, such agreements do not obstruct innovation as their flexible adaptation usually accommodates the introduction of new technical and operational features. Once an agreement is concluded, it is binding for all credit institutions as members of the associations.

The self-commitments result from work in various bodies, in which the Bundesbank cooperates closely with the banking industry's associations. Here, the central bank can gain useful information on current developments and exert an influence on decisions taken. The Central Credit Committee of the associations of the German banking industry (CCC; founded in 1932 and re-established in 1953) is the most important forum for discussing current banking issues. Within the CCC, the Business Management Sub-committee is responsible for standardised payment regulations (including card-based payment systems) as well as for general legal problems. Since 1959, the Sub-committee's Working Group on Automation, which is chaired by the Bundesbank, has been coordinating the discussion on enhancing safety and efficiency in payments. The working group has developed a very pragmatic approach regarding a changeover to new technology which generally implies high investment costs. The key considerations for adopting new technologies have been that they operate reliably and are fully developed and tested, that they permit future enhancement to a level consistent with the most up-to-date procedures, and that they are compatible with the prevailing practices. As a result of this work, interbank payments became completely paperless as from July 1997 (Annex 4 provides a chronology of the major step taken to enhance progress in cashless payments).

VII. Lessons and recommendations

This paper has pointed out how Germany succeeded after the Second World War in achieving a high degree of price stability as well as a stable and efficient financial sector. Apparently, the institutional choices behind this success were *grosso modo* the right ones. The German authorities will carefully consider whether the outcome of the IMF's present analysis under the Financial Sector Assessment Programme might call for any particular adjustment of the framework.

Naturally, the German experience of institution-building in the financial sector cannot serve as a blueprint or detailed road map for the optimal pace and sequencing of institutional development in other countries. The institutional framework must always be closely geared to country-specific circumstances. Nevertheless, the German experience with its institutional setting offers some important lessons for countries seeking to construct an efficient and effective framework for the financial sector.

The first generally applicable lesson from German experience concerns the relationship between monetary policy prudence and stability in the financial sector. Crises in the financial sector of other developed countries were often preceded by overexpansionary monetary policies, which – as a consequence of excessive lending and borrowing – fuelled inflation or asset price bubbles or both. Crises typically broke when the monetary reins had to be tightened, leaving the banking industry with huge amounts of non-performing loans and implying substantial economic costs in terms of public expenditure and economic growth. It can therefore be concluded that monetary prudence is an important prerequisite for stability and efficiency in the financial sector. In Germany, the introduction of *de facto* central bank independence as early as 1948 proved a crucial innovation that institutionalised the objective of price stability. On that basis, the credibility of monetary policy helped to establish a "stability culture" in Germany, which has been beneficial in fostering "long-termism" and low interest rates in national finance.

While monetary prudence is a precondition for stable and efficient financial markets, it cannot prevent financial crises. Supervisory frameworks for crisis prevention and crisis management are indispensable. In Germany, a major step forward in this respect was the creation of the Federal Banking Supervisory Office in 1961. It is noteworthy that the powers of the supervisory authority, in line with the basic principles of a market economy, have never infringed on the banks' sole responsibility for their business. Instead, banking supervision has always relied on laying down general principles like liquidity ratios and monitoring their observance. Building on earlier practice, the Bundesbank became an integral part of the banking supervision framework. This took due account of the Bundesbank's interest in a stable banking system as its major transmission channel for monetary policy. The supervisory process therefore benefited from the Bundesbank's specific insights into the financial markets. When *BaFin* was established in 2002 as an integrated framework for the supervision of banks, insurance companies, investment firms and securities markets, the role of the Bundesbank in banking supervision was enhanced by strengthening its responsibility with regard to ongoing monitoring of financial institutions including on-site inspections. Following the implementation of "Basel II", with its more qualitative supervision, on-site inspections and direct contacts between banking supervisors and bank managers will intensify.

In order to avoid moral hazard on the part of banks, the supervisory authorities encourage them to identify and master financial crises as far as possible by their own means. In line with that, the three pillars of the German universal banking system have their own voluntary deposit protection schemes which provide more generous compensation than the obligatory minimum protection scheme introduced in 1998 in accordance with EU legislation (from which German savings banks and cooperatives are exempt). In addition, with regard to potentially systemic crises, the Liquidity Consortium Bank was jointly established by the banking system and the Bundesbank in 1974 following a bank failure. However, if activated, the Bundesbank would only contribute a limited amount of liquidity support. Beyond that, in order to prevent moral hazard, the Bundesbank has never assumed any financial commitments, leaving its potential lender-of-last-resort function in “constructive ambiguity”. In December 2002, at the initiative of *BaFin*, life insurers also established a private safety net in favour of policyholders.

Regarding the German capital market, broad-based deregulation has taken place over the past two decades or so. However, in addition to the European benchmark role of Bunds (bolstered by the steep upswing of the German financial futures market), its most remarkable feature remains the predominant role of *Pfandbrief* securities. The success of the *Pfandbrief* reflects the country’s efficient and reliable collateral and insolvency legislation. This instrument has been copied by many other countries, particularly in Europe, and could also be a promising device for developing strong domestic debt markets in emerging countries.

In the field of payment operations, the Bundesbank has always offered its own services to the banking industry, mainly for executing large-value payments. This helps to ensure security and efficiency, to level the playing field and to strengthen the Bundesbank’s expertise in discharging its oversight function. In addition, the Bundesbank contributes to promoting cashless payments by encouraging intra-industry agreements on the introduction of up-to-date standards and technologies. To that end the Bundesbank maintains close working relations with the banking sector associations.

4 Annexes

Annex 1

Major reporting requirements in the field of banking supervision*	
Type of report and its information content	**Frequency**
Liquidity - Liquid funds available - Liquidity ratios	**monthly**
Short-term information on selected positions of the accounts - Assets - Expenditures and revenues	**monthly**
Balance sheet / profit and loss account - Assets and liabilities - Expenditures and revenues - Expenditures data collected by external auditors (eg data on non-performing loans)	**annually**
Adequacy of own funds of domestically active banks - Provision with own funds - Risk assets - Market risk position	**monthly**
Capitalisation of internationally active banks - Components of capital - Risk assets - Market risk positions - Capital ratio	**quarterly**
Details of risk assets - Calculation of risk positions - Balance sheet assets, off-balance-sheet positions - Collateralised assets - Swaps, futures and options	**quarterly**
Details of market risks and risk management - Net equity position - Overall currency position - Settlement and counterparty risk positions in the trading book - Options position - Commodities position - Net interest position - Institutions' internal risk models	**quarterly**
Netting agreements - Netting in the case of swap, forward and option transactions	**quarterly**
Country risks - Risk exposures - Risk provisions	**quarterly**
Non-realised reserves - Difference between market and book value for real estate, buildings and listed/unlisted securities	**annually**
Large exposures - Lending to individual borrowers reaching a certain threshold in terms of liable capital - Lending to individual borrowers reaching €1.5 million or more at any time in the reporting period	**quarterly**
Participating interests - Ownership shares and own-funds components for affiliated enterprises	**quarterly**
*) Where applicable, reports have to be submitted for the individual institution and the group as a whole.	

Annex 2

Capital market reforms, 1984 – 2002	
Year	**Regulatory changes and their goals**
1985	**Tax Revision Act** - Abolition of the “coupon tax“ levied on non-residents‘ interest income accruing from domestic bonds, thereby ending the separation between the market for Deutsche Mark bonds of domestic issuers and the market for foreign Deutsche Mark bonds (retroactively from August 1984) **Statement by the Deutsche Bundesbank of April 12** - Opening of the German market to a number of new types of bonds, eg floating-rate notes and zero bonds
1986	**Revision of the minimum reserve regulations** - Authorisation of the issuance of bonds denominated in Deutsche Mark having the characteristics of certificates of deposit
1989	**Amendment of the Stock Exchange Act** - Creation of a legal framework for electronic trading systems by, for instance, abandoning the trading floor system - Liberalisation of futures trading in securities and precious metals
1990	**First Financial Market Promotion Act** - Elimination of share stamp duty - Reduction of bill stamp duty and company tax - Enhancement of investment opportunities for mutual funds
1994	**Second Financial Market Promotion Act** - Establishment of the Federal Securities Supervisory Office - Ban on insider trading - Requirement that listed enterprises promptly disclose any information that might affect their stock prices
1998	**Third Financial Market Promotion Act** - Comprehensive disclosure requirements for mutual funds (prospectus, semi-annual reports) - Mutual funds permitted to invest in futures contracts; new types of funds admitted - Broadening of range of enterprises in which venture capital companies may invest **Act on Corporate Governance and Transparency** - Corporate governance improved by strengthening rules concerning the composition of supervisory boards and the audits of annual accounts
2000	**Tax reform** - Capital gains from the sale of equity stakes exempted from corporation tax with effect from January 2002
2002	**Securities Acquisition and Takeover Act** - Increased transparency for stakeholders regarding mergers and acquisitions **Creation of the Federal Financial Supervisory Authority (*BaFin*)** - Establishment of a single supervisory authority for all financial services by merging the federal supervisory offices for banks, insurance companies and securities markets **Fourth Financial Market Promotion Act** - Elimination of the priority treatment given to floor trading and of the setting of prices by brokers in official trading - Introduction of rules for the supervision of OTC trading systems - More specific transparency requirements - Investigators given more extensive access to customer data so as to combat the financing of terrorism more effectively - Further extension of the scope of permissible business for mutual funds

Annex 3

Infrastructure for clearing, safe custody and settlement of securities

Under the aegis of *Deutsche Börse AG*, Germany has a consolidated system for trading, clearing, safe custody and settlement of securities. This highly integrated network achieves advantages in terms of efficiency and safety, while providing transaction costs that compare favourably by international standards.

Eurex Clearing AG, which belongs to *Deutsche Börse Group*, has created a joint clearing house for Eurex financial futures exchange, EurexBonds, EurexRepo OTC trading platforms and Frankfurt spot trading in equities. Eurex Clearing AG performs the role of a central counterparty (CCP) in the clearing process, in which buyers' and sellers' net positions (claims and liabilities with regard to the delivery of securities and the payment of the purchase price) are determined. CCP is involved as a counterparty in the transactions negotiated between the two trading parties and, in that capacity, undertakes to settle the trades. The involvement of CCP with its high financial standing reduces the settlement risk for the seller and buyer and preserves the anonymity of the trade including in the post-trade process.

The institution responsible for the safe custody of securities and the settlement of securities trades is Clearstream Banking AG in Frankfurt, which also belongs to *Deutsche Börse Group*.

The safe custody of securities is based on the following principles:

- Central securities depository (CSD): Clearstream Banking AG is the sole central securities depository in Germany. Direct links between Clearstream and central securities depositories in other countries allow an efficient cross-border transfer of securities held in collective custody.
- Collective safe custody: the securities, separated by type, are held in safe custody in collective stocks at CSD. Without entailing any proprietary disadvantages for the customer, individual ownership of a particular security is replaced by co-ownership of the collective stock. This makes settlement considerably easier: certificates do not have to be moved physically in the vaults of CSD in favour of individual securities holders. Instead, the securities remain in collective safe custody and changes in co-ownership are simply processed by book entries ("immobilisation"). This avoids processing bottlenecks occurring in systems based on physical delivery.
- Global certificates: as securities are not moved physically under collective safe custody, the vast majority of securities issued in Germany are nowadays documented in the form of a global certificate (collective certificate for a given number of securities), with the further advantage of savings in printing and storage costs. This does not weaken investor protection since the law of property continues to apply unchanged.
- Equal treatment of debt register claims ("dematerialised securities"): bonds issued by the Federal Government and Land Governments are no longer securitised in the form of physical certificates but are entered into a register maintained at the Federal Securities Administration. The Federal Securities Administration Act provides that debt register claims be treated legally as physical certificates.

The settlement is based on the following principles:

- Exchange-traded securities transactions are settled two days after execution of the trade. This, by international comparison, relatively short settlement cycle considerably reduces the risk that a counterparty to an outstanding transaction will fail to perform on the settlement date (potential costs: replacing the original transaction through a new one at – possibly different – current prices).
- Securities are, as a rule, settled on delivery versus payment basis: securities are initially booked provisionally during the night (overnight processing) before the day on which the cash settlement is performed (settlement date). Only with the transfer of funds on the settlement date do transactions become final. The legal simultaneity of these two steps eliminates the so called principal risk, ie the risk that the seller of a security delivers a security but does not receive payment (and vice versa for the buyer). Further to night-time processing, there are several other processing cycles.

Clearstream, in cooperation with the Bundesbank and in close consultation with the market players, is currently working on a pre-funding system. This envisages central bank money being guaranteed for the settlement of securities in the evening before they are booked. In this way, the irrevocable and final settlement of monetary and securities transactions can be achieved simultaneously and overnight. Furthermore, the current unwinding risk will be eliminated. Both the money and the securities will already be available to the market in the early morning of the settlement day before the payment systems are open.

Annex 4

Chronology of progress in cashless payments, 1959 - 2001	
Year	**Major steps**
1959	- Creation of a joint body of the banking industry associations and the Bundesbank in charge of issues regarding the automation of payments (Working Party on Automation)
1970	- Introduction of standardised bank codes and payment forms
1976	- Introduction of paperless data media exchange service by magnetic tape in interbank payments
1977	- Start of SWIFT cross-border payments
1978	- Start of electronic processing for individual credit transfers
1979	- Agreement between the banking industry associations and the Post Office on the installation of cash dispensers and their cross-bank availability for clients
1981	- Agreement of the banking industry on the introduction of point-of-sale terminals in retail trade
1982	- Establishment of a central private institution for card processing and cheque collection
1983	- Introduction of the eurocheque card with magnetic strip, permitting access to cash dispensers
1984	- Agreement of the banking industry concerning the conversion of paper-based credit transfers into data records and their processing
	- Introduction of standard customer terms and conditions for homebanking orders
1985	- Agreement of the banking industry on a truncated cheque collection procedure concerning cheques not exceeding a certain limit (since 2002: below €3,000)
1987	- Agreement of the banking industry concerning the conversion of paper-based direct debits into records and their processing
	- Establishment of a telecommunications network between Bundesbank computer centres for forwarding credit transfers and direct debits submitted in paperless form by data media exchange
1988	- Introduction of telecommunication links between Bundesbank branches for the same-day processing of credit transfers
1990	- Introduction of a debit card procedure with personal identification number (PIN) and payment guarantee on a cross-bank basis for cashless payment at automated cash registers
	- Start of operation of the Bundesbank's hybrid Electronic Clearing with File Transfer System (later: Euro Access Frankfurt)
1993	- Agreement of the banking industry concerning the conversion of paper-based credit transfers into data records by optical character recognition
	- Agreement on debit card procedure without entering a PIN and without a guarantee, but including a check of the card's validity
	- Introduction of the routing system for the electronic counter (later: Euro Link System) and of the general obligation to convert direct debits into data records irrespective of the amount
1994	- Agreement on truncated cheque collection procedure for cheques from a certain limit and still with the physical presentation of the cheques to the drawee banks (since 2002: €3,000 or more)
1997	- Introduction of a comprehensive obligation to convert paper-based instruments into data records; discontinuation of conventional clearing
	- Agreement concerning homebanking; introduction of a single communication standard for homebanking
1998	- Start of assured same-day settlement of credit transfers whose submission and delivery is conducted via data telecommunication
1999	- TARGET (Trans-European Automated Real-time Gross settlement Express Transfer system) becomes operational
2001	- Introduction of the liquidity-saving real-time gross settlement system RTGS^{plus}; discontinuation of Euro Access Frankfurt (hybrid system)