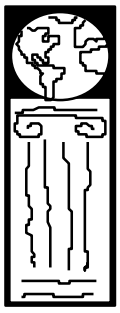
Reaching higher productivity growth in France and Germany

Sector case: Retail banking



McKinsey Global Institute

with assistance from our Advisory Committee

Olivier Blanchard, Chairman
Martin Baily
Hans Gersbach
Monika Schnitzer
Jean Tirole

October 2002

This document is an excerpt drawn from the report "Reaching higher productivity growth in France and Germany", published by the McKinsey Global Institute in October 2002.

The full report can be obtained from:

McKinsey Global Institute website:
http://www.mckinsey.com/knowledge/mgi/

McKinsey & Company, External Communication,
Susanne Lucan, Königsallee 60c, 40027 Düsseldorf, Germany
+49 (211) 136 4684, Susanne_Lucan@McKinsey.com

McKinsey & Company, Communication externe,
Nathalie Bothorel, 79, avenue des Champs-Elysée, 75008 Paris, France
+33 (1) 4069 9507, Nathalie_Bothorel@McKinsey.com

FOREWORD

For fifty years following the end of the Second World War, France and Germany continually narrowed the labor productivity gap with the US. In the mid-1990s, however, the trend reversed: France and Germany are no longer catching up. Weakening productivity performance should worry us given the current and projected demographic challenges: future living standards depend on high productivity growth. To develop effective solutions for dealing with these challenges, policy makers and business leaders in France and Germany need to base their decisions on a complete and nuanced understanding of the barriers to and drivers of higher productivity growth.

To contribute to such an understanding and derive actionable recommendations, the McKinsey Global Institute (MGI) performed an extensive in-depth analysis of the labor productivity performance of six sectors in France, Germany, and the US. The full report consists of an executive summary, seven chapters and an appendix. The first chapter, the Synthesis, provides an overview of our approach and conclusions, and can be read as a stand-alone summary of our work. The remaining chapters provide our case studies on Telecommunications, Retail banking, Automotive, Road freight, Retail trade and Utilities. Each of these cases has a brief summary in the beginning.

The MGI – McKinsey & Company's economic think tank – combines the firm’s business experience with the rigor of academic thinking. This document reflects active dialogue between industry experts, experts from premier research institutions, and our own specialists, who work closely with executives of leading French and German businesses. This project was conducted under the direction of Heino Faßbender, Diana Farrell, Eric Labaye, and Vincent Palmade. Thomas Kneip and Stephan Kriesel were responsible for the management of the project. We are very grateful to the companies and individuals who supported our research by agreeing to provide data about their operations through interviews and surveys.

In addition, our work benefited tremendously from in-depth discussions with the academic board: Olivier Blanchard from the Massachusetts Institute of Technology in Boston, Martin Baily from the Institute for International Economics in Washington DC, Hans Gersbach from the University of Heidelberg, Monika Schnitzer from the University of Munich, Jean Tirole from the University of Toulouse, and Robert M. Solow, Nobel laureate and the "godfather" of growth discussions – all of whom contributed significantly to interpreting the results of our research. McKinsey & Company has the privilege of serving many of the leading companies in France and Germany. Through this work, we have observed the huge potential that can be tapped in order to boost productivity performance. We hope that our report will help policy makers and business leaders unlock this potential by providing them with an objective and fact-based perspective.

Before concluding, we would like to emphasize that this work is independent and has not been commissioned or sponsored in any way by any business, government, or other institution.

Diana Farrell

Director of the McKinsey Global Institute

Jürgen Kluge

Office Manager McKinsey Germany

Eric Labaye

Office Manager McKinsey France

October 2002

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THE MCKINSEY GLOBAL INSTITUTE

The McKinsey Global Institute (MGI) is the internal economic research think tank of McKinsey & Company. Founded in 1990 and based in Washington, DC, its mission is to offer insights into global economic issues of relevance to our clients and international leaders, and to research the key barriers to faster growth in the world economy.

The MGI's methodology is a combination of two distinct disciplines: economics and management. Both of these disciplines are concerned with economic growth, but neither is positioned to understand it fully. Economists have scant access to the real-life problems facing business managers, while managers often lack the time and incentive to look beyond their own situation to the larger issues of productivity in their industry or the economy as a whole. McKinsey's economic research remedies this situation by combining the academic rigor and breadth of economics with the deep and practical industry knowledge and management understanding we use in our daily work with clients. The MGI's research is founded on a unique collection of facts and microeconomic analyses that is beyond the reach of most academic and government-sponsored research. Our teams have conducted in-depth analyses of fourteen countries covering all continents, ranging from the most advanced economies (e.g., the US, Japan, the UK, the Netherlands, France, and Germany) to the developing ones (e.g., India, Russia, and Brazil). In each country, a representative sample of economic sectors has been studied covering a broad spectrum of products and services. The result is a unique perspective on productivity and its contribution to economic growth.

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Retail banking

EXECUTIVE SUMMARY

Retail banking is one of the largest industries both in terms of value added and employment. It also accounts for over 10 percent of national IT spending, making it especially interesting for the examination of the role of IT innovations.

Labor productivity performance

In 1994, the French retail banking sector lagged the US by 11 percent and German productivity was 36 percent lower than the US. From then until 2000, labor productivity grew at 7.5 percent annually in Germany, at 5.5 percent in France and at 4.9 percent in the US.

The main source of growth has been the significant increase in output, growing at 6.8 percent annually in Germany and the US, and at 5.3 percent in France. Labor inputs actually fell in France by 0.2 and in Germany by 0.7 percent annually, while increasing in the US by 1.9 percent annually.

Despite the strong labor productivity growth rates of the French and German retail banking sectors, a substantial performance gap remained to the US in 2000. France was 8 percent behind the US, and Germany a substantial 26 percent behind.

Drivers of labor productivity growth and level differences

The major drivers behind the productivity growth are demand per customer, business and technology innovations, consolidation, and payment mix. Level differences between the countries are caused by differences in the same drivers.

- *Demand per customer* – Demand increased over the 1990s, which helped build economies of scale and improved productivity by 2.3 percent annually in France and 2.1 percent in Germany. US consumers own two to three times more financial assets and make more transactions than their French and German counterparts, and this significantly higher demand created a productivity advantage over France and Germany in 2000.

- *Business and IT innovations* – Business and IT innovations account for 1.9 percent annual productivity growth in France and Germany. New technologies increased automation in back-office functions and new transaction channels (and customers' willingness to use them) also had a positive impact on productivity.

  Differences in the application of IT are responsible for the different impact of IT investments between the countries. A key for optimizing IT investments lies in reaching sufficient scale and, consequently, depends on the industry structure, i.e., the degree of consolidation. Furthermore, US banks benefit from a more efficient use of standardized software systems. Finally, a large share of IT spending does not specifically target productivity improvements and varies between countries.

- *Consolidation* – Decreasing margins, mainly from increased competition, and exceptional losses eroded French and German banks' profitability from the beginning of the 1990s. French retail banks, particularly, suffered with gross margins for regulated savings accounts collapsing to about zero in 1996. To achieve higher efficiency, banks consolidated to take advantage of economies of scale and reduce excess or redundant capacity. The types of relevant consolidation include: Merger and acquisition activity that creates larger banks, leveraging central and administrative functions, the consolidation of back-office functions through centralization and/or outsourcing, and the consolidation of a bank's branch network.

  The consolidation led to an annual productivity growth of 0.8 percent in France and 1.3 percent in Germany. The higher degree of consolidation gives France an advantage of 5 percentage points over the US and 17 percentage points over Germany. Both US and German banks are typically smaller than French banks but US banks have specialized in segments of the value chain.

- *Payment mix* – Payment mix changes account for 0.9 percent annual productivity growth in France and 0.6 percent in Germany. It also gives Germany a 21 percentage points advantage over the US and 11 percentage points over France.

Outlook and recommendations

Existing trends are expected to continue to increase productivity levels. However, France and Germany need to make further efforts if they are to close the gap to the US.

- *Demand per customer* – New services and products, such as reverse mortgages, could increase demand by satisfying the needs of the aging

society. Improvements in granting credit in France by establishing a credit bureau could increase the loan volume.

- *Business and technology innovations* – IT will continue to be an important driver of productivity but the potential there will be tapped only with proactive industry support. Technology such as straight-through processing has not yet been applied throughout, and new channels, such as mobile channels, will have to be integrated smoothly so as not to increase system complexity. High quality execution as well as the efficient and effective use of available resources will play a crucial role. Special care has to be taken to simplify IT systems and interfaces to reduce maintenance costs.

- *Consolidation* – Industry consolidation and the consolidation of functions and tasks will continue. However, a satisfactory pace and the full improvement potential will be achieved only if there is demanding ownership. Germany, in particular, has to move a considerable way to close this gap.

- *Payment mix* – In France, the substitution of paper-based payments with paperless transactions will lead to a significant productivity improvement. At the moment, the regulation which enforces payments made by checks to be free of bank charges strengthens their popularity.

OVERVIEW OF THE SECTOR

The banking sector contributed significantly to the productivity growth of the overall economy in the 1990s in France, Germany, and the US. As a heavy IT user, the banking industry is particularly interesting as it can help illuminate the role of IT as a driver for productivity.

Importance of the sector to the overall question

The McKinsey Global Institute (MGI) considered the retail banking industry, including the retail distribution of investment products, for detailed analysis both because of its significant size and because of the major role that IT plays in the sector.

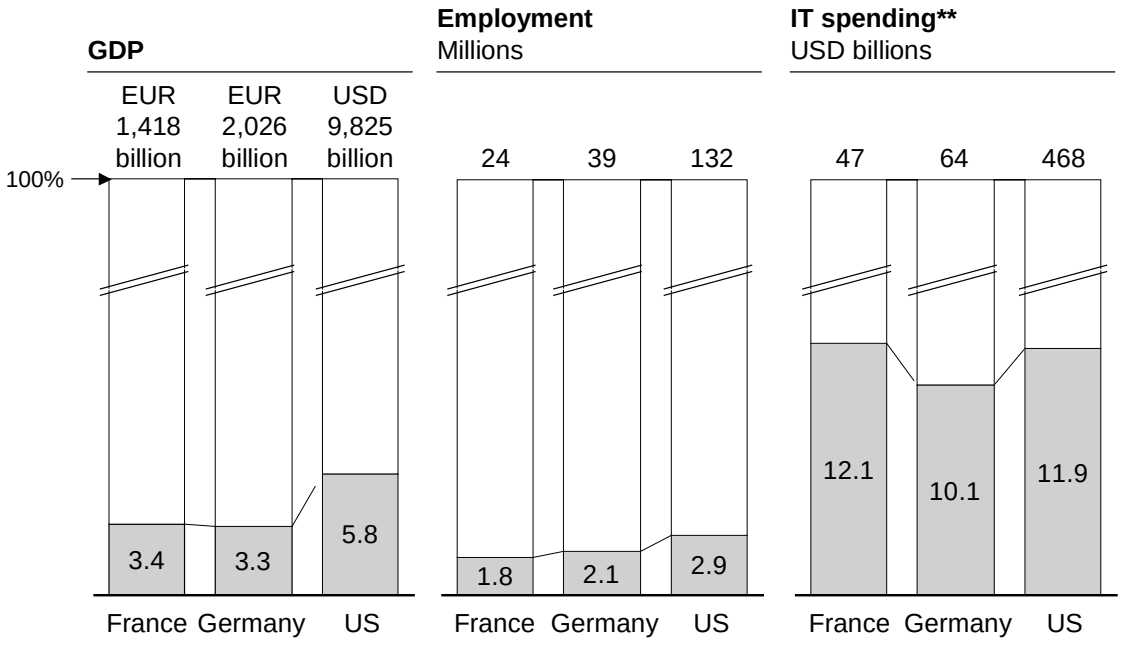
Banking is one of the largest industries in the economy both in terms of value added and employment. It accounts for 3.4 and 3.3 percent of French and German GDP, and 1.8 and 2.1 percent of employment, respectively.

The immense importance of IT in the banking sector is emphasized by the fact that IT spending in banking accounts for 12.1 percent of overall IT spending in France, and 10.1 percent in Germany (Exhibit 1).

Exhibit 1

GDP, EMPLOYMENT AND IT INTENSITY IN BANKING*, 2000 Share of banking

Percent of total economy



* Includes retail and wholesale banking

** External IT spending (hardware, software, services)

Source: INSEE, Statistisches Bundesamt, BEA, IDC

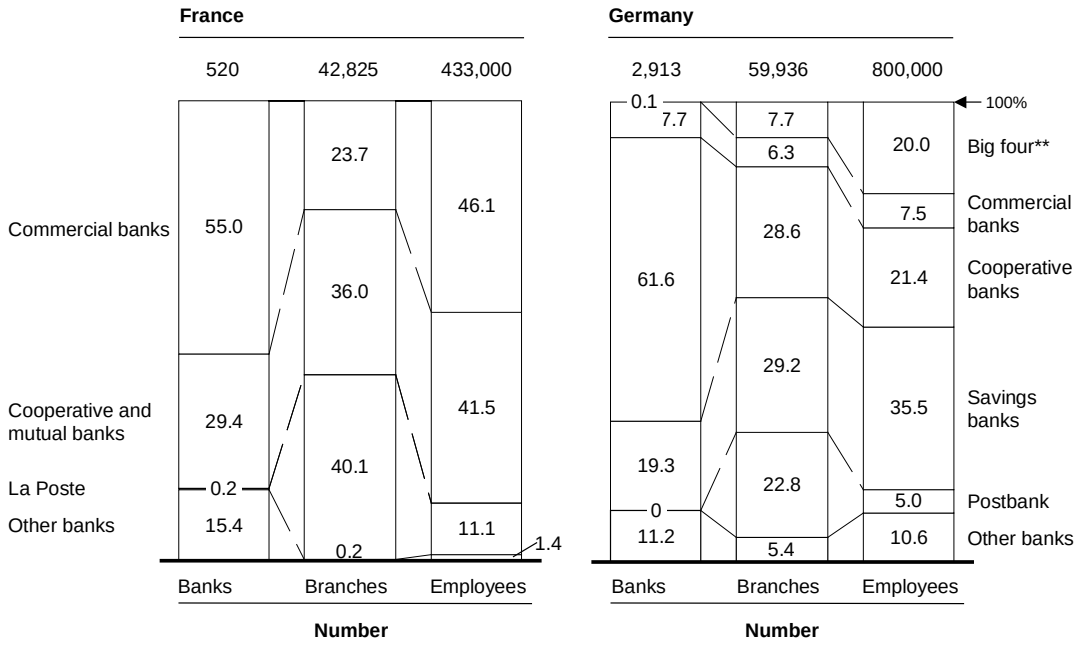
Industry profile

This study considered all retail banking activities including the distribution of investment products. This comprised all activities for the supply of retail customers with financial products to make financial transactions, build financial assets, or take loans. Customers include all households and self-employed individuals. Companies are excluded. Retail activities not linked to the product groups mentioned above – such as insurance – are not addressed in this study.

There are 520 banks in France and more than 2,900 in Germany. These can be split into broad groups (Exhibit 2).

Exhibit 2

FRENCH AND GERMAN BANKING STRUCTURE*, 2000
Percent



* Includes retail and wholesale banking
** Deutsche Bank, HypoVereinsbank, Dresdner Bank, Commerzbank

Source: IDC, Tower Group, Statistisches Bundesamt, INSEE, BEA, AGV-Banken, MGI analysis

There are four major types of banks in France, almost all of them are active in both the retail and wholesale business:

- *Commercial banks* – There are more than 280 commercial banks, most of which offer universal banking services. Some focus on retail or private banking, asset management, wholesale or investment banking. The dominating group consists of BNP Paribas (14 percent of all banking employees), Société Générale (13 percent), and Crédit Lyonnais (8 percent).

- *Cooperative and mutual banks* – About 150 regional banks offer universal banking services, primarily to retail and small- to medium-sized businesses. The most important institutions are Crédit Agricole (16 percent employment share), Caisses d'Epargne (9 percent), Banque Populaire (7 percent), and Crédit Mutuel (6 percent).

- *La Poste* – State-owned La Poste offers retail banking services in its post office branches. It employs 11 percent of French banking staff, which includes the labor of post office clerks.

- *Other* – More than 80 institutions specialize in one main business, e.g., consumer credit, mortgages, or leasing. They are mostly owned by banking groups or industrial groups, some are also state-owned.

In Germany, the banking sector is split into the following groups:

- *Big banks* – The four biggest commercial banks are HypoVereinsbank (7 percent of all banking employees), Deutsche Bank (5 percent), Dresdner Bank (4 percent), and Commerzbank (4 percent). They are universal banks, offering retail and wholesale services.

- *Regional and other commercial banks* – This group of about 220 banks includes online banks, private banks, and regional banks.

- *Savings banks sector* – Most of these 560 institutions are public corporations of the communities and districts. They offer universal retail banking services, together with some wholesale services. The three largest are Hamburger Sparkasse, Stadtsparkasse Köln, and Frankfurter Sparkasse. Retail activities of the 12 Landesbanken are also included here, however, their main focus is on wholesale banking.

- *Cooperative banks* – About 1,800 small banks offer retail services, often in rural branches. The largest are Deutsche Apotheker- und Ärztebank, Berliner Volksbank, and BBBank.

- *Postbank* – Postbank offers mainly retail banking services in its post office branches. Five percent of banking staff are employed at Postbank, which includes the labor of post office clerks.

- *Other* – More than 300 institutions specialize in one main business, e.g., consumer credit, mortgage, or leasing. They are mostly owned by banking groups or industrial groups, some are also state-owned.

LABOR PRODUCTIVITY PERFORMANCE

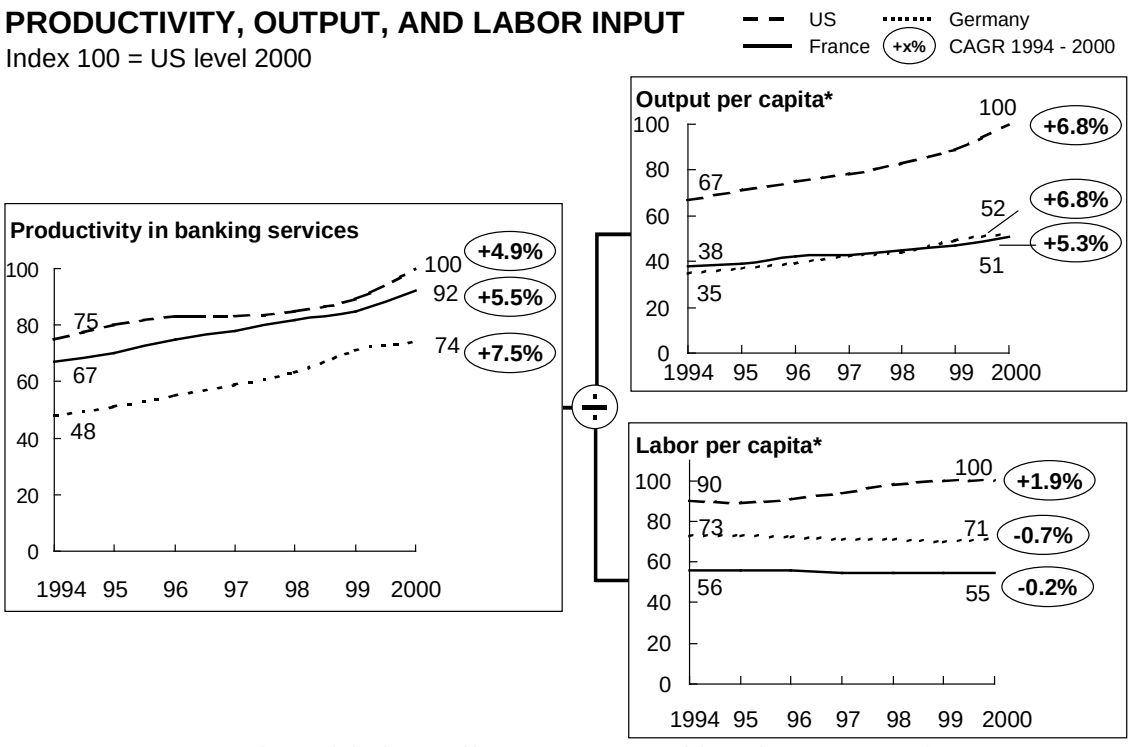
To measure labor productivity we used hours worked as the labor input, and physical measures such as the number of transactions or real loan volume as output. Using a physical output indicator allows an examination of the technical efficiency of the industry, i.e., performance excluding price effects. Cross-subsidies between products and the lack of price transparency do not distort the measurement. For the output measurement, products and services were put into five categories: For payment transactions (checks, transfers, withdrawals, etc.), investment products (bonds, equities, funds, etc.), and inquiries, the output measure is number of transactions. For loans (mortgages, consumer loans, etc.) and deposits (time deposits, savings accounts, etc.), the real value of all deposits and loans is taken as the measure. The output is aggregated by weighting each product category with its average labor unit input from 1994 to 2000. More details on the methodology can be found in the appendix.

In 1994, French retail banking's labor productivity lagged the US by 11 percent and Germany's was 36 percent lower than the US. Since then, labor productivity in retail banking has grown rapidly, with Germany at 7.5 percent (CAGR) growing faster than both France (5.5 percent) and the US (4.9 percent) from 1994 to 2000. This productivity growth was driven by a substantial increase in output per capita, while labor input per capita decreased slightly in France (-0.2 percent) and Germany (-0.7 percent) and increased in the US by 1.9 percent annually (Exhibit 3).

Exhibit 3

PRODUCTIVITY, OUTPUT, AND LABOR INPUT

Index 100 = US level 2000



* From 1994 to 2000, the population increased in France, Germany, and the US by 0.4%, 0.3%, and 0.9% CAGR, respectively

Source: BEA, BLS, Federal Reserve Board, Deutsche Bundesbank, Banque de France, AFB, MGI analysis

Despite the high growth rates in France and Germany, they still lag significantly behind the US. In 2000, France had achieved 92 percent of the US labor productivity level, and Germany just 74 percent.

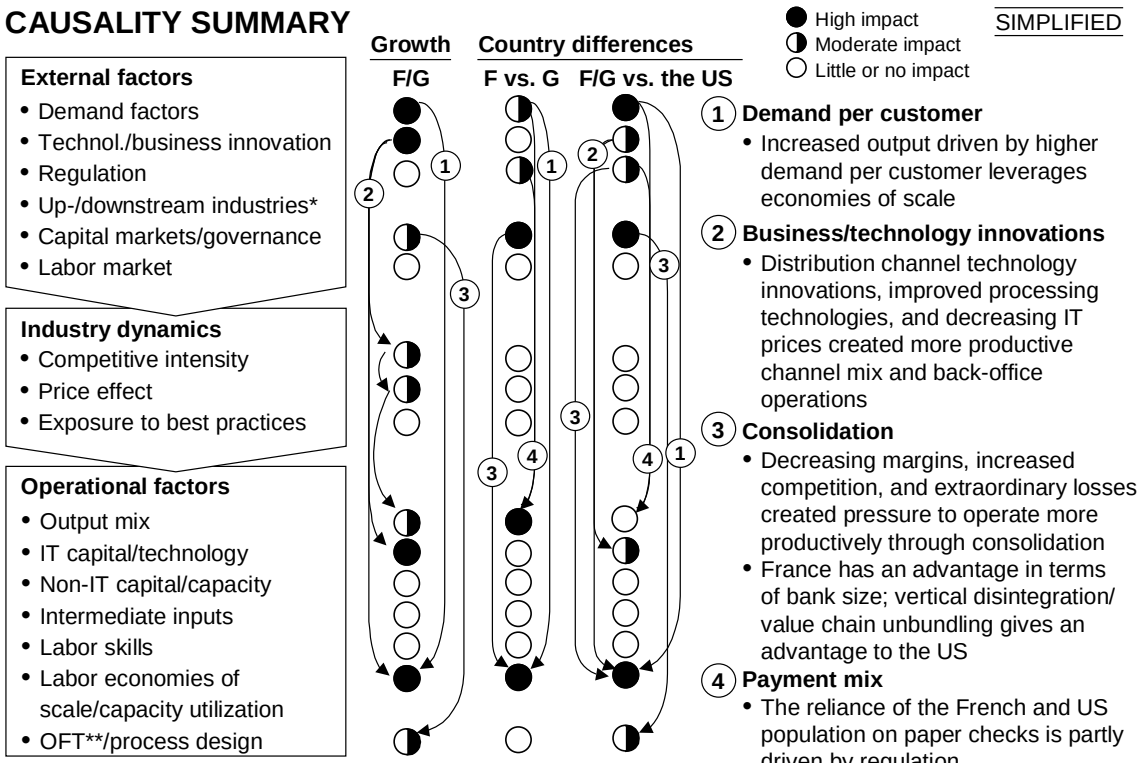
Both the high productivity growth rates and the significant level differences between the countries raise the question as to what the major drivers for productivity in retail banking are. In particular, given the importance of IT to the banking industry, the impact of IT innovations on productivity will be addressed.

DRIVERS OF LABOR PRODUCTIVITY GROWTH AND LEVEL DIFFERENCES

In 1994, the gap between the two European countries and the US was mainly due to differences in shareholder pressure and product market regulations and a greater emphasis on labor relations in France and Germany[1]. From then on, the factors responsible for both the high growth as well as the remaining level differences have been demand per customer, business and technology innovations, and consolidation. At the operational level, those factors have mainly had an impact on economies of scale and on the technologies used. Significant differences in the payment mix also exist and account for some of the difference (Exhibit 4).

[1] See: Removing Barriers to Growth and Employment in France and Germany, McKinsey Global Institute, Frankfurt, Paris, Washington, March 1997.

Exhibit 4



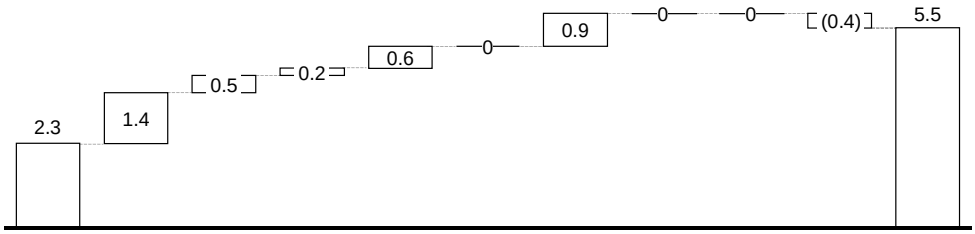
¶ *Productivity growth in France and Germany*. Increased demand per customer led to annual productivity growth of 2.3 and 2.1 percent in France and Germany, respectively. IT-driven business innovations and improvements, including back-office automation and changes in distribution channel mix, accounted for 1.9 percent CAGR in both France and Germany. Consolidation improved productivity by 0.8 and 1.5 percent CAGR in France and Germany, respectively. Consolidation here includes merger and acquisition activity, the consolidation of functions through centralization or outsourcing, and the consolidation of a bank's branch network. Finally, other factors, especially changes in payment mix and front-office efficiency, accounted for 0.5 percent and 2 percent CAGR of the productivity growth in France and Germany, respectively (Exhibit 5).

Exhibit 5

PRODUCTIVITY GROWTH FROM 1994 TO 2000 ESTIMATE

CAGR*, percent

France



	Higher volume per customer	Automation in back-office	Change in distribution channel mix**	Central functions (bank size)	Back-office (centralization and outsourcing)	Distribution (branch size)	Change in payment mix	Changes in mortgage operations	Front-office efficiency	Other	
	Demand per customer	**Business and technology innovations**		**Consolidation**			**Other factors**				
Germany	2.1	1.3	0.6	0.7	0.6	0.2	0.6	0	0.5	0.9	7.5

* Effect generated by non-additive CAGR is split proportionally across the different factors

** Higher share of IT-based channels, e.g., Internet, call center, and ATM

Source: MGI analysis

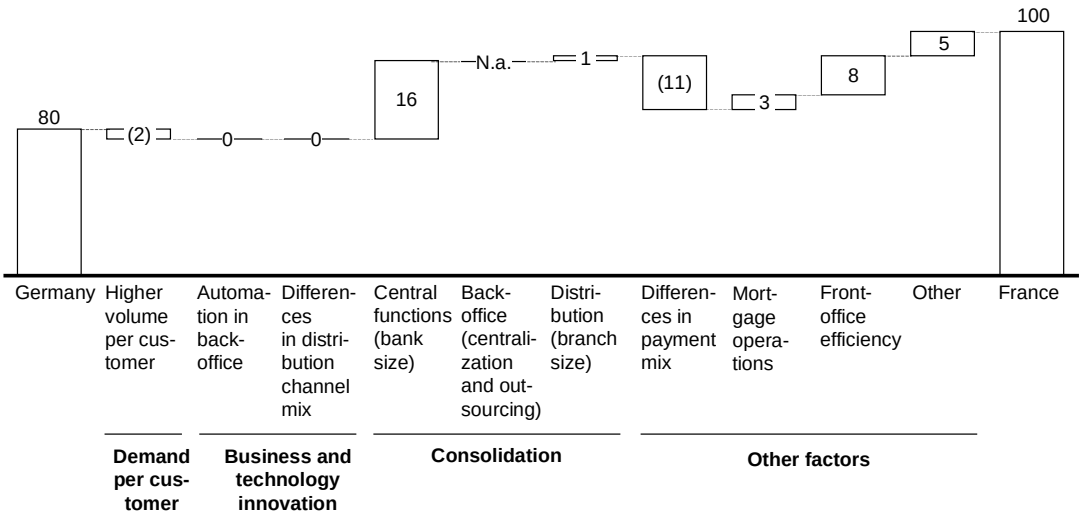
¶ *Level differences between France and Germany* – France has a major advantage over Germany in terms of the extent of consolidation, which accounts for a productivity difference of 17 percentage points (Exhibit 6). Germany, on the other hand, benefits from a more efficient payment mix with fewer paper-based transactions, which accounts for an 11 percentage point productivity advantage. Output volume and IT use are similar in both countries.

Exhibit 6

PRODUCTIVITY DIFFERENCES BETWEEN GERMANY AND FRANCE IN 2000

ESTIMATE

Index 100 = French level 2000



Source: MGI analysis

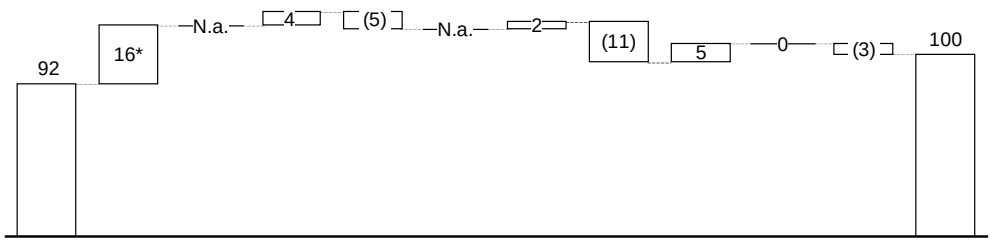
¶ *Level differences between France/Germany and the US* – Looking at the differences between the two European countries and the US reveals that higher output volume per customer is the major difference, accounting for 16 percentage points of the advantage the US has over France, and 13 percentage points over Germany. In payment mix, both Germany and France have a clear advantage over the US of 11 and 21 percentage points, respectively. As far as bank size is concerned, the US lies between France and Germany, 5 percentage points behind France, but 10 percentage points ahead of Germany (Exhibit 7). Differences in business and technology innovations are relatively small, but the US benefits from differences in the overall channel mix (3 to 4 percentage points advantage).

Exhibit 7

PRODUCTIVITY DIFFERENCES BETWEEN FRANCE, GERMANY, AND THE US IN 2000 ESTIMATE

Index 100 = US level 2000

France



	Level in 2000	Higher volume per customer	Automation in back-office	Differences in distribution channel mix	Central functions (bank size)	Back-office (centralization and outsourcing)	Distribution (branch size)	Differences in payment mix	Differences in mortgage operations	Front-office efficiency	Other	US level
		Demand per customer	**Business and technology innovations**		**Consolidation**			**Other factors**				
Germany	74	13**	N.a.	3	10	N.a.	3	(21)	7	8	3	100

* 10 ppt driven by larger amount of loans and deposits

** 7 ppt driven by larger amount of loans and deposits

Source: MGI analysis

Investment product distribution

Annual productivity growth rates are particularly impressive for investment product distribution[2], reaching 17 percent annually in France and Germany and 23 percent in the US (Exhibit 8). In France and Germany, the growth of non-securities retail banking (4 and 6 percent CAGR) was significantly higher than in the US (2 percent), where the growth was driven mainly by securities distribution. The stock market boom of 1997 to 2000 helped push growth higher but, even correcting for this effect, overall annual productivity growth would have been high with Germany at 6.9 percent still outstripping France (4.7 percent) and the US (3.8 percent).

2 These results are also confirmed by the previous MGI US study. See: Productivity Growth 1995 - 2000, Understanding the Contribution of Information Technology relative to other factors, McKinsey Global Institute, Washington D.C., October 2001.

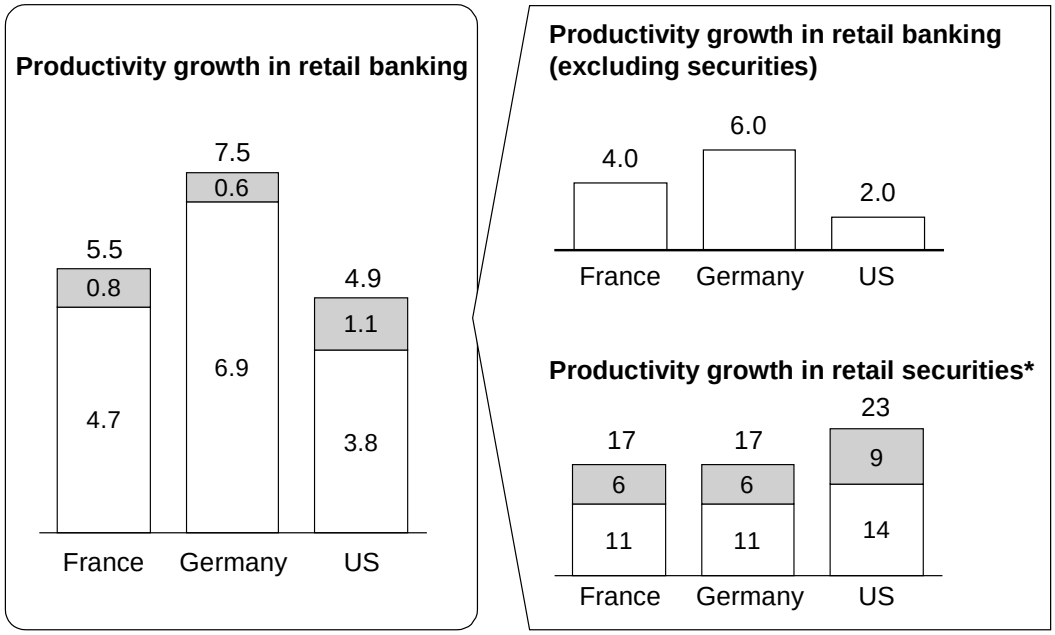
Exhibit 8

LABOR PRODUCTIVITY GROWTH IN SECURITIES AND NON-SECURITIES RETAIL BANKING

CAGR 1994 - 2000, percent

ESTIMATE

Bubble effect (stock market boom)



* Securities is defined as the distribution of retail investment products

Source: MGI analysis

The major drivers for the high growth rates in investment product distribution were the increased output volume and IT improvements (back-office automation and channel mix). The annual growth rate of investment product transactions was between 20 and 22 percent in France and Germany and even higher in the US at 29 percent. This accounted for a growth rate of 13 percent CAGR in labor productivity, while IT improvements accounted for 4 percent growth in both European countries. Consolidation played only a minor role (Exhibit 9).

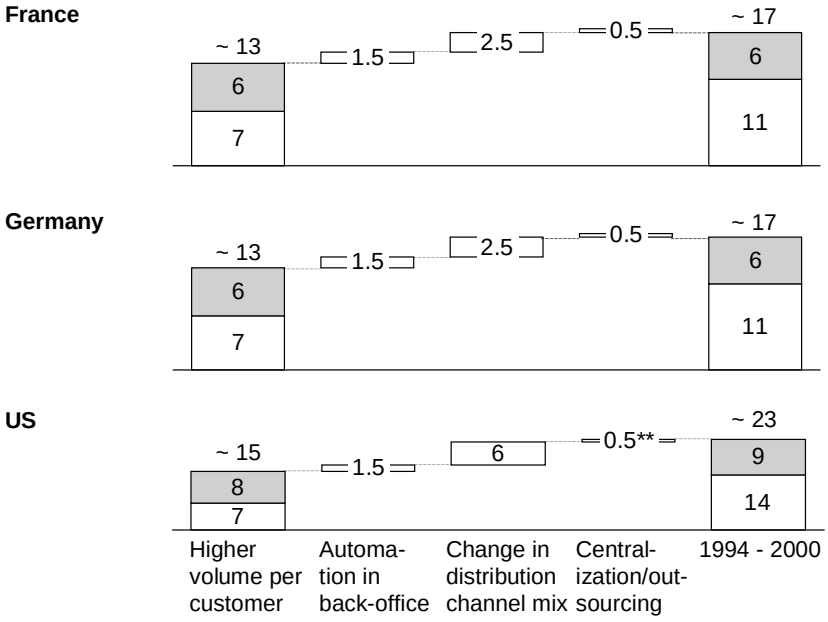
Exhibit 9

PRODUCTIVITY GROWTH IN SECURITIES FROM 1994 TO 2000

CAGR*, percent

ESTIMATE

Bubble effect (stock market boom)



* Effect generated by non-additive CAGR is split proportionally across the different factors

** Rough estimate

Source: MGI analysis

Demand per customer

Economies of scale caused by higher volume per customer had the greatest effect both on productivity growth and on the productivity differences between the two European countries and the US.

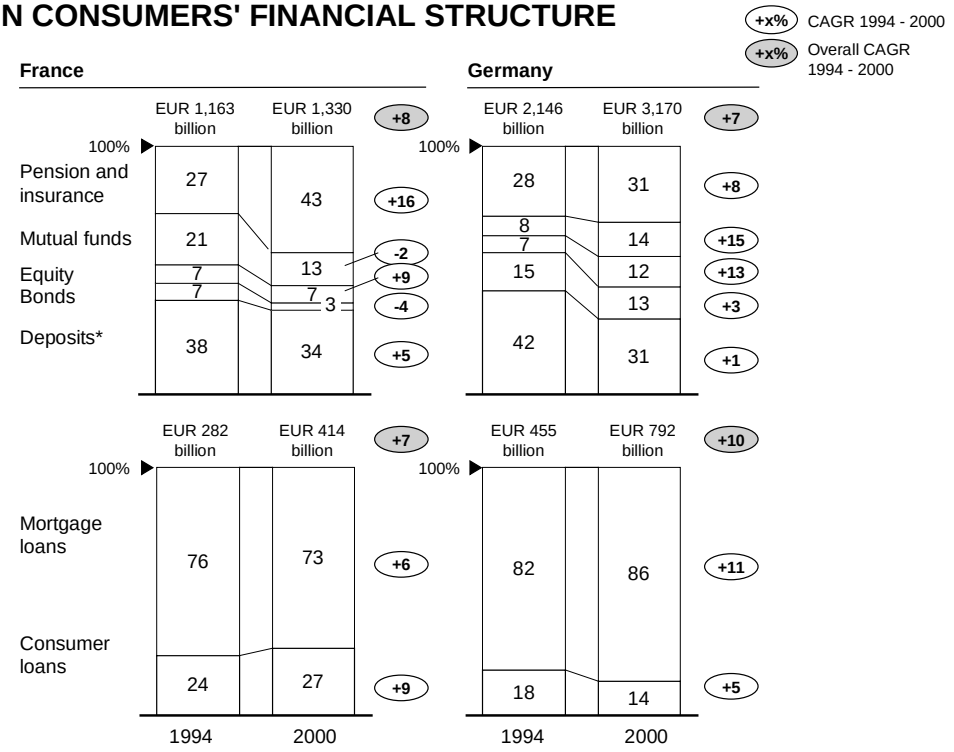
Productivity growth. Demand-driven productivity grew at 2.3 percent CAGR in France and 2.1 percent CAGR in Germany from 1994 to 2000 – almost half of the overall growth rate in France and one third in Germany.

The overall banking output, i.e., the labor-weighted sum of transactions and volumes as described before, increased by 5.3 percent annually in France and 6.8 percent annually in Germany and the US. Output growth was driven by the boom in personal financial assets and liabilities which led to higher volumes in deposits and loans, as well as more transactions in investment products (Exhibit 10).

Exhibit 10

CHANGES IN CONSUMERS' FINANCIAL STRUCTURE

Percent



* Excluding current accounts

Source: National central banks

The increasing demand was partly driven by increasing wealth. The stock market boom of the late 1990s sparked people's interest in stocks and funds, and investment products became more popular. The aging population and the anticipated reduction in public retirement plans have also boosted demand for pension funds and insurance products. In Germany, the assets held in the form of pension and insurance products increased by 8 percent annually, and in France by 16 percent annually from 1994 to 2000. Their strong showing in France is linked to French taxation, which favors insurance products. For instance, the Contrat DSK[3] type of life insurance, introduced in 1998, is not liable for long-term capital gains tax. Finally, the low interest rates in the second half of the 1990s combined with broad optimism in the economy pushed demand for loans and especially mortgages, which were growing at 6 percent annually in France and 11 percent in Germany.

Productivity level differences. The impact of demand is even more striking when comparing the productivity levels of the three countries. The US has a 16 percentage point productivity advantage over France in 2000 due to its higher output volume per customer, and a 13 percentage point advantage over Germany. The demand-related difference between France and Germany is only 2 percentage

3 Law named after Dominique Strauss-Kahn, French minister of Finance.

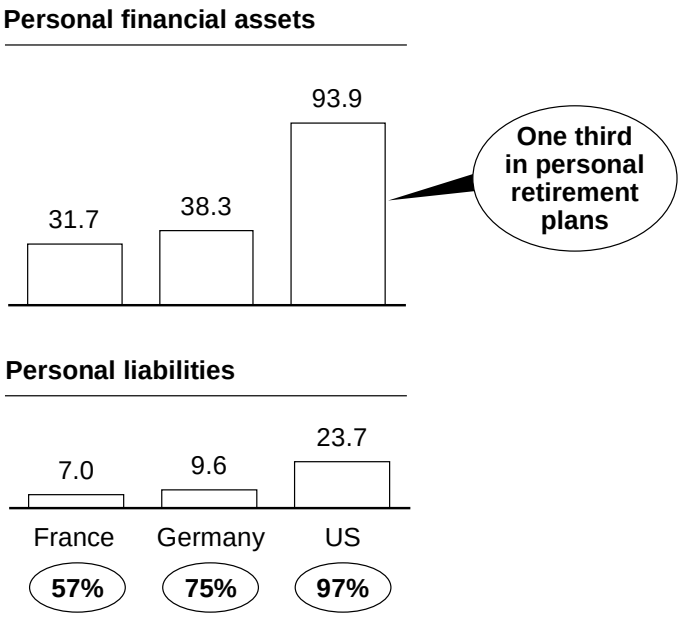
points. Besides differences in the wealth of the population, the different regulations in the countries have an impact on the output volume and product mix.

In 2000, US banks benefited from a much higher banking output per capita: Personal financial assets and liabilities were about two to three times as high as in the two European countries (Exhibit 11).

Exhibit 11

CONSUMER FINANCIAL STRUCTURE IN 2000
EUR thousands per capita

x% Percent of disposable income



Source: National central banks, national statistics

The higher demand in the US for banking products and services can be attributed to a higher GDP per capita and the limited public provisioning for pensions and social security. Together this pushes US private households into greater direct holdings of financial assets – about one third of the assets are held in private pension plans. Loans are also more common in the US. One reason is the high house ownership rate in the US, which stands at 67 percent, compared to 45 percent in Germany, and 55 percent in France. In fact, mortgages account for more than three quarters of the overall loan volume in the US. A second reason is that Americans, in general, are more comfortable with debt, often having already taken out a loan to finance their higher education. In 2000, 40 percent of US undergraduates had student loans, while the rate for university students in Germany and France, where education is mostly free, was just 4.7 and 10 percent, respectively.

A significant difference in loan volume also stands out between France and Germany. In France, offering credit is hampered because there is no credit bureau,

such as Germany's Schufa[4]. The interbank exchange of customer data, which has to be agreed to by the customer, helps German banks obtain accurate credit scoring but, in France, an institution like this is prohibited, making granting loans a riskier business.

Business and technology innovations

Banking accounts for more than 10 percent of the total IT spending in the economy, making it one of the most IT-intensive sectors. It is, therefore, not surprising that business and IT innovations were a major driver of productivity growth. The diffusion of new technologies accounts for 1.9 percent annual labor productivity growth in France and Germany – roughly one third of the overall productivity growth. Productivity differences attributed to IT between France and Germany are minor, as the same technology is available in all countries. However, US customers' greater affinity with using the Internet for their banking activities led to a 3 to 4 percentage points advantage over France and Germany, mainly derived from the online distribution of investment products.

Back-office automation. Back-office automation accounts for a growth rate of 1.4 and 1.3 percent CAGR in France and Germany – about three quarters of the IT-driven productivity growth.

The increasing automation of back-office functions was enabled by the advent of new technologies or the significant improvement of existing technologies. Image processing, for example, only became acceptably reliable during the early and mid-1990s.

From 1994 to 2000, the labor input needed per unit of output was reduced by 15 to 25 percent (Exhibit 12). The largest impact was achieved in payment transactions (25 to 35 percent) and investment products (10 to 30 percent). The implementation of scanning and image-processing systems for the automated input of check and paper-based transfer data mainly started during the early 1990s, leading to large reductions in labor for manual data input. Banks are advancing towards straight-through processing and many interfaces have been replaced by direct electronic connections, especially the branch to back-office interface. This was further supported by electronic trading systems such as XETRA, RELIT, and RGV. For loans, automated underwriting and the standardization allowed for 8 to 15 percent more output per labor unit input. For deposits, improvements were less significant, and the overall net impact of IT in labor input for administration is estimated at close to zero. Although IT could reduce labor for general administrative functions, IT staffing levels have increased due to the growing complexity of

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4 Schutzgemeinschaft für allgemeine Kreditsicherung.

IT systems.

Exhibit 12

IMPACT OF IT ON BACK-OFFICE AND ADMINISTRATIVE FUNCTIONS

ESTIMATE

Examples of IT-driven efficiency improvements in back-office

Payments	• Automation of data input with scanning and image processing of payment forms • Change towards EFTPOS, more efficient than checks and handling* cash
Deposits	• Only minor changes, e.g., introduction of "Sparcard" • Many tasks still have to be performed manually
Loans	• Enhancement of credit scoring systems, automated underwriting • IT-forced standardization lowering labor input
Invest-ment products	• Improvement of integration between branches and back-offices • Introduction of electronic trading systems (XETRA, RELIT, RGV)

IT-driven labor reduction in back-office (excluding output increase)

Part of bank**	**Labor share***** Percent	**Labor reduction** Percent
• **Back-office (including middle-office)**	**35**	**15 - 25**
– Payments	48	25 - 35
– Loans	24	8 - 15
– Deposits	17	± 0
– Investments products	11	10 - 30
• **Administration (including IT)**	**10**	**± 0**

* Effect accounted for in payment mix
** Front-office represents 55% of total labor (back-office 35%, administration 10%)
*** Average 1994 labor share across countries

Source: AFB, expert interviews, MGI analysis

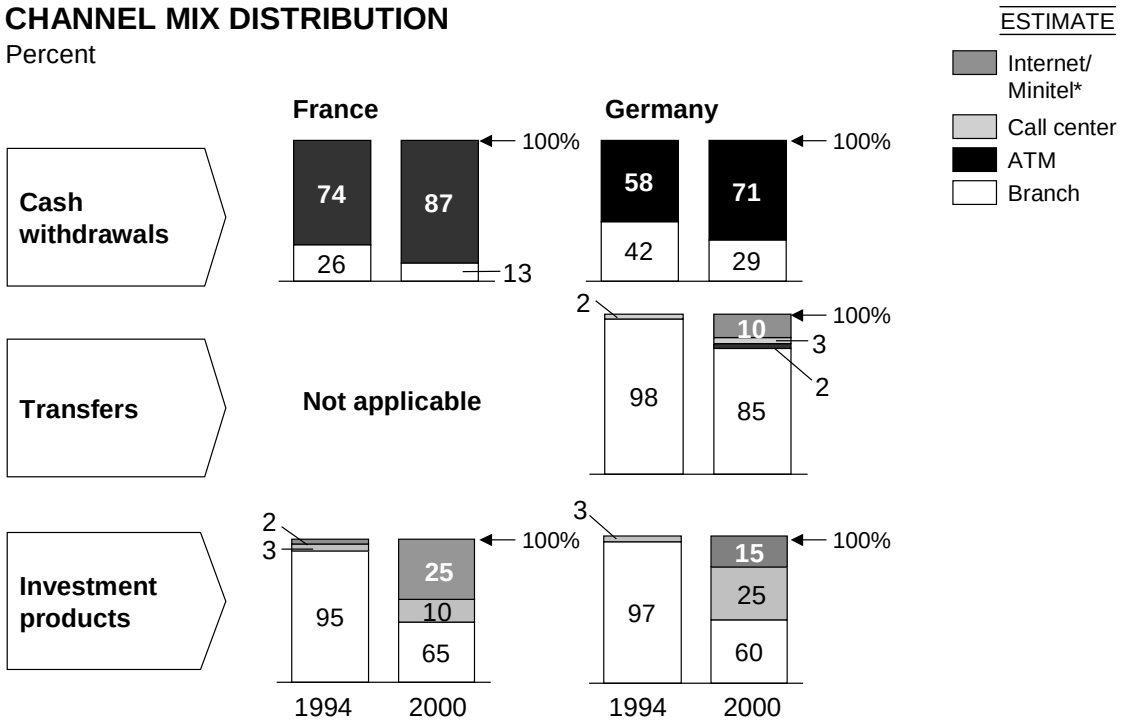
Distribution channel mix. The other quarter of IT-driven productivity growth (0.5 and 0.6 percent CAGR in France and Germany) is attributed to the change in channel mix, i.e., the increase in popularity of remote channels such as call centers or the Internet.

¶ *Productivity growth* – Productivity gains can be observed in several areas where labor-intensive channels have been replaced by automated channels. From 1994 to 2000, cash withdrawals at manual tellers fell from 26 to 13 percent of all withdrawals in France and from 42 to 29 percent in Germany. Phone and Internet banking gained a significant market share for the distribution of investment products: 35 percent in France and 40 percent in Germany. Thirteen percent of German transfers in 2000 were completed via the Internet or call centers (Exhibit 13).

Exhibit 13

CHANNEL MIX DISTRIBUTION

Percent



* Minitel only in France

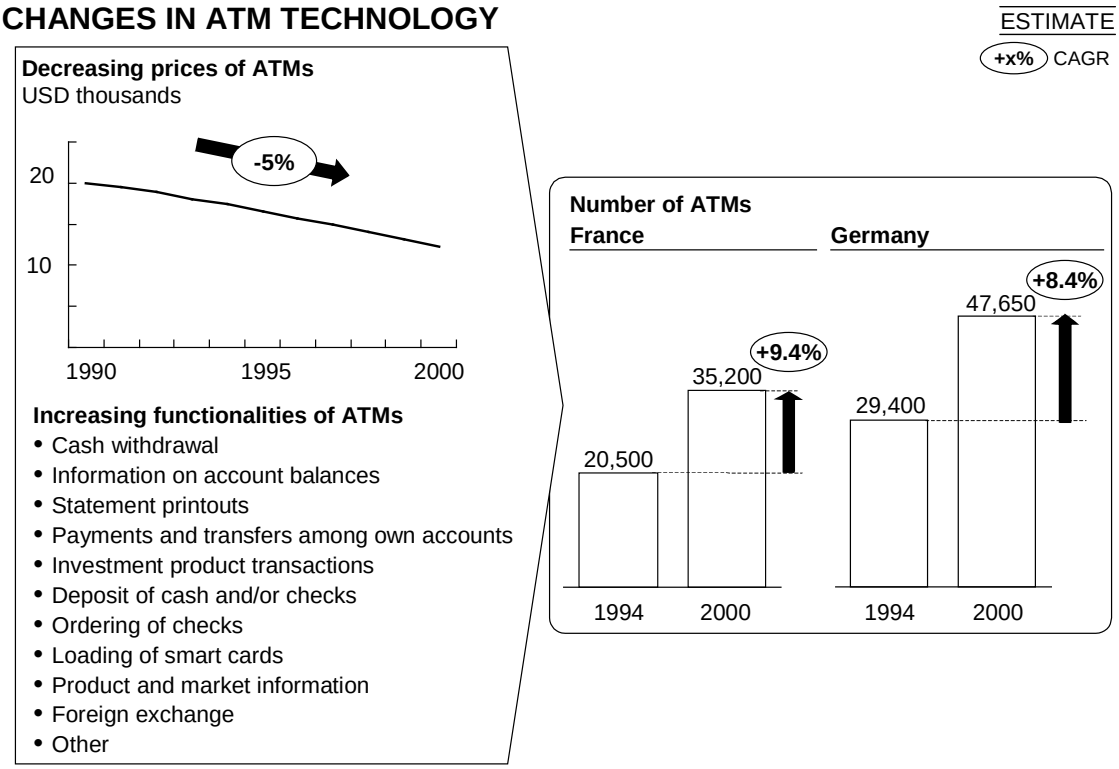
Source: ICON, survey, MGI analysis

Behind these operational level changes is the increase in customers' access to new technologies and in their willingness to accept and use new channels. The growth of online banking can be explained by the increase in Internet penetration. In 2000, 46 percent of the total US population were Internet users compared to 34 percent and 23 percent in France and Germany, respectively, up from negligible levels before 1994. Customer acceptance of call centers also increased, partly due to cheaper phone calls.

The successful implementation of IT was further supported by falling prices for technology. The price of automated teller machines (ATMs), for example, fell 5 percent annually from 1994 to 2000 (Exhibit 14). Overall, the new remote channels not only had a direct impact on the operations of existing institutions, they also meant that branches were no longer a prerequisite for offering banking services and, therefore, entry barriers to the industry were reduced significantly. The technological possibilities, supported by the stock market boom, led to a number of new entrants with attractive pricing who, in turn, pushed the incumbents to initiate online services, often through separate online banks. The increased competition that resulted fostered efficiency improvements.

Exhibit 14

CHANGES IN ATM TECHNOLOGY



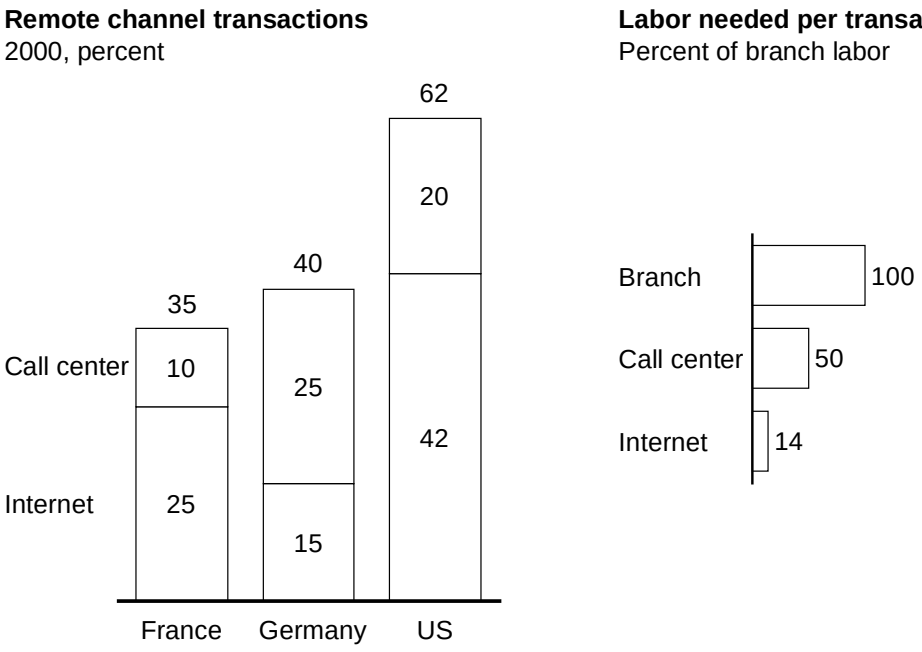
Source: ECB, Retail Banking Research Ltd., MGI analysis

¶ *Productivity level differences* – The channel mix differences between France and Germany result in only a negligible net difference in productivity. However, the US has a 3 to 4 percentage point productivity advantage over the two European countries due to the higher use of online banking that accompanies the higher Internet penetration rate.

The use of direct or remote channels is similar in France and Germany. France has slightly higher ATM usage (87 percent of withdrawals) and 25 percent of investment product transactions are performed online either via the Internet or Minitel. ATMs are used slightly less in Germany accounting for 71 percent of withdrawals while 15 percent of investment product transactions are conducted online. However, about 15 percent of transfers also take place over remote channels, whereas virtually none do in France. Finally, 25 percent of investment product transactions in Germany take place through call centers, compared to just 10 percent in France. Overall, the new channels have the same effect on productivity in France and Germany. Compared to the US, however, the much higher rate of online transactions in investment products (42 percent) results in a productivity advantage for the US of 3 to 4 percent (Exhibit 15).

Exhibit 15

ONLINE BROKERAGE – POPULARITY AND LABOR NEEDED



* Estimates using cost data by channel, 100 = EUR 1.10

Source: IDC, JP Morgan, MGI analysis

Differences in channel usage relate to country-specific conditions. Branch density in France is 4.3 per 10,000 inhabitants, which is about 20 percent lower than Germany's 5.6[5], triggering a higher ATM usage in France. The greater use of online channels is thanks to Minitel, a system introduced in France in the early 1980s that uses a modem to connect terminals for a variety of online services. Although a similar system was earlier available in Germany (BTX) and other European countries, it only achieved success in France, due to strong government support and the free supply of terminals to all households. In Germany, on the other hand, those people willing to use home banking but who lacked Internet access tended to use the call centers for investment product transactions.

IT spending. The MGI US report[6] raised the issue that although IT is a major driver of productivity, a direct link between IT spending and productivity improvements cannot be drawn. The comparison of the three countries in this study shows a similar result. Retail banks in all three countries have a similar level of IT spending per output unit but US banks have a significantly higher labor

5 Excluding La Poste and Postbank.

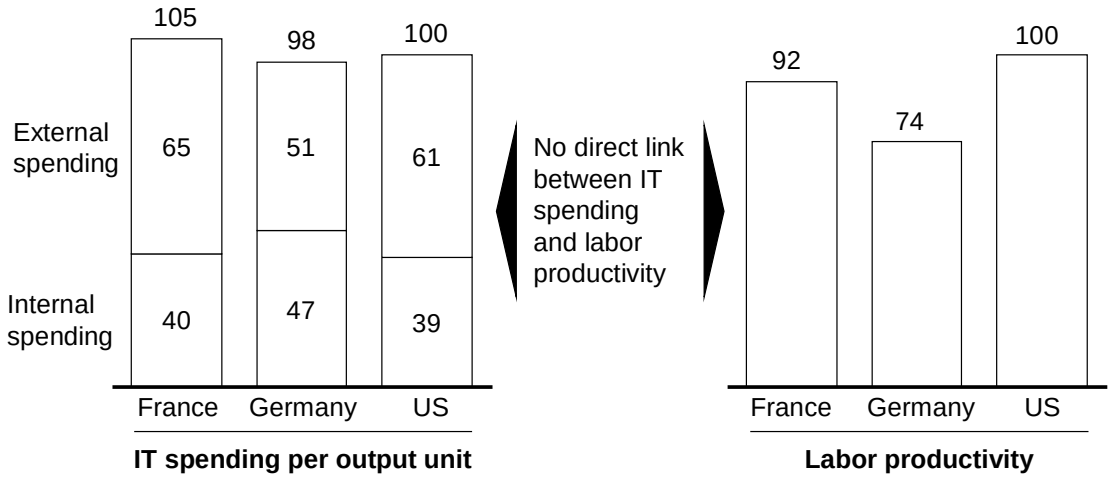
6 See: Productivity Growth 1995 - 2000, Understanding the Contribution of Information Technology relative to other factors, McKinsey Global Institute, Washington D.C., October 2001.

productivity level than German or French banks (Exhibit 16). This suggests that it is not the amount invested that matters but rather where it is invested and how it is deployed. Three factors, in particular, influence IT-related labor productivity. Firstly, the key for making the best use of IT lies in achieving sufficient scale, mainly through consolidation, but also by achieving higher overall output. Secondly, a higher degree of process and software standardization improves efficiency. Finally, some IT initiatives were not necessarily targeted at productivity improvements.

Exhibit 16

IT SPENDING* PER OUTPUT AND LABOR PRODUCTIVITY IN RETAIL BANKING, 2000

Index 100 = US level 2000



* PPP-adjusted

Source: IDC, TowerGroup, OECD, MGI analysis

¶ *Scale* – Differences in the country-specific environment influence the impact of IT spending. The most important factor is the scale at which an institution operates, determined primarily by the degree of consolidation, but also by the overall demand per customer. For instance, the 3 to 4 percentage point advantage in channel mix of the US was not driven by higher IT spending but by a better use of that spending in driving a higher volume of Internet transactions per customer. The high fragmentation of the German banking industry is a disadvantage, which is only partly compensated for by jointly operated processing units in the savings or cooperative banking sector. Germany has a 16 percentage point disadvantage to France, related to the smaller size of its banks and the

subsequent high amount of fixed labor. At least one quarter of fixed labor can be attributed to IT-related tasks, driving IT costs high. Both Germany and France need to overcome the limits of small-scale operations, either by pooling IT processes or by increasing output volumes, before they can leverage IT investments fully.

¶ *Standards* – US banks benefit from the more efficient use of standard software, which is available for front-end, headquarters and back-end systems. At the end of the 1990s, for example, only 20 percent of the top 100 US banks used in-house solutions for deposits/current account applications. French and German banks, on the other hand, often develop and use proprietary systems that need high labor inputs for maintenance and integration with other systems and, therefore, drive IT costs higher. Often these banks have no choice: Software for the core business, e.g., account keeping, is still missing in Europe. European banks spend only 15 percent of their IT budget on packaged software (Exhibit 17).

Exhibit 17

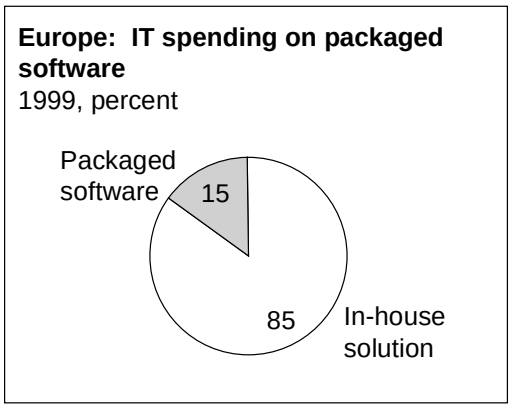
STANDARD SOFTWARE – AVAILABILITY AND USAGE

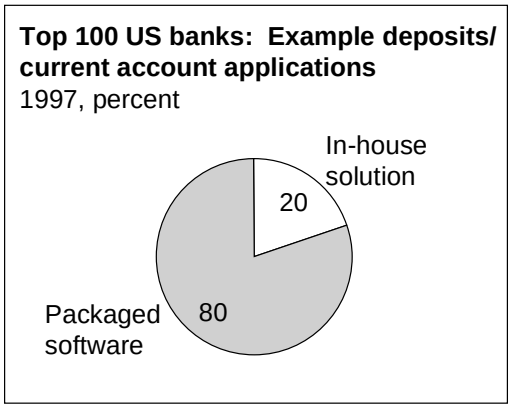
Europe

- Front-end applications and headquarters systems available but software for core IT functions, e.g., account keeping, still missing
- Without a standard for the core business, a standard for any other application is difficult
- Many proprietary systems

US

- Front-end headquarters and back-end systems available
- Examples show wide usage of standard software





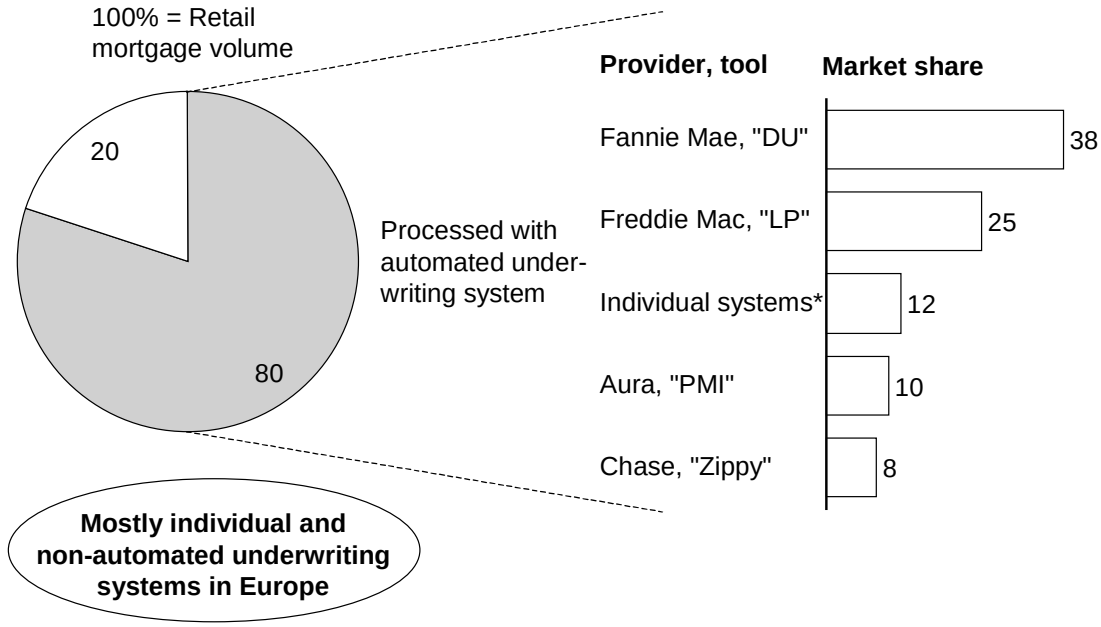
Source: IDC, MGI analysis

Standard software also supports the unbundling of the value chain, since no individual adaptation of interfaces to proprietary systems is needed. An example can be found in the US mortgage industry. The securitization of mortgages requires a detailed assessment of the rating

systems used in mortgage origination. The agencies, mainly Fannie Mae and Freddie Mac, provide an automated underwriting system based on their criteria. These automated tools are used for origination of about 80 percent of the mortgage volume (Exhibit 18). These tools are welcomed by originators who do not have to develop and maintain proprietary systems.

Exhibit 18

USAGE OF AUTOMATED UNDERWRITING FOR MORTGAGES IN THE US EXAMPLE



* Individual systems of lenders

Source: Fannie Mae Papers

¶ *Initiatives with little impact on productivity* – A large share of IT spending does not necessarily target productivity improvements. Other objectives can be the cause for spending differences across countries.

- *Effectiveness of marketing/sales force* – The productivity impact of customer relationship management would be expected to show up mainly in improved output quality, not captured by the methodology applied in this study.
- *Renovation* – Upgrading or replacing systems generates productivity improvements only when combined with process redesign. Switching to a new or upgraded system can also soak up time on training, negatively affecting productivity, underlining the need for a clear business case for IT investments.

- *Regulatory requirements* – Investments that are required in order to fulfill regulatory requirements include the introduction of the Euro as a currency for France and Germany in 1999 and of Euro coins and bills in 2002, as well as conforming to Y2K standards.

Consolidation

Over the 1990s, consolidation improved productivity by 0.8 percent annually in France and 1.5 percent annually in Germany. Consolidation across banks or within banks can be a slow process, but it remains a major driver for productivity as it generates economies of scale at three different levels:

¶ Consolidation of central and administrative functions – larger banks as a result of mergers and acquisitions leverage their central functions.

¶ Consolidation of functions and tasks in the back- and middle-office – pooling of tasks with large economies of scale through centralization and outsourcing.

¶ Branch consolidation – this took place mainly in Germany, the country with the highest branch density.

All three levels are driven by pressure on profitability. Country-specific differences in consolidation are triggered by the degree of state-ownership within the industry and regulatory differences.

A productivity difference of 17 percentage points between France and Germany can be explained by the different extent of consolidation. France is also ahead of the US by 5 percentage points.

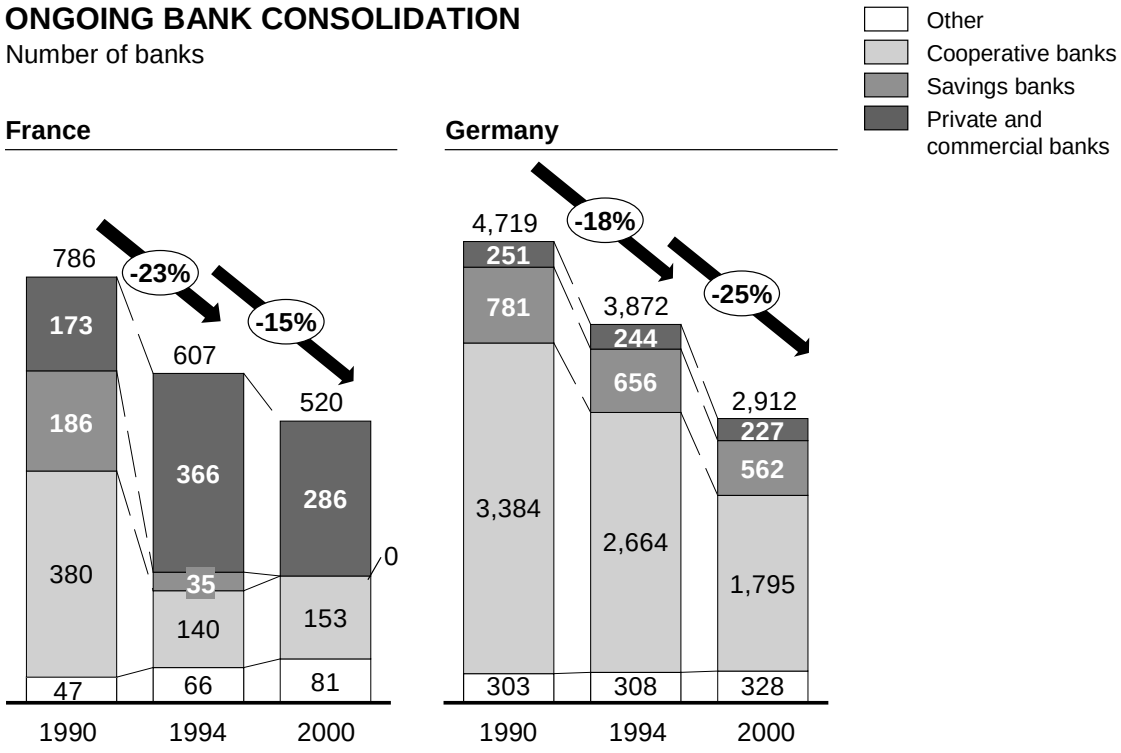
Industry consolidation: Impact of bank size. The consolidation of the industry has undoubtedly had an impact but comparing the countries shows that Germany still has substantial potential for improvement.

¶ *Productivity growth* – From 1994 to 2000, the number of banks in France and Germany fell by 15 and 25 percent, respectively (Exhibit 19). Larger banks benefit from economies of scale, especially through the more effective deployment of IT, and through the lower administrative costs per output unit. In the small to mid-sized bank segment (up to 3,000 employees), a bank with twice the number of employees as another is on average 20 percent more productive. The consolidation that took place in France therefore helped the banking sector there improve its labor productivity by 0.2 percent annually from 1994 to 2000, while in Germany, labor productivity grew by 0.7 percent annually through industry consolidation.

Exhibit 19

ONGOING BANK CONSOLIDATION

Number of banks

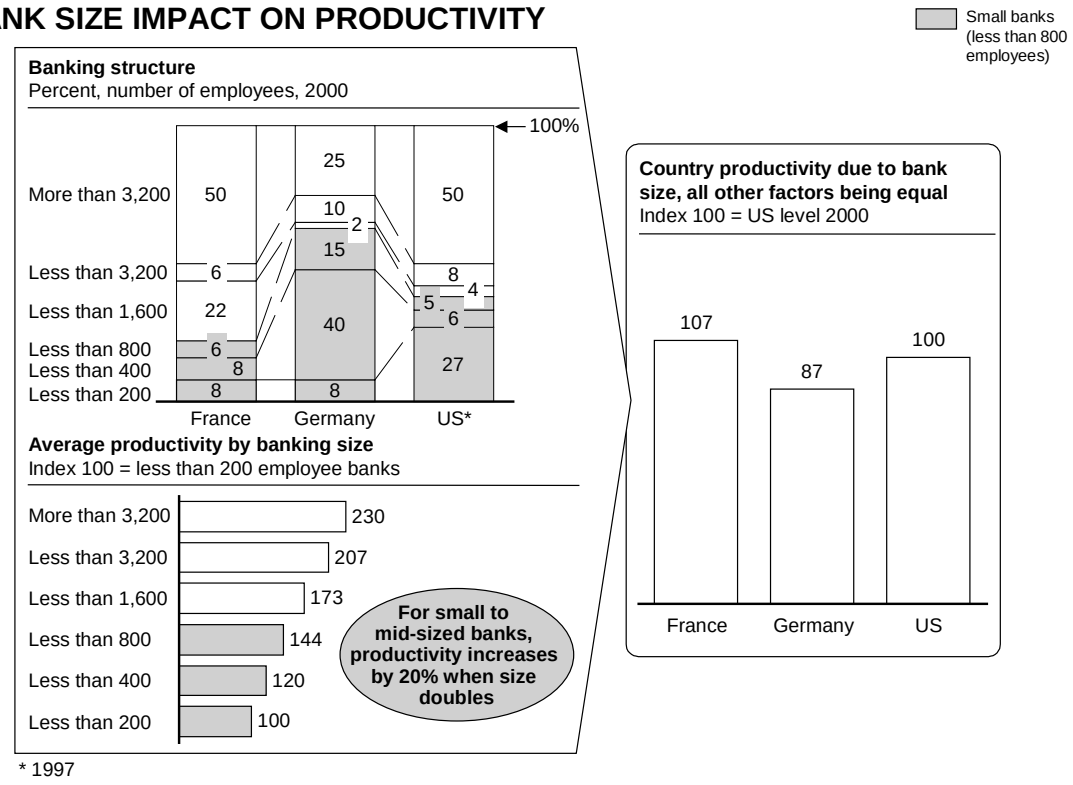


Source: BIS, Banque de France, Deutsche Bundesbank, MGI analysis

¶ *Productivity level differences* – Comparing countries in 2000, the size distribution shows significant differences (Exhibit 20). In France, 22 percent of employees work in small banks (fewer than 800 employees), compared with 63 percent in Germany. In the US, 38 percent work in small banks. This factor gives France a 16 percentage point productivity advantage compared to Germany and 5 percentage point advantage compared to the US.

Exhibit 20

BANK SIZE IMPACT ON PRODUCTIVITY



* 1997

Source: National bank associations, BLS, MGI analysis

Consolidation of functions and tasks: Impact of centralization and outsourcing. The consolidation of functions and tasks improved productivity in both France and Germany where banks are traditionally universal banks. In the US, the value chain is already unbundled with a corresponding positive impact on productivity.

- *Productivity growth* – Increased centralization and outsourcing from 1994 to 2000 led to annual productivity growth of 0.6 percent in France and Germany. Economies of scale effects could be realized and processes were streamlined, standardized and automated. Examples of the centralization and outsourcing of retail banking operations are Natexis or CEDICAM (the payment transaction center of Crédit Agricole) in France. The productivity increase due to centralization and outsourcing is estimated to be about 3 to 5 percent over the six years (Exhibit 21).

Exhibit 21

OPERATIONS CENTRALIZATION AND OUTSOURCING IMPACT ON PRODUCTIVITY

ESTIMATE

Outsourcing examples

	Centralization/ outsourcing	Examples	Centralization intensity*
Payment transactions	• Payment processing – Check processing – Payment clearing • ATM maintenance	• CNETI, CEDICAM, Natexis, etb, ZVS, SSG, FMSB	20 - 30%
Deposits	• Account management – Tax management – Statement printing	• _	–
Loans	• Loan processing and servicing – Credit scoring – Loan administration – Payment recovery	• Credit service center, Cofinoga	5 - 10%
Information	• Call centers	• SITEL, SNT, D+S, Defacto	5%
Investment products	• Transaction processing – Order routing – Bookkeeping	• Natexis, Gestitres, WPS, etb, BWSn, FMSB	20 - 30%

3 - 5% productivity gain** between 1994 and 2000

* Aggregated according to labor share

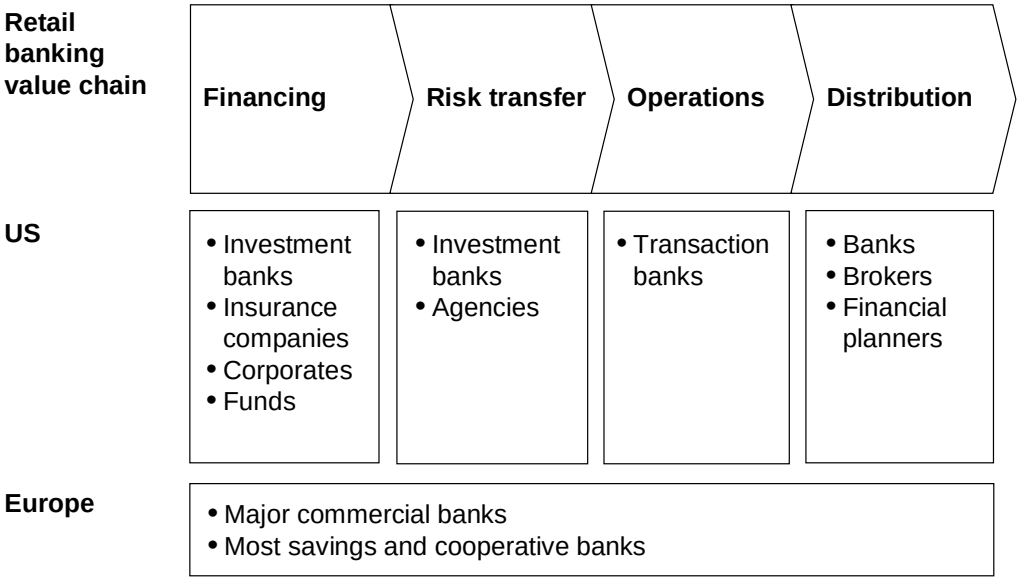
** Assuming 20% labor reduction through centralization of functions

Source: Expert interviews, MGI analysis

¶ *Productivity level differences* – Along with overall bank size, specific differences in industry structure influence the efficiency of the banking sector. US banks tend to be specialized within segments of the value chain as opposed to the universal banking model in France and Germany, where most banks cover the complete value chain (Exhibit 22).

Exhibit 22

VALUE CHAIN STRUCTURE IN THE US AND EUROPE ILLUSTRATIVE



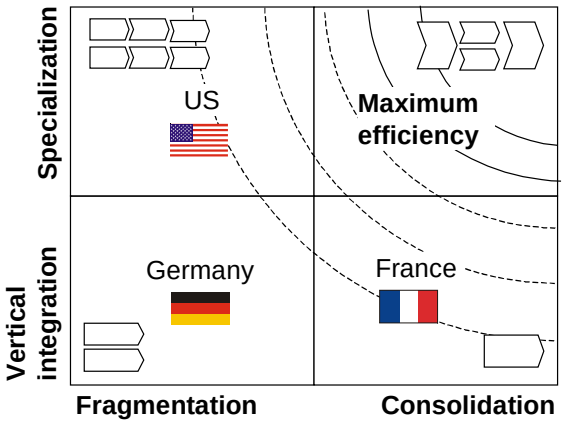
Source: MGI analysis

The highest labor productivity is expected for an industry structure that is vertically disintegrated but horizontally consolidated (Exhibit 23). This way, every segment of the value chain can be closer to optimum size in terms of economies of scale, regional market knowledge, and other factors. In addition, a disintegrated industry fosters competition and innovation in each part of the value chain and limits the possibilities for banks to cross-subsidize unproductive segments, which can stifle competition.

Exhibit 23

SPECIALIZATION AND CONSOLIDATION IN THE US AND EUROPE

ILLUSTRATIVE



Benefits of specialization

- No cross-subsidy and higher natural selection
- Higher transparency of prices
- Enables convergence to optimal size for each part of the value chain
- Higher competition and innovation
- Enables best practices in IT for the specialized function

Benefits of consolidation

- Synergies
- Scale effects
- Avoids duplication of IT systems which are mainly fixed costs

Source: AFB, BdF, BIB, Lang and Wetzel (1999), Vander Vennet R. (1994), Humphrey (1990), MGI analysis

Mortgages are a good example where the US industry benefits from each segment of the value chain operating at a different scale. Distribution is handled by a large variety of institutions, commercial banks, mortgage brokers, or companies using direct channels. They benefit from a detailed knowledge of their customers and the region in which they operate. The securitization is performed mainly by two agencies – Fannie Mae and Freddie Mac – that handle 75 percent of the retail market mortgages. For securitization, size is important to pool mortgage loans that are then sold to large-scale investors such as fund companies, corporates, banks, or insurance companies.

Finally, one should bear in mind that although value chain unbundling should logically have a positive impact on productivity, there could be disadvantages in terms of profitability compared to the universal banking model. This is because universal banks could generate stronger market power, synergies, or economies of scope between activities. For instance, they can offer credit services on the one hand and, then, benefit from refinancing through deposits on the other.

Branch consolidation: Impact of branch size – Larger branches need relatively less administrative labor and allow greater flexibility in managing labor capacity. However, only minor productivity improvements are attributed to an increase of

average branch size occurring in conjunction with a reduction in number of branches.

- *Productivity growth* – From 1994 to 2000, the annual productivity growth driven by the enlargement of branches and their parallel reduction in number was less than 0.2 percent. This is a rough estimate, given that the correlation between branch size and productivity is very low. Over time, the average branch size in France has remained stable at an average of about 7.5 employees per branch but has increased in Germany from 5.6 to 6.4[7]. However, while the number of branches in France also stayed stable at 26,000, it decreased in Germany from 57,000 to 45,000.

- *Productivity level differences* – Comparing countries in 2000, the differences in branch size account for a 1 percentage point productivity advantage for France and a 3 percentage point advantage for the US compared to Germany. The number of branches per 10,000 people is 4.3, 5.6, and 3.8, for France, Germany, and the US, respectively.

External drivers for consolidation. All three types of consolidation are driven by threats to profitability, ownership structure, and the regulatory environment, although the importance of each varies between countries.

- *Threatened profitability* – French and German banks' operating income has always been low compared to other European countries. In 2000, banks' operating income per total assets was 0.7 and 0.6 percent in France and Germany, but 1.4 and 1.6 percent in the UK and Italy. From 1992, declining interest rates hit French banks forcing them to react, while German banks were still benefiting from reunification with a huge new market into which to sell their products. By the mid-1990s, that effect was exhausted and since then German banks have faced falling incomes (Exhibit 24). The three main factors responsible for the decreasing income were falling interest rates, increasing competition, and extraordinary losses.

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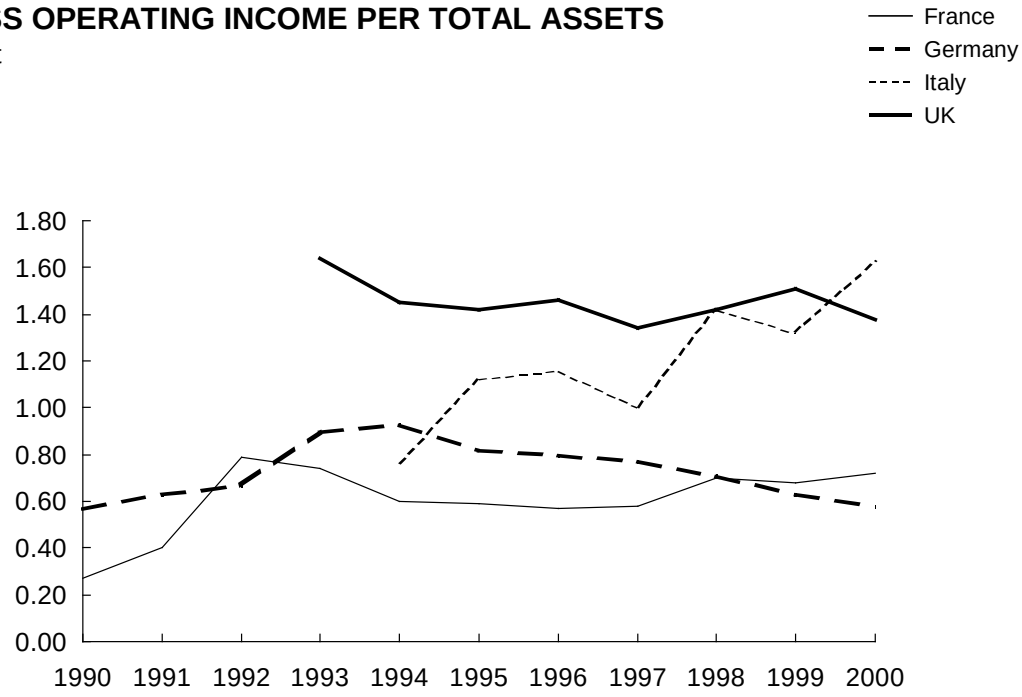
7 Excluding La Poste and Postbank.

Exhibit 24

GROSS OPERATING INCOME PER TOTAL ASSETS

Percent



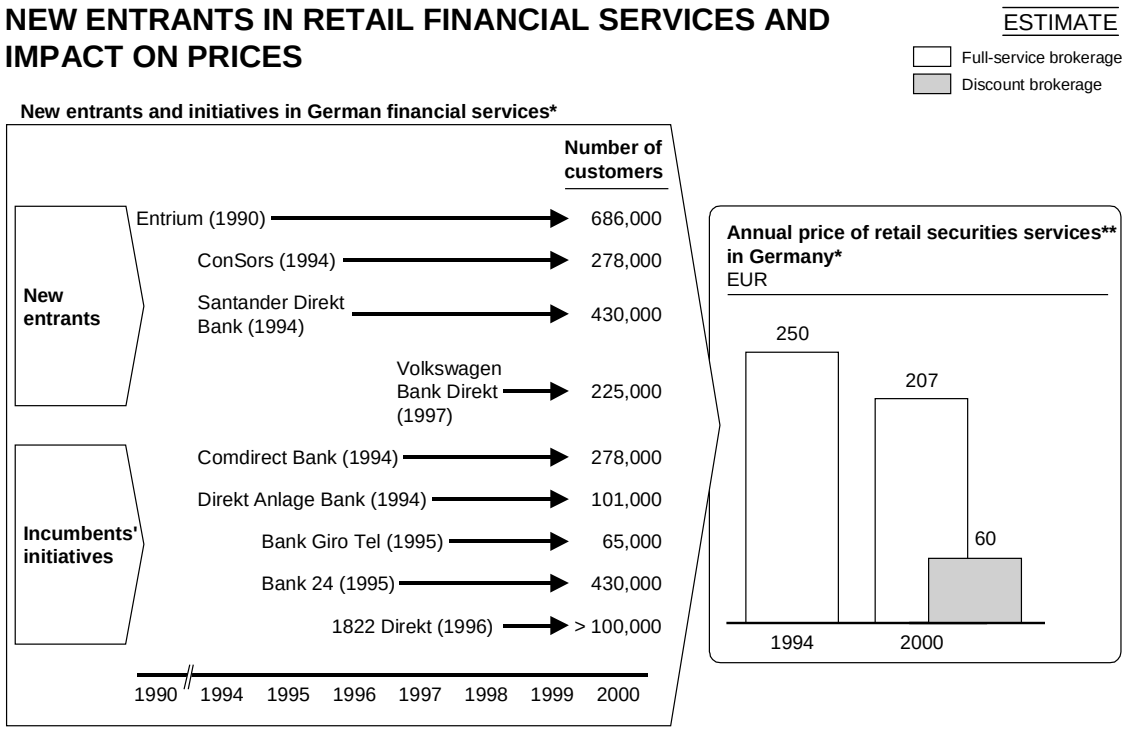
Source: Annual reports

- *Decreasing interest rates* – Interest rates declined from approximately 9 percent at the beginning of the 1990s to 4 percent ten years later. This hit margins in the retail business especially hard. Current accounts and savings accounts that offered no or very low interest rates and had a very large spread became less profitable. French banks could not compensate for this by introducing fees because current accounts are compulsorily free. Along with falling interest rates, the stock market boom of the late 1990s enforced the trend from deposits towards investment products, pushing banks into using more expensive refinancing through the capital markets. Finally, France faced a specifically drastic situation: Some savings accounts were regulated and their interest rate did not decline in line with the market. Interest rates for the most popular Livret A accounts, offered by Caisse d'Epargne and La Poste, remained at 4.5 percent from 1986 to 1995 and were finally only reduced to 3.75 percent in 1996. This created a disadvantage for all banks. On the one hand, those banks that did not offer regulated savings accounts suffered from a fall in their deposits because they could no longer offer competitive interest rates. On the other hand, Caisse d'Epargne and La Poste (both state-owned at that time) had to pay high interest rates. The margins of about 5 percent that they enjoyed in 1992 collapsed to nothing by 1996.

- *Increased competition* – During the 1990s, several new players appeared and direct banking became widely established. In Germany, the opening of direct brokers ConSors and comdirect in 1994 was immediately followed by most banks offering online services (Exhibit 25). The uptake was slower in other countries, but in Germany it led to remarkably fierce competition and high pressure on margins. The increasing competition had further effects: Customers tend to be much better informed now than they were ten years ago, and direct comparisons of competing offers through consumer magazines and online information became much more readily available, especially in Germany. The universal banks were also facing a threat to their wholesale business as corporates sought alternative financing methods. Disintermediation and direct capital market access, as well as self-financing, increasingly competed with traditional loans.

Exhibit 25

NEW ENTRANTS IN RETAIL FINANCIAL SERVICES AND IMPACT ON PRICES



* Similar developments in France

** Based on two equity transactions of EUR 10,000 and EUR 5,000 per year, with an average portfolio of EUR 50,000

Source: Max Herbst, Morgan Stanley, Dean Witter Research, Company data, MGI analysis

- *Extraordinary losses* – As a result of the defaults brought about by the 1992/93 recession in France and Germany, higher provisions led to losses in corporate loans. A collapse of the French corporate real estate market at the beginning of the 1990s also led to losses in French

real estate investments, although the impact of these depended on the individual bank's exposure to the corporate market, so French savings banks suffered less.

¶ *Ownership structure* – During the course of the 1990s, several major banks in France including BNP and Crédit Lyonnais were privatized. This increased the freedom for management to combat decreasing profitability and to react to the pressure arising due to the banks' increasing exposure to capital markets. It also spurred the takeover market. For instance, BNP, privatized in 1993, took over Paribas in 1999 (Exhibit 26). The threat of being bought also put pressure on management to increase market value through efficiency improvements. However, the favoring of cross-holding limited the effect of privatization.

Exhibit 26

CHANGES IN FRENCH BANK OWNERSHIP

Major retail bank

Bank name	Date	Nature of change
• Crédit Local de France (CLF)	1991 - 93	Privatization
• Banque Nationale de Paris (BNP)	1993	Privatization
• Banque Indosuez	1996	Takeover
• BFCE	1996	Takeover
• SOVAC	1996	Takeover
• Crédit du Nord	1997	Takeover
• Société Marseillaise de Crédit (SMC)	1998	Takeover
• Crédit Industriel et Commercial (CIC)	1998	Takeover
• Natexis	1998	Takeover
• Crédit Foncier de France (CFF)	1999	Takeover
• Crédit Lyonnais	1999	Privatization
• Paribas	1999	Takeover
• Caisse d'Epargne	2000	Privatization (mutual bank)
• Crédit Commercial de France	2000	Takeover
• Crédit Agricole (Caisse Nationale)	2001	Went public

Source: MGI analysis

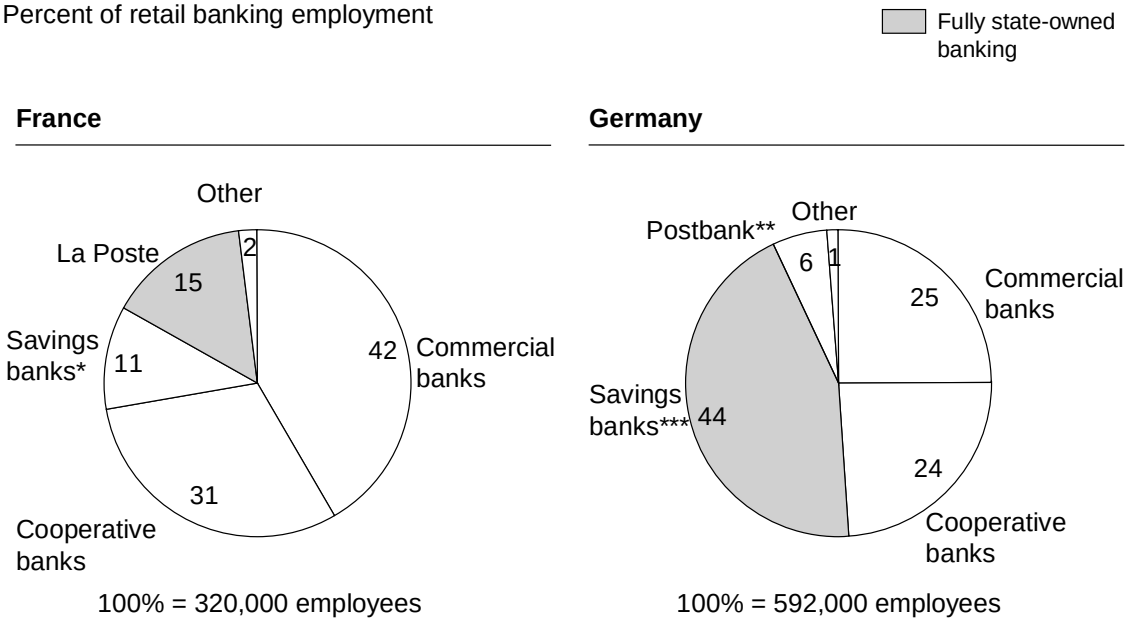
In Germany, no major bank privatizations in the banking sector have taken place and, in 2000, state-ownership was still commonplace. Fully state-owned banks are estimated to account for about for 44 percent of retail banking employment compared to just 15 percent in France (Exhibit 27). The ownership structure and the sector separation also prevent mergers or takeovers between savings banks and commercial

banks, thus limiting the range of possible targets.

Exhibit 27

OWNERSHIP OF FRENCH AND GERMAN RETAIL BANKS, 2000

Percent of retail banking employment



* French savings banks became mutual banks in 2000

** Deutsche Post, owner of Postbank, was privatized and went public in 2000

*** Including Landesbanks

Source: AFB, BdF, BIB, MGI analysis

Besides savings banks, the cooperative banks also face relatively low pressure from their fragmented shareholder base. They are also often customers and, therefore, focus their attention on service levels and less on profitability. Both France and Germany have a significant share of cooperative banks, although fragmentation in Germany is much higher (about 1,800 cooperative banks) than in France (about 150 cooperative banks).

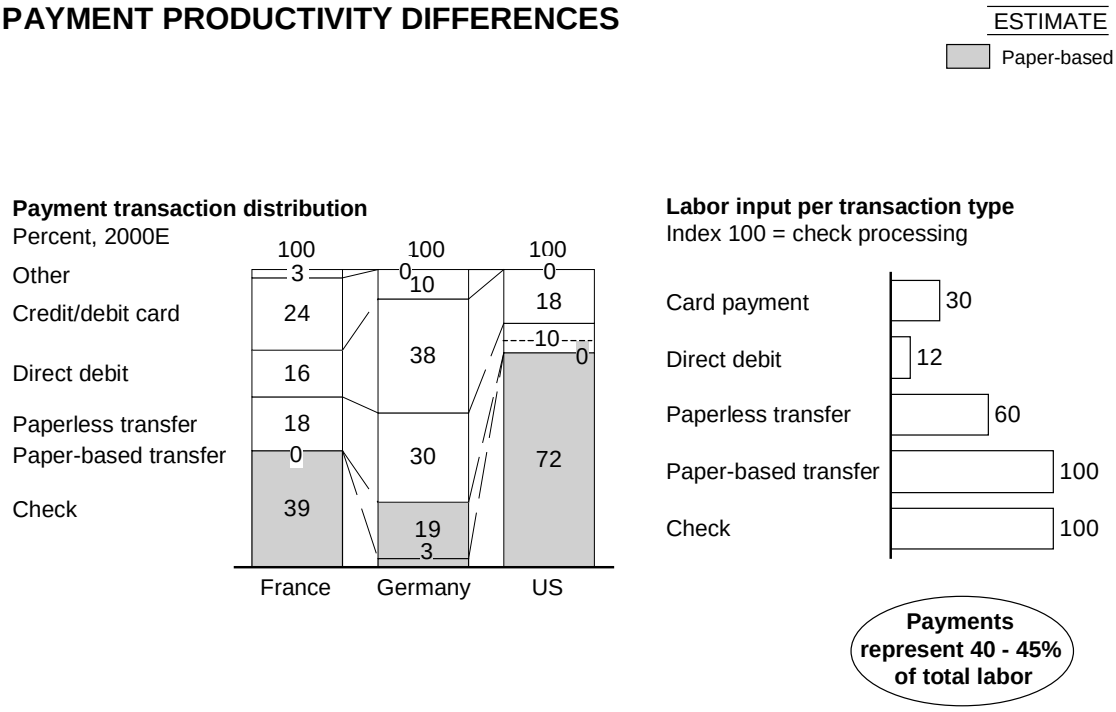
Specific regulations – The structure of the US banking industry, with small specialized institutions, was partly triggered by specific regulations. Before 1995, banks could not operate under the same charter in different states and the Glass-Steagall Act, revoked in 1997, prevented commercial banks from offering securities and insurance services. The removal of these regulatory restrictions has given US banks more room to improve efficiency by letting them build larger institutions. In France, regulations still partly prevent efficiency improvements: Outsourcing, for example, is restricted in the loan business.

Other operational factors influencing productivity

Payment mix. The most important product category, accounting for about 45 percent of labor, is payment transactions. A shift in payment mix from paper-based transactions towards less labor-intensive payments at point of sale and electronic transfers[8] accounts for an annual productivity improvement of 0.9 percent in France and 0.6 percent in Germany. In 2000, Germany held an 11 percentage point advantage over France and a 21 percentage point advantage over the US. Moreover, in 2000, paper-based transactions accounted for just 22 percent of all transactions in Germany but a staggering 72 percent in the US. Yet a direct debit, for example, requires only about 12 percent of the labor needed to process a check (Exhibit 28).

Exhibit 28

PAYMENT PRODUCTIVITY DIFFERENCES



Source: National central banks, ECB, MGI analysis

Payment mix is influenced by market regulations and, in Germany, by the coordination efforts of the banks. In the US, banks have little incentive to abolish the inefficient check system because regulations allow a longer float time compared to

8 In addition, the shift from a paper-based form to an online or call center handled electronic transaction further improves productivity, accounted for in channel mix.

electronic transfers which must be available within one day. Therefore, there is an interest disadvantage in electronic transfers for the banks. In France, checks are compulsorily free, therefore banks cannot compete on price and consumers are less willing to shift to other transaction methods. In Germany, the increased collaboration of financial institutions in the 1960s resulted in a common system for payment transfers. In 1970, standardized forms, a common machine-readable font, and the bank identification code were introduced, paving the way for the increased automation of payments. The benefits of early adoption of standardized and automated systems were that paperless transfers, including standing orders and direct debits, grew significantly.

Mortgage processing. In the US, the process of mortgage origination is more standardized than in France or Germany, with off-the-shelf software and lower labor inputs. This results in a productivity advantage for the US of 5 and 7 percentage points compared to France and Germany, respectively.

Front-office efficiency. During the 1990s, the number of branches in Germany fell by a fifth increasing productivity by 0.5 percent annually. Only the least productive branches were shut down either because they were less productive due to poor operations or due to too much idle time as a result of too few customers or they were in areas with unattractive customers, i.e., those with small deposit and loan amounts. In France, which has a much lower branch density, no significant branch closures occurred from 1994 to 2000.

However, in 2000 significant differences in the front-office productivity still existed in both countries. In Germany, 30 percent more branch labor is needed for the same output as in France. This can be attributed to better operations in France and a better branch network with less idle time. In Germany, experts estimate that even in busy branches more than 20 percent of sales staff's time cannot be attributed to any specific activity. Usually, branch employees are available to customers at any time whereas in France appointments are much more common, ensuring better capacity utilization. Finally, the large number of banks in Germany that have only a few branches each means that there is little competition between branches, as no internal benchmarks exist that could serve as an incentive to improve operations. Subtracting double-counting effects, a productivity advantage of 8 percentage points for France is estimated. The difference between Germany and the US is similar.

OUTLOOK AND RECOMMENDATIONS

Analyzing past productivity performance we found that substantial improvements were achieved over the 1990s due to an overall increase in demand, business and technology innovations, as well as consolidation. All these factors will remain important over the coming years. In Germany, it will be particularly important to

take advantage of scale effects. This can be achieved by industry consolidation or, at least, the pooling of functions and tasks, i.e., centralization and outsourcing. In France, an increase in demand seems possible supported by deregulation.

Demand per customer

In both France and Germany, there is the increasing need for personal provision for retirement, social security, and education. Banks have the chance to react to the changing needs of society by offering new and higher value-added services and products. The aging society and increasing single households suggest a bigger market for financial planning or innovative products. As a result, economies of scale can lead to further productivity growth.

In France, particularly, regulation prevents the establishment of a credit bureau, similar to the German Schufa[9]. The current differences in ratio of debt to annual disposable income are striking and reveal further potential. In France, the debt-income ratio is only 44 percent, compared to 75 percent in Germany and 97 percent in the US. An increase in this ratio for France would boost output and, hence, productivity.

Business and technology innovations

IT will continue to be an important driver of productivity. Current trends, such as multi-channel banking, are expected to continue to grow with increasing Internet penetration and customer acceptance of new technologies. In back-office functions, together with increased outsourcing, a higher degree of standardization of IT is expected. This will be necessary since other requirements, such as the introduction of the new capital rules (Basel II), will require significant efforts from IT departments.

It is essential that new channels (e.g., wireless banking) are integrated smoothly into existing systems and system complexity is not increased. Otherwise, maintenance and labor costs will burden the banks further. This is especially true as new channels will receive only a limited penetration rate and customers are expected to spread their transactions over new and existing channels but not necessarily increase overall volume. For banks, the task is to migrate transactions to the most efficient channels.

In the back-office, similar arguments hold true. Further automation, straight-through processing, and standardization are sources of improved productivity, especially when complexity is reduced. In particular, maintenance efforts could be reduced by using standardized systems and software. Further challenges for IT

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9 Schutzgemeinschaft für allgemeine Kreditsicherung.

departments are arising from the Pan-European activities of banks. Although banks benefit from larger scale, it is important to ensure that possible synergy effects are not outweighed by the complexity created by offering a diversity of international products, coping with a range of processes, not to mention the various languages and differences in legal and tax requirements.

Consolidation

Consolidation will continue along the three dimensions of industry consolidation, consolidation of functions and tasks, and consolidation of branches. The pace, however, will strongly depend on the pressure faced by management. Ownership structure and regulations – especially in Germany – are currently preventing any faster productivity gains.

The consolidation trend is continuing as banks aim at further efficiency and profitability improvements. German savings banks will face a particular challenge. After the abolition of the state guarantee obligations (*Gewährträgerhaftung*) in 2005, additional funds have to be raised for the increase of the institutional guarantee fund from approximately EUR 1 billion to EUR 6 billion, making additional expenditures necessary.

In addition to domestic bank mergers and acquisitions, consolidation with other financial companies, such as insurers or international institutions, will also be important. If banks decide to remain independent, they will still pool operations and centralize or outsource functions and tasks to capture the productivity benefits of larger-scale operations. Examples are payment and securities operations or the credit factories, currently under debate. The reduction of the branch network will be selective as branches remain the most important distribution channel. The absolute number of branches will be less important than the distribution through different outlet formats, such as full-service branches, kiosk outlets, or ATMs only, to target customers' needs efficiently.

To catch up with the US productivity level, it will be vital that French and German banks increase their productivity growth. By pooling back-office functions, local banks might increasingly become distribution and advisory outlets. This would allow them to concentrate on their valuable customer relationship, while the products are provided by large-scale factories. Franchising might also be a feasible alternative. However, especially in Germany, the badly needed consolidation will be hindered as long as pressure does not increase through a more demanding ownership.

Payment mix

In France, especially, the improvement of the payment mix reveals significant improvement potential. By regulating checks and making them compulsorily free, their popularity is ensured. Other payment methods, however, that are not paper-based, are much more efficient. Only deregulation and a common effort of French banks with common standards will convince customers to use new payment methods instead of checks.

APPENDIX: METHODOLOGY OF THE PRODUCTIVITY CALCULATION

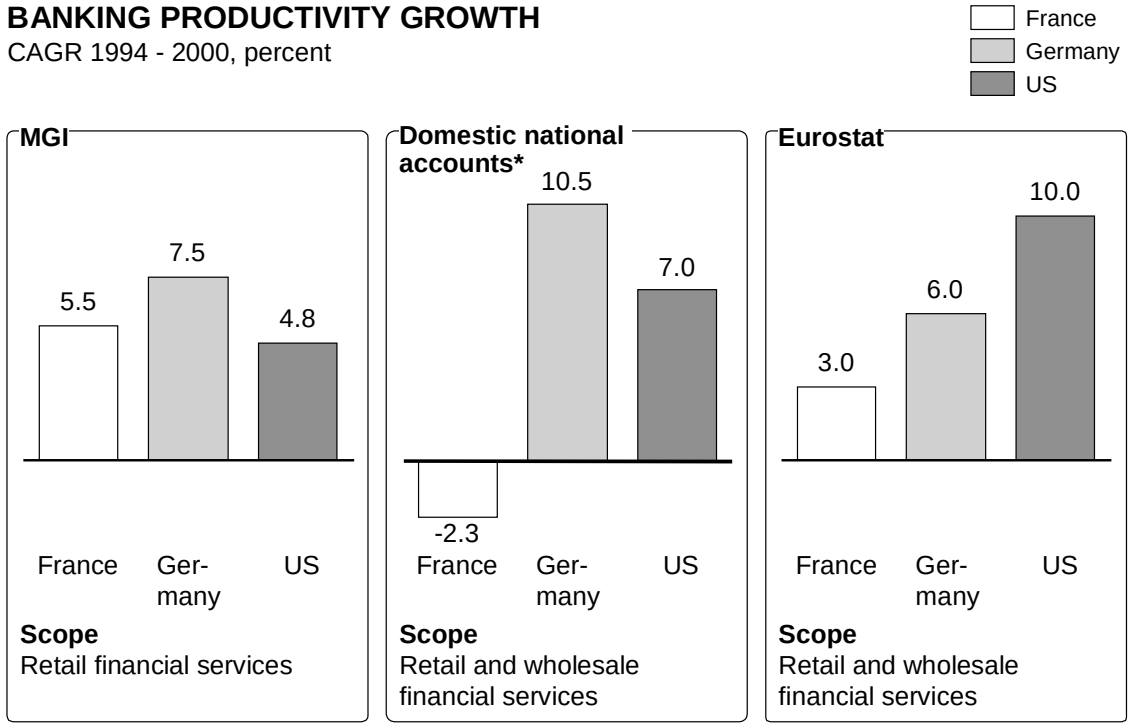
This appendix describes the data sources and methodology used to calculate the labor productivity series for retail banking.

Productivity index

In the absence of consistent retail banking productivity measurement across the countries, and without a readily available accurate price deflator, the MGI has favored a productivity measure based on physical output (Exhibit 29).

Exhibit 29

BANKING PRODUCTIVITY GROWTH
CAGR 1994 - 2000, percent



* 1995 - 99

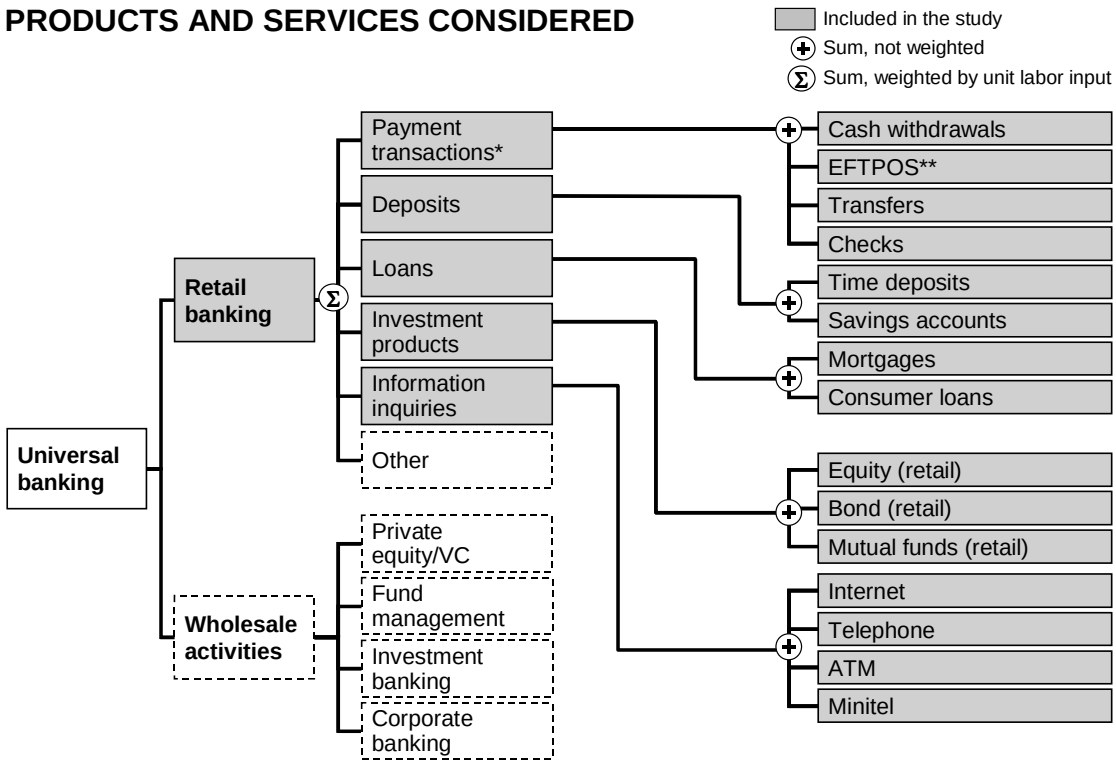
Source: INSEE, BLS, BEA, Statistisches Bundesamt, Eurostat, MGI analysis

The MGI productivity indices used for retail banking have been computed by dividing the aggregate output index by the corresponding labor input index as described below. For all indices, US levels in 2000 serve as the reference values.

Output index

Products and services measured. MGI's retail banking output measure includes all major financial services offered to households and individual professionals. It is a quantity index based on the number of cashless payment transactions, the real volume of retail deposits, the real volume of personal and mortgage loans, the number of investment product transactions, and the number of information inquiries (Exhibit 30).

Exhibit 30



Source: MGI analysis

- *Payment transactions* – Payment transactions include cash withdrawals, electronic financial transactions at point of sale (EFTPOS), credit/debit card transactions, transfers, and checks. Wholesale transactions are included. The data came from several sources including domestic central banks, the Bank for International Settlements, professional associations, the Nilson report, and McKinsey research.

- *Deposits* – Retail deposits are measured as the outstanding amount of retail savings accounts and time deposits converted into 1994 Euros. Nominal values are deflated by domestic CPIs and converted using consumption PPP exchange rates provided by the OECD. Deposit output

relates only to households and individual professionals. The figures are provided by domestic central banks.

- *Personal loans and mortgages* – Loans output is measured as the sum of the outstanding amount of personal loans including consumer loans and overdrafts, and the outstanding amount of retail mortgages – all measured in 1994 Euros. Nominal values for personal loans are deflated by domestic CPIs and converted using consumption PPP exchange rates provided by the OECD. Mortgages are deflated by real-estate prices and converted using housing PPP exchange rates. Loan output relates only to households and individual professionals. The figures are provided by domestic central banks.

- *Investment products* – Investment products' output is measured as the number of transactions on equities, bonds, mutual fund shares, and life insurance. This includes all transactions ordered by individual investors through the banks and financial institutions studied in this report. Figures are based on several sources, including domestic stock market volume, domestic central bank surveys, and McKinsey research.

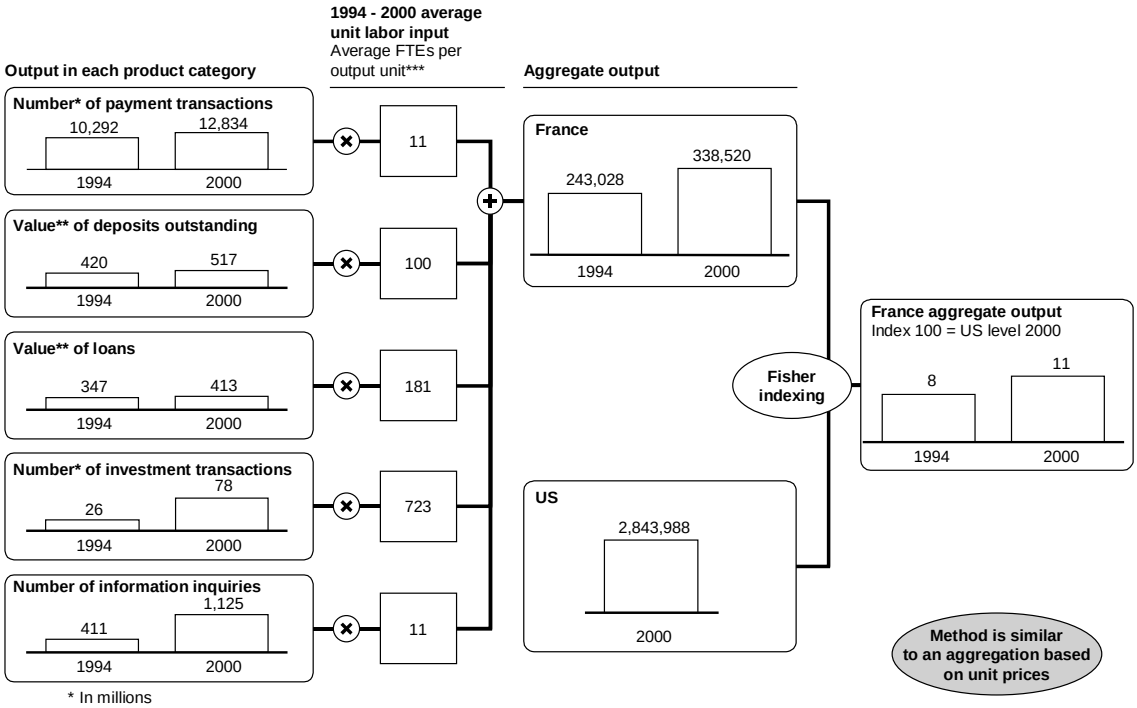
- *Information inquiries* – Information inquiries output is based on the total number of phone calls, online information inquiries (Internet and Minitel), and account information retrievals through ATMs. Figures come from annual reports, interviews, brokers reports, and McKinsey research.

Aggregation. The MGI built a total output growth index by aggregating the five physical output categories with the average labor input required in 1994 and in 2000 for each unit of physical output. This output is made comparable to the US 2000 level by using a Fisher aggregation (Exhibit 31).

Exhibit 31

CALCULATION OF FRENCH AGGREGATE OUTPUT

EXAMPLE



* In millions
** In 1994 EUR billions
*** Millions of transactions/inquiries or 1994 EUR billions in loans/deposits
Source: Federal Reserve, BLS, MGI analysis

For each product category, the average labor input per output unit is the average of the labor required in 1994 and in 2000 per output unit. The labor inputs are provided by the Federal Reserve Function Cost Analysis report and the BLS for the US, and for France and Germany by a proprietary banking survey.

This aggregation method is similar to an aggregation based on 1994 to 2000 average domestic unit prices per product category. Domestic average unit prices are replaced here by domestic average unit labor input. Weighting by labor input is preferred because of the practical issues raised when using unit prices as a measure of consumer's utility.

In fact, it can be argued that cross-subsidies between non-substitutable products are very frequent in banking, especially within European universal banks. Such cross-subsidies cause product-specific demand not to react fully to changes in product unit price. Therefore, individual product price changes would not properly reflect any change in utility. Evidence – at least in the short term – is clear for deposits and payment transactions where prices are linked with volatile interest rates (opportunity cost) and demand is very rigid. MGI assumes here that allocation of resources (labor) by banks is rational and thus symmetrical to consumer utility.

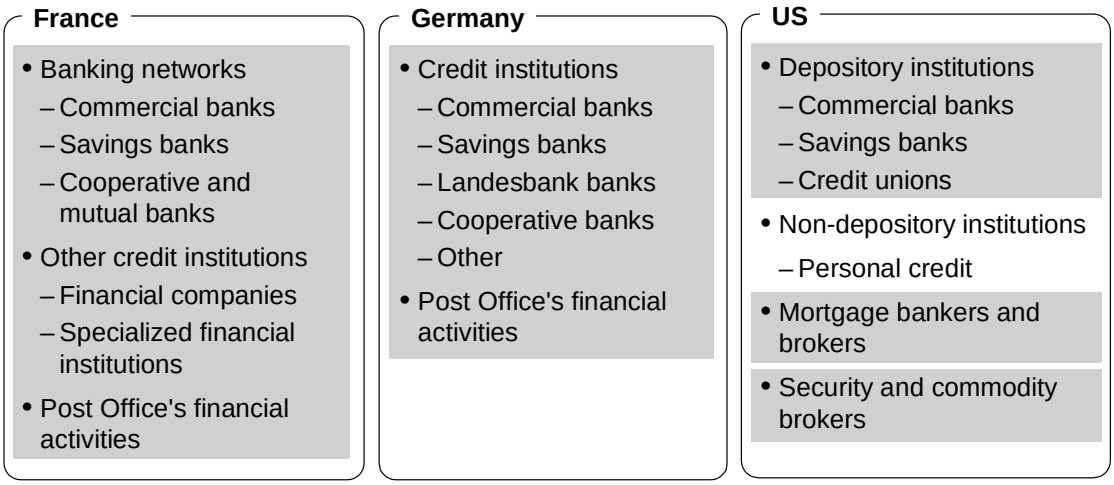
Labor index

Total labor in retail banking includes the number of hours worked in all financial institutions associated with retail financial services as defined above. Depending on the country, this typically includes commercial banks, savings institutions, cooperative banks (credit unions), and securities brokerages (Exhibit 32).

Exhibit 32

RETAIL BANKING EMPLOYMENT DEFINITION

Adjusted to exclude business activities



Source: BLS, Arbeitgeberverbund des privaten Bankengewerbes, Association Française des Banques, CECEI, Banque de France

Employment in banks is adjusted by the share of retail banking. Workers performing non-retail activities inside the selected institutions are subtracted and outsourced employment/external services are added. Finally, the employment figure is adjusted for the average working time (Exhibit 33).

Exhibit 33

LABOR INPUT IN MGI RETAIL FINANCIAL SERVICES METHODOLOGY

Employees in thousands (FTEs)

	France	Germany	US
Employees in banks	433	800	
⊗	⊗		
Share of retail banking	74%	74%	
▼	▼		
Employees in retail banking	320	592	2,175
⊖	⊖	⊖	
Retail activities not related to payments, deposits, loans, investment products (excluding life insurance), and information inquiries	12%	10%	4%
▼	▼	▼	
Banking employees in functions studied	282	533	2,088
⊕	⊕	⊕	
Outsourcing and external services	14%	11%	14%
▼	▼	▼	
Total employment	321	592	2,381
⊗	⊗	⊗	
Average working time as share of a 1,800-hour annual FTE	87%	84%	99%
▼	▼	▼	
Total labor input	**281**	**499**	**2,353**

Source: MGI analysis

The sources of adjustments were the following:

- *Employees/hours worked* – The numbers of employees in commercial and cooperative banks, savings institutions, and securities brokerage were obtained from the BLS, AFB and Bundesverband deutscher Banken. The annual working hours for these employees were obtained from the BLS, INSEE and the Statistisches Bundesamt.
- *Adjustment for external labor inputs* – Outsourced and intermediate labor input includes employees in call centers, transaction processing, IT services, and external services (e.g., cleaning, security). Adjustments were estimated with experts and are based on conservative approaches.
- *Workers with non-retail activities* – The number of workers who perform non-retail activities (e.g., wholesale banking, commercial loans or commercial real estate loans, bancassurance) was derived from the Federal Reserve Function Cost Analysis report for the US, from the AFB 2000 employment survey for France, and from a proprietary banking survey, and external and internal expert interviews for Germany.

Limitations

MGI's productivity calculations are subject to limitations and any future work should try to enhance the methodology of output measurement and increase the accuracy of input figures. MGI output estimates are not adjusted for quality and output per product category can be subject to accuracy objections. Figures on labor inputs suffer from lack of official sources focused on retail banking and have to be based on estimates.

- *Quality adjustments* – Due to the lack of accepted methodologies on quality adjustment and to limit the subjectivity of the productivity calculation, quality of output is not taken into account. Therefore, we assume quality to be constant over time and similar across countries.
- *Payment transaction* – A recent substantial revision of the number of US payment transactions due to previous double-counting of checks, raises concern on the precision of official figures. Official figures on German paper-based versus paperless transfers lack precision and consistency.
- *Deposits and loans* – Using PPP exchange rates instead of market exchange rates remains subject to methodological debate, as long as the difference in domestic prices may simply reflect the difference in utility benefit. In addition, no accurate estimates of PPP exist.
- *Investment products* – Accurate figures of investment transactions are not readily available and MGI output is based on assumptions that annual retail investors' turnover follows the domestic stock market's volume. Transactions are also the only visible part of investor services provided by banks, in fact, personal financial advisory is part of the value added that is paid for by annual fees on assets under management but cannot be included in an output measure.
- *Retail banking employment* – The lack of official figures focused specifically on retail banking in all three countries means that MGI productivity figures had to be based on estimates from industry surveys and interviews.