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ABSTRACT

Changes in Germany's Bank-Based Financial System: A Varieties of Capitalism Perspective

by Sigurt Vitols

Throughout the 20th century Germany's financial system has been dominated by banks. Recently, however, a number of efforts have been made to increase the role of markets within this bank-based financial system, including regulatory innovations, changes in corporate governance, and a reform of the pension system. This paper finds that, despite these changes, there are a surprising number of continuities in the structure of the financial system. The German financial system can therefore still be characterized as bank-based. An explanation for this based on the Varieties of Capitalism viewpoint is advanced, which emphasizes complementarities and continuities in household savings and investment behavior and in patterns of company sector demand for finance.

Keywords: Financial systems, venture capital, varieties of capitalism

JEL Classification: G3, J5, P5

ZUSAMMENFASSUNG

Veränderungen im deutschen Bank-basierten Finanzsystem: Ein 'Varieties of Capitalism'-Ansatz

Deutschlands Finanzsystem wurde durch das zwanzigste Jahrhundert hindurch von Banken dominiert. In jüngster Zeit jedoch wurden Versuche unternommen, durch neue Regulierungen, Anpassungen im System der Unternehmenskontrolle (Corporate Governance) und einer Reformierung der Alterssicherung den Märkten innerhalb dieses banken-gestützten Systems eine bedeutendere Rolle zukommen zu lassen. Dieses Papier kommt zu dem Schluss, dass trotz dieser Veränderung ein hohes Maß an Kontinuität herrscht, so dass das deutsche Finanzsystem immer noch als banken-gestützt charakterisiert werden kann. Die Gründe hierfür werden aus der Perspektive des 'Varieties of Capitalism'-Ansatzes erklärt, der in diesem Zusammenhang Komplementarität zwischen und Kontinuität von privatem Spar- und Investitionsverhalten und den Nachfragemustern nach Finanzierungsmitteln im Unternehmenssektor als Ursache betont.

1. Introduction

In comparative political economy it is commonplace to classify national financial systems as either bank-based or market-based (Deeg 1999; World Bank 2001; Zysman 1983).[1] Although financial systems as a rule have both banks and markets, bank-based systems are distinguished from market-based systems by a number of characteristics: a greater proportion of household assets are held as bank deposits, stock markets tend to be smaller and less liquid, and bank loans account for a greater proportion of company liabilities. Bank financing is more suited to low-risk investment in capital-intensive, incrementally innovating manufacturing companies. Market based finance, and in particular equity finance, in contrast, is better able to support higher-risk companies, such as start-ups. The Varieties of Capitalism (VOC) perspective therefore considers bank-based systems to have greater complementarities within coordinated market economies (CMEs) such as Germany and Japan, than within liberal market economies (LMEs) such as the US and UK, since incremental innovation is more predominant in the former than in the latter (Hall and Soskice 2001).

Germany has long been known as having one of the most bank-based financial systems in comparison with other countries (see section 2 for an overview of comparative statistics). Recently, however, major changes have been made in Germany in both the business strategies of the large universal banks and in the regulation of the financial system. The large privately-owned banks find it increasingly difficult to make profits in traditional deposit-taking and lending, and are thus shifting their focus towards fee-based activities such as investment banking and asset management. Partly in response to the demands of these banks, and partly due to the initiatives of policymakers, the regulatory system has been changed in an effort to strengthen the role of equity markets in the German financial system. The expansion of public programs to promote venture capital and the foundation in 1997 of the Neuer Markt, a special segment of the Frankfurt stock exchange for smaller high-growth companies, were intended to promote equity finance for start-ups in particular. International pressure (particularly the Basel agreements on capital adequacy) has also fostered a more market-oriented approach within the banking sector by encouraging the banks to introduce credit rating systems. Finally, a major pension reform (the "Riester Rente") was introduced in 2002 to help shift the burden of retirement provision away from the public pay-as-you-go system towards company-based and personal pensions. These changes naturally raise the question of the extent to which Germany's bank-based financial system is being transformed, and what implications these changes have for Germany's coordinated market economy.

This paper describes these changes and their consequences for company finance in Germany. As a general statement, these can be characterized as changes at the margin rather than a fundamental transformation of a bank-based financial system. Elements of a US-style market-based regulatory system have in fact been introduced in Germany, and the large banks have made considerable efforts to build up their market-based activities. However, with the exception of a flurry of new company listings on the stock market (initial public offerings, or IPOs) during the bubble years of 1998-2000 and the introduction of a moderate form of "shareholder value" by large listed companies, remarkably little has changed in the pattern of corporate finance in

[1] Many thanks to Pablo Beramendi and Lutz Engelhardt for valuable suggestions for improvement on an earlier draft of this paper.

Germany in the past decade. This paper suggests that the explanation for these continuities lies in the embeddedness of the financial system in the broader coordinated market economy of Germany. Specifically, with the exception of a flirtation with equity finance during the bubble years, there have been only limited changes in household savings behavior and company demand for finance. The reasons for this, which have been explored elsewhere, include the relatively low levels of inequality in Germany (and thus a relatively large, risk-averse, savings-oriented middle income group) and the characteristics of the German production system (capital-intensive manufacturing with a large SME sector) (Vitols 1996; Vitols 1998).

The second section of this paper presents some stylized facts on the German bank-based system in comparative perspective as of the mid-1990s, the date when the reforms started in earnest. The third section focuses on the changes that have been made in the financial system in the past decade. The fourth section presents evidence of continuity in the basic structure of the financial system. The fifth section advances a Varieties of Capitalism explanation for this lack of fundamental change based on continuities in household investment and company financing patterns in Germany to date. The final section presents some conclusions.

2. The German Bank-Based System in Comparative Context

Throughout the 20th century, Germany has been a textbook case of a bank-based financial system, i.e. financial system where banks are the dominant actors and where bank deposits and bank credit constitute the most important type of financial asset/liability (Vitols 2001; Zysman 1983). A look at some comparative figures illustrates this description. As late as the mid-1990s, non-market forms of finance such as bank loans and deposits continued to dominate the financial system, at 74% of financial system assets even more so than the 64% recorded by Japan, the other most prominent bank-based financial system (see table 1).[2] In the US, in contrast, banks only accounted for one quarter of financial system assets.

Other indicators also show that financial markets are less important in Germany than in the US. In contrast with a relational financial asset, which is based on a specific financial relationships negotiated between two parties, a securitized asset generally can be resold by the holder to another investor on the market. The percent of total assets or liabilities which are securitized thus provides a rough indicator of the importance of financial markets for a given investor or sector. Table 1 shows that only one third of total financial assets in Germany were securitized in 1995, as opposed to over half of assets in the US. Looking at the individual sectors (household, company, and public sectors), Germany had a lower degree of securitization in all cases in comparison with the US. Particularly striking is the difference in the company sector, where only 21 percent of the financial liabilities of the non-financial company sector were securitized in Germany, as opposed to 61 percent in the US.

[2] There is an important controversy about whether the most appropriate method of classifying financial systems should be based on the stock or flow of finance (Edwards and Fischer 1994). Here I focus on stock measures, i.e. outstanding financial liabilities and assets at a given point in time, typically year-end.

Table 1: Comparative Statistics on the German, Japanese, US and UK Financial Systems, mid-1990s

	Germany	Japan	US
Proportion of Banking System Assets in Total Financial System Assets, 1996	74.3%	63.6%	24.6%
Proportion of Securitized Assets in Total Financial Assets, 1996	32.0%	22.9%	54.0%
Proportion of Securitized Assets in Total Household Sector Assets, 1995	28.8%	12.4%	35.9%
Proportion of Securitized Liabilities in Total Financial Liabilities of Non-financial Enterprises, 1995	21.1%	15.4%	61.0%
Proportion of Securitized Liabilities in Total Financial Liabilities of the Public Sector, 1995	56.7%	71.2%	89.6%

Sources: Own Calculations from Flow of Funds Statistics, US Federal Reserve Board, Deutsche Bundesbank, and Bank of Japan

A second key feature of the German financial system is the importance of not-for-profit financial institutions (Deeg 1992; Deeg 1999). In contrast with market-based systems such as the US, where for-profit institutions account for the vast bulk of financial assets, for-profit banks account for somewhat less than 30 percent of banking system assets. This includes both the large universal banks (Deutsche Bank, Dresdner Bank, Commerzbank, Bayerische Hypo- and Vereinsbank), smaller universal banks and regional banks, and a collection of private banks catering to wealthy customers.

The largest segment of the banking system is in fact the public savings bank sector, which accounts for roughly half of banking system assets. The public savings bank sector includes both municipal savings banks (generally owned by a city or rural county), regional savings banks (the *Landesbanken*), and national level organizations. Although they are expected to make a profit, the public banks are also legally obligated to support regional economic development rather than maximize profit.

The third pillar of the banking system is the cooperative bank sector, which accounts for slightly less than 20 percent of banking sector assets. The cooperative banks have a particularly strong customer base in small and medium size firms and self-employed professionals. Cooperative banks are also expected to make a profit, but most of all to serve their customer/owners.

These two not-for-profit bank sectors have been important in maintaining credit to customer segments which the larger for-profit banks have withdrawn from in recent years in the attempt to maximize shareholder value.

As the flip side of strength of the banking sector, the stock market in Germany historically has been weak, among the weakest in the OECD. One common relative measure of the importance of stock markets in an economy is stock market capitalization, that is, the total value of companies listed on the stock market as a proportion of GDP. This is a summary measure the value of all individual stock-market listed companies, and is thus one indicator of the importance of markets for company finance. In 1996, stock market capitalization in Germany was 27%, ahead of only countries like Austria and Italy, and less than one fourth of the levels in the US and UK (see table 2).

Table 2: Comparative Stock Market Capitalization (as a % of GDP, late 1996)

Country	% of GDP
UK	152
Switzerland	135
USA	122
Sweden	103
Netherlands	93
Canada	88
Japan	63
Finland	47
Belgium	44
Denmark	40
Spain	39
France	38
Norway	38
Germany	27
Italy	23
Austria	14

Source: Deutsche Bundesbank (1997)

An important reason for this low level of capitalization is the relatively small number of companies listed on the stock exchange for a country of Germany's size. In 1991, 665 domestic companies were listed on Germany's stock exchanges, versus 2027 for the UK, a country almost as large as Germany in terms of population and economic output. Switzerland, which is much smaller than Germany, had almost as many listed companies in that year (541). The US, which is roughly three times as large as post-unification Germany, had 6513 listed companies in 1991 (Deutsches Aktieninstitut, 2003: 02-3).

One factor contributing to this low level of capitalization is the relatively small number of new companies coming onto the stock market. The number of IPOs (initial public offerings, or new listings of companies on a stock market) has been low in comparative context. Between 1986 and 1996 the number of IPOs per year in Germany fluctuated between eight and 26. For some comparative figures, in 1991 there were 19 IPOs in Germany versus 663 in the US, 116 in the UK and 26 in Switzerland (Deutsches Aktieninstitut 2003 03-3-1).

The number of high-tech IPOs has been particularly low. One reason for this is the weakness of venture capital in Germany. In the mid-1990s this was identified as a crucial bottleneck for innovation and the supply of IPO candidate companies (Pfirrmann, Wupperfeld, and Lerner 1997). Venture capital is a crucial source of finance for high risk, but potentially high reward entrepreneurial projects (Albach 1983; Albach 1984; Gompers and Lerner 1999). In the first half of the 1990s roughly DM 500 million was invested by VC funds per year versus about $2.5 billion per year in the US (Pfirrmann, Wupperfeld, and Lerner 1997).

3. Changes in the Regulation of Financial Markets

Although Germany's financial system received praise in the early 1990s from external commentators (Jacobs 1991; Kester 1993; Porter 1992), at the same time a number of actors within Germany began to press for substantial reform of the regulatory system (Cioffi 2002; Lütz 1996; Ziegler 2000). These actors included:

- the larger for-profit banks, particularly the Deutsche Bank and Dresdner Bank. Throughout the postwar period, these banks had made most of their profits from the *interest rate spread*, that is, the difference between the interest they paid on deposits (most of these were from households) and the interest they received on loans (most of these were made to the company sector). As has been well documented, the slowing of economic growth in the 1980s and 1990s (and thus slowing demand for bank loans from companies) and increased competition among banks led to a narrowing of this interest rate spread. The main alternative to interest-based income for banks is fee-based income, such as investment banking and asset management. These activities are, however, primarily market based, and thus require growing financial markets to increase income. These banks thus became the main supporters of strengthening markets within the German financial system;

- the federal government, particularly the finance and economics ministries. In contrast with the large banks, the government was driven by a number of motives. In addition to the job creation that an expanding financial services industry might support, other goals were to increase the competitiveness of the non-financial corporate sector and to promote startups and the high-tech sector. Finally, public outcry over perceived failures in corporate governance in a number spectacular corporate failures (Metallgesellschaft, Balsam, Bremer Vulcan) and over the attempted hostile take-over of Thyssen by Krupp-Hoesch created pressure for a modernization of corporate governance, which inevitably involves financial-system related issues; and

- a group of company managers who were particularly strong fans of the Anglo-American system, and who wanted to import practices into Germany such as financial engineering, stock options, and share buybacks.

In response to these pressures there were a number of reform measures proposed and implemented. Although interrelated, these measures can be analytically separated and summarized under four headings:

- a reform of the financial system (the initiative *Finanzplatz Deutschland*), which has involved both legal measures (a series of Financial Market Promotion Laws) and changes in practices by the Frankfurt Stock Exchange, such as introduction of an electronic trading platform for stocks, futures and options;

- measures for promoting the new economy, in particular public subsidies for venture capital and the creation of the Neuer Markt, a segment of the Frankfurt stock exchange specifically designed to promote start-ups and high-tech companies;

- a reform of corporate governance practice, particularly the Law on Control and Transparency in Large Companies, but also a new regulation on Takeovers; and

- changes in the regulation of the pension system (the "Riester Rente" reforms), which aim at shifting some of the responsibility of retirement income from the public sector to the private sector.

3.1 Modernization of Finanzplatz Deutschland

The initiative to improve the international competitiveness of Germany (and in particular Frankfurt) has been organized under the name *Finanzplatz Deutschland*. The motivation for this initiative is that Germany's role in international finance was lagging far behind its importance in trade and industry. In particular Frankfurt was seen as relatively weak as an international financial center in contrast with New York, London, Zurich and Paris.

The legislative core of this effort was the Second and Third Laws for the Promotion of Financial Markets. These build on the First Law on the Promotion of Financial Markets of 1990, which removed a number of the more obvious impediments to the development of a competitive financial center, such as a turnover tax on stock exchange business.

The Second Law, passed in 1994, has been the most important financial market measure adopted to date. This essentially closed the gap between Germany and international practice in financial market regulation and implemented a number of European Directives. A central element of the Second Law was the establishment of a Federal Securities Trading Commission (*Bundesaufsichtamt für den Wertpapierhandel*), with the task of monitoring securities trading in Germany. Up to that point regulation had been carried out under the authority of the *Länder.* The introduction of a federal regulatory body enhances the ability of the Federal republic of Germany to co-operate with regulatory authorities in other countries and helps make regulation more transparent for foreign market participants (Lütz 1996). The *Bundesaufsichtamt* also assumes the task of monitoring and enforcing insider trading provisions also introduced in the law. The main impact of the law was to increase transparency, improve the protection of small investors on the stock exchange and allow more types of investment funds (Bundesverband deutscher Banken 1995; Weisgerber and Jütten 1995).

While the Second Law went a good way in bringing the German legal framework in line with best practice elsewhere in Europe, including with the UK, the aim of the Third Law is to help establish Frankfurt as the primary European centre for financial services i.e. the promotion of *Finanzplatz Deutschland*. A central aim of the Third Law is to promote both the supply of and demand for equity capital by a range of technical changes to existing legislation. These changes affect laws on stock exchange and securities, investment companies and equity finance companies.

With regard to stock exchange and securities laws the Third Law eased the issuing of new shares by enabling securities admitted in one (regional) market to be issued in all other German markets. Prospectus liability was reduced from 5 to 3 years and foreign-language prospectuses were permitted for foreign issuers. The existing minimum period of longevity for companies before listing on the Second Market was waived. The liability period for financial investment advice was reduced from 30 to 3 years, and thus removed what was seen as a disincentive for investment advisors to recommend investment in shares.

The scope for investment funds was also increased by the Third Law. For example, there was an authorization of a broader scope of investment funds, including index funds, mixed securities and real estate funds, specific-purpose retirement income funds and umbrella funds to draw on the expertise of different fund managers. Existing funds were also allowed a broader range of investments with securities funds authorized to invest in swaps and options, and property funds authorized to invest in both domestic and foreign property companies.

Venture capital funds were promoted by reductions in taxes, the authorization of the GmbH legal form in addition to the joint-stock form for funds and the authorization of refinancing through the issuance of bonds.

Finally, the Investment Modernization Law passed in 2003 authorizes the establishment of hedge funds in Germany. Applications for the establishment of the first hedge funds are currently being reviewed by the regulatory authority.

3.2 Efforts to Promote the "New Economy" – Venture Capital and the Neuer Markt

Up through the 1980s, and even into the early 1990s, many observers praised the German bank-based system as being better able to provide "patient" finance than market-based systems such as the US and UK, which were allegedly plagued by "short-termism" in investment time horizons. Throughout the 1990s, however, the view that bank-based systems are superior to market-based systems has come under increasing criticism. A particular weakness is seen in the bank-based system's ability to provide external finance to R&D intensive companies, particularly to new technology-based firms (NTBFs) that have neither the track record, nor physical assets functioning as security, that banks base their lending decisions on (Gompers and Lerner 1999; Pfirrmann, Wupperfeld, and Lerner 1997). As a result, efforts were made by both public and private actors to improve the financial system's ability to provide finance to this type of firm. In the late 1990s, in part through Alan Greenspan's use of the word, the label "New Economy" became widespread, and these were seen as efforts to promote the new economy.

The first major development in the promotion of the "New Economy" was the inauguration and expansion of public programs which co-invest alongside of, and in some cases provide guarantees for, private investment. The idea here was to help subsidize the entry of private capital in this area, but not to substitute for it entirely. The main federal program was the BTU program, with two variants, which provided either 70% refinancing of private venture investments, or co-financing up to 50% of the total investment, and a guarantee up to 50% of the private investment. In combination with regional programs, particularly in Bavaria, which were to some extent sector-specific (e.g. biotech), it has been reported that up to 6 Euros of public money were available to leverage each 1 Euro of private investment.

The second recent major financial system development was the foundation in 1997 of the Neuer Markt, a separate segment of the Frankfurt stock exchange designed especially for the needs of institutional investors in small, young, high-growth companies. One important aspect of the Neuer Markt was the requirement that all listed companies have at least one designated sponsor, i.e. a bank or brokerage house obligated to "make markets" for their shares. Markets for the stock of individual small growth companies are notoriously illiquid, and the fear of fund managers is that they won't be able to exit (i.e. sell shares) once they make a substantial investment without depressing share price. The requirement that designated sponsors not simply match bid and sell orders but also buy and sell on their own to "smooth over" temporary imbalances in the supply of and demand for shares was supposed to help reduce the "liquidity problem" which otherwise could keep fund managers from investing in small capitalization companies. A second important aspect of the Neuer Markt was the requirement for greater transparency, namely quarterly reports on the basis of minority-shareholder friendly accounting and reporting systems US-GAAP (Generally Accepted Accounting Principles developed in the US) or IAS (International Accounting Standards). This is important since German HGB (Handelsgesetzbuch) accounting standards are notorious for the leeway given to management (e.g. for hiding profits through the creation of "hidden reserves") and for a bias toward the interests of debtors rather than external shareholders. The lack of transparent accounting on a frequent basis has been considered another significant deterrent to investment, particularly in the rapidly-changing high-tech world.

3.3 Reform of Corporate Governance

Due to the public outcry over failures of corporate governance the Ministry of Justice (*Justizministerium*) produced a Green Paper on Control and Transparency in Large Companies in early 1997 (*Referentenentwurf zur Kontrolle und Transparenz im Unternehmensbereich*). After some delay due to the political impact of the Krupp-Thyssen affair, legislation based on this green paper was passed in 1998. The major impact of this law from a corporate finance perspective is to authorize companies to buy back a portion of their own shares ("share buy-backs") as well as issue stock options for management and employee remuneration. These practices have long been used in the US and UK, but were prohibited or difficult to implement in Germany.

A voluntary take-over code (*Übernahmekodex*) was also introduced in 1995. Effective take-over regulation serves the interests of promoting German financial markets because it would protect the interests of minority shareholders. The introduction of a take-over code was therefore promoted by the Ministry of Finance, the German stock exchange (*Deutsche Börse AG*) and a number of banks and large companies. But only a small minority of the listed companies signed up to the code, and the need for legislative action was seen. The European Parliament rejected a European Takeover Directive, but the German Bundestag approved it anyway (with some modification, however, allowing management to pursue a more active defense against hostile takeovers.

3.4 Reform of the Pension System – Introduction of the Riester Rente

The German pension system has long been known as one of the systems most dependent upon the "first pillar" of social security, that is, state pensions.[3] A very high percentage of retirement income is provided by state pensions. In the mid-1990s the target replacement rate for the German public pension scheme was 70%, as compared with much lower figures for other large industrialized countries. Although somewhat dated, according to one estimate, in the 1980s public pension benefits came to about 10-11% of GDP, compared with 6-7% for the US/UK and 4% for Japan. In practice public pensions account for about 70% of retirement income in Germany (Jackson and Vitols 2001).

Furthermore, the public pension system is financed on a pay-as-you-go basis, almost exclusively from social contributions from the (as a rule monthly) paycheck. Deficits are made up by the government, but the contribution rate, which is fixed as a percentage of wage and salary income, is adjusted regularly to try to strike a rough balance between income and expenditures. As a result, the state pension system makes only a negligible level of investments, mainly in very liquid financial instruments when there are temporary cash surpluses (in the past, there were often such surpluses coming to perhaps 1-2 months of income).

One of the consequences of 1) the overwhelming importance of the pay-as-you-go public pensions and 2) the degree to which company pension plans are "embedded" is that a major source of finance for capital markets in other countries (tradable stocks and bonds) has been lacking in Germany.

In 2001 the German parliament approved legislation introducing major reforms into the pension system. The new forms of savings for retirement based on these reforms are commonly known as the "Riester Rente", named after the Minister for Labor and Social Affairs responsible for initiating these reforms.

[3] For a more detailed analysis see Gregory Jackson and Sigurt Vitols (2001).

The direct motivation for the reforms was the growing crisis of the public pension system. As a result of 1) the aging of the population (low birth rate plus longer life expectancy), 2) the increasing importance of early retirement, and 3) the high unemployment rate, employer/employee contributions to the system had been rising, and would have to rise even further to maintain the target payout rate of 70% of final income. At the same time, the new government had set as one if its main goals the reduction of the costs of employment benefits (health insurance and unemployment insurance, in addition to social security) to less than 40% of wage costs (the level has been around 41% for the past few years). As one of the main blocks in these supplementary wage costs, public pension contributions would have to be lowered, or at the very least held constant, to achieve the goal of less than 40%.

Although the main impetus for the reform was to deal with the crisis in public pension funding, a secondary goal (and in fact the primary hope of many policymakers and people in the financial services industry) was to increase the flow of funding to Germany's capital markets

In practice the "Riester Rente" legislation (the formal title is the Altersvermögens-gesetz or Retirement Savings Law of 2001) is a complex package of changes in the legal regulation of the pension system.

The first element is the gradual reduction of the target retirement rate of 70% to 67% over the next years. This is anticipated to stabilize the supplementary wage costs contribution rate. At the same time it is acknowledged that this reduction in the "first pillar" of the pension system will create a (or, according to some, increase the size of the) "retirement savings gap", and that action needs to be taken to strengthen the second and third pillars of the system

Most public attention, however, has probably focused on the attempt to strengthen the second pillar through the introduction of personal pension plans starting in 2002. These involve both a tax deduction component and a state contribution element. For the first two years up to 1% of income may be contributed by individuals, but this level will climb to 4% in 2008. The individual must take the initiative and apply for a plan through a financial service provider. The plans can be offered by a variety of financial services firms, and must be registered with the Federal Supervisory Office for Financial Services (BAFin). Up to now somewhat more than 3,000 plans have been approved. There are two main variants, 1) the "retirement insurance" variant, which offers a minimum guaranteed return (plus stating an expected return) over the savings period, and 2) the "fund savings" variant, which must guarantee the accumulation of at least the amounts contributed by the individual and the state ("no loss" guarantee). Finally, an important component of the personal pension plans is that the state contribution is also available for unemployed, students, and those on parental leave.

A third element is the strengthening of the company pension "pillar" through 1) defining a legal right for employees to set aside a portion of their wage income for retirement savings, and 2) creating a fifth vehicle for company pensions – i.e. along with the four other established vehicles for company pension, for the first time, pension funds on the Anglo-American model -- capitalized pension funds providing retirement pensions on either a defined benefit or defined contribution basis – has been authorized. Reflecting the "friendliness" of the labor minister and the red-green government to labor, an important part of changes in this pillar is the need for schemes to be negotiated between employers and trades unions.

The personal pensions under the Riester Rente have been criticized as being too complex, and the takeup has not been overwhelming to date. Critics have suggested undertaking further reforms to simplify the products offered, particularly encouraging savings in mutual funds, and also position them better relative to established competing products.

The other leg of the Riester reforms, the strengthening of company pensions, has not received as much attention in public, but may in fact become much more significant than the personal pensions. One reason is that employers and trades unions had to negotiate plans, and this took up a good part of 2002 in many cases. However, given the continuing importance of industry-wide collective bargaining in Germany and the relatively small number of unions, agreement has been reached on plans for a large proportion of the workforce. The marketing of these plans began in earnest in 2003 and is anticipated to intensify in 2004. There have been fewer complaints about restrictive regulations in this area.

The introduction of the "Riester Rente" in 2002 therefore represents a major step in reforming the German pension system, in particular in changing the balance of the system away from the first (state pension) pillar towards the company and individual pillars. In accordance with the nature of the German political system, where compromise is often chosen over radical change, the shift between the pillars will be moderate and gradual. One of the hoped-for benefits of the new legislation, the increased flow of savings into the stock market, will likely also be moderate. Another look at further changes in regulation is warranted, particularly in the area of personal pensions. The need for such further reform will become clearer after a few years of experience, when it will be possible to asses the effect and results of marketing campaigns undertaken to try to get people to sign up for the Riester Rente.

4. How Much Has the German Bank-Based System Changed?

The previous section established that there have been substantial changes in the German regulatory system in the past decade. How significant have these changes been for the actual functioning of the financial system and the "real" economy? Here it is useful to review a number of financial indicators. These include both figures on the flow of funds during the course of the year (flow figures) as well as figures on the distribution of assets and the relative importance of different financial institutions at a given time (stock figures). These figures show that, although there have been some changes in financial activity, on the whole the German financial system can still be characterized as bank-based. In some cases structural change has only been quite gradual, whereas in other cases there has been a return to historical norms after a sharp change during the bubble years.

One of the most basic indicators of the importance of banks is the *percentage of total financial system liabilities* accounted for by banks versus other kinds of financial institutions. These liabilities represent the financial assets of the non-financial sector vis-à-vis the financial sector. As reviewed in section 2, banks in Germany (as in other bank based systems) account for the majority of financial system liabilities.

An examination of flow of funds figures from the Deutsche Bundesbank indicates that at the end of 2002 the banking system still accounted for 73 percent of financial system liabilities, down only four percentage points from 1991 (see table 3). Although the percentage decreased to 70 percent during the bubble years of 1999/2000, it has since recovered three percentage points. The insurance sector has been relatively stable over this period. Other financial services (including investment funds) have doubled in relative size over the period, but still account for only ten percent of total financial system liabilities. This figure alone indicates that the German financial system can still be characterized as bank based.

Table 3: Distribution of German Financial System Liabilities, by Type of Financial Institution

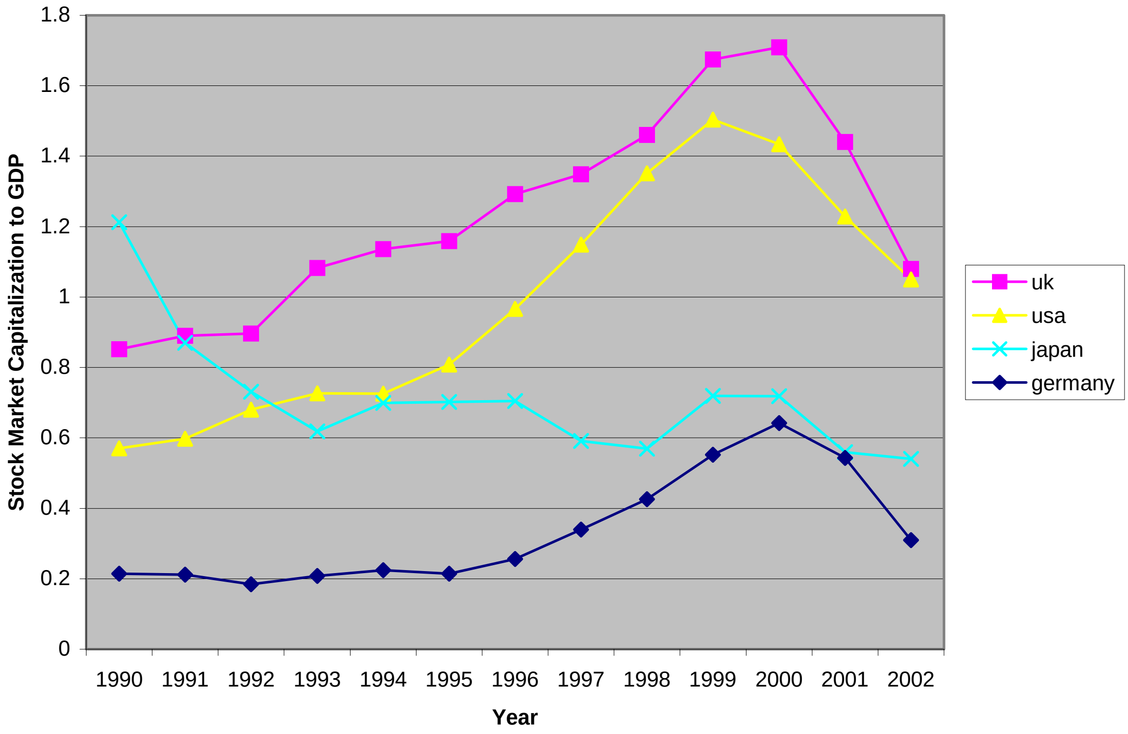
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Banking sector	76.9%	77.1%	76.0%	75.4%	75.4%	74.8%	72.9%	72.1%	69.9%	70.4%	71.3%	72.9%
Insurance sector	18.2%	18.0%	18.3%	18.6%	18.3%	18.1%	18.8%	18.6%	18.9%	18.2%	17.8%	16.9%
Other financial services	4.9%	4.9%	5.7%	6.0%	6.2%	7.0%	8.3%	9.3%	11.2%	11.4%	10.8%	10.2%

Source: Deutsche Bundesbank Flow of Funds Data, Own Calulations

A second indicator is changes in stock market capitalization over time (see graph 1). According to this indicator stock market capitalization in Germany was relatively constant throughout the first half of the 1990s at about 20% of GDP. Between 1995 and 2000 there was a significant increase in stock market capitalization, to slightly over 60% of GDP. Since the peak of the bubble in March 2000, however, stock market capitalization has returned almost to early-1990 levels (the figure for the end of 2002 was 31 percent of GDP).

All countries (with the exception of Japan) experienced a significant increase in capitalization during the bubble. However, stock market in the US and UK are still significantly higher now then in the early 1990s. In the US, for example, stock market capitalization was 60% of GDP in 1991, compared to slightly over 100% at the end of 2002. Significantly, the relative rank of countries appears not to have changed since the early 1990s.

Graph 1: Stock Market Capitalization of Selected Countries, 1990-2002

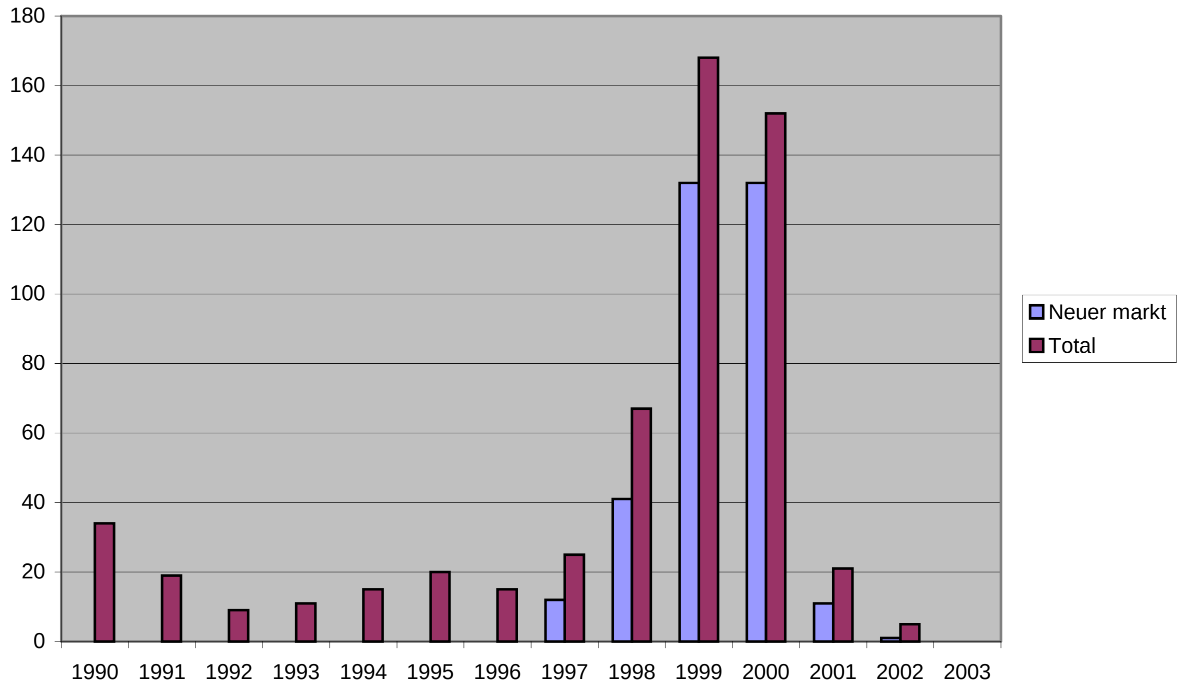


Source: World Bank and Deutsche Bundesbank

Most of the fluctuation in the stock market capitalization index in Germany can be accounted for by the bubble-related increase and then decline in the value of established German companies. For example, the DAX 30 index, which is a composite index of the 30 largest listed German companies, increased from around 3000 in the mid-1990s to around 9000 at its peak in March 2000, i.e. roughly tripled. With the bursting of the bubble the index fell below the level of 3000 during 2003.

However, some of the fluctuation is also explained by a rapid increase in IPO activity in Germany in the late 1990s. Soon after the foundation of the Neuer Markt in March 1997 there was a veritable explosion in the number of IPOs. In 1999 alone there 168, with 132 of these on the Neuer Markt (see graph 1). In 2002 there were 152 IPOs, also with 132 accounted for by the Neuer Markt (data from Deutsche Börse). By the end of September 2000 there were 313 companies listed on the Neuer Markt, with a high concentration in the sectors technology (20.1%), internet (19.8%) and software (14.8%). One surprising feature given the traditional conservatism of Germany's financial system is the fact that quite a few foreign companies came to Germany to raise their "risk capital" - about one-sixth of the listed companies were based in foreign countries. A second quite surprising result was that Germany's Neuer Markt accounted for a full 60% of the total market capitalization of Europe's new "growth markets" or stock exchange segments for young, high-growth companies. Although these growth markets were established in other countries at roughly the same time and a number of them would presumably enjoy greater advantages, the Neuer Markt became Europe's premier growth market far surpassing the pan-European growth market EASDAQ and the UK's AIM .

Graph 2: IPOs in Germany, 1990-2003



Source: Frankfurt Stock Exchange data.

With the bursting of the bubble, however, IPO activity rapidly declined and has actually fallen below pre-bubble levels. In 2003 there was not one single IPO in Germany. In addition, the Neuer Markt was declared a failure by the Frankfurt stock exchange and closed during 2003. IPO activity in other countries, however, after also declining in 2001 and 2002, has revived. In 2003, for example, there were 86 IPOs in the UK (data from London Stock Exchange). It appears that the negative experience with the Neuer Markt has caused a setback for the ability of startups to raise capital through an IPO in Germany.

After explosive growth during the bubble years, the venture capital industry in Germany also appears to have experienced a setback, although not quite as severe as the IPO situation. In the first half of the 1990s the venture capital industry grew an average of € 488 million per year (own calculations based on German Venture Capital Association data). During the bubble years, spurred on in part by the very profitable experience of established VC funds with exiting through IPOs, the amount of new fundraising for VC funds increased and funds grew by € 5.8 billion in 2000 and € 10.3 billion in 2001, roughly a ten-fold and twenty-fold increase from the early 1990s, respectively. In the first half of 2003, new fundraising had decreased to € 488 billion. Although this is still considerably above the rate of fundraising in the early 1990s, it nevertheless represents a drastic decrease since 1999/2000.

In summary, a number of important financial indicators show that the German financial system has important continuities and, on the whole, can still be characterized as a bank-based system. Although it would have been somewhat more difficult to argue this point a few years ago, the current reversion of many kinds of financial activities to pre-bubble levels clearly displays these continuities.

5. Explaining the Continuities: A Varieties of Capitalism Approach

How can the strong continuities in the German financial system – despite substantial efforts to introduce more market – be explained? One approach draws on the Varieties of Capitalism approach (Hall and Soskice 2001). According to this approach, capitalist economies are made up of different sets of institutions, such as the financial system, the education and training system, the labor relations system, and so forth. Both firms and households are embedded in these institutions. Specific types (or varieties) of capitalism are characterized by complementarities between the different set of institutions. The impact of changes in one set of institutions on the economy is therefore dependent upon other sets of institutions. Changes in one set of institutions, such as the financial system, may therefore have limited effects in lieu of changes in other institutions.

As argued previously, the German bank-based financial system is "over-determined" (Vitols 1996; Vitols 1998). The regulatory system historically has favored banks over financial markets. However, the bank-based system has also been supported by complementary behavior by the household sector, which accounts for the bulk of savings activities (and thus is the largest net creditor vis-à-vis the financial system), and the company sector, which is the largest net debtor.

Changes in the regulation of the financial system may have a limited impact in lieu of changes in other sets of institutions. In particular the behavior of the household and company sectors will have a crucial conditioning effect on these reforms. If the household sector’s savings and investment behavior and the company sector’s demand for finance do not fundamentally change, then the impact of financial system reforms will be limited. Evidence of limited changes are presented in the rest of this section.

5.1 Household Savings and Investment Patterns

Since the household sector accounts for the bulk of savings in industrialized countries, one of the key factors influencing the structure of the financial system is the pattern of savings and investment behavior by the household sector. In bank based systems, the bulk of household financial investment flows (directly or indirectly) into the banking sector. Conversely, market-based financial systems are dependent upon a sufficient flow of household savings into securities such as stocks in order to insure adequate liquidity. Two important factors influencing household savings and investment behavior are the *degree of income inequality* and the *characteristics of the retirement savings system*.

In terms of a Varieties of Capitalism perspective, the household sector in Germany is embedded in an industrial relations system, education and training system, and welfare system which results in relatively low levels of income inequality, i.e. a relatively large "middle income" group (see table 4). One popular measure of inequality, the Gini coefficient, locates Germany within the group of a group of countries that have been identified as coordinated market economies (Hall and Soskice 2001). The Gini coefficient can vary between 0 and 1, and lower coefficients indicate lower relative levels of income inequality. On the basis of data from the Luxembourg Income Study, in the mid-1990s German households had a Gini coefficient of 0.261, whereas coordinated market economies as a whole varied from about 0.220 to 0.228. Liberal market economies had much higher Gini coefficients, varying between 0.310 and 0.360, indicating much higher levels of income inequality.

Table 4: Income Inequality in Selected Countries, mid-1990s

Country	*Year*	*Gini Coefficient*
Liberal Market Economies		
Australia	1994	0.311
Ireland	1995	0.336
UK	1995	0.344
US	1994	0.355
Coordinated Market Economies		
Austria	1995	0.277
Denmark	1995	0.263
Finland	1995	0.217
Germany	1994	0.261
Netherlands	1994	0.253
Sweden	1995	0.221

Source: Luxembourg Income Study Key Figures (www.lisproject.org/keyfigures/)

The level of income inequality is significant, since different income groups have different preferences for various types of financial assets (Vitols 1996). High-income households have the greatest demand for high-risk (but on average higher yield) securitized assets such as stocks or corporate bonds. Middle-income households have a greater preference for less risky assets such as bank deposits. Low-income households have little ability to save, and what savings they do have is held mainly as cash or highly liquid bank deposits. Bank-based systems are thus best supported by household sectors with low income inequality (and thus a high demand for bank deposits). Market-based financial systems, in contrast, are best supported by household sectors with a high degree of income inequality (and thus a high demand for securities with higher risk and return profiles).

Detailed testing of the relationship between income level and investment patterns across a large number of countries is hampered by the lack of high-quality survey data on household financial behavior. Nevertheless, the data that is available indicates that such systematic differences do exist. A large scale survey of US households by the Federal Reserve Board indicates that 78 percent of the financial wealth of the top 10 percent of households is accounted for by securities (equities, bank and municipal bonds) versus only 10 percent in bank-related assets (checking and savings deposits and certificates of deposit). The corresponding percentages for the bottom 90 percent of households are 29 percent for securities and 51 percent for bank-related assets. Other countries also display a similar large bias toward the accumulation of financial securities by wealthy households (Euler 1981; Euler 1990; Willgerodt, Bartel, and Schillert 1971).

Table 5: Income Inequality in Germany, the US and UK
Gini coefficient, 1970s to Present

Period	*Germany*	*US*	*UK*
Mid 1970s	0.264	0.318	0.268
Mid 1980s	0.249	0.335	0.303
Mid 1990s	0.261	0.355	0.344
Ca. 2000	0.252	0.368	0.345

Source: Luxembourg Income Study Key Figures (www.lisproject.org/keyfigures/)

A comparison of Gini coefficients from selected periods from the mid-1970s to the present shows that income inequality has been stable in Germany in the recent past (see table 5). The Gini coefficient actually declined slightly from 1994 to 2000, but this decline may not have been statistically significant. This stability in household income inequality is therefore a factor supportive of stability in aggregate household savings behavior in Germany. In the US and UK, in contrast, household income inequality rose substantially during the period, and currently is much higher than in Germany. Due to the greater propensity of wealthy households to invest in marketable securities such as stocks, the increase in the proportion of wealthy households implied by the rising Gini coefficient can be taken as a factor supportive of stronger financial markets in the US.

Since a growing proportion of household savings is accounted for by provision for retirement, the types of retirement savings programs established or promoted is a second key factor influencing the pattern of household savings and investment. In particular, private pension schemes organized on a fully funded (i.e. “capitalized”) basis have emerged in the postwar period as the largest purchasers of securities in market-based systems such as the US and UK. The demand for securities is thus higher in "individualistic” systems emphasizing such capitalized private schemes. "Solidaristic” retirement systems, in contrast, are based more on the transfer of income between generations, defined either at the societal, company or family level (in the case of social security, non-capitalized company pension plans, or family support). Solidaristic systems thus involve less demand for securities than capitalized systems (Jackson and Vitols 2001).

Public pensions play a particularly large role in Germany, in contrast with other countries. In 1992, for example, public pension payout came to 68 percent of gross household income for households headed by a retired person, versus 33 percent in the US (Jackson and Vitols, 1998 : 177). Germany is known as a pioneer in social security policy, having established a statutory pension system in 1889. This system is organized on a pay-as-you-go basis and accumulates a reserve of only about one month's payout, thus is not a major player on capital markets.

Germany is also distinguished by the degree to which non-capitalized company pensions have been encouraged. Postwar tax and pension policy encouraged companies to provide for future pension obligations through a system of book reserves rather than through establishing capitalized pension funds. Thus employee's future pensions were in effect relent to the company (and guaranteed by the efforts of future generations of employees) rather than invested in financial securities. The combination of generous pay-as-you-go public pensions and book reserve company pensions led to a low demand for securities .

As reviewed in section 3.4, the "Riester Rente" reform of the pension system first took effect in 2002, and the reforms are rather modest when compared with other countries. Participants in a Riester Rente plan received tax benefits for a maximum of one percent of their wage income during 2002 and 2003, and only a fraction of households actually signed up for a Riester pension savings plan. Given the modesty of the reforms, the Riester Rente could not therefore be expected to fundamentally shift household savings behavior.

Given the stability in household income inequality and in the pension system, one would not be surprised to see substantial continuity in German household savings and investment patterns.

When examining the early 1990s, one clearly sees the pattern of conservative savings behavior in the German household sector (see table 6). The largest financial investment category in 1991-93 was cash and bank deposits. A substantial portion of the category "bonds" was savings bonds offered directly by banks to their customers. Finally, although insurance companies were the second largest recipient of household investment in the early 1990s, much of insurance company assets were also invested in bank bonds. Unlike in other countries, insurance companies in Germany were only allowed to invest up to 30% of their assets in stocks. Significantly, net household sector investment in stocks in the first half of the 1990s was negligible.

In the late 1990s, the dis-intermediation of German household savings (i.e. withdrawal from banks) was widely noted. As can be seen in table 6, households in Germany in fact increased the allocation of their savings into stocks and mutual funds (including stock funds) in the late 1990s, reaching a high of a combined total of about €80 billion in 2000. Whereas net direct purchases of stocks rarely exceeded €5 billion annually in Germany, this figure jumped to €13 billion in 1999 and €18 billion in 2000. Mutual fund investment also increased substantially starting in 1998, and there is anecdotal information that the proportion of equity funds among these mutual fund purchases increased.

Table 6: German Household Allocation of Savings (in billion €)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Cash and Bank Deposits	57.8	68.2	98.8	4.2	34.5	52.2	28.6	45.8	10.7	-31.1	27.3	78.9
Bonds	24.1	3.6	-15.1	36.8	25.7	6.5	6.6	-11.3	1.9	5.5	9.5	1.4
Stocks	0.3	-0.5	3.4	6.1	-1.7	5.4	4.1	4.1	13.8	18.4	-28.7	-61.0
Mutual Funds	13.8	27.6	18.5	42.4	10.7	10.9	20.3	32.1	44.0	54.4	51.2	36.5
Insurance	31.9	35.4	42.4	47.3	51.0	54.7	57.7	59.9	61.7	56.4	48.0	53.8

Source: Deutsche Bundesbank, Flow of Funds Accounts.

With the bursting of the bubble and the massive decrease in stock prices after March 2000, however, German household savings patterns returned to their previous conservative patterns with a vengeance. German households actually pulled a total of €29 billion from the stock market in 2001 and another €61 billion in 2002. German household investments in mutual funds are also down sharply from levels experienced at the peak of the bubble in 2000, and there is anecdotal evidence that the proportion of mutual fund allocations going into equity mutual funds has also decreased since the late 1990s. Investment in cash and bank deposits has also returned to pre-bubble levels, reaching €79 billion in 2002.

5.2 Company Sector Demand for Finance

Another factor supporting the German bank-based system is the structure of the German corporate sector. A very high percentage of economic activity in comparative context is concentrated in manufacturing in Germany. Furthermore, about 60% of employment in manufacturing in Germany is accounted for by SMEs (companies with less than 500 employees), compared to about one third of employment in US and UK manufacturing (Acs and Audretsch 1993). Thus, two factors support the demand for bank finance. First, capital intensity, since bank credits are needed to finance the purchase of machinery and equipment – and banks are more willing to provide credit when there is a physical asset underlying the purchase; and second, SMEs have a higher demand for bank credit than large companies, which have better access to equity capital.

Here there is no evidence to suggest that the structure of the German economy has shifted in a way which would fundamentally alter the pattern of demand for finance. The importance of traditional branches, such as the automobile industry, appears to even have increased within manufacturing as a whole rather than decrease. Although many "new economy" companies were founded and received risk finance from sources such as venture capital during the late 1990s, an examination of the software sector indicates that the companies that most successfully survived the bursting of the bubble may in fact have much more common with the traditional German Mittelstand model than with the Silicon Valley entrepreneurial model (Engelhardt forthcoming). A study of the German biotech sector also suggests that successful companies are lower-risk companies focusing on platform technologies (that can be more safely financed with bank loans) than higher-risk companies focusing on therapeutics (i.e. finding medications that can fight health care problems) (Casper 1999; Casper, Lehrer, and Soskice 1999).

Given these continuities in the structure of the German economy, the continuity in the pattern of demand for finance by German companies should not be surprising. Table 7 indicates that, after a surge of equity financing in the second half of the 1990s, company finance has returned to pre-bubble norms. Bank debt is the largest liability, accounting for 43 percent of total company financial liabilities, roughly comparable with the figure in the early 1990s of 44-45%.

Table 7: Company Demand for Finance: Distribution of Financial Liabilities

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Money market securities	0.3%	0.5%	0.3%	0.1%	0.1%	0.1%	0.2%	0.1%	0.2%	0.4%	0.6%	0.6%
Bonds	2.0%	3.2%	5.5%	6.3%	2.6%	2.1%	1.7%	1.4%	1.0%	1.1%	1.2%	1.6%
Stocks	29.1%	26.1%	31.4%	31.4%	32.4%	36.2%	39.8%	43.8%	47.6%	39.1%	35.9%	24.0%
Other equity	11.9%	12.2%	11.6%	11.9%	12.4%	11.7%	11.1%	10.4%	9.7%	13.0%	13.8%	16.7%
Credit debt	44.2%	44.9%	39.8%	38.3%	40.0%	38.2%	35.9%	33.6%	31.0%	34.9%	36.9%	43.2%
Pension liabilites	6.7%	7.0%	6.1%	6.2%	6.4%	5.9%	5.4%	4.9%	4.4%	4.5%	4.7%	5.7%
Other financial liabilites	5.9%	6.1%	5.3%	5.8%	6.0%	5.7%	5.9%	5.8%	6.0%	7.1%	7.0%	8.2%

Source: Own calculations from Deutsche Bundesbank Flow of Funds data.

6. Conclusion

This paper has presented an analysis of the German bank-based system and the changes it has undergone in roughly the past decade. The primary conclusion is that, despite legislative reforms and other changes, the bank-based financial system remains quite strong, and is the primary source of external finance for most types of firms. This may be a surprising result given the extent to which the US financial regulatory model was adopted. However, a major factor which helps to explain this is the extent to which financial behavior is determined not only by financial regulation in the narrow sense, but rather by household and company sector patterns of demand and supply. One the one hand, household savings and investment patterns have been quite resistant to change. With the exception of the bubble years, the German household sector's willingness to invest in non-bank and riskier assets, particularly equity and other forms of risk capital, has remained limited. Similarly, after a wave of venture capital investment in high-risk startups during the bubble years, company finance has returned largely to its pre-bubble patterns, where bank lending has played the most prominent role.

Factors which should be observed in the longer run, however, are a possible increase in income inequality – which could be caused by a disintegration of the industrial relations system – and a further reform of the pension system to encourage more private retirement savings. Either of these could cause a major shift in the pattern of household savings in a way which could decrease the importance of banks within the German financial system.

Although it is more difficult to see substantial changes in the demand for finance by the company sector, nevertheless this sector should also be observed in the long run for changes. Though fundraising by venture capital funds is down, it is still substantially higher than in the early 1990s. It is also reported that startup financing activities by business angels have also increased. The German government is also committed to make it easy to encourage start-ups in Germany. A major increase in the number of startups in the long run could help shift the structure of demand for finance in Germany.

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