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CHANGES IN GERMAN FINANCE: INTRODUCING MORE "MARKET" INTO A BANK-BASED SYSTEM

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CHANGES IN GERMAN FINANCE: INTRODUCING MORE "MARKET" INTO A BANK-BASED SYSTEM

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Abstract

Germany has long been known as having one of the most "bank-based" financial systems in comparison with other countries. 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. This paper describes these changes and their consequences for company finance in Germany. 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. The development of a large and viable "New Economy" sector in Germany, which would both demand more risk capital and also reward the appetite for a higher level of risk with a higher return, is not something which takes place in a few years but rather over decades. Public policies meant to help plug the capital gaps for different categories of firms need to take these factors into account and plan for the long-run.

JEL classification: G24, G28, L23, O38.
Keywords: new economy, venture capital, German economy, new technology based firms

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1. INTRODUCTION*

Germany has long been known as having one of the most "bank-based" financial systems in comparison with other countries. Bank-based systems are distinguished from market-based financial systems by a number of characteristics: a greater proportion of household assets are held by banks, stock markets tend to be smaller and less liquid, and bank loans account for a greater proportion of company liabilities. Bank financing is most suited to lower-risk investment in capital-intensive, incrementally innovating manufacturing companies. High-risk market based finance, in contrast, is more suited to supporting higher-risk companies, such as start-ups.

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 banks, particularly those which are privately owned, find it increasingly difficult to make profits in commercial lending, and are thus shifting their focus towards other 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 reformed in order to try to strengthen the role of equity markets (for both start-up and established firms) in the German financial system. 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 income away from the public pay-as-you-go system towards private, capitalized pensions.

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, and considerable continuities remain. After a brief flirtation with the stock market during the late-1990s bubble, German household investment behavior has returned to its previous risk-averse pattern, and the Riester Rente reforms are unlikely to fundamentally change this. Any new funding for the stock market must therefore come from foreign sources, which however have also been considerably reduced since the bursting of the bubble. As a result, although more than 300 new companies were listed on the stock market between 1996 and 2000, currently IPO (initial public offering) activity is even lower than before the bubble and the stock market has little chance of expanding. All

* Revised version of a paper prepared for the International Conference on European Financial Markets and the Corporate Sector, UNU/INTECH, Maastricht, 4-5 October 2002.

together, the largest impact of the reform of the financial system has been the capacity of private banks and the largest listed companies to selectively adopt elements of Anglo-American practice. The SME sector, which is more significant in Germany than in the US or UK, for the most part still relies on banks for its external funding.

The second section of this paper presents some stylized facts about the German bank-based system as of the mid-1990s, the date when the reforms started in earnest. The third section reviews the historical reasons why Germany has such a strong bank-based system. The fourth section focuses on changes in financial market regulation and the strategies of the banks in the past decade. The fifth and sixth sections review changes in household investment patterns in Germany to date and discuss the probable impact of the Riester Rente reforms on these patterns. The seventh section analyzes the impact of these changes on company financing patterns and behavior. The final section discusses the implications for the German economy and corporate finance.

2. MAIN CHARACTERISTICS OF THE GERMAN BANK-BASED SYSTEM

Throughout most of the 20th century, Germany constituted 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.[1] Germany has received high marks for the ability to provide long-term credit to capital-intensive industrial companies (which are able to provide fixed assets as security for loans) – in sectors such as autos, chemicals, and machine tools; however, the down side of this concentration on bank finance was that relatively little equity or "risk" capital existed, particularly venture capital for new technology-based firms (Vitols 2001; Zysman 1983).

A look at some comparative figures illustrate this description. Non-market forms of finance such as bank loans and deposits dominated 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).

TABLE 1: COMPARATIVE STATISTICS ON THE GERMAN, JAPANESE AND US FINANCIAL SYSTEMS, MID-1990S

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

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

Germany has a particularly large number of banks per capita in comparison with other countries. Some commentators have seen this as an indication that the country is "overbanked", but others have seen this as creating healthy competition which has benefited consumers. In

1 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, Jeremy, and Klaus Fischer. 1994. Banks, Finance, and Investment in Germany. Cambridge: Cambridge University

particular, there is very strong "group competition" within Germany (Deeg 1992), between the different types of banks: the public savings bank sector (including municipal savings banks and the regional Landesbanken), which has a market share of about 50 percent;

- cooperative banks (with somewhat less than 20 percent of market share); and

- privately-owned banks, with a market share of about one third. 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 and some SMEs.

As the flip side of this dependence on banks, the stock market in Germany historically has been weak. In 1996, stock market capitalization (the total value of the shares of all companies listed on the stock market) as a proportion of GDP was among the lowest in the OECD; in 1996 this figure was 27%, ahead of only countries like Austria and Italy (see table 2)

Table 2: 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)

Press.. Here I focus on stock measures, i.e. outstanding financial liabilities and assets at a given point in time, typically year-end.

The level of new companies introduced to the stock market through IPOs (initial public offerings) has also been low in comparative context. Up until 1997, the number of IPOs per year in Germany rarely exceeded twenty, with 10-15 being a typical figure (data from the Deutsche Börse).

The supply of venture capital, a crucial source of finance for high risk, but potentially high reward entrepreneurial projects, has also been historically very low compared to the US and UK (Albach 1983; Albach 1984). 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).

3. WHY DOES GERMANY HAVE A BANK-BASED SYSTEM?

Why does Germany have such a strong bank-based system? There are at least three reasons for this, including the nature of the regulatory system, household savings and investment patterns, and the structure of demand for finance from the corporate sector.

Financial Regulatory System

The foundations of the current German financial regulatory regime were established in the wake of the Banking Crisis of 1931.[2] Similar to the pattern of state intervention established in other areas, the regulatory system established here was corporatist, in which self-regulation of the group in question – typically through collective representation through associations – is the regulatory mechanism. This generally relies on the "responsible" exercise of influence by group leaders. The difference between "voluntary" self-regulation and corporatism, however, is that regulations devised by the association are recognized as "binding" by the state. While much of the influence of associations is of course informal in nature, these key regulations – and the need to have access to the resources the association can provide – give a "harder" quality to corporatist than to voluntary self-regulation (Schmitter and Streeck 1985).

The first comprehensive national banking regulation, which was imposed during the Banking Crisis of 1931, relied mainly on corporatist mechanisms (Born 1967). This regulation took the form of a number of emergency decrees. In order to put constraints on destructive price competition characterizing the 1920s, one decree authorized banking associations to determine binding interest rates on deposits and fees for standardized services. Another decree created a bank regulatory agency which, together with the central bank and in consultation with bank associations, was empowered to develop and enforce minimum capital and liquidity requirements and prudential regulations (insider credits, large credit limits, maturity matching requirements). Entry was more strictly regulated, particularly in the case of credit cooperatives which had to receive approval from the appropriate regional cooperative association.

Although some influential voices within the Nazi party wished to nationalize or abolish the large banks as part of a campaign against capitalism, the banking community was able to

2 The Banking Crisis of 1931, which spread from the Austrian Credit Anstalt to Germany in June 1931, was exacerbated by imprudent banking practices such as over-reliance on foreign short-term capital and excessive long-term lending to one or a small group of customers. Many

successfully control the process for formulating the 1933 Banking Act, which for the most part retained the corporatist elements of the 1931 decrees (Kopper 1995). The department for banking regulation established at the ministry of finance was for the most part composed of managers from the banking community. The Nazis preferred to largely bypass the banking system in the targeting of financial resources for military production. While banks were instructed to purchase a large part of national debt, the Nazi state for the most part prepaid military contracts rather than relying on bank credits.

Although there was no major legislative reform of the Stock Exchange Law of 1896, nevertheless a number of regulatory changes radically transformed the nature of capital markets, rendering stock markets unattractive sources of capital relative to bank loans. Stock markets were widely held by the Nazi government to have exacerbated the financial crisis through the investment of capital in “speculative” instead of “productive” purposes. When stock exchanges were reopened in early 1932, trading in futures on stocks and bonds, which was considered the most speculative part of securities markets, was completely prohibited. New stock emissions were subject to strict control, minimum information content for prospectuses for new securities issues was defined and the statute of limitations for prospectus fraud was extended. Public (municipal and national) securities were given general priority over industrial securities in access to stock exchanges (Henning 1992; Merkt 1996).

The US occupying authorities attempted to impose a US-style financial system as part of a program of democratization (Horstmann 1991). The large banks were broken up into smaller units and regulatory authority delegated to the regions. While the liberal rhetoric of the postwar Adenauer government appeared to signal agreement with many of the reform goals of the US – for example in stressing the importance of efficient capital markets for reconstruction – many of the continuities with the 1930s are more striking than the changes. The core principles of regulation established in the 1931 emergency regulations and the Bank Act of 1933 – such as corporatist interest rate regulation – were quickly re-implemented. The experiment in financial federalism was terminated with the merger of the Bank deutscher Länder into the Deutsche Bundesbank and the re-merger of the dismembered Großbanken (this time with headquarters in Frankfurt). Government policy toward stock markets discouraged their development as a source of long-term capital for industry. The tax system, for example, favored public bonds (particularly for housing and infrastructure) over industrial bonds. Double taxation of equities (corporation tax plus individual income tax) stunted the development of equities markets. In addition to these measures, a corporatist bond committee composed of the leading securities issuers (joint-stock banks, and the national banks for the credit cooperative and municipal

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of the large banks became insolvent had to be nationalized in order to keep the banking system from completely collapsing and trading on securities markets was fully suspended.

savings bank sector) was formed to control access to bond markets with priority for public and bank bonds.

As a result of these regulations, the pattern of industrial finance for large companies clearly shifted from the pre-1930s pattern of short-term loans from banks and long-term finance from securities markets (Pohl 1984). The number of companies listed on the stock exchanges declined throughout the postwar period until the late 1980s and new equity issues were rare. Company debt came almost entirely through long-term bank loans instead of bonds. Postwar securities markets were almost entirely dominated by municipal and bank bonds (and, after the first oil crisis, federal bonds) (Vitols 1998).

While long-term finance shifted from securities markets to banks, the degree of targeting through the banking system remained limited relative to countries such as Japan and France. In the immediate postwar period a limited quantity of funds (mainly European Recovery Program funds) were targeted through the Kreditanstalt für Wiederaufbau (Bank for Reconstruction) to basic industry, transportation and housing (Pohl 1973). The targeting of specific sectors within industry was ended in the early 1950s, when long-term credit agencies shifted their main focus to the general support of small and medium-sized businesses. Significantly, these long-term credits were used to refinance these firms' Hausbanken (mainly credit cooperatives and savings banks) – and thus to draw on these banks' customer-specific relationships – rather than to directly lend to the companies (Menzel 1960).

This regulatory system has supported one of the most stable banking systems among the industrialized countries. The German banking system, which is unique in the degree to which clear quantitative regulatory standards have been applied to the whole banking sector, has been remarkably free of the speculative bubbles and credit crunches experienced in other industrialized countries (Vitols 1998).

Household Savings and Investment Patterns

Since the household sector accounts for the bulk of savings in industrializing countries, one of the key problems for bank-based systems is to limit household investment in securities (i.e. to limit the flow of household savings into the market segment of the financial system). Conversely, market-based financial systems are dependent upon a sufficient flow of household savings into securities in order to insure adequate liquidity.

Two important factors influence household savings and investment behavior, and thus household demand for different types of financial assets. Since a growing proportion of household savings is accounted for by provision for retirement, the types of retirement savings programs established or promoted have an important influence on this demand.[3] 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 1980, for example, public pension payout came to 10.6 percent of GDP. Germany is known as a pioneer in social security policy, having established a satutory 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 (more detail in section 5 below).

Since different income groups have different preferences for various types of financial assets, the second important factor is the degree of inequality in the distribution of income (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. The most important factors determining the distribution of income are the industrial relations regime and transfer programs. 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).

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3 An analysis of the relationship between different types of retirement systems and their impact on financial systems and corporate governance emerges from collaboration with Greg Jackson.

With the exception of the Luxembourg Income Study, national surveys vary somewhat in methodology and definition of variables. Nevertheless, the magnitude of many differences is large enough to allow for the conclusion that there is considerably less income inequality in German than in countries with "market based" financial systems such as the US and UK.

Particularly striking are the differences between the highest and lowest income groups. The ratio between the income of the highest and lowest 10 percent of households in the 1980s was around six in the US as compared to three in Germany (Atkinson, Rainwater, and Smeeding 1995: 40, 70). The poorest twenty percent of households in the US received about 5 percent of total household income during the postwar period versus about 10 percent in Germany (Atkinson, Rainwater, and Smeeding 1995: 44 and 70). The proportion of low-income households (households earning less than 50 percent of median income) in the US in the 1980s was almost three times higher than in Germany (18.4 versus 6.5 percent).

These differences in income distribution have a major impact on the overall household sector pattern of demand for types of financial assets. In the US, 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. 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 3 indicates the range from lowest to highest percentage of different types of household claims/assets in different countries during the period between 1950 and the mid-1990s. Germany and Japan have similar profiles, whereby bank deposits accounted for around half to up to two thirds of household assets. In the US, in contrast, the percentage figure is much more modest (see table 3).

Table 3:
Household Sector Asset Distribution in the US, Germany and Japan
Low-High Ranges, 1950 to mid-1990s

	US	Germany	Japan
Bank Deposits as a % of Total Household Sector Financial Assets	21-39%	45-64%	51-66%
Securitized Assets as a % of Total Household Sector Financial Assets	21-50%	12-27%	11-26%
Private Pension Claims as a % of Total Household Sector Financial Assets	5-36%	6-10%	3-7%

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

Demand for Finance: Dominance by Capital-Intensive SMEs (the "Mittelstand")

A third 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.

4. CHANGES IN FINANCIAL MARKET REGULATION

In Germany, a number of forces have driven reform in financial regulation, as well as related areas such as company law. These forces include:

- efforts to "modernise" the German financial system (*Finanzplatz Deutschland*) to increase the competitiveness of Frankfurt as an international financial center, especially as the creation of European monetary union advances;

- efforts to increase the supply of and demand for equity (or "risk") capital in order to solve problems such as the looming funding crisis in public and company pensions and the relative weakness of Germany's high tech sector; and the

- public outcry over the perceived failures in corporate governance including in particular the failure of banks to perform their monitoring role in spectacular corporate failures (Metallgesellschaft, Balsam, Bremer Vulcan) or in the attempted hostile take-over of Thyssen by Krupp-Hoesch. This has reinforced the long-standing demand for the reduction of the "power of the banks" by the opposition parties (SPD and Bündnis 90/Greens), unions, and sections of the ruling coalition, including reductions in the number of supervisory board seats individual bank representatives can hold and restrictions on bank shareholding and bank proxy voting.

In response to these pressures there have been a number of reform measures taken and proposed. The most important have been the laws on the promotion of financial markets. Two laws have been implemented, the second (*Zweites Finanzmarketförderungsgesetz*) and most important to date was implemented in 1995, and the Third Financial Market Promotion Law (*Gesetz zur weiter Fortentwicklung des Finanzplatzes Deutschland*) in 1998. 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.

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.

Modernisation of Finanzplatz Deutschland

The area in which change could most impact upon the Germany system of corporate governance is in the nature and regulation of financial markets. Compared to other major economies the German equity market is underdeveloped (Deutsche Bundesbank 1997). This raises the concerns, mentioned above concerning the provision of risk capital, especially for new start-ups and for private pension schemes. Germany is also seen to be lagging behind other countries in its ability to attract investment banking activity. The major German banks have acquired British investment banks that operate out of London.

There is therefore a desire to strengthen Germany, i.e. Frankfurt, as a financial center and enhance the role of the equity market. The large banks face narrowing margins in their conventional business as the creation of the single European market and globalization increases competition. They are therefore interested in developing investment banking but need a strong local base from which to build a stronger international presence. Large industrial firms are also interested in strengthening Frankfurt as a financial center. Although these firms can and do raise funds on international capital markets, most funding still comes from the German stock exchanges, and to remain competitive they need efficient capital markets. For those seeking more risk capital for firm start ups in eastern Germany, such as the Bündnis/90 Greens, or a dilution of the power of the banks and importance of cross share-holdings in the German economy, such as the SPD, a greater role for the equity market is seen as helpful.

For those who wish to promote structural change in the Germany economy the more dynamic control mechanisms of the equity market are seem as needed to redress the balance in a system in which retained earnings create a bias in favor of the development of existing activities rather than radical innovation. Assimilating elements of the Anglo-American system, such as more shareholder value, should therefore help to shift activity out of established sectors, such as steel and chemicals, and into more dynamic sectors such as information technology. Assimilating elements of the Anglo-American Shareholder value system should thus assist structural reform. Finally, the case is made that Germany should have a financial center that matches its economic importance.

In short there is broad support for financial market reform and reform in other areas, such as the regulation of take-overs and tax and insolvency measures, that will help build a competitive *Finanzplatz Deutschland*. The Second and Third Laws for the Promotion of Financial Markets have been central to the reform efforts. 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. Since the *Bundesaufsichtamt* assumed these responsibilities Germany has identified and prosecuted more cases of insider trading than any other leading country.

The *Bundesaufsichtamt* also monitors the disclosure of transactions involving significant share holdings in listed companies. As with other provisions in the Second Law these disclosure requirements follow from European Union legislation, in this case the 1988 Directive (88/627/EEC) which requires notification when shares in a listed company exceed or fall below 10%, 25%, 50% or 75%. The Second Law implements that part of the EU's Investment Services Directive (93/22/EEC) that requires the monitoring of uniform rules of good conduct for professional providers of securities services vis-à-vis their customers. The Second Law also authorised money market funds, which had been opposed by the Bundesbank on monetary policy grounds, and further extended the scope for investment funds. 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).

Whilst 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 risk 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.

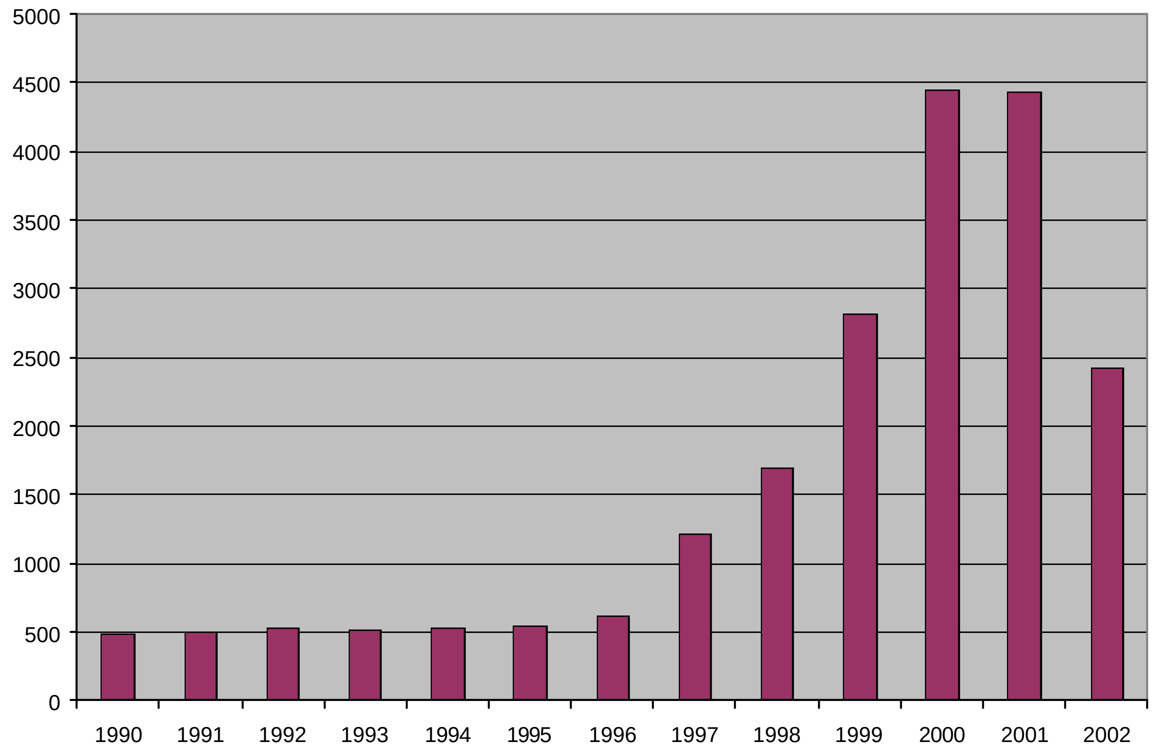
Venture capital funds were promoted by reductions in taxes, the authorization of the GmbH legal form in addition to the joint-stock form for funds and the authorization of refinancing through the issuance of bonds.

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. 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.

Graph 1: Venture Capital Investments in Germany (in million €)



Source: Bundesverband deutscher Kapitalbeteiligungsgesellschaften (BVK)

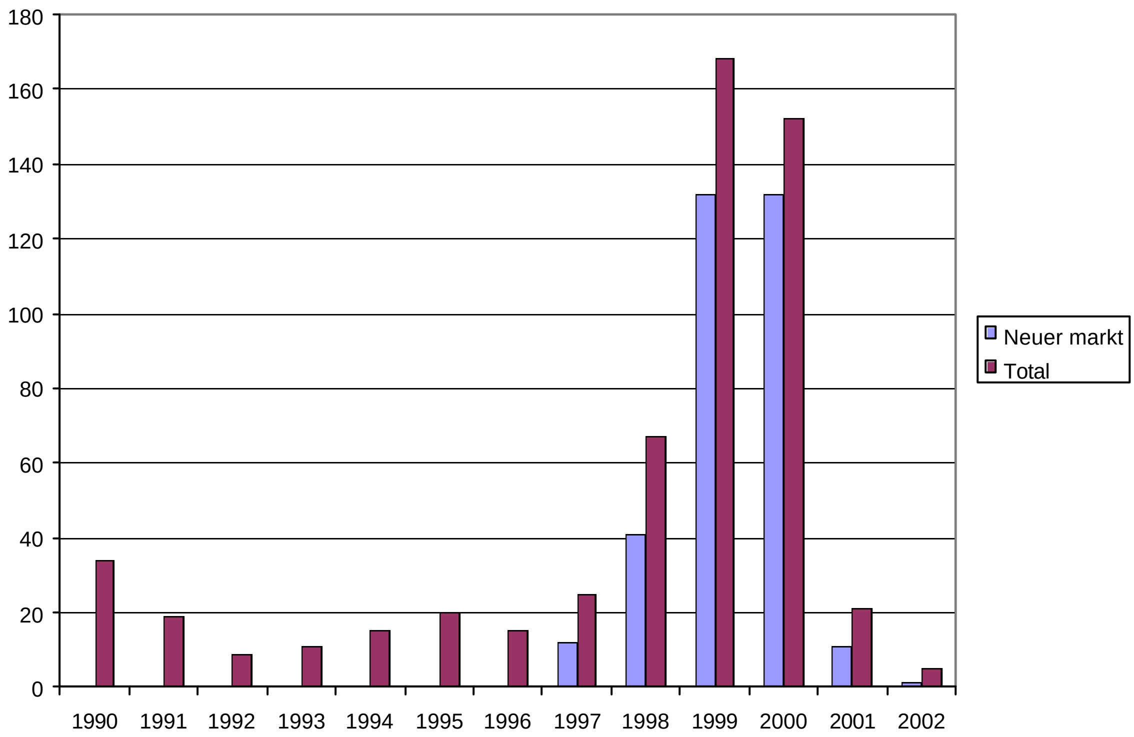
Given the availability of these subsidies, it is perhaps not surprising that venture capital increased particularly rapidly in German during the New Economy boom. The amount of venture capital investing activity increased almost tenfold during the second half of the 1990s, from a level of about 500 million Euro per year in the early 1990s, to a high of about 4.5 billion Euro in 2000 and 2001 (see graph 1).

Particularly striking was the increase in so-called early stage venture capital. This type of venture capital is specifically targeted to finance the transformation of ideas into commercializable prototypes together with the development of viable business plans (seed capital) and to found new firms in order to establish production and develop markets for these new products (start-up capital). This type of venture capital is considerably more risky – but if "done right" also potentially much more profitable – than venture capital finance for the expansion of existing businesses breaking even or profitable (expansion capital), for the restructuring of existing companies (management buy-out or buy-in, i.e. MBO/MBI finance), or for temporary finance to beef up the balance sheets of unlisted companies in preparation for an IPO (bridge financing). The relative importance of early stage financing as a proportion of total new venture capital investment more than doubled between 1996 to 2000, from 14 to 35 percent. In the context of the rapid increase in total new venture capital investing, the total amount of new investment in the early stage area has increased almost *twentyfold* in these same years.

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.

Soon after the foundation of the Neuer Markt in March 1997 there was a veritable explosion in the number of IPOs (initial public offerings, i.e. new company listings) in Germany. Whereas before this time a year with more than twenty IPOs would have been quite an active year, in 1999 alone there 167, with more than 130 of these on the Neuer Markt (see graph 2). 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: Number of IPOs in Germany (Annual Figures)



Source: Frankfurt Stock Exchange

In the last few years, however, these stunning developments have reversed with the bursting of the financial bubble. The level of venture capital investing in 2002 was cut in half, and investing activity was down even further so far in 2003. The number of IPOs dropped to below 20 in 2001 and below 10 in 2002, with only 2 IPOs on the Neuer Markt. Ihe Frankfurt stock exchange has declared the Neuer Markt experiment a failure, and it was shut down by the middle of 2003. There have been no IPOs in 2003 and the market for funding for NTBFs has essentially shut down.

5. CHANGING HOUSEHOLD SAVINGS BEHAVIOR

A large and liquid stock market is ultimately reliant on a domestic household sector that is willing to put a substantial proportion of its savings into direct purchases of shares or indirect purchases, through equity or mixed (bond plus equity) mutual funds. Foreign inflows are a substitute only to some extent, since foreign investment behavior can be quite volatile as country or regional asset allocations shift.

In the second half of the 1990s inflows into the stock market increased from both sources. It appears that foreign investors may have lead the way, and when households jumped in with some lag, after seeing the stock market increase quite substantially for a number of years.

Foreign purchases of German stocks increased substantially starting in 1996 and 1997, respectively roughly two times and four times the average annual net inflow experienced in the first half of the 1990s (see table 4). As households in the US and UK significantly increased their investments in pension funds and mutual funds, the funds in those countries increasingly saw their domestic markets as overvalued, and increasingly sought investments abroad, including in Germany. This activity peaked in 1999 and 2000. When netting out German purchases of foreign stocks, this resulted in inflows of € 81 billion in 1999 and € 144 billion in 2000. In 2001, however, the net foreign inflow actually reversed and became negative (€ 18 billion outflow). Although the situation has recovered in 2002, the outflow in 2001 shows the danger of relying too much on foreign investors to finance IPOs, secondary offerings of stock, etc.

Table 4: Net Foreign Inflow of Stock Purchases in Germany (in billion €)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
German Purchases of Foreign Stocks	0.6	-4.3	4.5	0.4	-1.7	6.0	10.8	51.7	45.2	-24.6	68.8	14.2
Foreign Purchases of German Stocks	12.6	8.4	10.9	14.3	13.1	23.1	51.9	105.6	126.8	119.1	51.0	46.3
Net Foreign Inflow	12.0	12.7	6.4	13.9	14.7	17.1	41.1	53.9	81.6	143.8	-17.8	32.1

Source: Deutsche Bundesbank, Flow of Funds Accounts.

After some lag, households in Germany also 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 (see table 5). 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 5: 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.

6. WILL THE INTRODUCTION OF THE RIESTER RENTE CHANGE THE SITUATION?

Background on the German Pension System

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.[4] 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 80 % of retirement income in Germany.

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).

Legislation on the "second pillar" of social security has allowed for four possibilities for companies to provide company pensions on a voluntary basis. Jackson/Vitols have characterized the German system of company pensions as "organizationally embedded" rather than "market based" due to the greater importance of the direct use of the firm as the basis for pension assets rather than market-based instruments:

- Direct commitments (59 % of assets as of 2000), the most common form of provision. Pensions are paid out directly by the former employer to the former employee. Provision for future obligations is made through a system of "book reserves". This system was developed during postwar reconstruction in large part to help companies retain income and reinvest

4 For a more detailed analysis see Gregory Jackson and Sigurt Vitols (2001), "Between financial commitment, market liquidity and corporate governance: occupational pensions in Britain, Germany, Japan and the USA", pp. 171-189 in Bernhard Ebbinghaus and Philip Manow, eds., Comparing Welfare Capitalism: Social policy and political economy in Europe, Japan and the USA, London and New York: Routledge.

within the company. This worked well as long as employment was expanding, but with slow growth in the 1990s and the aging of the population the problems with this kind of system seem to increase.

- Support funds (7 % of assets) are held externally to the firm, but are controlled by the firm and frequently make loans to the firm. They are unsupervised by the federal insurance agency and are typically underfunded.
- *Pensionskassen* (21 % of assets), which are also externally held, but are generally distinguished from Anglo-American type pension funds due to the very high restrictions on types of assets that may be held. They may make loans of up to one-third of assets to the sponsoring firm. Also, as in the case of support funds, they are not covered by the federal insurance agency, and frequently are not fully funded.
- Direct insurance (13 % of assets), which are plans run by insurance companies. These are used mainly by the public sector and by small firms, who find the administrative costs of running their own plans too high.

In 1990 these plans were overwhelmingly (98%) defined benefit rather than defined contribution. Coverage was been fairly high then (35% of firms employing 65% of the workforce) but falling throughout the 1990s due to the increasing costs of these plans.

The "third pillar" of the social security system, private individual provision, lacked explicit tax-deductable retirement savings vehicles along the lines of those available in the US and UK. However, a popular vehicle has been the *Kapitallebensversicherung*, (capital life insurance plan), which is tax deductable. These plans typically run for 6 years, i.e. generally not until retirement, but a common practice is to renew these plans successively. The consequences of this is that "informal" individual pension provision was concentrated in the insurance sector.

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. As stated previously, stock market capitalization in Germany has been particularly low (27% of GDP compared with over 100% for countries such as the US and UK) and bank finance has predominated for industry.

The 2001 Reforms – Introduction of the "Riester Rente"

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.

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 particular the stock market has been seen as needing more sources of finance in order to support 1) IPOs of new economy firms and 2) the conversion of private limited companies (such as GmbHs) into publicly traded companies. The expected retirement of tens of thousands of postwar founders of companies and the reduction in the equity base of many of these companies is expected to drive the second conversion trend.

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.

Public Reaction to and Initial Impact of the Riester Rente

Though there was concern in some quarters that lower-income households would suffer through the reduction in the importance of public pensions, in fact a fairly good balance was struck between the different interests. The reduction from a 70% to 67% replacement rate is fairly modest, and a number of steps were taken to protect lower-income households (enhanced possibilities for "credit" for public pensions despite lack of full-time work, state contributions for all and for children for the personal pensions, inclusion of trade unions in negotiating company pension plans). There is a widespread recognition that the public pension system needs to be reformed, thus there has been general agreement with the basic principles of the reforms.

Most public attention, however -- as well has most criticism from financial services providers and some interest groups – has focused on the regulation of the personal pension plans. In particular there are eleven specific regulations on these new products, which have rendered them complex and difficult to understand. In particular, the requirements for 1) guaranteed returns (minimum returns for "retirement insurance" products and the "no loss" guarantee for fund-based products) plus 2) the payment of a lifetime annuity after retirement seems to have generated rather complex products, particularly on the fund side. The funds typically involve different allocations between stocks and bonds, which change according to the age of the individual and, often, according to the discretion of the fund manager based on his/her evaluation of different stock market conditions.

As a result of this complexity, and also due to the relatively small size of initial contributions (up to 1% of income in 2002 and 2003) the annual management fees for these plans are reported to be running at 2-3% of assets.

These are far removed from the simple mutual funds that are often used e.g. in the US, which offer 1) much more flexibility in post-retirement drawdown and in reallocation during the savings period, 2) more transparency in terms of investment policy, and 3) lower management fees, particularly for index-tracking funds.

As a result, many investment advisers recommend that only low-income persons, particularly those with children, sign up for the personal Riester Rente plans. For these persons the state contribution (individual and child contributions) can be quite large relative to the individual contribution, thus offsetting some of the disadvantages noted above. For higher-income persons, the investment advisers have recommended looking closely at alternatives, such as company pensions and the *Kapitallebensversicherung*, which quite typically are more attractive than the personal pensions.

A second problem is that, due to the small sums involved, the personal Riester Rente is not really attractive from a profit-making standpoint. Up to now financial service providers have been offering these plans (some have been marketing these quite aggressively) in the hope that they can "open the door" to new customers with these products, and thus sell them more lucrative products afterwards. If this expectation is severely disappointed, however, financial services firms may withdraw from offering this product.

Another consequence is that insurance-type products are favored by the reforms, thus relatively little new money flows into the capital markets, particularly the stock market. Stock funds would allow 100% investment in stocks. Insurance companies by contrast can allocate a maximum of 35% of assets to equities.

It is therefore perhaps not surprising that the takeup of the personal Riester Rente has not been overwhelming to date. It is thus advisable to consider further reforms which would 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 has taken 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 has begun in earnest in the last few months, and a big push is being made to sign up members before the year 2002 closes.

These plans allow the employee to contribute up to 4% of their income tax-free right from the start, unlike the personal plans, which reach this level only in 2008.

There have been many fewer complaints about restrictive regulations in this area. One problem, namely the requirement that pension funds had to provide pensions as lifelong annuities, has already been addressed. Now, it is possible to have a draw-down pension, with the option of a one-off payment of 20% of the accumulated capital.

It is interesting, however, that only 18 pension funds have been approved by the Federal Regulatory Agency for Financial Services. Most collective bargaining agreements have been on plans involving consortia of insurance companies. Thus many of the same points made with regard to the personal plans also hold here, i.e. that only a fraction of the retirement savings accumulated here will find its way into the stock market.

Summing Up

The introduction of the 'Riester Rente" in 2002 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.

7. TRENDS IN CORPORATE FINANCE: "WINNERS" AND "LOSERS"

A Typology of Firms

In trying to determine the impact of changes on corporate finance, and to identify "winners" and "losers", it is important to develop an appropriate typology for different kinds of firms. A two-dimensional typology includes the size of firms (small, medium and large) as one dimension, and R&D intensity (low and medium, and high) as another dimension (see exhibit 1).

Exhibit 1: Typology of Firms

		Research Intensity		
		R&D intensive	*Innovative*	*Potentially Innovative*
Size/age Of Firm	*Seed/startup/ other early stage*	(1) NTBF	(2) Innovative Start-ups	(3) Low-tech Start-ups
	Established SMEs	(4) High-tech SMEs	(5) Innovative SMEs	(6) Low-tech SMEs
	Large Firms	(7) High-tech Large Firms	(8) Innovative Large Firms	(9) Low-tech Large Firms

Along the first dimension (size/age of firm, along the vertical axis), seed/start-up projects are considered the most risky from an investing point of view. These types of firms frequently lack adequate internal financial capital and experienced management. Various studies done on data from different countries have come up with estimates of the "mortality rate" of start-ups ranging from 25-50% in the first few years of existence (Deutsch 2001). At the same time, external investors have difficulties estimating risks and selecting promising investments, in large part due to the lack of track record (i.e. financial history over the past few years) upon which an investment decision can be made.

The risks of investing in established SMEs and large firms are much lower due to the lower mortality rate of firms in these categories. Investors also feel that it is easier to assess investment risks for this type of firm. Banks in particular look at the track record of firms (e.g. profitability, sales growth, etc.) and also like to require tangible assets (e.g. real estate, plant and equipment, etc.) as security for loans, which they can seize and sell in case of default on the loan to cover part of their losses. With the help of these mechanisms, banks in Germany and Italy experience default rates as low as 1-2 percentage points for these types of firms.

Along the second (horizontal) dimension of exhibit 1, R&D intensive firms and projects are the most difficult for external investors to evaluate, since many investors lack the specialized technical know-how to make these judgements and to estimate the potential returns of R&D projects. For this reason investors such as banks tend to avoid lending to this type of firm. Interestingly, some studies suggest that technology start-ups may not in fact be more risky than low-tech start-ups, despite the widespread belief to the contrary (Storey and Tether 1998).

Firms in the categories (1) and (2) (NTBFs and innovative start-ups, respectively) are thus subject to a "double barrier", first because of their newness and size, and second because of their R&D intensity. Firms in the categories (4) and (5) (R&D intensive SMEs and innovative SMEs, respectively) also face difficulties in obtaining external finance due to the aversion of many investors toward R&D investment.

Who are the Winners and Losers of the Recent Changes?

The biggest "winners" from the changes in the last decade or so appear to be the largest publicly-listed companies. In particular the inflow of foreign capital increased quite significantly in the second half of the 1990s. The turnover in the shares of the largest companies, particularly the DAX 30 (thirty largest companies by market capitalization, contained in the Deutsches Aktienindex or DAX), has also increased significantly. Also, the ability of these companies (authorized by company law reform, or Kontrag, from 1998) to buy back 10% of their own shares, and to issue stock options, has increased the flexibility of these companies and their ability to keep up with international practices (e.g. shareholder value). The ability of these companies to raise new capital through capital increases (secondary issues) and through the partial spin-off of operations (e.g. Siemens' partial spin-off of its semiconductor and electronics parts divisions as the new companies Infineon and Epcos) has helped these companies reduce their reliance on debt and increase their capital base.

Initially it appeared that startup and medium-sized high-tech firms also were major winners from the changes. The amount of venture capital available for startup firms, and the ability to go public on the Neuer Markt once a certain degree of maturity was reached (as indicated by the rapid increase in the number of IPOs), both represented a major reduction in the "capital gap" existing for these types of firms. The future regarding this area is currently uncertain. The IPO market has completely shut down at this point, and it is reported that venture capital firms are not making investments in new companies, in order to preserve capital to provide further rounds of capital to the companies that are already in their portfolios. Should the financial environment improve, and the IPO market reopen once again, some of the financial infrastructure established in the late 1990s to support high-tech firms will still be in place. However, should the financial environment not improve, then Germany will essentially be back to early-1990s conditions regarding this segment of the market.

Within the category of established SMEs and mid-cap companies, the picture appears mixed. Even during the bubble, access to equity finance over the stock exchange appeared to deteriorate for many traditional mid-cap companies. A number of these companies listed on the MDAX (mid-cap) index on the Frankfurt stock exchange felt that they are worse off listed on the stock exchange than in private ownership. The "undervaluation" of their shares by the stock market made it impossible to raise new capital on the stock market. As a result, a number of these companies (e.g. the battery manufacturer Varta) voluntarily de-listed from the stock market in order to switch to fully private ownership.

During the 1980s and early 1990s, reliance on bank finance appeared to increase greatly in Germany, particularly for SMEs. Although the situation has stabilized since the mid-1990s, nevertheless a large gap remains between the balance sheet situation of larger and smaller companies. Table 6 shows selected aggregated balance sheet items as a percentage of balance sheet totals for all companies, corporations, and non-corporations (i.e. other companies). This roughly corresponds to the division between large and medium sized companies on the one hand and small companies on the other hand. The equity ratio is almost five times larger for corporations than for non-corporations. Combined bank debt (short and long term together) comes to about 13 percent of total balance sheet for corporations, versus over 35 percent for small companies, i.e. a very high reliance on bank debt.

Table 6: Selected Balance Sheet Items, as % of Balance Sheet Total in 1999

	All Companies	Corporations	Non-corporations
Equity	17.6%	24.3%	5.2%
Bank Debt - Short Term	9.5%	6.3%	15.3%
Bank Debt - Long Term	11.6%	6.9%	20.3%
Pension Claims	8.3%	10.8%	3.5%

Source: Own calculations from Deutsche Bundesbank data

At the same time, access to debt finance for many of these companies is decreasing. In part due to the anticipated impact of the Basel capital adequacy requirements, and the introduction of scoring systems and credit ratings to differentiate interest rates and the degree of credit risk, the availability of credit seems to have improved for those companies with higher degrees of creditworthiness, but has seriously deteriorated for firms representing more of a credit risk. Although this could be seen as a development that can be justified in terms of efficient market principles, nevertheless it is worrying given the degree to which these companies, particularly smaller companies, have become dependent upon bank finance in the past decades (Bundesbank 2003).

8. CONCLUSION

This paper has presented an analysis of the German bank-based system, the changes it has undergone in roughly the past decade, and its impact on corporate finance. 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 are quite resistant to change, and the Riester pension reform by itself will not change this in a major way. Thus the German household sector's willingness to invest in riskier assets, particularly equity and other forms of risk capital, is likely to remain limited. At the same time, availability of risk capital is only one of many factors determining the success of startup and high tech companies. The development of a large and viable "New Economy" sector in Germany, which would both demand more risk capital and also reward the appetite for a higher level of risk with a higher return, is not something which takes place in a few years but rather over decades. Public policies meant to help plug the capital gaps for different categories of firms need to take these factors into account and plan for the long-run.

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