

What Makes German Banks Different

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ABSTRACT. The past few years have seen a revival in the academic debate over the economic functions of German banks. This paper takes the position that large non-financial firms have become highly autonomous of the banks, and the corporate governance role of banks, while still important, is much less significant than widely presumed. German banks, however, do fulfill certain economic functions to a greater degree and in a different manner than banks in other countries. These bank functions of long-term commercial financing, comprehensive management consulting, and supporting diversified quality production strategies are made possible by the institutional character of the banking system itself and the institutional context in which it operates. A complex web of government laws, regulations, and government financial aid combine with bank group competition to create an extensive and successful financial support system for German SMEs. This system faces various adjustment challenges – from international financial market integration to EU regulatory harmonization – but it has thus far managed to adapt while sustaining its core functions.

1. Introduction

In the last few years, a long overdue academic debate over the economic functions of the German banks emerged. In both the economic and political science literatures, this debate is motivated by the fundamental question of whether certain institutional arrangements produce a more efficient or competitive economy. In somewhat simplified form, the market-based financial systems of the U.S. and U.K. have been compared to the bank-based systems of Germany, Japan, and other continental European countries. One strand of economic theory argues that bank-based systems of corporate finance are better adept at overcoming

asymmetrical information problems between debtors and creditors and thus improve the provision of investment capital to firms. Bank-based systems, it is further argued, reduce more effectively the agency costs associated with corporate governance: Banks, as major equity holders in many non-financial firms, are well-positioned to monitor corporate management and represent shareholder interests. Thus bank monitoring is argued to produce several economic benefits, including more efficient long-term corporate investment. Market-based systems, in contrast, suffer all too frequently from weak corporate governance because no single shareholder has a sufficiently large stake to justify the cost of active monitoring. Managers are therefore more prone to inefficient investment or captured by the short-term demands of the stock market, consequently underinvesting in profitable long-term investment opportunities (Jensen and Meckling, 1976; Diamond, 1984; Mayer, 1988).

In the case of Germany, there is a long line of literature arguing in favor of the economic benefits of close bank-firm connections (Cable, 1985; Dyson, 1986; Shonfield, 1965; Zysman, 1983).¹ Recent studies on bank ties to non-financial firms divide along two key questions: The first asks whether close ties to banks are indeed beneficial to firms in terms of investment and profitability. While earlier studies generally confirmed predicted advantages of a bank-based system, some recent studies have produced results contradicting this view.² The second question asks whether bank-firm relations actually correspond to the assumptions of the model, i.e. to what extent do banks actually finance firms, own shares, and effectively monitor management. The literature on this question has brought forward evidence contradicting the assumptions of the bank-based model, though it too leaves several questions

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unclarified (Deeg, 1993; Esser, 1990; Sabel, Griffin, and Deeg, forthcoming; Vitols, 1994).

One of the more sweeping and useful studies to appear recently is that of Edwards and Fischer (1994).⁴ Their first accomplishment is showing that large German firms do not depend on bank finance to a significantly greater degree than firms in market-based systems. Further, they find no support for the thesis that firms with close bank ties have better access to equity markets or bank loans. In terms of corporate governance, they show that it is a relatively small number of firms (although usually very large firms) in which banks are positioned to exercise substantial monitoring. However, they find incentives for banks to monitor management to be weaker than commonly assumed. Where banks do monitor, the mechanisms of influence are also weaker than assumed. The general conclusion of the study is that German banks are much more similar in behavior to banks in market-based systems than the bank-based model predicts. What distinguishes Germany from market-based systems is not so much the nature of bank-firm relations or investment financing patterns, but the existence of extensive capital and personal (via supervisory boards) interlocks among large firms. These interlocks do generally produce monitoring of management by large shareholders, but most of these monitors are non-banks.

Overall, Edwards and Fischer provide strong evidence that German banks do not exercise on a broad scale the financing and monitoring functions ascribed to them by the bank-based model. Studies of the restructuring process in eastern German economy further reveal the unexpectedly limited capacity of banks to foster economic development through commercial lending, equity investment and firm monitoring (Carlin and Richthofen, 1995; Deeg, 1994; Griffin, 1994). Deeg (1993) goes even further in arguing that the relationship between banks and large firms is increasingly characterized by short-term market transactions. Moreover, regulatory changes and financial market integration have been moving the German financial system for at least a decade toward the market-based model in terms of banking and securities markets regulation and large firm financing patterns. Through convergence with the regulatory principles and practices of market-

based systems, the basis has been set for a long-term transformation of the German system toward market-based finance. However, the extent of this transformation is highly uncertain as it depends on numerous future economic and political developments.

Unfortunately, for readers of Edwards and Fischer it would be all too easy to come away with the view that the economic functions of German banks are hardly different than that of banks in market-based systems. This would be a false conclusion. While I largely agree with their assessment of banks and *large* firms, the German financial system is nonetheless substantially different than market-based financial systems. Because of the unique institutional character of the German banking system itself and the broader institutional context in which banks operate, German banks do perform economic functions to a degree not found in market-based systems such as the U.K. or U.S.⁵ Most important is that banks provide 1) high levels of long-term financing and 2) extensive market and managerial information, primarily to *Mittelstand* firms (small- and medium-sized enterprises, SMEs).⁶ SMEs play a comparatively substantial role in the German economy, accounting for about 47% of manufacturing employment in the early 1980s; in the U.K. this figure stood at 36.4%; in the U.S. at 37.4% (Acs, 1996).⁷ These first two bank functions contribute importantly to a third function, that is shaping firm choices in their organization of production. The institutional structure of the banking industry is therefore significantly correlated to the organizational structure of non-financial sectors. These bank functions, though, are only sustainable because of a particular mix of institutional incentives – secured primarily by state economic and regulatory policy – that shape bank behavior.

2. An institutional view of German Banks

One of the key institutional features of the German banking system is the predominance of 'group competition.' Three major banking groups dominate banking markets and particularly commercial banking: commercial banks (which include the well-known Commerzbank, Deutsche Bank, and Dresdner Bank), public sector savings

banks, and (mutual) credit cooperatives. While subject to the same general banking regulations, each group is distinct in its legal and organizational basis. Group competition signifies the fact that savings and cooperative banks generally do not compete with other banks in their own group. Rather, these banks are organized in formal associations and use cooperative arrangements among banks within their respective groups to compete against other bank groups.⁸ Historically there was an imperfect but visible division of labor among these banking groups: Commercial banks focused on short-term lending and equity finance for larger firms. Savings banks focused on long-term lending to individuals and communal governments. Cooperative banks focused on small firms and firms organized under Germany's craft sector law. This division of labor began to erode rapidly beginning in the late 1960s as each group sought to engage increasingly in all lines of banking business. This strengthening of competition was importantly the result of market dynamics, but it was also very much promoted and sustained by changes in state regulation of the industry. During the last three decades the federal and state (*Länder*) governments in Germany deliberately promoted increased bank competition through selected regulatory and policy changes. These changes encouraged banks to move into non-traditional market segments while preserving the basis for three distinct bank groups. Despite convergence pressures arising from market integration and European Union regulation, recent financial market regulatory changes in Germany have been made thus far in a manner that sustains the basis for group competition in banking.

The existence of three distinct banking groups and group competition produces several economic effects.⁹ The first is that it generates increasingly strong competition in *all* segments of financial markets. Through cooperation between large and small banks within their respective groups, the savings and cooperative banks combine the advantages of decentralization – closeness to the customer – with the scale advantages of larger banking units. This enables small banks to compete effectively in market segments traditionally dominated by large commercial banks such as export finance. Large commercial banks, through their national branch structure, compete increas-

ingly with savings and cooperative banks in the *Mittelstand* loan market. Competition is further promoted by the fact that the German banking system is comparatively deconcentrated and the regulatory structure – by purposely sustaining three distinct banking groups – slows considerably concentration trends in the industry.¹⁰ Large commercial banks cannot displace local savings or cooperative banks by buying them; they must compete with them. The success of savings and cooperative banks in commercial loan markets is reflected in the fact that they have increased their market shares since the early 1970s, accounting for 33.7% and 13.2% respectively in 1994 (commercial banks held a 29.2% market share).¹¹ This contrasts sharply with the cases of the U.K., where SME finance is heavily concentrated in the hands of four large London clearing banks (Vitols, 1995b), and the U.S., where a historically decentralized banking industry has been undergoing rapid concentration in the last decade (Rhoades, 1996).

Increased bank competition in Germany over the last two decades was one factor facilitating the weakening of close relations between large firms and banks. For the SME market, on the other hand, increased competition strengthened the long-term relationship between banks and SMEs. Growing competition induced banks to compete increasingly on price, but especially to provide more services to SMEs. While Vitols argues in his companion article that price competition in Germany is muted and thereby facilitates bank competition on services, I argue that growing (but not excessive) price competition promotes both the granting of long-term credits and service provision to SMEs.

Comprehensive service provision

Since the early 1980s, each of the three major banking groups has been working toward the goal of providing SMEs comprehensive financial and business services. This *Allfinanz* strategy embodies an explicit attempt to become the 'external management arm' of the small firm. The adoption and successful implementation of the *Allfinanz* strategy is heavily contingent upon the group nature of bank competition. To compete all banking groups must offer comparable services

and for each group these services can only be offered through successful coordination of local, national, and international units. To compete more successfully in the SME market, large commercial banks significantly decentralized lending authority to local branches from the late 1970s onward. Thus for commercial banks success in *Allfinanz* means cooperation between increasingly autonomous local branches and other bank divisions and subsidiaries.

For savings and cooperative banks *Allfinanz* requires increased cooperation between local and regional or national banks in the group and with their respective associations. Because small banks cannot efficiently provide many of the expected services and products independently, they provide them through cooperative agreements within their respective associations. In this sense the savings and cooperative associations are an essential pillar of bank competition in Germany. They help make it possible for small banks to compete successfully with large banks. It also distinguishes them from banking associations in the U.S., U.K. and many other countries, because the former are far more than lobbying organizations; they embody extensive, institutionalized inter-bank collaboration for the purpose of mutual enhancement of competitiveness.

A central element of the *Allfinanz* strategy is to provide SMEs (primarily mid-sized firms) with comprehensive consulting services, e.g., on foreign and domestic market conditions, technological development and innovation, joint ventures and partnerships, organizational administration, and extensive short- and long-term financial and investment planning – the kind of planning which many SMEs do not have the resources to undertake on their own. Banks provide such consulting firstly by training their loan officers to become more knowledgeable and active advisors to clients and creating in-house information resources. Beyond this, all three major banking groups have acquired or established management consulting companies to provide these services. Increased in-house consulting capacities and affiliated consulting companies are, in fact, part of a broader effort by banks to become information and education centers for SMEs. It is now commonplace for a local bank, whether a cooperative or savings bank or the local branch of a major bank, to

organize seminars, workshops, and discussion groups for local business people. Banks are also seeking to establish direct electronic information linkages between themselves and SMEs in order to provide continuous services such as cash management, liquidity planning, and payments transfers.

More and more local banks and branches are using the international resources of their group or concern to help local firms identify new export markets or find potential business partners abroad. For example, several commercial and public sector banks have initiated and funded (often in conjunction with German state governments) several commerce centers, mostly in Asia, from which German *Mittelstand* firms can build up export markets or local production relations. Finally, as part of this strategy banks are using their firm contacts, bank-owned consulting companies and databases to mediate inter-firm cooperation in production, innovation, and distribution. Where cooperation is insufficient to maintain firm competitiveness, banks seek to tap their investment banking services to facilitate mergers and acquisitions, management-buy-outs and buy-ins among SMEs. In the next decade more than half a million SMEs in Germany will need a new generation of leaders and bank-financed MBOs/MBIs are expected to constitute a substantial portion of these transitions (IdW, 1996).

The *Allfinanz* strategy is driven on the supply side by intensified competition in banking markets and the loss of loan business to large firms. The German *Mittelstand* has become a prime market for all the banks for the simple reasons that 1) SMEs are very important in the German economy, and 2) they are far more dependent on external resources than large firms.¹² The *Allfinanz* strategy is therefore also driven on the demand side: intensified product market competition and technological changes drive SMEs to seek more capital and know-how from outside – including from banks. But this is not a relationship in which banks dominate firms. Bank ownership in SMEs is seldom. SMEs generally have no supervisory boards with bank representatives and strong competition prevents even small firms from becoming financially dependent on any single bank. While bank consulting and informational services are beneficial to SMEs, adequate long-term finance

is also critical to firm competitiveness. Smaller firms have not been able to build the kind of financial reserves that many large firms have, and thus remain much more dependent on bank loans to finance investment.

A system of long-term debt and equity provision

German SMEs receive substantial amounts of long-term finance from banks, both in the form of loans and increasingly in the form of limited equity.¹³ Since Vitols' companion article in this issue discusses this in greater detail, I only highlight here some key implications of this system. Adequate long-term finance is assured by three factors – strong bank competition, the comprehensiveness and competitiveness of savings and cooperative banks, and government regulation and long-term lending by government banks.

Bank competition encourages long-term lending because firms have greater bargaining power. The savings bank group, which has the largest market share in commercial lending among the three major groups, specializes in long-term financing and uses this to compete with the other banking groups.¹⁴ This places pressure on the other groups to provide long-term funds. Savings and cooperative banks also have unique legal and structural incentives to provide SMEs with adequate long-term funds. First, these banks are limited by their group or association to a local market, and thus they are dependent for their own viability on the long-term vitality of their local client base. They also have a strong incentive to protect their reputation for being a reliable long-term bank partner to SMEs. Second, savings and cooperative banks' charters and governing laws obligate them to pursue profit as a means to other goals, not as an end in itself: Savings banks are obligated to promote the local economy; cooperative banks are required to serve the interests of their members.¹⁵ Finally, local savings and cooperative banks are institutionally embedded in their local economies through extensive formal institutional links to local governments, chambers, business associations, and educational and research organizations.

Allen and Gale (1995) characterize these banks as rent-seeking institutions (rather than profit-maximizers). For these banks rent-seeking behavior is likely to produce excess service pro-

vision to firms (as compared to a profit-maximizer). In the case of savings banks, rents are also likely to include the satisfaction of communal political leaders who have a formal governing role over these banks and expect them to fund all reasonable investment projects by local firms. Rent-seeking may also help explain the pursuit of *Allfinanz*, since it facilitates investment in service provision capacities. But rent-seeking has not made these banks uncompetitive. The ability of savings and cooperative banks in West Germany first to increase and then largely maintain their market share of commercial lending over the postwar period verifies this. It also stands in stark contrast to the experience of local banks in the United States where deregulation of interest rates in the early 1980s led to a concentration of capital resources in national banks and shortages of capital for small firms. Rather, because so many banks in Germany are rent-seeking, it is likely that this forces **all** banks toward similar behavior.

Increased long-term financing by federal and state development banks over the past two decades also increased the availability of long-term funds to SMEs and lowered the cost of borrowing by lending at subsidized or close to cost of capital interest rates (compare note 10). Extensive government lending also has demonstrated leveraging effects on at-risk lending by the banks. Development banks provide substantial funds for business start-ups, firm rationalization and expansion, technology projects and liquidity assistance.¹⁶ Since long-term government loans flow to firms largely via the banks, the growth of such loans strengthens long-term relations between banks and SMEs. Banks screen loan applicants and carry the credit risk (but not interest rate risk) of state loans and therefore must maintain a relationship with the firm in order to monitor government (and most likely their own) loans. Government loan programs are so widespread that SMEs expect their banks to incorporate such loans whenever possible into investment financing packages.

The German financial system has often been criticized – at home and abroad – for its inability to provide venture capital for high-tech start-ups and fund new enterprises in emerging sectors. The emphasis on long-term relations with firm clients and other institutional incentives do impart a

generally conservative character to bank lending practices. The still comparatively underdeveloped nature of the German equities market further hampers the promotion of new, innovative firms. More generally, low and declining equity capital is a serious problem for a large percentage of German SMEs. Overcoming these deficiencies has been a high policy priority since the early 1980s. Since then several public-private initiatives have achieved notable, though still inadequate, success in this endeavor.¹⁷

Over the last decade numerous efforts have been made by the banks and federal government to strengthen equity markets and ease the way for SMEs to make initial public offerings. Despite concerted efforts, success has been limited as SMEs in Germany are still comparatively reluctant to go public. Because of this reluctance, banks and public authorities have also sought to produce a functional equivalent through an alternative form of limited equity finance. This form of finance has grown dramatically since the early 1980s, as the banking industry was encouraged through regulatory and legal measures by the federal and state governments to expand funding for new and existing capital participation corporations (*Kapitalbeteiligungsgesellschaften*, KBGs). All of the three major banking groups operate KBGs. In each German state there also exists a state-supported, non-profit KBG (also supported by the major banking groups and local business associations). KBG equity investments are made for a fixed period of typically ten to fifteen years, receive an annual (in some cases profit-dependent) dividend, and generally do not involve a management role for the KBG.

Firms use KBGs for a variety of purposes such as seed money, expansion finance, facilitating management-buy-outs, or leveraging additional bank loans. KBGs are generally not a vehicle for bank control over SMEs. Some KBGs, however, function more like venture capital funds, investing in technology-oriented projects and realizing much of their profit only after ending their participation. These KBGs are more frequently involved in assisting firm management where they have invested. From 1980 to 1989 the total number of equity participations in SMEs grew from 910 to 1,701, and total invested capital rose from DM 620 to DM 2,500 million: At the end of 1993, KBGs

held DM 5,400 million of equity in over 2,700 SMEs.¹⁸ Despite this rapid growth, this still represents less than 1% of all SMEs. Thus German policymakers and the banking community continue to debate further measures to stimulate public offerings by SMEs.

Banks and SME adjustment

Altogether, the extensive provision of loan and equity capital and comprehensive business information by banks to firms creates a close, long-term relationship between banks and SMEs. German SMEs thus rely heavily on their banks for capital and information resources, but strong bank competition inhibits banks from gaining undue influence over firms. These functions of the banking system are important contributions to the ability of SMEs to pursue a strategy of diversified quality production.¹⁹ The competitiveness of most German SMEs rests not on low costs, but on their ability to produce high-quality and diversified products. Many SMEs produce such products on their own; many produce them through cooperation with other firms. Either way this production strategy requires high levels of long-term investment in R&D and labor force skill development. Rapid changes in product markets and technology, intensified global competition, and changes in supplier-manufacturer relations intensify short-term adjustment pressures that threaten SME's ability to engage in this production strategy. For example, firms with adjustment difficulties are more likely to disengage from R&D if they have inadequate funds. However, German banks, through their contribution to long-term (equity and loan) financing and know-how transfer into SMEs, help make such pressures manageable and thus play a crucial role in sustaining the ability of SMEs to use a diversified quality production strategy.

Banks also help SMEs sustain DQP through cooperation with governments and government banks. For example, SMEs in financial distress draw on several assistance mechanisms that involve close cooperation and risk-sharing between banks and government or government-supported institutions. First, in each German state there is a publicly supported loan guarantee bank and KBG. Firms turn regularly to these organiza-

tions for equity injections or loan guarantees when their house bank(s) alone can no longer sustain them. In many cases, state governments also provide loan guarantees directly to firms – a particularly widespread practice in eastern Germany. Many state development banks provide liquidity assistance through long-term loans to financially distressed SMEs. Such loans are usually provided when the firm's banks cannot provide sufficient liquidity to keep an otherwise competitive firm afloat. In the state of Baden-Württemberg, for example, several hundred SMEs received such liquidity loans during 1993 when the regional economy was in a severe recession. Finally, several states occasionally use their *Landesbank* (large banks from the savings bank group) to aid troubled firms through the purchase of equity in the firm. In the vast majority of cases, though, state aid (regardless of form) is contingent upon continued bank participation in the firm's credit risk, thus reducing the likelihood that non-competitive firms will be sustained through state subsidies.

Through these public-private finance mechanisms, banks and government increasingly share the risk of the riskiest SME investments such as start-ups and product innovation. They help viable SMEs survive through short-term downturns in demand or financial bottlenecks. These mechanisms are therefore also important for sustaining diversified quality production since this strategy typically involves extensive long-term contracting relations among a large number of firms, and if too many firms in a production network succumb to a recession the whole production system could be seriously disrupted.

3. Summary

German banks are indeed different. They are different from the characterization made by the bank-based finance model which views them as the linchpin of German corporate finance and governance. Large firms have become highly autonomous of the banks and the corporate governance role of banks, while important, is much less significant than presumed. German banks are also different, however, because they do fulfill certain economic functions to a greater degree and/or in a different manner than banks in other

countries. These bank functions of long-term financing, comprehensive consulting, and supporting diversified quality production are made possible by the institutional character of the banking system itself and the institutional context in which it operates. A complex web of government laws, regulations, and government financial aid combine with bank group competition to create an extensive and successful financial support system for German SMEs. This system faces various adjustment challenges – from financial market integration to EU regulatory harmonization – but it has thus far managed to adapt while sustaining its core functions.

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Notes

¹ There is also an extensive and primarily German literature which mostly argues the banks have too much power over non-financial firms, producing economic inefficiencies and a politically problematic concentration of power. See Pfeiffer (1993) for an overview of some of this literature and a study critical of bank-firm interlocks.

² Studies showing that close bank affiliation enhances profitability and/or insensitivity to liquidity constraints include Cable (1985), Elston (1993), Funke (1992), and Elston and Albach (1994). In contrast, Elston and Chirinko (1995) find no evidence that close bank connections reduce finance costs, affect firm finance patterns, or affect firm profitability. Perlitz and Seger (1994) conclude that close bank ties actually reduce firm profitability.

³ Two key historical studies argue that corporate autonomy from banks was higher during the periods 1890–1914 (Wellhöner, 1989) and 1919–1933 (Wixforth, 1995) than presumed by this model.

⁴ A fuller review of this work can be found in Elston (1995).

⁵ Quack and Hildebrandt (1995) also show considerable differences between the German and French banking systems.

⁶ In strict terms *Mittelstand* refers to medium-sized companies (between 100 and 500 employees), though it is commonly used in Germany to refer to both small- and medium-sized enterprises, i.e. all firms with less than 500 employees.

⁷ Medium-sized firms (between 100 and 500 employees) are

especially important in the FRG, accounting for 25% of manufacturing employment; in the U.K. medium-sized firms account for 14.4% and in the U.S. for 13.7% (Acs, 1996). Across all sectors, however, German SMEs accounted for 62% of total employment in 1988, the lowest among all EC countries (Storey, 1994, p. 22).

⁸ Commercial banks are defined as group primarily by their common legal foundation, not because of inter-bank cooperation as is found in the savings or cooperative banking groups. Commercial banks compete individually against other commercial banks and the two other banking groups. At the end of 1995, the savings bank sector was comprised of 626 savings banks and 13 regional giro institutions or Landesbanks; there were approximately 2,600 cooperative banks and about 200 commercial banks (excluding private bankers and branches of foreign banks).

⁹ This discussion of group competition and *Allfinanz* strategy is drawn from Deeg (1992).

¹⁰ A high number of bank mergers have occurred over the last thirty years, but this has consisted overwhelming of mergers between small banks within the savings and cooperative bank groups respectively. The number of bank branches increased in this period.

¹¹ Government development banks accounted for 14.2% of commercial loans. Deutsche Bundesbank, 1995, *Statistical Supplements to the Monthly Reports of the German Bundesbank, Series 1, Bank Statistics by Bank Group*, Table VI. Percentages are author's own calculations.

¹² *Mittelstand* firms are quite prominent in two of Germany's three leading export sectors; above all in machinery and to a lesser extent in motor vehicle production.

¹³ In the early 1990s, some 60% of bank credits to SMEs in Germany was medium- and long-term (compared to 50% for the U.S. and 30% for the U.K.; Vitols, 1995a).

¹⁴ A dominant position in deposit-taking markets means that savings banks generally have the lowest cost of funds of the three major banking groups.

¹⁵ All types of banking institutions are subject to the national Banking Law (*Kreditwesengesetz*). However, savings banks are chartered and governed under state savings bank laws (*Sparkassengesetz*) and are therefore subject to additional state regulation. Cooperatives are chartered under a national cooperative law (*Genossenschaftsgesetz*) which also places them under additional regulations.

¹⁶ The KfW, the largest such bank, estimates that for manufacturing firms (with more than 20 employees) with annual revenues less than DM 5 million in 1985, it financed 45% of their total investment; for firms with revenues between DM 5 million and DM 100 million, the share of the KfW in total investment ranged between 20% and 25% (Götte, 1988).

¹⁷ See Deeg (forthcoming) for more discussion of the deficiencies in the German financial system. While the lending and investment behavior of banks in eastern Germany has been widely criticized in Germany, Deeg (1994) argues that bank behavior in eastern Germany is not substantially different than that in western Germany. The gap between firm capital demands and bank provision of finance to firms results more from the extreme severity of restructuring problems, rather than restrictive credit allocation (see also Carlin and Richthofen, 1995).

¹⁸ Gröschel (1989). DM 511 million of this was invested in 343 firms in eastern Germany (Hummel, 1995).

¹⁹ A full discussion of the diversified quality production strategy can be found in Streeck (1991).

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