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German banks and the modernization of the small firm sector: long-term finance in comparative perspective

Discussion paper // Wissenschaftszentrum Berlin für Sozialforschung, Forschungsschwerpunkt Arbeitsmarkt und Beschäftigung, Abteilung Wirtschaftswandel und Beschäftigung, No. FS I 95-309

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Sigurt Vitols

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Sigurt Vitols

German Banks and the Modernization of the Small Firm Sector: Long-Term Finance in Comparative Perspective

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Abstract

This paper analyzes the contribution of the German banking system to the modernization of small and medium-sized enterprises (SMEs) in industry. The simultaneous greater relative importance of and relatively high wages in German SMEs appear to be paradoxical in terms of dual labor market theory, which claims that lower wages and greater flexibility in the use of labor are important for helping small firms compensate for their constrained access to capital, R&Dk and skills resources relative to large firms.

This paper suggests that the successful modernization of the German small firm sector despite "pressure from below" from industry-level wage bargaining and strong job protection can be attributed to "support from above" in terms of an institutional infrastructure helping small firms overcome the organizational deficiencies they face relative to large firm. The decentralized provision of long-term finance and sophisticated financial services for the modernization of SMEs is enabled by a three-tiered federalist form of corporatist organization in the cooperative and savings banks sectors, in which smaller banks at the bottom tier of the organization receive access to refinancing on capital markets and specialized services -- normally only available to large banks -- through the upper tiers of the banking organization.

Zusammenfassung

Gegenstand dieses Papiers ist der Beitrag der deutschen Kreditinstitute zur Modernisierung des Mittelstands im Verarbeitenden Gewerbe. Die im internationalen Vergleich große relative Bedeutung der mittelständischen Unternehmen und ihr gleichzeitig niedriges Lohngefälle gegenüber Großunternehmen erscheint im Leichte der dualen Arbeitsmarkttheorie als paradox. Danach müßten im Mittelpunkt der Personalpolitik der mittelständischen Unternehmen ein niedrigeres Lohnniveau und eine größere Flexibilität stehen als Ausgleich für den gegenüber Großunternehmen begrenzteren Zugang zu Kapital, FuE und Weiterbildung.

In diesem Papier wird die Meinung vertreten, daß die durch hohe Löhne und starken Arbeitsschutz erzwungene Modernisierung des deutschen Mittelstandes durch eine "institutionelle Infrastruktur" uterstützt worden ist. Der Zugang des Mittelstandes zu dem für die Modernisierung wichtigen langfristigen Kapital und zuz speziellen Finanzierungsmöglichkeiten wird durch eine dreistufige "forderalistische" Form der korporatistischen Organisierung in dem Sparkassen- wie in dem Kreditgenossenschaftssektor ermöglicht. Keinere Kreditinstitute auf lokaler Ebene erhalten eine langristige Refinanzierung am Kaptialmarkt, Qualifizierungsmaßnahmen und besondere Finanzdienstleistung -- die normaerweise nur großen Banken zugänglich sind -- durch die regionalen und nationalen Ebenen ihrer jeweiligen Verbundorganisationen.

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0. Introduction

Analyses of the German economy have traditionally focused on large manufacturing firms and the Big Three private banks.[1] Increasing attention however is being paid to the importance for the German economy of small firms (Piore and Sabel 1984; Sabel et al 1989) as well as of the smaller savings and cooperative banks that finance them (Deeg 1992).[2] Small firms (i.e. firms with less than 500 employees) in Germany account for significantly more employment in manufacturing than in the US, UK and many other advanced industrialized countries; furthermore, the cooperative and savings banks account for over half of total assets of the German banking system.

The greater relative importance of small firms in German manufacturing appears paradoxical in terms of dual labor market theory, which has guided much of our thinking about the role of small firms. According to this theory, lower labor costs and greater flexibility in the use of labor are one of the major advantages available to small firms and compensate for their lower productivity and constrained access to capital, R&D and skills resources. While the newer literature on industrial districts stresses other important advantages of small firms such as the capacity to rapidly reach and implement decisions, greater flexibility in the use of labor relative to large Taylorist firms is also important in explaining the success of small firms. In Germany, however, the imposition of high minimum wage and working conditions agreements through industry level bargaining and the requirement of a high level of benefit provision through national legislation limits the magnitude of labor cost and flexibility advantages available to small firms. Dual labor market theory would thus predict a relatively smaller small firm sector in Germany than in countries like the UK and US where industry-level bargaining and mandated benefits are weak or absent and thus where the labor cost gap is greater.

This paper suggests that the success of the German small firm sector (gauged in terms of its relative size) despite "pressure from below" from labor can be attributed to "support from above" in terms of an institutional infrastructure (Soskice 1992) helping small firms overcome the organizational deficiencies they face relative to large firms; what helps make the constraints forcing firms to pursue high quality rather than low wage production strategies

1 See for example Hilferding (1968), Schonfield (1965), Cable (1985) and Pfeiffer (1987). The literature on restructuring in the 1980s has primarily focused on crisis sectors dominated by large firms such as steel (Edwards et al 1983) and refining (Huelshoff 1992), motor vehicles (Streeck 1989) and shipbuilding (Strath 1987).

2 For more new scholarship on the role of German banks see Allen (1990), Sabel et al (1993) and Griffin (1993).

"beneficial" (Sorge and Streeck 1988; Streeck 1993) rather than a stranglehold is the presence of this institutional infrastructure which provides small firms with access to the capital, R&D and skills resources needed for modernization. Much of this institutional infrastructure is based on a decentralized "federalist" form of corporatism. This form of organization allows this infrastructure to be sensitive through its bottom tier to the needs of small firms and communities at the bottom tier; through the upper tiers, however, lower tier units are able to take advantages of the economies of scale that would be available to larger units. The relationship between the levels is not conceived in terms of the rigid determination of local actors and interests by a "national model"; instead, this infrastructure influences the possible repertoire of actions of local actors.[3]

Evidence supporting this claim is provided by examining the provision of long-term finance by the German financial system to small companies. Long-term fixed-rate (LTFR) financing supports long-term investment by providing predictability in the financing costs of investment as well as providing longer amortization periods for the investment. There is much more LTFR capital available for small companies in Germany than in the US and the UK. This is because Germany is distinguished by the simultaneous presence of both (1) two banking sectors composed of small locally-embedded banks sensitive to the needs of small firms and (2) a series of mechanisms providing these banks, which do not themselves have access to capital markets, with the needed LTFR financing from capital markets which can in turn be relent to small businesses. The first section of the paper discusses the position of the German small business sector and the importance of LTFR financing for the modernization of this sector. The second section describes the federalist corporatist form of organization of the German cooperative and savings bank sectors. The third section discusses the refinancing mechanisms available to these banks. A short conclusion follows.

1. Small Firms and the Modernization Problem

The importance of small firms in manufacturing in Germany is greater than in many other advanced industrial economies. In the mid-1980s, small firms accounted for 58% of employment in manufacturing in Germany; in the UK the comparable figure was 40%, in the US only 35% and in France about 50%.

[3] This image of the relationship of the national level with actors embedded in the local economy appears to be similar to Locke's (1994) notion of polycentric networks with both horizontal linkages between local actors and a non-hierarchical linkage with national actors.

(Fritsch 1993; Hughes 1993; Acs and Audretsch 1993; Loveman and Sengenberger 1991).[4]

The respective roles of small and large firms in manufacturing have traditionally been analyzed in terms of dual labor market theory. Large firms provide high wages and stable employment while small firms provide low wages and uncertain job tenure. Small firms are primarily suppliers providing large firms with lower costs through the exploitation of cheap labor; suppliers also provide flexibility in reacting to the different phases of the business cycle by allowing large firms to vary the amount of work done "in house" versus "contracted out". Productivity in the small firm sector is lower since these firms are not able to take advantage of economies of scale, are too small to support specialized functions such as a research and development department, and have higher costs for external financing. These organizational deficits are more than compensated for however by lower labor costs (Averitt 1968; Doeringer and Piore 1971; Edwards et al 1975; Gordon et al 1982).

More recent work on industrial districts has developed a more sophisticated analysis of the role of small firms. An alternative to the small supplier firm-large assembler firm relationship is the direct linkage of small firms to niche markets or linkage of through common marketing associations, thus independence from large firms. In a rapidly changing environment characterized by demand for specialized high-quality goods, small firms may enjoy advantages in an ability to react more quickly than large bureaucratic firms with lengthy decision-making procedures. Nevertheless, this literature also stresses the greater flexibility in the use of labor as a major advantage of these small firms. The use of the family for labor, labor mobility between firms, variations in hours of work in response to fluctuations in demand as well as ability to evade national wage and working condition agreements have all been cited as important factors for the success of the small firm industrial districts in the Third Italy (Brusco 1982). Whatever their other advantages might be small firms ceteris paribus should therefore be considerably disadvantaged by constraints on this flexibility.

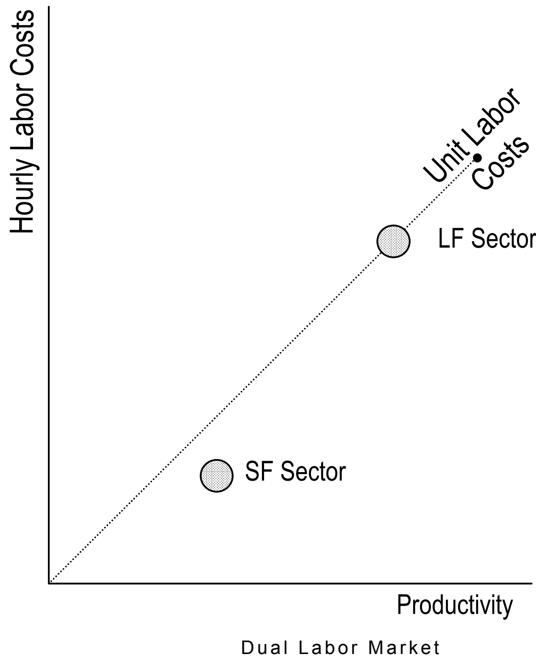
The relative positions of the large and small firm sectors in a classic dual labor market are illustrated in Graph Ia.[5] The large firm sector is at the point (LF Sector) defined by the intersection of the hourly labor costs (on the vertical axis) incurred by the large firm sector and the level of productivity of the large firm sector (horizontal axis). The small firm sector is similarly defined by the point (SF Sector) at which the hourly labor costs of the small firm sector

---

[4] This small-firm proportion is however substantially less than Italy's proportion of around 70%.

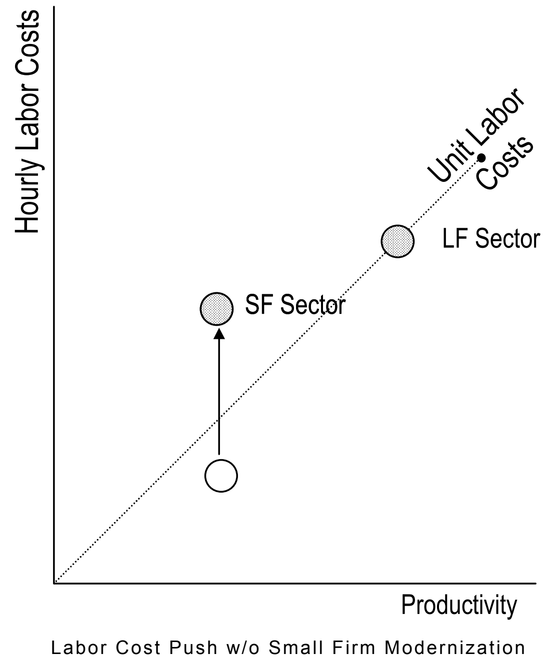
[5] To simplify the presentation it is assumed here that all large firms have the same hourly labor costs and levels of labor productivity; the same goes for all small firms. It is also assumed here that a number of factors including hourly wages, employer social contributions and so forth can be compressed into hourly labor costs.

GRAPH IA



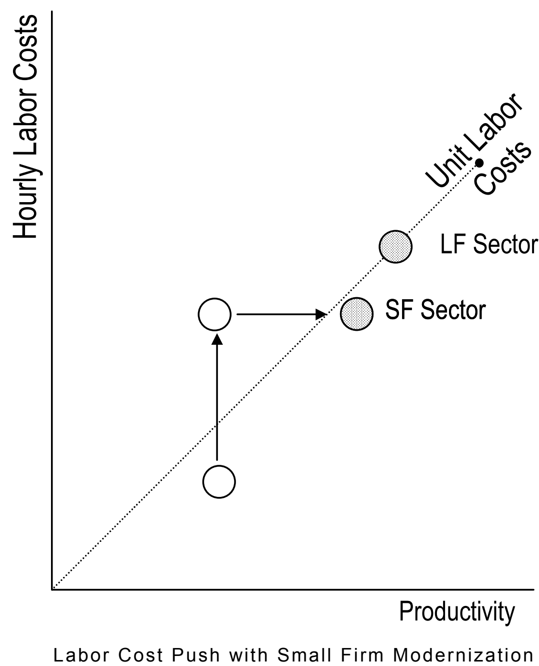
Dual Labor Market

GRAPH IB



Labor Cost Push w/o Small Firm Modernization

GRAPH IC



Labor Cost Push with Small Firm Modernization

intersect with small firm productivity. The dotted line is the isocost curve for the unit labor costs of the large firm sector. *Ceteris paribus*, the small firm sector is viable so long as it is below the dotted line, i.e. so long as it has unit labor costs below that of the large firm sector. The lower productivity of the small firm sector is compensated for by its lower hourly wages. In this case the large firm sector will find it profitable to contract out production to the small firm sector.[6]

Many of the supposed advantages of small firms are however reduced in Germany through the imposition of minimum wage and working condition levels in industry-wide agreements and a through high level of universal benefit provision mandated by the state. While larger firms are generally provide wages and benefits somewhat above these minimum levels, nevertheless these mechanisms put a limit on the extent to which small firms can press labor costs down and flexibly utilize labor. Similar mechanisms are weak or absent in the US, UK and many other advanced industrial economies. On the basis of dual labor market theory, one would expect that ceteris paribus the small firm sector would be smaller in Germany than in these other countries.

Thus wages in small firms in Germany are only about 10-15% lower than in large firms. In the UK and France, in contrast, wages are about 20-25% lower in small firms and in the US even 30%.[7] There are similar gaps in the costs of benefits; in Germany, employers are required to provide health insurance to virtually all employees. In the US, in contrast, 67% of large firms but only 41% of small firms provided health benefits. Furthermore, 61% of large firms but only 24% of small firms provided pension benefits (Bureau of Census 1992: 416). Large firms in the UK also provide considerably better benefits than small firms.

This "pressure from below" paradox is illustrated in Graph Ib. Industry-wide bargaining and mandatory benefits push the hourly labor costs of the small firm sector up, increasing the unit labor costs of this sector above the isocost curve for unit labor costs for the large firm sector. According to dual labor market theory, the major advantage of the small firm sector is now gone, removing the incentive for large firms to contract out. The viability of the small firm sector is threatened under this situation.

Thus the only way to preserve the viability of the small firm sector is to increase its productivity to the point where its unit labor costs fall below the

---

6 Through the ceteris paribus assumption I assume away the problems regarding the complex relationships between hourly labor cost, unit labor costs and productivity; however, for illustrative purposes the basic relationship should be clear.

7 These are rough estimates based on Loveman and Sengenberger (1991) and an analysis of data from the Bureau of Labor Statistics, the Statistisches Bundesamt and the Central Statistical Office. The voluminous literature on the determinants of wage differentials caution that firm size is correlated with a number of other explanatory variables; nevertheless the magnitude of the difference between the countries is quite striking.

increase its productivity to the point where its unit labor costs fall below the isocost curve for the large firm sector (see Graph Ic). In response to "pressure from below" on labor costs the small firm sector faces a modernization problem; its productivity level must converge towards the productivity level of the large firm sector in order to bring its unit labor cost to the point where it is at least comparable with the large firm level (i.e. near or below the isocost curve). The modernization problem however is made more difficult by the disadvantages small firms face in terms of access to capital, R&D and skills resources. Small firms must pay higher rates of interest for loans and may face diseconomies of scale in terms of developing their own training and R&D capacities.

While the relative size of the small firm sector is obviously dependent upon a number of factors,[8] the ability of the German small firm sector to thrive despite a smaller labor cost gap can be attributed in part to a smaller small firm/large firm investment and productivity gap in Germany than in other countries.[9] The causes of investment and productivity are complex but institutions which increase small firm access to capital, R&D and skills resources clearly support investment and improved productivity. German small firms enjoy access to a well-developed quasi-public research and technology-transfer network as well as an elaborate training system; these systems are comparatively weak in the US and the UK. Thus the costs of access for small firms to important resources are much lower in Germany than in the US or UK.

One of the major advantages that German small firms have relative to US and UK small firms is access to long-term fixed-rate (LTFR) financing at interest rates comparable to that available to large firms. Long-term (i.e. over four years) financing is important for supporting investment in small firms because investments in new equipment often have a lump-sum nature and small firms make major new equipment purchases infrequently. Capital budgeting is typically done on an annual basis and a certain percentage of cash flow will be set aside for new investment; if this amount is not sufficient to cover the cost of the new equipment purchase external debt financing will be

---

8 One of these factors would have to include the preferences of the owners of small firms for long-term ownership versus selling the firm to a larger company. Anecdotal information from a limited number of interviews seems to indicate for example that the principle of intergenerational family ownership of small firms is more deeply embedded than in the US, where many firms were founded by an inventor-entrepreneur and then sold off to a larger company once profitable.

9 Rough calculations based on a comparison of US, UK and German manufacturing indicate that the labor productivity gap is smaller in Germany; while this labor productivity gap alone is not enough to overcome the smaller labor cost gap, German small firms enjoy higher capital productivity than large firms. The investment rates of large firms in the US and Germany are comparable but the difference between the small firm sectors in the two countries are quite dramatic. These calculations will be elaborated in my dissertation.

necessary.[10] Many major equipment purchases only have long-term payoffs, thus it is an advantage for debt to have an amortization period paralleling the economic life of the investment; this also lowers the payoff period hurdle needed to justify major investments. The availability of this financing at fixed rates is also important in rendering the costs of investments predictable over the long term; variable rate financing in contrast carries the risk that the cost of investment will increase with interest rate increases, which typically is the case at the beginning of a recession. The smaller the interest rate gap between debt capital available to small versus large firms is, the closer the capital budget hurdle rate for small companies will be to that of large companies, since the interest rate influences the expected net present value of the investment.

The availability of LTFR financing for small firms in the US and UK is severely constrained. In the UK, small firms typically rely on short-term lines of credit at variable interest rates; while these lines of credit may be extended from year to year, they may be cut back during "credit crunches" and the interest rate may increase considerably with a general interest rate increase. The interest rates paid on these short-term lines of credit for small firms can be five to ten percentage points above rates available on national money markets. A comparative study of small firms in major EC studies noted that UK small firms faced the highest real interest rates among the countries studied and that about 70% of all outstanding debt of this sector was accounted for by short-term lines of credit (EOSME 1993).

In the US, the availability of medium term (i.e. one to four year) credit for small firms is considerably greater, and only about half of outstanding bank debt is accounted for by short term lines of credit. Since the increase of interest rates in the late 1970s and the deregulation of interest rates paid on deposits in the early 1980s, however, US banks have switched over from mainly fixed rates to primarily variable rates on medium-term lending. In addition, the supply of long-term capital, which has traditionally been provided through available through private placements of bonds with insurance companies and pension funds, has been reduced. With increasing size of the assets they must manage, pension funds and insurance companies are setting higher and higher limits for the minimum level of investment they are willing to consider; thus most small companies are excluded from access to this source of financing.[11]

In Germany, in contrast, long-term fixed rate financing is readily available to the smallest firms. About 60% of all bank loans to small firms outstanding have maturities of longer than one year, and most of these loans have

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[10] Large firms, in contrast, are better able to support a running capital investment program financed internally; major purchases are spaced out across a number of years and financed out of internally-generated cash flow rather than through external finance.

[11] For example, the State of Wisconsin Investment Board, which administers the pension fund for employees of the State and a number of municipalities, has a minimum level of $5 million for the private placement of debt.

maturities of four years or more. These loans are available at rates 1-2% above the rates for long-term corporate bonds for large companies. Thus, the capital constraint gap that small companies face relative to large companies is considerably smaller in Germany than in the US and the UK.

What explains this difference in capital constraints between Germany, the US and the UK? In this paper I suggest that two factors are responsible for these differences: (1) the widespread presence of banks dedicated to small firm lending and embedded within their respective local communities and (2) access by these banks to long-term fixed-rate sources of funds which can in turn be relent to small businesses (refinancing mechanisms):

(1) There appear to be a variety of organizational reasons for why large banks have problems with lending to small businesses. Large banks often have cutoff rates for minimum lending levels which exclude the smaller businesses. Large banks also have problems in deciding where to place responsibility for lending to these firms, sometimes decentralizing responsibility to retail customer units in their local branches, sometimes shifting responsibility to their central corporate lending departments. Finally, smaller firm accounts are often used as training for new lending officers who expect to move up to larger accounts; this means that the most inexperienced people are dealing with small firms and that there are frequent changes in lending officers. This considerably increases the costs of monitoring loans (since new personnel must spend much time acquainting themselves with their accounts) and limits the quality of service and advice that can be offered by the bank to the small firm customer.

(2) The organizational capacity of small and medium-size banks to make long-term fixed-rate loans is limited by the degree to which they themselves have access to long-term fixed-rate fund sources. If the cost and availability of funds is uncertain (as is the case for deposits which can be withdrawn at short or no notice and on which varying interest rates are paid), then the bank faces both interest rate risk (i.e. the risk that the cost of funds will rise but that lending will be locked at a lower interest rate) and liquidity risk (i.e. the risk that deposits will be withdrawn to the point where loans won't be adequately covered and will have to be recalled prematurely).

Financial systems can thus be classified in terms of a two-by-two table defined along these two dimensions (see Table 1). Both the US and Germany have a large number of small banks focusing on small firm lending (in the US: community banks, in Germany: the cooperative banks and public savings banks) and thus can be located in the top half of the table. Community banks in the US, however, have less access to LTFR refinancing than German banks and tend to ration the LTFR funds they have to other uses like residential mortgage lending; thus the US belongs in the upper right hand corner of the table and Germany in the upper left hand corner. The community bank sector in Britain, in the bottom right hand corner, is insignificant in contrast, with the vast majority of business lending done by the four large London-based clearing

Table 1:

Long-Term Refinancing Mechanism

Bank Sector for Small Firms		Yes	No
	Yes	Germany	United States
	No		Great Britain

banks; furthermore, the access of these banks to LTFR refinancing sources are limited.

The next two sections describe, respectively, the structure of the German cooperative and savings banking sectors and the structure of LTFR refinancing mechanisms available to these banks.

2. German Banking Sectors

Analyses of the German financial system have tended to focus on the role of the Big Three private banks (Deutsche, Dresdner and Commerz). These banks, however, have traditionally confined their industrial lending activities to larger corporate accounts; only in the past decade or so, due to the decline in business from large corporate customers, have the Big Three aggressively tried to acquire business from small companies. The existence of two banking sectors already long experienced in small-firm lending, however, have forced the Big Three to compete for this business on the basis of high quality of service.[12]

The Big Three banks, which are treated as a separate category in the *Deutsche Bundesbank* statistics, currently account for slightly less than 10% of all banking assets. The most important banking sector is the public savings bank (*Sparkassen*) sector with almost 40% of all banking assets. The cooperative bank (*Genossenschaftsbanken*) sector accounts for 15% of all banking assets. The remainder of assets are accounted for by other private banks (including regional banks and branches of foreign banks) and a variety of special credit institutes. In terms of lending to manufacturing, the Big Three banks account for a little less than one-quarter of all outstanding loans, the public savings bank sector about 30% and the cooperative banking sector about 17%. Precise figures are not available for the division of lending according to firm size, and the historical division of labor between has become somewhat blurred through increased competition, but one can say that the public savings banks do relatively more lending to small firms in urban areas while the cooperative banks are relatively more important for small firm lending in rural areas.

While the private banking sector Germany experienced a concentration wave similar to Britain's around the turn of the century, a favorable regulatory climate and government support for the public savings banks and the

[12] See however Deeg (1992) for the most extensive analysis of the historical development of the different banking sectors and their role in economic governance. Much of this section draws on the arguments made in his dissertation.

cooperative banks allowed for the growth of two sectors specialized in small firm lending. Banks in these sectors are distinguished from the Big Three both in their obligation to service the needs of small firms rather than to "maximize shareholder value", in their governance structure, and in a multi-level "federal corporatist" form of organization and division of labor within each sector. They are also distinguished by their "bottom up" form of organization as opposed to the big banks which are organized "top down" in terms of decision-making and ownership (see Diagram 1); in each of the three sectors there is a similar division of labor between services provided and performed at different levels. In the savings bank and cooperative bank sectors, however, decision-making and ownership of each level are centered in the level below it, whereas in the case of the big private banks decision-making is centered in their respective Frankfurt headquarters and delegated down to the regional and then to the local branch level.

Public Savings Bank Sector

Most public savings banks were founded by cities around the middle of the 1800s to (1) act as a municipal *Hausbank* for holding tax receipts, paying operating expenses and financing infrastructure investments and to (2) promote the "savings mentality" (*Sparsinn*) amongst the working class through taking small deposits. As the prosperity of the working class increased, the acquisition of massive deposits enabled the public savings banks to move aggressively into commercial and industrial lending, particularly during the rapid economic expansion of the 1950s and 1960s (*Wirtschaftswunder*).

The structure of the savings bank sector is determined by federal and regional (*Land*) law as well as a voluntary agreement governing the relations within the sector itself. The savings bank sector has a three-tier structure involving a complex division of labor between the local, regional and federal levels. At the bottom tier are the 700 public savings banks, which are owned by a municipality (or in rural areas by the county).[13] The middle tier is composed of the regional savings bank associations (*Sparkassen/Giroverbände*) and the regional public banks (*Landesbanken/Girozentralen*), which are in most cases jointly owned by the regional government and the regional public savings association. At the top is the federal association of regional and municipal savings banks (*Deutscher Sparkassen- und Giroverband*) and the federal giro center (*Deutsche Girozentrale/Deutsche Kommunalbank*).

At the bottom tier, the municipality accepts full financial responsibility for the savings bank. The municipal council appoints an Oversight Board (*Verwaltungsrat*) responsible for making some general policy decisions and for monitoring the activities of the bank. The municipal managing director

13 There are also eight private savings banks whose total assets are less than 10% of the public savings bank sector.

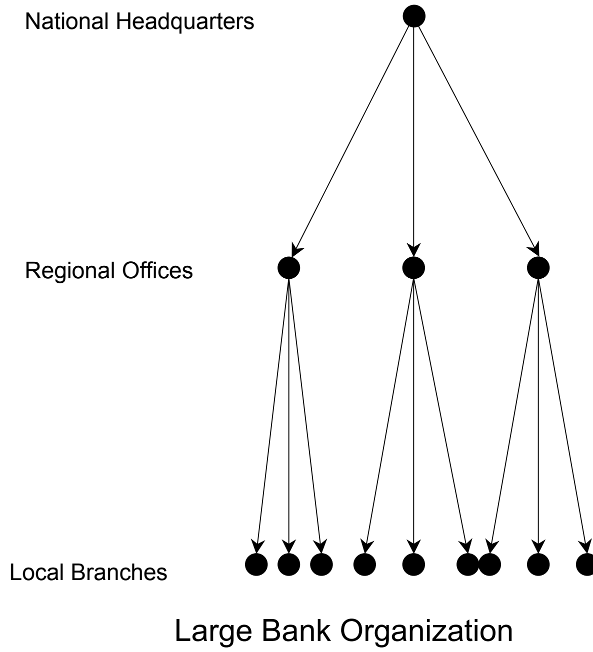
Diagram IA
National Headquarters
Regional Offices
Local Branches
Large Bank Organization

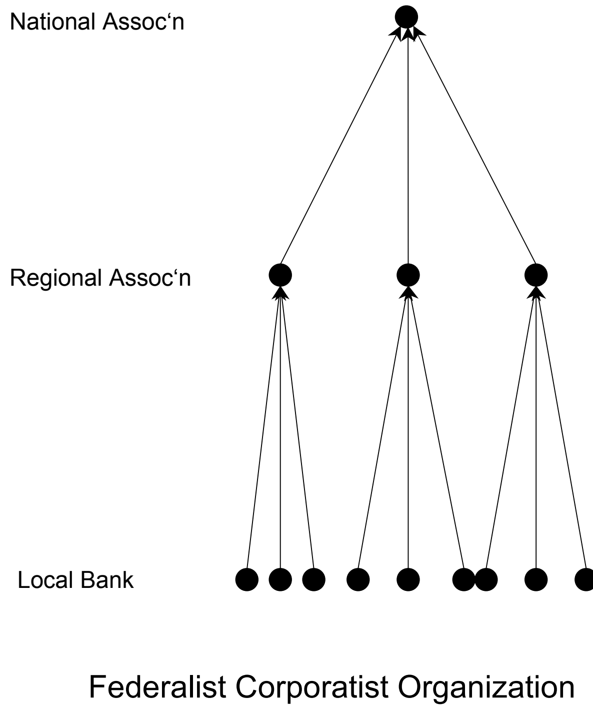
Diagram IB
National Assoc'n
Regional Assoc'n
Local Bank
Federalist Corporatist Organization

(*Oberstadtdirektor*) typically chairs the Oversight Board. Oversight functions are separated from day-to-day management, which is the responsibility of a management committee (*Vorstand*) composed of full-time top managers at the bank. The bank's credit committee (*Kreditausschuß*) is typically composed of a combination of Oversight Board and Management Committee members and is chaired by the municipality's managing director.

The business activity of public savings banks is restricted to the geographical area of the municipality. The charters of the public savings banks explicitly require them to take into account the general social and economic needs of the area. Profits may be retained within the bank or turned over to the municipality. The banks are heavily involved in financing infrastructure investments. Anecdotal evidence indicates that public savings banks also seem to be less quick in "reducing exposure" when their small firm customers face financial distress and instead tend to take a longer view of the customer's recovery prospects as well as the impact on the regional economy; in the recession of the early 1980s, the market share of the savings banks in industrial lending increased substantially relative to the private banks. The public savings banks in declining industrial areas have been particularly active in promoting business start-ups and supporting other economic development activities, for example as the lead investors in local technology centers.

The second tier of the savings bank sector generally parallels the state (Land) structure.[14] The regional public banks and giro centers (*Landesbanken/Girozentralen*) had their origins in the 1800s as banks for the provincial governments and clearing houses for the savings banks, and with time gradually assumed the role of taking and reinvesting surplus funds of the public savings banks beneath them. The growth of surplus deposits enabled the *Landesbanken* to expand their support of infrastructure expansion in the 1950s and 1960s as well as to challenge the big private banks in lending to large corporate accounts. The issuance of bank bonds has also been an increasingly important source of funds for the *Landesbanken*.

Ownership of the *Landesbanken* is typically shared by the regional government and regional association of savings banks.[15] As in the case of the public savings banks, each of the Landesbanken has an Oversight Board. The chair of this Board is typically the Minister of Finance of the regional

[14] The German unification, however, has led to a number of mergers among the *Landesbanken*.

[15] Hamburg had a 100% stake in its *Landesbank* whereas neither Baden-Württemberg nor the Saarland had a direct stake in their *Landesbanken*. In addition, the savings bank organizations in North Rhine-Westphalia and Baden-Württemberg were fragmented since the original provincial structure was retained despite the fusion of these provinces into *Länder*. In the past few years, however, unification has encouraged an erosion of the one *Land-one Landesbank* principle through a series of mergers between the *Landesbanken* and their expansion into east Germany.

government. Members of the Oversight Board typically include representatives of other ministries, of the public savings bank association, of the cities and their associations as well as industry and employee representatives.

In the late 1960s a number of newly-elected social democratic governments at the Länder level announced their intention to use the *Landesbanken* as active instruments in structural policy. The Westdeutsche Landesbank (WestLB) in North Rhine-Westphalia has been especially active, e.g. in rationalizing the construction and energy sectors and in helping overcome the steel crisis in the early 1980s. While reducing their profiles somewhat during the 1980s, the *Landesbanken* have played an important role in corporate and industry restructuring. The WestLB has also taken over the administration of the public loan and regional incentive programs from various ministries and agencies and have consolidated these within a special division, the *Investitionsbank*; this model of *Landesbank* administration of public financing programs is diffusing to the other *Länder*.

An agreement within the savings bank sector regulates the division of labor between the *Landesbanken* and the savings banks. The *Landesbanken* are to restrict their solo activities to the larger corporate accounts; lending to small business is to be restricted to consortial credits when the public savings bank's ability to make a loan by itself is strained. The *Landesbanken* are also heavily involved in providing services for the savings banks such as brokerage and leasing services. This has proven to be a good division of labor since many of the public savings banks are too small to develop and offer services on their own.

The regional savings bank associations play a crucial role in the governance of the savings bank sector. In addition to being one of the main shareholders in their respective *Landesbanken*, these associations are responsible for auditing the savings banks' books. They are also provide a number of financial services to the savings banks (e.g. joint venture capital funds) and are heavily involved in the training of bank personnel through their own Bank Academies.

At the top level of the savings bank sector, the main role of the *Deutsche Girozentrale/Deutsche Kommunalbank (DGDK)* is to take care of payment settlements on the federal level, to reinvest short-term deposits from the savings banks on the money markets, and to participate in large consortial credits originated within the savings bank sector. The DGDK also handles the investments of a number of investment funds available to the retail customers of the savings banks. The DGDK is owned by the federal savings bank and giro center association (*Deutscher Sparkassen- und Giroverband*).

The savings bank sector is thus organized on a federalist corporatist basis. At the bottom level is a tier of savings banks each enjoying a monopoly in their

respective city or county and plugged into the local economy through the political channel and through representation of interests on the oversight board. The disadvantages of scale faced by these smaller savings banks in terms of providing some specialized services are however compensated through access for all savings banks to the higher tiers of the system.

Cooperative Bank Sector

The cooperative bank sector also has a three-tier federalist corporatist structure. At the bottom tier are about 3,000 local cooperative banks specialized by geographical area served and often by clientele served (i.e. competition within the cooperative bank sector is greatly attenuated by the granting of monopolies in many areas). The second tier is composed of six regional cooperative bank associations. At the federal level is the federal cooperative bank association (*Bundesverband der Volksbanken und Raiffeisenbanken*) as well as the federal cooperative bank (*Deutsche Genossenschaftsbank*) and its financial services subsidiaries.

The first cooperative banks were founded in the middle of the 1800s to provide the credit needed to support the increasing capital intensity of agriculture and crafts as well as the shift from make-to-order to stockpile-for-the-market production. The cooperatives were based on the principle of self-help and self-responsibility; cooperative bank members deposited their surplus funds at the bank, received loans financed by the deposits when an investment was needed, and accepted financial responsibility for the cooperative bank. Major policies were decided and officers elected by periodic member assemblies.

In the past decades the cooperative banks have expanded beyond their traditional clientele of farmers and artisans and have accepted increasing numbers of retail deposits; this change has been accommodated through the creation of a distinction between full members of the cooperative banks and non-member customers. They greatly expanded their market share in lending in the 1970s and early part of the 1980s from less than 10% to almost 20% of commercial loans.

The second level of the cooperative bank sector is comprised by the six regional bank associations.[16] These associations are responsible for clearing inter-bank payments, for reinvesting the surplus funds of the cooperative banks (including in consortial credits with cooperative banks), and for providing a number of services to cooperative bank customers which the cooperative banks

[16] This includes five regional associations in West Germany plus a sixth which was founded in the east German state of Saxony. The unification has intensified a long-standing debate about the desirability of the replacement of the three-tier with a two-tier structure due to the overlap of some responsibilities between the different levels.

are too small to provide themselves (e.g. securities trading, administration of investment funds). The associations are owned by the member cooperative banks.

At the top level of the cooperative bank sector is the federal cooperative bank association (*Bundesverband der Volksbanken und Raiffeisenbanken*), which runs the deposit insurance scheme for the cooperative banks. At the top level is also the federal cooperative bank (*Deutsche Genossenschaftsbank*) and its financial services subsidiaries. The federal cooperative bank is responsible for clearing payments on the federal level, reinvesting surplus funds of the lower levels and participating in consortial credits. Subsidiaries provide financial services for the whole cooperative bank sector including refinancing of mortgages, leasing, insurance and investment funds.

Thus the cooperative bank sector, like the savings bank sector, has a federalist corporatist structure. The first tier of cooperative banks is directly plugged into local economies through the participation of small firm customer/members in governance; the disadvantages of small scale for these banks are, however, compensated for by the provision of services by the higher tiers.

Private Bank Sector

Prior to the mid-1800s banking was dominated by private bankers providing short-term commercial credits against security and accepting full financial liability for their lending activities. In the mid-1800s, however, the first joint-stock banks were established and moved aggressively into lending and equity participations in the new mass-production industrial companies. The joint-stock banks quickly became highly concentrated, dominated by a small group of Berlin-based banks, and increasingly focused on large corporate accounts.

With the decreasing importance of large corporate business in the 1970s and 1980s, the large private banks became increasingly interested in expanding into other customer bases, including small businesses.[17] In doing so, however, the private banks were forced to compete with the high level of service provided by the savings and cooperative banks to small businesses made possible (despite their small size) through their respective multi-tier associations. These smaller banks had the advantage of being able to make lending decisions more rapidly, whereas the large banks had a bureaucratic structure requiring the review and approval of local branch credit

[17] This decrease in large corporate business is generally attributed to the establishment by corporations of their own banking departments and the greater use of international financial markets; less noticed, however, is the buildup of substantial pension reserves by the companies in these decades, which has reduced their need for external long-term capital.

recommendations by the regional or even national headquarters. This disadvantage has led the large banks to undertake major efforts at imitating aspects of the federalist corporatist organization of the competing banking sectors. Final authority for the granting of credits has been decentralized to both the local and regional levels up to certain ceilings; the regional and central organizations provide a number of important services to the local branches, though. Through this change in structure the big banks have managed to win enough business since the mid-1980s among medium-sized firms to arrest their slide in market share.

3. Sources of Long-Term Capital for Banks

The second distinguishing feature of the German banking system in small business lending is the number and importance of mechanisms which provide smaller banks with access to long-term, fixed-rate (LTFR) funds. Bank access to LTFR funds is an important prerequisite for these banks to provide LTFR loans. Since the late 1960s, the level and variance of interest rates has increased greatly increasing unpredictability in the cost of short-term funds (deposits and short-term refinancing) available to banks; the behavior of depositors has also grown more unstable, partially due to greater bank competition for customer deposits. Banks which have LTFR loans on the asset side of their balance sheet without stable LTFR sources of funds on the liability side of their balance sheet face both liquidity risk (i.e. the danger that more funds will be withdrawn than currently available) and interest rate risk (i.e. the risk that the cost of the funds will rise but the return on loans will be "locked in", leading to a squeeze in the interest rate margin earned by the bank). Small banks themselves are however unable to generate these LTFR sources of funds by themselves, thus are dependent upon external mechanisms to give them access to LTFR funds (e.g. long-term household savings in pension funds and insurance companies).

These mechanisms, which are less developed or absent in the US and UK, include (1) special credit institutes which among other things issue bonds on national bond markets to refinance LTFR loans to small firms, (2) refinancing and risk pooling mechanisms within both the savings bank and cooperative bank sectors and (3) mechanisms allowing for the channeling of a high proportion of long-term savings held at insurance companies to the banks through bank bonds. Roughly two-thirds of long-term bank lending to small companies is refinanced through these three mechanisms.

Special Credit Institutes

There are currently seventeen special credit institutes in Germany. These are authorized by federal law to provide financing for specific tasks (agriculture, housing, export, developing countries, post giro). These tasks are generally seen as correcting for market failures or for performing socially necessary tasks which are outside the scope of responsibility of the private sector (Hahn 1984).

The special credit institutes play a significant role in long-term finance for industry, accounting for slightly over one-quarter of all long-term loans to manufacturing.[18] They are also important sources of long-term credit for small firms in the service sector. In addition, they have played an important role in "teaching" banks how to lend long-term, particularly the private banks which have historically focused on short-term lending (Tippelskirch 1988; Cassier 1977; Pohl 1973; Weber 1954).

The most important special credit institutes for lending to small firms are the Bank for Reconstruction (*Kreditanstalt für Wiederaufbau, KfW*), the Deutsche Ausgleichsbank (*DtA*) and the Industriekreditbank (*IKB*). The first two are public banks which are charged with administering public finance programs and are authorized to issue bonds to raise additional funds for lending; neither lend directly to small firms, instead following the principle of lending through the company's *Hausbank*. The third special credit institute is a hybrid form lends both directly and through the *Hausbank* to small firms.

Kreditanstalt für Wiederaufbau (KfW)

The Bank for Reconstruction (*Kreditanstalt für Wiederaufbau or KfW*) was founded in 1947 to provide the large amounts of capital needed for post-war reconstruction. The *KfW* was charged with disbursing the bulk of the Marshall Plan allotment for Germany and became the center of reconstruction planning. The financing priorities in the first years were the steel and energy (particularly coal) sectors and infrastructure; during this period the *KfW* generally lent directly to the companies.

By the mid-1950s, with reconstruction well underway, the *KfW* moved away from direct lending to specific targeted sectors; the primary purpose of the *KfW* shifted to providing long-term funds through the *Hausbank* to companies without access to capital markets at rates comparable to those available to publicly-listed companies. The significance of public monies or subsidized lending decreased relative to funds raised by the *KfW* itself through issuing bonds markets. The *KfW* limits itself to providing funds given the fulfillment of certain general criteria; the *Hausbank* generally carries the liability in the case

[18] Own calculations based on Annual Reports and figures from the Deutsche Bundesbank.

of loan default, thus has an incentive to screen loan applications and monitor loans carefully. The *KfW* also has been charged with providing export finance and with lending to developing countries.

KfW loans accounting for about 5% of total long-term bank loans to industry in the late 1960s. With the economic crises in the wake of the two oil shocks, however, the importance of *KfW* lending rapidly expanded; by the late 1980s the *KfW* accounted for about 18% of long-term loans to industry. *KfW* loans are generally made at fixed rates with a maturity of ten years. About one-fifth of *KfW* loans to small firms are financed by a revolving fund for Marshall Plan funds, the rest through the issuance of *KfW* bonds.[19]

Deutsche Ausgleichsbank (DtA)

The *Deutsche Ausgleichsbank* (*DtA*) was originally founded in 1950 (at the time with the name *Lastenausgleichsbank*). The original purpose was to compensate displaced persons and to support their integration into (West) German society.

With the end of reconstruction the main function of the *DtA* has shifted to supporting the founding or changing of ownership of small firms.[20] The most important programs for supporting start-ups are the Business Start-up Loan programs (*Existenzgrundungsprogramme*) and the Equity Capital Assistance program (*Eigenkapitalhilfe-Programm*). The Business Startup Loan programs provide long-term (up to 10 or 15 years) fixed-rate loans amortization-free in the first years; a variety of programs are available to guarantee portions of these loans where the *Hausbank* cannot take over 100% of the liability for the loan. Both new start-ups and changes of ownership are eligible. The Equity Capital Assistance Program provides an equity-like loan for start-ups; the loan lasts 10 years, requires no collateral or amortization and no interest payments for the first few years.

A substantial minority of business start-ups in Germany receive partial financing from one of these programs. The rate of business start-ups is lower in Germany than in the US or UK but the rate of survival of new firms is higher; this is generally attributed to the rigorous examination of the viability of the start-up and the requirement of a high level of qualifications for the owner; the local Chamber of Industry and Commerce or Chamber or Artisans is required to provide a written evaluation addressing both of these criteria. In the late 1980s *DtA* programs accounted for about 2% of all outstanding long-term loans to

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[19] Figures refer to the immediate pre-unification period; *KfW* lending has expanded further in the past few years due to its heavy involvement in financing in East Germany.

[20] The *DAB* is also involved in financing for displacements caused by public construction and for administering the portion of Marshall Plan funds set aside for loans for environmental protection investments.

industry; since then DtA new loan activity has tripled due to heavy involvement in supporting startups in east Germany.

Industriekreditbank (IKB)

The *Industriekreditbank AG-Deutsche Industriebank* was originally founded in 1924 (with the name *Bank für deutsche Industrieobligationen*) by industry in order to collect the funds to fulfill reparations obligations under the Dawes Plan on a self-organized basis. In 1931 its focus shifted to providing long-term loans to industry. In 1949 the bank was renamed and restructured. The major stockholders of the *IKB* are (1) a foundation including representatives of the German Association of Industry, the Diet of Industry and Commerce, the federal government and the Länder of North Rhine-Westphalia and Berlin, (2) the major insurance companies and (3) the major banks.

In the early postwar years the *IKB* was given the initial responsibility to pass on *KfW* loans to small firms. The bank was also authorized to issue bonds to refinance its lending activities. Initially there was a division of labor between long-term lending by the *IKB* and short-term lending by the banks to small businesses; this division of labor gradually broke down as the other banks learned how to do long-term lending and as the *KfW* made its refinancing facilities available to all banks.

The most common maturity of *IKB* loans is ten years and almost all loans are fixed-rate. The stock of *IKB* loans has fluctuated between 8-10% of all outstanding long-term loans to manufacturing during the 1970s and 1980s. While approximately a third of these loans are refinanced by other special credit institutes (primarily the *KfW*), the "true" addition of the *IKB* of this sectors' lending to manufacturing can be estimated to be around 6% of long-term loans.

The *IKB* has developed a broad array of consulting, corporate finance and export financing services for its customers. It also considers itself a spokesperson for industry, and with its extensive research services provides branch reports, general policy-oriented reports for business and "benchmarking" services for its customers.

Long-Term Funds From Upper Tiers of Own Organization

In addition to refinancing through the special credit institutes, the cooperative banks and savings banks also have access to LTFR funds through their respective organizations. These upper tiers are authorized to issue their own LTFR bonds on national bond markets and pass these funds on to the lower tiers through loan refinancing and loan participations. In the savings bank

sector bonds are issued by both the *Landesbanken* (regional tier) and the *Deutsche Girozentrale/Deutsche Kommunalbank* (top tier). In the cooperative bank sector these are issued by both the regional and national associations.

Furthermore, there are refinancing mechanisms within the respective organizations. The cooperative and savings banks deposit surplus funds with the upper levels of their respective organizations. The amount of surplus funds for any one savings bank or cooperative bank may fluctuate substantially over time, making the individual bank reluctant to commit these funds in the form of a long-term loan. The "pooling" of these surplus funds from dozens or hundreds of these banks at a higher level, however, creates a larger and more stable (in terms of volume) fund; this fund may in turn be drawn upon for refinancing LTFR lending through the lower tier of the organization.

The importance of these mechanisms have increased greatly during the 1970s and 1980s. In 1970, financial liabilities of the upper tiers to the lower tiers of these organizations were mainly short-term. By 1980, however, the upper tiers of the savings bank sector had transformed DM 16 billion in short-term deposits from the savings banks into long-term loans to the savings banks; the cooperative bank associations had also transformed DM 15 billion of short-term deposits from the cooperative banks into long-term loans to the cooperative banks.

The importance of these mechanisms are relatively greater for the cooperative banking sector, accounting for about one fifth of cooperative bank long-term lending and for about one-tenth of savings bank long-term lending to the non-financial sector (own calculations based on Bundesbank figures).

Access to Long-term Funds From Insurance Companies

A third important source of LTFR funds for cooperative and savings banks are long-term loans and certificates of deposits from insurance companies. Insurance companies are one of the most important financial intermediaries in Germany, accounting for about one-fourth of the financial assets of German households. In addition to the provision of life, sickness and accident benefits German households also invest in insurance policies as a form of individual supplementary pension.

Unlike in the UK and US case where insurance companies and pension funds tend to directly purchase corporate bonds on bond markets or through private placements, German insurance companies generally avoid direct lending to non-financial corporations. Instead, insurance companies purchase long-term bank bonds and certificates of deposit; about half of total insurance company investments are in the form of these long-term fixed-rate securities.

Banks then relend these funds LTFR to small businesses. This form of financing accounts for about one quarter of long-term bank lending.

4. Conclusion

This paper started by posing the apparent paradox that the German small firm sector in manufacturing is relatively larger than in the US, UK and other advanced industrialized countries despite mechanisms (industry-level bargaining and mandatory social contributions) which constrain the flexibility in the use of labor and the labor costs of small firms relative to large firms. This result appears paradoxical because German small firms are denied a major advantage relative to large firms which are enjoyed by small firms in other countries.

This paper proposed that this paradox can be resolved by recognizing that small firms, whatever their advantages may be, also have a number of deficiencies relative to large firms in terms of access to resources needed for modernization. Small firms generally do not have direct access to cheap long-term credit on capital markets; they often also do not have the capacity to develop serious training and R&D capacities. Access to an external institutional infrastructure capable of providing these resources can thus be a major aid to small firms in helping reduce the productivity gap relative to large firms. Large firms in contrast are better able to "solve" access to resource problems in the absence of this institutional infrastructure by generating their own resources internally (self-financing, development of own training and industrial relations systems, development of own R&D division).

This assertion was supported by examining the German banking system in comparative perspective. Though German small firms do not have direct access to national capital markets, there are a set of mechanisms in Germany making available long term fixed rate capital to small firms on terms comparable to those available to large companies with direct access to these markets. These mechanisms include (1) two banking sectors composed of smaller banks focusing on lending to small firms and (2) refinancing mechanisms making available long-term fixed rate funds to these banks for relending. The absence of the second mechanism in the US and both mechanisms in the UK result in a lack of LTFR finance for small firms in these countries.

Thus the relationship between the upper and lower levels of the banking system is not conceptualized in terms of the rigid determination of the local level in terms of a national model. Instead, the federalist corporatist organization enhances the organizational capacity of banks at the local level by

providing access to important resources; the extent to which these resources will actually be utilized depends on the initiative of the local bank and other local conditions. The bottom-up form of organization also means that policy at the upper levels is subject to approval from the bottom levels. Thus small companies in Germany have access to important resources needed for modernization.

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