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FINANCE CAPITAL IN THE WEIMAR REPUBLIC: DOES EVIDENCE ON SUPERVISORY BOARD REPRESENTATION SUPPORT HILFERDING'S VIEW OF THE ROLE OF LARGE BANKS IN GERMAN CAPITALISM?

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Introduction

The main objective of this report has been to investigate whether during the Weimar period (1919-1933) large German banks operated in the way predicted by the Austrian marxist Rudolf Hilferding in his magnum opus *Das Finanzkapital* (1910). Hilferding analysed the nature of the relationship between banking and industry, focusing, like other researchers before and after him, on two types of data: on the one hand he studied the role of financial instruments, like bank loans to industry and bank involvement in the issuing of shares for industrial companies; on the other, Hilferding commented on the role of institutional instruments, in particular the importance of bank representation on the supervisory boards of other firms.

My own research been mainly focused on the second type of data mentioned above, i.e. big bank-representation on the supervisory boards of other German firms. Specifically, by analysing how *Grossbank*-representation on the supervisory boards of other German firms evolved during the Weimar period, an attempt has been made to ascertain whether available data justify Hilferding's assumptions about an increasing involvement of large German banks in all sectors of the economy. Research done on supervisory board data was compared to information on bank loans. Furthermore, the debate about whether having seats on supervisory boards of industrial firms allowed large banks to shape firm policy was touched upon by looking at two issues: exclusive bank-firm relations and the accumulation of supervisory board seats by individual bank directors.

Although the period under investigation is a relatively short one, it seems to be best suited for the purpose of this research. It is the only period shortly after the publication of *Das Finanzkapital*, which was not dominated by war, like the years 1914-1918, or increased state intervention in the economy in preparation for war, like after 1933.

The structure of the dissertation is as follows. The first chapter presents an overview of debates. Hilferding's theory of finance capitalism as well as further debates aboute bank-industry relations in the years 1870-1913 and during the Weimar period are reviewed. The second chapter deals with the formulation of hypotheses and questions related to the use of data. In the third chapter results are reported. The conclusion is presented the final chapter.

1. Debates

1.1 Hilferding on the importance of banks in modern capitalism

When the Austrian Marxist Rudolf Hilferding published *Das Finanzkapital* in 1910, he claimed to have completed the analysis of capitalism pioneered by Marx in *Das Kapital*. According to Hilferding, in *Das Kapital* Marx had mainly analysed a competitive phase of capitalism, most relevant for mid-nineteenth century Britain. Since then, Hilferding claimed, there had been a transition to a new phase of capitalism, supposedly the highest phase of capitalism, dominated by what he called 'Finance Capital'.[1] "Finance Capital", Hilferding wrote, "means the unification of capital. The earlier separation of industrial, commercial and bank capital is now ended and all are placed under the common leadership of high finance, into which the leaders of industry and banking are united by personal links. This unification means the replacement of free competition of individual capitalists by the big monopolistic associations."[2]

Whereas Britain had been the prototype capitalist country in *Das Kapital*, Hilferding's work was inspired primarily by economic development in Germany since the foundation of the Second Empire in 1870. Although Hilferding gave serious attention

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[1] R. Hilferding, *Das Finanzkapital* (Frankfürt am Main, 1968), p. 17.

[2] Ibid., p.406.

to vertical and horizontal integration in industry, what he perceived to be the most remarkable aspect of finance capital in Germany was the co-ordinating role of large banks, both *within* and *across* industrial sectors. *Das Finanzkapital* contains both passages in which Hilferding appears to suggest banks were the 'stronger' partner in relationship to industry[3], and statements pointing to an amalgamation of interests of big business and large banks.[4]

Hilferding recognised that the process of concentration had started in the heavy industries, but he expected it soon to be covering the economy as a whole: "The independent industries are, as we saw, becoming more dependent on cartelised industries and eventually will be absorbed by them. The result of this process is a general cartel. All capitalist production will be co-ordinated by one institution, that regulates all sectors of production."[5] Given the role of co-ordinators Hilferding ascribed to the *Grossbanken*, it is not surprising that he suggested a quite simple revolutionary strategy for a future socialist German government: "The take-over of the six Berlin Great Banks would already today secure control over the largest industries and during the time of transition (...) make the implementation of a socialist programme much easier."[6]

The debate about the role of big banks in German economic development, however, did not end with the publication of *Das Finanzkapital*. With regard to supervisory board representation of the Great Banks, several problems of interpretation emerged in later discussions, which deserve attention. I will first consider these problems, before addressing specific hypotheses. In the next two sections therefore, a brief outline of debate about bank-industry relationships in the fields of finance and supervisory board

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[3] Ibid., p.119.

[4] Ibid., p.157.

[5] Ibid., pp.321-322.

[6] Ibid., p.504.

representation, both for the period 1870-1913 and for the Weimar period, will be given.

1.2 Bank-industry relations from 1870-1913

1.2.1 German industrialisation: whom did the Great Banks support?

Excluding the development of the railroads from the 1840's on, the period 1870-1913 is often regarded as the take-off phase of German industrialisation. Hilferding's work was elaborated upon after WWII by Gerschenkron, who placed the idea of close relationships between banks and industry in the context of industrialisation of backward economies.[7] The Gerschenkronian view of the German banking system soon became the basis for an orthodoxy, which has been adhered to by scholars like Kocka and Chandler.[8] The Gerschenkronian school sees German industrialisation as dominated by large firms making use of mass-production methods (initially mainly in the heavy industries), which required high throughput technologies and managerial hierarchies to co-ordinate production, marketing and distribution. Economies of scale and scope are achieved by vertical and horizontal integration of technologically separable activities. Authors like Kocka recognize the importance of the Great Banks in providing firms with external finance, but claim they "acted like large flywheels; they did not initiate changes, but rather reflected exisiting trends"[9]

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[7] A. Gerschenkron, *Economic Backwardness in Historical Perspective* (Cambridge, 1962), p.15.

[8] See: A. Chandler, 'Germany: co-operative managerial capitalism', *Scale and Scope. The dynamics of industrial capitalism* (Cambridge, Massachusets, 1990), pp.393-456; J. Kocka, 'Big business and organised capitalism', *The Cambridge economic history of Europe VII, part I*, M. Postan and P. Mathias eds. (Cambridge, 1978).

[9] J. Kocka, 'The rise of the modern industrial enterprise in Germany', *Managerial Hierarchies: comparative perspectives on the rise of the modern industrial enterprise*, A. Chandler and H. Daems eds. (1980), p.92.

Orthodox thinking has been challenged by Herrigel, who has argued that "two distinct parallel, and internationally competitive systems of industrial organisation and practice, located in different regions, have characterized the German experience at all levels of the economy and society since the very onset of industrialisation."[10] Herrigel maintains that the story of German industrialisation in the nineteenth century told by orthodox thinkers is not untrue, but incomplete and conceptually misconceived.[11] It is incomplete in ignoring the importance the development of a parallel 'decentralised industrial order', characterized by highly specialised, decentralised, small- and medium sized firms, dependent on extra-firm institutions. It is misconceived in portraying large-firm based 'organised' or 'co-operative capitalism' as a general, national phenomenon, and in denying the key importance of its regional characteristics.[12]

According to Herrigel, the 'autarkic industrial order' of organised capitalism mainly arose in regions lacking dense networks of small local property holders. Areas like the Ruhr Valley, Northern and Eastern Westphalia, the Prussian province of Saxony, Berlin and Silesia, had to rely on the factory as the site of production and on the firm as organiser of related production processes, marketing and sales.[13] By contrast in regions like South-western Westphalia, Southern Hesse, Northern Württemberg and Tühringen networks of small property holders, partly involved in manufacturing, provided a fertile base for developing highly competitive small- and medium-sized firms, making use of extra-firm institutions.[14]

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10 G.Herrigel, *Industrial constructions: the sources of German industrial power* (Cambridge, 1996), p.1.

11 Ibid., p.33.

12 Ibid., p.33.

13 Ibid., p.75.

14 Ibid., p.36.

Concerning the reliance on external finance, Herrigel sees the two industrial systems each making use of its own banking network.[15] The decentralized order made use of two types of banks: co-operative and savings banks. Co-operative banks functioned as credit unions that pooled the resources of producers in a given area and circulated the funds among banks in a certain region, through creation of a regional 'central clearing bank'. This closed money system allowed small firms to borrow at rates below those of the commercial banks.[16] Another pool of capital was provided by savings banks. Regional governments often placed limits on deposits and loans in order to ensure orientation towards smaller producers.[17]

Herrigel acknowledges that the 'autarkic industrial order' relied mainly on the Great Credit Banks for its external finance.[18] Initially the Great Banks were regionally based (*A. Schaaffen-hausensche Bankverein*, for example, started in Cologne, *the Berliner Handelsgesellschaft* in Berlin, the *Darmstädter Bankverein* in Darmstadt). The scale of production and capital needs of large firms however soon exceeded regional resources and the Great Banks began to detach themselves from their regional bases in the second half of the nineteenth century. Herrigel emphasises however, that the firms that received financial assistance of the Great Banks, remained part of a particular regional industrial order.[19] It is important to keep this in mind since, although the focus of discussion from now on will be mainly on the 'autarkic industrial order', one should realise, that this system of 'development assistance for the strong'[20] did not comprise German industrialization as a whole.

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[15] Ibid., pp. 53-54.

[16] Ibid., p.53.

[17] Ibid., p.54.

[18] Ibid., p.83.

[19] Ibid., p.86.

[20] R. Tilly, 'German banking 1850-1914: development assistance for the strong', *Journal of European Economic History XV* (1986), p.121.

1.2.2. The Great Banks: assisting the autarkic industrial order.

During the period 1870-1900, it has been argued, large banks may have reduced the problem of asymmetric information inherent in the provision of external finance.[21] Savers had limited information about the firms they provided with credit, and it was costly for them to monitor a firm's managers, who might use external finance for purposes which would boost their own status but not firm profits. For this reason without adequate information, supply of funds threatened to be limited. At the same time, during the early period of industrialisation firms often lacked enough internal resources to finance the establishment of large-scale, capital-intensive industries.[22]

The German universal banks are seen as having played a pioneering role particularly in the finance of the railways in the 1850s and in heavy industries like, coal, steel, iron and electrical engineering in the 1870s and 1880s. During the latter period, it is claimed, the Great banks supported technologically innovative firms and were willing to take short-term risks, expecting long-term benefits.[23] In this period, also, individual *Grossbanken*, tried to establish exclusive relationships with individual firms.

Large banks have been credited with providing a solution to the problem of external finance in two ways. First, since the German Great banks functioned as 'universal banks', they combined the activities of 'commercial banks' (holding deposit accounts, extending overdrafts on current account as well as making long-term loans) and 'investment banks' (issuing of shares and debentures, trading in securities, floating loans for government and municipalities). On the one hand, banks mobilised scattered

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[21] J. Edwards and S. Ogilvie, 'Universal banks and German industrialisation: a reappraisal', *Economic History Review* XLIX 3 (1996),p. 429.

[22] Ibid., p,429

[23] J. Edwards and K. Fisher, *Banks, finance and investment in Germany* (Cambridge, 1994), pp. 1-3.

savings and channelled them into industrial enterprises, and on the other, they helped firms to raise external finance for investment through issuing shares.[24] Via the current account relationship banks received information about a companies' soundness and hence its suitability for making a security issue. In this way banks could screen firms wishing to make security issues and became interested in preventing bad companies from driving out good ones.[25]

Second, supervisory board representation was important. Since 1870 joint-stock companies in Germany were obliged to have a supervisory board, which not only appointed the executive directors, but also had to monitor strategic management decisions. Having supervisory board seats could give a bank information about and possibly control over companies' managers.[26] This made banks more willing to provide external finance. Moreover, through supervisory board representation large banks could play a role in the rationalisation of industries by organising mergers and cartels. Furthermore, banks' supervisory board representatives could help to improve the exchange of information, thereby contributing to a more efficient allocation of investment flows.[27]

Opposition to the idea of the prominent role of banking in German industrial development has mainly focused on the period after 1900. The merits of big banks in providing funds for initial industrialisation are usually not denied, but the continuing dominance of big banking is. As to investments, Edwards and Ogilvie have stressed that the *Grossbanken* were mainly involved in dealing with joint-stock companies and that by 1913 these accounted for only 17% of the total industrial capital stock.[28]

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[24] J. Kocka, *op. cit.*, p.90.

[25] J. Edwards and S. Ogilvie, *op.cit.*, p.430.

[26] J. Kocka, *op. cit.*, p.91.

[27] J. Edwards and S.Ogilvie, *op.cit.*, pp.430-31.

[28] Ibid., p.436.

Moreover, the concentration process in the heavy industries itself resulted in firms requiring amounts of capital that exceeded the supply capacity of any single big bank. Internal financing increased and big banks were not able to secure previously exclusive relationships with firms.[29] With regard to supervisory board representation, this meant that more than one big bank came to be represented on the supervisory board of a single firm.

In addition it has been claimed that the accumulation of large numbers of supervisory board seats by individual bank directors had a negative effect on their ability to influence management decisions, since they came to lack both time and detailed knowledge of the companies they had to monitor.[30]

1.3 Bank-industry relations in Germany: the Weimar period

Prior to the beginning of the Great Depression in 1929 two phases are usually distinguished in the economic history of the Weimar Republic. The period 1919-1923 was a period of inflation and hyperinflation, the period 1925-1929 one of stabilisation.

At the beginning of the first period there were eight metropolitan big banks. As a result of war, inflation, government deficit spending and abundant central bank credit, liquidity increased up to 1923 and this tended to weaken big bank involvement in the finance of industry.[31] A major activity of the Great Banks threatened to become unproductive paperwork, which inflation generated and resulted in the expansion of staff. Moreover, some of the larger industrial companies tried to bypass big banks by setting up their own house banks. Partly as a reaction to these developments the Great

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[29] Ibid., p.440.

[30] H. James, *The German Slump. Politics and Economics, 1924-1936* (Oxford, 1987),p.143.

[31] G. Hardach, 'Banking and industry in Germany in the interwar period, 1919-1939', *Journal of European Economic History* XIII (1984) p.206.

Banks expanded their regional networks, by turning affiliated provincial banks into branches directly dependent upon the big Berlin banks. By generating regional funds more efficiently the Great Banks sought to regain strength vis-à-vis the industrial sector.[32]

The *Deutsche Bank,* for example, expanded its provincial banking network through capital share increases and fusion. In 1920 *Deutsche Bank* gained control over the *Hildesheimer Bank* by means of a major exchange of shares; and in 1921, *Deutsche Bank* increased its permanent share holdings in the *Rheinische Creditbank.* In these cases presence of a *Deutsche Bank* director on the supervisory board was a visible expression of dominance. In other cases, like that of the *Württembergische Vereinsbank* and the *Siegener Bank*, control was secured by direct take over.[33]

In 1924 the currency was stabilised and in subsequent years the credit policy of the German Central bank, the *Reichsbank*, became more restrictive. The big Berlin banks increased their short-term foreign borrowing in order to circumvent this policy. Together with the foreign borrowing of non-banking sectors the big banks accumulated a large short-term foreign debt (of about 8 milliard RM by 1930) which potentially could force Germany off the gold standard in case of a currency crisis. Moreover, the liquidity ratio (cash and central bank deposits to creditors) in commercial banking as a whole had declined from about 7.3% in 1913 to 3.8% in 1929. All this made the German banking system extremely vulnerable should a crisis occur.[34]

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[32] Ibid., p.206.

[33] G. Feldman, 'The Deutsche Bank in the Weimar period', *The Deutsche Bank, 1870-1995*, L. Gall e.a. ed. (1995), pp. 174-178.

[34] G. Hardach, *op.cit.*, pp. 214-215.

After the government had managed to stabilise the currency, the organisational expansion of the big banks came to a halt and employment was reduced drastically.[35] In contrast to this, domestic bank lending expanded after 1924. But the way the Great Banks distributed credit has led authors like James, to accuse the Great Banks of 'conservatism' in their investment policies.[36] As before the First World War the Great banks did mainly lend to large firms. 76% of Great Bank loans was over 100.000 RM in 1928. And, like before, the great banks mainly supported heavy industry sectors like coal mining, iron and steel and traditional industries like breweries and textiles.[37]

Within the heavy industry sectors the second half of the 1920s saw a series of mergers and combinations, which created huge conglomerates. The Great Banks themselves followed this trend quite late. The most important bank merger took place in 1929, when *Deutsche Bank* and *Disconto-Gesellschaft* merged.[38] This created the largest bank in Germany (nom. share capital: 285 mill. RM) However, this giant bank still looked small in comparison to giant industrial concerns like the chemical conglomerate *I.G.Farben* (nom. share capital: 1100 mill. RM) and the steel giant *Vereinigte Stahlwerke (*nom. share capital: 800 mill. RM*)*.[39]

In 1931, two years after the Great Depression set in, a banking crisis occurred which led to the collapse of the system as it had functioned from 1870 on. The *DANAT-Bank*, one of the Great Banks, had invested heavily in the *Norddeutsche Wollkammerei*, a textile firm. When this firm defaulted in 1931 the *DANAT-Bank* incurred enormous losses. Moreover, the unstable situation during the depression had resulted in

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[35] G. Feldman, *op.cit.*, p.209.

[36] H. James, *op.cit.*, pp.141-143.

[37] Ibid., p.142.

[38] G. Feldman, *op.cit.*, p.230.

[39] *Wirtschaft und Statistik*, Statistisches Reichsamt ed. (Berlin, 1930), p. 14.

increased runs on bank deposits and by July 1931 the *DANAT* had itself become insolvent.[40] The *Reichsbank*, constrained by its commitment to defend the currency could not act as a lender of last resort and a general banking crisis followed.[41] This, however, was not, as Hilferding might have thought, the beginning of a transition from capitalism to socialism, since two years later socialism was banned and the state was taken over by the nazi-party. Although some factions within the nazi-party wanted to get rid of the Great Banks altogether, the party leaders judged the Great Banks to be vital for the functioning of the economy and in 1936 fully re-privatised the Great Banks.[42]

2. Supervisory board representation: hypotheses, data, sources

2.1 Hypotheses

On the basis of the reviews of discussion given above, I will now outline how information on supervisory board representation has been used by others, and will be used by me in order to shed light on some of the problems noted in the summaries of discussion presented in the first chapter. Four issues will be addressed. To start with, I will discuss how supervisory board material can be used to test Hilferding's prediction about the growth of bank involvement across industries. Next, the relationship between financial involvement of banks in industrial sectors and the sectoral spread of banks' supervisory board seats will be investigated. Finally, two topics mentioned in sections 1.2 and 1.3 of chapter I are dealt with: a) the use of supervisory board representation to maintain exclusive bank-firm relationships; b) the accumulation of supervisory board seats by individual bank directors.

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[40] G.Hardach, *op.cit.*, p.220.

[41] Ibid, p.223.

[42] Ibid., p.230.

2.1.1 First hypothesis: Hilferding on the extension of bank involvement across industrial sectors

As noted earlier, Hilferding expected both a concentration *within* industries and a greater co-ordinating role of large banks *across* industries. The supervisory board material Hilferding himself used, however, doesn't tell us much about either of the two developments, since Hilferding draws upon a study Otto Jeidels performed in 1905, which only gives the total number of bank directors' seats in other firms as compared to the total number of supervisory board seats.[43] This type of study allows only for the conclusion that bankers had a lot of seats. For example, in the case of the Weimar Period it has been calculated that in 1928 bankers occupied 1300 supervisory board seats out of a total of 5800.[44]

Studies on the cross-sectoral spread of supervisory board seats don't necessarily tell us anything about concentration within industries either, since only if concentration took the form of mergers (and not cartels) could the number of supervisory board seats banks held be expected to decline. The evolution of the cross-sectoral spread of banks' seats could, however, be used to say something about bank involvement across sectors.

In my opinion, a cross-sectoral study allows for at least one of Hilferding's claims to be tested. If, as he expected, Great Bank involvement across sectors increased, after WWI one would expect the relative share of banks' supervisory board seats to shift away from the heavy industry sectors where bank-industry relations were quite close before 1914. The underlying assumption would be that the spread of supervisory board representation indicates something about bank activity in a sector.

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[43] O.Jeidels, *Das Verhältnis der deutschen Grossbanken zur Industrie mit besonderer Berücksichtigung der Eisenindustrie* (Leipzig, 1905).

[44] G.Hardach, 'Banking and industry in Germany in the interwar period, 1919-1939', *Journal of European Economic History* XIII (1984), p. 218.

2.1.2 Second hypothesis: correlating the sectoral spread of supervisory board seats to sectoral financial activities of the Great Banks

In order to ascertain whether the assumption that underlies the first hypothesis is valid, i.e. that there was is a positive correlation between the sectoral spread of supervisory board seats and Great Banks' financial involvement in sectors, the concept of financial involvement must be specified.

Financial involvement of banks with industry mainly took three forms. First, banks supported firms by giving short- or long-term loans. Although a theoretical distinction between the two can be made (short-term loans covering production costs such as raw materials and semi-finished products, and long-term loans for replacing and renewing fixed capital), the practice of German Banks to continuously extend short-term credits made the distinction between short- and long-term credit less rigid.[45] Second, banks issued shares on behalf of companies, receiving a compensation for floating new shares.[46] Finally, banks could purchase company shares themselves, thus acquiring voting rights in shareholders meetings. The banks could either exercise shareholders' rights for themselves or on behalf of other parties (although available sources seldom allow one to determine which shares were held for which purpose).[47] It is usually maintained that after the negative experience of the 1870s, the Great Banks refrained from funding companies by holding large amounts of shares themselves.[48]

As for the second and third forms of financial involvement mentioned, it is sometimes possible to obtain information from individual company records. The construction of a

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[45] H. Wixforth, *Banken und Schwerindustrie in der Weimarer Republik* (Köln, 1995), p.15.

[46] Ibid., p.18.

[47] Ibid., p.57.

[48] J. Edwards and S. Ogilvie, 'Universal banks and German industrialisation: a reappraisal', *Economic History Review* XLIX 3 (1996), p.429.

detailed picture of the sectoral spread of the Great Banks' share issuing activities and shareholdings has however not been undertaken to my knowledge, and to do so would be to go beyond the scope of this dissertation. Useful information is however available for bank loans (See section 3.2.1) The supervisory board data will therefore be compared with data on bank loans, the latter serving as a (incomplete) measure of financial involvement of the Great Banks in industry.

One would expect to find a positive correlation between the sectoral spread of the Great Banks' supervisory board seats and financial involvement of the Great Banks in different sectors. Such a relationship is however not necessarily an indication of bank influence. To get some idea about the relationship between financial support and influence, a closer look will be taken at the case of the biggest of the Great Banks in the 1920s, the *Deutsche Bank*.

2.1.3 Third hypothesis: supervisory board representation and the decline of exclusive bank-firm relations

The point about bank influence is to be further elaborated upon, when looking at a third topic: the use of supervisory board positions to maintain exclusive relationships between banks and firms. The study of exclusivity relationships between Great Banks and individual firms will be limited to the five sectors where Great Bank directors on average had most supervisory board seats (coal mining, metal industry, machinery & railway equipment, electricity and banking). The fact of more than one Great Bank having a seat on the supervisory board of a particular firm, is sometimes seen as indicating that the influence of individual banks declined and competition between the Great Banks increased.[49]

[49] Ibid., p.440.

The problem with this assumption is that, although it may be correct to link more banks being represented on the board of the same firm to declining influence of individual banks, the position of the Great Banks as a group vis-à-vis a firm might compensate for this, provided the banks co-operated. If therefore the data show an increase in the number of firms, where more than one Great Bank had a supervisory board seat, this will be interpreted as confirming the hypothesis of decreased influence of individual banks, but not of Great Bank-influence as a group.

2.1.4 Fourth hypothesis: supervisory board seat accumulation and firm monitoring

The accumulation of supervisory board seats by individual Great Bank directors has been viewed as detrimental to their capacity to monitor firms adequately. This claim is usually only substantiated by pointing out that some directors had many seats.[50] Little attention however is given to the possibility that individual directors with many supervisory board seats could monitor more effectively through specialisation. If most supervisory board seats of Great Bank directors with many seats were mainly located in few sectors, accumulation of seats might not have damaged directors' capacity to monitor firms. This 'specialisation' hypothesis will be investigated first by compiling top-ten lists of bank directors with most supervisory board seats and subsequently by looking at the sectoral composition of seats.

2.2 Data and sources

The data used for studying the four issues mentioned above have been taken primarily from *Saling's Borsenpapiere*. This compendium of firms listed on German stock markets gives the names of members of companies' supervisory boards. Information

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[50] G. Feldman, 'Banks and the problem of capital shortage in Germany, 1918-1923', *The role of banks in the interwar economy*, H. James ed. (Cambridge, 1991), p.52.

was gathered on supervisory board seats in other companies held by the directors of the main Great Banks in 1921 (*Deutsche Bank, Disconto-Gesellschaft, Berliner Handelsgesellschaft, Darmstädter Bank f. Hand. u. Ind., Nationalbank f. Deutschland, Dresdner Bank, Commerz u. Privatbank, Mitteldeutsche Creditbank*[51]) for the years 1921, 1923, 1925, 1927, 1929 and 1930. The sectoral classification of firms adopted is the same as in *Saling's Börsenpapiere*.

To my knowledge, the two most elaborate studies on the cross-sectoral spread of the supervisory board seats of the Great Banks were both done prior to WWII. Riesser (1912) has looked at the year 1912 and Hanemann (1931) at 1927.[52] When comparing these two studies, one gets the impression that Great Banks' seats remained largely confined to the heavy industry sectors, but comparison is dangerous for two reasons. First, Riesser looked at six of the Great Banks[53], not all of which were in the group of seven Great Banks studied by Hanemann in 1927. Second, for some banks Riesser only looks at the seats directors of the Great Banks held in other companies; but for other banks Riesser looks at the seats held in other companies, both of directors and of members of the supervisory boards of the Great Banks.[54] Hanemann, only takes the second approach.

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[51] In the course of this period three mergers took place between these banks. In 1921 the *Darmstädter* and the *Nationalbank* merged to become the *DANAT-Bank*. 1929 saw mergers between the *Mitteldeutsche Creditbank*, which became part of the *Commerzbank*, and, as noted earlier, the *Deutsche Bank* and the *Disconto-Gesellschaft*.

[52] J.Riesser, *Die deutschen Grossbanken und ihre Konzentration im zusammenwirkung der Gesamtwirtschaft in Deutschland* (Jena, 1912); W. Hanemann, *Das Verhältnis der deutschen Grossbanken zur Industrie* (Berlin, 1931).

[53] See: Riesser, *op.cit.*, pp.651-672 and W.Hanemann, *op.cit.*, p.79.

[54] J. Riesser, *op.cit.*, pp. 661-662.

As for my own research, I have only collected data for Great Bank directors. There was a practical reason for doing this: limiting the scope of research. The total number of seats collected for the six years mentioned already amounts to 3850. A theoretical reason for just considering the directors, however, is that one might argue, that directors of a Great Bank were likely to be more important than the supervisory board members of a Great Bank in matters of monitoring on behalf of the bank.

3. Results

3.1 The sectoral spread of Great Bank directors' supervisory board seats

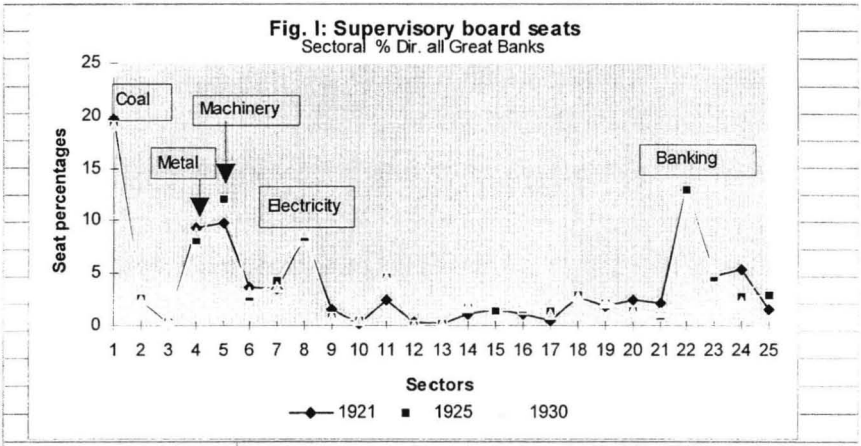
3.1.1 Aggregated Results

The first hypothesis (i.e. on the basis of Hilferding's prediction assuming that the relative share of supervisory board seats of Great Bank directors located in traditional heavy industry sectors would decline) has been tested both by looking at the sectoral spread of the Great Banks as a group and by investigating individual Great Banks. First , the number of Great Bank directors' supervisory board seats per sector was calculated for three years, covering the beginning, middle and end of the period under investigation (1921, 1925 and 1930). Next graphs of the percentage of directors' seats held in each sector were constructed for all three years and these were superimposed. If the graphs showed similar patterns and did not cross each other frequently, this could be interpreted as a sign of little change in the sectoral spread of Great Bank directors' supervisory board seats in the 1920s. Such a result would not be consistent with Hilferdings' idea of an expansion of Great Bank activity across sectors.

In figure I the results of the aggregated series (i.e. all Great Banks taken together) are reported. The sectoral percentages are supervisory board seats of all *Grossbank*-directors in a particular sector, as a percentage of the total number of directors' seats in a given year. From figure I it can be observed, that the graph lines for 1921, 1925 and

1930 follow very similar patterns and hardly cross each other. This points to very little change in relative shares of sectors between 1921 and 1930. There are five sectors, where all peaks are above the 7% line (coal mining & metal ovens, metal industry, machinery & railway equipment, electricity and banking) and a sixth sector, textiles, with peaks for 1925 and 1930 nearing 5%. In the top five (seat% > 7%) four out of five are heavy industry sectors. The results therefore, show that heavy industry sectors were initially and remained the sectors were most supervisory board seats of Great Bank directors were located. The observed lack of change could be seen as evidence that complements James' idea of Great bank 'conservatism' in their investment policies (see: section 1.3), 'conservatism' meaning that the Great Banks remained most active in those sectors where they already were active. By contrast, the results do not favour Hilferdings' hypothesis of an expansion of Great Bank involvement outside the industries where they were traditionally active.

In order to get an idea of how exactly important the five most-seat sectors were during the 1920s. Table 1 gives a more detailed view of developments in the five top sectors. Taking the sum of seats in the five top sectors as a percentage of the total number of seats for all banks for 1920, 1925 and 1930, shows that during the whole period the five top sectors alone accounted for well over 50% of all supervisory seats held by directors of the Great Banks. So, overall the traditional heavy industry sectors (coal mining, metal, machinery and electricity) plus banking continued to absorb most of the supervisory seats of Great Bank directors, contrary to what one would expect on the basis of Hilferdings' assumptions.



Directors' supervisory board seats (All Great Banks)

Sector	*1921*		*1925*		*1930*	
	no.	**%**	**no.**	**%**	**no.**	**%**
1. Co.Mi. & Metal ovens	111	19,6	134	19,03	107	19
2. Salt, Kali & Bas. Min.	14	2,5	18	2,6	14	2,5
3. Petroleum	2	0,35	2	0,3	3	0,5
4. Metal Industry	53	9,3	57	8,1	50	8,9
5. Mach.& Railway Eq.	55	9,7	85	12,1	48	8,5
6. House & Off. Constr.	21	3,7	19	2,7	18	3,2
7. Chemicals	20	3,5	30	4,3	20	3,6
8.Electricity	48	8,5	59	8,4	50	8,9
9.Gas & Water	9	1,6	5	0,7	4	0,7
10. Gummi & Linoleum	1	0,2	3	0,4	3	0,5
11. Textile	14	2,5	32	4,5	26	4,6
12. Wood	2	0,35	0	0	0	0
13. Leather	1	0,2	1	0,1	1	0,2
14. Paper	6	1,1	12	1,7	10	1,8
15. Constr. Materials	9	1,6	10	1,4	13	2,3
16. Porcelain	6	1,1	11	1,6	11	1,9
17. Sugar	3	0,5	9	1,3	6	1,1
18. Breweries & Spirits	16	2,8	21	2,9	16	2,8
19. Shipping Transport	11	1,9	15	2,1	13	2,3
20. Railways	14	2,5	10	1,4	8	1,4
21. Tramw. & Bus comp	12	2,1	7	0,99	7	1,2
22. Banking	73	12,9	91	12,9	62	11
23. Insurance	27	4,8	32	4,5	29	5,2
24. Foreign Enterprise	30	5,3	20	2,8	13	2,3
25. Diverse Industries	9	1,6	21	2,9	31	5,5
Total	567	100	704	100	563	100

However, it can also be observed in table 1, that there is a rising trend up to 1925 and a decline afterwards, both in the absolute number of seats held by all Great Banks and in the total of the five sectors. As far as percentages are concerned the peak lies in 1927. Looking at the movement of total number of seats for each of the five top sectors individually in the latter half of table 1, two (machinery & railway equipment and electricity) follow the trend of the aggregated sectors (rise and decline, with peak in 1925) exactly. In the other sectors movement is more erratic (coal min. and metal industry) or the peak is earlier (banking, peak: 1923). But the overall trend of an expansion of supervisory board seats in the five top sectors during the inflationary period and a contraction during the stabilisation period, is confirmed.

Table 1		Sectors with average seat percentage ber bank> 7%			
	Sum sectors*	Total all Banks	%		
1921	340	567	59,9		
1923	414	687	60,3		
1925	426	704	60,5		
1927	420	684	61,4		
1929	373	645	57,8		
1930	317	563	56,3		
* Coal mining & Met ovens + Metal Ind. + Mach & Railway Eq. + Electricity + Banking					
	Co.Mi.Met.Ov.	**Metal Ind.**	**Mach.&Rw.Eq.**	**Electricity**	**Banking**
	no.seats (%)**	no.seats (%)	no.seats (%)	no.seats (%)	no.seats (%)
1921	111 (19.6)	53 (9.3)	55 (9.7)	48 (8.5)	73 (12.8)
1923	138 (20.1)	53 (7.7)	76 (11.1)	54 (7.9)	93 (13.5)
1925	134 (19.0)	57 (8.1)	85 (12.1)	59 (8.4)	91 (12.9)
1927	138 (20.2)	60 (8.8)	79 (11.5)	57 (8.3)	86 (12.6)
1929	112 (17.4)	63 (9.8)	58 (8.9)	58 (8.9)	82 (12.7)
1930	117 (19)	50 (8.9)	48 (8.5)	50 (8.9)	62 (11.0)
** Percentages are of total all banks			[Saling's Borsenpapiere, Vols. 1921, 1923 1925, 1927, 1929, 1930]		

The contraction in the number of supervisory board seats during the stabilisation period was probably linked to the merger wave both in the heavy industry sectors and in banking itself, which reduced the total number of seats available in each sector. As for the expansion of seats during the inflationary period, it is more difficult to provide

a satisfactory explanation. For the banking sector itself it is known that the expansion of the Great Banks' regional networks started in the inflationary period, and that the Great Banks acquired other banks which stayed independent in name only.[55] Great Bank directors may have required seats on the supervisory boards of those banks, which were eliminated during the merger wave of the late twenties. As for the heavy industry sectors, however, these are seen as having gained greater independence from the Great Banks during the inflationary period because of alternative credit sources (see: section 1.3), so it is unlikely that the expansion of Great Bank directors' supervisory board seats had anything to do with Great Banks expanding their leverage over industrial companies.

3.1.2 Individual Great Banks

The group analysis can be complemented with a study of individual *Grossbanken*. In these cases sectoral seat percentages are of the total number of seats of an individual Great Bank. Other than that, the testing procedure is as described in at the beginning of section 3.1.1. Graphs for individual *Grossbanken* show sectoral percentages of directors' seats for all sectors in 1921, 1925 and 1930 respectively. As examples, the results for two banks, one with little variation, the *Deutsche Bank* (fig. 2) and one with more variation, the *Commerz u. Privatbank* (fig. 3), are reported. Both banks merged with another Great Bank in 1929 (*Deutsche Bank* with *Disconto-Gesellschaft*; *Commerz. u. Privatbank* with *Mitteldeutsche Creditbank*).

In figure 2 it can be observed that in spite of the merger with *Discontogesellschaft,* sectoral percentages of supervisory board seats of *Deutsche Bank* directors changed very little between 1921 and 1930, as the 1930-line doesn't diverge much from the 1921- and 1925-lines. The sequence of sectors is the same as in figure I. The sectors marked out by their high peaks (1,4,5,8 and 22) are the five top sectors where directors

[55] G. Hardach, 'Banking and industry in Germany in the interwar period, 1919-1939', *Journal of European Economic History* XIII (1984), pp.206-207.

Sector
1. Co.Mi. & Metal ovens
2. Salt, Kali & Bas. Min.
3. Petroleum
4. Metal Industry
5. Mach.& Railway Eq.
6. House & Off. Constr.
7. Chemicals
8.Electricity
9.Gas & Water
10. Gummi & Linoleum
11. Textile
12. Wood
13. Leather
14. Paper
15. Constr. Materials
16. Porcelain
17. Sugar
18. Breweries & Spirits
19. Shipping Transport
20. Railways
21. Tramw. & Bus com.
22. Banking
23. Insurance
24. Foreign Enterprise
25. Diverse Industries

Fig. 2: Supervisory board seats

Sectoral % Dir. Deutsche Bank

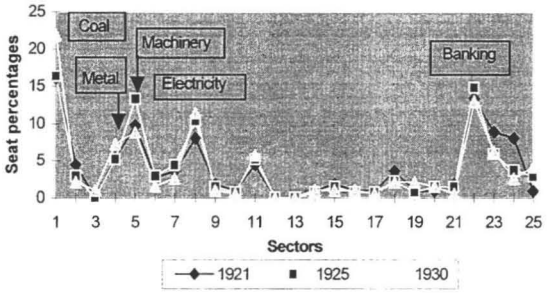
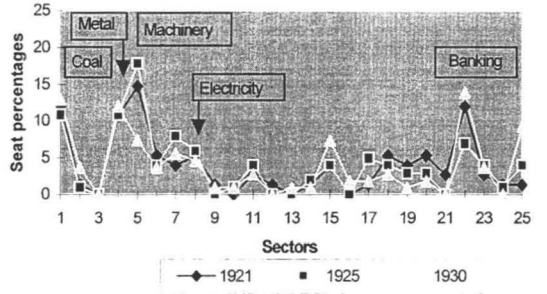


Fig. 3: Supervisory board seats

Sectoral % Dir. Comm. u. Privatbank



had more than 7 % of their supervisory boards seats. As in table 1 most directors had their seats the coal mining, metal, machinery, electricity and banking sectors during the whole period. The insurance and foreign enterprise sectors (23, 24) each account for about 8% of directors' supervisory board seats in 1921, but in 1925 and 1930 the figures have dropped to 5% and 3% respectively. The textile sector (11) constantly has a share of about 5% of the supervisory board seats of *Deutsche Bank* directors.

Figure 3 shows the results for the *Commerz u. Privatbank*.The patterns of the 1921, 1925 and 1930 lines follow each other less closely. Although there are still the usual peaks for the five top sectors, sometimes there are also more unusual peaks, like the chemical sector (7) in 1925 and the construction materials sector (15) in 1930. In the latter case the change could be due to the merger with the *Mitteldeutsche Creditbank* in 1929, as it is the 1930-line, which has the highest peak, but in the case of chemicals the highest peak is in 1925, i.e. before the merger.

Overall, the cases of the *Deutsche Bank* and the *Commerz u. Privatbank* confirm the results of the aggregated study in figure I. Supervisory board seats of directors of these two banks were predominantly located in four heavy industry sectors (coal mining, metal, railway and machinery equipment, electricity) and in the banking sector during the 1920s, and no major shift in seats away from these sectors occurred. Again, this result appears to weaken Hilferding's hypothesis of a an expansion of Great Bank activity outside the sectors where they traditionally active. The results of the sectoral study of Great Bank directors' supervisory board seats, would gain weight, however, if a link between the sectoral spread of bank directors' supervisory board seats the financial involvement of banks in different sectors could be established. The next section is be devoted to this topic.

3.2 The correlation between the spread of Great Bank loans and directors' supervisory board seats

3.2.1 Sectoral loans and supervisory board seats

The results so far suggest that the directors of the *Grossbanken* had the majority of their supervisory board seats in four heavy industry sectors plus banking. It makes more sense to use this finding against Hilferding's theory of increased bank involvement across sectors, if a link between the sectoral concentration of supervisory board seats and sectoral, financial activity of banks could be established. The second hypothesis assumes a positive correlation between the sectoral spread of Great Bank directors' supervisory board seats and financial involvement of the Great Banks in certain sectors. One should, however, not assume the correlation to be perfect, since shifts in the sectoral location of bank directors' supervisory board seats may have a different dynamic from shifts of financial resources between sectors. Certainly, one would expect the shift of supervisory board seats to be a fairly slow process, compared to sectoral shifts in short-term bank loans for example. Since the loan data which were available, did not allow for a separation between short- and long-term loans this might afffect results. On the other hand, it was noted, that German banks often provided short-term loans on such a basis, that they effectively became long-term loans (see: sect. 2.1.2).

Sectoral data on aggregate bank loans between 1925-1828 of all *Grossbanken* quoted by Hanemann were compared to the sectoral shares of supervisory board seats of all *Grossbanken*. In table II domestic loan figures are placed next to foreign loan figures, which Hanemann also collected, in order to illustrate that during the stabilisation period (1925-1929) direct, short-term foreign borrowing became more important than domestic borrowing. This weakened the position of the Great Banks vis-à-vis industry, notably in sectors like coal mining & metal ovens. The chemical sector appears to be the exception, domestic loans exceeding foreign loans. This should however not be

seen as an indicator of strength of the Great Banks, since already before WWI the chemical sector had become independent of the *Grossbanken*. This independence became even more marked in 1924 when *I.G. Farben* was created, remaining by far the largest firm in Germany during the 1920s.[56]

Hanemann only gives data for twelve sectors. These include the four heavy industry sectors where Great Banks directors had most of their supervisory board seats located and other important sectors like textiles and breweries, but banking is excluded. In table III sectoral seat percentages for 1925 and 1927 were recalculated with respect to the total number of supervisory board seats in the twelve sectors loan data were available for. Comparing the pattern of sectoral percentages of seats and loans in figure 4 shows that loan and seat patterns were not very dissimilar, with the big exception of chemicals, where Great Bank directors had relatively few seats but nevertheless provided a lot of loan support.

[56] *Wirtschaft und Statistik*, Statistisches Reichsamt ed. (Berlin, 1929), p. 172.

TABLE II **Great Bank loans to sectors**

	1925-1928		1924-1928	
Sectors	Dom. Lns.* ('000 RM)	%	For. Lns. ('000 RM)	%
Coal Min. & Met. ovens	266400	39,4	999435	43,2
Salt, Kali, Basalt min.			270000	11,7
Metal industry	36400	4,5	17040	0,7
Machinery & Railw. eq.	59900	7,4	29400	1,27
Chemicals	277100	34,2	44940	1,94
Electricity	55000	6,8	756570	32,7
Gummi/Linoleum	37500	4,6		
Textiles	16000	1,9	28950	1,25
Paper	8000	0,9	39420	1,7
Construction materials	4600	0,6		
Glas/porcellain	3300	0,4	9660	0,42
Sugar	1800	0,2		
Breweries and spirits	44450	5,5		
Shipping Transport			117600	5,1
Total	810450	100	2313015	100

*Provided by all Grossbanken

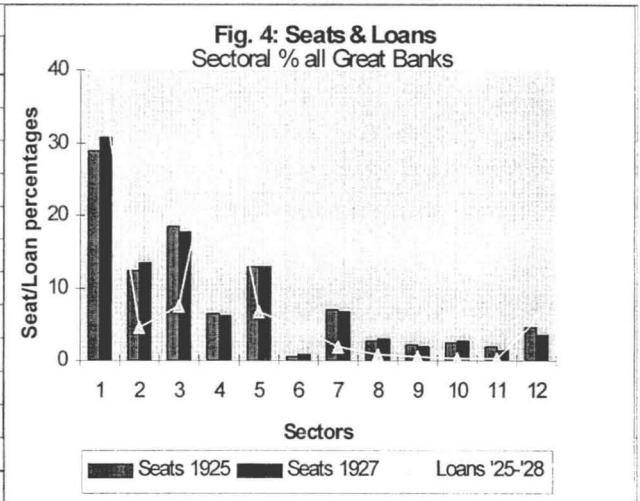
(Source: Hanemann, Das Verhältnis, pp.33-35)

TABLE III	**Seats per sector (All Great Banks)**			
	1925		1927	
Sectors	no.	%	no.	%
Coal min. & Metal ovens	134	28,9	138	30,7
Metal industry	57	12,3	60	13,4
Machinery & Railway eq.	85	18,4	79	17,6
Chemicals	30	6,5	27	6,01
Electricity	59	12,7	57	12,7
Gummi/Linoleum	3	0,65	3	0,67
Textiles	32	6,9	30	6,7
Paper	12	2,6	13	2,9
Construction materials	10	2,2	8	1,8
Glas/porcellain	11	2,4	12	2,7
Sugar	9	1,9	6	1,3
Breweries and spirits	21	4,5	18	3,6
Total	463	100	449	100

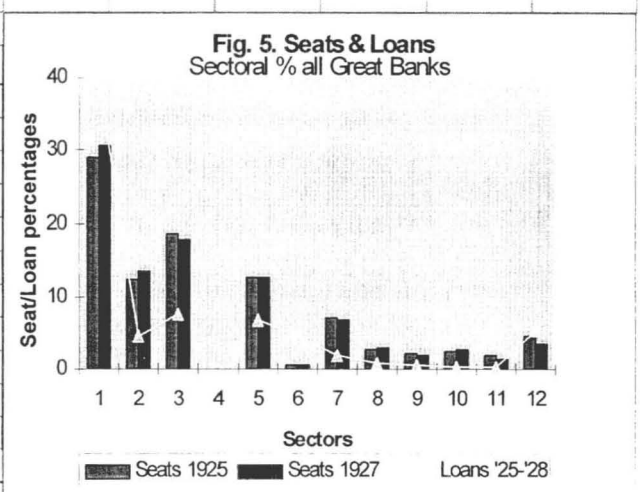
Correlation	Domestic loans p. sector 1925-1928 (%)	
	n=12	n=11*
Seats p. sector 1925 (%)	0,593	0,87
Seats p. sector 1927 (%)	0,592	0,88
		*without chemicals

(Source: Saling's Börsenpapiere, Vols. 1925, 1927)

Sector
1. Coal Min. & Met. ov.
2. Metal Industry
3. Mach. & Railw. Eq.
4. Chemicals
5. Electricity
6. Gummi/Linoleum
7. Textile
8. Paper
9.Constr. Materials
10. Glas/Porcellain
11. Sugar
12. Breweries/Spirits



Sector
1. Coal Min. & Met. ov.
2. Metal Industry
3. Mach. & Railw. Eq.
5. Electricity
6. Gummi/Linoleum
7. Textile
8. Paper
9.Constr. Materials
10. Glas/Porcellain
11. Sugar
12. Breweries/Spirits



As expected, correlating sectoral seat and domestic loan percentages gives a positive result (0.59). If one leaves out the chemical sector the correlation is even higher (0.87). Moreover, the fact that sectoral seat percentages for all *Grossbanken* hardly moved between 1925 and 1927, ensures almost identical results no matter which year is used to correlate sectoral seat percentages with domestic sectoral loans.

Finding a positive correlation between the sectoral spread of Great Bank directors' supervisory board seats and the sectoral spread of loans issued by the Great Banks, strengthens the conclusion of the previous section. Both the loan data and the supervisory board data point to Great Banks remaining most active in the heavy industry sectors they traditionally were most involved with. This involvement should however not be confused with influence, as the next section intends to make clear.

3.2.2 Did loans give influence? The case of the *Deutsche Bank*

Sectoral differences in the spread of loans do not tell us, whether Great Banks had more influence in some sectors than in others. As will be shown below, loans were only one of the means that potentially could, but not always did give a Great Banks leverage over firms. Hanemann suggests that in heavy industry sectors such as coal mining, metal and electricity, where large firms requiring enormous amounts of capital were predominant, the Great Banks had little influence[57]; only in sectors like machinery and railway equipment, where a lot of medium sized firms were active, the *Grossbanken* allegedly were able to exert pressure on management.[58] Generalisation on the sectoral level, however, is often problematic, given the difficulties which already arise, if one studies the relationships between individual banks and firms, as a

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[57] W. Hanemann, *Das Verhältnis der deutschen Grossbanken zur Industrie*, pp. 89 and 115.

[58] Ibid., p.124.

recent study by Wixforth on the relationship between the Great Banks and a number of coal mining and steel firms during the 1920s reveals.[59] If one studies the financial links between Great Banks and industry, besides information from annual reports, one needs to consult archival firm records in order to get a somewhat reliable picture about who was dominating whom.[60]

An analysis of the relationship between individual firms and individual Great Banks, however, can provide some insight into the question of influence. Factors like loan provision, stock issuing activity and share holdings, the relative size of a bank with respect to an industrial firm, and the historical links between banks and firms, all appear to have shaped of bank-firm relations. The significance of supervisory board positions of Great Bank directors (merely decorative, or expressing of real leverage) differed according to how these factors operated. The examples of the *Deutsche Banks*' relationship with particular firms given below are in no way comprehensive, but intend to illustrate how the factors mentioned above could vary from case to case.

An example of a situation in which size seems to have clearly mattered, is that of the coal mining and steel firm *Vereinigte Stahlwerke*, in terms of nominal share capital (800 million RM) the second largest firm in Germany by 1927. This giant trust, created in 1926, comprised other coal mining and steel firms that were independent in name only, like the *Gelsenkirchener Bergwerks A.G.*, the *Rheinische Stahlwerken*, the *Deutsch-Luxemburgische Bergw. u. Hütten A.G.*, the *Bochumer Verein f. Bergb. u. Gusstahl-fabrikation* and the *Ver. Stahlwerken vd Zypen*.[61] *Deutsche Bank* directors had seats on the supervisory boards of all these firms as well as on the supervisory board of the *Vereinigte Stahlwerke* itself. *Deutsche Bank's* links with the firms

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[59] H. Wixforth, *Banken und Schwerindustrie in der Weimarer Republik* (Köln, 1995), p.511.

[60] Ibid., pp. 7-8 and 54-58.

[61] W. Hanemann, *op.cit.*, pp.87-88.

comprising the *Vereinigte Stahlwerke*, did stem the pre-WWI period when *Deutsche Bank* had supported their growth.

During the 1920s, however, neither having supervisory board seats nor providing loans to the *Vereinigte Stahlwerke* gave *Deutsche Bank* any leverage over the giant steel trust.The founding companies of the Vereinigte Stahlwerke possessed about 660 Million RM of its share capital, whereas Great Banks like the *Deutsche Bank* and the *DANAT-Bank* had 36 and 38 Million RM worth of shares respectively.[62] Although the *Deutsche Bank* did provide loan credit, the amounts of capital the *Vereinigte Stahlwerke* required were simply to big for one Great Bank to supply. For example, the *Deutsche Bank* had to form a consortium with the other D-Banks (*Disconto-Gesellschaft, DANAT-Bank* and *Dresdner Bank*) in order to raise a 150 million RM loan for the *Vereinigte Stahlwerke* in 1926. But even this was not enough, since the *Vereinigte Stahlwerke* could afford to bypass the German consortium in 1927, in favour of a larger foreign loan offered in the United States.[63]

In other cases, however, historical links had secured bank continuing influence in the affairs of a large firm. *Mannesmannröhren,* a steel company, was one of those firms where *Deutsche Bank* had been involved heavily before WWI, both in the area of stock issues and in organisational restructuring, in order to increase the firm's profitability.[64] The success of the pre-WWI re-structuration led to *Mannesmahnröhren* becoming the eigth largest firm in Germany in terms of nominal share capital (160 million RM). However, the main difference with other firms *Deutsche Bank* had supported before WWI, was that it had remained *Mannesmannröhrens'* main share holder, possessing over one third of the firm's stock. The *Deutsche Bank* directors

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[62] H. Wixforth, *op.cit.*, p.481.

[63] G. Feldman,'The Deutsche Bank in the Weimar period', *The Deutsche Bank, 1870-1995*, p. 209.

[64] Ibid., p.40-41.

were able to influence the firm's affairs through their supervisory positions. Wixforth remarks, that the status of director M. Steintahl, who was the main representative of *Deutsche Bank* on the supervisory board of *Mannesmahnröhren* during the 1920s, was such that "the executive board considered the supervisory board not so much as having a controlling role, but more as a help to resolve management problems."[65] So, in spite of the fact that as a provider of loan credit the Deutsche Bank did not have an dominant role, its position as the main share holder of *Mannesmahnröhren* enabled the bank to influence the firms' management.[66]

An example of exercising influence through loan credits can be found in the machinery & railway equipment sector. During the 1920s *Deutsche Bank* became seriously involved in the affairs of car manufacturing companies *Daimler* and *Benz*, hoping the two would become leaders in a new mass-industry able to compete with US car-manufacturing rivals like Ford.[67] In the early 1920s when *Daimler* and *Benz* had not fused yet, *Deutsche Bank* had links with the two companies through banks it controlled: the *Rheinische Creditbank* (providing credit to *Benz*) and the *Württembergische Vereinsbank* (supporting *Daimler*). The director of the *Rheinische Creditbank*, Dr. Jahr, was the main promotor of a fusion between *Daimler* and *Benz*. In 1926 fusion took place and *Deutsche Bank* director E.G. von Stauss became chairman of the supervisory board of the new company. Von Stauss exerted pressure on the management of the company to reorganise production and the use of labour, a task complicated by labour resistance to rapid technological innovation.[68]

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[65] H. Wixforth, *op.cit.*, pp. 301-304.

[66] Ibid., p.304.

[67] G.Feldman, *op.cit.*, p.214.

[68] Ibid., p.215.

As these examples of *Deutsche Bank's* relationships with different firms show, loans could but did not necessarily give a Great Bank a say in managing a firm's affairs. In the case of medium- and small sized firms loans seem to have been a more effective way for a Great Bank to gain leverage, than in the case of large firms. The capital requirements of large firms had simply become too huge by the 1920s for one Great Bank to supply. If however, as a result of historical ties a Great Bank had remained in possession of the majority of a large firm's shares, it could nevertheless exercise influence over a firm. In such cases supervisory board seats of bank directors were not merely decorative, but allowed for a real say in managing a firm's affairs.

3.3 The decline of exclusive bank-firm relations: sign of competition?

As mentioned earlier (see: sections 1.2.2 and 2.1.3), some authors have seen the presence of more than one Great Bank representative on the supervisory board of a firm as evidence of decreasing influence of individual Great Banks and increased competition between Great Banks. In this section I will argue that there is evidence to sustain the first part of this hypothesis (i.e. the loss of exclusive bank-firm relationships), but that the confirmation of second part of the hypothesis (increased competition between Great Banks) does not necessarily follow from the confirmation of the first part.

To test whether there was an increase in firms shared by the Great Banks, for the five sectors where most seats of Great Bank directors were located (see: section 3.1.1) the total number of companies per bank and the number of companies per bank, where at least one other Great Bank also held a supervisory board seat were calculated for the years 1921, 1925 and 1930. Since patterns of change were quite similar in different sectors table IV only shows the results for the coal mining & metal ovens sector as a typical example. If one looks at the results of these calculations in table IV, the most obvious phenomenon is the repetition of the group pattern observed in table 1, that is a rise in the total number of companies and in the number of shared companies of all banks from 1921 to 1925 and a decline from 1925 to 1930.

Table IV **Company overlap in seats: coal min. & metal ovens sector**			
1921	*no. of shared comp.**	*tot. no. of comp. p.b.*	*%*
Deutsche Bank	9	17	52,9
Disconto-Gesellschaft	12	20	60
Berliner Handelsgesells.	14	18	77,8
Darmst.Bank f. H. u. Ind.	8	8	100
Nat. Bank f. Deutschland	7	14	50
Dresdner Bank	6	12	50
Commerz u. Privatbank	5	9	55,6
Mitteldeut. Creditbank	1	4	25
Total	62	102	60,8
1925	*no. of shared comp.*	*tot. no of comp. p.b.*	*%*
Deutsche Bank	18	22	81,8
Disconto-Gesellschaft	16	22	72,7
Berliner Handelsgesells.	15	16	93,7
Darmst. u. Nat. Bank**	19	24	79,2
Dresdner Bank	15	16	93,7
Commerz u. Privatbank	8	11	72,7
Mitteldeut. Creditbank	2	8	25
Total	93	119	78,2
1927	*no. of shared comp.*	*tot. no of comp. p.b.*	*%*
Deut.Bank&Disc.Ges.***	25	34	73,5
Berliner Handelsgesells.	9	10	90
Darmst. u. Nat. Bank**	16	18	88,9
Dresdner Bank	15	22	68,2
Comm. u. Privatbank****	10	14	71,4
Total	75	98	76,5
*companies where at least one other Great Bank had a supervisory board seat			
** Darmstadter Bank and Nationalbank merged in 1921			
*** Deutche Bank and Disconto-Gesellschaft merged in 1929			
**** Comm. Bank and Mitteldeutsche Creditbank merged in 1929			
[Source: Saling's Börsenpapiere, Vols. 1921, 1925, 1930]			

Again, the decline after 1925 (increased merger activity during the stabilisation period within industrial sectors and between the Great Banks themselves) is easier to account for than the rise during the inflationary period.

The number of shared companies as a percentage of total number of companies per bank is also reported in table IV. If one looks at the change in patterns over time, there is a rise in the percentage of shared companies of all banks from 1921 to 1925 and stability from 1925 to 1930 (patterns in the other top sectors are similar[69]). This appears to be consistent with the idea of a decreasing number of exclusive relationships between individual firms and individual Great Banks.

Although one might be tempted to interpret the percentage figures as a measure of competition between the Great Banks (high % of shared companies indicating much competition) there is good reason not to do so. In the preceding section it was pointed out that if the Great Banks as a result of restructuring faced giant concerns (mostly in sectors like coal mining, metal industry and electricity) they had to form constortia for the provision of loans. If banks co-operated, higher percentages of shared seats could still indicate a diminishing influence of individual Great Banks, but no increase in competition between Great Banks.

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[69] Percentages for 1921, 1925 and 1930 are as follows: Metal Ind.(51%, 56%, 54%), Electricity (73.9%, 75.5%,75%), Mach. & Railw. Eq. (49%, 54%, 62%), Banking (58%, 65%, 56%). *Saling's Börsenpapiere*, Vols. 1921, 1925, 1930.

Feldman suggests that particularly in the case of the *Deutsche Bank* and the *Disconto-Gesellschaft* the loan consortia formed in the second half of the 1920s were aimed at containing the breakdown in banking power.[70] Oscar Schlitter, the *Deutsche Bank* director most actively pushing towards fusion with the *Disconto-Gesellschaft*, expressed the concern of the Great Banks as follows: "The concentration of capital in industry has taken on such dimensions and will go on further in such a way that the activity of the banks will be more and more pushed back and it will be made impossible for them to combat this suppression. In order to meet the challenge of industry, it is necessary to create a banking block of such dimensions that its placement capacity will dominate the domestic market and that underbidding of opposition groups which go beyond the bounds of the reasonable would be pointless."[71]

It should however be noted, that competition between the Great Banks did not disappear completely in the late 1920s, and also that at the highest level personal animosity could play a considerable role in maintaining competition. A notable example is the reaction of the older generation of bankers in the *Deutsche Bank* and the *Disconto-Gesellschaft* to the rise of Jakob Goldschmidt as the leading director of the *DANAT-bank*. People like Georg Solmssen (*Disconto-Gesellschaft*) and Oskar Wassermann (*Deutsche Bank*) disapproved of Goldschmidt's 'speculative past' before he became director of the *DANAT-bank*.[72] (On the anecdotal level, James notes that according to the Dutch banker J. Houwink ten Cate, Goldschmidt's speculative activities had permitted him to pursue an 'exuberant personal lifestyle' which shocked the Calvinistic *burghers* of Amsterdam[73]). As Solmmsen was the key person to be convinced at the *Disconto-Gesellschaft* for opening up the prospect of fusion with one

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[70] Ibid., p.230.

[71] O. Schlitter quoted in: G. Feldman, *op.cit.*, p.232.

[72] Ibid., p.231.

[73] H. James, *The German Slump. Politics and Economics, 1924-1936*, p.145.

of the other Great Banks, his view of Goldschmidt is said to have diminished the likelihood of a fusion with the *DANAT*-Bank.[74]

The simultaneous occurrence of competition and co-operation between the Great Banks noted above, makes the interpretation of the results of the percentage of shared companies in table IV more difficult, since if banks co-operated having more than one bank represented in a company might weaken individual Great Banks, but also strengthen the position of the Great Banks as a group. This might for example have been a tactic of the Great Banks vis-à-vis the steel giant *Vereinigte Stahlwerke,* where in 1927 five of the Great Banks had a supervisory board seat (*Deut. Bank, Disc- Ges., DANAT-Bank, Dresdner B., Berl. Hand. Ges.*) and only two Great Banks did not have a seat (*Commerz. Bank and Mitteld. Creditbank*).[75]

In conclusion therefore, as far as the sectors where most of their directors' supervisory board seats were located, are concerned, it seems that the Great Banks were less able to secure exclusive relationships with firms by exclusion of other Great Banks from a firm's supervisory board. This weakening of the position of individual Great Banks did however not always signify increased competition, as the banks themselves realised, they had to form a block in order to maintain their position versus some of the very large firms they worked with.

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[74] G.Feldman, *op.cit.*,pp.231-232.

[75] *Saling's Börsenpapiere. Ein Handbuch für Bankiers und Kapitalisten,* E. Heinemann e.a. ed. (Berlin, 1927) p.992.

3.4 Supervisory board seat accumulation, monitoring and specialisation

As a final point, the composition of seats of directors with a lot seats was studied, in order to judge the claim that the accumulation of supervisory board seats by some directors of the *Grossbanken* diminished their capacity to monitor individual firms closely (see: section 2.1.4) Against this line of thinking one could argue that, if most supervisory board seats of Great Bank directors with many seats were mainly located in certain sectors, accumulation of seats might not have damaged directors' capacity to monitor firms. Moreover, concentration of a director's supervisory board seats might also indicate that a director took an active role in reorganising a sector, which would be consistent with Hilferding's theory. In order to test the hypothesis of a sectoral concentration of Great Bank director's supervisory board seats, first top-ten lists of bank directors with most supervisory board seats were compiled and subsequently the sectoral composition of seats was investigated.

In tables V, VI.1 and VI.2 lists of the ten directors with most seats in 1921 and 1930 are reported. The first remarkable thing is the considerable personal continuity of directors with many supervisory board seats in the period 1921-1930. Seven out of ten people who were in the top ten in 1921, were also in the top 10 in 1930. Furthermore, the persons listed were often leading figures amongst the directors of their banks, notably in the cases of O. Schlitter (*Deutsche Bank*), Gg. Solmssen and A. Salomonsohn (*Disconto-Gesellschaft*), H. Schacht and J. Goldschmidt (*DANAT-Bank*). As to the latter two, Schacht left the *DANAT-Bank* to become president of the *Reichsbank* and Goldschmidt quickly became a dominant *DANAT*-director, accumulating many supervisory board seats.

In table V it can be observed that with the exception of the amount of seats accumulated by Goldschmidt in 1930 (54 seats), the range of top-10 directors' seats in 1921 was not very different from 1930, varying between 18 and about 40 seats per director. Comparing the number of seats occupied by top-10 directors to the total held

by all directors of a bank, shows that the many-seat-directors were often quite exceptional amongst their fellow directors. For example, Solmssen and Salomonsohn together held almost 50% of the supervisory board seats of the *Disconto-Gesellschaft* in 1921, leaving the division of the other 50% to the five remaining directors. The case of Goldschmidt in 1930 is even more remarkable, since he occupied 50% of the total number of seats of directors of the *DANAT-Bank*. If one adds to these the seats of S. Bodemheimer, the percentage of seats held by these two *DANAT*-directors becomes 67.6%, leaving about 33% to divided amongst the remaining three directors.

In tables VI.1 and VI.2, one can see for 1921 and 1930 respectively, in which sectors top-10 directors held most and in which they held second most number of seats. What strikes the observer at first, is that, with few exceptions, top-10 directors usually held most and second most seats in heavy industry sectors. Moreover, the two sectors where most of top-10 directors' seats were located, together at least accounted for 30% of a director's total, and often even 40% or 50%. Finally, if one looks at the seats top-10 directors had in these sectors as a percentage of the bank's total in the sector, concentration again is often substantial. For example, O. Schlitter occupied 88.9% of the seats, directors of the *Deutsche Bank* had in the coal mining and metal ovens sector in 1921, i.e. 16 out of 18 seats. Carl Fürstenberg occupied all seats the directors of the *Berliner Handelsgesellschaft* had in the metal industry in 1921. In 1930 J. Goldschmidt occupied about 79% of the seats *DANAT*-directors had in the coal mining sector. In the case of Goldschmidt it is known that he mediated actively between the

TABLE V **Top 10 Directors**

1921	no. of seats director	no. of seats all dir.p.bnk	seat % per bank	no. of dir. per bank
1. Oscar Schlitter (Deutsche Bank)	39	112	34,8	9
2. Carl Fürstenberg (Berl. Handelsgesellschaft)	36	81	44,4	5
3. Dr. Gg. Solmssen (Discontogesellschaft)	28	115	24,3	7
4. Dr. A. Salomonsohn (Discontogesellschaft)	27	115	23,5	7
5. Dr. H. Schacht (Nat.bank für Deutschland)	26	69	37,7	5
6. K. Sobernheim (Comm. und Privatbank)	25	75	33,3	8
7. Dr. Gustav Sintenis (Berliner Handelsges.)	21	81	14,8	5
8. J. Goldschmidt (Nat.bank für Deutschland)	20	69	28,9	5
9. Otto Jeidels (Berlinger Handelsgesellschaft)	19	81	23,5	5
10. H. Guttmann (Dresdner Bank)	18	47	38,3	7
1930				
1. J. Goldschmidt (Darmst. und Nat.bank)	54	108	50	5
2. Oscar Schlitter (Deut.Bank & Disc.Gesell.)	43	192	22,4	12
3. K Sobernheim (Comm. u. Privatbank)	39	108	36,1	8
4. H. Nathan (Dresdner Bank)	28	102	27,5	6
5. O. Jeidels (Berliner Handelsgesellschaft)	25	53	47,2	4
H. Guttmann (Dresdner Bank)	25	102	24,5	6
7. Dr. Gg. Solmssen (Deut.Bank & Disc.Ges.)	24	192	12,5	12
8. Friedrich Reinhart (Comm. u. Privatbank)	22	108	20,4	8
9. Dr. h.c. Wilh. Kleemann (Dresdner Bank)	19	102	18,6	6
W. Kehl (Deut.Bank & Disconto Gesell.)	19	192	9,9	12
S. Bodenheimer (Darmst. u. Nationalbank)	19	108	17,6	5
G. Sintenis (Berliner Handelsgesellschaft)	19	53	35,8	4

[Source: Saling's Börsenpapiere, Vols. 1921, 1930]

TABLE VI.I **Top 10 Directors 1921**	Most Seat Sector	no. of seats director	% of total director	% of bank's total in sec.
1. Oscar Schlitter (Deutsche Bank)	Coal Min. & Met. Ov.	16	41	88,9
2. Carl Fürstenberg (Berl. Handelsgesellschaft)	Coal Min. & Met. Ov.	10	27,8	47,6
3. Dr. Gg. Solmssen (Discontogesellschaft)	Electricity	6	21,4	50
4. Dr. A. Salomonsohn (Discontogesellschaft)	Coal Min. & Met. Ov.	7	25,9	30,4
5. Dr. H. Schacht (Nat.bank für Deutschland)	Coal Min. & Met. Ov.	6	23,1	40
6. K. Sobernheim (Comm. und Privatbank)	Metal Industry	6	24	75
7. Dr. Gustav Sintenis (Berliner Handelsges.)	Coal Min. & Met. Ov.	4	19,1	19,1
8. J. Goldschmidt (Nat.bank für Deutschland)	Coal Min. & Met. Ov.	7	35	46,7
9. Otto Jeidels (Berlinger Handelsgesellschaft)	Coal Min. & Met. Ov.	4	21,1	19,1
10. H. Guttmann (Dresdner Bank)	Coal Min. & Met. Ov.	6	33,3	50
	Second most seat sector			
1. Oscar Schlitter (Deutsche Bank)	Mach. & Railway eq.	5	12,8	45,5
2. Carl Fürstenberg (Berl. Handelsgesellschaft)	Metal Industry	6	16,7	100
3. Dr. Gg. Solmssen (Discontogesellschaft)	Coal Min. & Met. Ov.	5	17,9	21,7
4. Dr. A. Salomonsohn (Discontogesellschaft)	Electricity	4	14,8	33,3
5. Dr. H. Schacht (Nat.bank für Deutschland)	Metal Industry	5	19,2	50
6. K. Sobernheim (Comm. und Privatbank)	Coal Min. & Met. Ov.	4	16	44,4
7. Dr. Gustav Sintenis (Berliner Handelsges.)	Railways	2	9,5	100
8. J. Goldschmidt (Nat.bank für Deutschland)	Metal Industry	3	15	30
9. Otto Jeidels (Berlinger Handelsgesellschaft)	Mach. & Railway eq.	3	15,8	37,5
10. H. Guttmann (Dresdner Bank)	Banking	3	16,7	37,5
[Source: Saling's Börsenpapiere, Vol. 1921]				

TABLE VI.2 **Top 10 Directors 1930**

	Most Seat Sector	no. of seats director	% of total director	% of bank's total in sec.
1. J. Goldschmidt (Darmst. und Nat.bank)	Coal Min. & Met. Ov.	15	27,8	78,9
2. Oscar Schlitter (Deut.Bank & Disc.Gesell.)	Coal Min. & Met. Ov.	18	41,9	42,9
3. K Sobernheim (Comm. u. Privatbank)	Metal Industry	7	17,9	53,8
4. H. Nathan (Dresdner Bank)	Coal Min. & Met. Ov.	8	28,6	36,4
5. O. Jeidels (Berliner Handelsgesellschaft)	Coal Min. & Met. Ov.	7	28	70
H. Guttmann (Dresdner Bank)	Coal Min. & Met. Ov.	8	32	36,4
7. Dr. Gg. Solmssen (Deut.Bank & Disc.Ges.)	Coal Min. & Met. Ov.	6	25	14,3
8. Friedrich Reinhart (Comm. u. Privatbank)	Coal Min. & Met. Ov.	5	22,7	35,7
9. Dr. h.c. Wilh. Kleemann (Dresdner Bank)	Textile Industry	3	15,8	100
W. Kehl (Deut.Bank & Disconto Gesell.)	Coal Min. & Met. Ov.	8	42,1	19,1
S. Bodenheimer (Darmst. u. Nationalbank)	Banking	3	15,8	30
G. Sintenis (Berliner Handelsgesellschaft)	Brew.& Spirits + Glas	2	10,5	100
	Second most seat sector			
1. J. Goldschmidt (Darmst. und Nat.bank)	Electricity	7	12,9	77,8
2. Oscar Schlitter (Deut.Bank & Disc.Gesell.)	Electricity	7	16,3	31,8
3. K Sobernheim (Comm. u. Privatbank)	Construction materials	5	12,8	62,5
4. H. Nathan (Dresdner Bank)	Electricity	5	17,9	55,6
5. O. Jeidels (Berliner Handelsgesellschaft)	Metal Industry	4	16	80
H. Guttmann (Dresdner Bank)	Metal Industry	4	16	50
7. Dr. Gg. Solmssen (Deut.Bank & Disc.Ges.)	Electricity	4	16,7	18,2
8. Friedrich Reinhart (Comm. u. Privatbank)	Banking	3	13,6	20
9. Dr. h.c. Wilh. Kleemann (Dresdner Bank)	Metal Industry	3	15,8	37,5
W. Kehl (Deut.Bank & Disconto Gesell.)	Textile Industry	4	21,1	36,4
S. Bodenheimer (Darmst. u. Nationalbank)	Coal Min. & Met. Ov.	3	15,8	15,8
G. Sintenis (Berliner Handelsgesellschaft)	Mach. & Railway eq.	2	10,5	28,6

[Source: Saling's Börsenpapiere, Vol. 1930]

main players during the fusion process of the Vereinigte Stahlwerke[76]. Having many of his supervisory board seats located in the coal mining and metal sector may have served him to play a co-ordinating role in the fusion-process.

To conclude, from the results presented in tables VI.1 and VI.2, it would appear that the spread of supervisory board seats of top-10 directors was not random, but often quite concentrated in certain sectors. By specialising in few sectors directors might, through gaining knowledge of the sector as a whole, have enabled themselves to spend less time on individual firms, without losing the capacity to monitor effectively. Having a lot of seats, therefore, may not necessarily have meant a decline in the supervising ability of a Great Bank director. In some cases it also may have made it easier to play a key role in reorganising an industrial sector.

[76] W. Hanemann, *op.cit.*, p.87.

4. Conclusion

The main objective of this dissertation has been to investigate whether Rudolf Hilferding's prediction, made in 1910, that the German Great Banks would increasingly get involved in all sectors of the economy, taking a co-ordinating role, was justified by developments during the Weimar period. This has been done first by looking at the cross-sectoral spread of supervisory board seats of directors of eight Great Banks and second, by investigating whether the sectoral spread of supervisory board seats could be correlated to the sectoral spread of bank loans. Debate about the importance of bank directors' supervisory board seats as means to monitor and shape firm policy or even co-ordinate the restructuring of a sector has raised two more issues, which were taken into consideration. First, the effect of more than one Great Bank director having a seat on the supervisory board of a firm was looked at. Second, the sectoral composition of supervisory board seats of Great Bank directors with many seats was analysed.

It was found that overall the sectoral shares of supervisory board seats of *Grossbank*-directors taken as a group did not change much during the 1920s. Supervisory board seats of bank directors were concentrated in five out of twenty-five sectors between 1921 and 1930, i.c. coal mining & metal ovens, metal industry, electricity, machinery & railway equipment and banking. After 1925 there was some decline in the number of seats held by Great Bank directors in the five top sectors, but it remained more than 50% of the total of their seats. The decline probably was connected to mergers within industry and amongst the Great Banks themselves. The increased concentration within industries as a result of the merger movement itself would be consistent with Hilferding's predictions, but the lack of Great Bank expansion outside traditional sectors not.

The investigation of the Great Banks as a group was complemented with a study of the sectoral spread of directors' supervisory board seats for individual Great Banks. The

results by and large confirmed the findings of the group study, although shifts of relative seat shares between the five top sectors were sometimes more marked. The shifts in sectoral shares in individual Great Banks were probably partly due to mergers between Great Banks during the 1920's.

The result of the study of sectoral spread of supervisory board seats could be used more convincingly as evidence against Hilferding's idea of increased cross-sectoral involvement of the Great Banks, if it could be related to the financial activities of the Great Banks. In order to obtain some notion of the seat-loan relationship, the sectoral spread of Great Bank loans and the sectoral spread of Great Bank directors' supervisory board seats were compared. A positive correlation between the two was found. The big exception to the pattern was the chemical industry, to which the Great Banks provided substantial loans, but where few of their directors' supervisory board seats were located.

A closer look at the position of the largest of the Great Banks, the *Deutsche Bank*, in sectors where its directors had many supervisory board seats, revealed that providing loans did not necessarily mean having substantial influence. The pre-WWI support given to firms had often led to emancipation and the size of the dominant firms in sectors like coal mining, chemicals and electricity had often increased so much, that an individual Great Bank could not provide the financial requirements of these firms anymore by itself. The representation of *Deutsche Bank* directors on the supervisory boards of large conglomerates in these cases was more an expression of friendly relations than of current leverage.

In the exceptional case of *Mannesmahnröhren*, *Deutsche Bank* remained able to shape firm policy, however not so much because of its role as credit supplier, as through holding the majority of *Mannesmanröhren's* shares. In the case of medium sized and small firms, more frequently located sectors like machinery and railway equipment, providing loans could give a Great Bank a substantial say in a firm's affairs, as

Deutsche Bank's involvement with the car company Daimler-Benz during the 1920s shows. In such cases supervisory board seats often were the expression of considerable bank influence.

As for the claim that the representation of more than one Great Bank on the supervisory board of a firm resulted in a decrease in influence of individual Great Banks and an increase in competition between Great Banks, only the first part of the argument was confirmed. It was found that for the Great Banks as a group the percentage of companies where more than one Great Bank was represented, increased during the 1920s in the many-seat-sectors. This could be interpreted as a decrease in the influence of individual Great Banks. However, this did not necessarily entail an increase in competition between the Great Banks. Co-operation in the form of consortia, sometimes leading to fusion, occurred as a strategy to regain strength vis-à-vis industry.

Finally, the controversy about the effect of the accumulation of many supervisory board seats by individual Great Bank directors was considered. Often those who featured on the list of ten directors with most supervisory board seats in 1921 were still in the top 10 by 1930. Most many-seat-directors had most of their seats located in heavy industry sectors, like the coal mining and metal industries. Moreover, often they accounted for a large part of a Great Banks' seats in these sectors. It seems to be the case, therefore, that many-seat-directors not seldom had areas of special interest. This finding could be used to oppose the argument that bank directors with many supervisory board seats, lacked time and knowledge to monitor effectively. As these directors were at the same time sectoral specialists, knowledge of a sector could have led to more efficient monitoring of individual firms in a sector requiring less of a director's time. In some cases the bank directors with most supervisory board seats in a sector, also were the ones who were most active in the re-organisation of the sector. To conclude, the tendency of German Great Banks during the Weimar period to remain most active in those sectors where they were most active before WWI, was not

consistent with the predictions of Hilferding's theory of Finance Capital. Although in some cases the Great Banks tried to foster new industries, they were not as successful in the 1920s as during the period 1870-1914. Staying involved in what had by the 1920s become 'traditional' heavy industry sectors usually meant staying involved as a junior partner for the Great Banks. The concentration process in the heavy industry sectors had progressed at a much quicker pace than in the banking sector itself, freeing industrial conglomerates from bank tutelage they had sometimes experienced during the early period of industrialisation.

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