Corporate Governance and the Uncertain Role of Interlocking Directorates

- Director Networks in Germany and their Impact on Financial Performance -

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Abstract :

This article deals with interlocking directorates and the increasing attention this topic has been attracting in recent years. Financial theory tends to regard the subject of directorship interlocks generally negative, even if theoretical argumentation also allows speaking favourably of the effects personnel relations have in a firm's perspective. At this point of time, empirical findings are contradictory and do not allow making concluding remarks on the impact director ties have on corporate performance. In order to fill this gap, we analyse interlocks between the 30 largest listed German companies from 2001 to 2005 for testing their impact on corporate performance. Our findings indicate that board appointments of executives harm firm performance. However, those interlocks seem to lower managing director compensation of the appointing firm. Interlocks between supervisory board members do not have any influence, neither on financial performance, nor on management payment levels.

Key words **:** corporate governance, interlocking directorates, board of directors, firm performance, executive compensation

1. Introduction

During the last thirty years, corporate governance has become one of the major topics of economic research in Continental Europe. Indeed, the world of business and sciences seems to be flooded by innumerable discussions about management principles, accounting rules, financial publication requirements as well as behaviour recommendations towards shareholders and stakeholders. In the battlefield of those issues, interlocking corporate directorates have attracted particular attention.[1]

Directorship interlocks make part of what is usually called corporate networks and which, in addition to that first group, also includes property relations between corporations. Being relatively hazy, the notion of corporate networks is generally tackled by the concept of ties. Whereas property relations generally refer to participation in corporate capital, director networks are usually measured through the number of mandates directors accumulate by sitting at the same time on several boards. However, network ties can also be based on other elements forming social capital such as a common formation, the same social background or common participation in business associations (CHARREAUX, 2003).

The nature of interlocking directorates varies across countries and depends particularly on the characteristics of the prevailing organisational structure of the corporate system. Thus, in the traditional Anglo-Saxon one-board-system, personal ties emerge through the fact that a member of the board of one corporation occupies at the same time a board function in another one, thus creating a relationship between the concerned organisations (MIZRUCHI, 1996). The importance of the relation depends on the fact whether the connecting person only occupies outside directorships or whether she is a main executive in one of the firms tied by her.[2] Usually, inside directors have a greater degree of influence over the corporation's decision making process than outsiders. The fact that there exist numerous of those bilateral relations results in the emergence of a complex web of ties that permits to connect a large number of companies, passing widely ahead the initially combined firms.

[1] See e.g. SCHMIDT (1974), ZIEGLER (1984), PFANNSCHMIDT (1995), BEYER (1996, 2003), WENGER / KASERER (1998), WINDOLF / NOLLERT (2001), HEINZE (2002), FERRIS et al. (2003), YEO et al. (2003), HÖPNER / KREMPEL (2004).

[2] However, the probability that an executive simultaneously occupies several management functions tends to zero as labour contracts of managers usually do not accept additional executive businesses.

In contrast to the prevailing monistic board structure, the German economy is characterised by a dual board system in which the nature of personal ties can be more complex. On the one hand, corporate ties can be build up – at least theoretically – via the management board (*Vorstand*). Thus, an executive director who is simultaneously sitting in the management board of another firm establishes an intercorporate management relation. Such a relation can be defined as high-powered in terms of the influence potential that can be mobilised by the director. Indeed, this kind of relation may largely facilitate the mutual exchange of management practices. Doing so, acquired advantages in terms of information and knowledge can be directly implemented in day-to-day business. Nevertheless, in reality, ties between management boards seem to be limited on the subsidiary-level of German corporations (PFANNSCHMIDT, 1995). Our findings confirm this assumption. In fact, during the whole observed period from 2001 to 2005, no member of the management board of any of the corporations quoted in the DAX 30 Index occupied at the same time a second executive function in one of those firms. On the other hand, interlocking directorates can be established via the supervisory board (*Aufsichtsrat*). Here, we distinguish two different forms. Figure 1 illustrates the two kinds of possible relations that can exist from a supervisory board's perspective and that will be retained in our analysis.

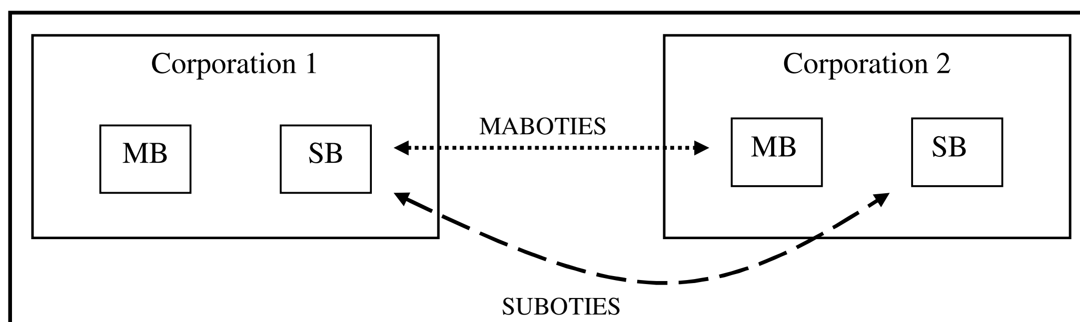

Figure 1: Possible interlock forms in a supervisory board's perspective

First, a supervisory board director can occupy an executive mandate in another corporation whilst remaining in the current position he is in. We call such relation a management board tie (MABOTIES) and define it as a medium-powered connection. In fact, as the supervisory board not only has vocation to control decision making, but also – and actually, this should be his main function – to actively contribute to establish corporate strategy and investment opportunities in the long run, executive's participation in the board's decision making process can be advantageous. Secondly, a member of the supervisory board without any executive function can also create a supervisory board tie (SUBOTIES) by sitting at the same time on another control board.

In this context, we think that ties which are established by the chairman of the supervisory board (*Aufsichtsratsvorsitzender*) are worth getting particular attention. First of all, the weight the chairman has in board decisions is important. For example, if there is a stand-off between the shareholder side and labour representatives, his vote counts double. Secondly, in Germany the position of the chairman of the supervisory board is very often attributed to the former president of the management board (*Vorstandsvorsitzender*). This "tradition" enables to keep former relations to executives which allows stabilising director network structures. In consequence, this attributes to the chairman of the supervisory board a crucial influence in the decision making process. Our findings confirm this pretended existing tradition as during the economic fiscal year 2005, 17 out of the 30 DAX companies had the former president of the management board or at least a former ordinary member on top of the supervisory board. Hence, in 2005 more than half of the German blue chips were controlled by their own erstwhile managers.

The effects of personnel ties can be numerous and may simply conduct in economic coordination and concerted actions between management boards. Also, they can be useful to exchange information, experiences and knowledge between directors. Finally and most often argued in the predominant financial governance approach, interlocking directorates may lead to mutual management entrenchment and conspiracy against effective control by shareholders, financial markets and other control instruments. Indeed, most mobilised arguments indicate that directorship interlocks are used to exploit private benefits in favour of entrenched managers that are detrimental to shareholder wealth creation.

As most of economies in Continental Europe are characterised by concentrated ownership structures, corporate crossholdings and somewhat elitist managerial circles, the phenomenon of directorship interlocks has been regularly opposed to numerous critics in sciences, public and financial press. Discussions have been particularly brisk in traditionally highly concentrated economies like Germany or France.[3]

Thus, since the 70s of the last century, the German company network – often denoted by *Deutschland AG (Germany Inc.)*, making allusion to the fact that an overwhelming part of companies is connected to each other by personnel and/or financial ties – has become under ongoing pressure. In deed, financial press often criticizes the lack of hostile takeovers and an efficient market of corporate control, but also the usurpation of shareholder competences,

cronyism as well as the establishment of a *de facto* hegemony of some few managers, due to the existence of multiple intercorporate relations on the personnel or the property level. Network opponents argue that it is just that insufficient management control which has been led to massive shareholder spoliation in the German economy (ADAMS, 1994; WENGER / KASERER, 1998).

Astonishingly, financial governance theory does not give clear insight into the impact interlocking directorates may have on corporate performance. On the one hand, agency theory suggests that disciplinary strengthening of directors can reduce the residual loss and thus improves the creation of shareholder value. Following this, research on directorship interlocks has to verify whether or not board seat accumulation diminishes the efficiency of external control mechanisms, leading e.g. to lower takeover activities or excessive director compensation. Hence, in this view the presumed influence of personnel ties is clearly negative. However, if there is a mechanism that allows strengthening director's behaviour, like guidelines of employers' associations which commit their participants to respect a certain governance code or a behaviour code, the influence of personnel networks on corporate performance does not have to be necessarily negative (CHARREAUX, 2003).

On the other hand, social capital of directors can contribute to enforce financial performance. Indeed, as busy directors often are, or were in the past, members of a management board, they dispose of a large set of information, experiences and knowledge about how to guide a company. Moreover, multiple board appointments offer insight in different economic sectors and enable them to stimulate strategic discussion in board meetings. Thus, the consideration of director's social capital may explain positive effects of networks on financial performance. Nevertheless, this perspective has been largely neglected in governance research.

Taking into consideration the uncertain role interlocks play in financial governance theory, it is not surprising that empirical analysis does not indicate clear results. Indeed, whereas American studies mostly conclude negative about corporate directorships, research in Continental Europe is not clear-cut at all. Especially in the German case very little research has been done on the impact interlocks have on corporate performance. This is even more astonishing since the German network in particular has been opposed to heavy critics in the past.

[3] See e.g. ADAMS (1994), MORIN (1996), GAULKE (1997), WENGER / KASERER (1998), MORIN / RIGAMONTI (2002).

In this article, we seek to fill this gap by analysing whether there is a significant relation between interlocking directorates and financial performance. As we want to check whether directorship interlocks impacts on monitoring activity of the controlling board, we will limit our investigation explicitly to the analysis of corporate interlocks established by the company's supervisory board members. In consequence, board seat accumulation is considered from a company's point of view and not from a director's perspective. Following this, our main question is to check out whether the appointment of "busy directors" to a company's supervisory board – that means, persons who occupy at the same time executive or control functions in other corporations – harms the wealth creation power of this company and, in consequence, leads to shareholder spoliation.

The remainder of this paper is organised as followed: Section 2 reviews the literature and describes how interlocking directorates are dealt with in the dominating shareholder value perspective of corporate governance. Section 3 explains directorship regulation in Germany and summarizes recent work about German interlocks. After this, the section analyses the impact of interlocks on financial performance, measured here by the return on equity and the Marris ratio. Moreover, we control for an eventual impact of interlocks on the compensation level of corporate executives. Section 4 summarizes key findings and offers a short indication about further research relating to directorship interlocks.

2. Interlocking directorates and the shareholder value approach

The reasons for establishing directorship interlocks can be numerous and have been largely explored since decades in sociology, psychology and political sciences (GRANOVETTER, 1973; ZIEGLER, 1984; ALLEN, 1974; MIZRUCHI, 1996). Thus, interlocks may be the result of financial participations between companies that shall be secured by common director appointments. Here, in particular banks may be incited to send their representatives to the boards of their client companies for better credit monitoring. In a more accusing interpretation, interlocks may facilitate collusion in order to determine production quantities, to raise prices, but also to reduce costs. Furthermore, personnel ties may render corporate takeovers more difficult. Finally, via management entrenchment, interlocks may guarantee power of an upper social class.

However, the reasons for creating interlocking directorates do not have to exclusively cause negative implications. Thus, frequent meetings of a limited number of highly qualified and experienced directors may enhance the exchange of information and knowledge between firms which can contribute to organisational learning and further corporate prosperity. Moreover, network presence of busy directors may foster business contacts and cooperation between companies.

As one can see, a merely unlimited number of arguments can be mobilised to explain board interlocks. Anyhow, their existence does not automatically presume conscious decisions for creating them in the first place. Instead, corporate interlocks may come about unintentionally and be just the haphazard result of multiple director nomination (MIZRUCHI, 1996). Thus, the analysis of interlocking directorates does not permit to trace the real power relatedness between corporations, but only indicates the potential that can be mobilised for influencing on corporate decisions. The effective influence, realised by phone calls, email-contacts, board sessions or official and nonofficial socialising such as common club participation can of course not be quantified.

Surprisingly, in Continental Europe, research in economics and business only deals with directorship interlocks since the emerging discussions about governance and shareholder value in the middle of the 1980s. Generally, governance research is based on the efficiency paradigm. In this perspective, monitoring mechanisms such as the board of directors, hostile takeovers or mutual control between executives are exposed to enhance corporation's efficiency. In fact, due to their disciplinary and incentive effects they are supposed to constrain managerial actions on business politics that maximize corporate value. Usually, the disciplinary governance view gathers two different branches – the shareholder value perspective which largely dominates financial literature still today as well as the stakeholder perspective, much less common in finance, but which recently has seen growing importance.

The prevailing shareholder perspective generally refers to the seminal work of BERLE / MEANS (1932) on large American corporations at the beginning of the 20th century. As a remarkable percentage of corporations was characterised during this time by highly dispersed ownership, the initially combined functions of ownership and control drifted apart. Indeed, while shareholders assumed the ownership function, corporate directors were in charge of the company's control and determined corporate decisions. However, as ownership was mostly

widely held, the single shareholder was not able to effectively exercise ownership rights and to discipline managers anymore. In consequence, discretionary action field of directors grew sensitively which was triggering the emergence of an economic system of managerial power.

BERLE / MEANS (1932) argued that, due to the mentioned functional separation, shareholders no longer bear the former entrepreneurial risk. As a consequence, corporate policy which searches to maximize firm value in the only interests of shareholders would not be justified anymore. Thus, the authors propose the pursuit of a broader approach, taking into account specific investments of all stakeholders and distributing created value in proportion to their respective contributions.[4] However, their work was often interpreted by numerous authors as the departure point of the shareholder value concept which still today largely dominates governance research.

Based on aforementioned work, JENSEN / MECKLING (1976) developed what today is generally known as principal agent theory. This concept constitutes the basis of financial governance and represents mostly the starting point of discussions about governance principles and necessary institutional rules. To be more precise, the model deals with the conflicting relations between managers and shareholders. The mentioned conflict emerges due to capital opening of a private company, causing a separation between the initially in the hands of the entrepreneur united functions of ownership and control. Associated to legal conception of propriety, agency theory exclusively considers shareholders as the only residual claimants, having the right to appropriate the profit. Indeed, as all the other stakeholders are supposed to be correctly protected by contracts, only shareholders would assume the residual risk. In consequence, managerial action exclusively has to respect interests of shareholders because that will be the best way to assure corporate value maximisation.

Observation of research activities in the past shows that financial literature attributed very much attention to the development of mechanisms, aiming to facilitate managerial disciplining and, by this, to diminish agency costs. In such a perspective, the board's role has often been reduced to a pure control function that allows aligning managerial action to the interests of the equity owners. Here, the phenomenon of director networks – generally tackled via seat accumulation in supervisory boards – is mostly considered as having a negative impact on managerial behaviour.

[4] See BERLE / MEANS (1932, p. 293): "The extensive separation of ownership and control, and the strengthening of the powers of control, raise a new situation calling for a decision whether social and legal pressure should be applied in an effort to insure corporate operation primarily in the interests of the 'owners' or whether such pressure shall be applied in the interests of some other or wider group".

Indeed, following shareholder value theory, multiple directorships are supposed to grade efficiency of board meetings and to cause higher agency costs (LIPTON / LORSCH, 1992). FERRIS et al. (2003) call this the "Busyness Hypothesis". As directors with multiple appointments are overcommitted and suffer from a lack of time, they are hardly able to assure effective and meaningful control of the management board (PERRY / PEYER, 2005). Furthermore, multiple board appointments can make emerge interest conflicts that may be detrimental for companies. In consequence of this control laxness, shareholders suffer from spoliation in terms of financial underperformance and lower market values.

Moreover, disadvantages can take other forms like lower takeover activities, excessive manager compensation, higher litigation risks or perquisite director consumption by prestige expenses (SHIVDASANI, 1993). Indeed, as executive directors have *de facto* power about composition of the board of directors, they could be tended to appoint friendly and sympathetic directors. Those directors make eventually part of a bigger director network and should *a priori* be loyal to executive directors. Due to this loyalty, private director perquisites can be more easily attended.

Empirical evidence is mostly suggestive to a negative impact of directorship interlocks. BEASLEY (1996) shows that the likelihood of financial statement fraud is positively related to the number of board appointments outside directors hold, thus indicating lower monitoring efforts of busy outsiders. HALLOCK (1997) finds that if CEOs are mutually interlocked via the board of directors, CEO compensation is significantly higher compared to firms with non-interlocked CEOs. CORE / HOLTHAUSEN / LARCKER (1999) confirm those results as they find higher CEO remuneration if outside directors are busy and dispose of three or more board seats. FICH / WHITE (2003) find that interlocked companies offer significantly higher compensation to their CEOs. Furthermore, the probability of CEO turnover due to poor firm performance is inversely related to the number of interlocks. In consequence, they conclude that interlocking directorates weaken firm governance, promote cronyism and boost agency costs. FICH / SHIVDASANI (2006) show that companies with a majority of busy outside directors have significantly lower market-to-book ratios. Boards of such companies seem less likely to fire CEOs for poor performance. Moreover, departure of busy outsiders was related to significantly positive market reaction. Finally, market valuation of firms diminishes if directors are appointed to other boards and thus become busy.

Nevertheless, different studies revealing positive effects cause doubt on the question whether interlocking directorates harm shareholder wealth creation. Henceforth, CHARREAUX (1991) finds a slightly positive relationship between the number of interlocks and performance of French firms, measured by the Marris ratio as well as return on equity. However, results were only statistically significant for firms that were family-controlled.

Remaining in France, PICHARD-STAMFORD (2000) finds that even if highly interlocked firms are more likely to extend mandate tenure of executives, they do not harm corporate performance. LODERER / PEYER (2002) find a positive relationship between the number of directorships hold by the chairman of the board in listed firms and firm value measured by Tobin's Q. However, analysis of seat accumulation in both listed and unlisted firms shows a clearly negative impact on corporate performance. FERRIS et al. (2003) do not find that multiple directorships harm firm performance and reject the "Busyness Hypothesis". Instead, companies that announced for the first time the appointment of a busy director revealed significantly positive excess returns. YEO et al. (2003) also conclude positive about interlocking directorates. Studying French firms they find that board seat accumulation leads to higher corporate performance, measured by return on assets.

Finally, PERRY / PEYER (2005) find that market reaction on additional director board appointments depends on the perceived level of agency problems of prior appointing firms. Thus, additional directorships of managers coming from firms with lower perceived agency problems lead to significantly higher announcement returns of the sender firm and *vice versa*. Moreover, returns are higher if the director appoints to a financial firm, to a firm of the same economic sector or to one with better growth opportunities. Following those results, additional board appointments - through their possibility to acquire specific knowledge, to create network opportunities and to signal quality of directors - may enhance firm value and thus lower agency costs.

Even if theoretical argumentation mostly suggests negative impacts, financial governance equally permits to explain a positive view of multiple directorships. Generally, managerial capital and competences are evaluated on the market of directors. If this market is linked with corporate performance, director's success and failures will be reflected in the manager's market evaluation that indicates his capacities and talents. As this information will shape the director's outside opportunity wage, he will be interested in assuring enduring wealth creation which will lead to corporate performance (FAMA, 1980; FAMA / JENSEN, 1983). Following that argumentation, companies might be incited to appoint those directors who manage com-

panies that performed well in the past (FICH, 2005). Here, the number of directorships held by a person would be interpreted as an indicator of director's quality. Hence, multiple board appointments can be seen as a proxy of the reputational capital of a director (KAPLAN / REISHUS, 1990; BRICKLEY et al., 1999, VAFEAS, 1999).

Findings of GILSON (1990) seem to confirm this assumption. Thus, if a director lefts a financially distressed firm, the number of board appointments he engages after his departure falls significantly. Indeed, as multiple appointments provide specific information, better managerial resources and monitoring expertise, sitting on several boards may incline the reputational value of the director and, as a consequence, its prestige and compensation. As the labour market would punish for poor performance, director's fears about degrading reputational capital will incite them to meaningful and effective monitoring of management (VAFEAS, 1999). This finally leads to the reduction of agency costs. Thus, if there is efficiency on the market of directors, board appointments should be allocated according to the director's quality. Hence, the most competent directors should occupy most directorships.

Finally, FICH (2005) finds that CEOs of well performing firms are more likely to appoint on boards of companies with higher growth opportunities and efficient shareholder protection. Such appointments go along with significantly positive market reactions. However, if the CEO appoints before he has reached retirement age, market reaction relative to the sending is significantly negative, indicating the fear of investors that additional board appointments will reduce the time that is dedicated to the sender’s firm management.

Another advantage of multiple directorships is that they may be beneficial to the company in terms of important information and scarce managerial resources (YEO et al. 2003). Indeed, as most interlocks are established by experienced directors of large companies, those persons can be particularly advantageous for companies. For example, they can contribute to reducing environmental uncertainty. Finally, they are a source of prestige and business contacts which may induce board members to seek outside directorships.

Moreover, multiple directorships offer the possibility to a firm to establish more easily contacts to other corporations and thus develop and discuss future growth opportunities (BOOTH / DELI, 1996). Indeed, experience, knowledge and numerous network contacts make it attractive for a firm to hire a busy director because seat accumulation enables the director to acquire specific knowledge about company strategies and investment opportunities which might be beneficial to the sender firm (CARPENTER / WESTPHAL, 2001).

3. Directorship interlocks in Germany

German business legislation (§§ 100, 105 AktG) limits the number of supervisory board mandates to a maximum of ten seats per person whereas a position as the president of the supervisory board is given double weight. Furthermore, a person can obtain up to five positions in subsidiaries of the concerned corporation. A person who is member of the management board of a dependent corporation can not simultaneously sit on the supervisory board of the dominating corporation. Cross interlocks between two corporations in the form of a mutual exchange of executive directors are forbidden. Finally, representing the main characteristic of the German dual board system, a member of the management board is not allowed to sit coevally in the supervisory board of the same corporation.

Concerning the German system of interlocking directorates, most studies are confined to a descriptive analysis of the network. However, analysing network relations generally is a challenging task. Indeed, networks do not have any concrete telephone number or any own office. Instead, their structure varies over time and is generally actualised by ongoing social interactions in regular board meetings. As a consequence, it is nearly impossible to define network frontiers. Moreover, network agreements are informal and can not be claimed by legal action (WINDOLF / NOLLERT, 2001).

Still, we do have some knowledge in the common nature of these networks. In general, the German network of director ties can be described as highly concentrated. Analysing fundamental forms of German corporate interlocks, BEYER (1996) differentiated companies following their function in the director's network in senders, receivers, those that serve as intermediaries and isolated companies. For the year 1992, 8,9 % out of the analysed 616 companies were senders, 37,3 % receivers, one third intermediaries and only 20,5 % were classified as isolated. Thus, four out of five of the biggest German companies are connected with each other by mutual directors (executive or not). The discrepancy between senders and receivers indicates that only some few firms seem to figure as key corporations in the German company network.

Analysis of WINDOLF / NOLLERT (2001) confirms the preceding results. They indicate that almost nine out of ten of the considered 616 largest German corporations are connected between each other by personnel ties. That quota seems to be relatively high, compared to other economies like France (52,9 %) or Great Britain (57,3 %). Moreover, German banks seemed to play a predominant network role in the past. Indeed, banks sent about three

times as many persons in the supervisory boards of non financial corporations as it was the case the other way around. Hence, in economies that are dominated by debt financing, the dependence between banks and industrial groups seems to be more important, resulting in an enforced presence of bankers in the supervisory boards of their clients. This supports theory of banking hegemony.

Moreover, network structures, at least in the heart, seem to keep stable over time. In fact, as HEINZE (2002) indicates for the period 1989 to 2001, the qualitative character of corporate interlocks does not vary much over time. Indeed, while he observes a remarkably reduction of personnel ties at the border lines of the network, director relations in the core remain quite stable. According to those results, German director networks seem to be opposed to a quantitative reduction that lets the qualitative and structural character of the network more or less unchanged. The fact that the number of multiple relations between two corporations remains stable over time appears to confirm the stability hypothesis, too. Finally, financial institutions seem to reduce their influence in the network of direct relations.

As one can see, even if shareholder value theory mostly emphasises the negative impact of interlocking directorates, empirical analysis show contradictory results. Wit respect to Germany, analysis dealing with interlocks' impact on financial performance are not numerous and do not allow any definitive conclusion about the impact of directorship interlocks. This is even more surprising since the political and financial press has been criticising the merely transparent German corporate network as a building of complicated and almost unidentifiable personnel and financial relations for years on end (ADAMS, 1994; WENGER / KASERER, 1998).

We find only two empirical studies that tackle the relation between interlocking directorates and firm performance directly. In the first, PFANNSCHMIDT (1995) reveals a significantly positive correlation between the number of interlocks and average turnover profitability. Also, there is a slightly positive but not significant relation between interlock intensity and return on equity, return on capital and the market to book ratio. Moreover, sending executives in supervisory boards of other enterprises seems revealing positive for corporations as corporate profitability, measured by the average return on equity and average turnover profitability, is significantly higher.

In contrast to that slight positive impact of interlocks on performance, WENGER / KASERER (1998) do not find any significant relation between seat accumulation of banking representatives and firm performance. Even if a banking director presides over the supervisory board, there is no significant influence on financial performance in the long run. Henceforth, in the German case, empirical results do not allow to confirm the mostly mobilised hypothesis that interlocked directorships – due to the lack of time of busy directors – have a negative impact on corporate financial performance.

Within the context of so far limited German analysis of the effects interlocking directorates have on corporate performance and in the light of the results that are in heavy contrast to the discussions in public and financial press, we will try to bring evidence to that issue. We will check the financial performance of the German blue chips by conducting a time series analysis over the period from 2001 to 2005. Our sample includes all companies that were quoted in the DAX 30 Index at the end of the year 2005.[5] We collected data on the composition of both the management board and the supervisory board. For this purpose, we used the annual reports of the considered corporations and completed collected information by using *Hoppenstedt's* database "*Leitende Männer und Frauen der Wirtschaft*". We then observed the impact of ties that are established by shareholder representatives. Hence, we do not consider employee representatives. Compensation information was equally extracted from annual reports. Financial and accounting information were taken from the OSIRIS database.

We count interlocks as the number of personnel ties a firm establishes via the outside appointments of the persons who sit on the company's supervisory board. Thus, we theoretically establish the number of communication channels a company could mobilise. Concretely, we distinguish the two different measures that have been described in Figure 1. The first one (SUBOTIES) counts the number of interlocks established to other supervisory boards. The second one (MABOTIES) refers to the number of ties established to other management boards. Each of the two measures counts the number of months the relation exists, relative to the fiscal year. Thus, a director who is sitting for a period of 10 months at the supervisory board of another company creates an interlock tie of 10/12 years. For reasons of collection simplification, fractured months were wholly counted. Table 1 indicates the evolution of interlocks during the observation period.

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[5] Actually, due to the merger with *UniCredito*, *Bayerische Hypo- und Vereinsbank* (*HVB*) was excluded from the DAX 30 Index at the 19th December 2005, letting get in *Hypo Real Estate Holding* at his place. However, as *HVB* played a major role in the German company network and for reasons of comparison, we decided to retain *HVB* in our analysis and, in consequence, to not include *Hypo Real Estate Holding*.

	Number of interlocks		
	interlocks to supervisory boards (SUBOTIES)	interlocks to management boards (MABOTIES)	total number of interlocks
year 2005	319,75	47,17	366,92
2004	330,75	51,75	382,50
2003	325,75	60,50	386,25
2002	321,67	61,33	383,00
2001	304,50	66,67	371,17

Table 1: Interlock evolution of DAX 30 companies during the period 2005 - 2001

Concerning the evolution of the total number of ties, personnel networks seem to stay quite stable over time. While the number of interlocks to management boards declined during the past five years, this decline seems to be nearly compensated by an ascending number of interlocks established via supervisory boards. However, in the last year of our observation period, we find a decline of both supervisory board ties and management board ties, letting fall the total number of interlocks behind its level of the year 2001.Companies with most supervisory board ties were *Allianz*, *Bayer*, *Deutsche Lufthansa* and *E.On*. Companies who attracted most executive directors were *Commerzbank*, *Infineon*, *MAN* and *Münchener Rückversicherung*.

Even if the total number of ties seems to vary only slightly over time, some noticeable changes have been taken place at the company level. Table 2 analyses more in detail the evolution of ties and points out the companies that quantitatively changed the most.

Interlock winners	number of ties		
	2005	2001	change
Bayer	24,64	15,00	+9,67
Dt. Lufthansa	24,00	16,00	+8,00
Metro	12,92	3,67	+7,25
BASF	21,08	8,92	+3,42
MAN	10,75	5,92	+3,08

Interlock loosers	number of ties		
	2005	2001	change
E.On	21,33	29,50	-8,17
ThyssenKrupp	17,42	25,00	-7,58
Münchener Rück	20,83	26,00	-5,17
Schering	8,83	13,50	-4,67
Linde	19,58	24,17	-4,58

Table 2: Interlock winners and losers of several DAX 30 companies during the period 2005 - 2001

As we can see, the weight of the former leading companies of the German network seems to decline but does remain on high levels. Most remarkable decline can be stated for *E.ON*, *ThyssenKrupp* and *Münchener Rückversicherung*. On the other hand, the number of directorships in companies that played a smaller role in the past like *Bayer*, *Deutsche Lufthansa* or *Metro* rises sensitively. Moreover, interlock numbers of *Deutsche Telekom* and *Deutsche Post* equally rose, indicating that the former state companies tend to be more and

more integrated in the network. Our results are similar to those of HEINZE (2002) even if he finds only relative stability of directorates over time while personnel ties in absolute terms diminished. This is interesting to mention because recent work often argued in favour of network break-up. We think that the mentioned network decline (BEYER, 2003; HÖPNER / KREMPEL, 2004) seems to be limited to capital tie levels and fails to occur in the personnel network, at least in its heart.

Considering the number of interlocks and their evolution over time, several remarks need to be made. First of all, following our method, the number of counted interlocks does not indicate the effective influence a company realises but only the potential influence that could be mobilised. Second, a high interlock number does not lead to definitive conclusions about the power position of this company in the network. Instead, it only indicates that some members of the supervisory board occupy a relatively high number of executive or control mandates in other companies. In an extreme case, the affected company might not have any influence, but its supervisory board would only act as a "meeting club" of the most interlocked business men. Following table 2, "meeting centres" of the personnel network seem to move over time. Nevertheless, the analysis of the number of board interlocks can shed further light on the effects personnel ties have on corporate performance as the supervisory board assures directly a control function of the management board and thus influences disciplinary sphere.

After an initial empirical description of the current network situation, we will check the impact German directorship interlocks have on corporate performance. We chose two different performance measures, trying to check the impact in both an ex post and an ex ante perspective. Empirical investigation is realised by multivariate regression analysis.[6]

$$(1)\quad RoAE_{adj} = c_0 + c_1 \cdot lnASSETS + c_2 \cdot lnSUBOSIZE + c_3 \cdot MEETINGS + c_4 \cdot COMMITTEES + c_5 \cdot SUBOTIES_{adj} + c_6 \cdot MABOTIES_{adj}$$

Equation 1 explains the components of our first model. As corporate performance measure we choose the annual return on equity ($RoEA_{adj}$), adjusted by subtracting costs of equity. Equity is gauged as its average book value from the current and the previous fiscal year. Cost of equity is calculated as an annual value by using the CAPM. As risk free rate we chose the annual average yield of German state obligations with maturity between 9 and 10 years, quoted at the Eurex. Market return was calculated by taking a rolling ten year return

[6] We initially made a certain number of panel regression which did not give any clear resullts. So we finally decided to launch annual multivariate regressions.

average of the Dax 30 Index. Finally, company specific risk is represented by the average of monthly Betas, calculated for each fiscal year.

Concerning our control variables, we will first proxy for company size. Therefore, we use the natural logarithm of total assets (ASSETS) of the current fiscal year. We suppose that larger companies are less likely to produce higher returns on equity as business and production organisation in big companies is more complex and less efficiently controlled. Moreover, we will proxy for board size. Following financial governance theory, board size is an important determination factor of monitoring efficiency. Generally, larger boards are associated with laxer control activities, which should lead to lower performance levels (JENSEN, 1993). In fact, a higher number of directors is supposed to lead to control dilution as well as a reduction of the supervising intensity, making larger boards comparatively ineffective. Hence, we expect a negative impact on firm performance. We decided to measure supervisory board size by its effective size during the fiscal period instead of its formal size (SUBOSIZE). Thus, early departures or additional appointments of supervisory board members are taken into consideration. Also, we control for the number of annual meetings, counted as the sum of ordinary and extraordinary board sessions during the fiscal year (MEETINGS). A high number of board meetings may give indication to shareholders and potential investors that there are important economic problems to be solved (VAFEAS, 1999). Hence, companies retaining more board meetings are usually related to lower corporate performance. Following this argumentation, we expect a negative impact of the number of board meetings. Furthermore, we will proxy for the number of committees that exist during the fiscal year (COMMITTEES). In fact, the existence of more specialised committees may indicate better control quality, competent supervision and intensive dealing with corporate affaires. Thus, we expect a positive relation of the number of existing corporate committees and firm performance.

In order to check the effective influence multiple board appointments have on corporate performance, interlock characteristics will be tested by the two prementioned tie measures. We will first check whether the number of interlocks established between supervisory boards of companies impact on corporate performance ($SUBOTIES_{adj}$). After this, we will test for the number of interlocks, created to management boards of other companies ($MABOTIES_{adj}$). In order to dispose of comparable data, we adjust the number of ties to the effective supervisory board size of the considered firm. Hence, our measures represent the average number of ties a supervisory board member would occupy. Following traditional shareholder

value argumentation, we expect a negative impact of the number of interlocks on firm performance. Table 3 indicates our results.[7]

	2005		2004		2003		2002		2001	
	coefficient	p-value	coefficient	p-value	coefficient	p-value	coefficient	p-value	coefficient	p-value
INTERCEPT	0,297	0,108	0,680***	0,008	0,561*	0,059	0,898***	0,000	0,496	0,168
ASSETS	-0,016	0,135	-0,033**	0,016	-0,026*	0,093	-0,034***	0,004	-0,017	0,351
SUBOSIZE	0,072	0,282	0,112	0,202	0,039	0,724	-0,013	0,868	0,002	0,988
MEETINGS	-0,025**	0,048	-0,040**	0,039	-0,027	0,141	-0,058**	0,014	-0,025	0,176
COMMITTEES	0,012	0,424	-0,024	0,180	0,017	0,446	0,027	0,101	-0,005	0,826
SUBOTIES	-0,053	0,387	-0,053	0,395	-0,057	0,424	0,001	0,975	-0,035	0,683
MABOTIES	-0,624***	0,003	-0,477*	0,054	-0,916***	0,007	-0,620***	0,003	-0,497*	0,083
N	30		30		30		30		30	
R2	0,463		0,487		0,483		0,566		0,247	
R2adj.	0,323		0,353		0,348		0,452		0,05	
F	3,301		3,634		3,581		4,993		1,256	

Table 3: Interlock impact on return on equity during the period 2005 - 2001

As table 3 shows, results do not permit to finally conclude about the influence of interlocking directorates. First, the number of seats supervisory board members occupy in other supervisory boards does not have any significant influence on corporate performance. Concerning the number of seats board members occupy in other management boards, we find a significantly negative influence on the return of equity for the whole observed period.[8] Though, for the years 2004 and 2001, results are only significant at a ten percent level. In sum, results lead to conclude that board appointments of executives harm corporate performance, whereas board invitation of directors who are “simply“ members of other supervisory boards does not reduce the companies wealth creation power.

Our results seem to support the “Busyness Hypothesis”. Thus, seat accumulation of external executives seems to complicate efficient and sustainable control of the companies own management board. As a consequence, firms whose boards are composed of busy executives are more likely to suffer from lower corporate performance. The fact that significance is limited to ties to management boards may go ahead with explanations of the “Busyness Hypothesis”. Indeed, as executives – compared to ordinary supervisory board members – seem to have overcharged time tables, they might dedicate less time to the control of other managers. Also, they might understand their role in a supervisory board rather as strategic consulting function than as a pure controlling one.

Concerning our control variables, we find the following results. First, return on equity seems to be negatively related to company size, confirming our assumption and indicating

[7] Stars * / ** / *** represent obtained significance levels of 10 / 5 / 1 %.

that larger firms are more likely to be less efficient than smaller ones. Secondly, board size seems not to have any influence on corporate performance. Thirdly, the number of board meetings is negatively related to the return on equity, although this relation is only significant for three out of the five analysed years. Finally, the number of existing board committees does not seem to have any influence on corporate performance.

We further tested on the basis of a dummy variable, whether the fact that the former president of the management board now chairs the supervisory board has an influence on corporate performance. Here, we do not find any significant influence on performance. Thus, even if the German practice of attributing the chair of the supervisory board to the former president of the management team has often been criticized, this phenomenon does not seem to directly harm corporate performance. Additional inclusion of this variable does not alter our initial findings. On the other hand, we have to concede that we only test by a simple dummy-variable.

As our results indicate, the number of board ties to other management boards negatively effects ex post performance, measured by the return on equity. But what about market anticipation of multiple board ties? For getting an answer on this question, we decide to equally check whether board seat accumulation impacts on anticipated future corporate performance. Following traditional shareholder value theory, board seat accumulation should lead to lower corporate market values. We will test for the natural logarithm of the Marris ratio, which is better known as the market to book ratio of equity (MTB). As shown in equation 2, we keep all explanatory variables. Regression results are resumed in table 4.

$$(2)\quad \ln MTB = c_0 + c_1 \cdot \ln ASSETS + c_2 \cdot \ln SUBOSIZE + c_3 \cdot MEETINGS + c_4 \cdot COMMITTEES + c_5 \cdot SUBOTIES_{adj} + c_6 \cdot MABOTIES_{adj}$$

[8] Distribution of the explained variable has been successfully tested for normality by the Kolmogorov-Smirnov-Test, exempt for the year 2003. All annual regressions have been successfully tested for multicollinearity by calculating variance inflation factors (VIF).

	2005		2004		2003		2002		2001	
	coefficient	p-value	coefficient	p-value	coefficient	p-value	coefficient	p-value	coefficient	p-value
INTERCEPT	2,635**	0,023	4,078***	0,001	3,488***	0,006	3,728**	0,012	3,588**	0,030
ASSETS	-0,151**	0,027	-0,199***	0,003	-0,180***	0,007	-0,201***	0,006	-0,153*	0,066
SUBOSIZE	0,111	0,785	0,026	0,949	0,119	0,793	-0,356	0,461	-0,369	0,488
MEETINGS	-0,028	0,701	-0,095	0,290	-0,063	0,394	0,197	0,162	0,075	0,365
COMMITTEES	0,208**	0,034	0,019**	0,033	0,170*	0,075	0,122	0,227	0,164	0,103
SUBOTIES	-0,450	0,234	-0,362	0,226	-0,458	0,122	-0,147	0,595	-0,068	0,861
MABOTIES	-1,004	0,382	-2,574**	0,032	-2,109	0,106	-2,532**	0,039	-0,934	0,451
N	30		30		30		30		30	
R2	0,482		0,58		0,54		0,566		0,368	
R2adj.	0,347		0,47		0,42		0,452		0,203	
F	3,572		5,294		4,496		4,995		2,231	

Table 4: Interlock impact on the Marris ratio during the period 2005 - 2001

Results in table 4 indicate, that board seat accumulation does not have any clear impact on anticipated corporate performance. Thus, the number of ties to other supervisory boards seems not to impact the Marris ratio. Moreover, retaining the number of ties to external executives, only for two out of the five observed fiscal years a significantly negative influence can be observed.[9] Hence, it is not clear whether the market anticipates multiple board appointments by lower market to book values of the concerned companies. Again, company size is negatively related to corporate performance; board size and the number of annual board meetings do not have any significant impact. However, the number of existing board committees seems to impact positively on the Marris ratio which indicates that the market anticipates better manager monitoring. However, that relation is only significant in two out of five years.

Having tested for corporate performance and taken into consideration the noticeable number of American studies about possible interlock impacts on executive compensation, we equally test whether the number of directorship interlocks determines the level of manager compensation in the largest German companies. We decide to measure management director compensation as the natural logarithm of the total management board compensation, divided by the number of effective executive director mandates during the economic fiscal year ($COMPENS_{adj}$).[10]

We chose different control variables to check interlock influence on management wage. First, as compensation is supposed to depend on company size, we will proxy for it by

[9] Distribution of the explained variable has been successfully tested for normality by the Kolmogorov-Smirnov-Test. All annual regressions have been successfully tested for multicollinearity by calculating variance inflation factors (VIF).
[10] As company statements do not always clearly inform about all remuneration components, we only retain fix and variable parts of manager wages, whereas compensation by stock-options is not taken into consideration.

using anew the natural logarithm of total assets. However, as compensation is usually based on firm performance and company characteristics of the past year, we decide to use data from the previous fiscal year ($ASSETS_{t-1}$). We suppose that higher total assets should *a priori* lead to higher manager compensation. Furthermore, we test for the risk adjusted return on average equity, equally of the previous year ($ROAE_{adj\ t-1}$). Indeed, corporate performance in the past should explain an important part of the executive's current remuneration. Finally, the number of employees could be an indicator determining the level of manager payment (EMPLOY-EES). Hence, we will proxy for the natural logarithm of the number of people employed in the current fiscal year.

In order to check the presumed positive influence on compensation levels of executive directors, we anew proxy for our different interlock measures. Thus, we include the number of ties formed the supervisory boards of other companies ($SUBOTIES_{adj}$). For reasons of comparability, the measure is again adjusted to board size. Secondly, we test for the adjusted number of ties formed to the management board of other corporations ($MABOTIES_{adj}$). Finally, we introduce a dummy variable which will proxy for cronyism. Specifically, we will test whether the fact that the former president of the management board now presides the supervisory board influences the level of manager compensation (PSBfoPMB). Equation 3 details the supposed relation. In the following, table 5 resumes our regression results.

$$(3)\quad \ln\cdot COMPENS_{adj} = c_0 + c_1\cdot \ln ASSETS_{t-1} + c_2\cdot ROAE_{adj\ t-1} + c_3\cdot \ln EMPLOYEES + c_4\cdot SUBOTIES_{adj} + c_5\cdot MABOTIES_{adj} + c_6\cdot PSBfoPMB$$

	2005		2004		2003		2002		2001	
	coefficient	p-value	coefficient	p-value	coefficient	p-value	coefficient	p-value	coefficient	p-value
INTERCEPT	-0,879	0,401	-2,187**	0,011	-2,694*	0,074	-1,286	0,278	-1,122	0,345
ASSETS	0,160***	0,010	0,126***	0,007	0,205**	0,029	0,130*	0,085	0,267***	0,001
ROAE	0,692	0,366	1,663***	0,004	0,896	0,480	-0,430	0,581	-0,771	0,401
EMPLOYEES	-0,111	0,136	0,049	0,434	-0,024	0,838	-0,036	0,763	-0,258**	0,023
SUBOTIES	0,126	0,663	0,238	0,203	0,535	0,115	0,385	0,179	0,551*	0,086
MABOTIES	-1,278	0,227	0,778	0,400	-2,329	0,163	-3,796***	0,006	-5,046***	0,000
PSBfoPMB	-0,091	0,518	-0,256**	0,043	-0,192	0,403	0,087	0,672	-0,062	0,750
N	30		30		30		30		30	
R2	0,357		0,515		0,353		0,432		0,589	
R2adj.	0,19		0,389		0,184		0,284		0,482	
F	2,131		4,076		2,089		2,913		5,501	

Table 5: Interlock impact on director compensation during the period 2005 - 2001

As table 5 indicates, our results are anew quite ambiguous. First of all, the number of ties to other supervisory boards does not seem to have any significant impact on executive compensation. In consequence, we have to concede that multiple directorships via supervisory boards do not permit to explain differences in management payment. Secondly, the number of

ties to management boards has a negative influence on executive compensation.[11] However, this influence is only statistically significant for the years 2001 and 2002.

At first glance, this result is quite amazing as it indicates that companies whose supervisory boards accommodate more outside executives reduce average payments of their own managing directors. However, there may be an economic explanation. Indeed, as executives are better informed than other supervisory board members about compensation determining factors like economic sectors, competition, growth perspectives and future economic evolution, they might be more able to estimate the "reasonable" or "still acceptable" level of executive payment. Furthermore, they will have a personnel interest to not allow letting go compensation beyond a certain threshold, compared to their own payment.

As shown in table 1, the number of ties via management boards declines during our observed period. In consequence, power and pressure that can be mobilised by executives diminishes, too. This could explain why the influence of executives becomes more insignificant in recent years.

Concerning our control variables, total assets of the previous year are again significantly positive related to executive compensation, confirming thus our initial assumption. However, previous corporate performance, measured by the risk adjusted return on equity of the past fiscal period only for the year 2004 indicates a significantly positive relationship with manager wages. For the first 3 years, we state a positive influence of the number of committees on management payment. Finally, neither the number of employees, nor the fact that the actual chairman of the supervisory board was the former president of the executive board seem to influence the level of manager compensation.

4. Conclusion

Since almost two decades the phenomenon of interlocking directorates attracts particular attention in Continental Europe. Following the argumentation of shareholder value oriented governance theory, directorship interlocks harm shareholder wealth creation through higher director compensation, reduced takeover activities, excessive perquisite consumption of executives and lower firm valuation. In consequence, interlocks seem to cause higher agency costs and worse financial performance, leading thus to shareholder spoliation. How-

[11] Distribution of the explained variable has been successfully tested for normality by the Kolmogorov-Smirnov-Test. All annual regressions have been successfully tested for multicollinearity by calculating variance inflation factors (VIF).

ever, financial theory also permits to conclude positive about the impact of board seat accumulation. Indeed, multiple board appointments may indicate reputation and managerial competences of directors. Moreover, those directors may enhance corporate performance by contributing specific information, experiences and knowledge to the decision making process which may boost organisational learning and create - through better guided board discussions - more advantageous investment opportunities and business projects.

In consequence of those different explanations financial governance theory proposes, empirical analysis of the impact of interlocking directorates, especially in Continental Europe, is not clear cut at all. We try to fill this gap by analysing the impact of directorship interlocks between the 30 largest German companies during the period 2001 to 2005. We find that personnel ties established to management boards of other corporations significantly harm corporate performance, measured ex post by the risk adjusted return on equity. Moreover, markets seem to negatively anticipate the number of board seats accumulate by executives, as those firms tend to have lower Marris ratios. However, this relation is not significant for the whole observation period. One explanation for the negative tie impact might be that busy executive directors dedicate less time to management control and thus reduce corporate performance. On the other hand, director ties between supervisory boards do not have any influence on firm performance.

Furthermore, we analyse the impact on interlocking directorates on the level of executive compensation. Here we find similar results. Whereas interlocks via supervisory boards do not seem to impact executive compensation, interlocks to management boards lower payments of executives in the accommodating company. We think that executives more severely watch about director compensation, either for better knowledge about reasonable compensation levels, or for incitation to not letting get payments of other executives to far from their own ones.

Nevertheless, our results let several questions unanswered. First, if executives with multiple supervisory board appointments dedicate less time to management supervision and thus harm corporate performance, why this seems not to be the case for compensation questions? Secondly, if interlocks via supervisory boards do not have any influence on corporate performance, why the question of limitation of board seat accumulation is so often discussed ? Finally, if executives are appointed to supervisory boards for their specific knowledge and experiences, why this seems not to be reflected by corporate performance?

We think that the role of busy executives could be apprehended more successfully if soft skills like formation, professional experience and social background would be taken into consideration. However, doing this would demand an enlargement of the traditional shareholder value concept by sociological and cognitive elements. We are convinced that such an approach might shed more light on the, at this point of time, always uncertain role interlocking directorates play in Continental Europe.

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