

**The effects of intercorporate networks on corporate social and political
behaviour**

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Introduction

Large economic corporations play a central role in the economies of modern societies. Much of what we consume is produced and marketed by corporations, and many of us are employed by them. Our economic fates appear to be inextricably linked to their actions. Not for the first time, however, corporations are facing pressures to expand the scope of their concerns even further. Two cases neatly illustrate the nature of these pressures. First, movements promoting corporate social responsibility exert pressures on corporations to take account of the negative and positive consequences of their actions to third parties; they are requesting that corporations act as more than pure profit maximisers. Second, political parties of the centre left, influenced by Third Way (Giddens 1998) thinking, have begun perceiving corporations as partners in the implementation of their policy objectives. A British example is the centrality of corporations to the delivery of New Labour's policies such as the New Deal and the Private Finance Initiative. It appears that trends are developing that could lead to corporations playing a larger role in our lives than they already do.

These developments raise important questions. The ability of corporations to expand their roles, and its desirability, will surely vary depending on corporations' and their directors' pre-existing political and social interests. Directors with distinct political sympathies may feel more comfortable acting as partners with governments that share their political commitments. Martin's (2004) comparison of the differences in implementation of welfare to work policies in Denmark and Britain showed that variations in success across the two countries depended to a large extent on the willingness of corporate managers to act as partners with their governments. What

influences the political and social preferences of corporations and their directors, and how do those preferences affect their extra-market political and social behaviour?

As far back as the 18th Century, Adam Smith pointed out the potential for rent seeking and collusion among firms in the market. Under certain circumstances, unregulated economic interests can act in ways that violate the public interest. While locating corporations' economic interests is relatively uncontroversial, identifying their political and social interests is more problematic, and yet these interests will surely influence the shape of any further expansion of corporations' roles. It is important to understand what can create failure in corporations' extra-market behaviour that parallels our understandings of market failures.

It is not for lack of distinguished study that identifying corporations' social and political interests is problematic. Blame accrues more to disagreement than scholarly neglect. The study of the social and political interests of economic actors, and particularly the agents and principals of firms, has classical roots traceable to Marx. His theory of capitalism in which societies are divided into economic classes clearly implies that the agents and principals of firms will hold a distinct set of social and political interests that guide their extra-market behaviour. More recent arguments range from Mills' (1956) claim that directors will form part of a broader, united power elite to Dahl's (1961) pluralist response that conflict as much as consensus determines firms' social and political actions.

Within the past 30-40 years the empirical study of corporations from a sociological perspective has undergone rapid growth (e.g. Scott and Griff 1984 and Mizruchi

1992). A lot of this scholarly progress is attributable to the development of social network analytic perspectives and techniques. These more easily permit the conceptualisation and operationalisation of extra-market corporate relations that might influence corporate behaviour. Much earlier scholarly disagreement rested on the inability to arbitrate between theories when empirical tests of their assumptions and predictions were not technically feasible. The development of social network analysis has begun to limit the area of disagreement about what the corporate world 'looks' like (even if it has not entirely limited the scope of interpretation of how important its different features are). But why should social network analysis, the study of social relations and social structure, better improve our ability to understand corporate political and social behaviour? Two perspectives give different answers to this question.

The first perspective is akin to social capital arguments (Coleman 1990, Putnam 1998). The social capital argument starts from the premise that many extra-market corporate actions will be individually unviable because the benefits that the acting corporation receives are less than the costs of taking the action, even when the sum of benefits accruing to all corporations is greater than the individual cost. Social structure internalises the externalities of corporate political behaviour. An example is Useem (1984) who argues that directors, who sit on multiple corporate boards, develop a classwide consciousness that increases their likelihood of taking corporate political action.

The second perspective is an elite power perspective. According to this perspective social networks are similar to x-rays, revealing to analysts which social groups are controlling corporate political action. Corporations are vehicles for social groups

promoting their own sectional interests; social networks help to identify which social groups are using corporations to promote their political interests.

The central analytic difference between the two is that the social capital perspective focuses on the effects of social relations, while the elite power perspective focuses on social relations because they are good indicators of latent social groups and identities. The second major difference between the two is that the social capital empirical focus is on more bureaucratic relations like interlocking directorates, whereas the elite power empirical focus tends to be on extra-corporate socialising relations such as kinship and education.

Aims and objectives

The central aim of this research was to promote the development of the empirical study of the British corporate community in particular, and the study of corporate political action, in general. The project was designed to help the scholarly community answer some of the questions raised in the Introduction. It was conducted to provide data that would be relevant both to analysts of corporate political action and to a broader audience of social network analysts. The achievement of these aims rested on meeting three key objectives

- The creation of several new datasets. These datasets would provide new social network information on the corporate community. They would also include information on the behaviour of corporations and their directors. These data would be British but they would be of interest to an international community of scholars interested in corporate behaviour and/or social network methodology.

- The structure of the intercorporate networks would be described and its central features measured.
- Tests of association would be performed across corporations' and directors' positions in the intercorporate network and their behaviour.

All three objectives were met. Data on corporate networks and their behaviours across the period 97-01 (the duration of the first New Labour government) were collected. In addition, we developed innovative ways of managing and integrating these complex data in Access databases. We made much progress in measuring the structural features of the networks and identifying associations between corporations' and directors' positions in the networks and their social and political behaviour. The main difficulty we had was the unexpected amount of time it took to collect and manage the large quantities of data that we collected. Both the principle investigator and the part time research officer spent greater time on the project than planned as a result. Future projects that involve collections of social network data from archival sources should include funding for a full time research officer. This would permit the researchers to spend a greater amount of project time analysing, as opposed to collecting and organising, data. Otherwise, no major difficulties were encountered during the project.

Methods

Data were collected on the largest 500 British corporations in 97/98 and the 3993 directors who sat on their boards of directors. Largeness was based on market capitalisation and the list was taken from the Financial Times 500. Corporate data were collected for each year until 00/01. There were two reasons for selecting the largest 500 corporations. First, this is a practice that has been followed in previous studies of national corporate communities (e.g. Scott and Griff 1984; Mintz and

Schwartz 1985). Second, and more importantly, random samples do not allow the measurement of cohesive subgroups and role structures, that is, it is unlikely that in a random sample all members of a cohesive subgroup or role structure will be included (Granovetter 1976, Scott 1992 and Wasserman and Faust 1994). Since large corporations tend to maintain most of their ties with each other, selecting the largest corporations mitigated this problem. Selecting the largest corporations means that it is not legitimate to claim that one can generalise to a larger population, however. Significance tests will need to be based on a null model of randomisation of dependent variables. Coefficient estimates will need to be compared with their values when the dependent variable is randomised across cases.

We collected data on three intercorporate networks that have often been used to study corporate communities. Data were collected on:

1. The network of interlocking directorates. Directors of one corporation sitting on the board of another create this network. These data were collected from the Directory of Directors. The directors for all corporations in the study were identified.
2. The elite director networks of club and school ties. These networks are created when directors from different corporations attended the same secondary school or are members of the same social club(s). Networks can be created both for directors and their corporations. Data were collected from Who's Who, Who Was Who, Debretts and Who's Who in Scotland. Typically, for research using these directories, data were not available for a large proportion of the directors: 1213/3993 (30%) of directors had entries in the directories. There is an inclusion bias in the directories toward directors

from larger corporations. Most chief executives and chairman, however, who are likely to have greatest influence on corporate political and social behaviour, were included in the directories.

3. Shareholding networks. These are created when corporations in the sample have shareholdings in each other. They are also created when shares in the corporations in the sample are held by the same organisations (these are based on affiliation networks where the rows are the study corporations and columns are shareholders). All shareholders with holdings greater than 3% (only shareholders with greater than 3% of shares have to be declared) were identified for all corporations.
4. Data were collected on a range of corporate behaviours. These ranged from directors' membership on Britain for Europe to corporate charitable donations. These were collected from a wide array of sources from corporations' annual reports to petitions created by pressure groups.
5. Further information was collected on corporations' financial characteristics. These were collected from business directories and corporations' annual reports. Data were collected for all corporations.

These data are collected together in $N \times N$ case-by-case intercorporate networks and $N \times M$ case by variable arrays where for each corporation there are data on set of M attribute variables.

Results

A great deal of data was collected and there are many questions that can be addressed using the dataset. To date, the analyses have focused on the interlocking directorate networks and the club and school elite networks. The analyses have also focussed on

the 97/98 networks. The next steps will be to analyse the shareholding data and to explore how the networks change over time.

This section of the report will start by describing some of the key structural features of the networks in 97/98¹ while the next section will examine how those features have affected corporate behaviour.

Structure- directors

Directors and their corporations are the two types of actor whose structural position we are trying to identify. As pointed out over thirty years ago by Breiger (1974), the networks of individuals and the networks of organizations they belong to do not have a simple relationship. We will begin this section by examining some features of directors' relationships.

Table 1 displays the number of directors having single and multiple directorships and the mean number of directorships held by directors. Most directors in the sample sit

	1	2	3	4	5+	Mean no.
%	88.30+	8.59	2.45	0.60	0.001	1.16
(n)	(3525)	(343)	(98)	(24)	(2)	

+Percentages may not sum to 100 because of rounding errors

on only a single board. Approximately one in nine directors sits on more than a single board, thereby meeting Useem's (1984) criterion for inner circle membership.

Approximately 3% of directors sit on more than 2 boards.

Multiple directorships link directors in specifically corporate and bureaucratic ways.

Directors are also linked through their shared educational background and by their joint membership of social clubs. Table 2 displays the 15 most common schools and social clubs that directors are affiliated to.

¹ This year was chosen because it includes all corporations and directors in the sample. In following years there was attrition through liquidations and mergers. Also, to date, we have focussed our analyses on the network in this year.

Schools		Social Clubs	
Name	n	Name	n
Eton	90	Royal Automobile Club (RAC)	91
Winchester	28	Marylebone Cricket Club (MCC)	89
Harrow	26	Brooks's	66
Charterhouse	21	Boodles	57
Marlborough	20	Athenaeum	49
Rugby	16	White's	38
Ampleforth	13	Garrick	35
Haileybury	13	Reform	31
Tonbridge	11	Oxford and Cambridge	28
Shrewsbury	10	Hurlingham	26
Uppingham	9	Pratts	26
Wellington	9	New	25
Westminster	9	Beefsteak	22
Stowe	8	Carlton	22

The list of schools represents a roll call of some of Britain's most prestigious private sector boarding schools. The most striking finding is the extremely large number of old Etonian directors. There are almost as many old Etonians as there are directors who attended the next four most popular schools combined.

There is a more even distribution of directors across the most prominent social clubs. A range of clubs is represented including typically establishment clubs like White's and Boodles, while also including less traditional clubs like the RAC. The clubs are also largely English with the exception of the New club, which is in Edinburgh.

Schools are an indicator of social origins while social clubs are indicators of social destinations. Table 3 cross-tabulates the five most popular schools by the top 15

clubs. It shows that the directors from the most popular schools do not tend to be members of the most popular clubs; instead, they are drawn to social clubs like White's, Pratts and Boodles. For, example only two (2%) old Etonian directors are members of the RAC, while 19 (21%) are members of Whites.

Table 3. Most popular clubs by most popular schools

	Eton %+ (n)	Winchester % (n)	Harrow % (n)	Charterhouse % (n)	Marlborough % (n)	Total proportion of club members coming from 5 most popular schools
Royal Automobile Club (RAC)	2 (2)	4 (1)	4 (1)	10 (2)	0 (0)	7 (6)
Marylebone Cricket Club (MCC)	8 (7)	7 (2)	15 (4)	24 (5)	10 (2)	22 (20)
Brooks's	11 (10)	21 (6)	19 (6)	0 (0)	5 (1)	35 (23)
Boodles	17 (15)	7 (2)	19 (6)	10 (2)	15 (3)	49 (28)
Athenaeum	0 (0)	11 (3)	4 (1)	0 (0)	20 (4)	16 (8)
White's	21 (19)	4 (1)	4 (1)	0 (0)	0 (0)	55 (21)
Garrick	3 (3)	0 (0)	12 (3)	10 (2)	0 (0)	23 (8)
Reform	0 (0)	4 (1)	0 (0)	5 (1)	5 (1)	10 (3)
Oxford and Cambridge Hurlingham	0 (0)	0 (0)	0 (0)	0 (0)	5 (1)	4 (1)
	0 (0)	7 (2)	4 (1)	5 (1)	5 (1)	19 (5)
Pratts	10 (9)	0 (0)	12 (3)	5 (1)	10 (2)	54 (14)
New	8 (7)	0 (0)	0 (0)	0 (0)	0 (0)	32 (8)
Beefsteak	6 (5)	0 (0)	4 (1)	0 (0)	5 (1)	32 (7)
Carlton	0 (0)	0 (0)	0 (0)	10 (2)	0 (0)	9 (2)

+ The denominator is the number who attended each school. Directors could be members of more than one club.

Structure- corporations

In this section we describe the structural properties of the intercorporate networks.

Table 4 displays some measures of the network of interlocking directorates. Approximately three-quarters of all corporations were in the largest connected component. Corporations were interlocked with an average of 3.22 (min:0- max: 6) other corporations. The network exhibits small world (Watts 1999) properties as its mean distance does not depart much from what would be expected in a random network and yet there is quite a bit of transitivity in corporations' ego networks. These results are consistent with most descriptions of national intercorporate networks.

Density	Mean degree	Size of largest connected component	Mean distance	Clustering coefficient
0.001	3.22	374	4.67	0.291

Descriptions of the structure of relations created by corporations through club and school ties are obtained by a simultaneous partitioning of the networks of club and school ties using Concor (White et al. 1976).

Clubs							
	1	2	3	4	5	6	7
1	1.44	0.557	0.190	0.503	0.00	0.009	0.000
2	0.557	0.866	0.199	0.595	0.002	0.004	0.000
3	0.190	0.199	0.692	0.442	0.004	0.004	0.000
4	0.503	0.595	0.442	0.661	0.003	0.007	0.000
5	0.000	0.002	0.004	0.003	0.029	0.010	0.000
6	0.009	0.004	0.004	0.007	0.010	0.068	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Schools							
	1	2	3	4	5	6	7
1	0.065	0.077	0.053	0.247	0.013	0.065	0.000
2	0.077	0.085	0.057	0.317	0.013	0.072	0.000
3	0.053	0.057	0.069	0.189	0.005	0.050	0.000
4	0.247	0.317	0.189	2.095	0.010	0.350	0.000
5	0.013	0.013	0.005	0.010	0.029	0.010	0.000
6	0.065	0.072	0.050	0.350	0.010	0.068	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Block 1 n = 96; block 2 n = 170; block 3 n = 47; block 4 n = 48; block 5 n = 24; block 6 n= 34 block 7 n = 81							

These tables show the mean number of ties between corporations across the seven partitions. A few features of the table that stand out include: 1) Most social similarities and relations can be found amongst the first four blocks, 2) All of the first four blocks show high levels of club sociability among directors 3) blocks 1 and 2 show the highest level of club sociability, 4) Block 4 shows high levels of shared educational background amongst its members; however, the other blocks show low levels.

Table 6 shows the list of the three largest numbers of clubs and schools that connected

Table 6. Clubs and schools with the three largest number of directors for each block (Number of directorships that are filled by divided by number of corporations in block)

Block 1	Block 2	Block 3	Block 4
RAC (1.27)+	MCC (.53)	Boodles (.48)	Boodles (.52)
MCC (.26)	Brooks's (.50)	New (.38)	Whites (.33)
Athenaeum (.21)	Athenaeum (.30)	Royal and Ancient Golf (.34)	MCC (.33)
Schools			
Eton (.13)	Eton (.16)	Glasgow Academy (.13)	Eton (1.4)
Charterhouse (.09)	Marlborough (.09)	Edinburgh Academy (.11)	Harrow (.28)
Marlborough (.07)	Winchester (.09)	Charterhouse (.11)	Winchester (.23)

the first four blocks. Six features of these results are especially noteworthy: 1) Block 1 is the block held together by directors who are members of the RAC, 2) Block 2 is a

highly sociable block in the club tie network (with the proviso that it does not include many RAC directors), 3) block three is held together by directors with Scottish affiliations at both the school and club levels, 4) block 4 is held together by old Etonian directors, 5) While Eton is the most prominent school in blocks 1,2 and 4, the proportions of corporations with old Etonian directors in blocks 1 and 2 are approximately one-tenth the proportion of block 4's and 6) The finding that proportions of directorships held by RAC members in block 1 and directorships held by old Etonians in block 4 are both greater than one, indicates that it is common for corporations in these blocks to have more than a single RAC member (in the case of block 1) or a single old Etonian (in the case of block 4).

Corporate political and social behaviour

However interesting the structures of relations between corporations may be, their social scientific utility lies in whether they correlate with corporate behaviours. One of the central criticisms of studies using social network analyses is that they lack dependent variables (Stinchcombe 1989). The results in the last section *should* help us predict the behaviour of both directors and the corporations whose boards they sit on.

Table 7 displays the mean number of directorships and the top five schools and clubs attended by *directors* who are members of Business for Sterling a prominent pressure group opposing the idea of Britain joining the Eurozone.

Table 7. Member of Business for Sterling by directors' social relations

Mean number of directorships					
Member of Business for Sterling: 1.43 Non-members: 1.15*					
Clubs					
	White's	MCC	Brooks's	Boodles	Pratts
Members of Bfs (n)	11	9	7	7	6
Proportion of members of Bfs who are members of Club	12%	10%	7%	7%	6%
Proportions of members of clubs who are members of Bfs (%)	29%	10%	11%	12%	26%
Schools					
	Eton	Winchester	Charterhouse	Ampleforth	Haileybury
Members of Bfs (n)	7	4	4	3	3
Proportion of members of Bfs who are members of School	7%	4%	4%	3%	3%
Proportions of members of schools who are members of Bfs	8%	14%	19%	23%	23%

p<.05

Ninety-two of the directors in the sample were members of Business for Sterling

(Bfs). As would be predicted by Useem (1984), directors who are members of Bfs

have a greater mean number of directorships than those who are not members,

although the difference is not great. Members of Bfs contain a greater number of

club members than non-members, but they come from a select group of high status

clubs including White's. The proportion of directors who are members of the high

status clubs who are also members of Bfs is also high; for example 29% of White's

members were members of Bfs but only 4% of RAC directors were members.

Members of Bfs also have greater proportion of directors from high status schools

like Eton. Similar results were also found for directors who were donors to the

Conservatives.

Table 8 looks at *corporations'* donations to the Conservatives. In the 97/98 financial

year 23 corporations made donations to the Conservatives. Donors had significantly

greater number of ties to other corporations through interlocking directorates.

Table 8. Donor to the Conservatives by corporations' social relations

		Mean number of interlocks						
		Donor: 4.96 Non-members: 3.13*						
		Clubs						
		Block	Block	Block	Block	Block	Block	Block
		1	2	3	4	5	6	7
Donor**	%	4	5	2	17	4	3	0
	(n)	(4)	(8)	(1)	(8)	(1)	(1)	(0)
Not donor	%	96	95	98	83	96	97	100
	(n)	(92)	(162)	(46)	(40)	(23)	(33)	(81)

** p<0.01

The results confirm the inner circle thesis again.

The proportion of donors also varied across blocks. The proportion of donors in the 'Eton' block (block 3) was at least 3 times greater than in any other block.

Approximately one-third of donors were from block 3 although it contained one tenth of all corporations. The second major finding is that none of the corporations in the isolate block, block 7, made a donation. Similar results have been obtained in tests of corporations' likelihood of joining Business in the Community and making donations to charity.

Discussion of results and summary of main findings

The results of the analysis to date have 1) outlined the main structural features of the networks and 2) given examples of how corporate political and social behaviour varies across network position. The results have confirmed the relevance of the sociological approaches to corporate political behaviour. There are results that are consistent with both the social capital and elite power approaches.

Some of the key findings to date were:

- There were 467 directors who sat on more than a single board. There were 3992 directors in total.
- The most popular schools attended by the directors were prestigious, private sector boarding schools. Eton was clearly the most common school attended by directors in the sample.
- Directors were members of a mixed variety of clubs. The most popular clubs were the RAC and the MCC.
- There was a lack of overlap among directors who attended the most common schools and the most popular clubs. Directors who attended private sector boarding schools like Eton did not join popular clubs like the RAC; instead they tended to join more traditional, high status clubs like White's or Pratts.
- The network of interlocking directorates contained a large component with approximate three-quarters of corporations, was sparse, showed small world characteristics and the mean number of ties was 3.22.
- The corporate network created by club and school ties was partitioned into seven blocks. Three of them had few or no club and school ties, one of them was an RAC block, another was block created by directors who joined popular clubs (other than the RAC), one was a Scottish block and another was an old Etonian block.
- Directors who sat on more than a single board were more likely to join business for sterling and make donations to the Conservatives.
- Directors who attended high status clubs and attended private sector boarding schools were more likely to join Business for Sterling and make donations to the Conservatives.

- Corporations that had many interlocks were more likely to be donors, join business in the community and make charitable donations.
- The block created by old Etonian directors contained the greatest proportion of donors while the isolate block contained no donors.

Activities

Conferences and networks:

Interim results have been presented to both national and international audiences:

Department of sociology seminar, University of Oxford (2005)

CabDyn complexity seminar, University of Oxford (2005)

Social network group, University of Greenwich (2006)

Sunbelt conference of International Network of Social Network Analysts, Vancouver (2006)

The results will also be presented at the University of Barcelona to a network of European and American scholars interested in the political actions of large corporations. The research team helped co-found the network.

Outputs

Publications

A paper ('Elite social relations and the political behaviour of individual directors') that was presented at the Sunbelt conference is nearing completion.

It is aimed to publish the results in relevant, major peer-reviewed journals (e.g. British Journal of Sociology, American Sociological Review and Sociology). A book proposal examining the development of corporate political action during the New Labour government is being prepared.

The study datasets

The datasets arising from the study have been offered to Data Archive.

Impact

The results of this study will contribute to the study corporations, their relations with each other and their political and social behaviour. The datasets arising from the study should be of interest to a wide range of scholars. When the data are archived this will be announced through socnet, the electronic mailing list of the International Network of Social Network Analysis.

Future research priorities

This research focussed on a single country. Future research would be best promoted if it were cross-national. Cross-national research on comparable datasets would allow us understand what the general forces are promoting extra-market corporate political behaviour.

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