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The Finnish corporate network — empirical findings from the board room network

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ABSTRACT

This paper studies Finnish firms and especially it's boardroom network and the effects that it has on financial actions. Compared with earlier studies, this study also takes into consideration both firms that are not connected and uses them as a natural comparison, as well as principal component membership as a relevant network centrality measure.

Based on the firms' year end reports from 2009 to 2013, the results show that firms that are connected are on average greater in size, invest more but their Return On Investments are lower. Higher network centrality further increases the effects. With firm-specific controls and yearly fixed effects the results seem robust. The magnitude of the results can be ambiguous due to simultaneous endogeneity between the variables. Compared to previous studies, the results are contrary to what has been noted earlier. Seasonal changes or general economic outcomes might explain these results.

JEL Classification: D85; L14; G34

Keywords: Network Analysis; Networks; Corporate Governance

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1. Introduction

This study looks at the network of boards of directors of Finnish firms and tries to find an updated look at the actions of the firms. In general, the network is comparable to other studied board room networks. The Finnish network is quite sparse by desired formulation, but the most central core is very dense. The connected companies make significantly different investment decisions, and network centrality increases the difference. The general economic state during the study (2009 – 2013) most likely effects the careful investments and hence their returns (or profitability).

The behavior of firms can be seen in many ways. Absolute size, growth, profitability and success of investments are certainly performance based measures that can be seen as outcomes of decisions that the firm has made. The available information on general market demand as well as the actions and perceptions of competitors certainly affect the decisions made by the firms studied. As other studies have shown (mostly corporate governance, see Bhagat and Bolton (2008)), perhaps the only measure in which the decisions made by a firms' board of directors is evident is investments — their size and timing.

The information that a firm has about general market actions and expectations is assumed to come from the interlocked boardroom network of the firms via information diffusion. The assumption is that during meetings of the boards of directors, the members hear of actions and expectations of other firms and then use this information in later decisions in their own firms and hence information diffuses.

Social networks' effect on market outcomes have been studied for a while (J. S. Coleman and Menzel, 1957; Granowetter, 1973). Studies have been various and their results vary. Kramarz and Thesmar (2013) have shown that social networks have negative effects to corporate governance. Guedj and Barnea (2009) analyzed S & P firms and found that connected directors obtain new directorships in the future and connected companies pay their CEO's more.

Looking particularly at the performance of boards of directors, Larcker et al. (2013) analyzed boards of directors of publicly traded companies in the NYSE, NASDAQ and AMEX between 2000 and 2007 and they found that central boards of directors earn superior returns but that these effects are not immediately reflected in stock prices.

Looking more generally at board composition, governance and performance,T. Eisenberg and Wells (1998) studied the relation of Finnish firms' board size and financial performance and found a negative correlation between board size and profitability in small and mid size firms. More recently, Bhagat and Bolton (2008) shows that better corporate governance correlates positively with better operating performance.

Cronin (2011) states in a review article that ambiguous results in the performance effects of networks can be explained with the distinctive political economies of the analyzed countries and markets.

This paper follows the idea behind Larcker et al. (2013). First, the general composition of the network is studied. Then secondly, finding what kind of connections one can find in the Finnish corporate network in 2009 – 2013, and can results from previous studies be replicated.

After the introduction, Section 2 introduces the used network analysis metrics. Section 3 presents the data and general network descriptives and Section 4 presents the estimations. Section 5 concludes.

2. Network analysis metrics

The studied firms are assumed to form a graph and if there is a connection between them, they form what is called a link between them. The more links a firm has to other firms, the more central it is in the network. If several firms are connected, they are said to form a component of the graph. And if a firm has no connections, or links, it is said to be not connected within the graph. The connected companies are also said to form a network.

Looking more closely at the chosen network centrality measures, The Main -variable is a binary dummy which gets value 1 if the firm belongs to the main component of the network. The main component is the largest distinct and maximal connected component of the network, and as such, the most central subgroup of the network. The main component is also sometimes called the principal component. Membership in the main component also gives a simple measure of access to the benefits (or disadvantages) of the possible effects of the existence of the network.

The degree centrality measure gives us the absolute number of shared board members — or links. By definition, it is a simple count based measure of the number of links, and as such, a crude measure of information diffusion, but a useful measure of network centrality.

Finally, the betweenness metric, as defined in Freeman (1977), Freeman (1979) and Freeman et al. (1991), gives us a more usable flow measure on information diffusion. By definition, the betweenness of a firm is the number of shortest paths between different firms that the particular firm is in (in any point of the path), divided by the number of all shortest paths between different firms. Simply put, the betweenness of a firm is a relative measure of how well the firm is situated (or how important it is for information diffusion) within the network. As an extension, the eigenscore metric, as defined in

Bonacich (1987), also takes into consideration the centrality of the linked firms that the firm has. The idea behind this is that a firm itself does not have to have many links as long as the linked firms are more (or very) central within the network.

3. Data and descriptives

The data was manually collected and combined from Talentum's Top 500 lists and data from The Finnish Patent and Registration Office (PRH). Firm and data source selection came from data availability.

Firstly, the selection of firms comes from the Finnish Top 500 firms' list, which is formed annually by the Talentum corporation's published Talouselämä -magazine[1]. The ranking is based on firm revenue which the firms have reported in their previous year end reports. The base year was 2013, when the research started. The listing also has basic year end report statistics like profit, personnel, investments, ownership information and Return On Investments (ROI). All statistics were recorded for each firm.

Secondly, the members of the managing board of directors and Chief Executive Officers (CEO) of the selected companies were manually found from the Finnish Patent and Registration Office's VIRRE -database and manually combined with the previously found firm performance data. For a comprehensive overview of Finnish corporate boards, see T. Eisenberg and Wells (1998)

In this setting, the people form a network if they sit on the same board of directors and two firms share a connection (a link) if they share a board member. If the firms share multiple members, they have multiple links [2]. The interconnectedness of the network comes from the people who sit on multiple boards of directors.

Thirdly, since the VIRRE -database also gives all of the previous boards of directors starting from around 1992 (the year when the PRH started using a database and recording their information digitally), also all of the previous boards of directors were recorded and then formed the respective annual networks. Their respective year end reports were then collected when possible[3].

Lastly, to complete the dataset, a five year network update rule was used. That is, firms that were in the Top 500 lists in 2008, 2003 and 1998 were searched for from the VIRRE -database and included in the analysis. This is due to annual change at the lower end of the listings. In this study, the

[1]Talouselämä is a registered trademark of Talentum Media Ltd.

[2]As such, the network is a weighted, undirected graph.

[3]Firms' fusions and mergers harm firm identification.

Table 1: Comparison of general network descriptives of selected corporate networks in different countries

	US	Nl	No	Fi (13)	Fi (13,stock)
No. of companies	6066	250	334	824	78
No. of directors	52265	1733	2211	3913	
No. of links	19092	514		828	
Main component	4428	137	52	344	
Main component (%)	73	55	16	42	
Clustering coeff.	0.17			0.27	
Avg. degree	4.30		2.42	2.01	6.42
Median degree	3			1	6
Avg. degree of main component	5.82	7.02		4.45	
Med. degree of main component	5			4	

estimations will focus only on pooled information of the years 2009 - 2013. After pooling, the sample size is 2703.

All monetary amounts were deflated to 2015 prices using the Consumer Price Index from Statistics Finland. Network centrality measures were calculated using the iGraph-package in R [4] and statistical analysis was done using STATA 13.0.

Looking at the data, the Finnish corporate network is comparable to international results. In Table 1 general network descriptives are presented. The US data is from Larcker et al. (2013) and the Dutch and Norwegian data are from Heemskerk et al. (2013).

In general, if we look at the composition of the networks, the Finnish network has a smaller main component (42%) compared to the US (73%) and Dutch (55%) networks but is more dense [5] (0.27) compared to the US data (0.17). Looking at the average number of connections (the degree) the Finnish companies have about the same amount of connections as the Norwegians.

In particular, since the US data was collected from publicly traded companies, the information about the publicly traded companies in Finland reveals that the respective network is quite comparable to the US data. The average number of ties in the whole Finnish network is smaller, but that has to do with the sample selection and the conscious decision to include an almost

[4] R Core Team (2016)

[5] The clustering coefficient, as calculated in Wasserman and Faust (1994), is a generally used metric of the density of a network. In theory, it also is the random probability of link formation in a completely random network.

Table 2: Degree frequencies of Finnish firms in 2013

Degree	Frequency	Percent	Cumulative
0	375	45.51	45.51
1	157	19.05	64.56
2	70	8.50	73.06
3	42	5.10	78.16
4	43	5.22	83.38
5	30	3.64	87.02
6	31	3.76	90.78
7	19	2.31	93.09
8	15	1.82	94.91
9	15	1.82	96.73
10	5	0.61	97.34
11	8	0.97	98.31
12	5	0.61	98.92
13	2	0.24	99.16
14	2	0.24	99.40
15	1	0.12	99.52
16	2	0.24	99.76
17	1	0.12	99.88
21	1	0.12	100.00

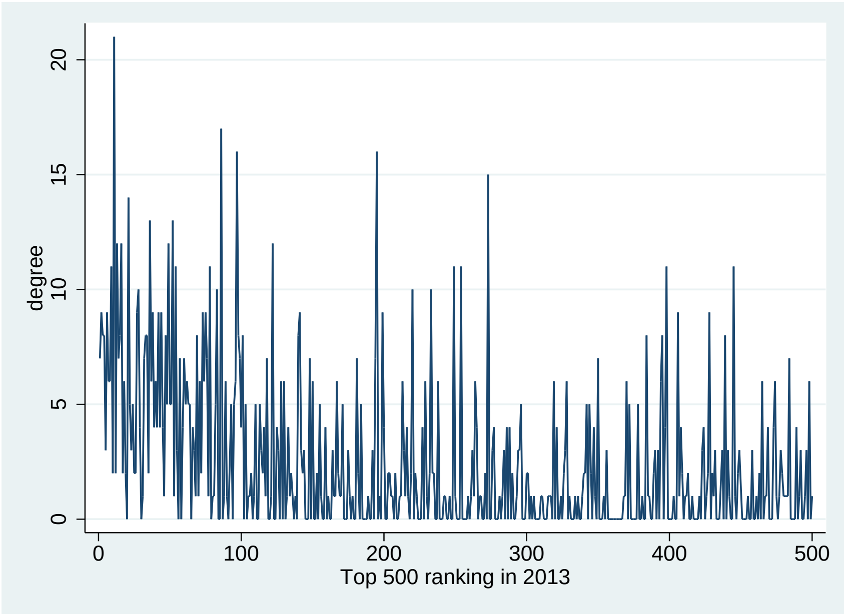
equal sample of not-connected firms. When we study only connected firms, the average number of ties is comparable to other studies — especially with stock companies.

Looking at the degree distribution in Table 2, we can see that with this sample selection, the amount of not connected companies (degree = 0) is almost equal (45.5 %) to the connected companies — which was a conscious decision. Also notable is the skewness of the distribution — a quite general trait in social networks.

What can also be seen from Tables 1 and 2 is the "small world effect", which is also generally found in social networks. The main component is about half of the number of companies and the least connected firms (degree is two or smaller) and not-connected firms make up for 73 % of the network. This means that a small minority of firms define the core of the network. If we calculate the average path length [6] in 2013, it is 4.4. That says that, on

[6]The average path length calculates the average path length in a graph by calculating the shortest paths between all pairs of firms.

Figure 1: The number of links of Finnish firms in 2013 with the firms' size.



average, any two companies are only 4 links from each other.

Looking at Figure 1, a "power-law -effect"[7], also a common trait in social networks, can be seen with the largest companies (highest rankings, near the origin). Generally, the number of links that a firm has can be seen as nearly random.

Looking into the connections between network centrality and firm actions, the selected performance variables (revenue, profit, Return On Investments (ROI) and board size) correlate (Table 3) somewhat with the selected network centrality measures. Most clearly revenue (proxies firms size) is positively correlated with network centrality and ROI (proxies investment decisions) is negatively correlated with network centrality.

Also, board size and network centrality correlate. The simplest explanation for this is the fact that smaller companies have smaller boards of directors (the correlation coefficient between board size and revenue is 0.185) and as just stated, firm size correlates with network centrality. This can also be seen as a firm life cycle attribute.

If we just focus on the access to information, that is membership in the

[7]That the degree distribution is nearly negative exponential or a negative exponent of a natural number.

Table 3: (Pearson) correlations between network centralities and financial statistics in 2013

	Revenue	Profit	ROI	Board size
Main	0.240	0.075	-0.140	0.349
Degree	0.300	0.055	-0.100	0.371
Between	0.166	0.088	-0.100	0.285
Eigenscore	-0.026	-0.005	-0.036	0.255

main component, we can see quite drastic differences in the firms' attributes and actions (Table 4). Companies that are connected are substantially larger (revenue and personnel), more stable (revenue change is zero) and more profitable compared to the not-connected companies. The types of firms (regarding ownership ratio [8]) in both categories is very comparable (no statistical difference). What is quite different, is investments — connected companies invest more absolutely with lower returns.

4. Empirical analysis

The empirical analysis follows both Larcker et al. (2013) as well as T. Eisenberg and Wells (1998). Following Larcker et al. (2013), the connection between network centrality measures and firms' investment decisions are investigated. The negative correlation between board size and investments found in T. Eisenberg and Wells (1998) is taken into consideration.

Firm specific identifiers and attributes are included in the analysis. The firms' ownership ratio is used to control for the outside demands of financiers for profits and returns. Also binary dummies for different branches of industry are used to control for different production functions and frontiers in the different branches of industry.

The US study (Larcker et al., 2013) chose Return On Assets (ROA) as a dependant variable, but since that information was not available, this study

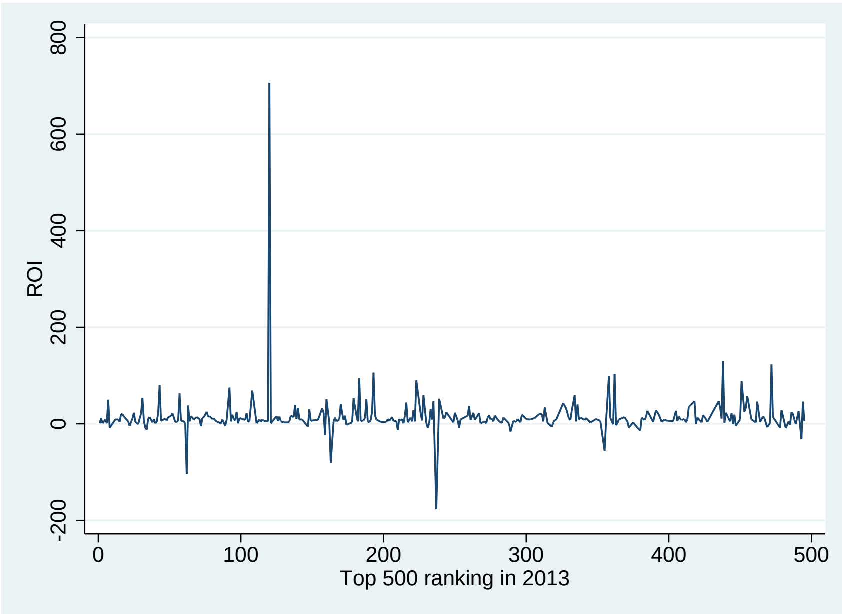
[8] The ownership ratio is the ratio of own capital to total capital. In general stock companies have a lower ownership ratio and a privately owned company has a higher ownership ratio.

Table 4: Financial statistics' comparison for connected firms in 2013

	Whole network	Main component
Avg. Revenue	709.4 (1808.2)	1218.7*** (2547.0)
Avg. RevCh	3.45 (30.4)	0.56** (13.9)
Avg. Profit	30.0 (157.3)	43.7* (207.2)
Avg. ROI	15.4 (46.0)	9.3** (15.3)
Avg. Ownership	43.6 (24.6)	44.1 (20.0)
Avg. Investments	41.2 (143.9)	70.5*** (196.7)
Avg. Personnel	2144.8 (5652.2)	3488.3*** (7803.7)

Sample standard deviations in parenthesis.
Significance levels in a t-test: $p <$ *=10%,**=5%,***=1%

Figure 2: Finnish firms' ROI in 2013 by firm size.



uses Return On Investments (ROI) [9], which is also what was used in T. Eisenberg and Wells (1998).

Looking at the distribution of ROI within firms, Figure 2 shows that at least firm size and ROI have no connection. Their relation seems random.

The basic formulation in all of the estimates is:

$$\text{ROI}_i = \text{constant}_i + \text{centrality}_i + \mathbf{1}M_{i,j} + d_{y,i} + \varepsilon_i \ ,$$

for firm i in group j with identifiers M. The different network centrality measures used are: principal component membership, degree, betweenness and eigenscore. The used network centrality measures follow a natural transition from rough (main component membership) to intricate (eigenscore) measures. The term **1** is a binary switch if controls are included in the estimation. The term $d_{y,i}$ is a yearly dummy variable to control for yearly fixed effects. To control for correlations between the dependant variables, White's robust errors are used.

[9] The Return On Investments is calculated as net profits, investments and taxes divided by invested assets. The invested assets are stated as a yearly mean value.

4.1. ROI analysis

Following Larcker et al. (2013), the analysis looks at network centrality and ROI (Table 5). The chosen network centrality measures transition from rough to intricate within the table going left to right and downwards. Also, all network measures are estimated with and without controls.

As with previous results, network centrality seems to explain variations in investments. What is striking is that now the relationship is negative – more central companies' investments had smaller returns.

Presumably either the prevailing economic state (seasonal change) or national specific sensitivity to investments can explain the contrary results.

4.2. ROI analysis with board size effects

T. Eisenberg and Wells (1998) also found that there exists a negative correlation between board size and ROI, so board size effects are added next to the estimations (Table 6). The results are in line with the previous results, that is a negative connection between ROI and board size.

The negative connection between network centrality and ROI is still present even when controlling for the board size's negative effect.

The endogeneity found in T. Eisenberg and Wells (1998) will be studied in the robustness checks, which may alter the results.

4.3. ROI analysis with board size effects within the main component

Lastly, as a note to both Larcker et al. (2013) and T. Eisenberg and Wells (1998), within estimates are formed. That is estimations on ROI within the main component of the network (Table 7). The idea is to look at only connected companies (like Larcker et al. (2013)) while still controlling for firm specific attributes as well as noted externalities (see the previous subsection).

Compared to the main estimates, within the main component, neither network centrality or board size explain variances in ROI.

Larcker et al. (2013) studied publicly traded companies with high rates of connectedness. The opposing results found here can be seen as timing (their scope 2000 – 2007, this scope 2009 – 2013), or national differences (as Cronin (2011) stated) following homogeneity between firms.

4.4. Robustness checks

The analysis' are reproduced using branch of industry subsamples. The sizes of the different branches of industries are presented in Table 8 in the appendix. Due to the relatively small subsample sizes, the regressions will be reproduced only in the subsamples which have a sample size of at least 100 observations. This gives us 11 subsamples. Also fixed effects inclusion will be omitted due to the small sample sizes.

Table 5: ROI regressions with network centralities

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cons	20.5***	29.2***	17.2***	29.9***	15.4***	29.8***	14.4***	29.9***
	(1.49)	(4.16)	(1.11)	(4.27)	(0.889)	(4.26)	(0.755)	(4.28)
Main	-11.6***	-11.8***						
	(1.56)	(1.77)						
Degree			-1.05***	-1.04***				
			(0.161)	(0.207)				
Betweenness					-0.003***	-0.003***		
					(0.001)	(0.001)		
Eigenscore							-18.1***	-8.55***
							(2.33)	(2.01)
Ownership		0.172***		0.164***		0.162***		0.162***
		(0.043)		(0.044)		(0.044)		(0.044)
Industries		X		X		X		X
Year FE		X		X		X		X
N	1748	1744	1735	1731	1735	1731	1735	1731
F	55.73		42.19		23.77		59.9	
df	1746	1712	1733	1699	1733	1699	1733	1699
R^2	0.037	0.091	0.016	0.073	0.008	0.065	0.003	0.059
Root MSE	29.7	29.1	30.1	29.5	30.2	29.6	30.3	29.7

Significance levels: $p <$ *=10%,**=5%,***=1%
(White's heteroskedastic robust standard errors.)

Table 6: ROI regressions with network centralities and board size effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cons	20.5***	40.2***	17.2***	44.9***	15.4***	48.6***	14.4***	51.9***
	(1.49)	(6.31)	(1.11)	(6.52)	(0.889)	(7.16)	(0.755)	(7.51)
Main	-11.6***	-10.8***						
	(1.56)	(1.74)						
Degree			-1.05***	-0.819***				
			(0.161)	(0.200)				
Betweenness					-0.003***	-0.002***		
					(0.001)	(0.001)		
Eigenscore							-18.1***	-3.62
							(2.33)	(2.53)
Board		-0.557***		-0.774***		-0.975***		-1.14***
		(0.204)		(0.215)		(0.232)		(0.245)
Ownership		0.166***		0.159***		0.158***		0.160***
		(0.043)		(0.044)		(0.044)		(0.044)
Industries		X		X		X		X
Year FE		X		X		X		X
N	1748	1685	1735	1683	1735	1683	1735	1683
F	55.73		42.19		23.77		59.9	
df	1746	1652	1733	1650	1733	1650	1733	1650
R^2	0.037	0.092	0.016	0.075	0.008	0.070	0.003	0.067
Root MSE	29.7	29.1	30.1	29.4	30.2	29.5	30.3	29.5

Significance levels: $p <$ *=10%,**=5%,***=1%
(White's heteroskedastic robust standard errors.)

Table 7: ROI regressions within the main component

	(1)	(2)	(3)	(4)	(5)	(6)
Cons	8.75*** (0.675)	4.33* (2.40)	9.03*** (0.580)	4.44* (2.30)	9.06*** (0.480)	4.27* (2.38)
Degree	0.017 (0.104)	0.091 (0.121)				
Betweenness			-0.000 (0.001)	-0.000 (0.001)		
Eigenscore					-6.87*** (1.62)	-4.15* (2.20)
Board		-0.209 (0.177)		-0.182 (0.189)		-0.139 (0.188)
Ownership		0.188*** (0.032)		0.187*** (0.032)		0.186*** (0.032)
Industries		X		X		X
Year FE		X		X		X
N	971	946	971	946	971	946
F	0.03	6.33	0.16	6.36	18.1	6.67
df	969	914	969	914	969	914
R^2	0.000	0.143	0.000	0.142	0.003	0.143
Root MSE	14.2	13.3	14.2	13.3	14.2	13.3

Significance levels: $p <$ *=10%,**=5%,***=1%
(White's heteroskedastic robust standard errors.)

Only principal component membership is studied. Like the main regressions, main component membership was always a significant explanatory variable, while the more intricate measures always were not. The idea behind these analysis' is that if the results cannot be replicated within the subsamples with the most crude measure, then ambiguity of the results may rise.

If we look at Table 9 in the appendix, one can see that the effects are of the same sign as the main regressions but not significant in all of the subsamples. Most likely the differences in the different branches' balance sheets explain the differences in the results. Most notably, all but one subsample show a negative relation between network centrality and ROI — enhancing the previous results.

As a study in the endogeneity which T. Eisenberg and Wells (1998) pointed out, we model board size with network centralities and ROI. The idea is to reproduce the previous finding of endogeneity and possibly discover something new about the simultaneous interactions between the three.

Looking at Table 10 in the appendix, both the network centralities and ROI significantly explain board size which would imply simultaneous endogeneity between both board size and ROI (which T. Eisenberg and Wells (1998) also found) as well as between board size and network centrality — which is a first finding. Also noticeable is the lack of significance in firm structure in explaining board size. This implies that different types of firms (with different ownership structures) have similar sized boards — a trait noticed already in T. Eisenberg and Wells (1998).

While the analysis shows the existence of simultaneous endogeneity, the subsample analysis already showed us some ambiguity in the results. even with ambiguity, the negative relation was still pervasive. With the found endogeneity, perhaps the magnitude of the effects should be re-evaluated.

5. Conclusions

The results show that social network centrality and firms' actions and attributes are connected. Bigger firms are more connected and hence more informed on general market outcomes and it shows clearly in the estimates – negatively.

But the results also show that connected firms made bigger investments (around 30 Me in 2013) that were around 10 % worse (that is 10 % less productive) than the not-connected firms between 2009 and 2013. Clearly access to information on general market behavior and actions has a connection with economic outcomes. And either general economic outcomes (the lasting recession) or information diffusion through the network can explain this negative connection with investments.

With the found simultaneous endogeneity, more analysis should be made with proper instrumentation — which this dataset does not necessarily provide. Even without further analysis the negative relation is quite robust, highlighting the different economic state between the previous studies and this one.

6. Appendix

Table 8: Branch of industry subsample sizes and shares

Branch of industry	No.	Cum.	%	Cum.
Auto	121	121	4.5	4.5
Electronics	97	218	3.6	8.1
Food	141	359	5.2	13.3
Energy	149	508	5.5	18.8
Furniture	16	524	0.6	19.4
Chemistry and plastics	136	660	5.3	24.7
Transportation	112	772	4.1	28.8
Consumer services	91	863	3.4	32.2
Metal and manufacturing	323	1186	11.9	44.1
Forestry	60	1246	2.2	46.3
Conglomerate	134	1380	5.0	51.3
Wood	45	1425	1.7	53.0
Daily wholesale	20	1445	0.7	53.7
Finance	81	1526	3.0	56.7
Construction	68	1594	2.5	59.2
Construction materials	39	1633	1.4	60.6
Fabric	12	1645	0.4	61.0
Phone	24	1669	0.9	61.9
Health	26	1695	1.0	62.9
Information	107	1802	4.0	66.9
Wholesale	285	2087	10.5	77.4
Insurance	72	2159	2.7	80.1
Communications	74	2233	2.7	82.8
Retail	220	2453	8.1	90.9
Business services	220	2673	8.1	99
Oil	30	2703	1.1	100

Table 9: Subsample roi regressions

Branch of industry	Cons	Main	Board	Ownership	N	F	df	R^2	Root MSE
Auto	12.1*	-13.4***	0.546	-0.010	78	3.74	74	0.132	13.4
Food	9.84**	-1.69	-0.463	0.070	93	1.09	89	0.035	10.2
Energy	11.4***	-1.04	-0.430***	0.045*	132	5.70	128	0.118	6.37
Chemistry and plastics	72.8***	-18.0	-2.25	-0.486	78	2.19	74	0.081	48.7
Transportation	13.6	-10.3	-1.32	0.299**	73	1.94	69	0.078	33.4
Metal and manufacturing	-5.79	-6.91	0.393	0.453***	180	14.0	176	0.193	24.4
Conglomerate	2.05	4.17	-1.34	0.300***	93	4.58	89	0.134	16.2
Information	65.8*	-36.4	-0.462	-0.225	73	1.20	69	0.049	86.2
Wholesale	24.4***	-20.4***	-0.573	0.114	165	7.75	161	0.126	26.6
Retail	40.0***	-7.16	-3.33***	-0.006	159	5.27	155	0.093	25.4
Business services	23.9***	-24.9***	0.366	0.185***	139	11.3	135	0.200	26.7

Significance levels: $p <$ *=10%,**=5%,***=1%

Table 10: Board size regressions with network centralities and ROI effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cons	5.91***	5.87***	6.08***	6.31***	6.68***	7.03***	6.88***	7.21***
	(0.070)	(0.346)	(0.063)	(0.340)	(0.098)	(0.351)	(0.056)	(0.325)
Main	2.25***	1.52***						
	(0.106)	(0.137)						
Degree			0.365***	0.226***				
			(0.017)	(0.018)				
Betweenness					0.001***	0.001***		
					(0.000)	(0.001)		
Eigenscore							8.65***	4.04***
							(1.14)	(1.36)
ROI		-0.004**		-0.005***		-0.006***		-0.008***
		(0.002)		(0.002)		(0.002)		(0.002)
Ownership		0.001		0.002		0.003		0.003
		(0.003)		(0.003)		(0.003)		(0.003)
Industries		X		X		X		X
Year FE		X		X		X		X
N	2605	1685	2600	1683	2600	1683	2600	1683
F	447.6	20.74	468.5	20.31	11.47	17.54	57.39	12.13
df	2603	1653	2598	1651	2598	1651	2598	1651
R^2	0.148	0.252	0.190	0.274	0.098	0.243	0.049	0.206
Root MSE	2.70	2.40	2.63	2.36	2.78	2.41	2.85	2.47

Significance levels: $p <$ *=10%,**=5%,***=1%
(White's heteroskedastic robust standard errors.)

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