The Resilient European Corporate Community

Evidence from the European network of interlocking directorates between 2005 and 2018

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Abstract

The European network of interlocking directorates is an important backbone of European integration, connecting the transnational European corporate elite. In this thesis, I analyzed the development of the European IDN between 2005, 2010, 2015 and 2018 with two new datasets. The findings show that after a period of growth between 2005 and 2010, the European corporate network decreased in connectivity during the financial crisis. After 2015, the European IDN started growing again, proving its resilience. This study of the development of the European IDN, its core of firms and directors and the first effects of Brexit on the British connectivity to the European corporate elite, shows that with Euroscepticism and nationalism on the rise, the European corporate community might yet again prove to be of great importance in influencing the future of the European Union.

1. Introduction

Since the end of World War II, the European continent has been strongly integrated politically and economically, resulting in the intergovernmental and supranational institutions as we know them today (Nugent 2017:1). This change is well voiced by one of the most important architects of European integration Altiero Spinelli in 1985:

"*[a] major transformation… has occurred in the political consciousness of Europeans, something which is completely new in their history. For centuries, neighboring countries were seen as potential enemies against whom it was necessary to be on one's guard and ready to fight. Now, after the end of the most terrible of wars in Europe, these neighbors are perceived as friendly nations sharing a common destiny*" (Spinelli 1986:xiii).

However, while European unification is often framed as one of political integration, it builds on the process of economic integration. Formally, Europe is integrated with treaties and policies. More informally, another form of economic integration is the transnational interlocking directorate network (IDN), a network of interlocking directorates where companies are interlocked if they share one or more board member(s) (Nugent 2017:313; Heemskerk 2013:75; Carroll 2010:10). This idea of political and economic integration goes back to the beginning of the 19th century when Claude Henri Saint-Simon and Augustin Thierry argued for a Europe led by *"la classe industrielle"* (Saint-Simon and Thierry 1975 [1814]; Carroll 2010:155; Carroll et al. 2010:812). From the start of the European unification after World War II, the project was largely supported by the corporate elite. From 1983, leading industrialists have united themselves in the European Round Table of Industrialists, advocating for a stronger European governance and single market (Van Apeldoorn 2002:113; Carroll 2010:155; Heemskerk 2013:75). Others argue that the European integration was also the result of US intervention (Nugent 2017:32). Regardless of the original motives, Europe has been "formed into an economic zone, governed by its own institutional norms and structures, and relatively free of political barriers to the accumulation of capital across national borders" (Carroll 2010:155).

This economic and political zone is now under pressure. Starting with the banking, sovereign debt and eurozone crisis, a large global financial crisis painfully exposed the weakness of the European Monetary Union (EMU). While the European Union (EU) had a single currency, interest and exchange rate, it was not accompanied by unified economic and fiscal policies and political structures (Nugent 2017:4 Heemskerk et al. 2016: 68-70). Next to this and nationalistic discourse and populist interests are becoming more salient in day-to-day politics and overall Euroscepticism is growing. Voicing this Eurosceptic sound, there is a rise of national parties that are either in favor of total withdrawal or advocate a stop or rollback of European political and economic integration. (Lefkofridi and Schmitter 2015:8,13; Van der Pijl et al. 2011:20).

The aim of this thesis is to analyze empirically how the economic integration of Europe has developed in the context of these financial and political pressures. It does so by taking the European IDN as indicator of more informal economic integration and replicating the study of Heemskerk on the development of the European IDN for the period 2005 till 2018. Therefore, the main research question of this thesis is: how has the European IDN developed between 2005 and 2018? To answer this question three research issues are addressed. First, whether the European IDN continued to grow during and after the financial crisis. Second, what role the strongly and more loosely connected European corporate elite played in the development of the European IDN. Thirdly, a case-study of the British-European IDN between 2015 and 2018 is conducted to assess the development of a network of interlocking directorates under pressure of the negotiations of real political and economic disintegration: the Brexit.

Researching the development of the European IDN in the last decade is relevant for two reasons. First, because board interlocks contribute to European integration by functioning as the social structure underpinning a social field. This social field is “a structure of relative positions within which actors and groups think, act and take positions” (Hilgers and Manges 2015:10). Actors try to construct and maintain their social world and their relations are governed by sets of norms and values (Heemskerk 2013:75; Fligstein 1996; 2008). Board interlocks help to build these norms and values, solidarity and trust. Knowing the previous influence of a unified corporate elite on European integration, the degree of unity of the European corporate elite today can be of large influence on the future of European integration (Heemskerk 2013:75-6; Carroll 2010:7-8; Carroll and Fennema 2002:397; Heemskerk 2011:441; Buchwald 2014:356).

Secondly, it makes a new contribution to the already existing literature on the development of the global and European IDN (Vion et al. 2009; Carroll et al. 2010; Van Veen and Kratzer 2011; Heemskerk 2011; 2013; Heemskerk et al. 2013; Vion et al. 2015; Heemskerk et al. 2016; Mokken et al. 2016; Van Veen 2017). Research on the global corporate elite shows that the global IDN remained remarkably stable during and after the financial crisis (Heemskerk et al. 2016; Van Veen 2017). However, research specifically focused on the development of the European IDN during and after the financial crisis has not been conducted recently (Vion et al. 2009; Vion et al. 2015; Heemskerk 2013). By replicating Heemskerk's study of the Eurofirst top 300 IDN in 2005 and 2010 with two new datasets, this thesis addresses this academic void (2013). For this study, a new dataset consisting of Europe's 860 top firms based on average operating revenue is created and analyzed for 2015 and 2018. Then, a panel of the firms who are both part of the top-860 panel and the Eurofirst index in 2005, 2010, 2015 and 2018 is created, resulting in a second dataset containing the 151 dominantly present firms in the Eurofirst index between 2005 and 2018.

This thesis is organized in the following way. In the next section the theoretical background and recent development of the European IDN is described. After this, the research issues, data collection and methodology are explained, which is followed by an empirical analysis of the development of the European IDN between 2005 and 2018 and all three research issues. The thesis ends with its conclusions, discussion, limitations and suggestions for further research.

2. Theoretical framework

The idea of a political-economically integrated Europe dates back to the early 19th century, when Claude Henri de Saint-Simon and Augustin Thierry developed the technocratic vision of a Europe governed by *la classe industrielle*, including manufacturers, craftsmen and scientists. Despite this industrial dominance, they considered the most important group to be bankers. (Carroll et al. 2010:812). The following one-and-a-half century, Europe experienced two World Wars and many other conflicts. At the midst of the 20th century, the most recent project of European integration begun (Nugent 2017:21). With the cooperation of statesmen like Jean Monnet, Robert Schuman, Konrad Adenauer and Alcide de Gasperi, the European integration had a clear politically motivated backbone. However, while this political integration is most often highlighted, European integration actually builds on economic integration (Heemskerk 2013:75).

The European corporate elite has been a steady proponent of a unified Europe and has been voicing this message via the European Round Table of Industrialists (ERT) and more recently via the European Financial Services Round Table (EFR). Thus, ironically it has not been bankers, but industrials rooting most for European integration. The ERT has access to the highest European decision-making bodies and lobbies for an EU with favorable economic rules, infrastructure and public-private partnerships. (ibid.; Carroll et al. 2010:812; Carroll 2010:155-56; Van Apeldoorn 2002:112-14; Van der Pijl et al. 2011:9).

An important concept when studying the integration of the EU is institutional completeness. Institutional completeness means that communities become stronger when their institutions become more connected and intertwined (Carroll 2010:158). For the European corporate community this means that the institutional means for capital accumulation - means of production, finance and distribution - become accessible not only on national, but also on transnational level (ibid.; Thompson 1977). Practically, this is already partly happening via institutions like the European Central Bank (ECB), European stock market and regulatory agencies. However, while these institutions “enable pan-European capital accumulation, [they] do not speak directly to the process of capitalist class formation” (Carroll 2010:158). If Europe's corporate community is to become even stronger integrated, this requires this development of transnational *finance capital*, which occurs when the means for capital accumulation are integrated through links and relationships between individuals (ibid.; Overbeek 1980:102). In national corporate communities, institutional completeness and capitalist class formation is achieved when bankers and industrials work together in financing and governing corporations via board interlocks. By doing this they integrate capital and enable themselves as corporate community to coordinate economic decision making and united political action (Mintz and Schwartz 1985:866; Heemskerk et al. 2016:70).

Board interlocks thus function as the backbone of corporate communities by linking key activities and centers of corporate command. They have instrumental and expressive functions. Board interlocks have instrumental functions as they foster capital control, coordination and allocation, for example in political contributions, corporate lending and mergers and acquisitions. In expressive terms, interlocking directorates allow for the building of cultural relations, corporate solidarity and trust. (Heemskerk 2013:75-6; Carroll 2010:7-8; Carroll and Fennema 2002:397; Heemskerk 2011:441; Buchwald 2014:356). From 1996 onwards, a shift seemed to have emerged where national corporate communities are thinning and a global transnational network of interlocking directorates is emerging (Beyer and Höpner 2003; Bühlmann et al. 2012; Davis et al. 2003; Heemskerk 2007; Windolf 2002; Heemskerk 2013:76). These national declines are caused first by the shift from stakeholder- to shareholder-oriented capitalism, which led to smaller boards, focusing on fewer companies. Next to this, corporate governance reforms aimed to decrease the amount of extra positions directors hold, also caused a decline in the number of interlocking directorates. A third reason for the national decline is the change from "relationship-based to transaction-based financing". As debt became securitized and traded instead of something that is arranged via director relationships between banks and industrial clients, national networks declined as well. (Davis and Mizruchi 1999; Heemskerk and Schnyder 2008).

Carroll and Fennema showed that already in the 1970s a global transnational IDN started to develop. In the 1990s, an increase in transnational European interlocks was seen, with an important role for industrial companies. However, business communities were still "predominantly organized along national lines" and the transnational network was more a superstructure that rested on national bases (2002:409,414). More recent studies empirically showed how the transnational European IDN continued to develop. Van Veen and Kratzer mapped the IDN of 15 European countries in 2006 and found that a little under 40% crossed borders, thus forming a European elite corporate network (2011:21). In 2009, Vion et al. analyzed interlocks of four European stock exchange indices and showed that, despite the empirical support for the growing European IDN, there were still big differences in transnationalization per country. They found no evidence of a "very integrated and structured transnational European business network" and argued it would be more realistic to see the transnational network as one of strong national poles connected via weak ties (2009:19). Additionally, analyzing stock market indices from the major European economies between 2005 and 2008, Vion et al. concluded that there was no structural basis for the emergence of a transnational European network (2015:185).

Carroll et al. conducted a ten-year analysis of the IDN of European companies that are part of the 500 world's largest corporations. They showed that, although there might not have been a structural basis at the time for a European IDN, Europe did become the most integrated component of the global network (2010:836). There were still differences in the transnational integration per country and the European IDN was largely centralized in north-western Europe, but the authors found a "reproduction of national financial-industrial axes (…) *and* a pan-European *capital integration* (…)". In other words, Europe became institutionally more complete. However, it were not the bankers, but industrialists with financial connections that formed the core of the European corporate community. (idem 829,832). Heemskerk found similar conclusions and affirmed that a European IDN was now really at place. However, the network was still largely dependent on a few individual board members with a lot of interlocks, so called big linkers. Therefore, although the network was now really in place, the salience of several individuals that carried the network made it non-reproducible at the time (2011:456-458).

In 2013, Heemskerk showed that the transnational European corporate community kept growing. Between 2005 and 2010 the European IDN of the 300 largest European firms increased significantly, both in density and inclusiveness. Albeit that the network was still centered in north-western Europe, the corporate community became less dependent on big linkers thanks to the inclusion of more single linkers: board members with just one European interlock. Heemskerk also found the prominence of industrialists with financial links in comparison to the marginal role of the financial elite in industrial corporations. (2013:93-95). He concludes suggesting the network now has "a structural basis for overcoming the present Euro crisis that has been handled mainly at the political level". (idem:77).

Already at the time of Heemskerk's research, but increasingly after that, the European political and corporate community continued to suffer from the financial crisis and related Eurozone crisis. The Eurozone crisis began when it became clear European banks severely over-lent during the property bubble that caused the 2008 global banking crisis. Borrowers could not repay their debts and this uncertainty about the health of banks meant a capital flight from weak banks and banks based in weak economies. This issued the governments of these states to intervene and save the credibility of their banking system. However, these interventions meant large increases in the public and sovereign debt of weak economies, who were at the same time condemned to high interest rates on the international capital market. As soon as it became clear that the European single currency system experienced trouble handling these challenges, the Eurozone crisis was a fact. The Eurozone crisis forced the European member states and economies to either draw back behind national borders or take an integrating step forward to more European-wide institutional measures. During the past few years, the EU proved to be able to take system-wide steps to tackle this crisis, such as the creation of the European Stability Mechanism (ESM) and European Banking Union (EBU). These European institutional measures and the improving global economy played a relevant part in bringing back relative economic stability to the European Union. (Nugent 2017:2-5; Europa Nu 2019).

First results show that although the Eurozone crisis could be the crisis that would drive the EU towards more political integration, European members states have increasingly been making more nationally oriented decision. Next to this, European countries witnessed a rise in civil Eurosceptic and nationalistic concerns and populists voicing these concerns (Bârgăoanu et al. 2016:13; Lefkofridi and Schmitter 2015:8,13; Nugent 2017:16; Van der Pijl et al. 2011:20). This Euroscepticism, which correlates with the financial crisis and recent European challenge of migration pressures, has resulted in the first ever procedure of withdrawal of an EU member state: the imminent Brexit. The long-term effects of Brexit are yet to be experienced and negotiations have been troublesome. One might expect severe political and economic disintegrative consequences of which some are already happening. (Nugent 2017:13; Davies 2019; Bârgăoanu et al. 2016).

The effects of the financial and Eurozone crisis on European economic integration and corporate community after 2013 have not yet been analyzed in detail. First results on the effect of the financial crisis of the global corporate elite show that the "transnational network of interlocking directorates remained in place during the crisis" (Heemskerk et al. 2016:82). However, while the transnational ties in Europe remained relatively stable until 2006, they did drop in the crisis years (idem:79). Van Veen also analyzed the effect of the financial crisis on the transnationality of the global financial elite and found similar results as Heemskerk et al. (2017:16). He gives a potential explanation for the drop in European transnational interlocks as he finds a negative relationship between the degree of government intervention and proportion of international board directors. Contradicting this finding, Van Veen also finds that the financial corporations who needed to raise most capital during the crisis, had an increase in international board members. This counterbalanced the effect of government intervention and overall "the transnational part of the [global] elite remained largely intact". (ibid.). Besides the survival of the transnational European network after the financial crisis, the European corporate elite is even actively lobbying for supranational solutions to the current and future EU crises, via organizations like the ERT and BusinessEurope (Niemann and Ioannou 2015:205). Following this active pro-supranational lobbying and the fact that the transnational global corporate network of interlocking directorates remained largely intact during the crisis, one can expect that the European IDN has proved to be resilient and grew even further since Heemskerk's conclusions in 2013.

Creating two new datasets of the largest European firms and their directors in 2005, 2010, 2015 and 2018, this new study shows that the European corporate network decreased in connectivity during the financial crisis, but indeed proved to be resilient and is growing again in terms of density and inclusiveness after 2015. This might mean that in a time of growing Euroscepticism, nationalism and with the Brexit actual European political and economic disintegration, the growing European corporate community will be able to keep influencing the future of European integration.

3. Research issues

The aim of this thesis is to research the development of the European IDN from 2005 till 2018 by replicating Heemskerk's study with a longitudinal analysis of two new datasets. Three research issues form the basis of this analysis. The first issue concerns the practical question whether the European IDN continued to grow stronger during the period between 2005 and 2018 and if the European IDN grew stronger, what role the well- or lesser-connected and industrial or financial firms played in this development. Did the development in the European IDN for example mean a move towards a situation of institutional completeness? As stated in the theoretical framework, the global transnational corporate elite proved to be resilient during the financial crisis and the corporate community is actively lobbying towards more political and economic integration on a European level (Heemskerk et al. 2016; Niemann and Ioannou 2015). However, the actual empirical development of the European IDN before and after the financial crisis has not been analyzed yet.

The second issue concerns the importance of big and single linkers in the European IDN. Heemskerk found that the corporate network became less dependent on big linkers and the overall growth was mainly contributable to the inclusion of single linkers (idem:93). However, the recent study of Niemann and Ioannou shows that the traditional core of the corporate network, directors and firms who are often big linkers and part of the ERT, is still of large importance in for example the contact between the corporate network and European politics (2015:205). One might expect this to remain the case, but it is interesting to see how these important these big and single linkers are for the overall European IDN. This causes the second question to be: did single linkers continue to grow their importance in the European IDN between 2010 and 2018? This causes the second research issue did single linkers continue to grow their importance in the European IDN between 2010 and 2018?

The final research issue of this thesis concerns the effects of the political disintegration of the UK and is an addition to Heemskerk's research (2013). As argued, the long-term effects of Brexit are yet to be experienced and depend largely on the negotiated exit terms (Nugent 2017:13). However, it is interesting to research if the British corporate elite is moving in line with the political developments regarding the British-European disintegration. Therefore, the final research question of this thesis is: did British firms become more integrated or fragmented in the European IDN since the Brexit referendum in 2016?

4. Data collection and methodology

To answer these three sets of questions a comparative analysis is of the European IDN between 2005 and 2018 is made. In 2013, Heemskerk analyzed the European IDN of the Eurofirst top 300 firms between 2005 and 2010. This Eurofirst top 300 consists of the largest stock listed firms in Europe measured by market capitalization (Heemskerk 2013:79). Whether it is best to analyze IDN's with the largest stock listed firms or a stratified sample of firms is debated (Carroll and Fennema 2004; Kentor and Jang 2004a, 2004b; Heemskerk 2013:79). In my study, I analyze two non-stratified samples. One consists of the top 860 European firms in 2015 and 2018 based on operating revenue. The second contains the 151 firms that are both part of the top 860-firm panel and dominantly listed in the Eurofirst top 300 between 2005 and 2018. Because the Eurofirst index means only analyzing stock-listed firms, there is an important selection bias. As Heemskerk argues as well, this means for example that Eastern European firms are often excluded (ibid.).

To address this bias, the first dataset that is constructed for 2015 and 2018 contains Europe's 860 largest firms based on average operating revenue between 2013 and 2017. These firms were selected from the Bureau van Dijk Orbis database and taking the average operating revenue functions as a control mechanism to select firms who are consistently dominant, i.e. constantly part of the largest European firms. Where first the largest 1000 firms were selected, this sample has been reduced to the top 860 firms because of several reasons. First, to avoid any artificial ties between corporations of which one owns the other, the sample only consists of firms who are a Global Ultimate Owner (GUO) or firms that are considered the highest subsidiary if their GUO is outside of Europe, like Tata Steel and Sony. Firms are considered a GUO when they own a minimum of 50.01% of shares of the rest of the company. Using the GUO as selection criteria has a pro and con. The GUO selection assures that the network does not contain seemingly inter-corporation interlocks that actually are intra-corporation interlocks. However, the GUO selection does mean that potential interlocks between smaller subsidiaries are not taken along. After controlling for GUO relationships, there are still some firms that are seemingly related to each other as subsidiary and GUO, like Air France-KLM and KLM. However, in these cases the firms are strongly related, but neither one owns the other. Controlling for subsidiary relationships, is the first reason why the panel eventually shrank to 860 firms.

The second reason why the panel narrowed to 860 firms is related to data quality. Firms with no financial data after 2015 or incomplete board data have been deleted and of firms that are listed in two countries, one has been deleted as well. For example, Shell and Unilever are bi-national firms and therefore have a double listing in the sample with similar boards. Here, I have chosen the entity based on the location of its headquarters. Headquarter location is also used to decide on the nationality of firms. For example, Airbus is a mainly French-German conglomerate, but has its headquarters in The Netherlands. This causes me to treat Airbus as a Dutch firm. This list of firms is replicated for 2015 and the whole process of data cleaning resulted in a dataset of the 860 largest independent European firms based on average operating revenue in 2015 and 2018: the European top 860.

To build on Heemskerk's earlier findings and see how the European IDN of the Eurofirst index has developed since 2010, I have created a second dataset consisting of 151 firms that are part of the top 860-panel and have been dominantly present in the Eurofirst top 300 at four moments in time: 2005, 2010, 2015 and 2018. To assess which firms were part of the Eurofirst top 300 in 2015 and 2018, I have used the 2019 Financial Times Eurofirst 300 index. It might be that in 2015 and 2018 there were minor differences in the list compared to 2019. However, as I specifically focus on the dominant firms that have already been part of the index since 2005, I assume that if these firms are still listed in 2019, they were also listed in 2015 and 2018. Over the years, some firms merged, split up or changed their status in other ways, like Essity AG and Svenska Cellulosa AG. In these cases, I have chosen to adopt the 'stem' company in my panel, i.e. the original firm that existed the longest. To complete my second dataset, I have used Heemskerk's original data of 2005 and 2010. These data collection choices resulted in a list of 151 firms that have been part of the Eurofirst top 300 in 2005, 2010, 2015 and 2018.

The data of the directors of these firms is collected in two ways. For 2005 and 2010, the original dataset of Heemskerk is used again (ibid.). For 2015 and 2018, I have used the Bureau van Dijk Orbis database. As this data required more cleaning than the data of the first two years, I have manually cleaned this data for analysis by deleting all double positions of the same director within the one firm, proxyholders, LLP partners and people who are considered to hold non-important positions, usually directors in bodies below the Board of Directors and Supervisory Council.

This resulted in two clean datasets of the top 860 European firms based on average operating revenue and the 151 firms that have been dominantly present in the Eurofirst top 300 in 2005, 2010, 2015 and 2018 and their most important directors. This thesis analyses the datasets in chronological order of years, which means we will first look at the Eurofirst-panel and then at the top 860-panel. Table 1 and 2 show the country distribution of both panels.

Table 1: Distribution of Eurofirst-panel firms over countries

Countries	2005	2010	2015	2018	Δ
Belgium	5	4	4	4	-1
Denmark	3	3	3	3	0
Finland	3	3	3	3	0
France	29	28	27	27	-2
Germany	22	22	22	22	0
Greece	2	2	1	1	-1
Ireland	2	2	2	2	0
Italy	9	9	8	8	-1
Luxembourg	-	1	1	1	1
Norway	4	4	4	4	0
Portugal	1	1	1	1	0
Spain	9	9	9	9	0
Sweden	9	9	9	9	0
Switzerland	8	9	11	11	3
The Netherlands	10	9	10	10	0
United Kingdom	35	36	36	36	1

Note:

Δ shows the difference between 2005 and 2018

In both panels French, German and British firms are best represented, followed by the Dutch, Italian and Swiss. We still see that the Eastern European countries are not very present. This distribution of countries is however not per se problematic when analyzing the European IDN as, in the same way that Heemskerk argues, this does reflect economic reality (ibid.). In the Eurofirst-panel, country changes are caused by mergers and acquisitions. For example, the French Lafarge merged with the Swiss Holcim in 2015 and moved its headquarters to Switzerland. In the top 860-panel, the difference between the Netherlands and Luxembourg is caused by Invista moving its activities from The Netherlands to Luxembourg.

For all firms, the Orbis database is used to identify the board of directors. Where board data from some specific corporations was missing, this is supplemented with board data from the corporation's website and annual reports. Cross-checking the names and personal information of the directors in both the Eurofirst and European top-860, enabled me to manually determine the interlocking directorates. These are thereupon analyzed in the network visualization program Gephi.

Table 2: Distribution of top 860 firms over countries

Countries	2015	2018	Δ
Austria	16	16	0
Belgium	18	18	0
Cyprus	5	5	0
Czech Republic	3	3	0
Denmark	25	25	0
Finland	19	19	0
France	118	118	0
Germany	145	145	0
Greece	6	6	0
Hungary	2	2	0
Ireland	20	20	0
Italy	48	48	0
Luxembourg	10	11	1
Norway	25	25	0
Poland	8	8	0
Portugal	5	5	0
Slovakia	1	1	0
Slovenia	1	1	0
Spain	41	41	0
Sweden	36	36	0
Switzerland	57	57	0
The Netherlands	88	87	-1
United Kingdom	163	163	0

This network of firms and their directors is interpreted through the methodological lenses of social network analysis. If one director sits in the board of two firms, an interlock and "edge" between two "nodes" (the firms) is created. An edge denotes if two firms are connected and can consists of multiple interlocks, i.e. shared directors. When counting all edges of a firm, its degree is calculated. Components are maximally connected parts of a network, where all nodes are connected and none are connected with nodes outside the component (idem:81, Wasserman and Faust 1994). If a board member holds a position in another firm from the same country, the director creates a national interlock. If a board member holds positions in two firms that are from different countries, the director creates n European interlock. It is on the development of this European network of interlocks where the focus of this thesis lies.

5. Empirical results

The empirical results are structured as follows. Part 5.1 is the largest part, focusing on the first research issue regarding the growth of the European IDN and which kind of firms played what role in this development. Part 5.2 assesses the second research issue, focusing on the role of big and single linkers in the European IDN. Part 5.3 focusses on the third research issue and analyses the effect of political disintegration on the European IDN with a Brexit case-study.

5.1.1 Overall development of the European IDN

Over the past 20 years it has increasingly become clear that where national IDN's are declining, a transnational IDN is emerging (Beyer and Höpner 2003; Bühlmann et al. 2012; Davis et al. 2013; Heemskerk 2007; Windolf 2002; Heemskerk 2013:76; Heemskerk et al. 2016:82; Van Veen 2017:16). First research has shown that even during the global financial crisis, the transnational network remained largely intact. The European IDN remained relatively stable until 2006, but saw its connectivity decrease during the financial crisis (Heemskerk et al. 2016:79,82). Nevertheless, Heemskerk found that between 2005 and 2010, part of the European IDN grew again, forming a "structural basis for overcoming the present Euro crisis (…)" (Heemskerk 2013:77).

Table 3: European corporate network of Eurofirst-panel

	2005	**2010**	**2015**	**2018**	**Δ**	**Δ%**
Number of firms	151	151	151	151	0	0
Number of connected firms	133	136	134	136	3	2.6
% of all firms	88.1%	90.1%	88.7%	90.1%	2	2.3
Size of the dominant component	120	136	132	133	13	10.9
% of all firms	79.5%	90.1%	87.4%	88.1%	8.6	10.8
Number of interlocks (and edges)	415 (347)	511 (412)	366 (315)	353 (312)	-62	-14.9
National interlocks (and edges)	285 (226)	354 (267)	263 (217)	231 (203)	-54	-18.9
European interlocks (and edges)	130 (121)	157 (145)	103 (98)	122 (109)	-8	-6.2
% of all interlocks	31.3%	30.7%	28.1%	34.6%	3.3	10.5
Firms connected national	122	136	122	117	-5	-4.1
Firms connected European	81	108	86	96	15	18.5
% connected European of all firms	53.6%	71.5%	57%	63.6%	10	18.6
% connected European of connected firms	60.9%	79.4%	64.2%	70.6%	9.7	15.9

Note:

Δ shows the difference between 2005 and 2018

The first results align with the findings of Heemskerk et al. and Heemskerk and show additional developments (2016; 2013). Table 3 gives an overview of the general characteristics of the European IDN of the Eurofirst-panel between 2005 and 2018. Between 2005 and 2010, the percentage of connected firms increased between from 88.1 to 90.1 per cent. After 2010, this percentage decreased again to 88.74 per cent in 2015. In 2018, the figure returned to its 2010-high of 90.07 per cent. The vast majority of connected Eurofirst firms form one dominant component. When looking at the number of interlocks, we see a growth between 2005 and 2010 from 415 to 511. After 2010, that amount decreased sharply to 366 interlocks in 2015. The decrease slowed down, but the interlocks still declined to 353 in 2018.

Table 4 gives an overview of the general characteristics of the IDN of the top 860 European firms. This panel is reveals relatively less connectiveness than the Eurofirst-panel, but still shows a similar percentual growth between 2015 and 2018 in connected firms with an increase from 65.2 to 67.4 per cent. In the top 860-panel, the dominant component grew from 59.8 to 60.9 per cent, including more firms in the largest maximally connected part of the network. Looking at the overall number of interlocks in the top 860-panel, this decreased from 1740 in 2015 to 1699 interlocks in 2018.

Table 4: European corporate network of top 860-panel

	2015	2018	Δ	Δ%
Number of firms	860	860	0	0
Number of connected firms	561	580	19	3.4
% of all firms	65.2%	67.4%	2.2	3.4
Size of the dominant component	514	524	10	1.9
% of all firms	59.8%	60.9%	1.1	1.8
Number of interlocks (and edges)	1740 (1477)	1699 (1495)	-41	-2.4
National interlocks (and edges)	1234 (1013)	1136 (979)	-98	-7.9
European interlocks (and edges)	506 (464)	563 (516)	57	11.3
% of all interlocks	29.1%	33.2%	4.1	14.1
Firms connected national	511	514	3	0.6
Firms connected European	344	359	15	4.4
% connected European of all firms	40%	41.7%	1.7	4.25
% connected European of connected firms	61.3%	61.9%	0.6	1

If we take a closer look at the development of the national and European interlocks in both networks, two interesting observations can be made. First and similar to Heemskerk's findings, most of the interlocks are still within countries themselves (idem:81). Second, the sharp decline in density of the overall network of interlocking directorates after 2010 can mainly be contributed to the decrease of national interlocks.

Figure 1: firm-degree distribution 2005 (Eurofirst)

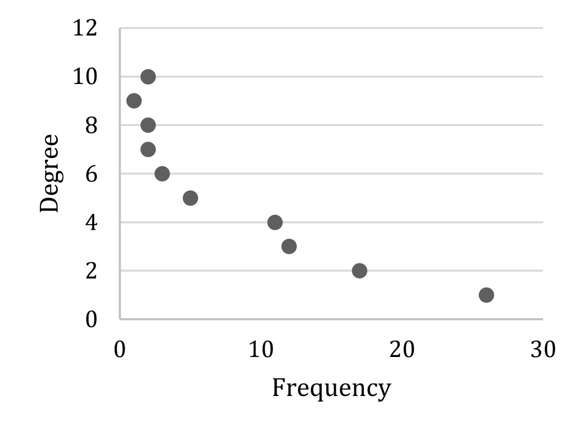


Figure 2: firm-degree distribution 2010 (Eurofirst)

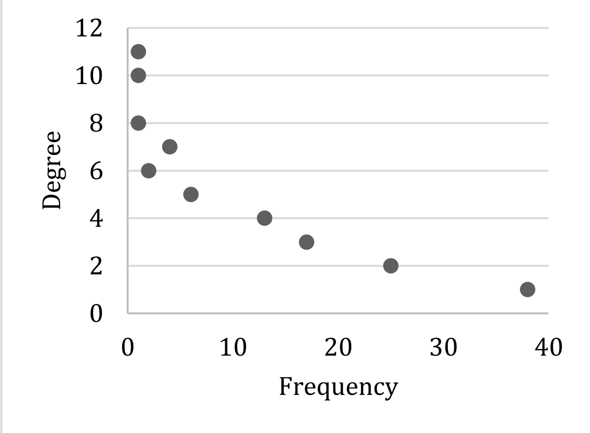


Figure 3: firm-degree distribution 2015 (Eurofirst)

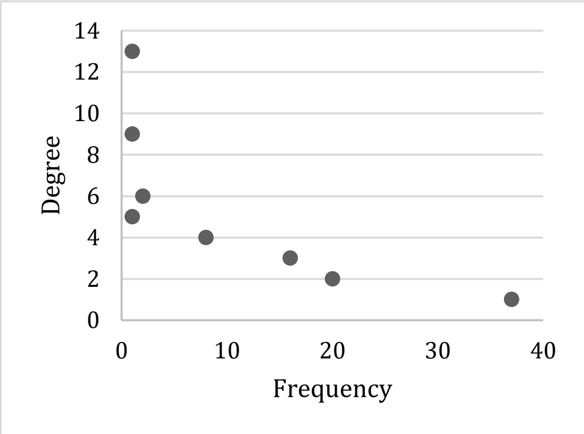


Figure 4: firm-degree distribution 2018 (Eurofirst)

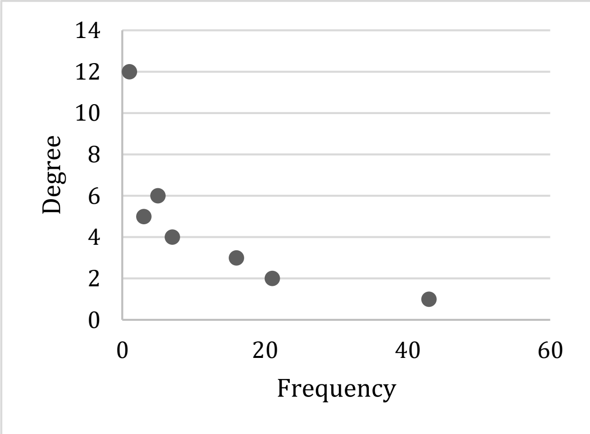


Figure 5: firm-degree distribution 2015 (Top 860)

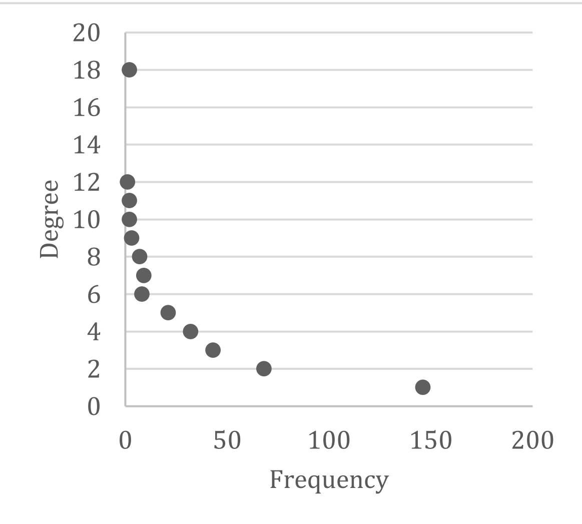
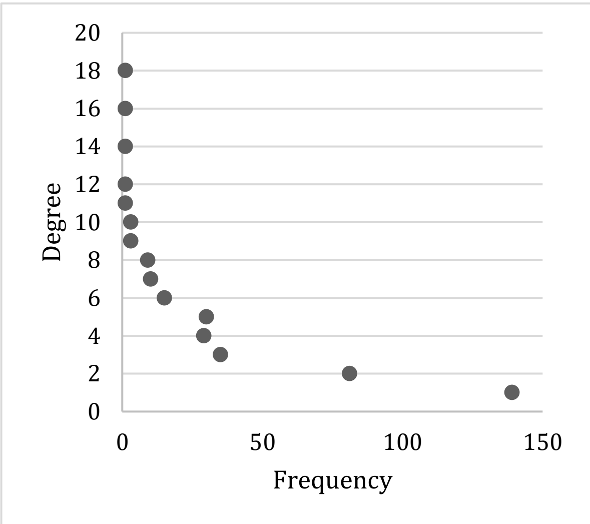


Figure 6: firm-degree distribution 2018 (Top 860)



Where the amount of European interlocks grows again in in both panels after 2015, the national interlocks continue to decline. These observations tell us that the overall network of interlocking directors took a strong blow during the crisis years. However, where national interlocks continue to decline, the European IDN is recovering and growing again after the crisis.

Heemskerk found that the growth of the European IDN between 2005 and 2010 was thanks to less-connected firms in 2005 becoming better connected in the network (idem:82). Figure 1 till 6 show the degree-distribution of connected firms for both panels. The y-axis shows the degree and the x-axis the number of firms with that degree. Concurring with Heemskerk's results, the growth between 2005 and 2010 is again because firms with four or fewer interlocks show a strong increase in interlocks compared to the already better-connected firms. One could expect that the following decline in connectedness after 2010 would then also be because of firms disappearing at the border of the network. However, results here shows otherwise. While the number of firms with fewer than five interlocks remained relatively stable, it were the better-connected firms with seven or more interlocks that showed the strongest decline between 2010 and 2015. After 2015, the European network grew modestly because of the inclusion of more firms with just one interlock and a slight recovery of the better-connected firms.

The top 860-panel shows a similar trend. Thus, where we again find the lesser connected to be responsible for the growth of the European IDN between 2005 and 2010, it are firms spread out over the entire degree-axis that are responsible for the recovery of the European IDN after 2015. The trend of a decline and recovery in density after 2010 is also visible in terms of the inclusiveness of the European network. Contrary to Heemskerk's findings, the national networks of the Eurofirst-panel increased in inclusiveness between 2005 and 2010, growing from 122 to 136 connected firms. After 2010, the Eurofirst-panel shows a decline in connected firms in the national networks (from 136 to 122 and 117) and the European IDN (from 108 to 86). This again coincides with the peak years of the Eurozone crisis. After 2015, as the European IDN grows again in density, the network also becomes more inclusive. Both panels show an increase in the number of firms that is connected on a European level, where the inclusiveness of national networks the Eurofirst-panel grows relatively slow and decreases in the top 860-panel. By 2018, 70.6 per cent of firms in the Eurofirst-panel and 61.9 per cent of firms in the top 860-panel with shared board members are connected in the European IDN.

Where other studies find national networks to be declining since 1996, Heemskerk's sample showed an increase (ibid.; Beyer and Höpner 2003; Bühlmann et al. 2012; Davis et al. 2013; Heemskerk 2007; Windolf 2002). For the period of 2005 till 2010, our results show the same trend Heemskerk found. He showed how French and Swedish firms strengthened their national ties, causing the overall amount of national interlocks to grow (Heemskerk 2013:83).

After 2010 and in line with previous research, the national interlocks started decreasing again. Former research has shown that reasons for the declining national IDN's were a shift from stakeholder to shareholder-orientated capitalism, leading to smaller boards focusing on fewer companies, corporate governance reforms and the change from relationship-based to transaction-based financing. (Heemskerk et al. 2016; Davis and Mizruchi 1999; Heemskerk and Schnyder 2008). Testing these reasons for the national decline found between 2010 and 2018 and the different findings compared to Heemskerk's paper is unfortunately beyond the scope of this thesis as we focus mainly on the European IDN. Thus, it remains unclear what the exact reasons behind the growth and decline of national interlocks are and more focused studies on the recent development of Europe's national IDN's is needed.

Figure 7: the top 860 European network of interlocking directorates in 2015

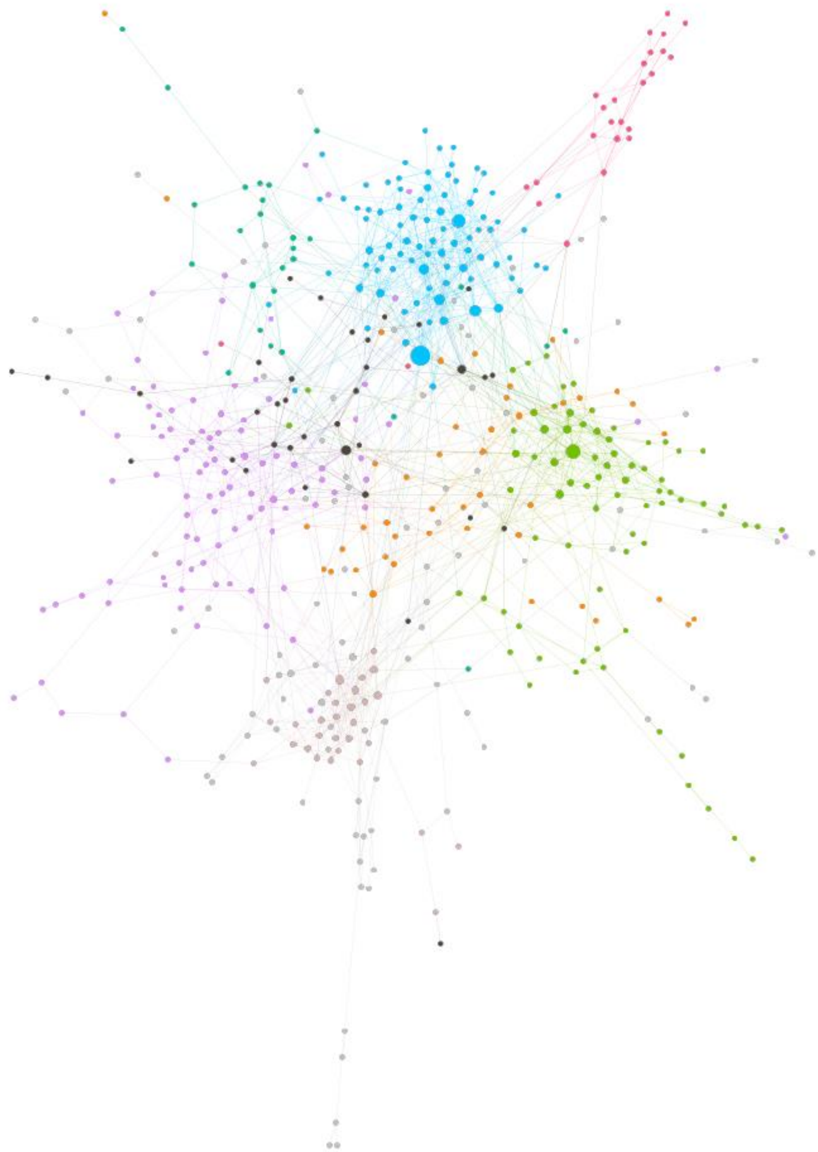
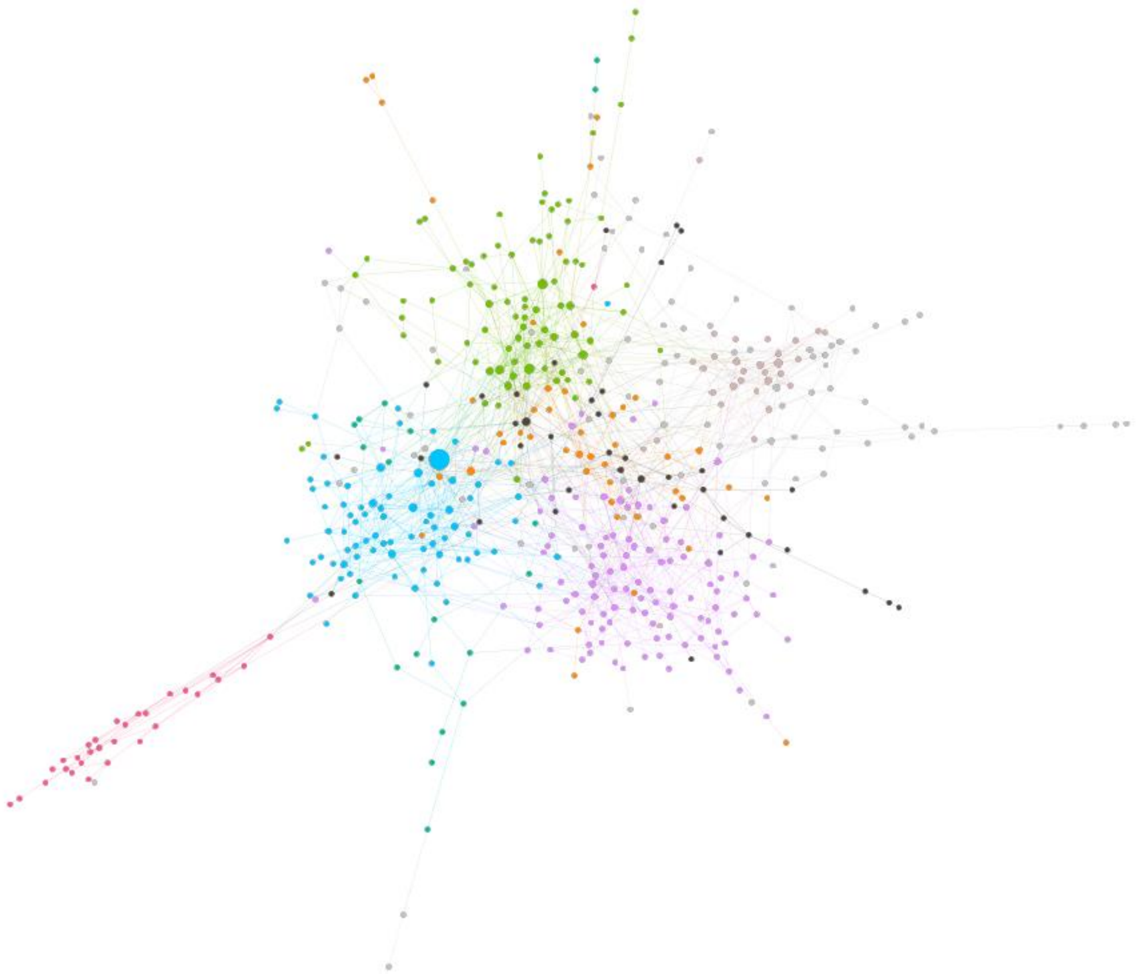


Figure 8: the top 860 European network of interlocking directorates in 2018



The first results of our analysis of the development of the European network of interlocking directorates showed several findings. After the increase in density and inclusiveness of the overall European IDN between 2005 and 2010, the network shrinks and thins between 2010 and 2015, the most prominent years of the Eurozone-crisis. After 2015, the decline of the Eurofirst-panel IDN attenuates and the network of the top 860-panel grows. Taking a closer look, we found that the overall decline between 2010 and 2015 was due to both declining national and European interlocks. However, where national IDN's continue to spiral downwards, the European IDN is growing again. Figure 7 and 8 show the European IDN of the top 860-firm panel in 2015 and 2018. Each node represents a firm and the color and size are decided by its country and degree. Purple is British, green is German, Blue is French, black is Dutch, orange is Swiss, and pink is Italian. This suggests that though the European IDN is not immune to the European crisis, it is indeed resilient and able to overcome them. Despite this growth, the European IDN has not yet returned to its pre-2015 connectivity. If this growth continues remains to be seen, but for now we can conclude that the European IDN is growing again thus grow closer towards a situation of stronger economic connectedness and potentially of institutional completeness.

5.1.2 The core of the European IDN

Interlocking directorate networks consist of firms with lesser and more interlocks that both influence the development of the network. In this part we look at the European firms with the highest amount of interlocks between 2005 and 2018, i.e. the dominant firms in the panels. As Heemskerk stated, "the issue is not so much who the central firms are, but rather whether this group is stable or not" (2013:89). Finding both sharp declines and increases in the connectivity of firms, he suggested that consolidating a central position in the European IDN is not a corporate strategy and more the result of having "high-level and sought-after" directors and personal decisions (idem:90-91).

Table 4 till 7 show the dominant firms of the Eurofirst-panel that have a minimum of six European interlocks. The amount of European interlocks of each firm is noted in the columns 2005-2018. When comparing the most central firms of the European network in 2005 to the firms in Heemskerk's research, we see a list of comparable firms that developed along the same line towards 2010. Firms such as Philips, Suez and Allianz show the same development in both samples. (idem:90). Interesting to see is the different in the development of BNP Paribas. Where Heemskerk saw BNP Paribas increase its connectivity in the European IDN from 13 to 17 interlocks in 2010, here BNP Paribas drops strongly in its connectivity from 8 interlocks in 2005 to only 1 in 2010.

Table 4: **most central Eurofirst-panel firms in 2005:**

Firm	Country	2005	2010	2015	2018	Δ
Astrazeneca	GBR	**11**	7**	3	4	-7
Suez	FRA	**11**	5	4	7	-4
Philips	NLD	**10**	2	1	2	-8
Unilever	NLD	**9**	13**	14**	6	-3
BNP Paribas*	FRA	**8**	1	-	-	-8
Banca Intesa*	ESP	**8**	4	-	-	-8
Sanofi-Aventis	FRA	**7**	5	2	1	-6
Saint-Gobain	FRA	**7**	5	-	-	-7
Allianz*	DEU	**6**	4	-	3	-3
ABB	CHE	**6**	7**	6	7	1
L'Oréal	FRA	**6**	7**	2	3	-3

Notes
Banca Intesa becomes Intesa San Paolo after 2010 and Suez becomes ENGIE after 2015.
Δ shows the difference between 2005 and 2018
* denotes financial firms
** denotes firms than maintained a top 10 position after 2005

When looking at Table 5, we see that three firms maintained their central position and in the case of Unilever and ABB even increased their connectivity. There are several new entries such as the Swedish-British Astrazeneca, Swiss-Swedish ABB, British-Dutch Shell and Dutch-British

Unilever. Heemskerk found similar results as he stated that "the bi-national character (...) explains part of their high number of European interlocks" (idem:91). Our results seem to support this reasoning. Looking beyond Heemskerk's research and to more recent years, Table 6 shows us that the decline of the European network between 2010 and 2015 is also due to a decline in connectivity of the most central firms. In 2010, thirteen firms had six or more European interlocks. In 2015, this amount reduced to four. Remarkable here is the total disappearance of French firms. In 2013, Heemskerk concluded that French firms continued to be most dominant in the European IDN, but this disappearance seems to signal otherwise. It are the bi-national British-Dutch, fully Dutch and Swiss firms who maintain their central position, where the Dutch even see their connectivity increase. However, Table 7 shows that maintaining a strong centrality during an economic recession does not seem to guarantee a strong centrality when the economy recovers.

Table 5: **most central Eurofirst-panel firms in 2010:**

Firm	Country	2005	2010	2015	2018	Δ
Unilever	NLD	9	**13**	14**	6**	-7
Royal Dutch Shell	GBR	3	**12**	1	1	-11
AkzoNobel	NLD	4	**9**	9**	12**	4
British Petroleum	GBR	1	**8**	1	4	-4
Nestlé	CHE	2	**8**	2	4	-4
Nokia	FIN	3	**8**	1	6**	-2
Astrazeneca	GBR	11	**7**	3	4	-3
ABB	CHE	6	**7**	6	7**	0
L'Oréal	FRA	6	**7**	2	3	-4
Generali*	ITA	4	**6**	3	-	-6
Ahold	NLD	-	**6**	1	-	-6
LVMH	FRA	4	**6**	1	1	-5
Novartis	CHE	1	**6**	6	4	-2

Notes
Δ shows the difference between 2010 and 2018
* denotes financial firms
** denotes firms than maintained a top 10 position after 2010

Table 6: **most central Eurofirst-panel firms in 2015:**

Firm	Country	2005	2010	2015	2018	Δ
Unilever	NLD	9	13	**14**	6**	-8
AkzoNobel	NLD	4	9	**9**	12**	3
ABB	CHE	6	7	**6**	7	1
Novartis	CHE	1	6	**6**	4	-2

Notes
Δ shows the difference between 2015 and 2018
* denotes financial firms
** denotes firms than maintained a top 10 position after 2015

Table 7: **most central Eurofirst-panel firms in 2018:**

Firm	Country	European interlocks	National interlocks
AkzoNobel	NLD	12	-
Lafarge	CHE	9	3
ENGIE	FRA	7	7
Møller-Maersk	DNK	6	-
Nokia	FIN	6	-
Telecom Italia	ITA	6	2
Unilever	NLD	6	1
Vivendi	FRA	6	1
Total		58	14

Note
* denotes financial firms

Table 7 contains the most central firms of the European IDN in 2018. While AkzoNobel continues to see its centrality increase to twelve European interlocks and thus becomes the most central firm in the Eurofirst-panel, Unilever witnesses a sharp drop from thirteen interlocks in 2015 to six in 2018. Such a difference in development between two highly connected firms suggest that, similar to Heemskerk's findings, firms still don't actively seek network centrality (2013:89). Interesting to see is the first entry of a Danish firm in the list of most central firms in the European IDN: the transport company Møller-Maersk. When taking a closer look to the decline of Unilever and rise of AkzoNobel, it becomes clear that Unilever had a very diverse set of European connected directors and that not the leave of one specific, but multiple directors caused the decline. AkzoNobel saw its director Louis Ralph Hughes taking on a new position at Nokia and added Pamela Kirby to its team, a director also part of Novartis.

Let us look at the organizing pillars of the European IDN when taking a bigger sample. Table 8 and 9 show the most central firms in 2015 and 2018 of the top 860-panel based on amount of interlocks. Considering the increased sample size, the threshold has been heightened to a minimum of eight interlocks. In 2015, 21 firms had a minimum of eight interlocks with other European corporations. We see again a large role for Dutch, French and Swiss firms. Airbus leads the list with 20 European interlocks, followed closely by Unilever with 19. With this bigger sample, German, Italian and Belgian firms also make their way into the list. In 2018, the number of firms with eight or more interlocks has increased to 26. Airbus is surpassed by ENGIE as the most central company in the European IDN and also here we see Unilever's connectivity declining. In line with Heemskerk's findings, French firms, such as ENGIE and Total are both well-connected on the European and national level, where Total even has more national ties than European and ENGIE an equal amount to its European interlocks. Next to this and as Heemskerk found as well, German firms are also still strongly connected to other German firms (idem:92). However, with three firms that have eight or more European interlocks, German firms can now be considered an important organizing pillar of the European IDN.

Table 8: most central firms European top 860 in 2015

Firm	Country	2015	2018	Δ
Airbus	NLD	20	18**	-2
Unilever	NLD	19	10**	-9
Total	FRA	15	11**	-4
Stora	FIN	14	13**	-1
SGS	CHE	12	15**	3
Suez Environnement	FRA	11	7	-4
Investor*	SWE	11	9**	-2
ABB	CHE	11	9**	-2
AkzoNobel	NLD	10	15**	5
Deutsche Telekom	DEU	9	6	-3
Henkel	DEU	9	6	-3
Air France-KLM	FRA	9	6	-3
Umicore*	ITA	9	12**	3
Rexel	FRA	9	7	-2
Volvo	SWE	8	5	-3
Bertelsmann	DEU	8	10**	2
Sulzer	CHE	8	6	-2
Wartsila	FIN	8	4	-4
ENGIE	FRA	8	19**	11
Lafarge	CHE	8	15**	7
UniCredit*	ITA	8	7	-1

Notes
* denotes financial firms
** denotes firms than maintained a top 25 position after 2015

As visible in the 2018 column of Table 8, 50 per cent of the dominant firms in 2015 are still considered the most central in 2018, assuring the core of the European IDN keeps a stable set of firms. Finally, as stated in the theoretical framework, an important step towards a further integrated European corporate community would be the integration of the means for capital accumulation, e.g. the integration of financial and industrial activities. This already happens via institutions such as the ECB and European stock markets, but interlocking directorates between financial and institutional firms also add to this integration. In 2013, Heemskerk concluded that the participation of the financial elite in the European IDN "remains negligible" (idem:94). When looking at the most central firms in the European IDN in 2015 and 2018, we see that the vast majority of well-connected firms still consists of industrial firms and that financial firms continue to play a minimal role the European IDN. While the European IDN grows further and knows a strong, connected core, a situation of institutional completeness does not seem to arrive anytime soon.

Table 9: **most central firms European top 860 in 2018**

Firm	Country	European interlocks	National interlocks
ENGIE	FRA	19	19
Airbus	NLD	18	1
SGS	CHE	15	2
Lafarge	CHE	15	7
AkzoNobel	NLD	15	1
Stora	FIN	13	6
Umicore	BEL	12	1
Total	FRA	11	14
Pernod Ricard	FRA	11	5
Unilever	NLD	10	2
Parjointco*	NLD	10	-
Bertelsmann	DEU	10	9
Frere-Bourgeois*	BEL	10	1
Investor*	SWE	9	1
British American Tobacco	GBR	9	4
ABB	CHE	9	10
AXA	FRA	8	3
British Petroleum	GBR	8	6
CECONOMY	DEU	8	10
Deutsche Lufthansa	DEU	8	16
KLM	NLD	8	4
Lonza	CHE	8	6
NXP Semiconductors	NLD	8	-
Solvay	BEL	8	1
Vodafone	GBR	8	3
Statoil	NOR	8	4
Total		276	136

Notes:
Statoil changed its name to Equinor in May 2018

Heemskerk stated in 2013 that becoming and remaining a central firm in the European IDN did not appear to be a corporate strategy (ibid.). The strong increases and declines in connectivity visible in Table 4 till 9 seem to support this conclusion. Next to this, we also see that industrial firms still form the vast majority of the best-connected firms in the European IDN. However, where Heemskerk also concluded that French firms continued to be most dominant, we see that after completely disappearing from the core in 2015 and returning in 2018, they are now joined by strong Dutch, German and British firms which together form the new, still largely industrial, core of the European IDN.

5.2 Europe's big and single linkers

Besides the role of well- and lesser-connected firms, a second indicator of the inclusiveness of the European IDN is the development of the European corporate elite. In 2013, Heemskerk found that the growth of the European IDN between 2005 and 2010 was in large part due to the inclusion of directors with only one interlock. In other words, the growth was "due in large part to the widening of the European corporate elite, rather than the deepening of the networks of the existing European corporate elite group" (idem:92). How did this development continue after 2010?

In 2010, the European IDN of the Eurofirst-panel had 75 directors with only one interlock. In line with the overall decline of the European IDN during this period, this decreased to 65 in 2015. However, as the network grew again, the number of single linkers did as well to 79 in 2018. If we compare the relative contribution of single linkers to the European IDN, we see that in 2010 single linkers were responsible for 47.7 per cent of all European interlocks. While European IDN declined till 2015, single linkers continued to grow their relative contribution to the network as they were now responsible for 63.1 per cent of European interlocks. This responsibility grew further as the single linkers formed 64.8 per cent of all European interlocks by 2018. Looking at the relative contribution of single linkers to the European IDN in the top 860-panel, we see a contradicting development. In 2015, single linkers carried 47.2 per cent of all European interlocks. This contribution decreased slightly to 46 per cent in 2018. While single linkers decline slightly in relative contribution, they do grow from 239 in 2015 to 259 in 2018. Thus, despite the small relative decline of the importance of single linkers in the top 860-firm European IDN, we do see an increase of the absolute contribution of single linkers in both panels and a strong increase in relative importance of single linkers in the Eurofirst-panel. With eye for the small decline in the top 860-firm panel, we can conclude that between 2010 and 2018, single linkers continued to grow more important as carriers of the European IDN.

Having seen the development of single linkers, we now turn to Europe's big linkers. In the Eurofirst-panel all directors with three and in the top 860-panel all directors with four or more European interlocks are considered big linkers. Heemskerk found that where earlier the European IDN rested on a few directors that created almost 50 per cent of the network, the contribution of the hard core receded strongly between 2005 and 2010 (ibid.; Heemskerk 2011). Table 10 shows the directors with three or more interlocks in the Eurofirst-panel. Interesting to see is that the best connected director in a historically male dominated core is a woman: Sari Maritta Baldauf (Finland). Ms. Baldauf holds positions at Daimler, AkzoNobel, Fortum and Deutsche Telekom. Overall, the big linkers are responsible for 13.9% of interlocks in the 2018 European IDN of the Eurofirst-panel.

Table 10: European corporate elite Eurofirst-panel and European interlocks

	Name	2018	2015
1	Ms. Sari Maritta Baldauf	5	5
2	Mr. Byron Elmer Grote	3	6
3	Mr. Gérard Mestrallet	3	3
4	Mr. Louis Ralph Hughes	3	1
5	Mr. Nils Smedegaard Andersen	3	1

Table 11 lists the European directors with four or more interlocks of the top 860-panel and remarkably the Canadian Paul Desmarais Jr. holds the most positions. Worthy to point out as well is that the hard core of this European IDN consists of more female (10) than male directors (9). This is a strong increase compared to 2015, when out of 20 directors with four or more interlocks, five were female. In the top 860-firm panel the big linkers are responsible for 21.3% of the interlocks in the European IDN. To conclude, we can see the importance of single linkers continue to grow in both panels while the big linkers only play a modest role. While that is the case, it is interesting to see that although their relative contribution has become smaller through the years, there is still a discernable corporate elite in the European IDN.

Table 11: European corporate elite top 860-panel and European interlocks

	Name	2018	2015
1	Mr. Paul Desmarais Jr.	13	5
2	Mr. Gérard Lamarche	11	2
3	Mr. Ian Gallienne	9	1
4	Mr. Lars Rebien Sørensen	8	1
5	Mr. Marcus Wallenberg	7	5
6	Ms. Marion Helmes	7	1
7	Mr. Nils Smedegaard Andersen	7	9
8	Mrs. Maria Amparo Moraleda Martinez	6	3
9	Ms. Monika Ribar Baumann	5	5
10	Dr. Vivienne Cox	5	1
11	Mr. Kasper Rørsted	5	5
12	Ms. Pamela Knapp	5	0
13	Ms. Sari Maritta Baldauf	5	5
14	Ms. Claudia Nemat	5	2
15	Ms. Regine Andrea Stachelhaus	5	1
16	Ms. Barbara Kux	5	5
17	Ms. Jacqueline Tammenoms Bakker	4	1
18	Ms. Annika Falkengren	4	2
19	Mr. Gérard Mestrallet	4	4

5.3 Brexit and British-European connectivity

On June 23rd 2016, The United Kingdom voted by small majority to leave the EU. While at the highest political level negotiations have not been without trouble and the long-term political and economic effects are yet to be seen, this thesis asks the question whether the British corporate elite is moving in line with the political developments regarding British-European integration. In other words, did British firms became more integrated or fragmented in the European IDN since the 2016 Brexit referendum? Table 12 and 13 give an overview of the position and connectedness of British firms in their national and European IDN in 2015 and 2018. We can see that between a year before the Brexit referendum and two years after, British firms became more integrated in the European network of interlocking directorates.

Table 12 shows that in 2015 of the 32 connected British firms in the Eurofirst-panel, 19 were connected in the European IDN. A number that grows to 26 out of 35 in 2018. Likewise, the amount of interlocks with other European firms also increases from 36 in 2015 to 53 in 2018. By 2018, 74.3 per cent of all connected firms were connected to the European IDN, compared to 59.4 per cent in 2015. Table 13 gives an overview of the characteristics of British firms in the top 860-panel and shows a similar trend. Where in 2015, 61 of the 104 connected British firms were also connected to the European IDN, this grew to 75 out of 119 in 2018. These 75 also made more interlocks with European firms compared to 2015. In 2015, British firms made 130 European connections and by 2018, this increased to 184. Just like in the Eurofirst-panel, the percentage of connected British firms that is also connected Europeanly increased from 58.7 to 63 per cent.

Table 12: development of British Eurofirst-panel firms in the European IDN

	2015	**2018**	**Δ**	**Δ%**
Number of firms	36	36	0	0
Number of firms connected	32	35	3	9.4
% of all firms	88.9	97.2	8.3	9.3
Number of interlocks	83	127	44	53
National interlocks	47	74	27	57.4
European interlocks	36	53	17	47.2
% of all interlocks	43.4	41.7	-1.7	-3.9
Firms connected national	31	35	4	12.9
Firms connected European	19	26	7	36.8
% connected European of all firms	52.8	72.2	19.4	36.7
% connected European of connected firms	59.4	74.3	14.9	25.1

An interesting development to see is that where Table 3 and 4 show an overall and consistent decline of national interlocks, British firms strengthened their national ties. Moreover, the national interlocks saw a stronger percentual increase than European interlocks. We also see that at the same time as the amount of European interlocks of British firms increases in both panels, their relative part of all British interlocks decreases from 43 to 41.7 per cent in the Eurofirst panel and 44.5 to 42 per cent in the top 860-firm panel.

Table 13: development of British top 860-firms in the European IDN

	2015	2018	Δ	Δ%
Number of firms	163	163	0	0
Number of firms connected	104	119	15	14.4
% of all firms	63.8	73	9.2	14.4
Number of interlocks	292	438	146	50
National interlocks	162	254	92	56.8
European interlocks	130	184	54	41.5
% of all interlocks	44.5	42	-2.5	-5.6
Firms connected national	97	112	15	15.5
Firms connected European	61	75	14	22.95
% connected European of all firms	37.4	46	8.6	23
% connected European of connected firms	58.7	63	4.3	7.3

Thus, when analyzing the development of British firms in the European IDN before and after the Brexit vote, we see that they became more integrated. Next to this, and in contrast with the overall development of the European IDN in both panels, British firms became even stronger integrated to their own community. It remains hard to tell why this strong increase in European and national connectedness is happening at the same time. Nevertheless, based on these results we can conclude that while the British political elite is busy finding ways to disintegrate from the European continent, the British corporate elite is doing just the opposite and becomes stronger integrated in the European IDN.

6. Conclusion, discussion and further research

6.1 Conclusion

In 2013, Heemskerk suggested the European corporate network formed "a structural basis for overcoming the present Euro crisis", but that it remained "a question to what extent this European corporate elite structure [could] be seen as a stepping stone towards a more extensive transnational capitalist class". (idem:77,96). This new study on the development of the European IDN after 2010 shows that the European corporate network indeed proved to be resilient and is recently growing again. Even though the European IDN did not recover yet to its 2010 metrics, the growth between 2015 and 2018 suggest there is a high chance of the European IDN to grow even further. However, as financial firms did not find their way amongst the most central firms in the European IDN, it seems like where the overall European IDN is growing, a transnational capitalist class is not.

Three research issues formed the basis of this thesis. The first concerned whether the European IDN continued to grow stronger during the period 2005-2018 and what kind of role well- and lesser-connected firms and industrial and financial firms played in this development. Between 2005 and 2010, the European IDN grew in both density and inclusiveness (Heemskerk 2013:83). However, as the financial crisis reached its peak, the European IDN declined between 2010 and 2015. Proving its resilience, the European IDN recovered after 2015 while the national interlocks continued to decrease. Just like in 2005 and 2010, the European IDN grew denser and more inclusive, including more firms in the network that formed more interlocks. Where the growth between 2005 and 2010 was largely due to the inclusion of firms at the border of the network, the increase in density after 2015 was thanks to both the already well-connected firms improving their positions again and the inclusion of firms with only a few interlocks. Financial firms did not find their way into this list of well-connected firms. As the integration of industrial and financial activities is a prerequisite for an integrated transnational capitalist class and the European corporate elite did not experience such an integration, it does not look like a pan-European capitalist class is taking shape (Carroll 2010:158). Thus, we can conclude that overall the European network of interlocking directorates continued to grow between 2010 and 2018, thanking its resiliency, recovery and growth in large part to the inclusion of lesser-connected firms. Nevertheless, the integrating role of the industrial hard core does remain important as well.

The second research issue dealt with the importance of big and single linkers in the development of the European IDN. Heemskerk found single linkers to be of increasing importance in causing the European IDN to grow between 2005 and 2010 (idem:95). Single linkers continued to grow their importance for the European IDN between 2010 and 2018. In both panels single linkers saw their relative contribution to the European IDN, becoming responsible for almost two-third and almost half of European interlocks in the Eurofirst-panel and the top 860-firm panel. At the same time, Europe's big linkers saw their relative contribution to the European IDN decline. Nevertheless, there is still a discernable core of directors visible in the European IDN that also proved of value in the network's recovering after the financial crisis. Interesting to see is the improved representation of female directors in the European corporate elite. In 2018, more than 50 per cent of the 19 best connected directors in the top 860-firm panel were female. Thus, with the inclusion of more single linkers carrying the network, the European IDN continues to grow in inclusiveness and has increased its stability.

The final research issue of this thesis concerned a case-study on the development of the connectivity of British firms in the European IDN since the 2016 Brexit vote. Where the British political elite is trying to disintegrate from the European continent, the British corporate elite increased their connectivity to the continent. Interesting is that against the expectations based on the existing literature on the development of Europe's national IDN's and the overall decline of national interlocks in both panels, British firms increased their national ties even stronger than their European ones (idem:76; Beyer and Höpner 2003; Bühlmann et al. 2012; Davis et al. 2003; Heemskerk 2007; Windolf 2002). The expectation is that the United Kingdom will soon start to disintegrate from the European Union both politically and economically. But for now, the results show that a decrease in informal economic connectivity does not automatically has to follow as the British corporate elite strengthened their ties with the European IDN after the Brexit vote.

6.2 Limitations

While this thesis yields interesting new developments in the European network of interlocking directorates, it is important to reflect on some potential limitations. First, the sampling method of the datasets in this thesis has been based on one quantitative measure: average operating revenue. Carroll and Fennema rightfully argue that "a single, quantitative criterion is adequate to the task of sampling the relevant units" (2004:370). By using average operating revenue to select the "top" 860 European firms, we might have excluded firms that might make less revenue but have relevant value in other ways. For example, financial firms do not always have sales as their key performance indicator and have a revenue that consists mostly of interests, dividend and fees (ibid.). Using the operating revenue criteria might have caused a sampling bias which is important to address.

A second limitation is that this thesis takes the interlocking directorate network as important indicator of European economic integration. However, it might also be that there have been other important developments on a more formal policy level, such as new corporate regulations and treaties, or on an even more informal level, such as network gatherings and conferences that have influenced the European IDN and European economic integration. Researching whether such developments took place and if so, what their implications have been, might shed a different light on the results of this thesis.

6.3 Implications

These limitations taken into account, this thesis still has several interesting implications. First, even though Euroscepticism and populism are on the rise and in the case of Brexit even causing actual political and economic disintegration, we see that the European corporate elite remains well-connected and continues to grow. Thus, the European corporate community is still assembled in a social field, building norms, values, trust and forming a backbone for European integration. For now, it looks like these norms and values are in favor of more European political and economic integrations, but as the European IDN becomes more horizontal, it remains to be seen how robust these values proof to be. By growing more inclusive, the European IDN becomes less dependent on a few important directors and increases its stability. But at the same time, as the hard core's influence reduces, it might become easier for norms and values to change over time.

Secondly, the European IDN does not appear to be on its way to a situation of institutional completeness. The results in this thesis show that while the European IDN does recover from the financial crisis and grows again, there is still no real integration of industrial and financial firms in the core of the network. The European IDN remains largely the playing field of industrialists and the structural underrepresentation of financial firms, might prove to be a structural hindrance for reaching a situation of transnational institutional completeness and capitalist class formation.

A third implication is that it becomes clear that national interlocks continue to decline after the financial crisis. There are several sensible explanations for this decline, such as governance reforms and changing economic systems, but it does raise an interesting question. If the unity of the European corporate elite allows them to voice their interests on the European level, what implications does the continuous disintegration of national interlocks have for the ability of national corporate communities to voice their interests on a national level? National corporate communities might find themselves eventually limited to voice joint interests as their board rooms become less and less integrated.

6.4 Further research

However, the focus of this thesis did not lie at the development of Europe's national IDN's, which brings us to the suggestions for further research. A good addition to the literature might be to test the existing explanations for the declining national IDN's. Do these still suffice or did other factors come up that are influencing the downwards development? And how does this look per country? Van Veen and Kratzer researched corporate networks within and among fifteen European countries and their research might prove to be a good starting point (2011).

A second suggestion for further research would be a qualitative study of the exact norms and values that are held by the European directors. Where earlier the hard core of the European corporate elite carried the largest part of the European IDN, directors with only one interlock have become increasingly responsible for the development of the European corporate network (Heemskerk 2011:456-458). Do these single linkers have comparable values as the former and current big linkers, or can we expect a change in the norms and values of the European IDN?

Finally, this thesis conducted a first small case-study on the development of British-European interlocking directorates since the Brexit referendum. The first results show that British firms became most strongly integrated with their national communities, but also increased their European ties. A more focused study on the IDN of the United Kingdom and the motivations and opinions of relevant economic actors would increase our understanding of the Brexit consequences for the British connectivity to the European IDN.

Together, these conclusions, implications and suggestions for further research give an overview of the current state of the European network of interlocking directorates and the new questions that need to be addressed. For now, the European IDN proved to be resilient as a backbone of European integration. With Euroscepticism and nationalism on the rise, the European corporate community might yet again prove to be of great importance in influencing the future of the European Union, its countries and citizens.

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