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The transnational corporate elite network

Nature and properties

Valeeva, D.

Publication date

2021

Document Version

Final published version

[Link to publication](#)

Citation for published version (APA):

Valeeva, D. (2021). *The transnational corporate elite network: Nature and properties*. [Thesis, fully internal, Universiteit van Amsterdam].

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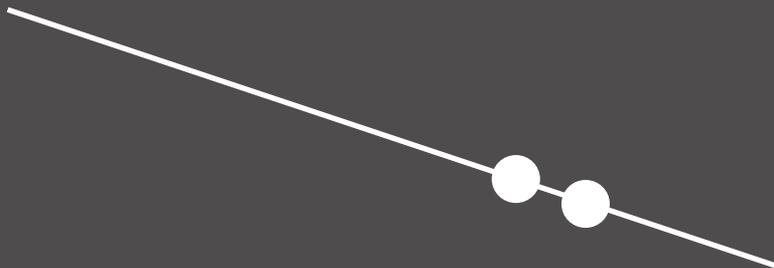
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The research reported herein received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement number 638946). The Amsterdam Institute for Social Science Research (AISSR) helped in realizing and publishing the research reported herein.

ISBN: 978-94-6421-512-0

Cover layout by Bregje Jaspers
Printed by Ipskamp Printing

The transnational corporate elite network

Nature and properties

ACADEMISCH PROEFSCHRIFT

ter verkrijging van de graad van doctor

aan de Universiteit van Amsterdam

op gezag van de Rector Magnificus

prof. dr. ir. K.I.J. Maex

ten overstaan van een door het College voor Promoties ingestelde commissie,

in het openbaar te verdedigen in de Agnietenkapel

op woensdag 10 november 2021, te 10.00 uur

door Diliara Valeeva

geboren te Naberezhnye Chelny

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Summary

Increasing wealth inequality levels, a declined trust in established elites, and the rise of populist leaders after the 2008 financial crisis sparked the interest of social scientists in the nature of elites and upper classes. In line with these social transformations, the present dissertation focuses on corporate elites—the key elite group that significantly contributed to and benefited from economic globalization. The dissertation answers the following research question: what is the nature of the transnational corporate elite network?

This study explores how corporate elites structure their national and international networks, using social network analysis as the main methodological framework and the theory of the transnational capitalist class as a key theoretical backdrop. I argue that while the transnational network of corporate elite connections might look like a global social structure, its driving mechanisms remain regionally determined. The fragmentation of the transnational elite network, regional patterns of elite transnationalization, and persistent embeddedness in national elite circles—all confirm that the orientation and interests of the transnational corporate elite are intertwined with national elite networks. Five article-based chapters of this manuscript show that the nature of the transnational corporate elite network is significantly determined by the properties of national elite networks.

Chapter 1 sheds light on the nature of the transnational corporate elite network by showing the level of its fragmentation. This chapter investigates current geospatial locations of the transnational corporate elite operations. Applying the network backbone detection algorithm, this chapter finds a set of key global cities in which transnational elite members operate. The detected city backbone of corporate elite locations consists of European global cities, but is also characterized by the emergence of cities from Asia and Oceania. The findings of this chapter demonstrate that the transnational corporate elite network is characterized by the emergence of specific regional elite groups. *Chapter 1* concludes that the transnational corporate elite network remains highly fragmented and is structured along regional axes.

Chapter 2 investigates how the transnational corporate elite network has been forming and expanding over time. By clustering board appointment sequences of transnational corporate directors, *Chapter 2* determines six transnationalization paths that corporate elites have followed. The central path in this transnational network is the one connecting European and North American corporate elites. But over time other regional elites, such as Asian elites, have been extensively forming transnational corporate ties. This chapter uncovers that the transnationalization of the corporate elite network has been following regionally determined patterns since the beginning of the 2000s. *Chapter 2* answers the research question of the dissertation by concluding that generating mechanisms of the transnational corporate elite network have been predominantly regionally organized.

Chapter 3 studies how ties are being established among different transnational corporate elite fractions, by mapping interlocking directorate networks between Chinese and European corporations. This chapter answers the key research question of the dissertation by highlighting that properties of national elite networks play a significant role in the elite transnationalization process. *Chapter 3* shows that, even though the transnational elite network remains fragmented, there are common network-building practices that strengthen ties across different parts of this network. Chinese and European corporations are currently establishing ties through forming interlocking directorates—a key business practice for enhancing corporate elite cohesion within and across nation-states. This chapter concludes that the nature of the transnational corporate elite network is determined by the network-building strategies of multiple regional elite groups.

Chapter 4 continues exploring the driving mechanisms of corporate elite networks within a nation-state. This chapter analyzes how interlocking directorate networks are forming and evolving in Denmark. It answers the central research question of the dissertation by showing that the nature of corporate elite networks, both national and transnational, is shaped by personal and corporate considerations. Applying relational event modeling, this chapter finds that both elite and corporate interests drive the evolution of interlocking directorate networks, and that these interests are complementary rather than

conflicting. This chapter highlights that the transnational corporate elite network is complex in nature, as national elite networks are themselves characterized by a variety of actors and their interests.

Chapter 5 analyzes how the transnationalization of corporate elite networks has transformed the fundamental process of elite reproduction. It answers the main research question of the dissertation by showing the dependence of the transnational elite network on nationally-created systems of elite formation and reproduction. Applying regression analysis, *Chapter 5* finds that individuals holding noble titles have higher chances of becoming transnational elite members in comparison with non-titled individuals, like they do within their nation-states. Exploration of the corporate nobility network reveals that elites use a variety of nationally-created types of capital to obtain transnational positions. This chapter concludes that the transnational corporate elite reproduction might not be significantly different from elite reproduction existing within national domains.

The chapters of this dissertation deliver three key findings. First, this study shows that the transnational corporate elite network remains fragmented. This network is characterized by regional patterns of elite transnationalization and consists of a few regional network clusters. There is a strengthening of new regional elite groups, but the Euro-American elite fraction remains at the core of this transnational corporate elite network. These findings lead us to conclude that the transnational corporate elite is rather a consolidation of national elites than a united elite group with a coherent elite interest.

Second, the dissertation reveals that elite formation and reproduction of the members of the transnational corporate elite follow similar patterns as within nation-states. Although some of the transnational corporate elite members are already densely connected transnationally, they are formed and reproduced, first of all, within their nation-states. This means that the transnational corporate elite formation has not yet entirely moved to the transnational space. This finding strengthens the conclusion that the transnational corporate elite is rather a consolidation of national elite groups, strongly embedded in their respective elite networks.

Third, the findings of this dissertation suggest that practice adaptation is taking place among different fractions of the transnational corporate elite network. Examples of these practices are board interlocking practices, concentration in specific global cities, inviting board members with international experience and connections, and making focused investments in certain locations. Corporate elites adapt them to their national contexts and apply them in order to be integrated into the globalized business world. This practice adaptation has implications for the emergence of a more consolidated transnational corporate elite network, or the rise of a power re-balance among different fractions of it.

The dissertation makes a key contribution to the studies of elites and upper classes. This scholarship has been discussing the globalization of elite groups, their educational or career patterns (Khan, 2012a), but there is a lack of detailed empirical investigations that study the depth of this globalization at the level of networks. Focusing on corporate elites as a key group, significantly influenced by the globalization of production and corporate activities, the dissertation makes a determined contribution to the scholarship on the transnationalization of corporate elites. This study contributes to this field by challenging the key theory applied in this literature—the theory of the transnational capitalist class—and providing an in-depth empirical test of some central assumptions of this theory. The dissertation also makes an empirical contribution to this field of research by applying a variety of innovative methodological solutions to the study of transnational networks. The results of this study shed light on the influence and power of elites and corporations in modern societies.

Samenvatting

Toenemende economische ongelijkheid, een afnemend vertrouwen in gevestigde elites en de opkomst van populistische leiders na de financiële crisis van 2008 hebben de interesse van sociale wetenschappers gewekt in de aard van elites en de hogere klassen. In lijn met deze sociale veranderingen richt deze dissertatie zich op bedrijfselites—de belangrijkste elitegroep die heeft bijgedragen aan en geprofiteerd van economische globalisering. Het onderzoek beantwoordt de volgende onderzoeksvraag: wat is de aard van het transnational corporate elite network?

Deze studie onderzoekt hoe zulke bedrijfselites hun nationale en internationale netwerken structureren, en maakt gebruik van sociale netwerkanalyse als belangrijkste methodologisch kader en de theorie van de transnationale kapitalistische klasse als belangrijkste theoretische achtergrond. Ik stel dat het transnationale netwerk van connecties tussen bedrijfselites er weliswaar uitziet als een wereldwijde sociale structuur, maar dat de drijvende mechanismen ervan regionaal bepaald blijven. De fragmentatie van het transnationale elitenetwerk, regionale patronen van elitetransnationalisatie en de aanhoudende inbedding in nationale elitekringen bevestigen dat de oriëntatie en de belangen van de transnationale bedrijfselite verweven zijn met nationale elitenetwerken. Vijf op artikelen gebaseerde hoofdstukken van dit manuscript laten zien dat de aard van het transnationale zakelijke elitenetwerk in belangrijke mate bepaald wordt door de eigenschappen van nationale elitenetwerken.

Hoofdstuk 1 werpt licht op de aard van het transnational corporate elite network door de mate van fragmentatie aan te tonen. Dit hoofdstuk onderzoekt de huidige geospatiale locaties van de transnationale operaties van de bedrijfselite. Door het algoritme voor het opsporen van de ruggengraat van het netwerk toe te passen, wordt in dit hoofdstuk een aantal belangrijke wereldsteden aangewezen waar de leden van de transnationale elite actief zijn. De gedetecteerde ruggengraat van de locaties van de bedrijfselite bestaat uit Europese wereldsteden, maar wordt ook gekenmerkt door de opkomst van steden uit Azië en Oceanië. De bevindingen van dit hoofdstuk laten zien dat het

transnationale zakelijke elitenetwerk wordt gekenmerkt door de opkomst van specifieke regionale elitegroepen. Hoofdstuk 1 concludeert dat het transnationale bedrijfselitenetwerk sterk gefragmenteerd blijft en gestructureerd is langs regionale assen.

In hoofdstuk 2 wordt onderzocht hoe het transnationale bedrijfselitenetwerk zich in de loop der tijd heeft gevormd en uitgebreid. Door de benoemingsvolgorde van transnationale bestuurders te clusteren, stelt hoofdstuk 2 zes transnationaliseringspaden vast die de bedrijfselites hebben gevolgd. Het centrale pad in dit transnationale netwerk is het pad dat Europese en Noord-Amerikaanse bedrijfselites met elkaar verbindt. Maar in de loop der tijd hebben andere regionale elites, zoals Aziatische elites, op grote schaal transnationale bedrijfsverbanden gevormd. Dit hoofdstuk laat zien dat de transnationalisering van het netwerk van bedrijfselites sinds het begin van de jaren 2000 regionaal bepaalde patronen volgt. Hoofdstuk 2 beantwoordt de onderzoeksvraag van het proefschrift door te concluderen dat de mechanismen die het transnationale netwerk van bedrijfselites genereren overwegend regionaal georganiseerd zijn.

Hoofdstuk 3 onderzoekt hoe banden tot stand komen tussen verschillende transnationale bedrijfs elitefracties, door het in kaart brengen van in elkaar grijpende netwerken van directies tussen Chinese en Europese bedrijven. Dit hoofdstuk beantwoordt de centrale onderzoeksvraag van het proefschrift door aan te tonen dat eigenschappen van nationale elitenetwerken een belangrijke rol spelen in het transnationalisatieproces van elites. Hoofdstuk 3 laat zien dat, ook al blijft het transnationale elitenetwerk gefragmenteerd, er gemeenschappelijke netwerkopbouwende praktijken zijn die de banden tussen de verschillende delen van dit netwerk versterken. Chinese en Europese bedrijven leggen momenteel banden door middel van de vorming van in elkaar grijpende directies—een belangrijke bedrijfspraktijk voor het versterken van de cohesie van de bedrijfselite binnen en tussen natiestaten. Dit hoofdstuk concludeert dat de aard van het transnationale bedrijfselitenetwerk wordt bepaald door de network building strategies van meerdere regionale elitegroepen.

Hoofdstuk 4 gaat verder met het onderzoeken van de drijvende mechanismen van elite-netwerken van ondernemingen binnen een natiestaat. In dit hoofdstuk

wordt geanalyseerd hoe netwerken van in elkaar grijpende directies zich vormen en ontwikkelen in Denemarken. Het beantwoordt de centrale onderzoeksvraag van het proefschrift door aan te tonen dat de aard van elite netwerken, zowel nationaal als transnationaal, gevormd wordt door persoonlijke en zakelijke overwegingen. Door relationele modellering toe te passen, stelt dit hoofdstuk vast dat zowel elite- als bedrijfsbelangen de evolutie van in elkaar grijpende netwerken van directies aansturen, en dat deze belangen eerder complementair dan conflicterend zijn. Dit hoofdstuk laat zien dat het transnationale elite netwerk van bedrijven complex van aard is, omdat nationale elite netwerken zelf gekenmerkt worden door een verscheidenheid aan actoren en hun belangen.

Hoofdstuk 5 analyseert hoe de transnationalisatie van de elite netwerken van bedrijven het fundamentele proces van elite reproductie heeft veranderd. Het beantwoordt de belangrijkste onderzoeksvraag van het proefschrift door de afhankelijkheid aan te tonen van het transnationale elitenetwerk van nationaal gecreëerde systemen van elitevorming en -reproductie. Door het toepassen van regressieanalyse wordt in hoofdstuk 5 vastgesteld dat individuen die adellijke titels dragen, een grotere kans hebben om lid te worden van een transnationale elite dan individuen die geen titel dragen, net zoals ze dat binnen hun natiestaat doen. Onderzoek van het netwerk van adel laat zien dat elites een verscheidenheid aan nationaal gecreëerde soorten kapitaal gebruiken om transnationale posities te verwerven. Dit hoofdstuk concludeert dat de transnationale reproductie van de corporate elite wellicht niet significant verschilt van de reproductie van de elite binnen nationale domeinen.

De hoofdstukken van dit proefschrift leveren drie belangrijke bevindingen op. Ten eerste toont deze studie aan dat het transnationale netwerk van bedrijfselites gefragmenteerd blijft. Dit netwerk wordt gekenmerkt door regionale patronen van elite transnationalisatie en bestaat uit een paar regionale netwerk clusters. Er is sprake van een versterking van nieuwe regionale elitegroepen, maar de Euro-Amerikaanse elitefractie blijft de kern vormen van dit transnationale zakelijke elitenetwerk. Deze bevindingen leiden ons tot de conclusie dat de transnationale bedrijfselite eerder een consolidatie is van nationale elites dan een verenigde elitegroep met een samenhangend elitebelang.

Ten tweede blijkt uit de dissertatie dat elitevorming en -reproductie van de leden van de transnationale bedrijfselite vergelijkbare patronen volgen als binnen natiestaten. Hoewel sommige leden van de transnationale bedrijfselite transnationaal al nauw met elkaar verbonden zijn, worden zij in de eerste plaats gevormd en gereproduceerd binnen hun natie-staten. Dit betekent dat de transnationale vorming van de bedrijfselite zich nog niet volledig naar de transnationale ruimte heeft verplaatst. Deze bevinding versterkt de conclusie dat de transnationale bedrijfselite eerder een consolidatie is van nationale elitegroepen, die sterk verankerd zijn in hun respectieve elitenetwerken.

Ten derde wijzen de bevindingen van deze dissertatie erop dat er praktijkadaptaties plaatsvinden tussen verschillende fracties van het transnationale bedrijfselitenetwerk. Voorbeelden van deze praktijken zijn bestuurlijke verwevenheid, concentratie in specifieke wereldsteden, het uitnodigen van bestuursleden met internationale ervaring en connecties, en het doen van gerichte investeringen op bepaalde locaties. Bedrijfselites passen deze praktijken aan hun nationale context aan en passen ze toe om in de geglobaliseerde bedrijfswereld te worden geïntegreerd. Deze aanpassing van de praktijk heeft implicaties voor het ontstaan van een meer geconsolideerd transnationaal netwerk van bedrijfselites, of het ontstaan van een nieuw machtsevenwicht tussen verschillende fracties daarvan.

Het proefschrift levert een belangrijke bijdrage aan de studie van elites en hogere klassen. In het vakgebied de globalisering van elitegroepen en hun opleidings- of carrièrepatronen onderwerp van discussie (Khan, 2012a), maar er is een gebrek aan gedetailleerd empirisch onderzoek dat de diepgang van deze globalisering op het niveau van netwerken bestudeert. Door zich te richten op bedrijfselites als een belangrijke groep, die aanzienlijk beïnvloed wordt door de globalisering van productie en bedrijfsactiviteiten, levert dit proefschrift een heldere bijdrage aan de wetenschap over de transnationalisering van bedrijfselites. Deze studie draagt bij tot dit veld door de belangrijkste theorie die in deze literatuur wordt toegepast—de theorie van de transnationale kapitalistische klasse—in vraag te stellen en door een diepgaande empirische toetsing van enkele centrale veronderstellingen van deze theorie. Het proefschrift levert ook een empirische bijdrage aan dit onderzoeksveld door een

verscheidenheid aan innovatieve methodologische oplossingen toe te passen op de studie van transnationale netwerken. De resultaten van deze studie werpen licht op de invloed en macht van elites en ondernemingen in moderne samenlevingen.

Acknowledgments

I learned a lot during this PhD journey. This is mostly because of people I met on my way. Without them, it would have been much harder to reach the end.

I was lucky to be supervised by such an excellent scholar and wonderful human being as Eelke. I received enormous support from Eelke and he was very good at seeing when I was stuck and needed help. I enjoyed the many meetings at Eelke's office, drawing something on the whiteboard and trying to find a new twist in the paper. It often looked like it did not make any sense at the beginning, but in the end, we would always discover something new and not-so-obvious. Besides that, I enjoyed Eelke's sense of humor and excitement about life and research. I am thankful to my co-supervisor Brian for his feedback, which was always constructive, on the papers that needed a bit of shaping up. I learned from Brian always to search for alternative explanations and to think broader.

During these four years, I was part of the CORPNET gang—a group of wonderful people who, by some miraculous coincidence and Eelke's talent in choosing people, turned out to be one of the best groups I have ever worked with. During my time in B9.00, I learned not only how to bake bread, steam veggies, make hummus and cocktails, but also was introduced to different ways of thinking about the social world around us. Milan taught me to be kind, open, and helpful to everyone. I learned from him how not to take things seriously and how to make vegan brownies properly. He is an example of a genuine scientist and the kindest person in the same bottle. Javier was patient with all my coding and data questions and I am grateful to him for his unlimited help. He helped me to develop a few ideas and I was always inspired by his ability to juggle multiple things at the same time. I am grateful to Dawid for his generosity and all the social activities that he encouraged us to do. He invited us to his dacha, organized many CREA drinks for us, and once in a while forced us to leave our desks and go eat ice cream. I learned from Dawid that there is always a place for friends and family and it is important to find time for real life and people. Frank helped me a lot with coding issues and understanding the technical side

of network analysis. I am thankful for the time that he took to read a large number of my intermediary drafts and for being always attentive to details. I am thankful to Jan for discussions that we had during his limited stays in Amsterdam. I learned from him to be patient, friendly, and always follow what you want to study. From Arjan, I learned to be critical and attentive to the research of each other. I'm thankful to him for taking the time to read some of my very first paper drafts and helping me to think over some difficult things. Lena taught me to ask questions and remain curious about what you are doing and everything around it. Jouke brought to our office some occasional chaos and fun. I am glad that we are re-discovering our connection now by taking care of each others' cats in Brussels.

I was fortunate to be in the stimulating PETGOV group and meet outstanding scholars there. I had the privilege to present my papers a few times at the PETGOV seminar and I have never known a more attentive audience. I always received productive feedback and valuable support for all the unconventional papers I was working on, for which I am thankful. I owe special thanks to the members of my committee for being accommodating by reading this thesis in the midst of a global pandemic. I am grateful to be assessed by such outstanding scholars. I owe special thanks to Manuel for giving me the opportunity to continue my academic journey at KU Leuven. I received new insights from the REFCOM group members there, and I am thankful for the intellectually stimulating company they provide.

I received unlimited support from the friends that I met at the UvA and in Amsterdam. They taught me not only to be curious about research but also to remain curious about life. I am thankful to Juliana, Tara, and Sarita for their friendship and steam. I am grateful to Nastya, Mischa, Kobe, Bram, Anna, Gleb, Valerie, Theresa, Petter, Mark, Ellis, Gluklya, Eva, Aki, Sonja, Katya, Guillen, Marina, Daniel for the support, friendship, and encouragement that they gave. I am thankful to my new Brussels friends; their company stimulated me to finish the thesis during the difficult times: Helmer, Susanna, Quinten, Sanne, Loulou.

Finally, I thank my parents for being patient with my moves across the globe, and in always supporting me wherever I went next. I am grateful to Arthur for

the wonderful time we shared together during the pandemic and all the great plans we've made to conquer the world.

I am thankful to everyone I forgot to mention here, but you will always stay in my heart, where nobody is forgotten.

List of publications

Chapter 1

Valeeva D. (2021). Where is the backbone of the transnational corporate elite? Under review in *Global Networks*.

Chapter 2

Valeeva D., Heemskerk E., Takes F. (2021). Beaten paths towards the transnational corporate elite. Accepted for publication in *International Sociology*.

DV, FT developed the research design. DV, EH, FT developed the theoretical framework. DV designed the data selection strategy and collected the data. DV performed the data analysis and developed the figures. DV, EH, FT wrote the manuscript. All authors reviewed the manuscript.

Chapter 3

De Graaff N., Valeeva D. (2021). Emerging Sino-European corporate elite networks. Accepted for publication in *Development and Change*.

NdG, DV developed the research design. NdG developed the theoretical framework. DV designed the data selection strategy and collected the data. DV, NdG performed the data analysis and developed the figures. NdG, DV wrote the manuscript. All authors reviewed the manuscript.

Chapter 4

Valeeva, D., Heemskerk, E. M., & Takes, F. W. (2020). The duality of firms and directors in board interlock networks: A relational event modeling approach. *Social Networks*, 62, 68–79.

DV, EH, FT developed the research design. DV, EH developed the theoretical framework. DV designed the data selection strategy and collected the data. FT

developed the software. DV performed the data analysis and developed the figures. DV, EH, FT wrote the manuscript. All authors reviewed the manuscript.

Chapter 5

Valeeva D. Are individuals with noble titles more likely to be a part of the transnational elite? Under review in *European Sociological Review*.

The code used in this dissertation and Online Appendices are available at the Open Science Framework website: <https://osf.io/93bjn/>.

Introduction

From the beginning of the twenty-first century, two major shifts took place in society: an increase in global wealth concentration and a loss of trust in elites. The largest economic shocks of the 2000s—the financial crisis of 2008 and the pandemic of 2020—and the ways in which modern economies developed, led to widespread economic and social instability, and to growing wealth inequality levels (Baker et al., 2020). The financial meltdown of 2008 gave birth to social movements, such as Occupy Wall Street in 2011, that questioned wealth concentration in the hands of those identified as ‘the one percent’ (Van Gelder, 2011). In line with these changes, a major transformation in the political landscape took place: a declined trust in established elites, resulting in the rise of global populist leaders and movements (Canovan, 1999; Castanho Silva et al., 2017; Mudde, 2004; Rooduijn, 2018).

This widespread concentration of wealth and the growing political reactions against it have sparked calls among social scientists to return to the investigation of the nature of elites and upper classes (Korsnes et al., 2018; Savage & Williams, 2008). Some predicted that elite circles, their socialization, institutional power, and the role of wealth and inheritance would become fundamental concerns in contemporary social-science research. These trends have been termed ‘Piketty’s challenge for sociology’ (Savage, 2014), referring to Piketty’s pioneering study of the very wealthy (Piketty, 2014). Social scientists responded with new theoretical frameworks and methodological tools to investigate the changing nature of elites and upper classes, and came up with comparative studies on growing income and wealth inequality (Atkinson & Piketty, 2007, 2010; Godechot et al., 2020; Spilerman, 2000; Zucman, 2015). This renewed interest resulted in a number of edited volumes presenting interdisciplinary approaches to elite studies (Abbink & Salverda, 2012; Best et al., 2017; Denord et al., 2020; Korsnes et al., 2018) and special issues in key social science journals on elite reproduction, mobility, and privilege (Cousin et al., 2018; Davis & Williams, 2017).

The globalization of capital and social life contributed to the growing international—rather than national—orientation, interests, and actions of elites and upper classes (Khan, 2012a). Cousin et al.'s (2018) review of the current state of the elite research explains the rise of globalized elites by the following key transformations. First, we observe a dramatically shifted global wealth concentration, which has resulted in an increasing wealth gap between higher and lower classes and a strengthening of elite power (Piketty, 2014, 2020). Second, there is a growing number of interconnections between national economies and a strengthening of multinational corporations that affect elite behavior. This includes actions to accumulate and maintain ownership of, and to minimize regulatory or revenue-gathering encroachment upon, this globalized capital (Vitali et al., 2011). Third, internationalization of socialization, experiences, and lifestyle of national elites has stimulated the development of a shared ideological worldview (Bühlmann, 2020; Bühlmann et al., 2013; Prieur & Savage, 2013; Wagner, 2007). Finally, international organizations such as the World Economic Forum, the Trilateral Commission, and the Bilderberg group were effective in strengthening coordination among various national elite groups (Carroll, 2010; Harrington, 2016; Richardson et al., 2013).

As a result of these global transformations, scholars have theorized about the formation of a new group of individuals with disproportionate levels of influence and power, referring to them as global wealth elites (Frank, 2007; Rothkopf, 2009; Savage, 2015), or as a transnational capitalist class (Robinson, 2004; Sklair, 2001). These globalizing groups are characterized by social backgrounds, economic interests, and political actions that lie in the domain of the global economy rather than within national economies—or, for that matter, national politics or society.

While the literature has convincingly recorded the globalization of elites and upper classes in some parts of the world, there are questions that remain unanswered. How globalized are national elites today? Are elite groups globalizing at the same pace? If elites are globalizing, can we also talk about globalizing upper classes? If so, are these globalized classes already class conscious? These are only a few of the questions that remain unanswered. This

is mainly due to disagreements in the literature on the nature and origins of these globalizing elites and classes.

This dissertation aims to answer some of these big questions. The key question that it asks is: *What is the nature of the transnational corporate elite network?* The study focuses on corporate elites because they have been theorized as the main pillars (Sklair, 2001) or key functionaries (Robinson, 2004) of the transnational capitalist class. Corporate elites are among the most globalized elite groups as they have been taking an active part in the creation of economic globalization, and they are the ones who have likely benefited most from the globalization of capital, technology, and social relations.

This dissertation investigates the current state of corporate elite globalization by exploring how these elite members structure their national and international networks of corporate ties, locations, resources, and interactions. It combines micro-level investigation of individual elite behavior with macro-level study of global elite network patterns, that together form the empirical contribution of the dissertation. This dissertation reveals the complexity of actors' interests and actions, combining structure and agency levels within one empirical framework. The study makes a theoretical contribution to the literature on the nature of transnational corporate elites and the transnational capitalist class.

Before going into the details about the central findings of this dissertation, the following sections present an overview of class and elite theories. They outline the place of the transnational capitalist class theory within these classical theories and determine the blind spots in the field.

1. Overview of key class and elite theories

The concepts of the transnational elite and the transnational capitalist class have roots in two major social theories: class theory and elite theory. Both emerge from a fundamental idea of a persistent societal division between those who rule and those who are ruled. But these theories take a markedly different direction throughout history, and ask different questions about globalizing groups in the upper parts of the social ladder.

Class theory was first introduced by Marx, who differentiated between two different types of classes: class in itself and class for itself (Marx, 2004, 2019; Marx & Engels, 1959; Pakulski, 2015). Class in itself is a structural socioeconomic group of individuals, similar by their relation to the means of production. Class for itself is an organized group of individuals who have an awareness of themselves as a class and can pursue their interests in a coordinated way. Members of a class for itself are characterized by class consciousness and solidarity, and this makes them significantly different from the class in itself. In classical Marxist theory, the bourgeoisie and proletariat are two major classes on different poles of the capitalist societies. They are situated in an exploitative relationship because the former group owns and controls the means of production whereas the latter does not and is forced to sell its labor. This structural situation creates a constant struggle between classes and uneven positions in relation to the means of production. Marx predicts that societal changes can happen if classes become aware of their interests and act in the name of them—in other words, if they become a class for themselves. These two definitions of class, introduced by Marx, have been further developed and elaborated in a range of neo-Marxist theories. The classical Marxist class structure has been adapted to different types of societies and time periods, and scholars have added more dimensions to the initial class scheme, outlining the increasing multidimensionality of contemporary class structures (e.g. Blau & Duncan, 1967; Giddens, 1973; Grusky & Galescu, 2005; Heath, 1981; Lipset, 1981; Parkin, 1979; Wallerstein, 1974).

One of the most influential neo-Marxist class interpretations has been proposed by Wright (Wright, 1978, 1979, 1984, 1985). Wright adds more class subgroups, distinguishable by the levels of assets such as skills and occupational positions, to the classical Marxist scheme. But the relation to authority and the type of control that the class members can exercise remain the key class characteristics in Wright's theory. Exploitative relationships, as initially described by Marx, remain present in Wright's class schemes, but he also adds domination as an additional relational dimension, explaining contemporary class divisions. Finally, Wright acknowledges that individuals can be situated in contradictory class positions, meaning that they can occupy more than one position based on the level of control they are able to exercise. It is

thus feasible that the dominant class is divided into multiple fractions, even though its members might be still unified by the ownership and control over the means of production. Gramsci, another neo-Marxist theorist, develops the idea of hegemonic power and adds a new dimension to the original class scheme of Marx (Gramsci, 1971). Gramsci theorizes that the dominant class does not rule by force, it rules by using its cultural knowledge, intellectual, and moral leadership, that together construct its hegemonic power. Using this type of power, rooted in ideological superiority, the dominant class promotes its interests to the dominated class and persuades it to adopt these values. Moreover, the dominant class is able to persuade the dominated class that the current class dispositions are natural and beneficial for society as a whole and are not only in the interests of the ruling class. By effectively using hegemonic power in various spheres of social and economic life, the dominant class protects its persistent high class position and preserves the existing class divisions.

Besides Marx and his followers, class theory has also been developed by Weber (Breen, 2005; Weber, 1978). He adds more social dimensions such as occupation and social status to the Marxist class dispositions. For Weber, classes are social groups that share similar levels of market endowments such as ownership, education, skills, prestige, and an ability to exercise power and control. In the Weberian scheme, class members share similar occupational positions, lifestyles, mobility chances but, in comparison with Marx, Weber notes that class members rarely transform into class for itself. In other words, class members in Weber's theory do not necessarily have high levels of class consciousness, class identity, or the ability to pursue class actions. But similarly to Marx, he points out that the highest class positions remain occupied by a group of corporate owners and managers. For Weber, the ownership and control over the means of production remains a significant class differentiating criterion, but high prestige levels also play a crucial role in contemporary class dispositions, even though they do not necessarily come with ownership rights.

Goldthorpe, one of the recent class theorists, who is often considered as a follower of the Weberian class theory, focuses primarily on occupational positions and employment relations as key class determinants in modern

societies (Erikson & Goldthorpe, 1992; Goldthorpe, 1980). With the changing employment conditions and increasing class mobility, Goldthorpe's social class scheme went through a number of modifications and was refined over time. What remained the same, however, is the nature of employment relationships as a major predictor of class positions. In Goldthorpe's class scheme, individuals within one class are characterized by similar life chances. For Goldthorpe, the upper classes are occupied by big capital owners and highly-skilled professionals such as managers of large corporations.

This brief overview of key class theorists shows that the meaning of class has been broadened over time. In contemporary usage of the term, scholars still base their interpretation of the concept on Marx's classical definition but at the same time add more dimensions to it, by introducing, for instance, occupational positions and skills, power and control relations, social status and prestige.

Elite theory, initially developed as an alternative and competing to the class theory, was first introduced by Pareto (1935, 1984), Mosca (1939), and Michels (1962). These theorists think about societies as entities with a ruling minority and a ruled majority, or elites and masses (Denord et al., 2020; Etzioni-Halevy, 2001; Khan, 2012a; López, 2013). They believed that this unequal structure is reproduced even in democratic societies: elites always seek ways to justify their dominance while the masses often remain silent and only rarely have decision-making power. Pareto highlights that elites exist in different political regimes but what makes societies healthy is a circulation of elites (Pareto, 1935).

The idea of elite circulation and the role of elites in different political regimes has stimulated research interest among political theorists since the 1950s (Dahl, 1958, 1961, 1971; Domhoff, 1967; Mills, 1956). This tradition theorizes that elite structures are reflections of particular political systems and that specific elite configurations can influence the success of regimes (Higley & Burton, 2006). For example, non-unified elites might lead to regime instability, while unified elites are distinct characteristics of autocracies. Later, pluralists showed that democratic societies are distinguishable by the plurality of elite groups that in most cases are in coordination with each other and only rarely in opposition (Dahl, 1971; Polsby, 1985; Sartori, 1987). Mills (1956), in his classical case

study of the American elite, shows how political, corporate, and military elites form a unified power elite, characterized by high levels of cohesion. Power elite members share social origins, worldview, and lifestyle, and are connected by personal and professional relations. All these factors contribute to high solidarity and cohesion of the power elite and its ability to influence the state-level decision making on a wide range of topics. Domhoff (1967, 1974, 1978, 1990) continues the ideas of Mills, arguing that American society is dominated by the unified power elite and, more important, by the corporate fraction of it. Domhoff uses Pareto's idea about the high circulation of elites in democratic societies and shows how social mobility and access to the power elite is mediated through memberships of elite clubs, institutions, and personal networks. Domhoff demonstrates that business elites are among the most influential elite groups because they are highly effective at activating their power through interlocked elite networks aimed at promoting their group interests. Dahl (1961, 1971), on the contrary, takes a pluralist approach, and argues that American society is ruled by multiple interest groups and not by a unified power elite. He describes how various interest groups compete with each other in promoting their interests, while the state coordinates the plurality of their views.

While American elite scholarship focused on investigating the role of elites in political regimes, European elite researchers took a cultural approach and were predominantly interested in the questions of elite reproduction, culture, and capital. One of the most influential European elite theorists is Bourdieu (1984, 1993, 1996; 1990), who hypothesized that elites use different types of resources to reproduce and sustain their socio-economic advantage in societies. This idea was further developed in his theory of capitals, that differentiated between cultural, social, symbolic, and economic capital; different elites are characterized by high levels of various capital types. One of the well-studied types in sociological research is cultural capital: elites use cultural institutions to produce cultural distinctions, to build hierarchies between high and lowbrow cultures, and cultural taste is used to construct identities, increase social status, and to exclude outsiders (Beckert, 2003; Beisel, 1998; Lamont, 1994). In Bourdieu's theory, diverse elite groups are in possession of specific types of capital accumulated through educational institutions, networks, and taste.

Today, elites are often defined as groups of individuals possessing substantial power over specific types of resources, occupying key positions in society, and being embedded in power networks (Cousin et al., 2018; Khan, 2012a; Scott, 2008).

This brief outline of the key class and elite theories shows that these theories have been asking slightly different questions, even though they emerge from relatively similar assumptions. Both theories describe large social groups in societies and how they are characterized by large amounts of power and resources (or the lack thereof). In comparison with class theories, elite scholars do not consider economic resources (e.g. ownership and control over economic resources) as the key factor determining eliteness. But economic resources remain important for preserving power of both elites and upper classes. In addition, elite groups are often smaller in size and consist of different fractions, whereas upper classes are usually conceptualized as larger structural groups united by their relation to economic resources. These are the key differences between elites and upper classes, as I see them, and these differences will be kept in mind over the course of the study.

2. The transnational corporate elite and the transnational capitalist class

The theories of class and elites outlined above conceptualize their respective objects of study as socio-economic entities, created and reproduced within nation-states. But since the closing decades of the twentieth century, together with the globalization of many aspects of social and economic life (Sassen, 2007), scholars have begun to speculate about the internationalization of elite and upper class interests. The turn of corporations towards operating in multiple nation-states caused the formation of an international group of individuals, densely tied to these multinational corporations and profiting from their growing strength (Barnet & Muller, 1974). Starting from the 1970s, the literature begins to discuss the rise of this globalized class characterized by a support of global capitalism (Hymer, 1979). In these early contributions, this emerging group is identified as, respectively: the Atlantic ruling class (Van Der Pijl, 1984), the international wing of the managerial bourgeoisie (Becker et al.,

1987), the transnational managerial class (Cox, 1987), and the transnational capitalist class fraction (Gill, 1990).

Based on this earlier scholarship, Sklair (2000, 2001) and Robinson and Harris (Robinson, 2004, 2017; Robinson & Harris, 2000) develop theories on the transnationalization of capitalist classes. These theories certainly have roots in the described class theories, but they are still under development and there is little consensus about what exactly the transnational capitalist class refers to, how it is created, reproduced, and whether or not it is able to exercise power.

2.1. Overview of the transnational capitalist class theories

Sklair dates the emergence of the transnational capitalist class to the 1960s and relates it to the digital revolution that drastically increased the number of social relationships crossing national borders (Sklair, 1995, 2001). Sklair suggests that the transnational capitalist class consists of four main fractions. These fractions are: corporate (transnational corporate executives and owners), state (globalizing bureaucrats and politicians), technical (globalizing professionals), and consumerist (media actors and merchants). The transnational capitalist class members are characterized by the outward-oriented global, as opposed to national, view on economic, political, and cultural issues, as well as a support of the globalizing markets, finance, and property. They significantly benefit from the globalization of these spheres, and are noted for their cosmopolitan lifestyles, international educational patterns, consumption of luxury goods and services. One of the main interests of this transnational capitalist class, according to Sklair, is to create a borderless global economy and eradicate economic and corporate nationalism.

For Sklair, the transnational capitalist class is an assemblage of various elite groups, connected to institutions that cannot be defined as national. These are multinational corporations, transnational non-governmental institutions, global policy-planning groups, and global media agencies, in which these individuals obtain key positions and are able to promote their class interests. By obtaining influential and often interlocking positions in these exclusive transnational institutions, these class members exert control in economic, political, and

cultural spheres, and promote profit-oriented and consumerist values and practices.

The transnational capitalist class theory has been further developed in the works of global capitalism scholars (Robinson, 2001, 2004; Robinson & Harris, 2000). Robinson and Harris also date the emergence of the transnational capitalist class to the closing decades of the twentieth century, when a set of big economic, social, and political changes took place and marked a new development stage of contemporary capitalism: global capitalism. This is a fundamental transition in capitalist development, characterized by globalized finance and production, the rise of the transnational state, and the emergence of the transnational capitalist class.

According to Robinson and Harris, the transnational capitalist class is the dominant social class in this new era of the globalized capitalism. This class is predominantly a class of owners: its members are those who own and accumulate global capital concentrated in transnational corporations and financial institutions. Robinson further argues that the transnational capitalist class has become conscious of itself as a transnational class (Robinson, 2004). Its major political project is the globalization of capitalism reflected in the construction of the transnational state apparatus. The transnational state is a key instrument to promote the class interests of the transnational capitalists and is currently structured as a cohesive network of global institutions. This network is a space for the transnational capitalists to coordinate actions and promote policies. In the theory of Robinson, the core of the transnational capitalist class is a class-conscious group of capitalists, surrounded by transnational elite groups that serve the project of this class, but who are not necessarily members of this class. Among the key functionaries of the transnational capitalist class are transnational executives, bureaucrats, technicians, and intellectuals.

The key dividing point between the theories of Sklair and Robinson and Harris lies in the way they delineate the transnational capitalist class from other transnational elite groups. For Sklair, elite groups that promote the interests of this class but are not directly involved in global capital ownership can be members of the transnational capitalist class. This means that, for example,

transnational corporate executives or globalized bureaucrats can be referred to as transnational capitalist class members. But for Robinson and Harris, these globalized groups are merely the members of transnational elite groups and are not part of the transnational capitalist class by definition. These transnational corporate executives or globalized bureaucrats play a crucial role in promoting the transnational capitalist class project but they do not necessarily own the global means of production.

2.2. Corporate board interlock research and the transnational corporate elite

Although the theories of Sklair and Robinson and Harris differ on the question of who is part of the transnational capitalist class, they are similar in the ways they relate to the transnational corporate elite. Both theories highlight that the corporate elite is one of the most influential transnational elite groups. Robinson considers the transnational corporate elite as a key group contributing to the transnational capitalist class and transnational state projects. Sklair recognizes the corporate elite fraction as the key pillar of the transnational capitalist class. Both theorists recognize that the corporate elite has a distinct position among all other transnational elite groups because it controls capital.

The distinct role of corporate elites within capitalist societies has also been acknowledged in the classical political science literature on elites (e.g. Domhoff, 1967; Mills, 1956). Corporate elites obtain a special position among other elite groups because they have direct access to ownership and control over economic resources and their members occupy highly-skilled occupational positions with significant control and power (Scott, 1997). This unique position of corporate elites within nation-states has influenced the subsequent empirical studies of the transnational capitalist class. The most common approach to test the validity of the transnational capitalist class theory became the analysis of transnational interlocking directorates (e.g. Carroll & Carson, 2003; Carroll & Fennema, 2002; Kentor & Jang, 2004; Nollert, 2005; Staples, 2006). As Mizruchi holds, “an interlocking directorate occurs when a person affiliated with one organization sits on the board of directors of another organization” (Mizruchi, 1996, p. 271). In the case of transnational directorates, they take

place when organizations, sharing board members, are located in different nation-states.

Research on national interlocking directorates shows that these ties contribute to the unity and cohesion of the power elite and upper classes (Domhoff, 1967; Mills, 1956; Useem, 1984). These classical works analyzed the mechanisms by which common ideology and class unity are reproduced through interlocking directorate networks. For example, Mills (1956) shows how elite groups organize their intersecting networks and how these connections create a similar worldview. Domhoff (1967) reveals how interlocking elite networks such as co-sitting on corporate boards, inter-marriage, and co-attendance of schools and social clubs allow for the exercising of political power in the form of 'revolving doors' and corporate lobbying. Useem (1984) demonstrates that by forming inner circles, corporate elites successfully promote big business interests to the state. For Useem, interlocking directorates are also used for the 'business scan', or an overview of business practices.

Mapping the interlocking directorate networks at the transnational level became the central empirical approach in the transnational capitalist class literature because these ties are the indicators of elite cohesion and create possibilities for exercising political power (Staples, 2006). This scholarship studies the degree of transnational interlocking to shed light on the rise of the transnational corporate elite community and the existence of the transnational capitalist class (e.g. Carroll & Fennema, 2002, 2004; Kentor & Jang, 2004, 2006). This literature assumes that understanding the underpinnings of the transnational capitalist class can provide a stronger empirical ground to speculate about the rise of this class.

One of the first empirical studies investigating the level of transnational interlocking between the largest world corporations was a book by Fennema (1982). This study shows that during the 1970s the number of ties crossing national borders significantly increased, and the transnational network had a North Atlantic corporate elite component. The follow-up study by Carroll and Fennema (2002), who evaluated the intensity of transnational interlocking a few decades later, shows that this board interlock network remained stable.

Moreover, the empirical results confirm that a North Atlantic business system developed from the 1970s to the 1990s. Another seminal paper on transnational interlocks between global corporations is by Fennema and Schijf (1985) who analyze transnational financial participation of companies, revealing that the US-based companies took part financially in the majority of transnational actions.

However, some scholars doubted how significant the observed increase in transnational interlock tie numbers was. This resulted in the discussion between Carroll and Fennema and Kentor and Jang (Carroll & Fennema, 2002, 2004; Kentor & Jang, 2004, 2006). Both sides had contrasting opinions about the level of transnational interlocking and about the meaning of these ties for the formation of the transnational business community or the rise of the transnational capitalist class but later studies continued the tradition of the transnational board interlock studies (e.g. Bühlmann et al., 2012; Burris & Staples, 2012; Cárdenas, 2012; Heemskerk & Fennema, 2009; Mizruchi, 2013; Van Veen & Kratzer, 2011). In 2010, Carroll published a detailed empirical investigation of the transnational board interlock networks of Fortune 500 corporations from the 1970s until the 2000s. In this key contribution, the transnational interlock ties are one of the main empirical indicators of the transnational capitalist class formation, and Carroll (2010) finds a moderate increase in the level of the transnational interlocking over time among the named corporations. Since the late 1990s, transnational interlocking has become common practice among world corporations and is not limited to a small number of international companies. Carroll (2010) also reveals that there is a significant overlap between corporate board interlock networks and transnational policy-planning networks such as the World Economic Forum and the Trilateral Commission. But this study shows that the transnational network of corporate interlocks remains tied to national elite communities and the author concludes that “as a class-for-itself, the transnational capitalist class is in the making, but not (yet) made” (Carroll, 2010, p. 233).

Besides increasing levels of the transnational interlocking among corporations, some scholars report a decline in the number of national interlock ties (Bühlmann et al., 2012; Heemskerk, 2007; Mach et al., 2011; Mizruchi, 2013;

Staples, 2007). This literature establishes that corporations are less active today in forming interlocking directorates within nation-states than in preceding decades when it was a more common practice. These empirical studies on the decline of national interlocks strengthened the argument that there has been a shift from national to global interests among corporate elites.

3. Theoretical and empirical issues in the transnational capitalist class and transnational corporate elite literatures

3.1. Open theoretical questions in the transnational capitalist class literature

The theory of the transnational capitalist class has received a number of valid criticisms. One concern is that it is frequently based on anecdotal evidence rather than on rigorous empirical testing of key theoretical assumptions (see e.g. Carroll, 2013; Heemskerck, 2018; Embong, 2000; Nollert, 2005; Van Der Pijl, 2005). Empirical studies on the transnationalization of corporate activities and networks, together with the literature on the decline of national interlocks, lead to mixed conclusions about the rise of the so-called transnational capitalist class. Generally speaking, the transnational capitalist class studies suffer from theoretical and empirical problems that make it hard to draw consistent conclusions about the nature, structural properties, and power of this class.

One of the issues is a persistent disagreement among scholars about the organizational features of the transnational capitalist class. If we can talk about already established group of transnational capitalists, where do its members come from? Are we currently witnessing a restructuring of the transnational capitalist class, in line with a rise of new powerful economies? The literature on transnational interlocking directorates consistently shows that the majority of these ties are connecting European and North American corporations, while the rest of the world remains sparsely connected (e.g. Burris & Staples, 2012; Carroll & Fennema, 2002; Kentor & Jang, 2004). Earlier studies hypothesize that if the transnational capitalist class is rising, it is forming along the North Atlantic path (Fennema, 1982; Van Der Pijl, 1984). But recent literature turns attention towards the investigation of the emerging European class. For example, Van Apeldoorn (2000), in his study of the European Roundtable of Industrialists, shows how a European transnational class is emerging around this

platform. For this rising group of European transnational capitalists, the Roundtable of Industrialists is a unique space for planning common strategies and shaping European governance. Studies on European interlocking directorates confirm that European countries form a distinct and highly cohesive part within the global corporate elite network (Carroll et al., 2010). These studies reveal that there is a growing number of transnational board interlock ties within Europe, although national business communities remain strong (Heemskerk, 2011, 2013; Heemskerk et al., 2013). Besides this literature on the Euro-American corporate elites and classes, evidence on elite transnationalization from other parts of the world remains limited (see, e.g. Cárdenas (2015) about Latin American elites, De Graaff (2020) about Chinese elites, Murray (2012) about Australian elites).

The questions on the structure of the transnational corporate elite network will be discussed in *Chapters 1, 2, and 3* of this dissertation. These chapters demonstrate that, while there is a persistent positional dominance of the Euro-American fraction of the global corporate elite, we are currently witnessing the emergence of other elite groups. For instance, these consist of the Chinese and Middle Eastern elites that are forming ties with the Euro-American core. These chapters will show that the transnational corporate elite network remains fragmented and is not yet global: there are distinguishable national and regional patterns of corporate elite transnationalization.

Another pressing issue in the literature on the transnational capitalist class centers around class formation and reproduction. How is the reproduction of the transnational capitalist class organized? Has the class formation already moved to the transnational space, or is it still deeply rooted in national domains? For some scholars, the transnational capitalist class is a consolidation of national elites, formed and reproduced within nation-states but coming to a consensus in the global space (Becker et al., 1987; Cox, 1987). For others, the development of the transnational capitalist class is already taking place transnationally, with their interests and actions clearly demarcated from nation-states (Robinson, 2004; Robinson & Harris, 2000). Carroll (2007; 2010; 2013) takes an intermediary position in this debate and argues that both national and transnational processes are contributing to the class formation and consolidation

of the transnational capitalist class. Even if some corporate elite members meet at global policy-planning institutions and come to a consensus there, “the territorial logic of states sets a limit on the formation of a transnational capitalist class-for-itself” (Carroll, 2007, p. 284). Bühlmann et al. (2013) confirm this in a case study of the Swiss corporate elite, showing that the emergence of the transnational elite has not replaced the significance of national ties; members of this newly forming elite are still bound to their national elite groups. In sum, it remains unclear if the growing number of transnational corporate ties also influences the formation and reproduction of upper classes.

Chapter 5 of this dissertation investigates the role of nationally-produced capital of elites in the transnational field and shows that the transnational corporate elite reproduction is still taking place within nation-states. The findings of this chapter suggest that the transnational space is rather a consolidation of nationally-reproduced elites. But together with the findings of other chapters (e.g. *Chapters 1* and *2*), this dissertation shows that both national and transnational processes contribute to the globalization of corporate elites.

Finally, another central question in the transnational capitalist class literature is the question of class consciousness. Is the transnational capitalist class already class conscious and can it act as a consolidated class, or a class for itself? Coordinated political action on behalf of global capitalism is probably the key element differentiating the transnational capitalist class from other powerful groups (Robinson, 2004). But currently there is only limited evidence of an established class consciousness of this group. There are two common empirical approaches to test whether the transnational capitalist class has already transformed into a class for itself. The first approach is the investigation of intersecting interlocking directorate and policy-planning networks. The second approach is the study of political actions of transnationally interlocked corporate boards. A number of studies show that corporate directors are also often affiliated with global policy-planning groups such as the Bilderberg, The Trilateral Commission, The World Economic Forum or obtain positions in politics (De Graaff, 2012; De Graaff & Van Apeldoorn, 2019; Carroll, 2010; Carroll & Carson, 2003; Nollert, 2005; Richardson et al., 2013). But even if these studies show that corporate elites are often invited to these policy-

planning meetings, most scholars remain skeptical about whether or not these intersecting affiliations are an indicator that the transnational capitalist class is transforming into a class for itself. Murray (2014) studies political actions of transnationally connected American corporate boards and explores if these firms are involved in political actions on behalf of class interests. He finds that transnationally connected corporations are more likely to be part of coordinated political actions, but he shies away from making strong claims about the transnational capitalist class as a class for itself.

This dissertation will not address the issue of the coordinated political action of corporate elites on behalf of class interests, but the strategical behavior of diverse elite fractions in international domains will be discussed in *Chapters 3* and *5*. The chapters shows that corporate elites across the globe have similar network building patterns and use similar practices of global integration. The results of *Chapter 5*, however, demonstrate that even if some elite members behave transnationally, they are more likely to represent interests of their national elite groups, which indicates that it might be too early to speak of a class conscious part of the transnational corporate elite.

The dissertation discusses some of these open questions, but does not answer all of them. Following the tradition of interlocking directorate research, this study first of all investigates the structural properties of the transnational corporate elite network. By studying these structural properties and digging deeper into case studies of national elites, the dissertation evaluates the level of the transnational elite cohesion. It also sheds light on the question of whether or not the transnational capitalist class is transforming into a class in itself. But this study does not directly investigate if the transnational capitalist class already exists as class for itself. I speculate about research designs that might aid further studies about the transformation into a class for itself in the *Conclusion* section.

3.2. Empirical problems in the transnational capitalist class and corporate elite literatures

Besides the discussed theoretical questions, there are empirical issues in the literature on transnationalizing elites and classes that impede progress in the field. Numerous attempts have been made to empirically evaluate the existence

of the transnational capitalist class, but their contradicting findings have not yet resolved the earlier mentioned long-standing theoretical questions. The main difficulty of empirical studies lies in the type of the investigated group—elites. Access to elites is often restricted and this limits the possibilities of researchers investigating this group (Hoffmann-Lange, 2017; Knoke, 1993; Semenova, 2017). In most cases, we can see the tip of the iceberg but the so-called ‘*crème de la crème*’ of the powerful global elite is hard to reach for researchers (Davis & Williams, 2017). The issue of accessibility has resulted in an empirical interest in interlocking directorates, as discussed above. Most corporate board members are open to participate in qualitative investigations and their affiliations and remuneration are often publicly available for quantitative analysis.

However, the accessibility of information about corporate elites and interlocking directorates does not completely solve the issue of boundary specification that we often encounter in elite studies (e.g. see a detailed review by Huijzer & Heemskerk (2021) on empirical and theoretical issues resulting from various boundary specifications in board interlock studies). Each chapter of this dissertation uses different boundary specifications for selecting relevant actors, depending on the research question and the aim of the chapter. In some cases, selected actors are individuals obtaining positions in the largest corporations (*Chapters 3 and 4*); in other cases, the actors are individuals who obtain transnational positions in various types of organizations (*Chapter 5*). The flexibility in the boundary specification has drawbacks, but this study will show that the advantages can outweigh them, especially in the studies of very large corporate networks collected from multiple data sources. One of these advantages is the possibility of obtaining more information about certain types of ties that remain hidden if we focus solely on the largest corporations or the big linkers. For instance, *Chapter 5* reveals that individuals from aristocratic families may have ties with multinational corporations, but that it is also common for them to be part of smaller-scale national and transnational cultural organizations, foundations, or charities—a type of finding that we would omit if we focused on ties with specific types of corporations. This flexibility in boundary specification is a problem that elite scholars, using big data, face today: we do not know how to study globalizing elites empirically, or how to

draw conclusions based on patterns observed on a large scale (Heemskerk et al., 2018). As a solution to the described issue, this dissertation pragmatically applies various boundary specifications in different chapters, in the hope to better understand the state of the corporate elite transnationalization across time and space.

Another empirical issue lies in the divide of the literature on small-scale and large-scale studies. The small-scale studies analyze interlocking directorates among a relatively small number of multinational corporations or focus on case studies of a country or region (e.g. Bühlmann et al., 2012; Cárdenas, 2015; Larsen & Ellersgaard, 2018; Naudet & Dubost, 2017). These papers are detailed and high-quality investigations, but at times draw conclusions on the nature of elite transnationalization based on highly selective samples. As Huijzer and Heemskerk note, “these studies typically collect data on a list of 50, 100, 200 or 500 corporations ranked by economic size, sometimes stratified in sectors... These relatively arbitrary sampling practices are problematic because they impact the empirical results and our therefore [sic] conclusions drawn from it” (Huijzer, & Heemskerk, 2021, p. 1). Moreover, as Carroll (2010) shows, transnational interlocking is becoming common among different types of firms across the globe and is not limited to the largest multinationals. But if the global corporate elite exists, it is reasonable to assume that it spreads all over the world and is tied to different types of organizations.

As a response to this issue, the recent literature turns towards large-scale investigations of the global corporate elite network (Heemskerk & Takes, 2016; Heemskerk, Takes, Garcia-Bernardo, & Huijzer, 2016). These studies explore corporate transnationalization from a new angle by looking at the macro-level structure of the elite network. These papers ask old questions and tackle them with new tools, drawing data-driven conclusions on the structure and properties of the transnational corporate elite network. This recent stream of the literature confirms some findings discovered in the small-scale interlocking directorate studies, but it also adds new insights to the transnational elite and class studies. For instance, this literature reveals that there is an emergence of new regional elites beyond the Euro-American core, which can be the sign of rising elite competition. This scholarship, however, also has a number of problems, such as:

it is descriptive and presents the macro-level picture of the current transnationalization without going into details about behavior and actions of individual elite members (Heemskerk et al., 2018).

In addition to the described division between small-scale and large-scale empirical approaches, the literature is also divided between different conceptual levels of analysis: transnational or national, individuals or corporations. The transnational spaces of elite interests and actions are often opposed to national spaces (see the discussion about this issue in Heemskerk, Takes, Garcia-Bernardo, & Huijzer, 2016). In reality, the distinction between national and transnational spaces is blurry: with the growing number of transnational ties, national and regional elite communities do not lose their significance (e.g. Carroll, 2010; Van Apeldoorn & De Graaff, 2012). As Van Apeldoorn notes elsewhere: “transnationalization here does not imply the withering away of national states and national social formations but rather the rise of relations across national borders and the constitution of actors that operate not ‘above’ the national state, but in different national contexts simultaneously” (Van Apeldoorn, 2014, p. 189). Also, either individuals or corporations are studied as key actors forming interlocking directorates, but very rarely the agency of both types of actors is taken into account (see the discussion about this issue in Burris & Staples, 2012; Valeeva et al., 2020).

To conclude, there is no one integrative empirical and theoretical approach that allows for the investigation of diverse types of actors within multiple spaces. The high-level theory of the transnational capitalist class is challenging for empirical tests; small-scale studies reveal only some part of the corporate elite transnationalization; large-scale studies sketch the macro-level picture but rarely dig deeper into individual elite behavior. As a result, we have only a piecemeal understanding of the fundamental question: To what extent is there even an established transnational corporate elite network, and, as a result of it, a transnational capitalist class?

4. Research question and key definitions

4.1. Key definitions

The present study analyzes the nature of the transnational corporate elite network. This elite group may play a key role in promoting the transnational capitalist class project, as theorized by some scholars (e.g. Robinson, 2004). But this dissertation makes a clear distinction between the transnational corporate elite and transnational capitalist class. I understand the transnational capitalist class in line with the global capitalism theory (Robinson, 2004, 2017; Robinson & Harris, 2000). This means that this class consists of individuals directly involved in the ownership and accumulation of global capital. In contrast, I define the transnational corporate elite as a group whose members occupy key positions in the global corporate world. They are also embedded in national and international power networks and have high levels of different types of capital. I follow the common empirical approach in the interlocking directorates literature and determine transnational elite members as those corporate executives who have board affiliations in multiple nation-states.

Therefore, this dissertation differentiates between the transnational corporate elite and the transnational capitalist class, and does not consider them as the same social group, even though their members can overlap. The relation to the ownership and accumulation of global capital is the main distinguishing element here. From this perspective, not all transnational corporate elite members are part of the transnational capitalist class, as they do not necessarily own the means of global production. Instead, they might have high levels of specific types of capital or obtain key societal positions, but this does not necessarily make them the transnational capitalist class. I do not have enough empirical data and evidence to draw definitive conclusions about the structure, the class consciousness, or the actions of the transnational capitalist class. Instead, I choose to work with the transnational corporate elite as a group that might reflect current transformations taking place among globalizing upper classes.

4.2. Research question and empirical approach

As outlined before, there is a range of open questions about the nature of transnational elites and classes. To find answers to some of these long-standing questions and contribute to a deeper understanding of this transnationalization, this dissertation investigates the corporate elite. The choice of the corporate elite as the investigated group is justified by the unique position of this elite in modern societies. Although transnational capitalist class scholars disagree on the question whether or not the transnational corporate elite is a part of the transnational capitalist class or merely a functionary of it (Robinson, 2004; Sklair, 2001), these theorists do acknowledge that the corporate elite is one of the most influential globalized elites. In line with this literature, this study aims to explore the organizational features of the transnational corporate elite. The main research question of this dissertation is the following:

What is the nature of the transnational corporate elite network?

This study focuses on networks because the network-based thinking is historically central in the transnational corporate elite literature (Fennema & Heemskerk, 2018). The social network analysis methodology, applied in most chapters of this dissertation, follows the tradition of interlocking directorate studies in which interlocking ties are considered as indicators of elite cohesion. In five following chapters, this dissertation investigates various questions on the transnational elite network structure: how this network is structured (*Chapters 1 and 2*), how it changes across time and space (*Chapters 3 and 4*), and how the elite reproduction is organized within this network (*Chapter 5*). Each chapter introduces a network concept that reflects network-building strategies of the actors involved in the formation of the transnational elite network.

To examine these strategies, the dissertation uses an empirical approach that combines a macro-level investigation of network properties and a micro-level study of behavioral patterns of actors. At the macro-level, I describe the global structure of the transnational corporate elite network: who the key actors are, what the network clusters are, and how the network develops dynamically. At the micro-level, I will show how individual elite members build this network,

what their driving interests are, and how they use their resources to obtain positions within the network. In a way, this empirical approach aims to combine the structure and the agency levels in one framework. This empirical approach allows us to resolve some of the long-standing theoretical questions in the literature on the transnational corporate elite and the transnational capitalist class.

5. Overview of the chapters and key findings

5.1. Summary of the key findings

The findings of the dissertation can be summarized in the following three points. First, this study shows that the transnational corporate elite network remains fragmented. This network is not exclusively the Euro-American corporate elite, it contains multiple elite fractions, represented by different regional elite communities (*Chapters 1 and 2*). These chapters show that the transnational corporate elite is rather a consolidation of national elites and not a unified group with a coherent elite interest. Second, formation and reproduction of the transnational corporate elite is still organized within national domains and has not yet completely moved to the transnational space. This conclusion is based on the findings of *Chapter 5*, but the significance of national elite networks is also covered in *Chapters 1, 3, and 4*. This means that the transnational corporate elite members might come to a consensus in the global space, but that they are, as of yet, created as elites within their nation-states. As a consequence, they likely follow the interests of their national elite groups within the transnational domain. Third, practice adaptation is taking place among different elite fractions, as *Chapters 3 and 5* of this dissertation demonstrate. Following specific interlocking practices, pursuing designated investments abroad, inviting individuals with international experiences on boards—all these practices are used by national corporate elites to enhance elite cohesion across different global elite fractions. The adaptation of these common practices suggest that there is a basis for developing consolidated transnational interest and actions. But, at the same time, this practice adaptation and the rise of some regional elites, might also result in a power re-balance and increased elite competition.

Taken together, the findings of the dissertation suggest that there is a group of national corporate elite members who connect and possibly operate in the transnational space. Their group behavior is observable in network-building strategies and is manifested in the ways in which these elite members are concentrated in geographical space (*Chapters 1 and 2*), how they choose similar strategies to build ties (*Chapters 2, 3, and 4*), and how they activate their capital to strengthen their position within the transnational space (*Chapter 5*). But I will argue that these behavioral patterns are significantly driven by the specifics of national elite contexts, even if we observe similarities in group behavior of varying elite groups. Delving deeper into the micro-level behavioral patterns of individuals reveals that national borders play a significant role in defining how they build inter-personal and inter-organizational networks. Embeddedness in national elite circles, persistent unequal positions of different elite groups on the global scene, and the use of nationally-produced capital to obtain transnational positions—all confirm that the orientation and interests of the transnational corporate elite are intertwined with national elite networks.

In answering the fundamental question: ‘To what extent is there even an established transnational corporate elite network, and, as a result of it, a transnational capitalist class?’, this dissertation demonstrates that there is a group of corporate elites that connects transnationally. Their network, however, remains fragmented, and it is early to speak about a coherent global corporate elite or a transnational capitalist class with determined group interest. These transnational corporate elite members are still deeply embedded in their respective national elite communities, as chapters of this study show. This indicates that a similar process might be taking place among transnationalizing upper classes. Because members of the transnational capitalist class also have countries of origin, are similarly socialized within national elite communities, and their national elite distinctions also do not disappear with the transnationalization of their interests or actions.

The findings of the dissertation suggest that some transnational corporate elite members are able to operate globally. For instance, when it comes to actions such as transferring large international investments, some individuals may already behave as transnational class members, interested in the accumulation

of global capital. I conclude that the transnational elite members are not significantly different from national elites in their elite reproduction or network building strategies. Concerning their economic actions, a small part of the transnational corporate elite may already be operating transnationally but they are more likely to represent interests of their national elites within these transnational spaces. Together, these findings show that the formation and reproduction of the transnational corporate elite, and likely that of the transnational capitalist class, are still taking place within national domains. But some of their operations may have been already moved to the transnational space.

5.2. Limitations of the research

The dissertation has a number of limitations. First, this study primarily investigates transnational networks of corporate elites and is less focused on other aspects of elite transnationalization and the transnationalization of different elite groups. Besides corporate elites, other groups also contribute to transnationalization of upper classes and their interests. As Sklair shows (2001), transnational media elites are playing a fundamental role in promoting the transnational capitalist class worldview, while transnational political elites are the key functionaries of this class when it comes to global policy-making. The issue of elite groups other than the corporate ones is discussed in *Chapter 5*, where corporate elites are considered as members of various overlapping elite networks within their respective nation-states.

Second, the dissertation has a descriptive nature and presents only an overview of the current state of the corporate elite network transnationalization. The study analyzes properties of the network from various angles, but does not go into details about the origins of the transnational corporate elite network. The question of network formation drivers are discussed in *Chapter 4*, but these drivers are restricted to a specific set of individual-related and corporate-related interests. In a similar manner, *Chapter 2* briefly discusses how the transnational corporate elite network might be dynamically expanding as a result of language proximity, colonial history, or economic development of regions. Among other factors that affect the current state of elite transnationalization are: the

organization of national economies, the role of technological progress, benefits that elites might receive from specific affiliations. This dissertation concentrates only on a few causes that contribute to the formation of the transnational corporate elite network, but the list of potential drivers might be significantly extended.

Another drawback of this study is the limited attention paid to the consequences of the transnational corporate elite network establishment. In some parts of the dissertation, as well as in this *Introduction*, I discuss that one of the consequences is rising transnational interest of upper classes. Among other consequences are growing wealth inequality, the restructuring of the elite consensus and global policy-planning, changing directions of transnational capital flows. The consequences of the transnational elite network strengthening is briefly touched upon in *Chapter 3*, where we speculate about the results of the Chinese elite integration into European business. But the question of global-level consequences of the transnational corporate elite formation and the transnational capitalist class consolidation remains one of the avenues for future research. These consequences and potential research designs to study them will be discussed in the *Conclusion*.

5.3. Overview of the chapters

The dissertation consists of five article-based chapters, each of them answering its own research question. To grasp the changing global rather than national orientation of corporate elites, a novel network concept will be applied and developed in each chapter.

Chapter 1. Where is the backbone of the transnational corporate elite?

Research question: Where do the transnational corporate elite members operate?

The first chapter investigates the locations of the transnational corporate elite operations. This chapter is a response to a long-standing issue in interlocking directorates studies: how to detect the geographic locations of the transnational elite without ignoring its embeddedness in national elite circles? The chapter

answers this question in a novel way, avoiding the separation between national and international networks in which these elite members are embedded. The 'backbone', a key concept here, is a subset of a global city network that preserves the structure of the entire network at local and global levels, accumulating national and transnational ties of corporate elites. The detected city backbone of corporate locations consists of European global cities, but is also characterized by the emergence of cities from Asia and Oceania. These findings demonstrate that the transnational corporate elite network has a fragmented nature and is characterized by the emergence of new regional elite groups. The chapter contributes to the main argument of the dissertation by showing that transnational corporate elite members do not lose connections with national elites when they move to the transnational space. As a result, the transnational corporate elite network remains highly fragmented along regional axes.

Chapter 2. Beaten paths towards the transnational corporate elite

Research question: How does the transnational corporate elite network dynamically develop?

The second chapter studies the process of corporate elite transnationalization and uncovers its structural properties and directions. The study takes a micro-level perspective of corporate directors' appointments in order to understand the generating mechanisms of corporate transnationalization. The concept of the 'beaten path', or a typical transnationalization trajectory, reveals that there are patterns in the behavior of the transnational corporate elite members. The chapter establishes that corporate elites are indeed moving to a transnational space, and this transition is structured: there are six transnationalization trajectories corporate elites follow to expand the transnational network of interlocks. But this chapter argues that while the transnational elite network appears as a global social structure, its generating mechanisms are regionally organized. The findings of this chapter strengthen the dissertation's argument by uncovering regionally determined patterns of corporate elite transnationalization.

Chapter 3. Chinese corporations in Europe: Emerging networks of Sino-European corporate elite interlocks

Research question: How do national elites transnationalize?

The rise of China is prominent in large-scale investments abroad, while little is known about the loci of corporate control behind these investments: corporate boards. This chapter is a case study of the national corporate elite transnationalization, and analyzes Sino-European transnational directors. The study estimates the level of Chinese corporate transnationalization by mapping the interlocking directorates between European and Chinese boards as well as ego-networks of individual elite members. The key network concept of this chapter is ‘big linkers’, or highly connected actors that play an essential role in the corporate internationalization and integration processes. The findings of the chapter show there is practice adaptation across different parts of the transnational corporate elite network, although it remains fragmented. Chinese corporate elites are adopting network-building patterns of the European elites, but the former group is also transforming the global corporate world by integrating national business practices in it, for instance, strong state control of corporations. The chapter contributes to the key argument of the dissertation by highlighting that properties of national elite networks play a significant role in elite transnationalization.

Chapter 4. The duality of firms and directors in board interlock networks

Research question: Do individuals or corporations drive corporate networks?

The fourth chapter studies the complexity of tie formation within interlocking directorate networks, using a case study of the Danish corporate elite. As shown in previous chapters, national-level embeddedness is important for transnational corporate elite strengthening, therefore this chapter studies the network formation within one nation-state. The chapter asks how corporate networks dynamically evolve as a result of coinciding and contradicting interests of corporations and individuals. The concepts ‘network expansion’ and ‘network reinforcement’ are introduced in this chapter in order to describe strategies of individuals and corporations to create board interlock ties. The study shows that

corporate directors are driven not only by individual and elite group interests but also influenced by corporate decisions and strategies. The chapter contributes to the dissertation's argument by concluding that not only do we need to take into account national-level connections of the transnational elite, but that the national level itself is characterized by the complexity of relations and actors.

Chapter 5. Are noble individuals more likely to be a part of the transnational elite?

Research question: How is the reproduction of the transnational corporate elite organized?

This chapter focuses on differences in elite reproduction within national and transnational spaces. It investigates how nationally-produced capital of elites is used within transnational spaces, studying the positional privilege of individuals with noble titles. The findings of this chapter show that individuals with noble titles are more likely to obtain transnational corporate elite positions in comparison with non-titled individuals. The study further introduces the concept of 'activating capital' and describes how noble families reproduce at national and transnational levels by using different types of capital, available for them. The chapter strengthens the dissertation's argument by revealing that the transnational field is largely based on capital, created and reproduced within nation-states. The study concludes that elite reproduction follows the same patterns in national and transnational domains.

Chapter 1. Where is the backbone of the transnational corporate elite?

* This chapter is an adaptation of Valeeva D. (2021). Where is the backbone of the transnational corporate elite? Under review in *Global Networks*.

Abstract: The transnationalization of corporate activities has contributed to the formation of the transnational corporate elite. However, little is known about the geographical locations where these transnational corporate elite members operate, both on a national and international level. Existing literature focuses on the growing significance of international ties of the transnational corporate elite, while their persistent embeddedness in nation-level networks remains less explored. This paper aims to fill this gap in the literature by applying the network backbone detection algorithm to detect the global cities where the transnational corporate elite operates. The presented approach combines national- and international-level ties of this transnational elite group within one empirical and theoretical framework. The detected backbone of cities consists of well-established European global cities, but is also characterized by the emergence of cities from Asia and Oceania. The findings outline the current state of the transnational corporate elite fracturing and indicates a restructuring in power relationships between regional elites.

1. Introduction

Since the closing decades of the twentieth century, as many aspects of social and economic life became globalized (Sassen, 2007) scholars are speculating about the internationalization of interests and actions of elites and upper classes. Starting from the 1970s, the literature starts recognizing the rise of the globalized upper classes, with an interest in the globalization of the economy and further characterized by the support of global capitalism (Hymer, 1979). In the early contributions, the emerging group was identified as, respectively: the Atlantic ruling class (Van Der Pijl, 1984), the international wing of the managerial bourgeoisie (Becker et al., 1987), the emerging global class (Cox, 1987), and the transnational capitalist class fraction (Gill, 1990). The globalization of upper classes is explained by the turn of corporations towards operating in multiple nation-states (Barnet & Muller, 1974). This resulted in the formation of an international group of individuals densely tied to these multinational corporations that profited from their growing strength. Today, some scholars theorize that there are clear transnational (rather than national) identifications, interests, and sets of actions that can be attributed to corporate elites and, taken together, contribute to the formation of the transnational capitalist class (Robinson, 2004; Sklair, 2001).

One of the oldest questions in this field of literature is where the transnational corporate elite members operate. While earlier literature focuses on the transatlantic connection (see, e.g. Fennema, 1982; Van Der Pijl, 1984) between corporate elites, i.e. the strengthening ties between European and the North American business communities, recent studies show that we might be seeing a restructuring within the global corporate elite network (Heemskerk & Takes, 2016; Heemskerk, Takes, Garcia-Bernardo, & Huijzer, 2016). This restructuring is prominent in the rise of new economies (such as China), characterized by strong national business elite communities that are, at the same time, successfully integrating in international corporate elite networks across the globe (De Graaff, 2020). However, these recent contributions highlight that the major locus of global corporate control is still centered around the North American and European corporate world, even though there are new emerging

corporate elite communities in different world regions. While these scholars have hinted at an ongoing restructuring taking place within the transnational corporate elite network, what remains unknown is the network of locations where these transnational corporate elite members operate.

This issue is difficult to address. The literature on the transnationalization of corporate elites establishes that, with the ongoing elite transnationalization, the importance of national ties does not diminish. Members of the transnational corporate elite are still part of national business communities and they persistently continue to socialize and organize at national levels (Carroll, 2010; González, 2019). Nation-states are commonly used as the key geospatial settings in which these transnational corporate elite members operate and pursue actions. However, investigating the transnational elite groups as part of their nation-states does not allow us to go beyond the classical demarcation between 'national' and 'international' levels of action, and might lead to theoretical and empirical problems such as undermining the role of national-level elite ties or the overestimation of the transnational interests of elites (Burris & Staples, 2012; Heemskerk, Takes, Garcia-Bernardo, & Huijzer, 2016). As a result, there is only a partial understanding of the geospatial locations of the transnational corporate elite both within their national spaces and at the international level. The question that remains open is how to analyze the locations of the transnational corporate elite operation without ignoring its simultaneous embeddedness in national and international networks of relations.

In this chapter, I argue that the transnational space should be analyzed as one complex space where corporate elite members connect within and above nation-states. Transnationalization can be understood as the process of accumulation of positions and relations in multiple nation-states, while behaving within and above them (Van Apeldoorn, 2004). This means that rather than making a strict demarcation between national and international levels of action, these levels should be analyzed together within one empirical and theoretical framework. As one of the possible approaches to analyze these levels together and detect the locations of the transnational corporate elite operation, I present the network backbone detection approach. Investigating cities as the main hubs of the transnational elite action, I introduce the concept of the backbone of global

cities in which the transnational corporate elite members operate. Cities are considered part of this backbone if they are significant for preserving the global city network structure at local and global levels, meaning that the backbone will consist of cities that consolidate the national and international ties of transnational corporate elite members. To detect this set of backbone cities, the weighted backbone detection algorithm (Serrano et al., 2009) is applied to a global network of cities connected by corporate board interlock ties.

The analysis presents a nuanced and inclusive view on the structure of the global city network that transnational corporate elite members operate in. The findings demonstrate that the set of global cities of the transnational corporate elite operation is currently expanding and is no longer restricted to a small set of European and North American capitals. The city backbone consists of European global cities such as London, Dublin, and Amsterdam, but is also represented by cities such as Mumbai, Sydney, and Singapore. There is a regional clustering in the city backbone network, with regional clusters of significant cities, but the network is centered around the City of London. The findings also reveal a prominence of Asian and Oceanian cities within this network that might indicate a potential re-balance in power relationships between multiple regional elite fractions. The emergence of cities from these regions might indicate that the northern transatlantic path of the transnational corporate elite is expanding and steadily changing course.

The chapter is structured as follows. Section 2 reviews the literature on the issue of the transnational corporate elite identification in global cities and introduces the concept of the network backbone. Section 3 presents an empirical case and the methodological approach. Section 4 describes the results and Section 5 concludes and discusses potential applications of the presented approach.

2. Persistent national orientation of the transnational corporate elite

The transnationalization of corporate activities has resulted in the establishment of the transnational corporate elite (Carroll, 2010). In empirical literature, this elite group is represented by corporate executives who obtain corporate board membership positions in multiple nation states. By being affiliated with multiple corporations across the globe, these individuals create transnational

board interlock ties between firms that allow to increase elite cohesion and coordinate elite actions (Mizruchi, 1996). The oldest question in the literature on transnational board interlock networks is on the locations of the transnational corporate elite. If the transnational network of corporate elites is under formation, along which axes is it created? If it has been already established, what is its underlying network structure? What are the key locations where the transnational corporate elite members operate?

One of the first empirical studies, investigating the level of transnational interlocking of the largest world corporations is a study by Fennema (1982) showing that during the 1970s the number of ties crossing national borders significantly increased, and how this transnational network was characterized by the presence of a strong Atlantic corporate elite component. In the follow-up study by Carroll and Fennema (2002), who evaluated the intensity of transnational interlocking between the largest world corporations only a few decades later, the authors demonstrate that this transnational board interlock network remained stable, and that an Atlantic business system continued to develop from the 1970s until the 1990s. Their findings show that the global network of transnational interlocks remained centered around the North Atlantic area, while they also record strong nationally-based clusters within this network. Japan, Australia, South Korea, and Brazil remained isolated from the transnational board interlock network while European national elites were building a European corporate community. Fennema and Schijf (1985), in another seminal paper on transnational interlocks between global corporations, analyze transnational financial participation of companies. Their study shows that the US-based companies were participating financially in the majority of transnational actions, confirming the findings in previous studies about the significant position of the American corporate elite in the global corporate world.

While these earlier studies highlight the importance of the transatlantic economic system with at the center the American corporations and elites, later contributions show that the corporate world is, in fact, transforming. In 2010, Carroll published a detailed empirical study about the level of the transnational interlocking of Fortune 500 corporations from the 1970s until the 2000s. He

find an increase in the level of the transnational interlocking among these corporations and intersections of these types of ties with other transnational policy-planning networks. Moreover, Carroll (2010) establishes that since the late 1990s, transnational interlocking has become a common practice among world corporations and stopped being a unique practice limited to a small number of western multinational corporations. Related recent papers take a big data approach, and reveal that the current transnational board interlock network is spread over a few regional network communities but that a majority of activities remain concentrated in the Anglo-American business world (Heemskerk & Takes, 2016; Heemskerk, Takes, Garcia-Bernardo, & Huijzer, 2016). Together with a strong network position of the North American and European corporate elite in the transnational board interlock network, this literature shows that there are regional elites all across the globe that concentrate in denser network communities. These regional elites are not necessarily densely interconnected, as Heemskerk and Takes (2016) show: for instance, there is a distinct Asian cluster that stands apart from the rest of the world but is characterized by dense internal ties within this region.

This stream of literature on board interlock ties between firms confirms that there is already an established network of the transnational board interlocks created by transnationalizing corporate elites. But surprisingly, the growing transnationalization of corporate elite interests did not lead to a lesser role of the national elite networks. On the contrary, a growing number of transnational ties might lead to the strengthening rather than weakening of the national corporate networks. Carroll and Fennema, for example, note that “the transnational network is a kind of superstructure that rests upon rather resilient national bases” (Carroll & Fennema, 2002, p. 414), meaning that even if we observe a consolidating transnational corporate elite community, it is building up over already well-established national networks of relations. Recent studies confirm that the national orientation of the transnational corporate elite community remains relatively strong, together with a significant increase in the number of transnational corporate ties. González (2019), in a detailed study of the British corporate elite, demonstrates that the transnational class formation of these elite members is still taking place at the national level, while class consolidation has already moved to the transnational scale. Similarly, in an investigation of the

Swiss corporate elite, Bühlmann et al. (2013) show that transnational elite ties have not replaced connections between national elites, and that members of the transnational corporate elite are strongly tied to their national elite groups.

While it has been established that national ties are preserved and remain strong despite the increasing transnational orientation of corporate elites, the open question remains how to detect the locations of these transnational elite members without ignoring their persistent embeddedness in national-level networks. Where do the transnational corporate elite members operate and connect, both nationally and transnationally? It becomes even more difficult to answer this question as the existing demarcation line between national and international ties does not make it easier to study connections and actions of the transnational corporate elite within these multiple levels (Burriss & Staples, 2012; Carroll, 2012). The national level of the transnational elite connections is artificially defined in line with the national borders, but as has been shown by Heemskerk, Takes, Garcia-Bernardo, and Huijzer (2016), geographical borders of nation-states do not necessarily coincide with the borders of elite communities, in which city-level, country-level or regional-level elite members can operate. These elite network communities can be created as a result of historical, political, cultural connections, existing between different cities, countries, and regions and the nation-state is not necessarily the main spatial category for them to organize as elites. It is likely that the corporate elite members operate within multiple spaces, multiplying their positions, connections, and capital across them. As a result, there is only a partial understanding of the current geospatial locations of the transnational corporate elite members both within their national spaces and at the international level.

2.1. Global cities as the locus of the transnational corporate elite

As a solution to this issue, some scholars turn to the investigation of global cities where transnational corporate elites are concentrated (see, for example, Carroll, 2007). Cities such as London, New York, or Tokyo historically count as major centers for production of financial, professional, and creative services. They create a unique space of flows between them, thereby easily crossing national borders (Castells, 2000; Sassen, 1991; Taylor, 2004). Global cities are

the cities where multinational corporations, transnational banks, international law firms are headquartered, and it is these places that attract high-qualified professionals such as global accounting specialists, law consultants, and tax advisers. First global cities were concentrated in the United States, Europe, Canada, reinforcing the northern transatlantic economic system, but today we are witnessing the emergence of new global cities such as Hong Kong, Shanghai, Mumbai, and Singapore (Aalbers, 2009). These cities do not threaten the status of existing global cities but rather expand the existing network, thereby strengthening ties between world regions. Together with human flows of low-waged immigrants, creative professionals, and tourists, these cities are also the key centers of attraction for transnational corporate, managerial, and financial elites (Hannerz, 1996; Friedmann, 1986). These are highly skilled, highly paid, and highly mobile professionals, characterized by cosmopolitan lifestyles (Smith, 2001). Global cities are the locations in which transnational practices, i.e. those that do not have national origins, are created and reproduced (Sklair, 2001). As these transnational elites move between global cities, they bring along cosmopolitan culture, practices, and connections.

The focus on global cities instead of countries is a promising solution to the issue of the existing demarcation between national and international levels of the transnational corporate elite networks and actions. Scholarly interest in corporate elites literature has historically focused on countries, and there are only a few papers that rather focus on cities in which transnational corporate elite members operate. For example, Carroll (2007) studies differences between the structure of the global cities network and the transnational board interlock network of 350 largest corporations. He shows that corporate elites are indeed concentrated in a few global cities, but that the structure of the transnational board interlock network is much more nationally oriented than is predicted by the global cities literature. Carroll concludes that the network of transnational board interlocks “is concentrated in the main world cities in a way that reinforces the northern transatlantic economic system” (Carroll, 2007, p. 2297). In another city-level paper on global board interlocks networks, Heemskerck, Takes, Garcia-Bernardo, and Huijzer (2016) problematize the substantial difference between local and non-local ties of the global corporate elite, applying the terminology of Kono et al. (1998). Making this distinction between

local and non-local ties, and avoiding the terminology of the ‘transnational vs national’, they do not presuppose that the nation state is the most significant level of elite organization in the modern corporate world. Heemskerk, Takes, Garcia-Bernardo, and Huijzer (2016) show that established first-tier global cities obtain a central position in the network of global corporate interlocks and they demonstrate the emergence of new regional clusters of cities such as Asian or Latin American cities that are traditionally outside of the northern transatlantic economic system.

What is common for both the streams of literature on corporate elites and global cities is the application of network-oriented theories and methodology. Papers on identifying transnational corporate elite members, their connections and locations, detect the most powerful actors by applying network centrality measurements; they compare multiple national elite network structures by presenting their density or clustering, and they explore the existing subgroups within networks applying community detection techniques (Burriss & Staples, 2012; Fennema & Heemskerk, 2018; Heemskerk et al., 2018). Using network-oriented thinking and methodological approaches is also common in the global cities literature. Even if the early studies considered relationships between cities as a part of the global hierarchy (Freidmann, 1986), today these cities are considered as nodes within one global network of flows (Taylor, 2004). Empirical literature, aimed at detecting the relative position of cities, applies a wide range of networks, such as: corporate location, parent-subsidiary, and energy and financial networks (Alderson & Beckfield, 2004; Derudder et al., 2003; Martinus & Tonts, 2015; Neal, 2008; Sigler & Martinus, 2017).

Network analysis gives deep insights into the relational structure of the global network of cities and corporate elites. However, most network analysis techniques applied in the literature rarely allow for the detection of the locations of transnational corporate elite members, whilst taking into account their persistent embeddedness in national and international elite networks. Detecting the most central cities in the network gives us a list of the most prominent global cities in the network, but this ranking also risks omitting other significant nodes. For instance, it would be difficult to see an emergence of cities located in offshore financial centers, even though these are the locations where a large

proportion of money, corporate activities, and professionals are concentrated (Palan et al., 2013). Another example showing that ranking nodes by centrality measures will not show the full picture are cities that might be significant within their national or regional network communities, but that are not necessarily significant on the global level. Ranking cities by classical centrality measurements would underestimate a group of cities that are central locally but are not as central at the level of the entire network.

An alternative network analysis approach aiming to solve this problem and combine local and global levels of the transnational corporate elite ties, is the network community detection approach applied in Heemskerk and Takes (2016) and Heemskerk, Takes, Garcia-Bernardo, and Huijzer (2016). The network community detection algorithms take into account the density of ties within smaller subsets of the entire network and split the network into a few subgroups, or network communities. Community detection is a data-driven approach that solves the issue of defining which ties are national and which ones are international because the separation between internal and external ties are based on existing network ties. This technique allows to divide the transnational board interlock network in multiple smaller subsets and interpret them separately. However, detecting network communities does not mean that the network is divided per se, there are still ties between different network communities, and these ties are crucial for preserving the global-level connectedness of the network. In addition, the boundaries of the network communities are often hard to define and several runs of the same algorithm can give varying numbers of communities (Van Kuppevelt et al., 2020).

In sum, ranking central nodes or detecting network communities gives fruitful insights into the structure of the transnational corporate board interlock network, but these approaches do not solve the issue of combining national and international ties of the transnationalizing corporate elite within one empirical and theoretical framework. Below I argue that we need to rethink the concentration of the transnational corporate elite members in global cities, and I will demonstrate the possibilities of detecting their simultaneous embeddedness in national and international networks by applying a network backbone

detection algorithm. The following section presents the concept of the backbone of the global cities.

2.2. The backbone of the global cities

The term ‘backbone’ is not new for the literature on corporate elites. However, it has never been clearly defined and was often mixed with other related network concepts. For example, the terms ‘backbone’ and ‘core’ are used interchangeably in the literature (see e.g. Carroll, 2009; Heemskerk, 2013; Heemskerk & Fennema, 2009) and the term ‘backbone’ is often applied to denote any central, densely connected, or cohesive part of the network. Carroll (2009) uses the data about directors of the Fortune Global 500 firms and shows how national networkers form the backbone of the global corporate elite. In this paper, the backbone consists of individuals who form cohesive subgroups within their national elite groups. In the case of the Dutch corporate network, analyzed in Heemskerk (2007) and Heemskerk and Fennema (2009), the term ‘backbone’ is also applied to describe the cohesive and connected core of the network. In these papers, corporate directors are part of the backbone if they serve on multiple corporate boards, i.e. participate in interlocking directorships. In Heemskerk (2013), where the establishment of the European transnational corporate elite network is investigated in detail, a group of central firms that together sustain the structure of the European corporate network is referred to as the network backbone.

In the methodological literature on networks, however, the terms ‘core’ and ‘backbone’ measure completely different network substructures. The main aim of the core detection is to subtract a densely interconnected subgraph from the network. Thus, the network core analysis detects a group of nodes with high levels of degree centrality that are also densely interconnected (Borgatti & Everett, 2000). Nodes that are outside of the core represent the network periphery: these are sparsely connected groups of nodes. The core nodes are well-connected both among themselves and to peripheral nodes. The network core detection has been applied in elite studies before. For instance, Larsen and Ellersgaard (2017) use a core detection algorithm to investigate the densely connected subpart of the Danish elite. They analyze the network of individuals

connected by common board positions, participation in parties, affiliation with important institutions, and, by excluding the least connected individuals from the network step by step, come to the core of this national elite network. In sum, the core detection is aimed at detecting a group of highly connected and highly clustered nodes within the network.

The network backbone analysis, on the other hand, is primarily a network filtering approach. The main aim of the backbone detection is to sufficiently reduce the entire network without destroying its complex structure. There are different existing approaches to define whether a particular node or a tie will be part of the backbone (Lindner et al., 2015). These decisions are often based on defining whether these nodes or ties are significant for representing the network structures at the local level (e.g. these nodes are central within their network community) and at the global level (e.g. these nodes connect distinct parts of the entire network and deleting them will lead to the network fragmentation). Backbone detection has been already used to analyze properties of various global networks such as corporate ownership (Glattfelder, 2012; Glattfelder & Battiston, 2009), online friendship (Nick et al., 2013), co-authorship, co-attendance, and co-sponsorship (Neal, 2014).

As we see, core and backbone detection approaches are applied to detect completely different parts of the network. There is a clear distinction between the network core and the backbone in the methodological literature, while these concepts are used interchangeably in empirical papers. The problem is: it remains unclear which part of the network can be referred to as the backbone because the empirical literature is vague about this concept, even though this approach has already been used to describe inter-corporate networks (see, for example, Glattfelder, 2012; Glattfelder & Battiston, 2009). In this paper, I conceptualize the 'backbone', starting from its already clearly established methodological definition, and apply this concept to describe the set of global cities in which transnational corporate elite members operate. What is the backbone of the cities where members operate? First of all, the backbone is a subset of the entire network of cities. This entire network consists of cities (nodes) that are connected with each other if they share the transnational corporate elite members (edges). The transnational corporate elite members,

who are affiliated with multiple corporate boards, are the main actors who create the global space of flows between these cities because they transfer transnational practices, networks, and lifestyles (Sklair, 2001). If a city is in the backbone, transnational corporate elite members are significant for preserving the global-level and local-level network structures around the city. These cities are significant points for corporate elites to accumulate national-level ties and to transfer them to the transnational space, binding both types of ties together within one location.

What can the backbone detection give us in comparison to other approaches typically used to detect locations in which the transnational corporate elite operates? As outlined already, there is an open question in the literature on how to identify important locations of the transnational elite operations without diminishing the significance of the nation-level elite they remain a part of. The backbone detection allows to take a data-driven approach to define the ties significant at local and global levels for preserving the entire network structure of the transnational corporate elite locations. In other words, the algorithm determines which ties are locally and globally significant (at the network level) and are crucial for sustaining the network of locations in which the transnational corporate elite members connect and operate. This approach is promising for working with the long-standing distinction in the literature between national and international ties of the transnational corporate elite (Burriss & Staples, 2012). This paper does not argue, however, that this distinction does not play a role anymore. Instead, the presented approach looks at this distinction in a novel way by, firstly, exploring cities as the main locations of the transnational corporate elite, and, secondly, by applying a data-driven network approach to detect the locally and globally significant actors and ties.

3. Data and Methods

3.1. Data extraction and preparation steps

The data was extracted from the Orbis Bureau van Dijk dataset in December 2017, available at orbis.bvdinfo.com. Orbis is a rich dataset with information on corporations worldwide, collected from official country registrars. As any large dataset that was collected from different types of sources, it has data quality

issues (Garcia-Bernardo & Takes, 2018; Heemskerk et al., 2018). In general, the data is of higher quality for large economies and large corporations, except for the North American corporate boards, where it is of moderate quality, and as a result, there is an under-representation of American cities in the presented results. To obtain data on corporate elite members, I extract individuals who obtain current positions at corporate boards (executive boards, supervisory boards, and boards of directors). There are 25,148,316 corporations with known city locations and 36,175,207 individuals who obtain board positions in these firms. To detect transnational corporate elite members, I make a subset of only those individuals who serve on boards of at least two corporations located in different countries. This means that this study excluded national interlockers, or those individuals whose affiliations are contained within one country.

For each corporate entity, Orbis reports a unique company location at the city and country levels. If a company has several subsidiaries, each subsidiary has its own location, not the location of the mother firm. It is common for an individual to be on corporate boards of a number of firms that belong to the same corporate group. These ties do not create proper corporate board interlocks because they are formed within one corporate group. For this reason, ties within the same corporate groups are dropped (24% of all ties between firms are within the same corporate group) and individuals who obtain more than 100 positions are dropped because they are likely to obtain this large number of positions on paper (382 individuals in total).

To create a city-by-city network, city names, extracted from Orbis, are assigned to corporations. Cities were aggregated to city clusters, using the procedure described in Heemskerk, Takes, Garcia-Bernardo, and Huijzer (2016). There are two reasons for working with city clusters instead of cities. First, it is common to encounter the variation in the spelling of city names in the Orbis dataset. For example, 'Bruxelles', 'Brussel', and 'Brussels' are different ways of spelling the capital of Belgium. Second, some suburban areas of a city can have a different name, even though they are part of one city agglomeration. The approach retrieves geographical coordinates of cities using the Google Maps API and then groups cities with close coordinates in one 'city cluster', using MeanShift

algorithm (Fukunaga & Hostetler, 1975). Further in this chapter, I refer to ‘city clusters’ as ‘cities’.

At the final step, I create a firm-by-firm corporate board interlock network and assign city clusters to nodes, subsequently creating a one-mode city-by-city network. The final dataset is a network that consists of 11,551 cities, connected by 227,885 ties. This network is weighted; the weight of ties indicates a number of shared transnational corporate elite members between cities. To detect the backbone of cities, I make a subset of the entire network with tie weights more than 50. This network consists of 1,876 cities, connected by 6,850 distinct ties. This allows us to detect a central group of densely connected cities that share more than 50 corporate elite members. This means that these cities have established ties with each other and their national elites are densely interrelated. Different thresholds of 10, 50, and 100 shared directors were used and taking tie weights of more than 50 gives a clearly identifiable structure of the backbone network.

3.2. Methods

A multiscale network backbone detection algorithm for weighted networks, presented in Serrano et al. (2009), is applied in this paper. The backbone detection sufficiently reduces the network without destroying its multiscale nature: this is done by preserving significant ties at local and global levels, without belittling edges with small weights. The algorithm of the backbone detection proceeds by following two main steps: detecting local tie heterogeneities and filtering.

Step 1. Detecting local heterogeneities

Weighted social networks also have heterogeneously distributed weights of edges (Barrat et al., 2004). This means that a small number of edges in the network carry the largest proportion of a node’s strength. To apply the algorithm and not to belittle the position of nodes with low edge weights, the weights are normalized in the following way:

$$p_{ij} = w_{ij} / s_i \quad (1),$$

where p_{ij} is the normalized weight between nodes i and j , w_{ij} is the weight of a tie between i and j and s_i is the strength of the node i (the strength is the sum of all weights of a node i). After the normalization, the disparity function Υ for each node i , having k neighbors is applied:

$$\Upsilon_i(k) = k \sum p_{ij}^2 \quad (2).$$

The disparity function reveals the presence of weight heterogeneities at the local level. It shows that some edges of nodes carry a disproportionate fraction p_{ij} of the node's strength, while others carry a relatively small fraction of the strength.

Step 2. Filtering

To test for the randomness of the weight heterogeneity, a null model that would estimate the significance of these weight fluctuations needs to be introduced. The null hypothesis states that the normalized weights of a node with degree k are produced by a random assignment from a uniform distribution. These $k-1$ points are distributed uniformly and their length equals to the expected values for the p_{ij} normalized weights. The probability density function for one of these values taking a value x equals to:

$$p(x)dx = (k-1)(1-x)^{k-2} dx \quad (3).$$

The null model will detect for each edge of a node i the probability α_{ij} that its normalized weight value p_{ij} is compatible with the null hypothesis. The statistically significant edges are those nodes, that have weights, satisfying the following criteria:

$$\alpha_{ij} = 1 - (k-1) \int_0^{p_{ij}} (1-x)^{k-2} dx < \alpha \quad (4).$$

To select significant edges that carry statistically significant disproportionate weights, the filter will move step by step, looking at significant edges of each node and significant edges of its neighbors, aggregating results into the network backbone. The backbone is extracted by selecting the edges that satisfy the significance criteria at $\alpha < 0.05$ for at least two nodes. These nodes and edges between them form the backbone network. For more details about the model

and its applications see Serrano et al. (2009). The algorithm was implemented, using the Python code, presented at <https://github.com/aeupalakorn/python-backbone-network>.

For the analysis of central positions of cities in the backbone network, node degree, eigenvector, and betweenness centrality measures are presented. All centrality measures are classical measurements that allow ranking nodes based on their influential position in the network.

4. Results

4.1. Descriptive statistics of city network properties

This section presents the network properties of the entire network of the global cities and compares it with the properties of the detected backbone network. Table 1 reports the main network properties of three networks. The first network is the original network of transnational corporate elite cities (Network 1), the second network is a subset of the original network with tie weights over 50 (Network 2), and the third network (Network 3) is the backbone of Network 2. All three networks are weighted and the tie weight indicates the number of shared transnational corporate executives. The maximum tie weight in all networks is between cities of London and Dublin and equals to 38,152.

The backbone detection is applied to Network 2, i.e. the network between cities that share more than 50 transnational corporate elite members. This choice is described in the Data and Methods section in detail. Table 1 shows that the algorithm drastically decreases the size of the original network: there are 286 cities in the backbone. On average, each city in the backbone is connected with 3 other cities and the average number of shared transnational corporate elite members between cities equals 6,407 individuals. While there are a few connected components in each network, the majority of activities take place in the giant components. For instance, only ten cities (3% of nodes) are not a part of the giant component of the backbone network. This property tells us that there is an established group of global cities in which the transnational corporate elite operates: there are no clusters of sparsely or not connected cities. This is also confirmed by the small-world properties of the networks: it takes on

average around three steps to reach any other city in the network and all networks are highly clustered, as the average clustering coefficients indicate.

Table 1. Descriptive statistics of network properties.

	Original network (Network 1)	Original network, tie weights > 50 (Network 2)	Backbone (Network 3)
Nodes (cities)	11,551	1,876	286
Edges (distinct ties between cities)	227,885	6,850	414
Max tie weight (shared board members)	38,152	38,152	38,152
Min tie weight (shared board members)	1	51	299
Average degree	39.457	7.307	2.895
Average weighted degree	497.399	2025.423	6406.762
Average clustering coefficient	0.614	0.697	0.602
Average path length	2.719	3.048	3.245
Number of connected components	10	10	6
Size of the largest component	11,533	1,856	276

Source: calculations by the author based on the Bureau van Dijk dataset.

4.2. The structure of the backbone network

The detected backbone consists of cities from a wide range of countries. Notably, it is not exclusively represented by the northern transatlantic cities, as it is often theorized in the corporate elites literature. To explore the relations between these various regional groups, the visualization of the network backbone is presented in Figure 1 and Figure 2. Figure 1 is an overview of a network structure and shows that the backbone consists of a few distinct network communities, clustered according to regional groups. Figure 2 is a filtered part of the backbone and presents only cities that are connected with at least three other cities (i.e. these are the nodes with a centrality degree of three).

The backbone consists of a few regional groups that are all concentrated around London. Besides a cluster of British cities, there are clearly identifiable European, Oceanian, and Asian groups of cities, clustered together in different parts of the network. European cities are clustered in a few groups based on their regional proximity. Two prominent ones are Northern European and Southern European groups of cities. There is a distinct group of Swiss cities that are closely connected to London and are at the same time tied with Southern European cities. The Dutch and Irish cities are also densely connected with London. Also, cities from Cyprus and Malta, sometimes referred to as offshore financial centers countries (Garcia-Bernardo et al., 2017), are closely related to London.

The Asian cluster of the backbone is represented by cities from East Asia (cities from China, Hong Kong, and cities from offshore financial center countries such as Bermudas and the Cayman Islands) and Southeast Asia (Malaysia and Singapore). Indian cities are geographically part of Southern Asia but they are located on a closer network distance to London than to other Asian cities in the region. These types of ties, originating from colonial history, are common within global corporate elite communities, as Heemskerk, Takes, Garcia-Bernardo, and Huijzer (2016) describe. The backbone also has a prominent group of cities from Oceania, i.e. cities located in Australia and New Zealand regions. These cities are densely connected within their cluster but at the same time they are also tied with British and Asian cities. Cities in Oceania obtain

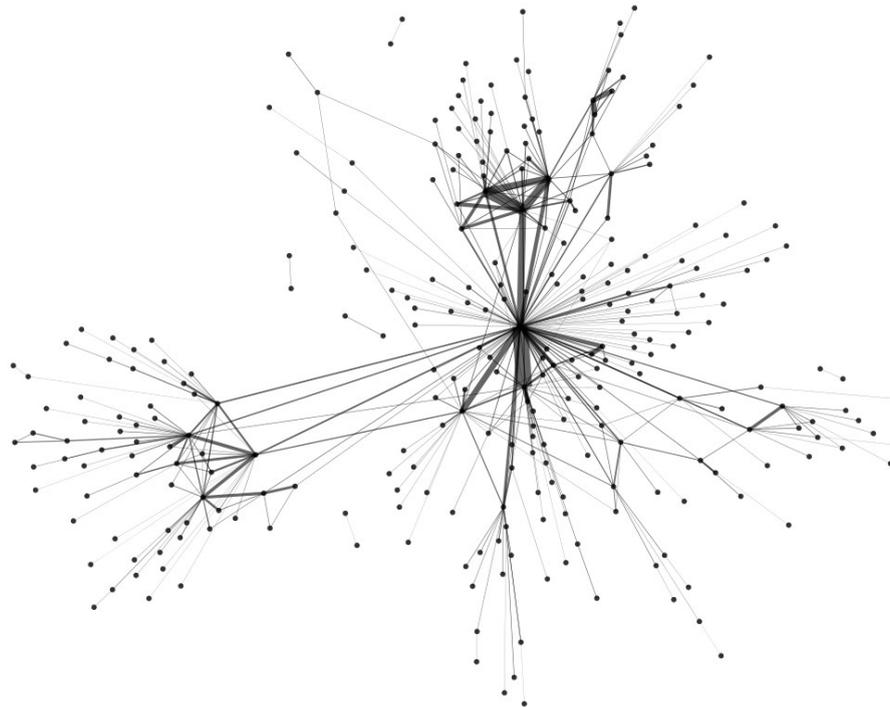


Figure 1. Network structure of the detected backbone. Nodes are cities, ties are shared transnational corporate directors.
Source: visualization by the author based on the Bureau van Dijk dataset.

one of the intermediary positions in the backbone: elites located in these cities are well-connected with the British and Asian corporate world, serving the function of network brokers and closing the structural holes (Burt, 2005, 2009).

London is the main hub for transnational corporate elite members to meet. The position of London is not surprising because a large part of global corporate activities are concentrated in this city and it has a historically central position in many types of corporate networks. What is surprising, however, is a less prominent position of New York in the backbone. This underestimation of American cities can be explained by lower data quality for American corporate boards (Garcia-Bernardo & Takes, 2018), as discussed in the Data and Methods section. Even though New York is not central in the backbone, it obtains a network bridge position between London and Sydney. New York is tied to London, and the latter is a hub to meet for North American and European national elites. Sydney is a city that accumulates corporate elite ties from Asian, European, and American cities. New York, even though it does not obtain a highly central position in the backbone, is tied to these influential cities that are part of the most influential part of the network. Among other network parts that are not represented in the backbone but have a large number of cities in a country, it is worth mentioning Russia. The reason for the absence of the Russian corporate world is dense internal connectedness of Russian cities and only a small number of ties to cities outside the country. This finding is supported by the results of Heemskerk, Takes, Garcia-Bernardo, and Huijzer (2016): Russian cities form their own network community and they are mostly absent in other corporate elite communities.

This visual exploration of the network shows that there are groups of cities that obtain a strong and visible position in the backbone but are rarely explored in the corporate elites literature as the main hubs for the transnational corporate elite. These are, for instance, Oceanian or Malaysian cities that are represented by a relatively large number of nodes in the backbone. These regions, even though they are located geographically further from the European or American cities, are characterized by developed infrastructure for corporate and financial activities and, therefore, attract transnational professionals. For example, Malaysia is one of the fastest growing economies in Southeast Asia; English is

lingua franca in big Malaysian cities, and the business environment is highly globalized. Also, Malaysia has tax exemption schemes for specific groups of individuals and a favorable climate for corporate taxation that attracts companies from all over the world to base their offices in Malaysian cities. Another prominent city from Southeast Asia that is present in the backbone is Singapore. It is connected with the Malaysian cities but also tied to Hong Kong, Oceania, and London. Singapore is an established global city that is known for being a major financial, shipping, and corporate hub not only in Asia but also abroad. This sovereign-city attracts a large amount of foreign investment and is a key location for the incorporation of multinational corporations and financial firms. For a long time, these Southeast Asian cities were not the major locations of the transnational corporate elite, but recently, with their increasing attractiveness to foreign business and favorable climate for investment flows, this region is emerging as a new location for corporate elites to operate.

Hong Kong, another prominent case, obtains an intermediary position between different parts of the backbone network, which is explained by its prominent position in the network of global financial flows. Hong Kong is an offshore financial center of the region and is densely tied to New York and London, key global financial centers (Lai, 2012). Hong Kong holds a strategic position among other Chinese cities because creating ties with New York and London is a priority for the largest Chinese financial institutions, as Pan et al. (2018) show in their study of the Chinese integration in the global financial networks.

Another example of cities that obtain a distinct regional position in the backbone network but are often missing in the transnational corporate elite literature are Auckland, Melbourne, and Sydney. In the backbone, they form a distinct triad of the Oceanian cities. Their geographical closeness to Asia and cultural and historical proximity to Europe make them significant within the network of global transnational flows. Sydney is the financial capital of Australia, there is a large number of regional headquarters of world multinationals and foreign banks located in this city. The same concerns Melbourne: it is attractive for international firms, and a majority of the largest Australian corporations are based in this city. Auckland is the major economic and financial center of New Zealand, most international corporations have an

Auckland office. Sigler and Martinus (2017), in their study of urban ties between Australian cities, show that these cities play distinct roles within various urban networks. For example, their findings reveal that Perth obtains a strong position within materials and energy networks, Brisbane is a central node in the industrial network, and Sydney is a key city in the financial network. Together, the backbone detection shows that the cities play distinct roles within the transnational corporate elite network, accumulating national and international ties in one location.

One of the reasons why some of the described cities are often missing in the existing literature on corporate elite locations is the absence of detailed datasets on corporate locations. Even though our data source has limitations, as discussed in the Data and Methods section, the appearance of these cities in the backbone is telling a lot about the potential emergence of alternative corporate locations. Together with expanding their corporate activities all over the world, today multinationals more often create subsidiaries in Asian and Oceanian cities. This produces not only financial flows but also attracts human capital from abroad. These individuals serve on top of these corporations and, hence, contribute to widening the network of the transnational corporate elite locations. Specific positions of these named cities and regions are explored in the next section by investigating network centralities in the backbone.

4.3. Network positions of cities in the backbone

To explore the prominent cities in the backbone, Table 2 presents the list of the central nodes, highest by degree and eigenvector centralities. Network centrality measurements such as degree, betweenness, and eigenvector are often applied to demonstrate the concentration and the diffusion of ideas, capital, and people in city networks (Neal, 2011).

Degree centrality is related to the concentration of power located in the city: cities, high in degree, are those that have a large number of connections to other cities in the network. The majority of cities, highest by their degree centrality, are capital cities. Among the cities that are not capitals, there are important business, financial, and industrial centers such as Melbourne, Sydney, Zug, Central, and Wilayah Persekutuan. Central is the business district of Hong

Kong; a large number of big Chinese companies are headquartered here, together with multinational and international financial service firms. Wilayah Persekutuan is a group of Malaysian territories, consisting of Kuala Lumpur (capital), Putrajaya (administrative capital), and Labuan (financial capital). Wilayah Persekutuan is also characterized by a high concentration of the international capital, mostly due to Labuan that has minimal tax liability to foreign individuals and businesses, and is often referred to as an offshore financial center. Melbourne, Sydney, and Zug are second-level cities within their countries that are also known for being significant corporate and financial hubs, accumulating national and transnational capital.

Eigenvector centrality is a natural extension of a degree centrality (Bonacich, 1972) that gives different values to different types of connections. If a city is connected with other cities that are also well-connected in the network, this city would have a high eigenvector centrality. The top of Table 2 is the same for both centrality measures and consists of London, Dublin, and Sydney, while the bottoms of the lists differ. Among cities that are high in eigenvector centrality, there is a wide range of cities. There are cities that are often used to incorporate international companies such as Amsterdam, Luxemburg, and Valletta. These cities are densely tied with London and share corporate executives with companies located all over Europe. Cities such as Oslo, Stockholm, and Madrid connect distinct parts of the network: they connect their region with London and cities from other European regions. For instance, Oslo and Stockholm are these types of gate cities in Northern Europe and Madrid in Southern Europe. Adelaide is high in the eigenvector centrality because it connects Australian cities with New York and London, and Birmingham connects British cities with Amsterdam.

Another type of centrality that is commonly used to demonstrate the prominent position of cities in the global city network is the betweenness centrality. Degree and betweenness centralities are usually highly correlated in social networks: the majority of cities that are high in degree centrality are also high in betweenness (Freeman, 1979). For this reason, the list of cities, high in betweenness is not presented in Table 2 but these cities are denoted with larger node labels in Figure 2. Cities that are high in betweenness are those that

connect non-connected parts of the network. Madrid is a good example of such a city because it connects Southern Europe with other European regions and gives access for Spanish and Southern European elites to the rest of the world.

The exploration of city centrality measurements in the backbone gives an overview of a variety of positions obtained by cities in the network of transnational corporate board interlocks and elites. There is a group of hub cities such as London, Dublin, Sydney, Amsterdam, Oslo, i.e. those that are highly central in all three network centrality measurements. These are well-established global cities that attract a large amount of capital and human resources from all over the world. There is also a distinct group of cities, mostly prominent in eigenvector centrality but also high in other centrality measurements. Their function in the network is to connect different influential cities and to transfer resources between these influential parts of the network. These are usually non-capital cities that connect different regions and are characterized by favorable climates for international business (e.g. Valletta, Adelaide, Luxembourg, Brisbane). These cities are currently obtaining intermediary positions in the network, even though they are connected to other highly-connected cities. However, these cities may also become influential hubs over time by expanding their existing connections and attracting more international capital and resources.

The backbone network exploration demonstrates that there is a set of cities, beyond the well-known list of the first-tier global cities, that is significant for underpinning the transnational space for corporate elite locations. These are the cities from Asian and Oceanian regions that attract foreign capital and create unique possibilities for the international corporate elite members to build networks and operate there. Emerging as new influential locations that attract transnational human capital, resources, and networks, these cities may potentially re-balance the existing power relationships between existing national elites. But the network of the transnational corporate elite locations remains concentrated around London and is divided over a few regionally-determined network subparts. Together, these findings outline the current state of the transnational elite fracturing across various world regions and indicate potential

Table 2. The list of 15 cities in the backbone, highest by degree and eigenvector centralities.

Cities with the highest degree centrality	Cities with the highest eigenvector centrality
London	London
Dublin	Dublin
Sydney	Sydney
Oslo	Amsterdam
Amsterdam	Melbourne
Melbourne	Auckland
Auckland	Luxembourg
Kobenhavn	Oslo
Stockholm	Madrid
Helsinki	Valletta
Madrid	Brisbane
Bruxelles	Stockholm
Zug	Adelaide
Central	Central
Wilayah Persekutuan	Birmingham

Source: calculations by the author based on the Bureau van Dijk dataset.

restructuring in power relations, taking place among regional fractions of this transnational elite. The applied approach allows us to shed light on the locations where the transnational corporate elite members operate, both at national and transnational levels.

5. Conclusion

This paper asks the question: in which cities does the transnational corporate elite operate? In order to avoid a problematic distinction between national and international ties, this paper rather investigated the locations of the transnational corporate elite in global cities, applying the network backbone detection algorithm. The intentional focus on cities rather than countries as the main locus of the transnational elite operations is justified by a unique role and function of these global cities. The cities, on the one hand, are part of nation-states but, on the other hand, are also part of a global city network: a unique network of major transnational flows of capital and resources. These cities are the key locations in which national and international ties of the transnational corporate elite members concentrate.

The network backbone detection approach applied in this paper presents a fine-grained analysis of geographical locations in which the transnational corporate elite members operate. The findings show that the backbone of transnational corporate elite cities consists of around 300 cities. The paper shows that while the Anglo-American corporate elite remains the most powerful and well-connected fraction of the transnational corporate elite in these cities, there is also a potential restructuring in the positions of different regions visible within this network. This restructuring can be seen in the prominence of cities from Asia and Oceania. The cities from Asia and Oceania attract transnational flows of capital and human resources due to their unique geographical position in between influential core countries and as a result of their favorable business and financial environment for international firms. The rise of these locations might potentially lead to the re-balance of existing power relationships between national and regional elite groups and lead to competition between different transnational corporate elite fractions.

These findings raise the question what the diverse strategies that individual elite members and national elite groups use to integrate into the transnational corporate elite network are. The diversity of cities and regions that we see in the backbone might serve as a reflection of the diversity of applied strategies. For some regions, this integration is still under construction (e.g. the case of the Asian corporate elite) while for others (e.g. the case of the European corporate elite) it has already taken place (De Graaff, 2020; Heemskerk, 2013). How these integration strategies are applied by various national elite groups is a question that needs further investigation, and will be addressed in Chapter 3 of this dissertation, exploring the case study of Chinese corporate elites. Having established that the transnational corporate elite members operate in specific geospatial settings, the following chapter studies the level of the transnational elite fracturing by investigating typical transnationalization trajectories of regional corporate elites.

Chapter 2. Beaten paths towards the transnational corporate elite

* This chapter is an adaptation of Valeeva D., Heemskerk E., Takes F. (2021). Beaten paths towards the transnational corporate elite. Accepted for publication in *International Sociology*.

Abstract: The transnationalization of economic activities has fundamentally altered the world. One of the consequences that has intrigued scholars is the formation of a transnational corporate elite. While existing literature tends to focus on the topology of the transnational board interlock network, little is known about its driving mechanisms. In this chapter, we ask the question: what are the trajectories that corporate elites follow in driving the expansion of this network? To answer this question, we employ a novel approach that models the transnationalization of elites using their board appointment sequences. The findings show that there are six transnationalization trajectories corporate elites follow to expand the network. We argue that while the transnational elite network appears as a global social structure, its generating mechanisms are regionally organized. This corroborates earlier findings on the fragmentation of the global network of corporate control, but also provides insights into how this network was shaped over time.

1. Introduction

Although some suggest that we are now witnessing the end of the second wave of globalization (Schwartz, 2019), the outlook and orientation of the corporate elite has steadily and persistently shifted from the national to the transnational domain. This increasing transnationalization of corporate elites is evident in both the nationally diverse composition of corporate boards (Davoine & Ravasi, 2013; Van Veen & Marsman, 2008) and the growing and sturdy network of global board interlock ties (Heemskerk, Fennema, & Carroll, 2016). This network of corporate interlocks have markedly transformed from national business communities to a more integrated global corporate elite network (Fennema, 1982; Carroll, 2010; Heemskerk & Takes, 2016). Some scholars are more pronounced in their conclusions and argue that the global connections of the corporate elite are the cornerstone of a transnational capitalist class, with a clear international rather than national identification and therefore interest (Sklair, 2001; Robinson, 2004; Robinson & Harris, 2000). Recent studies however underscore that the global board interlock ties are not evenly distributed but rather centralized around a set of key nodes, and this network is divided into several cohesive network communities (Heemskerk & Takes, 2016; Heemskerk, Takes, Garcia-Bernardo, & Huijzer, 2016). However, this literature does not investigate why this is the case. These studies study only the topology of the global board interlock network but not the driving mechanisms that build it.

Corporate elite transnationalization is largely created by individuals. They shape it by accepting new corporate board positions and expanding this network. Thus, when corporate directors receive additional board appointments, they contribute to the expansion of the global corporate elite network through the board interlock ties they create. However, this temporal aspect of corporate elite transnationalization has received little attention so far as most studies investigate typologies of board interlock network snapshots at particular points in time (e.g. see a discussion of this issue in Burris & Staples, 2012; Valeeva et al., 2020). And while we know that the transnational board interlock network consists of multiple regional elite communities (Heemskerk & Takes, 2016;

Heemskerk, Takes, Garcia-Bernardo, & Huijzer, 2016), it remains unclear how individual corporate elite members dynamically create this network and contribute to network expansion in such a way that it leads to clusters. Therefore, this chapter asks the question: what are the trajectories of transnationalization that corporate elites follow in driving the expansion of the global network of the corporate elite? By trajectories we mean: sequences of board appointments in several countries.

In a stylized, ‘truly’ globalized corporate elite, we would expect to see international board appointments and therefore interlocking directorates formation without any particular patterns. Here, a global labor market for corporate directors is at play that matches people with corporations across the globe. While this fits the idea of an ideal typical market (and is often used in the discussion on executive pay), the empirical literature on corporate elite networks instead finds that the global network of interlocking directorates is not random, but in fact structured along geographical and political divisions (Carroll, 2010; Heemskerk & Takes, 2016; Heemskerk, Takes, Garcia-Bernardo, & Huijzer, 2016). We are therefore interested in the architecture of the patterns that transnational corporate elites create when they accumulate additional board appointments, with a particular interest in those appointments that create transnational board interlocks.

To answer our question, we explore the board appointments of those corporate directors who together form the transnational corporate elite—that is, those individuals who serve on corporate boards in at least two different countries. Our definition of corporate transnationalization is based on the conceptualization by Van Apeldoorn: at the heart of transnationalization is not the diminishing importance of national borders, but rather the “rise of relations across national borders and the constitution of actors that operate not ‘above’ the national state, but in different national contexts simultaneously” (Van Apeldoorn, 2014, p. 189). As such, this chapter analyzes individuals who simultaneously obtain board level positions in multiple national contexts. By accumulating these positions, they expand the corporate elite network and therefore create a transnational space for corporate elites to socialize and, potentially, act in. We analyze micro-level patterns of board appointments of the

transnational corporate elite members and use their board appointment sequences to uncover the patterns of corporate elite network expansion. Although clearly theoretically informed, our research approach allows for data driven scientific discovery as well.

For this study, we extract the data from Bureau van Dijk's Orbis database. It covers the daily board appointments of 8,201 transnational corporate directors having board appointments in 100 countries during 2000–2017. We apply sequence analysis techniques as a methodological strategy to uncover patterns in the global expansion of the corporate elite network. The results confirm that there are beaten paths, or similar transnationalization trajectories, that various regional elites follow. The revealed trajectories of the corporate elite transnationalization highlight that, while from a distance the transnational corporate elite might seem well connected in a global network, its generating mechanisms still predominantly play out at a regional level and in particular along a few distinct beaten paths. As such, our work warns that the cohesion of the global corporate elite is easily overstated if one only looks at the overall network structure while disregarding the regional character of its generating mechanisms.

2. Increasing transnational interest of corporate elites

For several decades scholars have been discussing the emergence of a global corporate elite in the form of the Atlantic ruling class (Van Der Pijl, 1984); the international corporate elite (Fennema, 1982); or the transnational capitalist class (Carroll, 2010, Robinson, 2004; Sklair, 2001). Transnational corporate elite networks began to emerge in the 1970s, as national elites started to expand board interlock networks among multinational corporations. One of the first empirical studies investigating the level of transnational interlocking between the largest world corporations was a study by Fennema (1982). This study shows that during the 1970s the number of ties crossing national borders significantly increased, and the transnational network had a strong North Atlantic corporate elite component. The follow-up paper by Carroll and Fennema (2002), which evaluated the intensity of transnational interlocking a few decades later, shows that this board interlock network remained stable.

Moreover, the empirical results confirm that a North Atlantic business system developed from the 1970s to the 1990s. Another seminal study on transnational interlocks between global corporations is by Fennema and Schijf (1985), who analyze transnational financial participation of companies, revealing that the US-based companies took part financially in the majority of transnational actions. Ever since, scholars have pointed at the growing cohesion of these internationalizing elite members and the potential real-world consequences of the global corporate elite network establishment. Among these consequences are, for instance, coordinated political actions (Murray, 2014, 2017) or the taking part in global policy-planning meetings (Carroll & Carson, 2003; Carroll & Sapinski, 2010; Nollert, 2005; Richardson et al., 2013).

The formation of the transnational corporate elite can be seen as a result of the growing transnationalization of corporate activities (Barnet & Muller, 1974). This transnationalization is mirrored in the rise of global networks of inter-corporate connections such as transnational ownership ties (Garcia-Bernardo et al., 2017; Vitali et al., 2011), cross-border mergers and acquisitions (Buckley & Ghauri, 2002), and global wealth and production chains (Seabrooke & Wigan, 2017). Modern multinational corporations usually span many countries (Reurink & Garcia-Bernardo, 2020), and a corporate career at a multinational often involves working in different countries.

The transnational orientation of corporate elites continued to rise throughout the first decades of the 21st century: since the 2000s, the number of board interlocks crossing national borders has significantly increased, and the transnational interlock network showed its resilience by remaining strong after the 2008 financial crisis (Heemskerk et al., 2013; Heemskerk, Fennema, & Carroll, 2016). However, some scholars doubted how significant the observed increase in transnational interlock tie numbers was. This resulted in the discussion between Carroll and Fennema and Kentor and Jang in *International Sociology* (Carroll & Fennema, 2002, 2004; Kentor & Jang, 2004, 2006). Both sides had contrasting opinions about the level of transnational interlocking and about the meaning of these ties for the formation of the transnational business community or the rise of the transnational capitalist class but later studies continued the tradition of the transnational board interlock studies (e.g.

Bühlmann et al., 2012; Cárdenas, 2015; Heemskerk & Fennema, 2009; Mizruchi, 2013; Van Veen & Kratzer, 2011).

At the same time, other scholars point out that the majority of corporate directors still forge their careers within nation-states, and their elite socialization and cohesion are still predominantly formed within national spaces. Bühlmann et al. (2013), for instance, show in their case study of the Swiss corporate elite that the emergence of the transnational elite has not replaced the significance of national ties; members of this newly forming transnational elite are still strongly tied to their national elites. The literature that studies career paths of corporate directors likewise finds little to no empirical evidence of increasing transnationalization of high-level corporate careers. For example, Koch et al. (2017) analyze career sequences of Forbes 100 CEOs and find that they predominantly climb the corporate ladder by changing positions within only one company. Even if there are some inter-corporate transitions, they mostly take place within one corporate sector (see also the review study of Vinkenburg & Weber, 2012). And in a similar study of CEOs, Hamori and Kakarika (2009) point out that career success and the time to tenure did not fit well with moving to the external labour market. This literature shows that most of the high-level corporate careers are constructed in a traditional way and transnational careers are, in fact, rare.

As a result, we have a very fragmented picture of the corporate elite transnationalization state. But what we do know is that with the growing number of transnational interlock ties, national and regional elite communities do not lose their significance (e.g. Carroll, 2010; Van Apeldoorn & De Graaff, 2012). For instance, Heemskerk and Takes (2016) and Heemskerk, Takes, Garcia-Bernardo, and Huijzer (2016) show that the global network of transnational board interlocks is structured around a few network clusters. These clusters are formed on the basis of socio-economic connections, language proximity, or the colonial history of nation-states and regions. Even though we know that the global corporate interlock network consists of a small number of elite clusters, it remains unclear how this global network has been formed by individual elite members and led to these particular clusters. All in all, we have only a piecemeal understanding of the corporate elite transnationalization

process and in particular of the ways of how this transnational network expansion is organized. Given the persistent importance of national settings, the following question presents itself: are there established trajectories or pathways that national corporate elites follow in their transnationalization?

To answer this question, we need an empirical approach that deviates from prior work, studying inter-corporate board interlock networks between a few hundred western corporations. Instead, we have created a large global dataset of corporate director positions, affiliated with corporations located all over the world. In our empirical approach, we make no a priori assumptions about the structure of the transnational corporate elite network and start by exploring individual appointment sequences of transnational corporate directors. Applying sequence analysis techniques, we cluster ‘ideal-typical’ transnationalization trajectories of these corporate elite members. This novel approach uncovers six main groups of trajectories or ‘beaten paths’, as we call them, that together create and expand the transnational space for corporate elites to connect. Based on these findings, we conclude that the transnationalization of corporate elites is structured over a relatively small number of common trajectories with clearly defined directions. This implies that the cohesion of the global corporate elite is easily overstated if one only looks at the overall network structure while disregarding the regional character of its generating mechanisms.

3. Data and Methods

3.1. Data extraction steps

The dataset was extracted from the Orbis Bureau van Dijk database in December 2017. Orbis contains data on about 200 million companies worldwide, collected from official country registrars. For each individual in the dataset, there is information about the history of corporate board appointments in the format ‘day–month–year’. We choose to include different types of board level positions in the analysis because national corporate governance systems vary significantly across the world. Some countries have one-tier boards while others have two-tier systems, and including a variety of board positions allows us to take into account these differences and increase the sample size, without

underestimating the positions within specific national contexts. We include in our sample individuals who obtain positions at boards of directors, executive boards, and supervisory boards.

The main focus of this chapter is on transnational corporate elite members and on how their sequences of appointments expand the global corporate elite network. We therefore start with the group of corporate directors who have current positions in at least two different countries by 2017. Because these individuals simultaneously hold positions in more than one country, they can be referred to as transnational corporate elite members: ‘transnationalists’ or ‘globalizers’ (Carroll, 2009; Sklair, 1997). For this set of transnational directors, we subsequently collected the history of their past corporate appointments for the period 2000–2017. This means that for each transnational corporate elite member in 2017, we have an individual sequence of previous appointments.

For each transnational corporate director, we create a sequence of board appointments during 2000–2017, preserving the order of events but ignoring the duration of time between appointments. For example, if an individual had an appointment in a French firm in January 2000, then this individual had an appointment in a Spanish company in January 2005 and finally, an appointment in a Belgian company in January 2010, the country-level sequence of this individual will be ‘France => Spain => Belgium’. By 2017, when the dataset was assembled, this individual simultaneously held all three positions. In this sense, this individual does not necessarily make career transitions between different corporations but rather expands the global network by participating in several board meetings over the world and accumulating these positions.

The sequence analysis is applied to explore the accumulation of board appointments by these transnational corporate directors. This approach has been widely used to detect similarities in career trajectories of individuals and has been also applied as a tool to explore class mobility strategies (e.g. Bühlmann, 2008, 2010; Bukodi et al., 2016; Toft, 2018). To uncover transition patterns at the macro-level, these country-level sequences were recoded to the region-level sequences, using the classification of the United Nations geoscheme, available at <https://unstats.un.org/unsd/methodology/m49/>. Thus, the sequence ‘France =>

Spain => Belgium' will become the sequence 'Western Europe => Southern Europe => Western Europe'. We recode country sequences to region sequences to map the higher-level picture of the corporate elite transnationalization process. Classifying sequences with a larger number of sequence elements (i.e. countries or even cities) is computationally very expensive and rarely produces meaningful clustering results. However, the country-level transitions are not completely ignored in this study, as they are described in detail in the Results section when we present the findings of the sequence classification. Thus, a sequence in this chapter is the sequence of board appointments of a transnational corporate elite member (that is, a person who in 2017 holds board level positions in at least two countries). Sequence elements are regions; these elements change when an individual has an appointment in a different country. If a company has subsidiaries in different countries, each subsidiary has its own location. Even if corporate directors stay within one corporate group, by meeting at board meetings of subsidiary firms and holding positions there, these individuals still integrate with national elite communities and encounter local business environments.

We do not consider full career sequences of transnational corporate elite members. Rather, we investigate how those corporate elite members already integrated into the global network played a role in the expansion of that network, i.e. what paths they followed. Our aim is to describe the structure and directions of the corporate elite transnationalization process, and not to reconstruct all career steps on the way to becoming a transnational corporate elite member. The dataset used for the analysis consists of 8,201 transnational corporate directors and their board appointments during 2000–2017. They altogether held positions in 11,528 corporations, located in 100 countries and 16 regions. The majority of corporations in the sample are industrial, financial, and insurance companies; the most frequent sectors are manufacturing, wholesale and retail trade, financial and insurance activities, information and communication. More detailed descriptive statistics of corporate sectors and company types are presented in Table 1 and Table 2.

Table 1. Types of firms, where transnational corporate directors hold positions (N = 11,528 firms).

Type entity	Number of firms
Industrial company	9,392
Financial company	795
Insurance company	623
Bank	451
Mutual and pension fund/Nominee/Trust/Trustee	172
Foundation/Research institute	43
Private equity firm	36
Venture capital	10
Public authority/State/Government	6

Source: calculations by the authors based on the Bureau van Dijk dataset.

Table 2. Sectors of firms, where transnational corporate directors hold positions (N = 11,528 firms).

NACE code	NACE code interpretation	Number of firms
C	Manufacturing	3,323
G	Wholesale and Retail Trade, Repair of Motor Vehicles and Motorcycles	1,919
K	Financial and Insurance Activities	1,907
J	Information and Communication	791
M	Professional, Scientific and Technical Activities	710
H	Transportation and Storage	529
N	Administrative and Support Service Activities	483
B	Mining and Quarrying	320

D	Electricity, Gas, Steam and Air Conditioning Supply	313
F	Construction	239
L	Real Estate Activities	169
I	Accommodation and Food Service Activities	127
S	Other Service Activities	112
Q	Human Health and Social Work Activities	105
R	Arts, Entertainment and Recreation	78
A	Agriculture, Forestry and Fishing	52
E	Water Supply, Sewerage, Waste Management and Remediation Activities	48
P	Education	30
O	Public Administration and Defense, Compulsory Social Security	15
T	Activities of Households as Employers; Undifferentiated Goods and Services Producing Activities of Households for Own Use	2
	Unknown	256

NACE (Statistical Classification of Economic Activities in the European Community), rev. 2 (2008), level-1 codes are used <https://ec.europa.eu/eurostat/ramon/>. Source: calculations by the authors based on the Bureau van Dijk dataset.

3.2. Constructing and classifying board appointment sequences

As discussed above, the unit of analysis is the sequence of board appointments of corporate elite members who obtain transnational directorship positions in 2017. We group similar sequences to systematically understand what types of trajectories are common and, as a result, to understand the transnationalization dynamics of the corporate elite network.

Social sequences are usually classified using clustering algorithms in order to find groups of similar sequences (Abbott, 1995; Abbott & Forrest, 1986). Within a group, sequences should be as similar as possible. Clustering algorithms try to find groups that minimize dissimilarity (or maximize similarity) within a group. We do so by defining so-called costs that indicate, using a number, how dissimilar two sequences are. One sequence can be changed into another by transforming sequence elements, using insertion, deletion and substitution costs. For each pair of sequences, it is possible to calculate the total cost of the sequence transformation and cluster them later in similar trajectories.

Assigning costs to social sequence transformations is a difficult step in social sequence analysis and should follow both theoretical and methodological considerations (Studer & Ritschard, 2016). There are three main strategies to assign costs, and each of them have specific limitations. First, the costs can be assigned to constant values. In this case, any transition from one sequence element to another sequence element has the same cost and the difference between transitions is neglected. For example, in the case of social mobility, moving from a low position in the social hierarchy to a high position would have the same cost as moving from a low position to another low position. Second, costs can be assigned based on theoretical assumptions and expert knowledge of a researcher. In the same social mobility example, moving from a low position to a high position would have a higher cost than moving from a low position to another low position because, based on theory and empirical observations, upward mobility is known to be less common. Third, costs can be assigned based on observed transition rates between sequence elements in the selected dataset of sequences. Transitions that happen often would have a lower cost than transitions that take place rarely, i.e. if in a studied dataset of social mobility the transitions between low and high positions do not happen often, these transitions would be assigned higher costs. The first approach neglects the differences between sequence elements, while for the second strategy it is crucial to choose a theoretical framework that would be strong enough to assign costs for all the possible transitions in the dataset. Crucially, we do not make any assumptions in advance about transition costs between sequence elements

and therefore use the latter approach, which is referred to as the ‘data-driven’ approach in the literature (Studer & Ritschard, 2016).

Using the data-driven approach, we assign costs based on observed occurrences of subsequences in our dataset. The cost matrix has dimensions $n \times n$, where n is the number of different sequence elements (regions, in our case) in the dataset. The element (i, j) of the matrix is the cost of substituting region i with region j . The substitution cost $SC(i, j)$ between regions i and j is obtained using the following equation:

$$SC(i, j) = cval - P(i, j) - P(j, i), \quad (1)$$

where $P(i, j)$ is the transition rate between regions i and j observed in the data, $cval$ is a constant value that is usually set to 2 (Gabadinho et al., 2011). Looking at all possible inter-regional transitions in the dataset, for each dyad of regions we thus assign a substitution cost that varies from 1 to 2. Transitions that have high costs indicate that these transitions take place less often in the observed dataset. For example, moving from Eastern Europe to Southern Africa will be considered more costly than moving from Eastern Europe to Western Europe. The reason is that the subsequence ‘Eastern Europe => Western Europe’ happens more often in our dataset than the subsequence ‘Eastern Europe => Southern Africa’. Insertion and deletion costs or *indel* costs are used for cases when, to transform one sequence into the other, we must add sequence elements to a sequence or delete elements from it. These costs are usually fixed at half of the maximum value in the cost matrix. Thus, indel costs are set to 1 because the maximum value in the cost matrix is 2, i.e., the case when $P(i, j) = P(j, i) = 0$.

After assigning costs to each operation (insertion, deletion, and substitution), the distance between all sequences in the dataset is calculated, applying an optimal matching algorithm (Blanchard et al., 2014). Optimal matching calculates the distance between two sequences as the cost to transform one into another using insertion, deletion, or substitution of elements in sequences. The result is the dissimilarity matrix between sequences used for clustering sequences into similar trajectories. For social sequence analysis, the Ward clustering algorithm is one of the most often used techniques that we also apply in this study (Martin et al., 2008). Based on clustering goodness-of-fit measures,

we present 35 clusters that together represent the structure of the full dataset. A meaningful understanding of the sequence clustering results requires interpretation, and this interpretation is typically not straightforward. This is a common issue in sequence analysis studies, applying the technique on large datasets, containing a large number of sequence states, as in our case. One of the possible ways to approach this problem is by investigating similarities in sequence positions within each cluster and group similar clusters in a set of typical transnationalization pathways. We refer to these higher-level transnationalization pathways as ‘beaten paths’. For example, if one cluster consists of positions starting in Western Europe and expanding to North America, another cluster consists of positions also starting in Western Europe but expanding to South America, and the third cluster consists of positions starting in Eastern Asia and expanding to Australia, we would group two first clusters together into one beaten path while considering the latter cluster as a distinct path. Through this step of qualitative interpretation of each pair of clusters, we determine six beaten paths and describe each of them in a more nuanced way in the following section.

4. Results

To begin with, Figure 1 shows the country-level distribution of corporate locations. The majority of corporations in our sample are located in the UK and the US, followed by other high-income European countries and countries from prominent regional centers such as Australia, India, Hong Kong, South Africa, China, Canada.

Figure 2 presents the distribution of distinct countries and regions in the sequences of transnational corporate directors. As we see, most individuals obtain board positions in two countries, and fewer individuals hold positions in three or more countries. However, the majority of these transnational corporate directors do hold positions in different regions. This indicates that the current state of corporate elite transnationalization has already moved above transitions taking place within geographic regions. These corporate directors, then, are flexible in moving not only beyond country-level but also beyond region-level

borders on the way to build and expand the transnational corporate elite network.

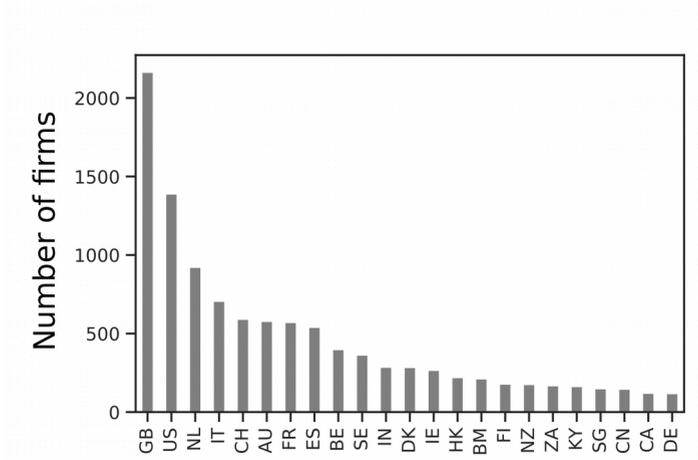


Figure 1. Distribution of corporate locations. Countries with more than 100 firms are shown. Source: visualization by the authors based on the Bureau van Dijk dataset.

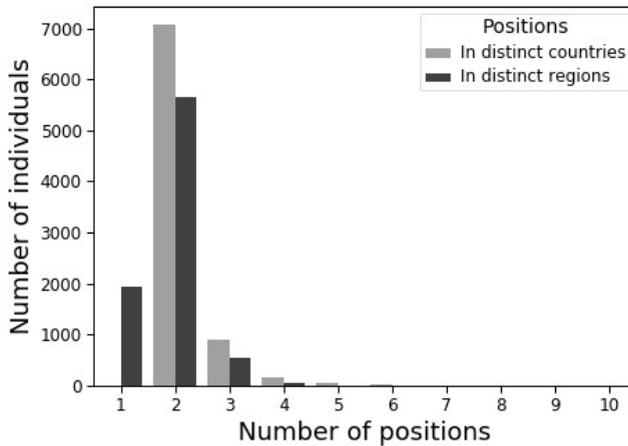


Figure 2. Distribution of board positions in distinct countries and regions. Source: visualization by the authors based on the Bureau van Dijk dataset.

To explore the pathways that transnational corporate elites follow to expand the transnational network, we cluster individual sequences of 8,201 transnational corporate directors. The best clustering solution gives 35 clearly identifiable clusters, with about 200 individuals on average in each cluster. The visualization of all clusters is presented in Figure 3. As discussed in the Data and Methods section, meaningful interpretation of a large number of clusters is a known issue in social sequence analysis. Based on qualitative interpretation of types of firms and directors within each cluster and on the majority of specific regional sequence states within each cluster, we derive six beaten paths, or common transnationalization trajectories. These beaten paths are higher-level groupings of the identified 35 clusters.

European path. European corporate directors are densely interconnected within their regional borders. Staying within region and enhancing within-region ties is particularly typical for Northern Europe (countries such as the UK, Ireland, Sweden, Denmark) and Southern Europe (Italy, Spain, Portugal). While there is probably a strong and cohesive network of the European corporate elite (Heemskerk, 2013), individuals holding positions on European corporate boards are also very well integrated into national business circles all across the globe. Among the most open to international professionals are corporations, located in Western Europe (Switzerland, the Netherlands, France, Belgium, Germany). Directors affiliated with companies located in these countries often expand their networks to corporate boards of companies located in North America, Africa, and Asia. But the strongest connection of the European corporate elite is probably with the North American corporations, as has been shown in earlier works (e.g. Fennema, 1982; Fennema & Schijf, 1985; Van Der Pijl, 1984) and confirmed in more recent contributions on the global corporate elite network formation (e.g. Heemskerk & Takes, 2016). With the globalization of the corporations all over the world and the rise of new economies, the Euro-American connection does not lose its strength, and the corporate elites of these regions continue to expand this historically strong path by accumulating positions across the Atlantic.

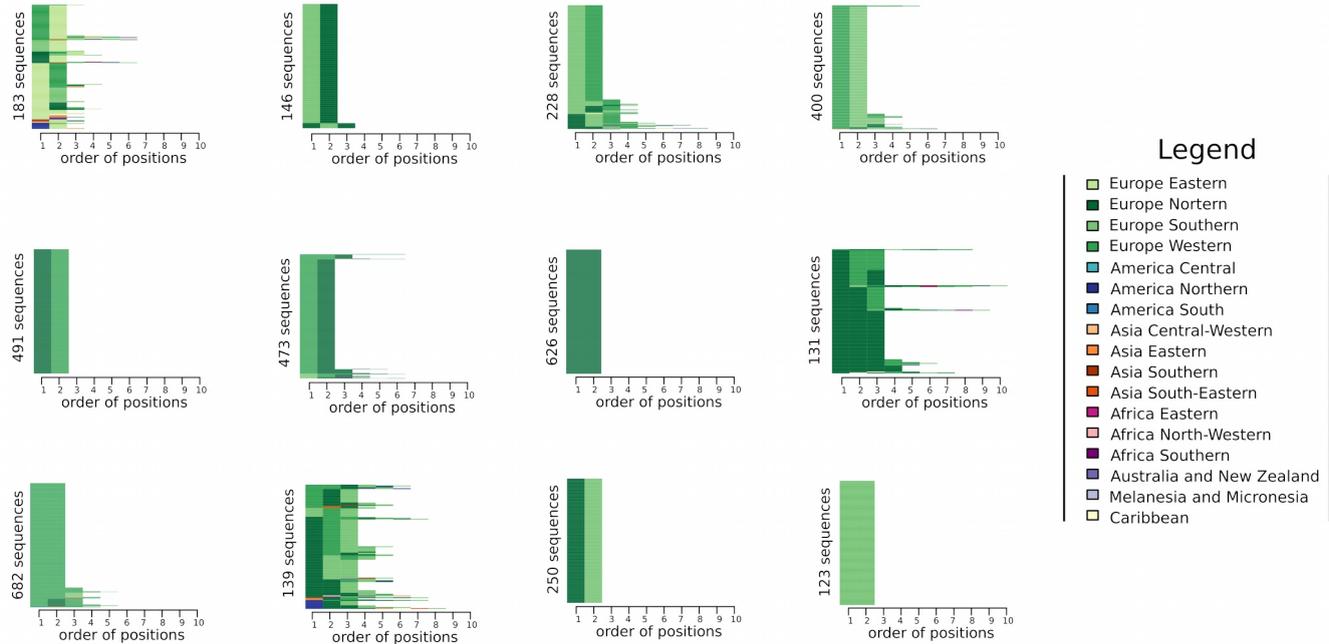


Figure 3. Typical transnationalization trajectories of corporate elites. Visualization of clusters using the Ward clustering algorithm. Y-axis represents individuals with their individual sequences, X-axis represents the order of positions that these individuals obtain. Color of positions indicates the regions of corporate locations. Source: visualization by the authors based on the Bureau van Dijk dataset.

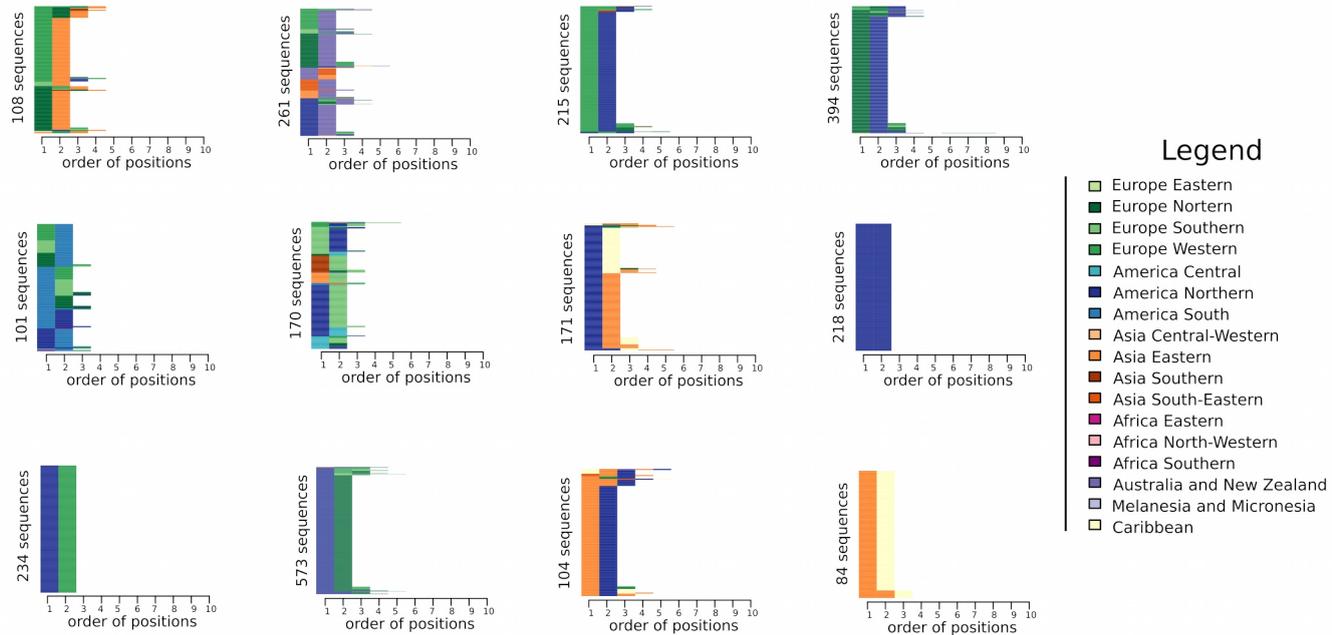


Figure 3 (continued). Typical transnationalization trajectories of corporate elites. Visualization of clusters using the Ward clustering algorithm. Y-axis represents individuals with their individual sequences, X-axis represents the order of positions that these individuals obtain. Color of positions indicates the regions of corporate locations. Source: visualization by the authors based on the Bureau van Dijk dataset.

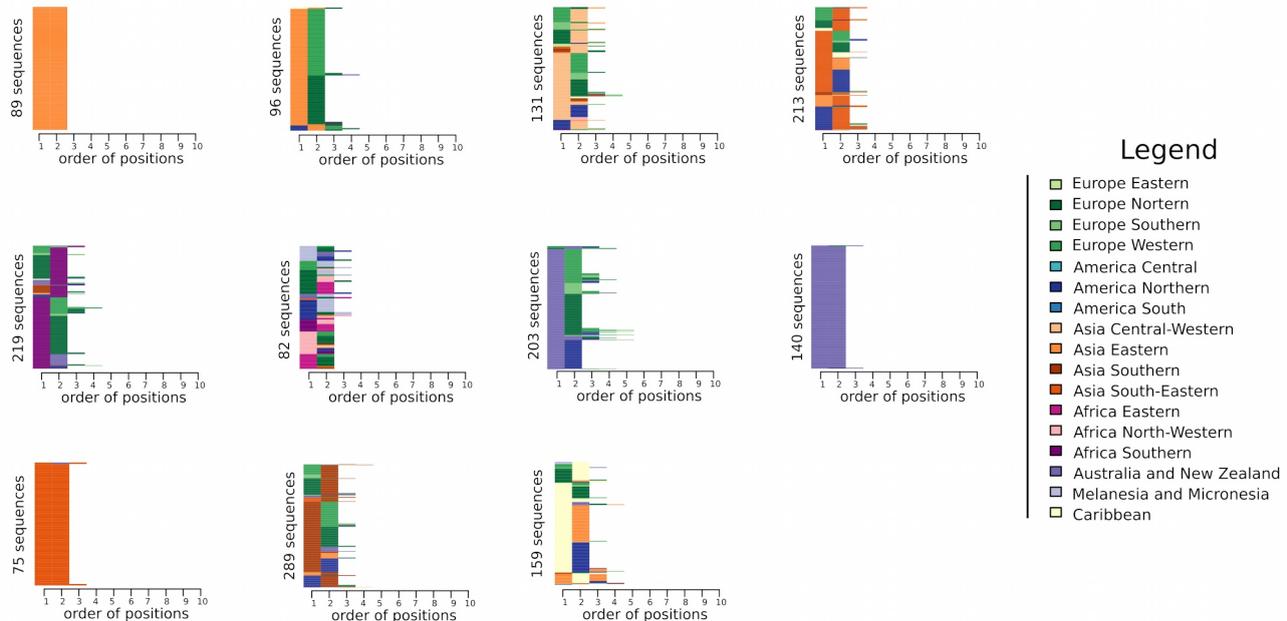


Figure 3 (continued). Typical transnationalization trajectories of corporate elites. Visualization of clusters using the Ward clustering algorithm. Y-axis represents individuals with their individual sequences, X-axis represents the order of positions that these individuals obtain. Color of positions indicates the regions of corporate locations. Source: visualization by the authors based on the Bureau van Dijk dataset.

American path. American corporate directors are central within the global network of transnational corporate activities and elites. The majority of these individuals have board appointments in Northern America (mostly the US and Canada) and accumulate positions in corporations located in Europe, Oceania, and Asia. The American path can be additionally divided in the Northern American, Central American, and South American fractions. Central and South American (e.g. Brazil, Peru, Chile) corporate elites are reciprocally connected with Western Europe (Switzerland, the Netherlands, France, Belgium, Germany) and Northern Europe (UK, Sweden, Ireland, Denmark), even though the number of these ties are lower in comparison with the ties, formed by Northern American elites with the named European regions. Similar to European corporate directors, staying inside the region is a typical network expansion strategy for American corporate elite members: directors with positions at South American (Brazil, Peru, Chile) or Central American (Mexico) corporations often continue to accumulate positions within these countries and within the region. Even though we observe ties, established by the transnational corporate directors among Latin American corporations, their number is relatively low, as has been confirmed by Cárdenas (2015, 2016) in his detailed studies of the Latin American national and transnational board interlocks. Latin American corporate elites are not strongly transnationally connected yet in comparison with European or Northern American elites but there is a potential for change with the growing number of within-region ties that Central and South American elites create with the globally dominant Northern American elites.

Asian path. The Asian corporate elite is spread across three main groups of clusters. The first group includes individuals with board positions in Southern Asia (corporations located in India, Sri Lanka, Bangladesh, Pakistan); the second includes South-Eastern Asian positions (Singapore, Malaysia, Indonesia, the Philippines, Thailand, Vietnam); and the third group consists of Eastern Asian countries (Hong Kong, China, Japan, South Korea, Taiwan). Among these clusters we also see a list of offshore financial center countries (the Cayman Islands, the Virgin Islands, Curaçao, the Bahamas), which is a result of the corporate structuring, common to some firms, located in this region (e.g. one of

the headquarters of the Chinese tech giant Alibaba have headquarters in the Cayman Islands). Most Asian corporate boards are well integrated into the global corporate network: individuals holding positions in one of these Asian regions accept additional positions in European, American, and Oceanian regions, and these Asian corporate boards are also becoming open to individuals with international experiences. There is a strong regional elite cohesion within this region but at the same time we observe the growth of some regional economies (mostly Chinese) and their strengthening position within the transnational corporate elite network (Beaverstock, 2018; Hall, 2019; Pan et al., 2018). For example, as shown by De Graaff (2020), it is becoming more common for the largest Chinese firms to form board interlock ties with the largest corporations all across the globe and in this way to be integrated into the global corporate elite network.

African path. The African corporate elite is mostly represented by individuals on boards of corporations located in Southern Africa, which in line with the literature on African interlock networks, mostly focusing on South African corporations as the key corporate actors in the region (Durbach & Parker, 2009; Senekal & Stemmet, 2019). Directors from companies located in Europe, Australia and New Zealand, Northern America, and Central and Western Asia are also on boards of the South African companies. These ties are reciprocal with Europe, Australia and New Zealand, and Northern America: South African corporate board members accumulate additional positions in these regions. South African corporate boards are densely tied to Northern European (UK, Sweden, Ireland, Denmark) and Western European (Switzerland, the Netherlands, France, Belgium, Germany) corporations. Also, like most regions, the African region is densely interconnected inside the regional borders; however, companies located in the African region outside of South Africa rarely share directors with international companies.

Oceanian path. Corporate elite members from Australia and New Zealand are open to the majority of the world regions, which can be explained by their geographical closeness to Asia and cultural proximity to Europe. Oceanian corporate directors often accumulate positions in companies located in European, South-Eastern and Eastern Asian, and Northern American regions.

These flows are mutual: companies headquartered in Australia and New Zealand are open to accepting corporate directors from named regions on their boards and, moreover, most international corporations have Australian offices and operate from Oceania. The prominence of this region in the network of transnational elite flows is explained by the well-integrated position of Australia in the European and Northern American corporate networks (Alexander et al., 1994; Carroll & Alexander, 1999; Kiel & Nicholson, 2006).

Caribbean path. Finally, and interestingly, there is a distinct group of Caribbean countries (the Cayman Islands, Curaçao, the Virgin Islands) that obtain a recognizable position in the global network of corporate flows. The Caribbean region includes a large number of offshore financial center countries and these countries are used by companies all over the world to create complex ownership chains to facilitate the evasion of corporate taxes (Garcia-Bernardo et al., 2017; Palan et al., 2010). Eastern Asian companies (located in Hong Kong, China, Japan, South Korea), but also European and American companies are often connected with companies located in the Caribbean region. These countries make up the novel corporate locations used by corporate elites across the globe to incorporate companies and expand transnational networks of corporations.

Clustering sequences and grouping these clusters in higher-level beaten paths gives an overview of the current state of the corporate elite transnationalization, as well as the directions in which it has been unfolding from the 2000s onwards. While it has been established in the corporate networks literature that the global corporate elite network consists of a number of distinct network communities (Heemskerk & Takes, 2016; Heemskerk, Takes, Garcia-Bernardo, & Huijzer, 2016), we have here demonstrated how these regional communities are created by individuals who expand this network by accepting board positions. The borders of these communities are currently under construction and corporate directors are those individuals who define these communities and change their structures by accumulating new board positions.

The results of the sequence clustering confirms the presence of a strong core of the transnational corporate elite, concentrated around Europe and North America. But the transatlantic path that led to the establishment of an Anglo-

American ruling class (Van Der Pijl, 1984) might be currently under transformation, as this path is expanding and taking new directions. For instance, the findings show that the European corporate elite members are also tied to corporate elites operating in Asia and Oceania, and are not exclusively connected with the American corporate boards. This transformation may indicate that there is an emergence of new centers of corporate power and control, going beyond the established Euro-American transnational elite.

The presence of clearly identifiable paths and the strong regional patterns, determining their directions, indicate that the global network for corporate elites to meet and interact is still under construction. There are typical transnationalization trajectories that corporate directors follow and these trajectories are largely defined by the geopolitical position of countries, language proximity, and historical ties between countries and regions. Between-regional ties are taking place, even though there is a strong within-region elite cohesion in almost any world region. Most beaten paths are bidirectional, meaning that regions are reciprocally connected by sharing corporate elite members but at the same time, each region has a small number of countries that obtain the key positions in attracting international corporate directors. Based on these findings, we conclude that the corporate elite network is not entirely global yet. This network is centralized around key central locations, accumulating a large proportion of all transnational corporate activities. This network has clearly identifiable structure and is characterized by determined regional patterns of the ongoing transnationalization. The presence of these patterns highlights that the generating mechanisms of this global network structure are predominantly regionally organized.

5. Conclusion

The goal of this chapter has been to better understand the ongoing process of corporate elite transnationalization and uncover directions of its generating mechanisms, taking the micro-level perspective of corporate directors' appointments. We asked what are the typical trajectories that corporate elite members follow on their way to expand the transnational network of corporate elite ties. Our empirical contribution lies predominantly in our novel data-driven

approach, using a large-scale temporal dataset, and the application of sequence analysis techniques to explore the behavioral patterns of transnational corporate elite members. Our theoretical contribution lies in putting micro-level behavioral patterns of corporate directors that drive corporate elite network expansion center stage. The study shows that by accepting new board positions, transnational corporate directors connect distinct geographical locations and business communities, and their behavioral patterns, that are visible in typical trajectories that they follow together, determine the current state of corporate elite transnationalization.

The findings reveal that corporate elites are indeed moving to a transnational plane, but this transition is not random but highly structured. There are six identifiable beaten paths that cross the corporate world and these paths are characterized by specific directions. The presence of these beaten paths demonstrates that the corporate elite is not entirely global yet: they are still organized along geographical borders, institutional characteristics, and cultural differences. We find that the majority of the transnational corporate elite connections remains concentrated in Europe and Northern America but the network increasingly expands to other regions as well. For instance, these are the groups of Asian countries that attract corporate elites and activities and have a potential to transform into new global business centers. The high level of regional clustering we uncovered indicates that the transnational corporate elite network is still organized along distinct regional communities, and while some individual directors are blurring the borders by accumulating inter-regional positions, there is a long way towards a completely globalized corporate elite. These findings confirm that the transnational corporate elite network remains fragmented, even though there is an ongoing emergence of inter-regional ties. In addition, the regional clustering of the transnationalization trajectories shows the importance of national elite communities that probably remain the key locations for corporate elites to meet and socialize, even though some of these elite members are gradually becoming more international.

Our study has a number of limitations that can be addressed in future studies. First, while we observe some higher-level properties of the transnational paths that corporate elites follow, the actual predictors of individual corporate

transitions are omitted from the analysis. In some cases these transnational ties are created as a result of individual reasons of corporate directors—for example, an individual accepts a position in a country with more developed institutions or in a company offering higher remuneration. In other cases, transitions will be the result of corporate decisions—for instance, an individual is appointed to be a board member of a new company, formed after the merger and acquisition. Differentiating these causes has not yet been done; doing so could provide new insights into the distinct transnationalization strategies of national businesses communities. Second, notwithstanding the unique nature of our dataset, we have not yet been able to analyze full career paths. With a growing number of open and rich datasets on corporate activities, future studies in time could be able to explore changes in the relative positions of specific countries and regions, taking even more detailed sources on corporate, individual, and country-level characteristics into account. Using additional information, it could be possible to ask why some national corporate elites are open to accepting others and seem to be more integrated into global business, while other elite groups remain highly interconnected in their regional borders and rarely accept outsiders on corporate boards. These differences might be explained by institutional characteristics of countries, the importance of certain sectors in the economy, cultural and language openness, or historical connections between different regions. As such we hope that our work can be a stepping stone towards an exciting new research agenda.

The findings of this chapter show that it might be early to speak about the truly global corporate elite, as the elite transnationalization process is highly structured along specific regional paths. The revealed regional patterns of elite transnationalization process emphasize the strong role of national elite communities. It indicates that country-level and regional-level elite networks remain significant places for elite socialization and action, and the transnational corporate elite network is currently under formation. This chapter also shows that the transnational corporate elite remains fragmented and consists of a number of elite groups, shaped around key world regions. In line with the previous chapter, the current chapter confirms that while the majority of corporate elite activities are concentrated in the Anglo-American core, there is a rise of novel regional elite groups. The next chapter presents a case study of a

Chinese corporate elite integration into European corporate boards as one of the most prominent examples of the national elite expansion process.

Chapter 3. Chinese corporations in Europe— Emerging networks of Sino-European corporate elite interlocks

* This chapter is an adaptation of De Graaff N., Valeeva D. (2021). Emerging networks of Sino-European corporate elite interlocks. Accepted for publication in *Development and Change*.

Abstract: Chinese investments into Europe have been growing exponentially in the past decade and are increasingly raising controversy. But although a lot of empirical data is available on the flows and stocks of these investments, we know very little about the loci of corporate power and control behind them. This chapter focuses on a domain where arguably substantive power of decision making and control regarding these investments lies: corporate boards. The key aim is to assess how Chinese boards are relating to the existing European corporate elite networks, to what extent do we find indications of integration through interlocking directorates, and whether the Chinese firms and directors are adopting converging patterns of transnational corporate elite formation and networking to those known from Western business communities. Based on business listings and databases and applying social network analysis, the chapter concludes that there are practices of both convergence and divergence amongst the boards of China's largest firms. Highlighting the contours of an emerging Sino-European corporate elite, the study shows both under-exposed areas of ongoing Sino-European collaboration whilst at the same time laying bare an area of potential influence of Chinese business elites at the top of Europe's corporations.

1. Introduction

The gradual integration of China into the world economy since its opening up in the late 1970s and in particular since its 2001 accession to the World Trade Organization (WTO) has also turned it into the second largest investor in the world (UNCTAD, 2019, p. 6), thus gaining increasing control over capital flows and production in world markets. In spite of a recent global slowdown, caused by, for example, an attempt of the Chinese leadership to control capital flight, an increasingly stringent review mechanism abroad (Kratz et al., 2020) and the Covid-19 crisis, Europe has in the past decade become a primary destination of these investments (e.g. Blanchard, 2019; Drahokouphil, 2017; Hanemann & Huotari, 2018; Meunier, 2019).

This has incited growing public and scholarly attention and debate, as well as political contestation (Hanemann & Huotari, 2015; Meunier et al., 2014; Pieke, 2020). In particular high-pitched investments in leading European firms (such as in high-tech) and crucial infrastructure (such as ports and railways) lead to concerns about the protection of intellectual property rights, the competitiveness of European firms, and national security. This is placed in the context of China's strategy to become more competitive, innovative and self-sustaining, aiming to capture the higher-end of the value chain. In addition, there is a fear of the potentially divisive effect of Chinese engagements with individual countries or regional frameworks such 17+1, which is seen to potentially threaten unity and joint foreign policy formulation at the EU level (Pieke, 2020). Underlying these concerns are the notion that the Chinese economy is driven by a distinctively different political system, with a one-party Communist state directing the (political) economy and still owning a large share of the industry (e.g. Kurlantzick, 2016), which is perceived—in particular from a Western perspective—as in conflict with liberal values (De Graaff et al., 2020).

In this study, we focus on a domain where arguably substantive power of decision making and control regarding these investments lies: firms and their corporate boards. By zooming in on the command centres of China's largest firms expanding to Europe, this study provides a novel perspective on the potential implications of Chinese economic engagements in Europe. Given the

strategic and societal urgency to better understand and cope with the growing influence of Chinese investments in the world economy and thus the “directive capacity for what is made, licensed and sold in world markets” (Stokes, 2014, p. 1083)—a steadily growing academic literature has emerged on Chinese outward foreign direct investments (OFDI). This scholarship on Chinese OFDI has generated a wealth of empirical data on the flows and stocks of these investments, analyzing *sectoral* and *national* trends (e.g. Clegg & Voss, 2011; Hanemann & Huotari, 2017; Zhang & Van den Bulcke, 2014), focusing on institutional and economic drivers and constraints (e.g. Brennan, 2011; Buckley et al., 2007; Ma & Overbeek, 2016; Sauvant et al., 2010; Witt & Lewin, 2007) and on the effects on firm performance, environmental policy and labour standards (e.g. Burgoon & Raess, 2014; Hanemann & Rosen, 2012).

Yet, in spite of this multitude of aggregate and case based empirical data, we still know very little about the loci of corporate power and control behind these investments. This is an important caveat. Strategy and decision making on investments is to a large extent located at the top of the corporate world, amongst corporate elites, and within the (trans)national business elite networks that they establish—mediated by the values and interests that they have. From the existing literature on corporate boards and elite networks in Europe we know there are extensive transnational networks of interlocking boards which creates business communities with a shared consensus and outlook in spite of the competing interests of individual firms (Heemskerk, 2011, 2013). The question at the heart of our study is how—with the expansion of Chinese investments and firms into Europe—Chinese business communities and networks relate to these incumbent networks. Are they converging on the patterns of elite formation and networking of Western business communities, and integrating into these existing networks of corporate directors and firms? Or are they establishing alternative networks? Or maybe both?

In this chapter we therefore take a different approach to studying the presence of Chinese corporations in Europe, by focusing on corporate boardrooms. We thus shift our gaze towards the firm level and, more particularly, to the people that are directing these firms. Rather than taking a case-based approach (as with regard to firm-level analysis others have done in various illuminating ways, e.g.

Drahokouphil, 2017; Knoerich, 2010) we look at the *interconnections* and *networks* established by and across these firms via their directors. We are however deeply aware of the fact that this agency takes place within an institutional and broader societal context in which not only firms and markets, but also the state plays a key role. Both domestically and internationally the state acts not only as a regulator, a protector of borders, laws, security and property rights (Van Apeldoorn et al., 2012), but also in the Chinese case—significantly—as an owner and a stakeholder, upon which we will elaborate below.

The chapter will proceed as follows. First, we provide our conceptual and methodological approach to this study in relation to existing literatures. Second, we explain step-by-step the methodological choices we made in terms of data collection and analysis. Based on data from business listings and databases, we identify the sample of the largest Chinese firms in 2018. We then employ social network analysis to map the ego-networks of the directors of these firms to subsequently select only the directors that have interlocks with European firms. Hence, we arrive at our selection of 141 directors from China's largest firms, connecting a total of 78 Chinese and 228 European firms, which we call 'Sino-European interlockers'. Building upon previous studies (e.g. De Graaff, 2014, 2019), we will then assess how the networks they establish are configured in terms of the kind of firms involved and personal characteristics of directors. We also trace the ego-networks of the big linkers in these emerging networks of Sino-European corporate elite interlocks, to assess in a more disaggregate analysis their wider corporate and societal networks, based on qualitative research. Finally, in the conclusion we will reflect upon these key findings, their implications and limitations, and suggest further avenues for follow up research.

2. A network approach to studying Chinese engagement with Europe

As the point of departure for this analysis we focus on the key corporate actors involved in the expansion of Chinese capital and its interaction with Western (European) capital: the actual firms, and the people in charge of these businesses, that is, corporate elites. With this focus, our study taps into a longstanding scholarship on national and transnational—indeed global—

networks of corporate control and ownership (Babic et al., 2019; Carroll, Heemskerk & Fennema, 2010; Heemskerk & Takes, 2016) and a tradition of what is also called *power structure research* (Domhoff, 2014; Murray, 2017; Van Apeldoorn & De Graaff, 2014; Winecoff, 2015; Young, 2015).

Power structure research has produced ample evidence of the existence of transnational networks of corporate power and control through the interlocking ties of directors across the world's major corporations (Carroll, 2010; Carroll & Fennema, 2002; Fennema, 1982; Heemskerk, 2013; Kentor & Jang, 2004) as well as through ties between corporations and so-called policy planning bodies such as think tanks, foundation, advocacy groups (Carroll & Carson, 2003; Carroll & Sapinski, 2010; Comet, 2019), and revolving door networks with US politics (De Graaff & Van Apeldoorn, 2011; Murray, 2017; Van Apeldoorn & De Graaff, 2014, 2016). These transnational networks have been interpreted as the signs of the emergence of a global corporate elite in the form of an Atlantic ruling class (Van Der Pijl, 1984); an international corporate elite (Fennema, 1982); or a transnational capitalist class (Robinson, 2004; Sklair, 2001).

Until recently, this scholarship on corporate and political elite networks has, however, been focused predominantly on the globalization of Western firms, and elite power structures in the US and Europe. One of the key reasons is the common focus of these studies on Fortune's Global 500 list of firms, which until recently did not include a large number of non-Western firms. With the rise of non-Western capital and emerging economies—China upfront¹—the question is mounting how their corporate elites and business classes are positioning themselves vis-à-vis these incumbent power structures. This has spawned a growing body of studies on how emerging elites from China and other non-Western countries are relating to these transnational corporate and political power structures (e.g. Babic et al., 2019; Cárdenas, 2015; Carroll & Sapinski, 2010; De Graaff, 2011, 2012, 2014, 2019; Starrs, 2017) to which the present study aims to contribute.

With this particular focus the study also aims to contribute to expansive scholarship on (South) East Asian transnational networks created by what is

¹ Notably, the Global 500 ranking during the past decade contained more and more Chinese TNCs, in 2020 amounting to a total of 124 firms. Source: <https://fortune.com/global500>.

coined ‘overseas Chinese’ (*Hǎiwài Huárén*) investors (e.g. Dahles, 2015; Nyíri & Tan, 2016; Todeva, 2007; Weidenbaum & Hughes, 1996; Yeung & Olds, 2000). These studies however tend to analyze a very different kind of business actor—smaller entrepreneurial networks, family businesses and start-ups—than the large powerful globalizing Transnational Corporations (TNCs) that are joining the ranks of the Global 500 and the corporate power structures at the apex of the world economy, which our study is interested in.

2.1. Conceptualising emerging Sino-European corporate elite networks

Chinese TNCs and capital expanding towards Europe is a key example of what can be conceptualized as a *South-North* relation. The latter arguably constitutes a novel kind of relationship (De Graaff, 2019; Meunier, 2019) that is distinctive from both the extensively studied *North-South* relations, and from the by now well researched *South-South* relations; the latter which has generated a multitude of studies on for instance Chinese investments in Africa (Brautigam, 2009; Lee, 2017), as well as the Latin American and Asian region (Brautigam & Xiaoyang 2011; Gonzalez-Vicente, 2017; Jenkins, 2018; Jepson, 2019; Nyíri & Tan, 2016)². Although there are previous historical examples of such *South-North* relations, for example the rise of Japan in the 1980s, which generated initial concern and alarmism amongst Western powers (Meunier, 2018, 2019), there are distinctive aspects with the contemporary phase of *South-North* relations, in particular pertaining to Sino-Western relations.

Indeed, the Chinese case has several unique traits (see also Meunier, 2019). First of all, it is a non-Western and Asian power that has the potential to not only become an economic world leader but is also militarily independent from the US, which poses a stark contrast with Japan in the previous example (the latter’s rise moreover took place in an era in which US hegemony was much less contested, e.g. De Graaff & Van Apeldoorn, 2018). Secondly, China has a distinctive political economy, which some label authoritarian capitalism (Redding & Witt, 2010), and others coin state-capitalism (Alami & Dixon, 2020), Sino-capitalism (McNally, 2012, 2019), or state-directed capitalism (Van

2 It can be questioned to what extent China can be qualified as a country from the global South, or an emerging country for that matter. Yet, within the often employed North-South division referred to in this context China would still rather belong to the South than to the North and it is precisely because it has recently become so powerful to reverse the flows of capital, investments, aid and development that this notion of South-North relations is interesting to further explore.

Apeldoorn et al., 2012). The *South-North* relation in this particular case therefore significantly entails the interaction with state-owned enterprises (SOEs) tied to the Chinese Communist party-state, as well as private enterprises which are tied to the party-state through the presence of party secretaries in the board structure and through personal affiliations (see De Graaff, 2019). Building on previous work (ibid.), the present study aims to contribute to this emerging field of *South-North* development relations, by focusing on the Sino-European relationship and the expansion and interaction of Chinese capital and elites within Europe.

As conceptualized in the power structure research tradition, one of the key means by which corporate elites are seen to establish social power structures is through overlapping corporate board member ties, or what is called ‘interlocking directorates’: linkages among corporations created by individuals who sit on two or more corporate boards. Collectively, these ties establish networks of interlocking directorates which, as Carroll aptly puts it: “link the key centres of command within the corporate economy” (Carroll, 2010, p. 7). Corporate board interlocks, from this perspective, provide elites with inter-organizational ties that may be employed for the exercise of economic power, that is, it can serve “instrumental purposes of capital control, coordination and allocation” and it can be a source of “strategic power [which] occurs at the level of structural decision-making and concerns the determination of basic long-term goals and the adoption of initiatives to realize those goals” (ibid, p. 7–8, also Carroll, 2014; Carroll & Sapinski, 2018). In addition, these interlocking ties may be a source of cultural-political power, establishing “expressive, cultural-political relations that build solidarity and trust among leading corporate directors” (Carroll, 2010, p. 8). Thus serving not only as “channels of communication among directors”, but also crucially, facilitating “a common world view” (Koenig & Gogel, 1981, in ibid, p. 9) and “the integration of potentially contradictory interests based on property ownership alone” (Soref & Zeitlin, 1987, in ibid, p. 9; see also Useem, 1984).

The literature in the power structure research tradition has extensively documented the transnationalization of national corporate networks established by such interlocking directorates. National business communities have been

transforming into an integrated global corporate elite network (Carroll, 2010; Robinson & Harris, 2000). Empirical evidence shows that this global network of interlocking directorates, has a strong northern transatlantic core and is structured over a few strongly connected network communities, that remained stable after the 2008 financial crisis (Heemskerk, Fennema, & Carroll, 2016; Heemskerk, Takes, Garcia-Bernardo, & Huijzer, 2016). The question that animates the present study is how the Chinese transnationalizing corporate elite is relating to these existing networks, with a particular focus on Europe. As the point of departure for our study we therefore take the interlocking directorates of the directors of the largest Chinese firms that are also on boards of European firms. On the basis of this sample, we will assess the nature and contours of this emerging Sino-European corporate elite network, the extent to which they are integrating into European corporate elite networks, and whether they are adopting converging patterns of transnational corporate elite formation and networking to those known from Western business communities.

3. Data and Methods

3.1. Data extraction steps

Our starting sample of Chinese firms is constructed from three sources: Bureau van Dijk's Orbis database, Fortune's Global 500 list and the Forbes 2000 list in 2018. Given that our research aims to shed light on the top layer of China's globalizing business elite into Europe, it is in first instance within the group of the largest corporate players that we expect to find the most relevant patterns. Small scale shop keepers, family enterprises such as restaurants, online vendors, and start-ups are not part of the kind of global corporate power structures and elite networks this research is investigating.

As a first step, we therefore extracted the largest Chinese firms from the Orbis database in December 2018³. Because most firms have nested corporate structures, we take as a main firm those entities that are the global ultimate owners of the corporate group⁴. Subsequently, we used Fortune's Global 500

3 The largest firms are defined as corporations with operating revenue of more than 10 billion US dollars.

4 The global ultimate owner of a company is a controlling shareholder (directly or indirectly owning at least 50.1% in shares) that is not owned by any other company.

and Forbes 2000 lists in 2018—which are commonly taken as the starting point for research on corporate elite networks because they rank the world’s largest firms—to complete our initial data selection from Orbis with more Chinese firms from these lists⁵. The intersection between Orbis, Fortune’s Global 500, and Forbes 2000 datasets is high, but combining all of these data sources makes the comprehensive sample of Chinese largest firms, representative in terms of various company sectors and industry types⁶. The list of Chinese firms that have been selected for the analysis is available as an Online Appendix at the Open Science Framework website: <https://osf.io/93bjn/>.

After a few cleaning steps to this selection of Chinese firms (erasing duplicates, merging subsidiaries into one parent firm, tracing changes in firm names), we extracted from Orbis data on individuals who obtain positions on boards of directors, supervisory boards, or executive boards of these Chinese firms. The most common approach would then be to look at the interlocks within this sample. We are however interested in the interlock ties that these directors may create with European firms. We therefore applied an ego-network design and subsequently mapped all the board interlock ties of these directors with any other firm, to then select only on those that established interlocks with European firms. We subsequently cleaned the data manually, removed dormant ties, duplicates, and ties to foreign subsidiaries⁷, which reduced the number of ties and directors significantly⁸. The final data set that we arrived at and analyze in this chapter consists of 141 directors from China’s largest TNCs, who connect boards of 78 Chinese and 228 European corporations by a total of 403 board interlock ties, we refer to them in this chapter as ‘Sino-European interlockers’. It should be noted that this sample thus excludes other types of transnational interlocks such as (other large) European firms that interlock with other Chinese boards. It also excludes other transnational interlocks of the selected firms with countries outside Europe. In that sense the analyses below do not provide the full scope of Sino-European corporate board interlocks, nor of all the

5 Fortune’s Global list ranks firms based on their revenue while Forbes 2000 list uses a mix of four key corporate metrics (sales, profit, assets, and market value) to rank global firms.

6 For example, in the Orbis data set, due to our selection criteria based on the highest operating revenue some influential tech firms are underrepresented.

7 In Orbis these are registered as distinctive directorships but when these overlapped with a directorship position at the parent firm we merged the two since this does not formally establishes an interlock between two different firms even if it may be an indication of the directors’ internationalization/ international exposure and experience.

8 The number of ties decreased by nearly 60%.

transnational interlocking of Chinese major firms across the globe. But it does give an insight into the extent and nature of Sino-European corporate board interlocking by China's largest firms.

3.2. Methodological approach

For our analysis we employ a mixture of qualitative and quantitative approaches. Our primary approach is social network analysis, or SNA (Scott & Carrington, 2011; Wasserman & Faust, 1994). SNA at its core is about the systematic analysis of relations between units, hence providing a pertinent point of departure into studying elite networks. Social networks consist of nodes and ties (usually called 'edges' in SNA parlance). Nodes can be diverse types of actors (including people, organizations or other entities) and ties can represent all kinds of relationships (friendship, professional relations, citations). One relevant distinction that is made in SNA is between one-mode and two-mode networks. One-mode networks consist of the same types of actors and ties between them (for instance, ties between individuals within one organization), while two-mode networks have two types of actors and ties occur between these two types of actors (for example, ties between individuals and different events or organizations). Our initial network is a two-mode network of individuals and firms that we can also transpose into different one-mode networks (firm-by-firm and individual-by-individual networks) and analyze separately. The projection of two-mode board interlock networks into a network of firms and a network of individuals is a common approach to investigate connections between actors in corporate elite studies (Valeeva et al., 2020).

To analyze the positions of nodes and power relationships in corporate and political networks, the SNA approach applies measures like centrality (Winecoff, 2015). Degree centrality is the most basic centrality measure which simply denotes the number of ties that a node has. A central node in the network is assumed to hold an influential position in the network and to be in the center of the resources and information flows. However, SNA measures—like centrality—can only uncover potential indications of power and influence, which then need to be followed up by additional qualitative analysis in order to assess the actual implications of these relational patterns (see also Mizuchi,

1996)⁹. Another relevant concept from SNA that we employ in this chapter is ego-networks. Ego-networks are subsets of the full network that represent the direct neighbours of a particular node (a firm or an individual) of interest. In the chapter, we use an ego-network design to map all the interlocking directorates of each individual director in our sample of largest Chinese firms to then extract the selection of Sino-European interlockers. In addition, we will investigate the ego-networks of a selection of exceptionally big linkers, or directors with five or more positions.

Finally, we apply the concept of network brokers to describe positions of individual directors in the Sino-European board interlock networks. Brokers are significant actors in social networks that connect otherwise disconnected parts of the networks (Burt, 2004, 2009). Network brokers serve as bridges between these sparsely connected network parts and they are in the center of key information and resources flows within the network. There are quantitative measures of the brokerage positions (see e.g. Gould & Fernandez, 1989), but in this chapter we apply the concept to describe the relative positions of actors rather than conducting formal brokerage analysis.

Below, we will analyze the networks of our sample of 141 Sino-European interlockers. We will first investigate the firm networks they establish, including their corporate sectors and ownership types. Second, we analyze the properties of the network of directors themselves, and investigate the ego-networks of exceptionally big linkers. The network measurements and visualizations were done with the social network analysis software Gephi (Bastian et al., 2009) and Netdraw (Borgatti, 2002).

9 SNA can be employed for a wide range of quantitative analyses. The usefulness and validity of those depend on the research questions, the design, and the data. In the case of our study, the ego-network design that we apply by extracting only ties created by Sino-European interlockers has consequences for the evaluation of the global network structure. Hence we employ SNA more as a descriptive and visualizing tool that helps explore and describe the structures and patterns of elite formation in the emerging Sino-European networks.

4. Results

4.1. Firms

We present a one-mode firm-by-firm network of interlocks between Chinese and European firms in Figure 1. The ties between the firms (nodes) here thus represent the interlocking directors (which themselves are not shown). What the visualization reveals is a sparse network which contains many components, which is the result of our ego-network design, aimed at investigating an interlock network of the largest Chinese firms (the black nodes) with European boards (the white nodes). Among the firms with most connections is CK Hutchison Holdings, a Hong Kong based conglomerate registered in the UK (offshore, Cayman islands), with an annual turnover of around 56 billion USD, globally operating in more than 50 countries and five key sectors: ports, infrastructure, retail, energy and telecom.

As the second most central firm we find Jardine Matheson, another Hong Kong based global conglomerate registered in the UK offshore (Bermuda) which is controlled by the wealthy Keswick family—a trading dynasty—and has its roots going back to 1832 when it was founded in then Canton as one of the earliest foreign large trading houses (*hong's*) of that time¹⁰. Other relatively big Sino-European linkers are also financial groups and investment companies such as Hong Kong based AIA Group (of American origin), Fosun International, China International Capital, banks such as China Construction Bank, a real estate company Sunac China, a large energy trading company Noble Group, major automobile and transport groups China International Marine Containers, BAIC Motor and Sinotruk Hong Kong, and tech-giants Alibaba and Tencent holdings.

10 Although we manually deleted as many redundant and duplicate ties as possible, including foreign subsidiaries, it was not possible to screen and correct for all the sometimes rather opaque and complex ownership structures. In particular in the case of big financial holding conglomerates like Hutchison and Jardine we will therefore still have remnants of such ownership ties in our sample. This partly explains why these firms have relatively many Sino-European interlocks. It should be noted that the control and influence of such interlocks have different implications from interlocks between independent firms.

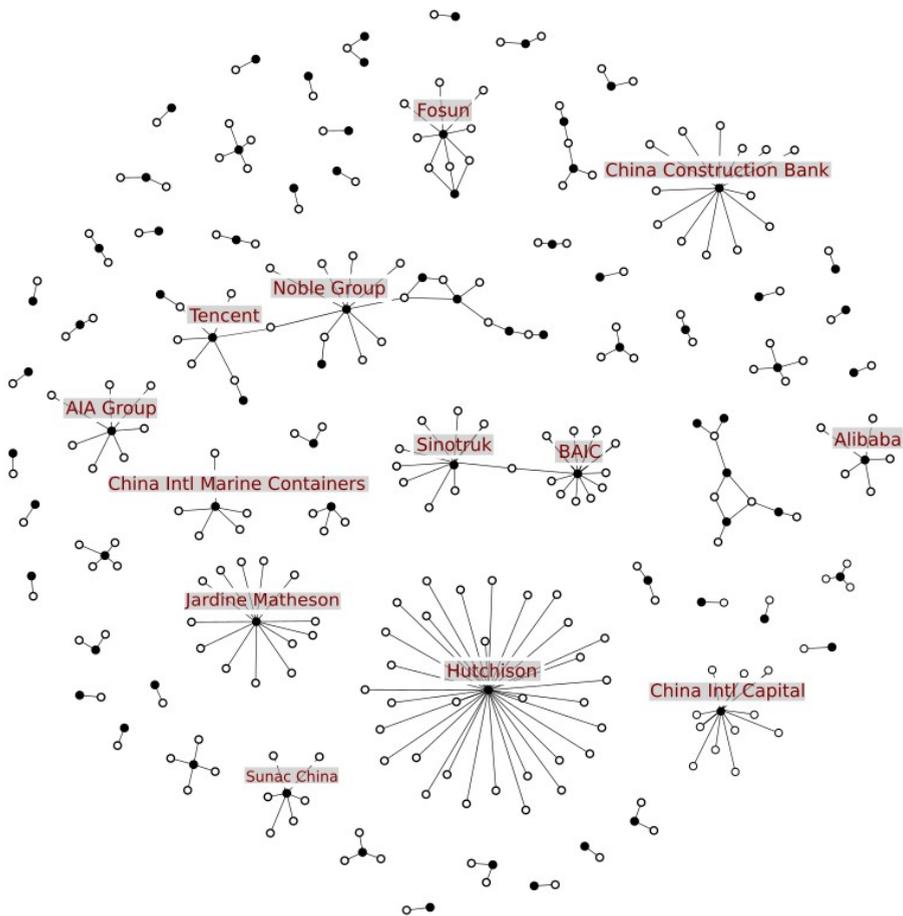


Figure 1. One-more network of Sino-European interlocks between Chinese and European firms. Only Chinese firms with more than five interlock ties are labeled. White nodes are European firms, black nodes are Chinese firms. Source: visualization by the authors based on the Bureau van Dijk dataset.

The European firms in our sample in general display significantly less interlocking ties because of our particular selection procedure (where the starting point was a selection of Chinese firms from which we branched out to European firms through the former’s board directors’ ego-networks). The picture that emerges from the European firms that are linked to the

exceptionally big interlockers (see Figure 3) does however show a selection of well-known European TNCs in a diversity of sectors (though mostly in energy, finance, and transport) such as Total, Royal Dutch Shell, Rothschild & Co, Lloyds Bank, ING, Ryan Air, KLM, Skyscanner, Eurotunnel, Volkswagen, Ferrari, Scania, Porsche, MAN, Daimler, Deutsche Messe, and Bertelsmann. This is interesting because it seems to indicate the partial bridging of the Sino-European interlockers on China's largest boards with the top of Europe's corporate elite. Below, we will look into the characteristics of these firms, in particular their ownership types and sectoral composition.

Sectoral composition

The sectoral distribution of these firms is shown in Figure 2 in a comparative way based on NACE codes. What appears from this sectoral distribution is that Chinese firms in our network sample are more dominant in manufacturing, real estate, and energy (mining, quarrying, electricity), whereas European firms are more prevalent in services (consultancy, professional, administrative and so forth). They are equally present in finance, IT, transportation and construction activities¹¹. This complementarity is interesting to find in light of the propositions made elsewhere on China's attempts at moving up the value chain and acquiring more knowledge and expertise in the field of services and management. The interlocking board ties of Chinese firms via directorships with European firms presented here may aid in the transfer of such knowledge and complementary skills. It may hence be a strategy on the part of Chinese directors to interlock with firms that have these complementary resources and assets. Such propositions would need additional research in order to learn about the driving forces and possible strategies behind these interlocks. The predominance of finance is not surprising, but does indicate that also in China the financial sector is particularly transnationally oriented and relatively more transnationally integrated—through Sino-European interlocks in this case.

11 For 15% of the sample Orbis did not provide a sector code.

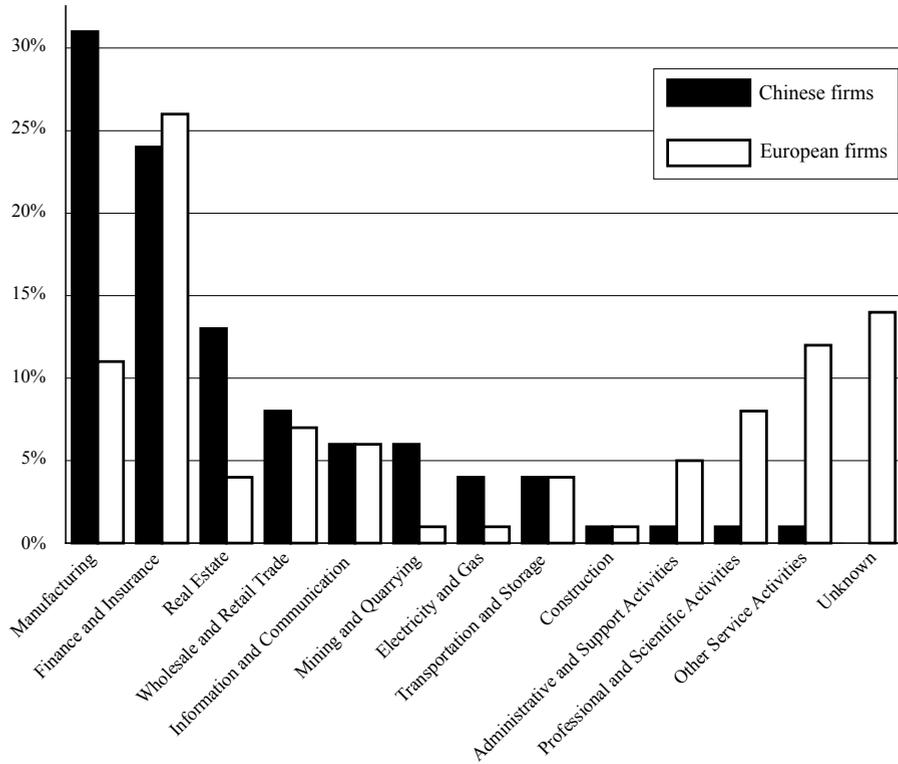


Figure 2. Sectoral distribution of the interlocking Chinese and European TNCs. Sectoral division is based on NACE codes (The Statistical Classification of Economic Activities in the European Community): <https://ec.europa.eu/eurostat/ramon/>. Source: visualization by the authors based on the Bureau van Dijk dataset.

Ownership types

As discussed earlier in this chapter, a characteristic of Chinese firms—and one of the key concerns from the part of Western observers, which arguably increases their ‘liability of foreignness’ (Zaheer, 1995)—is their ‘statist’ nature, the idea that they are either state-owned or otherwise state-controlled. In spite of the state-led nature of the Chinese economy and the fact that a large share of its industry is still state-owned (Kurlantzick, 2016), research has however started to

highlight the increasingly hybrid nature of China's globalizing capital (De Graaff, 2019; Meunier, 2019; Milanovic, 2019; Kratz et al., 2020; Ten Brink, 2019). In order to assess how this applies to the Chinese firms in our sample we applied a manual coding of their ownership types. Ownership structures and control when it comes to Chinese SOEs has been subject to continuous reform since the early 1980s and is far from straightforward (for a recent overview see Lin et al., 2020). For instance, it is common practice that Chinese SOEs have a large listed subsidiary. While this subsidiary (which can be massive corporations in terms of scope and size) is majority state-owned¹², it has a more hybrid set of shareholders (state and private), a partially different board membership, and needs to comply with different kind of corporate governance practices than the SOE parent. We coded our selection into four categories: fully state-owned (SOE), partially state-owned (i.e. including the listed SOEs), public, and private. We found that for 47% of the cases presented here indeed the listed firm had a state-owned parent, 44% are public firms, 6% full SOE's and 3% private firms.

The sample of Chinese firms connected by Sino-European interlockers thus has a roughly equal share of firms that are being directly and indirectly state-owned and partially controlled and firms with no state-ownership or direct state control. This finding confirms a trend of hybridization of China's globalizing capital, with those firms at the frontier of externalisation not only integrating with European corporate networks through board interlocks but also representing a hybrid mixture of listed entities, private entities, and listed entities belonging to state-owned capital (see also e.g. De Graaff, 2014, 2019). However, as discussed elsewhere (*ibid.*), it should be noted that also in the case of private firms this does not necessarily imply a lack of state interference, given the essentially state-directed nature of the Chinese political economy. In that sense, it may even point towards a dualism, where on the one hand a transformation of Chinese capitalism into more liberalized and Westernised forms is taking place—which also allows it to align with existing capitalist structures, markets and networks—while on the other hand it retains party state control.

12 A telling example is Petro-China, the listed subsidiary of the National Oil Company China National Petroleum Corporation (CNPC), which at the height of the oil price spike in 2007 had the world's largest market capitalization, eclipsing then world-leader Exxon Mobile (Waerden, 2007).

4.2. Directors

We now move from the characteristics of the firm network connected to our Sino-European corporate interlockers to the directors themselves. Below, we first look at the composition of this set of Sino-European interlockers in terms of their nationality and gender¹³. It stands out that although our sample has a diverse composition in terms of nationalities (see Table 1), the gender diversity in this Sino-European corporate elite scores much worse, with only 9% female directors. This is low compared to the average number of women on boards in the UK (around 15%), the Netherlands (14%) and the US (16%), and very low compared to Scandinavian countries (between 25–40%), and thus points to a lack of emancipation and diversity in these networks (Heemskerk & Fennema, 2014).

In terms of nationality of the Sino-European interlockers, we find that 59% in this sample have a Chinese nationality (of which 16% Hong Kong based), 6% is unknown, and 35% is not Chinese (see Table 1). In the sample of non-Chinese directors we find a majority of European nationalities—with in particular the British nationality being predominant—but also a substantive number of American directors, directors with Asian nationalities other than Chinese (Taiwan being a delicate case here of course), and individuals from Canada, Australia, Brazil, and South Africa.

The finding that the set of Sino-European interlockers which all hold a seat at China's largest firms connecting with Europe has such an international composition is interesting because it seems to indicate first steps of integration with non-Chinese directors at Chinese boards serving as brokers or bridges to existing global corporate elite networks, connecting sparsely connected business communities (Burt, 2004, 2009). On the other hand, the fact that a majority of the Sino-European interlockers are Chinese shows that the latter are also establishing such transnational interlocks, thus seem to be converging on the practices that are common to Western globalizing business communities (see also De Graaff, 2019). Moreover, if the earlier discussed propositions in the power structure research literature have any bearing on these emerging

13 We used Orbis (2018) data for this analysis. Although nationality and gender data is sparse in Orbis in general, it is relatively high quality for individuals on corporate boards of the largest global firms, which we analyze in this paper.

corporate elite networks then this would imply that these interlocks provide these directors with inter-organizational ties that entail economic power, not only to instrumentally control, coordinate and allocate capital, but also ‘strategic power’ at the level of structural decision making and long-term planning (Carroll, 2010, p. 8) across corporate China and corporate Europe. In addition, this would be a fruitful basis for cultural-political relations of solidarity and trust (ibid.).

Table 1. Nationality of Sino-European interlockers.

Country of nationality directors	Number of directors	Percentage
China	60	43%
Hong Kong	23	16%
UK	20	14%
US	5	3%
Europe: Germany, Sweden, Netherlands, Italy	8	6%
Canada, Australia	7	5%
Asia: Japan, Malaysia, Thailand, Taiwan, Singapore	7	5%
Other: Chile, Brazil, South Africa	3	2%
Unknown	8	6%
Total	141	100%

Source: calculations by the authors based on the Bureau van Dijk dataset.

This indicates that there is a base for intra-elite consensus building along these lines within the cohort of Sino-European corporate elites that direct China’s largest firms expanding into Europe. At the same time, it points to a yet underexposed potential area of Chinese influence and power within Europe. While there is a lot of attention on the acquisitions and mergers of firms and other types of investments, these inter-organizational ties of Chinese and non-Chinese corporate elites situated at the top of both Chinese and European firms may yield influence on corporate and economic decision making and planning that reaches beyond the boardrooms of the individual Chinese TNCs.

These propositions would need further investigation and additional qualitative research, but what they do reveal is that opening up the black box of Chinese firms investing in Europe and investigating the properties of the networks of people and firms thus derived, generates surprising results which counter the public narrative of a closed, idiosyncratic, and monolithic bloc of corporate elites-cum-state managers linked to the Communist Party of China (CPC), and shows the much more diverse and internationalized (Westernized) composition of the directors at the helm of these firms. At the same time, it lays bare a realm of potential economic influence for Chinese corporate elites that has so far remained out of sight. In the next section we will explore more in-depth some of these individuals and their networks in order to provide more insight into their profiles.

An inner circle of Sino-European (exceptionally) big linkers

In order to get to a more granular analysis of the Sino-European interlockers and their interconnections, we will in the subsequent part of the chapter distinguish the directors in our sample with a relatively large number of positions. Such ‘big linkers’ are usually seen in the literature to have the potential to wield more influence because they are more centrally located (e.g. David & Westerhuis, 2014; Heemskerk & Fennema, 2009)¹⁴. Useem (1984) along similar lines conceptualized what he called the ‘Inner Circle’ of corporate elites that would hold board positions not only in corporations but also in other organizations (such as policy planning and non-profit) and in government. This inner circle is proposed to be highly cohesive, share common goals and interests, and have the capacity to shape corporate governance beyond the individual firms and into other—more public—realms of society.

Within our sample, 50% of the directors with a Chinese and Hong Kong Chinese nationality have at least three interlocking directorates—and thus qualify as big linkers—which is an interesting finding indicating that the Chinese directors are adopting such elite formation practices. However, that sample is too large (>60 in total) to provide a full biographical ego-network

¹⁴ There is no established agreement in the literature on empirical identification of big linkers in board interlock networks. For instance, Useem (1984) identifies big linkers as those individuals who hold two or more directorships, more recent literature takes three or more positions as a boundary to detect big linkers (David & Westerhuis, 2014).

mapping for (i.e. including other than corporate ties and over a longer time span, see De Graaff, 2019 for an example). Hence, we narrowed down our sample to the ‘exceptionally big linkers’, referring to directors with five or more directorships (following De Jong et al., 2019). When zooming in on the exceptionally big linkers, we find this top-tier to be dominated by European directors, with only two Chinese directors, of which one comes from Hong Kong (see Table 2).

Table 2. Exceptionally big linkers in the Sino-European corporate elite.

Directors	Number of Interlocks	Nationality	Age	Gender
Ms Edith Shih	11	Great Britain	65	F
Mr Peter Keith Levene	10	Great Britain	75	M
Mr Andreas Hermann Renschler	9	Germany	59	M
Mr David Bonderman	8	US	75	M
Mr Hing Lam Kam	7	China (HK)	71	M
Mr John Raymond Witt	6	Canada	54	M
Mr Adam Phillip Charles Keswick	5	Great Britain	44	M
Mr Bodo Knut Uebber	5	Germany	58	M
Mr Kai Xiang Liu	5	China	47	M
Mr Willem Kok	5	Netherlands	79	M
Ms Woo Mo Fong, Susan Chow	5	Great Britain	64	F

Source: calculations by the authors based on the Bureau van Dijk dataset. Note that Mr Willem Kok passed away in October 2018.

Looking at this particular sample will give us some more detailed insight into their interlocking practices and wider societal, economic and political networks. Hence, we first created a two-mode network of all the ego-networks of this selection of exceptionally big linkers combined, looking only at interlocking directorates, which is shown in Figure 3.

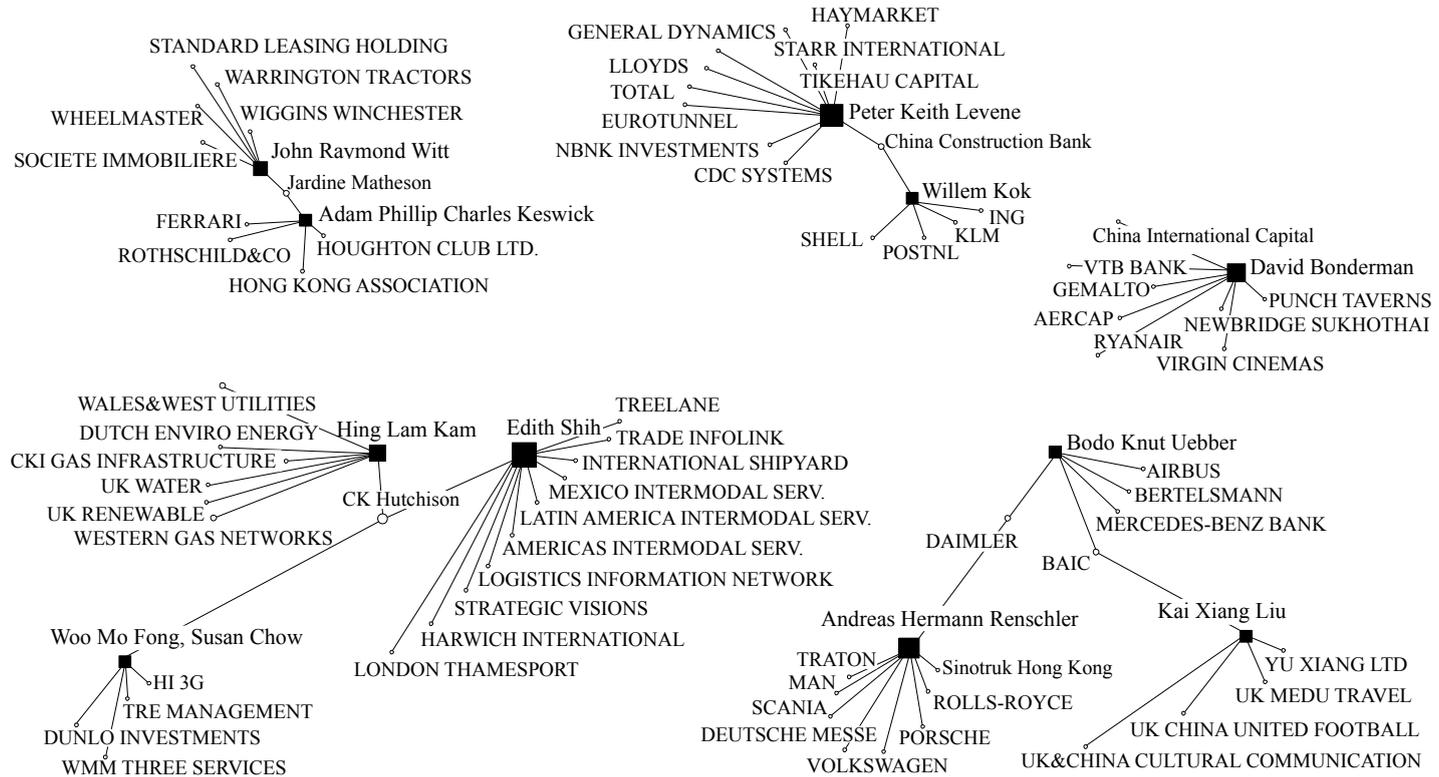


Figure 3. Ego-networks of exceptionally big linkers (more than 5 interlock ties). Source: visualization by the authors based on the Bureau van Dijk dataset.

The black nodes in this network are the directors and the white nodes are the firms at which they hold a board position, the size of the nodes expresses the degree centrality¹⁵, ties denote a Sino-European interlock. We find here, as earlier discussed, some of the major European TNCs such as Shell, Total, Lloyds, ING, Volkswagen, Scania, Rothschilds, Ryanair, Daimler and Bertelsmann. As is proposed by the literature on Inner Circle directors and big linkers, our data suggests that this sample of Sino-European interlockers does indeed create a structure through which information can circulate and forms a basis for social cohesion and the potential exercise of strategic power across Chinese large TNCs and a wide selection of European firms, amongst which many flagship European multinationals.

This seems to apply mostly to the non-Chinese directors, which hence should be seen as potential brokers and interlocutors with their Chinese counterparts. By creating bridges between their European business communities and the Chinese corporate boards they may stimulate the dissemination of business practices from and to both corporate worlds (Burt, 2009; Granovetter, 1973). Inviting such European big linkers to Chinese boards may hence also be a strategy on the part of Chinese firms to interlock with European firms, but that is a proposition that needs to be verified by additional research. It should be noted here that, as mentioned, Chinese directors do make up 50% of the total number of big linkers in our sample, the Inner Circle in effect is thus both larger and made up of more Chinese directors than the analysis above indicates.

In addition, big linkers according to the literature described above, are expected to be in a position to influence decision making and governance in more public realms of society, such as policy planning, think tanks, politics and education. While we could not conduct a full analysis on these additional ties for the full selection of big linkers we do sketch the profiles of a selection of these big linkers, based on their published biographies on organizational websites, databases, and business reporting (see Table 3).

15 Degree centrality (size of the nodes) here represents the relative number of ties *within this selection* of exceptionally big linkers only (i.e. only the firms and their ties in this particular sample are used to calculate the degree centrality).

This qualitative evidence supports the above propositions. As indeed in many cases these directors do not only hold ‘exceptionally many’ corporate board positions at the same time, but also throughout their career held positions in policy planning and governance organizations, such as the Chartered Governance Institute (Edith Shih) and the Berlin Center for Corporate Governance (Bodo Knut Uebber); in politics (for example, Wim Kok, who even was prime minister of the Netherlands, Peter Keith Levene, who was Mayor in London and top level advisor in the UK Ministry of Defense, David Bonderman who in the past was special assistant to the US attorney general), and prominent university positions (Kai Xiangliu). An in-depth analysis of the (exceptionally) big linkers along these lines falls beyond the scope of this chapter (for an example see De Graaff, 2019) but would be needed to establish whether such propositions can be further generalized, i.e. to what extent and how these ties are employed to influence decision making and governance in wider society.

Table 3. Selected profiles of exceptionally big Sino-European linkers with more than five interlock ties.

Name	Profile
Edith Shih (CK Hutchison)—British (HK)	Trained as a corporate lawyer and with a career in investment banking prior to joining CK Hutchison (then Hutchison Whampoa) in the early 90s, aside from her role as executive director in the Hutchison conglomerate and her many corporate interlocks, holds several leading positions in policy planning and governance organizations such as the Chartered Governance Institute, The Hong Kong Institute of Chartered Secretaries (HKICS), Governance Committee of the Hong Kong Institute of Certified Public Accountants, the Financial Reporting Council, and the Securities and Futures Appeals Tribunal.
Wim Kok (China Constructio n Bank)—Dutch	Was a Dutch former high-level politician, former leader of the Dutch Labor Party, as well as prime minister and finance minister of the Netherlands. He is a typical example of an Inner Circle big linker and revolving door elite, since after his political career he held many corporate directorships at major Dutch multinationals such as Shell, Unilever, and

	PostNL.
Peter Keith Levene (China Construction Bank)—British	Also combined an expansive top-level corporate career with high-pitched political and policy planning positions such as Mayor, Alderman and Sheriff of London in the 1990s, Chairman of the Defense Reform Group, personal advisor and chief of defence procurement for the UK Ministry of Defence, UK National Armaments Director and Chairman of the European National Armaments Directors. He also served in government as advisor to the Secretary of State for the Environment, and to the President of the Board of Trade and the Chancellor of the Exchequer. His corporate board positions (have) include(d) Docklands Light Railway, Canary Wharf, and Sainsbury.
Kai Xiang Liu (BAIC Motor)—Chinese	Is a prominent law professor at Peking University Law School, has worked as an arbitrator of China International Economic and Trade Arbitration Commission, Beijing Arbitration Commission, Singapore International Arbitration Institute, and is executive director at several professional and research societies such as the Civil Law Research Association of China Law Society, the Civil and Commercial Law Research Society.
Bodo Knut Uebber (BAIC Motor)—German	Holds several leading positions in research and policy planning bodies such as being (former) Chairman for Berlin Center of Corporate Governance, member of the executive committee and board of directors of the German Stock Institute (Deutsche Aktien Institute), member of the investment advisory board of the German Stifterverband. He previously also was a Chairman of EADS (European Aeronautic Defense and Space Company N.V.) and held several prior corporate positions in defense and technology firms before joining Daimler.
David Bonderman (China International	Is a US multi-billionaire business magnate. Trained in law, and after a stint in university and a political position as special assistant to the US attorney general, he joined a corporate law firm and subsequently developed an expansive

Capital)— American corporate career, founding what now is TPG Capital, a large private equity firm with >100 billion USD in assets, in the early 90's and holding directorships at tens of major US TNCs, including Uber, Continental Airlines, Virgin Cinemas, Burger King, and American Savings Bank. He also serves on boards of numerous foundations and non-profit organizations.

Source: CK Hutchison: https://www.ckh.com.hk/en/about/directors_details.php; Dutch Parliament: https://www.parlement.com/id/vg09lloazsxy/w_wim_kok; Forbes: <https://www.forbes.com/profile/david-bonderman/#3fc43c832fce>; Peking University: <http://115.27.240.43/faculty/faculty1/21745.htm>.

5. Conclusion

In this chapter we set out to study the presence of large Chinese corporations in Europe from a novel perspective, by focusing on corporate board room interlocks, aiming to address this gap in the extant literature on Chinese corporate engagements in Europe. We analyzed the nature and composition of the firm and director networks established by what we identified as emerging Sino-European interlockers. In particular, we were interested in how these 'transnationalists' at Chinese major TNCs are relating to the existing corporate elite networks in Europe, as the latter have been extensively studied in the *power structure research* literature reviewed in this chapter.

A number of findings stood out. With regard to the firms connected to this selection we found that it contains predominantly public firms, with only a very small contingent being SOEs or private firms, yet with an evenly large share of major listed SOE subsidiaries. This on the one hand seems to confirm the hybridizing trend of China's transnationalizing capital also established in earlier studies and contrasts the popular image of SOE predominance in China's corporate presence in Europe / abroad (see also Kratz et al., 2020). At the same time, this finding illuminates the two faces of China's transnationalizing capital, the latter which retains a directing and controlling role for the party-state, while at the same time converging to capitalist and westernized practices (see De Graaff, 2014, 2019). This intricate balancing act poses severe challenges to both

the Chinese and the European leadership, the struggles over Huawei and the purported accompanying (national) security threats with its involvement in critical communication infrastructure—are a case in point. Similarly, these concerns will undergird the fierce political struggles that are still to follow on the ratification and potential implementation of the newly closed Comprehensive Agreement on Investments (CAI) between the EU and China.

Underlying this debate rages a competition over technological leadership and strategic autonomy. In that regard we found some interesting sectoral variation between the Chinese and European firms in the sample, with the former being more prevalent in manufacturing, real estate and energy, while European firms prevailed in the services, consultancy and administrative sectors. This, we suggested, may point to an opportunity for knowledge transfer for the Chinese industry in order to move up the value chain, not only through the much debated investments, mergers, and acquisitions, but also via these less visible and scrutinized interlocking directorates. Our study cannot with any certainty verify whether these interlocks are indeed partly driven by such strategic concerns, but it would be an exciting avenue for further research. Such a follow up study could include both a wider sample (for instance also including the interlocks established by directors on Europe's largest firms, or interlocks with other regions) and other kinds of qualitative analysis (e.g. interviews, surveys, or document analysis).

Our key findings with regard to the directors themselves revealed the 'transnationalist' at the helm of China's globalizing capital to have quite a diverse international composition, with as many as 35% having a nationality other than Chinese, and with a majority of those having a European nationality. This is in line with earlier findings (De Graaff, 2019) and on the one hand confirms these transnationalizing corporate elites to be a very different kind of business elites from the well-researched transnational networks in (South-East) Asia. At the same time this shows that many Chinese directors are establishing Sino-European interlocks and in that sense seem to be adopting some of the practices we know from the transnationalists within Western business communities. From the literature on transnational corporate elite networks we know that such interlocks provide elites not only with economic power on

decision making and long term planning across firms—in this case across Chinese and European firms—but also can serve to build solidarity and trust, facilitating a common worldview and integrating contradictory interests based on ownership.

The emergence of these Sino-European interlocks, established by both Chinese and European directors may thus point to an emerging Sino-European elite network and a base for integration and calibration of interests, perspectives, and values. In particular, we found a selection of (exceptionally) big linkers—directors that establish many corporate interlocks while also having (held) influential societal positions in politics, policy planning and education—which could have crucial roles as brokers in this context, channeling communication and bridging the Chinese and European business elite communities. In the emerging climate of distrust and caution these networks could hence act as a moderating or counterbalancing force. At the same time this reveals a realm of potential influence of Chinese corporate elites in European economies and industries that so far has remained out of sight.

These findings should be followed up with systematic qualitative research, including interviews and in-depth document analysis, to gauge their implications and test the above assumptions. What the current study has contributed is to illustrate the value of unpacking the black box of Chinese firms connected with European firms and focus on their centres of command. This has revealed patterns of corporate networking and hitherto unexposed interconnections amongst the directors of China's largest firms expanding abroad and the Sino-European corporate elite networks that seem to be emerging in its wake. We hope to have shown that in further analysis and conceptualization of the particular features, drivers, and implications of the South-North relation that this chapter suggested China's corporate presence in Europe is part of, this dimension is worth including.

This chapter focused on transnationalizing corporate board interlock networks and demonstrated the similarity of strategies, applied by Chinese and European directors and corporations to integrate into international business communities. The key findings of this chapter show that while national contexts play a role

for determining elite behavior and actions, there is a similarity of practices, applied by various corporate elite fractions to transnationalize. In this chapter, we investigated the practice of establishing transnational board interlock ties that make corporate boards the key places for elites from different regions to meet. It means that while the global corporate elite network remains highly fractured, there might be a practice adaptation that is taking place across different parts of this network. This practice adaptation can be the first step towards more globalized corporate elite, less fractured, and more coordinated in interests.

This chapter analyzed firm-by-firm and individual-by-individual networks separately, while both types of actors contribute equally to the increasing transnationalization of the corporate world. The next chapter explores the network building strategies of individuals and corporations in board interlock networks in a more nuanced way, taking into account this duality of actors within corporate networks. Having established that national elite contexts matter for corporate elite transnationalization strategies, the following chapter continues exploring the significance of national contexts, by focusing on a case of the Danish corporate elite.

Chapter 4. The duality of firms and directors in board interlock networks

* This chapter is an adaptation of Valeeva, D., Heemskerk, E. M., & Takes, F. W. (2020). The duality of firms and directors in board interlock networks: A relational event modeling approach. *Social Networks*, 62, 68–79.

Abstract: The long tradition of scholarly work on corporate interlocks has left us with competing theoretical frameworks on the causes of interlock networks. Board interlocks are studied either as a means to overcome the resource dependence of corporations or as a group cohesion mechanism of business elites. This contrast is due to an empirical divide of the literature, where either the firms or the individuals are considered as decision-making bodies. In systematically ignoring the agency of the other group of actors, these literatures suffer from both theoretical and empirical biases in understanding the drivers of new interlocks. In this chapter, we employ a novel network modeling technique that allows us to overcome this problem. Analysis of board appointments in Denmark demonstrates how in fact both personal and corporate considerations simultaneously drive the evolution of the corporate networks. The study of the duality of actors is essential for understanding the causes and consequences of corporate networks across time and space.

1. Introduction

Interlocking directorates, where corporate directors hold positions on the boards of more than one firm, have been a focus of interest in a wide range of scholarly fields (Mizruchi, 1996) as the social structure underpinning corporate elite cohesion (Chu & Davis, 2016; Heemskerk & Takes 2016), as a set of strategies for firms to overcome resource dependencies (Hillman et al., 2009), as an infrastructure for the diffusion of corporate governance practices (Shropshire, 2010) or organizational learning (Tuschke et al., 2014), and as part of the institutional ensemble of particular varieties of capitalism (Cárdenas, 2012; Van Veen & Kratzer, 2011). Decades of research into interlocking directorates have, however, left us with a broad range of theoretical frameworks explaining why board interlocks exist as they do. While we know a considerable amount about the consequences of board interlock networks, which mechanisms drive these networks' dynamics remains both theoretically and empirically contested.

The literature on board interlocks is traditionally divided into two broad groups of studies based on their actor orientation: either focused on organizations or on individuals (Lamb & Roundy, 2016). This theoretical opposition between organizational and individual perspectives has long been recognized in the literature (Koenig et al., 1979; Scott, 1991) and is not problematic per se. Problems do arise, however, if we try to understand the formation and evolution of interlocks exclusively from *either* an organizational or an individual perspective. The dominant theoretical opposition is perpetuated by the methodological challenges of social network analysis studies. Most empirical papers on board interlocks are restricted to studies of only one group of actors, either firms or individuals depending on their theoretical position. Empirical literature that takes an interorganizational perspective studies firm-by-firm networks in which the nodes are corporations that are connected by shared directors. Conversely, corporate elite literature focuses on networks of individuals, in which directors are connected if they are affiliated with the same boards. These firm-by-firm and person-by-person networks are called one-mode networks and each of them contains only *one* type of actor, either firms or individuals (Robins & Alexander, 2004). In reality, these one-mode networks

are projections of the underlying two-mode affiliation network that connects firms *and* individuals. The ‘duality of persons and groups’ (Breiger, 1974) is what distinguishes two-mode networks from one-mode networks, and is something we clearly see in the case of board interlocks. However, even though the duality of interlock networks has been discussed for decades, the literature still fails to recognize this duality not only at a theoretical level but also at an empirical level, and does not include both corporate boards and individual directors in its analysis.

We will argue that the main obstacle in the way of a proper understanding of what drives board interlock formation is the consistent failure to comprehensively study board interlocks as a two-mode network of persons and firms. Our concerns are not new; many scholars have pointed to the limitations of studying board interlocks at the one-mode firm-by-firm level (e.g. Piepenbrink & Gaur, 2013; Robins & Alexander, 2004). And one-mode projections of two-mode networks also lead to methodological biases such as overestimation of network clustering (e.g. Borgatti & Everett, 1997; Faust, 1997; Latapy et al., 2008; Vernet et al., 2014). Yet only a handful of studies actually apply a two-mode approach to studying board interlock networks (Koskinen & Edling, 2012; Robins & Alexander, 2004). These few studies primarily develop and demonstrate new two-mode network modeling techniques or measurements; their engagement with and contribution to the theoretical debate remains limited. Therefore, the existing literature on causes of board interlocks leaves us with a theoretical–methodological conundrum that is difficult to disentangle. This deadlock combination leads to systemic biases such as ignoring the agency of directors in interfirm interlock ties. Analyzing only one group of actors, we may conclude that a specific social mechanism resulted in the formation of ties in the network. However, looking at another group of actors within the same network, we may conclude that a completely different social mechanism leads to the formation of ties within it. However, if we would consider both groups of actors, we would be able to observe both social mechanisms that drove the network formation. In sum, the described theoretical and methodological problems inhibit our ability to answer the question of how firm-level and individual-level considerations contribute to board interlock formation.

In what follows we revisit this foundational discussion in the field of board interlock research and develop an original theoretical and empirical approach to assessing how organizations' and individuals' interests drive board interlock dynamics. We go beyond previous works, which have studied board interlock dynamics by comparing different static snapshots of a one-mode firm-by-firm network over time. Instead, we shift our attention to the source of tie formation: board appointments and their embeddedness in two-mode network microstructures. We test the presence of firm-related and individual-related drivers of the board interlock networks using the relational event modeling (REM) framework (Butts, 2008). As an empirical setting, we have created an original high-quality dataset on 14,893 board appointments of 10,377 directors to the 3,304 largest corporations in Denmark over twenty years (1994–2014).

This chapter makes a number of contributions to board interlock and network analysis research. On a theoretical level, we develop a novel perspective for understanding board interlock dynamics as outcomes of co-existing interests of firms and directors. This allows us to move beyond the theoretical and methodological deadlock between the literature oriented exclusively around organizations or individuals. In recognition of the duality of groups and persons, our results show how individual- and firm-level forces both play a role at the same time. Methodologically, this research is the first to apply relational event modeling to an understanding of the evolution of board appointments and the resulting board interlock network. The two-mode nature of the model makes it possible to handle the dynamics of board appointments while taking into account the duality of interests of individuals and corporations.

The chapter is structured as follows. Sections 2 and 3 review the problem of the duality of actors in board interlock networks. In Section 4 we build hypotheses. Section 5 presents an empirical case and the methodological approach. Section 6 describes the results, and in Section 7 we discuss the findings and the potential broader applications of the presented approach.

2. The persistent duality of individuals and firms in board interlock networks

2.1. Organizations vs individuals

What drives board interlock formation? Many decades of research have left us with dispersed literature and piecemeal answers to this important question. The main dividing line in the literature is a consequence of what Breiger called ‘the duality of persons and groups’ (Breiger, 1974). While one part of the literature is mainly interested in the organization’s perspective, another group emphasizes that of the individual. In the ‘organization’s perspective’ camp, the influential resource dependence theory argues that firms create interlocks in order to access resources such as information or capital and to acquire access to influential actors such as banks and financial institutions (Burt, 1983; Mizruchi & Stearns, 1988). Shared directors play a key role in obtaining these resources because they provide access to external environments (Hillman et al., 2000) and allow the firms to improve monitoring and decrease environmental uncertainty (Carpenter & Westphal, 2001). Firms can strategically form interlock ties with specific actors because these ties can serve as a mechanism to manage dependence on particular resources. For example, in case of knowledge dependence, when there is a need to pursue new technologies, firms will tend to form interlocks with firms that are active in defending their intellectual property and whose core technologies are aligned with the firm’s global trajectory (Howard et al., 2017). Furthermore, interlocks have reputation-seeking and signaling functions, demonstrating to others the firm’s unique position in its environment (Connelly et al., 2011).

Individual-level theories, on the other hand, conceptualize board interlocks as a phenomenon caused by the actions of individuals as parts of broader social groups. For example, interlocking directorates have been widely conceptualized as an intraclass phenomenon that is instrumental for the social cohesion of the corporate elite (Domhoff, 1967; Useem, 1984). From this perspective, board interlocks are created to sustain the class identity of members of the capitalist class, to transmit social norms, and to create opportunities for political action (Carroll, 2010; Sklair, 2001). More individualistic explanations, such as career

advancement theories, argue that directors join multiple boards in order to obtain better financial remuneration and prestige which help improve their career prospects (Westphal & Stern, 2006). Concurrent affiliations also serve to signal a director's high connectivity, which leads to higher social capital and gives access to diverse actors (Johnson et al., 2011).

These diverging theoretical perspectives have triggered an ongoing discussion on the importance of firms versus individuals in driving board interlock dynamics, which started in the 1970s as an exchange between Allen and Zeitlin (Allen, 1974; Zeitlin, 1976). Allen argues that corporate interlocks are a function of organizational resource dependence and Zeitlin responded that interlocks are usually created for sustaining capitalist class cohesion. This debate remained unresolved for some time, as it was hardly possible to test empirically the prominence of firm or individual-related social forces leading to the formation of interlock ties. At the beginning of the 1980s, a group of sociologists presented an original way of testing the prominence of these social forces that promised to resolve the debate (Koenig et al., 1979; Ornstein, 1982; Palmer, 1983). This literature tested the relevance of interorganizational or class drivers by looking at the reconstruction of broken ties in interlock networks. The argument of the broken ties literature is as follows: if interlocks serve as channels for essential resources for organizations, when these ties spontaneously disappear as a result of the death or voluntary retirement of a director, the interlocks need to be reconstructed. But if interlocks are predominantly based on individual relationships and are the result of class cohesion mechanisms, this cannot be done swiftly. The outcomes of these studies demonstrate a low level of tie reconstruction, leading to the conclusion that intraclass relations provide a more accurate explanation of the causes of interlocks.

However, if the majority of interlocks are driven by class cohesion, this does not mean that inter-organizational resource dependence does not play a role at all. Some studies already hinted that both interorganizational and class perspectives are significant for tie reconstruction and should both be taken into account (Ornstein, 1982). Even though the broken ties approach was a brilliant attempt to resolve the old debate, it was clear that it is hardly possible to distinguish the

relative importance of these diverging social forces. These theoretical explanations of board interlock ties are rather complementary than contradictory (Mizruchi, 1996).

Although the broken ties literature provided evidence that elite mechanisms are more essential for forming new interlocks and the consequent literature showed that both organizational and elite forces might play a role at the same time, the majority of literature on interlocks today are taking inter-organizational perspective. The resource dependence perspective remains highly dominant in the literature (Hillman et al., 2009), in part due to a shift in what are considered to be legitimate research interests. From the late 1990s onward, organizations have received more scholarly interest than capitalist classes and corporate elites (Fennema & Heemskerck, 2017).

2.2. The two-mode nature of board interlock networks

The persistent opposition between individual and organizational perspectives is both theoretically and methodologically related to the duality of persons and firms in board interlock networks. While interlocks are typically studied as a set of network relations between firms, this reflects only one side of the underlying affiliation network where people are related to firms. Networks with actors of different types of nodes are called two-mode networks. Ties in these networks are possible only between different modes, not within one mode. Figure 1 gives a visual representation of the difference between one-mode and two-mode networks. The left-hand side shows a two-mode network in which firms A and B and individuals X and Y are connected by board affiliations. The right-hand side of the figure shows two one-mode projections of this affiliation network. The set of positions connects firms A and B (namely through their shared directors X and Y) and similarly connects directors X and Y. Ties in these networks are weighted and have a weight of two, which means that A and B have two shared directors and X and Y work at two shared boards.

Taken together, the literature suggests that both individuals and firms play a role during the formation of new board interlocks (Mizruchi, 1996). Nevertheless, most studies consider firm-by-firm interlock networks (e.g. Buch-Hansen & Henriksen, 2019; Withers et al., 2018), while a smaller body of work

investigates person-by-person networks (e.g. Larsen & Ellersgaard, 2017). In recognition of the theoretical and empirical limitations of studying one-mode projections, some authors study both firm-by-firm and person-by-person networks (Carroll, 2010; Heemskerk, 2007). This allows them to describe the relationships within each projection of an interlock network in a detailed way

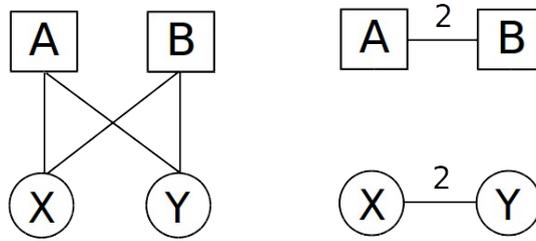


Figure 1. Two-mode network of board interlocks (left) and its one-mode projections (right): firm-by-firm (A and B) and individual-by-individual (X and Y) projections. Squares are firms, circles are individuals. In two-mode network, ties are affiliations between firms and individuals. One-mode networks are weighted, each tie has a weight 2 which is the number of shared directors or the number of common boards. Source: visualization by the authors.

but does not go as far as considering the structure of the two-mode network itself. Likewise, sometimes papers focus on one group of actors but expand their results to another group. For example, the broken ties literature shows that intraclass causes are more important for the creation of interlocks, but these results were obtained using data about relationships between firms, not individuals. Problems emerge when one considers only one side of the network, ignoring another mode. This can lead to serious biases in the interpretation of the social processes that take place in networks. We demonstrate an example of such bias in the next section.

3. Network building strategies of firms and individuals in board interlock networks

3.1. Expansion and reinforcement strategies in board interlock networks

In board interlock networks, as in any other networks, actors can use their connections to obtain higher social capital (Burt, 2005; Bourdieu, 1986; Coleman, 1988). Social capital is a possible advantage created by the position of an actor in networks that can be further used for action. For example, by creating interlock ties with specific actors in the network, firms obtain valuable information and resources (Salancik & Pfeffer, 1978). By forming these potentially resourceful ties, firms are able to make more informed decisions and behave in a coordinated way. Actors in board interlock networks can have two diverse strategies to establish their social environment and to obtain social capital: network *expansion* and network *reinforcement*. We conceptualize these strategies below and build our hypotheses based on these strategies.

Many social and organizational networks are small world networks (Kogut et al., 2012): actors in these networks tend to create dense clusters of relationships, separated by structural holes (Burt, 2004). Actors are densely interconnected inside their own cluster but weakly connected across different clusters. Actors can strategically create ties in order to connect to new actors, to obtain new information and resources by expanding their network environment. Using this strategy is difficult because actors need to extend their own social circles and be open to new information, actors, and environments. But as soon as actors are able to expand their already existing social circles, new ties may bring them a vast amount of opportunities such as access to diverse information and resources. This strategy can be related to establishing weak ties: actors seek diverse information and connect with actors that are different from their established social environment (Granovetter, 1973). For the case of board interlock networks, we call this strategy to form ties in board interlock networks the network *expansion strategy*.

The second strategy to form ties is to reinforce already existing ties by seeking closure (Coleman, 1988; Burt, 2005). In this case, actors strengthen ties that already exist within their closest social environment. They create ties with actors that belong to their social circle. For example, an actor might choose to form a tie with another node that is completely different based on its characteristics and is located further away in the network. But instead, this actor prefers to form a tie with a node that is already very close, i.e. the actor's other

partners are already connected with this node. This tie does not create a completely new type of relationship with a distant node, it reinforces already existing connections within the closest network environment. These types of ties often do not bring new resources, information or diversity. But they bring social norm reinforcement and increased trust levels. We call this strategy of actors to create ties in board interlock networks *reinforcement strategy*.

3.2. Diverse strategies of actors in board interlock networks

Network expansion and reinforcement are common ways of building ties and accessing social capital in social and organizational networks. We will demonstrate both strategies at work using the example of board interlock networks that are our case study in this chapter. To show how the interpretation of these strategies differs depending on the actor selection (taking a firm or a person perspective), we give two examples. In the first example, we take one-mode firm-by-firm network and in the second example we look at the same network but from the point of view of individuals, or taking one-mode individual-by-individual network. Our aim is to show that when we study one-mode projections, we observe opposing network formation mechanisms and this can result in biased conclusions about the underlying two-mode network structure.

In our first example, we start with the one-mode network of firms. A typical example of network reinforcement strategy of firms would be a network microstructure that can be potentially closed in a fully connected triad (Figure 2). In this network microstructure, we have three firms: A, B, and C. Firms B and C already have an interlock tie with each other (they share director X). There is a firm A in their closest social neighborhood. If any of the firms (either B or C) will form an interlock tie with firm A, another one is also likely to create an interlock with A. For example, if A and B will form an interlock tie with each other, C will also create an interlock with A.

This tendency frequently occurs in social and organizational networks: non-transitive triads will tend to close over time and become transitive. Transitivity of triads is a situation when ‘a friend of my friend is also my friend’. If we think about firms and their organizational behavior, the formation of transitive triads

of interlock ties is very likely. Firms A, B, and C are likely to become fully connected because they already know each other, i.e. they share the same director X. If this non-transitive triad will become a transitive triad (when A, B, and C are all connected), the potential tie of A with B or A with C will be a reinforcement tie. We clearly observe a reinforcement mechanism that led to the formation of ties in this one-mode network microstructure. This type of behavior might be beneficial for firms because they are in a familiar network environment with other firms and sharing the same directors allows them to behave strategically as a group.

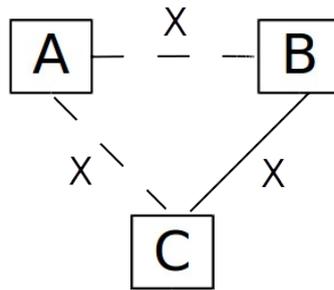


Figure 2. One-mode firm-by-firm network, dotted lines are potential ties, non-dotted lines are already existing ties. Reinforcement mechanism. Firms B and C share a director X. By creating interlocks with firm A, firms reinforce their connections with each other. Source: visualization by the authors.

Looking at firm behavior and firm-by-firm networks is a typical way of investigating board interlock networks. But it is known that interlocks are not the result of exclusively firm-related behavior. As Mizruchi noted in his seminal paper, “interlocks occur between organizations, but they are created by individuals” (Mizruchi, 1996, p. 277). We can look at the same network microstructure, presented in Figure 2, from the point of view of individuals who sit on boards of the named firms A, B, and C. In other words, we look now at the one-mode individual-by-individual network (see Figure 3).

Since there is an already existing board interlock tie between firms B and C, it means that they share at least one individual, namely the director X. When X

participates on board meetings of firm C, it means that X is connected with other directors of firm C: Z1, Z2, Z3, etc. For visualization reasons, we denominate this group of directors as ‘Z’ in Figure 2. At the same time, X is also on board of firm B, meaning that X knows directors ‘Y’. We see that individual X is already well-connected within this network microstructure. If X will join the board of firm A, this individual will create interlock ties between firms A and B and between firms A and C, as we have also seen in Figure 2. In this case, X will be additionally introduced to all board members of A: W1, W2, W3, or ‘W’. We see that X is joining more and more boards and besides forming new interlock ties between firms, it also expands its own social network by meeting new people. As a result of this network formation process, X is in contact with board members of all three firms: A, B, and C. For director X, joining the board of firm A is a step towards further network expansion because X does not know board members of A yet. Joining the board of firm A will bring X diverse social ties and novel information from a new group of people. Network expansion mechanism is in the core of X’s behavior.

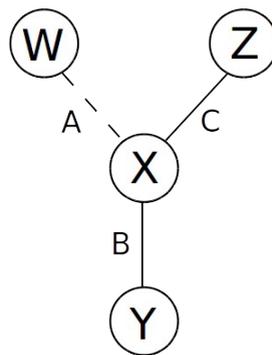


Figure 3. One-mode individual-by-individual network, dotted lines are potential ties, non-dotted lines are already existing ties. Expansion mechanism: Director X is on board of firms B and C and is connected with directors of B (Y) and directors of C (Z). Director X will expand its network ties by connecting with directors sitting on board of firm A (W). Source: visualization by the authors.

What do these examples show us? They demonstrate that it is possible to look at board interlock networks from different perspectives: from either firm or individual viewpoint. This is not surprising and this is actually what the

majority of the literature on board interlocks is doing. It seems like an obvious way of analyzing these networks when, depending on the primary focus of interest, one investigates either firm-by-firm or individual-by-individual relationships.

But there is a potential pitfall here. When we study the two one-mode projections of the same two-mode network, we observe opposing network mechanisms. In the two mentioned examples, we presented the same network microstructure but from different perspectives. Taking only one perspective (firm or individual), one can conclude that there was a specific mechanism that led to the formation of this network microstructure. For example, if we would look only at firms (Figure 2), we would conclude that the network was based on network reinforcement interests of firms. When we look at the same case from the point of view of individuals (Figure 3), we saw that the same ties might have also resulted from network expansion interests of individuals.

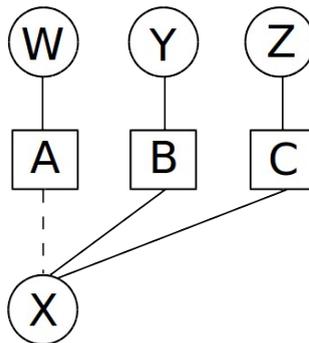


Figure 4. Two-mode firm-by-individual network, dotted lines are potential ties, non-dotted lines are already existing ties. This figure summarizes both figures 2 and 3 as a two-mode network. Firms A, B, and C have boards W, Y, and Z. There is a potential tie between individual X and firm A. Source: visualization by the authors.

What is specific about board interlock networks is that they are two-mode networks, i.e. networks that consist of two different groups of actors: firms and individuals. To make it more clear, we present the third figure (Figure 4) that is the two-mode representation of both firm-by-firm (Figure 2) and individual-by-individual (Figure 3) network microstructures that we described above. In Figure 4, we have the same three firms A, B, and C. Each of them have their own board that we denoted before as W, Y, Z. Director X, the main actor that we are interested in, already has positions at firms B and C. X has the potential to join the board of firm A. If this tie between A and X forms, it will be the result of network reinforcement (firms create interlocks with each other) and the result of network expansion (X meets new directors) strategies. We see that the interests of firms and individuals can co-exist in the same network microstructure and when we analyze firms and individuals separately (as we did at Figure 2 and Figure 3), we do not see that ties can be driven by both strategies at the same time: reinforcement and expansion.

This duality of actors and their interests is not surprising for social and organizational networks (Breiger, 1974). The problem is that we still do not know how to deal with this duality. The common solution in the literature on board interlock networks is choosing one type of actors of interest and analyzing them, ignoring another group of actors. As we have seen from the examples, doing so we omit the interests and strategies of another group of actors while it is clear that they also played a significant role in the formation of these ties.

It is impossible to separate causes of ties in board interlock networks and to mark a clear line between the interests of firms and individuals. The broken ties literature was intended to do so by separating firm and individual causes of ties but it inevitably failed. In the two examples above, we see that both reinforcement and expansion strategies of firms and individuals can co-exist within the same network microstructure, if we look at its two-mode nature. Conversely, if we take any of the one-mode perspectives, we do not observe all the potential drivers of social ties in a complete social system, with all actors included. These diverse strategies of firms and individuals do not contradict

each other, they can take place within the same network. Because we observe different mechanisms in the two one-mode projections, theorizing interlock formation at a one-mode level must lead to opposition and debate. Therefore, we should not ignore the agency of both groups of actors and need to theorize board interlock networks at the two-mode level.

3.3. Two-mode board interlock networks as a case for methodological developments

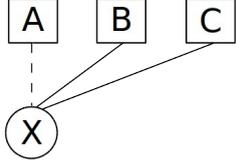
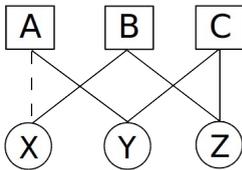
Two-mode network analysis is a logical approach to the study of board interlocks as we know that one-mode projections of two-mode networks lead to biases in understanding the network structure (Piepenbrink & Gaur, 2013). Nevertheless, there are only a handful of papers that actually apply a two-mode modeling approach to board interlock networks. For example, Robins and Alexander (2004) note that we need a detailed investigation of the question of whether it is intercorporate alliances or interpersonal networking that cause multiple interlocks, a typical example of a contradicting duality of agents. Multiple interlocks are cases when two directors are affiliated with the same two boards; these interlock structures are problematic for analysis because they might be simultaneously driven by the interests of firms and individuals. However, the methodology presented in the paper is not able to clarify the relative strength of the dual interests in board interlock networks. Another paper using a two-mode network approach studies the peer referral mechanism, the practice where board members recommend others they already know to their current boards (Koskinen & Edling, 2012). Even though the two-mode structure of board interlock networks is discussed in detail, the results of this paper are interpreted from the perspective of individual directors, leaving corporate interests unaddressed. To be fair, the main objective of these studies is to make methodological advancements in the field of two-mode network analysis. Board interlocks are used as a well-studied typical example of affiliation networks, but the theoretical implications of related findings remain underdeveloped. Also, the separation of the literature into distinct groups that prefer to study either organizations or individuals makes it difficult for these two-mode studies to make a theoretical contribution.

In this chapter, we stress that we should not only analyze board interlocks as two-mode networks but also think about them as social systems characterized by the duality of actors and their interests. We demonstrate our approach using data about Danish corporate appointments over twenty years and predict the formation of ties in the dynamic two-mode network. In the next section, we describe main organizational and individual-level theories explaining board interlock ties and build our hypotheses based on them.

4. Hypotheses

For building hypotheses, we focus on two network microstructures that drive the evolution of two-mode interlock networks: the popularity of directors and six-cycles. The visualization of these network patterns are presented in Table 1.

Table 1. Illustration of hypotheses and tested network microstructures.

Hypotheses	Network microstructure	Network illustration	Mechanism in firm-by-firm network	Mechanism in individual-by-individual network
H1	Popularity of directors		Reinforcement	Expansion
H2	Six-cycles		Reinforcement	Reinforcement

Squares are firms, circles are individuals. Dotted ties are predicted board affiliations, non-dotted ties are already existing board affiliations. Source: visualization by the authors.

The first row of Table 1 illustrates the two-mode network microstructure that we relate to the popularity of directors. In board interlock papers, the influence of a director's position is usually measured by director popularity, or the number of board positions. In this network microstructure, director X is a popular director because this person was previously appointed to the boards of firms B and C. Because of this central position, director X is of interest to firm A. We already presented this network microstructure above (see Figure 4) and concluded that if we make a one-mode individual-by-individual projection of this network pattern, the driving mechanism would be the network expansion. But if we make a one-mode firm-by-firm projection, the driving mechanism would be the network reinforcement.

For both groups of actors, forming the tie between individual X and firm A is potentially beneficial. Joining new corporate boards might be in the interests of individuals because new ties bring them new career experience, increase their social status, and sustain elite group cohesion. Popular directors are able to meet new people on new boards and bring their connections from other boards to new boards. As a result, they have a significant function of connecting boards and transferring valuable information, their personal status and social capital increases as a result of accumulating these ties. Moving to the core of the network improves the position of a person in elite groups by expanding its network ties. As a result, elites can act as a group and promote their interests.

For firms, popular directors might serve as potential sources of valuable resources. The resource dependence perspective states that organizations are embedded in networks of interdependencies with other organizations (Salancik & Pfeffer, 1978). Their longevity and success depend on the ability to access external resources from the environment, and organizations need to take different actions in order to control already existing interdependencies. Organizations strategically seek these resource-providing interlocks in order to balance their dependence on external environments. One way to obtain resources for organizations is by appointing directors who already have a significant and well-connected position in the network. By appointing such directors, firms improve their own position in the interlock network and obtain easier access to the variety of resources that these individuals bring. These

directors not only provide their skills and expertise but also bring diverse and innovative practices from other organizations (Hillman & Dalziel, 2003). But in case of this network microstructure, when firm A simultaneously forms interlocks with firms B and C by appointing individual X, A does not go further its own social environment, it improves already existing ties by reinforcing them.

If the interests of firms and individuals drive the network dynamics together, our first hypothesis will be:

H1. The probability of a board appointment increases over time with a person's number of existing appointments.

If Hypothesis 1 is confirmed, we would conclude that the interests of firms and individuals coincided, firm-related and individual-related interests were together the drivers of new ties in the board interlock network. Firms are more likely to be driven by network reinforcement strategy while individuals are more likely to be driven by network expansion strategy. However, we will not be able to differentiate which type of actors was more significant for forming ties, whose interests were predominant. As we know from the previous literature, this is hardly ever possible. If Hypothesis 1 is rejected, we would conclude that this network configuration does not drive the dynamics of the board interlock network. We do not know exactly how the interests of firms and individuals created ties in this network but we would not make erroneous assumptions about the predominance of one group's interests over another.

For constructing the second hypothesis, we focus on another network microstructure, named 'six-cycles'. Its two-mode visualization is presented in the second row of Table 1. In the six-cycle, firms A, B, and C already share a few directors. An individual X is on board of a firm B and this individual can also join a board of a firm A. In one-mode individual-by-individual projection of this network pattern, individuals X and Z are connected with each other by being on board of a firm B and individuals Z and Y are also connected with each other by being on board of a firm C. There is an absent tie between individuals X and Y. If this tie will form, the triad will close: individuals X, Y, and Z will be all connected with each other. In one-mode firm-by-firm

projection, firms A and B will also potentially form a tie with each other in order to close the triad between all firms A, B, and C. By sharing the same board members, firms strengthen already existing connections by creating one more additional tie.

Together, the prominence of six-cycles in the two-mode network dynamics will indicate the preference for the triadic closure that would signify that reinforcement strategy is in place. Participation in six-cycles can be beneficial for firms and individuals. This network pattern brings benefits for firms in the form of increased coordination with other firms. They will reinforce their ties by creating bonds via sharing multiple board members and sustaining internal elite cohesion. Interlocking directorates are traditionally described as densely connected inner circles of individuals that are closed to outsiders (Mills, 1956; Useem, 1984). In the 'old boys' network', new appointments are typically based on previous affiliations, and individuals prefer to work with people they already know because the corporate elite accepts into its circles others with whom its members share a common background and experience. Such appointments are based on personal referral mechanisms; directors share common past experience and know what to expect when serving on a new board (Davis et al., 2003). These reciprocal ties are valued by corporate elite members because they foster trust and solidarity and establish a basis for the creation of common norms. Dense networks allow the corporate elite to transfer economic or political messages and to influence decision-making of others and disseminate its own interests.

If firms and individuals have an interest in sustaining network reciprocity and reinforce already existing ties, six-cycle microstructures will form in the network of board interlocks:

H2. The probability of a board appointment increases over time when it results in a closing a triad of board interlocks.

If Hypothesis 2 is confirmed, we would conclude that the interests of firms and individuals together caused the formation and evolution of ties in the network. At the core of their interest is network reinforcement strategy. If this hypothesis is rejected, we would conclude that the six-cycles were not significant network

drivers in this board interlock network. It means that the formation of dense circles of inter-connections is not a significant driving mechanism for both groups of actors. They might be more prone to connect with diverse groups of nodes in order to expand their social circles rather than to sustain triadic closure by reinforcing already existing ties.

Both hypotheses have a dynamic nature. We model the evolution of the network of board appointments; the consequent sequences of appointments are important for driving its evolution. Once an appointment happens, it lasts for some time and the board often does not open new positions for a period of time. It means that the internal time dynamics of this network is relatively slow. We take into account this network property, using a relatively long halflife parameter during our modeling.

In sum, we test two simple hypotheses using network microstructures that are already studied on one-mode firm-by-firm or individual-by-individual networks. We want to stress while testing these hypotheses that both groups of actors might be simultaneously interested in creating new ties. They might have different interests such as network reinforcement or expansion but if we use only one group of actors for the analysis, we omit the interests of another group. As a result, we do not know what were the driving forces creating ties in the network. In both microstructures, there is no one explanation for the formation of a potential tie that we can use, taking only firm-related or individual-related perspective. Their interests are intertwined and if we take only a firm-related perspective, we omit a large part of social processes that also take place in the network, namely, individual interests and considerations. Here, both firms and individuals will make potential considerations accompanied by a new appointment and will consequently come to a decision, realized or not realized in a new board appointment tie. The sequences of these appointments determine the formation of the whole board interlock network and define its further evolution.

5. Data and Methods

5.1. *The case of the Danish corporate elite*

We test different explanations for board interlock dynamics through an analysis of the network of board appointments in Denmark from 1994 to 2014. Denmark is a high-income Scandinavian country with a mixed economy. It was usually classified as a coordinated market economy (CME) until it was shown that recently Denmark has adopted some features of liberal market economies (LME) and therefore can be classified as a hybrid type (Campbell & Pedersen, 2007; Rose & Mejer, 2003). The corporate governance system in Denmark is similar to corporate systems in other Scandinavian countries (Sinani et al., 2008), with a family-oriented ownership structure. These systems are not as relationship-based as in Germany and Japan but at the same time not as market-oriented as in the UK and the US (Rose & Mejer, 2003).

The business elite in Denmark has several distinct characteristics (Ellersgaard et al., 2013; Ellersgaard, 2016; Larsen, 2015). There are no educational institutions in Denmark that are considered to be elite or highly prestigious universities and therefore the majority of the corporate elite has a business or technical higher education, which makes it similar to the German business elite. The gender quota for corporate board positions does not exist in Denmark but there are corporate governance recommendations stating that boards of state-owned companies should be diverse in gender, talent, age, international experience (Terjesen et al., 2015). Danish companies are recommended to implement their own targets and policies for gender quota and to report them. The country is in the process of integrating into the international business community and the largest corporations have some activities taking place at a transnational level; however, most corporate directors preferentially build their careers in Denmark and rarely move abroad. The Danish corporate elite is flexible in its career trajectories. Its members change positions several times during their career paths and it makes them different from other European business elites such as the French or German ones, that diversify their careers less often. The Danish corporate elite has not yet undergone significant

fragmentation as for instance in the United States board interlock network (Chu & Davis, 2016; Mizruchi, 2013).

Denmark is a good empirical case for our study for several reasons. First, it has an economy that cannot be definitively related to the coordinated or liberal market types. It is not clear whether interfirm or interpersonal relationships matter most for the corporate governance system in this country. Denmark has a very well developed economy with a number of influential corporations at the European level, but at the same time, its corporate elite is relatively closed to international markets and is very densely connected within the country. Second, corporate directors in Denmark often have several positions over the course of their careers, meaning that this corporate network has a significant number of board interlocks and is characterized by dense corporate and elite relations.

Finally, it is difficult to obtain high-quality data on board positions for a large number of corporations in one country and therefore most studies utilize small datasets of several hundred corporations gathered using corporate annual reports. We work with a large-scale database of corporate appointments in order to show the network evolution at a larger scale, taking into account the varieties of behavior exhibited by firms and individuals. With the aforementioned theoretical and empirical considerations, the high data quality for Denmark in our data source has also strengthened our interest in the corporate networks of this country.

5.2. Data sampling and preparation

We source our data from Bureau van Dijk's ORBIS database, an extensive database containing detailed information on organizations all over the world, including the positions held by individuals at these organizations. We first selected all current (as of September 2015) board of directors positions at firms with operating revenue of more than ten million US dollars. For each firm, we have an indicator of its size (based on operating revenue) and its economic sector and type. For each director, we have nationality (Danish or non-Danish) and gender.

We have the history of board appointments together with their timestamps in the format “day–month–year”. For example, director X has a current position in firm A which began on 1–Jan–2000. Also, director X has current positions in firms B and C which began on 1–Feb–2005 and 1–Mar–2010. This situation corresponds to the network configuration of Hypothesis 1 which is also visualized in Table 1. We would like to note that each new board appointment of a director is an additional position to already existing positions. Our aim is to trace the history of the previous appointments of director X in order to understand which firm-related or individual-related mechanisms were involved in the dynamics of the board appointment network.

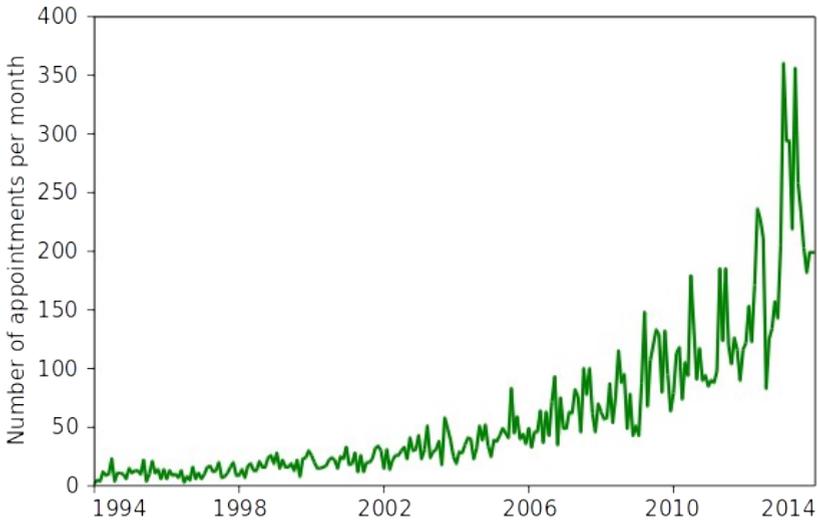


Figure 5. Monthly distribution of board appointments. Source: visualization by the authors based on the Orbis Bureau van Dijk dataset.

We restrict the history of appointments to 20 years, considering only those which occurred between 1994 and 2014. All new board appointments are current by the end of 2014. We further aggregate timestamps according to their corresponding calendar years. The monthly distribution of appointments over time is presented in Figure 5. As we can see from this figure, the number of board appointments is increasing steadily over time, indicating that new ties are

appearing between the modes of the network: firms and individuals. The final dataset that we use for our following analysis consists of 10,377 unique directors, 3,304 unique firms, and 14,893 board appointments.

5.3. Two-mode relational event modeling

To model the dynamics of the network of appointments, we use relational event modeling (REM), a behavior-oriented network model (Butts, 2008). REM has been successfully used to understand various types of networks such as contact and interaction networks (Leenders et al., 2016; Quintane & Carnabuci, 2016; Schecter & Contractor, 2017), networks of political action, conflict networks (Lerner et al., 2013; Malang et al., 2017), and organizational networks (Kitts et al., 2017).

This paper is the first to apply REM to two-mode board interlock networks. The central unit of analysis in this model is a relational event, represented as a tuple $e = (i, j, t)$, where i is a sender of an event, j is a receiver, and t is the time point at which event e happens. The REM approach is based on the assumption that most dynamic social networks can be represented as sequences of events, or tie creations. It is based on event history models with the additional inclusion of network dependencies as model covariates. REM is distinct from traditional event history models due to its assumption that the occurrence of new events depends not only on the personal attributes of actors but also on their past history of interactions with each other and with other actors in the network. In other words, new board appointments depend not only on the attributes of the firms and individuals that create this appointment but also on the past history of appointments of these firms and individuals with others in the network.

In comparison with traditional social network models such as exponential random graph (ERGM) and stochastic actor-oriented models (SAOM), REM considers network ties as events rather than states (Butts, 2008). Another distinguishing factor relates to the way of dealing with observed and potential ties. ERGM models the network structure by comparing the observed network configuration with random networks and SAOM models the tie change of actors as a result of their decisions regarding the potential utility of new ties. In contrast, REM compares observed ties with potential ones and predicts the

probability that potential ties will be observed. Adding a timing of events allows making causal conclusions about the observed network dynamics. Also, REM is flexible in modeling relatively large networks while simulating ERGM and SAOM models is computationally expensive and often infeasible (Stadtfeld & Block, 2017). Furthermore, modeling large graphs typically leads to convergence problems. REM compares observed ties with potential ones, a procedure not reliant on a large number of simulations and thus more easily scalable to large datasets, computationally and methodologically.

Our two-mode approach can easily be implemented in existing packages and does not require a different data structure. However, in ERGM or SAOM models, one or a few snapshots of network ties and actor attributes are used to model the network formation and evolution, while REM requires data with a larger number of time points. At the same time, the data points used in REM can be grouped into a fewer number of snapshots and hence can be modeled using ERGM and SAOM models. However, modeling the network states over a larger number of time points using REM can give more detailed information about network formation and evolution processes than using ERGM or SAOM modeling. The main distinct characteristic of REM is in the flexibility in the number of actors over the time points. Having a fixed set of actors and the minimum amount of missing data over all network snapshots is important for ERGM and SAOM models. For this reason, friendship ties within school classes are typical data examples for these types of models. REM does not have these requirements on a stable number of actors; new actors can enter or leave the network over the course of the network formation. Therefore, contact and interaction networks are typical data examples of the data sources used for REM.

The application of REM techniques to two-mode networks remains limited, as calculating two-mode network covariates takes additional theoretical and computational effort. Here we use an approach presented in Malang et al. (2017) and Quintane et al. (2014). First, we calculate two-mode network covariates which take place in the network of past events. Second, we use conditional logistic regression, estimated using the Cox proportional hazards model, which can be written as follows:

$$h(t) = h_0(t) \times \exp(\beta_1 \times x_1 + \beta_2 \times x_2 + \dots + \beta_i \times x_i) \quad (1),$$

where $h(t)$ is the hazard of an event occurrence at time t , $h_0(t)$ is the baseline hazard, x_i are predictors and β_i are coefficients of the predictors. The Cox model can be used for an estimation of REM because it allows the inclusion of exogenous covariates where the functional form of the survival curve is unknown a priori, i.e., we do not make any assumptions about higher or lower risks of survival over time. We model the risk that an appointment takes place at a current time point, given that it has not occurred in the past. The risk set is represented by all potential events that did not happen in the past between a firm and an individual but eventually will occur. The model is stratified and we treat each year as a separate stratum, assuming that baseline hazards of event occurrence might vary over the years.

The network statistics that can be included in REM are described by Butts (2008) and extended in various papers. Here, we use the network statistics described in Lerner et al. (2013), which we calculate using the *rem* package in R (Brandenberger, 2018; R Core Development Team, 2017). Six-cycle network statistics were originally not implemented in the *rem* package. We therefore wrote a new function in C++ with an interface in the *rem* R package that computes six-cycles, based on already existing four-cycle statistics. The code to compute these six-cycles is available for reuse by other researchers and can be found at github.com/uvacorpnet/rem.

From here we adopt the notation used by Lerner et al. (2013) and Brandenberger (2018). Our network G_t represents the network of past events and includes all events E which happened before time t . Each event consists of a firm a that belongs to the set of firms A , an individual b that belongs to the set of individuals B and a weight function w_t which is applied to each past event:

$$G_t = G_t(E) = (A, B, w_t) \quad (2).$$

In this specification of REM, we use weighting because recent events are assumed to have a stronger influence on new event occurrence than events which happened further in the past. The weighting function $w(i,j)$ counts the

number of events between a firm i and an individual j which occurred in the past and then weights them based on their recency:

$$w_t(i,j) = \sum_{e:a=i,b=j} |w_e| \times e^{-\left(t-t_e\right) \times \left(\frac{\ln(2)}{T_{1/2}}\right)} \times \left(\frac{\ln(2)}{T_{1/2}}\right) \quad (3),$$

where w_e is the weight of the event, t is the time of a current event and t_e is the time of a past event, and $T_{1/2}$ is a halflife parameter. The vector of past events is weighted by an exponential decay function using the specified halflife. The halflife indicates after how long the event weight should be halved. A smaller halflife parameter gives more weight to events which happened in the recent past, while a larger halflife measures the long-term effects of past interactions. For all network-related statistics, we use a halflife parameter of 2 years. We ran robustness checks of the models with halflife parameters of 1, 3, 4, and 5 years and found that results remain stable for different parameter values.

The microstructure variables of past popularity of directors and six-cycles (see Table 1) are defined as:

$$\text{Popularity of directors}(G_t, a, b) = \sum w_t(i, b) \quad (4),$$

$$\text{Six-cycle}(G_t, a, b) = \sqrt[5]{\sum w_t(a, j) \times w_t(i, b) \times w_t(k, j) \times w_t(i, 1) \times w_t(i, j)} \quad (5).$$

All network covariates are standardized using the (standard) z-score in order to make them comparable. Director popularity and six-cycles are positively correlated; the Pearson correlation is 0.22. We delete the first 4 years in order to avoid bias in the estimation of network covariates. The deletion of this number of cases is based on the approach mentioned in the *rem* package that suggests deleting the first events for a duration equal to two times the halflife (Brandenberger, 2018). This ensures that there is no bias in the estimation of network statistics because the first events have very few events to look back at. The estimation of the models was done using the *survival* package in R (Therneau, 2015). Descriptive statistics for variables are presented in Table 2.

Table 2. Descriptive statistics of actor-related and network-related variables.

	Mean (SD)	Min	Max
Number of appointments per director	1.44 (1.02)	1	17
Number of appointments per firm	4.51 (2.41)	1	22
Number of days on board	2,255 (1,760)	335	8,004
Operating revenue of firms, in thousand US \$	275,206 (1,479,987)	10,002	50,538,000
Banks and financial institutions	0.09	0	1
Women	0.14	0	1
Directors with non-Danish nationality	0.12	0	1
Director popularity	0.00 (1)	-0.19	24.51
Six-cycles	0.00 (1)	-0.03	141.35

Source: calculations by the authors based on the Orbis Bureau van Dijk dataset.

Note that our research design is different from the broken ties literature mentioned above. We do not model the tie termination nor reconstitution. We also do not focus only on the firm-by-firm network. In contrast, we aim to understand tie formation in two-mode networks of board interlocks. Ties in these networks are board appointments that take place between firms and individuals. These appointments are events with duration because once an appointment happens, it lasts for a certain time period. Our interest here is in understanding the driving mechanisms of new board appointments and the subsequent formation of board interlocks.

6. Results

We build several groups of models that are presented in Table 3. The first and third models test two hypotheses. The second model is an additional control of the non-linearity of directors' popularity. The fourth model includes the popularity of directors and the six-cycles together in order to test both hypotheses in one model. To obtain unbiased estimates of relational event models, we include control variables related to attributes of actors together with endogenous network covariates in Model 5.

The sizes of effects in models are interpreted as in a logistic regression model. For example, an estimated value of 0.056 for director popularity in Model 1 shows that an increase of one standard deviation in a director's popularity leads to $\exp(0.056) = 1.057$, or a 5.7% increase in the likelihood of this director being appointed. Being a male director in Model 5 is associated with $\exp(0.106) = 1.112$, or a 11.2% increase in the probability of being appointed. We standardize all network variables in order to make them comparable over time and between each other. One standard deviation increase in the network variable indicates that the specific network pattern took place significantly more often in the past, in comparison with the mean number of occurrences of this network pattern.

Model 1 tests the first hypothesis about the tendency of popular directors to attract more corporate appointments. The positive effect of popularity indicates that directors who already have many appointments in the near past are more likely to be appointed to new board positions. The quadratic popularity in Model 2 controls for non-linearity of the observed network microstructure. We find a negative and significant estimate of a squared popularity of directors together with a positive estimate of non-quadratic popularity, which indeed suggests that there is a non-linear relationship. Directors cannot join an infinite number of boards and firms cannot appoint new directors endlessly. Individuals are likely to accept new appointments up to a certain point, but when they already have a large number of concurrent positions, their propensity to participate in more boards decreases. The findings from these models confirm the first hypothesis. While firms seek for reinforcement of already existing ties,

individuals seek for expansion of their connections. Corporate and individual interests match and drive together the evolution of this network.

Table 3. Modeling results, standard errors are in parentheses. Dependent variable is the probability of a board appointment.

	(1)	(2)	(3)	(4)	(5)
H1: Popularity of directors	0.057*** (0.004)	0.145*** (0.009)		0.145*** (0.009)	0.111*** (0.010)
Popularity of directors squared		-0.008*** (0.001)		-0.008*** (0.001)	-0.006*** (0.001)
H2: Six-cycles			0.010*** (0.003)	0.000 (0.003)	0.000 (0.005)
Male directors					0.106** (0.039)
Directors with Danish nationality					0.175*** (0.030)
Operating revenue					0.000 (0.000)
Financial institution or bank					0.108** (0.037)
Number of observed events	14,406	14,406	14,406	14,406	8,454
Number of potential events	183,357	183,357	183,357	183,357	103,185
McFadden R-square	0.001	0.001	0.000	0.002	0.002
Likelihood Ratio Test	178.9	291	11.87	291	227

** $p < .01$, *** $p < .001$. Source: calculations by the authors based on the Orbis Bureau van Dijk dataset.

Model 3 tests the second hypothesis, where we measure the social cohesion of corporate elites and firms by the creation of six-cycle microstructures in the network. The results show that there is a tendency for potential six-cycles to

close and to form small clustered microstructures. This supports the second hypothesis. Six-cycles form when elite group members seek for within-group social cohesion and firms close in triads in order to coordinate their behavior with other firms. We conclude that since the six-cycles tend to form over time, individual and firm interests do drive simultaneously the evolution of the observed network. Firms and individuals seek the reinforcement of already existing ties.

Model 4 includes network covariates that test both hypotheses in the same model. It allows us to see potential changes in strength and significance effects. We observe that the direction and the significance of the popularity remain the same while the effect of the six-cycles disappear. This might be the result of the stronger driving force of the director popularity in the network. Six-cycles contribute to the evolution of the network but the past popularity is a stronger predictor of future ties.

The final Model 5 includes a set of actor-related controls to existing network-related covariates. Board interlocks are driven in part by previous network states of firms and individuals. However, the personal characteristics and attributes of these actors also determine the creation of new appointments and drive the evolution of the whole network. For example, individual-level characteristics such as directors' gender and nationality are arguably relevant predictors of their future appointments because many corporate boards are occupied by old boys' networks, and the majority of interlock networks are represented by national business communities (Edling et al., 2012). Most boards remain very homogeneous and closed to external environments despite studies showing that some level of diversity is beneficial for firms (Miller & Del Carmen Triana, 2009). Firm-related characteristics that are arguably relevant predictors of new board appointments and concomitant interlocks include size measured in operating revenue and the type of the enterprise. Firms of different sizes differ in their interlocking behavior (Lynall et al., 2003; Zahra & Pearce, 1989): interlocks may be more beneficial for small firms as potential resources while large firms may be more valued as interlocking partners because of their closeness to valuable resources, capital flows, and other central actors. In addition, banks and financial institutions traditionally have a very distinct role

in interlock networks, as they are very central and densely connected with other enterprises in the networks of board interlocks (Mizruchi & Stearns, 1988; Pfeffer, 1972). The fifth model includes actor-related controls such as individuals' gender and nationality and operating revenue and the type of firms. Thus, it combines network-related covariates with actor-related controls. At the individual level, we find that males and Danish nationals are more likely to be appointed to boards over time. For firm-level controls, we do not find any significant differences in the network behavior of firms of different sizes. However, financial institutions and banks are more likely to participate in interlocks over time in comparison with firms from other sectors. Note that after adding the actor-related control variables, the significance and the direction of the popularity remains the same and six-cycles remain non-significant.

While the explanatory power of the models is relatively modest (as we see from the R-square value), the consistency and stability of covariate effects over the models show a robust result. Likelihood ratio tests show that the estimated models fit the data significantly better than null models or models without any predictors. The models including the popularity of directors predict the formation of new appointments slightly better, but the inclusion of both variables testing our two hypotheses explains the creation of new ties in a more detailed way. In sum, the modeling results show that both firm-related and individual-related interests drive the dynamics of board interlock networks.

7. Conclusion

Revisiting a classical yet unresolved debate, we engaged with the question of how individuals *and* firms drive the formation of board interlock networks. We argued that the literature that investigates board interlock causes and dynamics suffers from a division that runs along the lines of actor orientation. The organizational perspective predominantly understands board interlocks as means for firms to reduce uncertainties and access resources. The individual-oriented perspective, on the other hand, stresses how board interlocks underpin social class structures and create elite social closure. In response to this persistent controversy, we developed a theoretical and empirical framework that considers both personal and organizational interests as drivers of board interlock

dynamics. Theoretically, we developed a model in which firms and individuals simultaneously make decisions about their network strategies and consequently make a decision about creating or not creating a board interlock tie. Empirically, we applied two-mode relational event modeling as a practical and promising approach for studying social network dynamics with more than one group of actors.

The results of our study show that organizational and individual perspectives are complementary rather than conflicting. In the case of Denmark, we find a high propensity of board interlock network microstructures that reflect both organizational and individual interests. This means that when the broken tie studies asked whether firms or individuals are the drivers behind board interlock creation and maintenance, they may have been asking the wrong question. Our results show that both firm *and* individual drivers play a role in the evolution of board interlocks and we demonstrated the possibility of studying their joint decision making both at theoretical and empirical levels.

For some, it may come as no surprise that our results show how board interlock formation is simultaneously driven by organizational and individual mechanisms. The network formation properties, revealed in this chapter, have been established in numerous papers on corporate networks. The surprise may rather be that, given the arguably obvious nature of our results, the persistent calls for a proper two-mode approach to board interlock formation have remained largely unanswered. In general, the disciplinary borders and divisions of literatures are difficult to overcome, especially when an empirical strategy requires sophisticated and innovative methods. We consider this as a theoretical-methodological conundrum that is difficult to disentangle. We hope that with our contribution we have made the first step towards this disentanglement. The novelty aspect of this paper is in demonstrating a new theoretical and empirical approach to investigating the duality of persons and groups in social networks. We show that competing drivers of ties may co-exist in one social system. Revealing these patterns is not restricted to our methodological and empirical approach, we believe that similar results can be obtained, using two-mode network models such as two-mode SAOM or two-mode ERGM. A potential drawback of REM is that it is not able to capture a dependence between a local

tie and ties situated elsewhere in the network. Actors can react to signals outside of their closest network neighborhood and coordinate behavior in relation to actors located further away in the network. This issue of measuring these influences coming from further located ties can be a further extension of the presented analysis.

Building on the case study of Denmark, we believe that our approach also opens up new research avenues for a comparative analysis of corporate governance systems across the globe. Corporate networks are a well-known element in the varieties of capitalism, and our approach makes it possible and practical to not only compare static snapshots of board interlock networks across countries but to comparatively study the mechanisms that generate them. Comparing across countries, we would expect to find stronger effects for organization-related drivers in countries closer to liberal market economies, and stronger effects for individual-related drivers in countries closer to the coordinated market economy model (Soskice & Hall, 2001; Van Veen & Kratzer, 2011). Comparative studies, however, need to take into account a variety of corporate governance policies that can influence board appointments. For example, gender quotas (e.g. Terjesen et al., 2015), requirements for a minimum number of independent directors (e.g. Duchin et al., 2010), and increased regulatory responsibility for executives (e.g. Withers et al., 2018) will have an effect on new corporate board appointments over countries. Comparing global corporate networks over time and taking into account local policies, our approach can track the dominance of individual and organizational drivers and their changes relative to each other. The latter would, however, require serious advances in data quality and availability across different countries. In the case of Denmark, we found that the majority of ties are created in the interests of both groups of actors that can be explained with a hybrid type of market economy typical for Denmark (Campbell & Pedersen, 2007; Rose & Mejer, 2003).

Another avenue for future research is the influence of node properties on network strategies of firms and individuals. Individual properties that allow studying the role of diversity in network creation and dynamics would be the first step for future research. For example, in the case of gender, potential female appointments would influence the network building strategies of

homogeneous and heterogeneous boards in different ways. Also, cross-country comparison with additional node attributes might show that individual characteristics influence the dynamics of the network in different ways, depending on the institutional settings of countries. Further studies also require methodological innovations in the field of dynamic network analysis. For example, one of the network building strategies that we do not address in this chapter is a brokerage strategy. It can be measured using the network distance but implementing the distance would be computationally expensive at the moment. This issue requires computational innovation and more efficient network algorithms.

Our work may also inspire new empirical studies on the diffusion of practices between interlocking boards. For instance, Shropshire (2010) presents a multilevel theory of diffusion of practices through interlocks that have not yet been empirically tested. In her model, there is a two-mode understanding of the diffusion process as board members are those actors who transfer the practice and the board of the firm accepts or rejects the practice. Individuals and boards together participate in the process of the transmission. However, as we pointed out throughout this chapter, this multilevel aspect of the transmission is usually ignored in the theoretical and empirical literature. Using our approach, i.e. including attributes of individuals and boards to the model, it is possible to further test Shropshire's theory empirically and predict how the practice transmission would spread in the network. This allows us not to ignore the agency of both groups of actors and control for contextual and network effects that together drive the transmission of relevant practices. The approach presented in this chapter seems well suited for the empirical testing of multilevel theoretical models, similar to the board practice transmission model of Shropshire (2010).

This study also speaks to a more fundamental discussion on the duality of actors in social systems (Breiger, 1974). To what extent can we separate the actors and the groups they create together and are embedded in? Our response to this core issue of social science is to make an effort to include both the individuals and the groups they create as actors that may contribute to network tie creation. We accept that it is difficult to detach organizational interests from individual

interests, but choose not to ignore them but rather treat them as part of one social system. We recognize that the research design we have developed here lends itself to application in different settings. Most empirical cases consisting of organizational and individual units face similar situations of contradicting interests. In the socio-economic world, it is common for individuals to be embedded in social groups: employees are affiliated with organizations or unions, students study at schools, and online users are members of interest groups. These literatures typically suffer from the same problem as board interlock literature: neglect of ties between individuals and groups and a focus on only one type of actors. This actor choice is usually theoretically informed and as such is not a mistake per se. But often it is possible to present an alternative theoretical explanation which would require the inclusion of the other set of actors. Most socio-economic systems are characterized by the duality of actors, and their agencies should no longer be ignored. With new methodological techniques and large datasets about human and organizational behavior, it has become possible to solve classical theoretical debates that have gone unresolved for decades. It is challenging to revise our conventional ways of thinking about actor behavior in social systems, but if we are able to overcome these barriers, we will gain new insights about the beauty of complex social systems.

In line with the previous chapter, this chapter investigated how the corporate elite network is organized and dynamically evolves within national contexts. This chapter showed that corporate networks are highly complex, even within the national domains, and are characterized by the duality of actors and their interests. The findings of this chapter also demonstrate that the Danish corporate elite is highly homogeneous in terms of gender and nationality of directors, which indicates that elite reproduction within national contexts follows specific rules. The following chapter investigates the differences in corporate elite reproduction within national and transnational domains.

Chapter 5. Are individuals with noble titles more likely to be a part of the transnational elite?

* This paper is an adaptation of Valeeva D. (2021). Are individuals with noble titles more likely to be a part of the transnational elite? Under review in *European Sociological Review*.

Abstract: Scholarship on modern aristocracy shows that individuals with noble titles have a persistent socio-economic advantage in the form of obtaining high class occupations and elite positions within their nation-states. But research has not investigated if this advantage also transfers to the transnational domain, even though it has been established that elites are globalizing today. Yet studying the advantage of the nobility on the global scale is crucial to understanding the transformations in the transnational elite reproduction. The paper asks the question if individuals with noble titles have an advantage in obtaining transnational corporate elite positions, using a unique dataset of 20 million corporate board members. The findings show that these individuals are more likely to obtain transnational board positions in comparison with individuals without a noble title. I argue that to enter the transnational field, individuals with noble titles apply diverse strategies, depending on the varieties of their capital. The study concludes that elite reproduction in the transnational domain is not significantly different from elite reproduction existing within national contexts.

1. Introduction

Many late capitalist societies subscribe to an idea of meritocracy and democratic equality. This stands in stark contrast with the notion of inherited privilege, such as being from an old aristocratic family. While modernization theorists have hypothesized that obtaining positions in modern societies is more often based on achieved characteristics such as intelligence, education, and motivation than on ascriptive characteristics such as holding a noble title, this meritocracy-based society exists largely at discursive and ideological levels (Blau & Duncan, 1967; Khan & Jerolmack, 2013; Parsons & Bales, 1956; Shavit & Blossfeld, 1993). Numerous studies show that meritocracy is rarely a real driver for social mobility and non-merit characteristics are still highly significant for obtaining high class occupations and reaching elite positions (Jackson, 2006, 2007; Mijs, 2019; Shavit & Blossfeld, 1993). This is also confirmed by empirical papers on modern European aristocracy that reveal that members of noble families still tend to obtain significant socio-economic positions within their nation-states in comparison with their competitors from high-bourgeois families (Korom & Dronkers, 2009; De Saint Martin, 1993; Schijf et al., 2004). These differences in life chances of noble-titled and non-noble-titled individuals are largely driven by the types of capital that are in the hands of individuals from different family backgrounds. Aristocracy, even if it does not have legal privileges in most modern societies anymore, is able to activate its capital and apply its modernized version to new circumstances (Dronkers, 2003).

At the same time, since the closing decades of the 20th century, elites, and to be more specific: corporate elites, have become increasingly oriented towards the international domain, moving away from, and as a consequence fragmenting, their long-standing national elite communities (Mizruchi, 2013). The globalization of elite interests, networks, and actions has been recognized as a recent trend in elite behavior (Khan, 2012b) and has been extensively theorized by global capitalism scholars (Robinson, 2004, 2017; Robinson & Harris, 2000). Corporate elites are likely one of the most globalized elite groups within the new stage of globalized capitalism: these individuals are often educated

abroad, work in large multinational corporations, meet at transnational policy-planning meetings, and are citizens of the world, as manifested in their cosmopolitan lifestyles (Carroll, 2010; Sklair, 2001). Besides, the sociological research hypothesizes that these individuals might be the first holders of internationalized forms of capital, forming as a result of international networks, professional, and educational experiences abroad (Brooks & Waters, 2015; Bühlmann et al., 2013; Bühlmann, 2020; Prieur & Savage, 2013; Wagner, 2007).

This ongoing globalization of elite interests, networks, and actions, provides an additional dimension to the question of the socio-economic privilege of the national nobility on the global scale. Individuals from noble families are, on the one hand, characterized by old forms of capital, and obtain influential positions within their nation-states by modifying these capital configurations to new, more modernized environments. This is suggested by recent literature on modern European aristocracy. But at the same time, the newly establishing global space for national elites might have been founded on a distinct set of rules, based on more internationalized forms of capital, where a noble title would not play a role anymore, as implied by scholarship on internationalization of capital forms. Still, it is not clear how the elite reproduction is organized in the global domain and whether or not individuals obtaining privileged positions within nation-states also tend to reach significant positions at the transnational scale. To shed light on this issue, this chapter asks the following research question: Are individuals with noble titles more likely to be a part of the transnational corporate elite? Answering this question is critical for gleaning an understanding of the fundamental changes in the elite reproduction process that might have occurred as a result of globalization of elite interests, networks, and actions.

The current paper investigates the positional advantage of noble individuals in obtaining transnational corporate elite positions, using a large and unique dataset of 20 million corporate board members. Combining quantitative investigation of the positional advantage with qualitative interpretations of network-building strategies of individuals, the findings demonstrate that individuals holding noble titles are more likely to obtain corporate elite

positions in multiple nation states in comparison with individuals without noble titles. I further argue that to enter the globalized elite field and sustain their status within it, individuals who are considered part of the nobility apply diverse strategies, depending on their capital configurations. I develop this argument by exploring said strategies of the individuals with noble titles to sustain social status at the global scale, while focusing on their embeddedness in networks of relations with each other. The chapter concludes that obtaining global elite positions is still largely based on types of capital created and reproduced within national elite fields. Thus, answering a fundamental question of the global elite reproduction, this paper shows that the transnational elite reproduction is largely based on capital types produced within national fields.

The chapter makes two key contributions to the sociology of elite reproduction. First, the paper makes a theoretical contribution to elite reproduction and global elite studies. While it has been theorized that globalization transformed elite behavior and interests, this chapter shows that elite reproduction mechanisms remain relatively similar within national and transnational domains. The paper uncovers that specific capital configurations of national elite members might contribute to obtaining prominent elite positions at the transnational scale. As a result, the chapter stimulates theoretical discussion, emphasizing that we need to reconsider the ways in which national elites become globally-oriented and how they apply or modernize their nationally-formed capital to new environments. Second, the paper makes an empirical contribution to the elite research by basing its results on a unique and large-scale positional dataset of corporate board members. While there are a number of high-quality analyses of national nobility and national elites (see, for example, González, 2019; Naudet et al., 2018; Schijf et al., 2004), to my knowledge this is the first large-scale investigation that combines an analysis of the global corporate nobility, their global networks of connections, national and transnational positions, and capital. The findings of this chapter go beyond investigating elite groups within one country or a region, which allows it to map the current state of the corporate elite globalization, and to draw data-driven conclusions about the processes of elite reproduction within national and transnational spaces.

The rest of the chapter is structured as follows. The following section situates this research in the field of the socio-economic advantage of nobility and of the globalization of national elite groups studies. Section 3 presents the data and methodological approach. Section 4 is an overview of the results, consisting of quantitative and qualitative investigation of the positional advantage and network building strategies of individuals holding noble titles. The final section concludes the paper by discussing elite reproduction mechanisms at national and transnational domains.

2. Persistent socio-economic advantage of noble families in modern societies

As modernization theorists argue, obtaining high social and professional positions in modern societies is more likely based on an individual's achieved characteristics than on ascribed ones (Blau & Duncan, 1967; Parsons & Bales, 1956). From this perspective, being educated should have a stronger influence on reaching the upper sports of the social ladder than, for example, being from a noble family. Even though the idea of meritocracy has been largely promoted in late capitalist societies, it still exists mostly at an ideological and discursive level, as numerous empirical studies demonstrate (Jackson, 2006, 2007; Shavit & Blossfeld, 1993). Meritocracy is basically a set of socially defined rules and codes that can be easily adapted for preserving the advantageous positions of elites, as Khan reveals in his boarding school study: children from elite families can easily navigate between 'saying the meritocracy' but 'doing the privilege' (Khan, 2012a; Khan & Jerolmack, 2013). Merit is not the key predictor of the position and success in the labor market and it probably is not the strongest factor influencing upward social mobility.

Non-merit characteristics do, in fact, play a particularly significant role in getting high class occupations and reaching elite positions. As empirical literature on modern aristocracy shows, elite reproduction in European countries with a historically prominent role of aristocracy did not change dramatically over the course of time: offspring of noble families still have significantly higher chances of obtaining high class occupations in comparison with their competitors from non-noble social backgrounds. In the study of Dutch noble

families, Schijf et al. (2004) find that the likelihood of achieving elite societal positions has not significantly decreased for different generations of noble families, indicating that these families have efficiently preserved their positional advantage in modern days. Hartmann and Kopp (2001) explore the influence of social origin on the entrance to the German corporate elite circles and show that holding a noble title has a stronger effect on becoming an elite member than the already positive effect of being from a high-bourgeois origin (Schijf et al., 2004). Korom and Dronkers (2009) reveal that the Austrian nobility has a six-fold larger chance of becoming a member of the Austrian economic elite in comparison with individuals who are not considered part of nobility, also leading them to the conclusion that high professional positions are still being occupied by groups of people that share a common social past in the form of belonging to aristocratic lineages.

The persistent socio-economic and positional advantage of individuals with noble backgrounds in European societies can be explained by specific constellations of economic, social, cultural, and symbolic capital that is still largely preserved and safeguarded within these families. These families continue to activate their capital by engaging in practices that allow preserving their long-standing privilege. This is, for instance, a preferential marriage, which is still common practice among modern aristocracy (De Saint Martin, 1993; Marcassa et al., 2020). This practice allows to strengthen social ties within elite groups, while contributing to the increased elite cohesion and coordination, and leads to enhancing social capital. Being connected by family and friendship ties, participating in exclusive social clubs, and being highly selective about new group members are common ways for elites to delineate their circles from outsiders, and to preserve their internal group cohesion (Mills, 1956; Useem, 1984). The families with noble histories continue following these types of practices, aimed at strengthening their internal elite cohesion, thereby allowing them to preserve their positional privilege even in modern days.

Besides being able to successfully transfer capital forms over generations, noble families also manage to adapt and convert their capital to new circumstances and succeed more often in reaching high societal positions in comparison with competitors from high-bourgeois families (Conze, 2000). The specific

constellations of capital can become prominent in language, manners, and taste that together serve as significant markers of social class and family origin (Bourdieu, 1984, 1993; Bourdieu & Passeron, 1990). These non-ascribed skills of individuals with noble backgrounds can give them an advantage in fitting scarce high class positions over the individuals without noble titles with high education and outstanding skills (Friedman, 2020). This does not mean, however, that the role of education has entirely vanished: in a study of Dutch nobility, Dronkers (2003) establishes that the aristocratic titles indeed give a professional advantage, but that this effect of a noble origin is stronger when it is combined with relevant educational degrees of candidates. As we see, individuals with noble backgrounds effectively use their “modernized old social and cultural capital” (Dronkers, 2003, p. 93) to remain relevant in modern societies, and therefore are more likely to succeed when it comes to filling high class occupations, reaching influential societal posts, and entering elite circles.

2.1. Globalization of elite interests and networks

All described factors contribute to the persistent socio-economic advantage of individuals with noble backgrounds within their respective nation-states. Yet, the question of their enduring positional privilege on a global scale has not yet been investigated. This question is raised as a response to a recent trend observed in the behavior of various elite groups across the globe: their interests are transitioning from national to international domains, while this transformation is becoming evident in the globalization of their lifestyle, networks, and actions. Globalization did not disregard elites: today their children receive education abroad, marry internationally, work and live all over the world (Isaak, 2005)—indicating that elite formation and reproduction might also experience essential transformations in line with these recent trends.

The globalization of elite interests, networks, and actions, even though it has been recognized as a recent and novel direction of elite behavior (Khan, 2012b), has rarely been empirically investigated by elite scholars. Methodological nationalism remains present in this field of research and brings us a wide range of high-quality analyses of elite formation, reproduction, and networks, albeit within national domains (see, for example, Denord et al., 2018; Larsen &

Ellersgaard, 2017; Sherman, 2018; Toft, 2018). In some contributions, international ties or experiences of national elite members are taken into account (see, for example, Bühlmann et al., 2013; Monier, 2018) but the focus remains on the national domains which, without doubt, remain significant spaces for elite formation, reproduction, and actions.

Yet, the globalization of elites, or to be more specific, of corporate elites, has been theorized extensively in the realm of the global capitalism theory (Robinson, 2004) and has resulted in a number of empirical contributions on the transnational capitalist class formation (Carroll, 2010; Sklair, 2001). This literature argues that the ongoing shift in global production and capital accumulation has resulted in the emergence of the transnational capitalist class, or a group of individuals interested in the control, ownership, and accumulation of the globalized capital. Corporate elites, key functionaries of this emerging class, are one of the major globalized elite groups that are particularly characterized by interests and actions, crossing national borders (Sklair, 2001). These globalized elite members have an outward-oriented global rather than the national view on various economic, political, and cultural issues and are characterized by strong support of the globalizing markets, finance, and property. These globalized corporate elites preserve their embeddedness in networks of institutions and actors within their nation-states, but are also part of institutions that cannot straightforwardly be defined as national, and therefore can be referred to as the members of the transnational elite. Obtaining positions in transnational governmental and non-governmental institutions, corporations, and policy planning groups, this transnational elite group is able to pursue political actions at national and global levels (Murray, 2014, 2017). If there is this transnational corporate elite with established outward-oriented interest and the possibility of coordinated actions, the open question is: how is this elite group reproduced? Is elite reproduction within the global space significantly different from reproduction, existing within national domains? And to be more specific, does the positional privilege of individuals who are considered noble also transfer to the transnational elite space? This study aims to answer the last question, as a contribution towards shedding light on the first two.

2.2. Entering the transnational corporate elite field

In order to investigate the elite reproduction, we first need to delineate the various spaces in which globalized corporate elite members can be situated. We can think about the emerging transnational space for elites to socialize, form connections, and act as a field in a Bourdieuan sense, or as space, characterized by different types of positions that are determined by various capital compositions (Bourdieu, 1986, 1996). Individual elite members from nation-states may share a common interest in sustaining this field but, at the same time, will inevitably compete for scarce positions within it. Because the globalization of elite interests is an emerging phenomenon and skewed to specific parts of the world, as some chapters of this dissertation have shown, the rules of this transnational field might be still under construction.

However, it is possible to differentiate between two distinct ways for national elite members to obtain and accumulate positions within this emerging transnational corporate elite field. One way is by using novel approaches for reaching key positions within this field, the second way is through following elite reproduction mechanisms already existing within nation-states. However, it remains unclear which way actually takes place in the transnational field, as it consists of multiple national elite fractions that might be in coordination with each other, yet also in competition. For instance, while the Anglo-American fraction of the global elite is still strong and continues dictating the rules of the global game, there is also an ongoing restructuring of the global elite network and the emergence of new power centers, as some chapters of this dissertation have already demonstrated.

The first route for national elite members to enter the transnational field and accumulate positions within it, is by following new rules of elite formation and reproduction distinct from the ones already existing within nation-states. This is suggested by the transnational capitalist class theory of Sklair (2001), who notes that the globalized corporate elite fraction of the transnational capitalist class is characterized by cosmopolitan lifestyles, international educational patterns, consumption of luxury goods and services, and the identity of ‘citizens of the world’. By obtaining influential positions within their nation-states and across

borders, they are able to exert control in economic, political, and cultural spheres and promote profit-oriented, consumerist, and globalized values and practices. In addition, cultural sociologists show that today we observe the increasing internationalization of some capital forms or even the emergence of the so-called cosmopolitan capital (Prieur & Savage, 2013; Wagner, 2007). In empirical papers, this capital is considered either as a specific form of internationalized cultural or social capital (Wagner, 2007), or as a supplementary capital form, distinct from cultural and social capital (Bühlmann et al., 2013). This new type of capital is reflected, for example, in the ability to travel abroad, to be familiar with other cultures, and have international connections. Besides, it has been established that the taste of elites is becoming more omnivore these days and this transition also contributes to internationalizing and expanding their capital forms (Friedman et al., 2015; Friedman & Reeves, 2020). These two streams of literature suggest that the noble origin of individuals might not be easily identified by others in the transnational elite field, while other international markers of capital in the form of international socialization and experiences, cosmopolitan worldview, lifestyle, and taste, play a more significant role in entering global elite circles. González (2019) confirms this assumption in the study of the British corporate elite, showing that rich international work experience of corporate board members contributes to the strengthening of their positions within the transnational elite field: individuals with international experiences tend to accumulate transnational board positions while individuals holding noble titles do not.

But we might also think about a different scenario, or a second way of obtaining positions within the transnational field. One that is more in line with the literature on the persistent socio-economic advantage of modern European aristocracy in modern societies. As it has been outlined above, this literature reveals that members of noble families still tend to obtain high class occupations and reach elite positions within their nation-states, as they are often the holders of specific capital types produced within these national borders. In this case, we might hypothesize that if individuals with noble titles already obtain influential positions within their nation-states, they are possibly also well-positioned networkers who have easier access to international circles.

Because nobility exists in many societies across the globe and used to be a historically significant hierarchy of distinctions that differentiated between social classes, the specific capital configurations associated with being a member of aristocracy might be easily transferred to new environments. If this scenario is correct, holding a nationally-produced distinction in the form of holding a noble title would contribute to the reaching key positions within the transnational elite field.

Despite a number of high-quality analyses recognizing the internationalization of elite overview, practices, and capital, little is known about elite reproduction within the transnational domain. It remains unclear which of the outlined ways of entering the transnational field are in place: the first, utilizing internationalized capital forms or the second, based on nationally-determined markers of status and position. To uncover which of these entrance mechanisms is present, this chapter tests the following central hypothesis, in line with the stream of the literature on the persistent socio-economic advantage of modern nobility:

H: Individuals with noble titles are more likely to obtain transnational corporate elite positions in comparison with individuals without noble titles.

If the hypothesis is confirmed, this may indicate that elite reproduction within the transnational field is not significantly different from elite reproduction mechanisms existing within national contexts. If holding a noble title is a significant predictor of becoming a transnational corporate elite member, this would mean that the transnational field is largely based on rules and distinctions that are determined within national elite contexts. In this case, the globalized field for elites to meet, socialize, and act is a supra-national space that has not yet completely transcended to the transnational level. If the hypothesis is rejected, and holding a noble title is not a significant predictor of obtaining transnational positions, this would imply that the transnational field is more than just an accumulation of national elite fields, and that it is already situated beyond national systems of distinctions employing its own markers of social status that are distinct from nationally-determined ones. This would also mean that a truly transnational field has, indeed, emerged, and is not based on the

nationally-produced types of capital that national elite members bring with them to this field. It would indicate that elite reproduction within the transnational field significantly differs from the elite reproduction existing within national domains.

The purpose of this chapter is to investigate the question of elite reproduction within national and transnational contexts with a focus on the positional advantage of individuals with noble titles. The focus is on members of the corporate elite because they are one of the main pillars of the transnational capitalist class and key functionaries of it (Sklair, 2001; Robinson, 2004). Comparing individuals holding noble titles with non-titled individuals, this study shows how the noble advantage is reproduced in the transnational field. I argue below that the strategies of individuals who are considered part of the nobility to enter the transnational field and sustain their status within it vary depending on their access to nationally-determined capital levels.

3. Data and Methods

The data used for this study was extracted from the Orbis Bureau van Dijk dataset in December 2017. Orbis contains detailed data on around 200 million corporations across the globe, collected from official country registrars. The board positions of individuals all over the world were extracted, and these individuals are referred to as members of the corporate elite. For each individual, it is possible to count the number of countries in which this person obtains a position at boards of directors. Using the terminology of Carroll (2009), I refer to those individuals who obtain board positions in corporations located in only one country as ‘national networkers’ and those who obtain board positions in more than one country as ‘transnationalists’. There are 20,799,379 corporate board directors in our dataset: 20,533,583 of them are national and 265,796 of them are transnational.

Orbis has unique identification numbers, full names, and titles of individuals, together with some personal information such as age, gender, and country of nationality. The majority of individuals do not have any titles. A set of individuals in the dataset has common honorific titles such as ‘Mr’, ‘Ms’, ‘Signore’, ‘Sri’; professional honorifics such as ‘professor’, ‘reverend’,

‘admiral’; academic title honorifics such as master, ‘MBA’, ‘PhD’. A very small fraction of individuals have noble and royal titles such as ‘baroness’, ‘lord’, ‘marquis’, ‘pengiran’, ‘sheikh’. But Orbis does not have a variable that would categorize titles in noble or non-noble. Using automatic detection of the most common noble titles in the dataset and taking into account the variations in spelling and country-specific differences in aristocratic systems, I created a codebook of noble titles that are present in the Orbis dataset. The codebook is presented in an Online Appendix that is available at the Open Science Framework website <https://osf.io/93bjn/>. Individuals were coded as noble if they have hereditary titles or belong to higher ranks of the peerage. For example, ‘baron’ is a hereditary title in many countries that can be passed through generations while ‘sir’ or ‘knight’ belong to the lower peerage ranks and are usually awarded to citizens who demonstrated outstanding achievements and can not be transferred. This choice is explained by higher status, associated with having higher peerage titles. Also, if these titles can be inherited in most cases, it means that there is a family history of noble pedigree that often results in higher levels of other types of capital, transferred through generations.

Data collection and cleaning was a laborious process, including the combination of automatic text analysis techniques and manual search, using a wide range of available online sources such as LinkedIn profiles, corporate websites, family trees, and available sources about peerage and nobility systems across the globe. There is no one source or dataset with all individuals in the world who hold noble titles and here I aimed to reconstruct the global picture as fully as possible with openly available sources. Because the Orbis is collected from multiple data sources, the data quality varies. One of the cases that needed additional manual checks are variations in the spelling of names and titles. For instance, ‘Duke of Somerset’, ‘John Michael Edward Seymour, 19th Duke of Somerset’, ‘19th Duke of Somerset’ are all the different variations in the spelling of the name of one person. Also, it is often the case that a person holds a few titles and some of them are non-noble while others are noble: for example, a person can be a ‘PhD’ and be a ‘sheikh’ at the same time. In these cases, noble titles would overwrite non-noble titles, meaning that this person would be considered as an individual with a noble title. Individuals holding noble titles were also

additionally manually checked because sometimes individuals, automatically identified as holding a noble title, were, in fact, not (e.g. 'Prince' and 'Princess' are common names in some countries). After applying the codebook, the dataset of titles was updated, applying these named changes and correcting other smaller inconsistencies.

A small fraction of individuals in the dataset is of noble origin: only 5,837 (0.028% of the total number of individuals in the sample). The proportion of noble families is low in the population and the small fraction of individuals who are considered part of the nobility in our dataset is not surprising. For example, Walterskirchen (2007) estimates that 1.4% of the Austrian population is considered of noble origin. In our case, the proportion is even smaller because we do not analyze all noble families in the world, the dataset only contains information about individuals who obtain positions on corporate boards. In this sense, this chapter investigates only the corporate nobility.

To study the influence of noble origin on becoming a transnational corporate elite member, I estimate a set of logistic regression models. The dependent variable is a dichotomous variable with two categories: being a national (0) or a being a transnational (1) corporate elite member. Because Orbis is gathered from multiple data sources, some transnational positions of individuals are double-counted and it is not possible to calculate the exact number of transnational positions for each individual. For this reason, the dependent variable is dichotomous and not continuous. Control variables are gender (1 is male), age (in continuous scale), country of nationality (categorical). Orbis contains a large amount of missing data about the nationality of individuals and this leads to a large drop in the number of cases in some of the presented regression models. While for the transnational individual with noble titles it was possible to manually gather data about their nationality from online sources, this does not seem possible for the full sample of 20 million individuals in the dataset. The visualization of the corporate nobility network has been done in Gephi (Bastian et al., 2009).

4. Results

The results consist of three parts. First, I investigate differences between various subsamples of individuals in the sample: transnational and national individuals, individuals with noble titles and individuals without noble titles. Second, I present the results of a logistic regression that tests the advantage of individuals who are considered noble in the transnational field. Finally, I explore the structure and properties of the global corporate nobility network and zoom into the strategies of nobles to enter the transnational field.

4.1. Personal characteristics of the global corporate elite

To describe differences between national and transnational individuals, and those with and without noble titles, the sample is divided into four groups. Table 1 presents differences between four groups of individuals with regards to their gender and age groups. The transnational field is predominantly male: more than 80% of corporate elite members here are men. The national nobility has a relatively large proportion of women, and these numbers are largely driven by European noblewomen who obtain a large number of positions in charities, foundations, philanthropic organizations, and trusts within their nation-states. Being actively involved in these types of organizations is a part of the image of European noblewomen: participation in these organizations brings connections with other noble families, increases social status and visibility of a family, and demonstrates the social function of an aristocracy as a group to the rest of the society (Monier, 2018; Prochaska, 1980).

Table 1 also indicates that the transnational field consists of on average older individuals in comparison with national fields. Transnational non-nobles are on average 2 years older than national non-nobles, and the same holds for transnational nobles who are also around 2 years older than national nobles. The oldest group in the dataset is the transnational individuals holding noble titles, which is partly driven by a number of sheikhs from Middle Eastern countries who often obtain transnational positions and are on average older than individuals with noble titles from Europe.

Table 1. Personal characteristics of individuals with and without noble titles among national and transnational individuals. Mean values are presented, standard deviations are in parentheses.

	National non-noble	Transnational non-noble	National noble	Transnational noble
Gender (1 = male)	0.70 (0.46)	0.88 (0.33)	0.57 (0.49)	0.82 (0.38)
Age (in years)	50.16 (13.96)	52.21 (11.20)	59.99 (15.76)	62.54 (11.89)
Total number of individuals	20,527,925	265,617	5,658	179

Source: calculations by the author based on the Orbis Bureau van Dijk dataset.

From this first exploration, we see that the national group of individuals is much more diverse in terms of gender and age distribution, while the transnational group is more selective. One would expect that the transnational field would consist of younger individuals with a cosmopolitan worldview who are open to work and live abroad. For instance, Savage (2010) shows that younger people are often characterized by having a cosmopolitan cultural capital that would make them different from older age groups, mostly oriented towards national cultural forms. But, as Table 1 shows, the transnational group is characterized by having a larger proportion of individuals with noble titles, there are more men than women among them, and they are on average older in comparison with individuals from the national group.

4.2. Persistent advantage of nobility in the transnational field

To explore the differences in chances of individuals with and without noble titles to enter the transnational field, I run a group of logistic regression models and present the estimates in Table 2. The dependent variable in all models is being a member of a transnational corporate elite group. Model 1 is the key model, testing the noble advantage, while other models include control variables

that can also influence the propensity of being a transnational corporate elite member.

All the models indicate that being an individual with a noble title increases the likelihood of becoming a transnational corporate elite member. Using the coefficients of Model 1, we can infer that the odds of being transnational for individuals with noble titles are $\exp(0.89) = 2.44$ times higher than the odds of being transnational for individuals without noble titles. This positive effect of holding a noble title remains stable and significant in all models, showing that there is an enduring noble advantage in the transnational corporate elite field. Models 2 and 3 demonstrate that being a male and being older also contributes to the likelihood of being a member of the transnational corporate elite. It means that the transnational field is highly selective: it requires being part of the old boys' network and to be experienced, if we consider age as a proxy of work and life experience.

Being British can increase the likelihood of becoming transnational, and we test for this propensity in Models 4 and 5. The influence of being British can be explained by a well-known system of British honors that is recognizable all over the world and by a unique position of London in the European corporate network (Heemskerk, Takes, Garcia-Bernardo & Huijzer, 2016). Being a British national decreases chances of becoming transnational, as we see from negative and significant estimates in Model 4.

Model 5 includes an interaction term for being British and holding a noble title: British nobility might have higher chances of entering the transnational field, as we see from a positive estimate of the effect, but this effect is not significant. This is largely explained by the fact that the British nobility tends to build dense networks of relationships with each other and prefers staying within national borders, strengthening connections within their national elite circles. If we would concentrate on only the British nobility, having a noble title might have contributed to obtaining and accumulating transnational positions, as González (2019) shows in his detailed study of British nobility. In our case, we compare individuals with British nationality with individuals holding other nationalities, and the effect of being British is not significant.

Table 2. Likelihood of being a transnational corporate elite member. Effect parameters of a logistic regression, standard errors are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)
Noble	0.89* (0.08)	1.03* (0.08)	0.69* (0.08)	1.02* (0.08)	1.00* (0.12)	0.66* (0.08)
Male		1.11* (0.01)	1.32* (0.01)	1.31* (0.01)	1.31* (0.01)	1.31* (0.01)
Age			0.01* (0.00)	0.01* (0.00)	0.01* (0.00)	0.01* (0.00)
UK national				-1.14* (0.01)	-1.14* (0.01)	
Noble with UK national.					0.04 (0.17)	
European national						-0.40* (0.02)
North American national						1.93* (0.02)
Asian national						0.95* (0.02)
N obs	20,799,379	19,559,226	7,269,792	6,262,115	6,262,115	6,200,669
AIC	2,845,792	2,746,919	1,717,180	1,484,614	1,484,616	1,398,744
Nagelkerke R ²	0.00	0.02	0.03	0.06	0.06	0.07

* p < 0.001. Source: calculations by the author based on the Orbis Bureau van Dijk dataset.

Model 6 controls for other nationalities that can also contribute to higher chances of becoming a transnational corporate elite member. The model shows that being a European national in fact has a negative effect on the likelihood of moving to the transnational field while North American and Asian nationals are more likely to become transnational. European and American corporate elite members are usually considered as members of the Anglo-American ruling class and represent the core transatlantic group of the global corporate elite (Carroll, 2010; Fennema, 1982; Van Der Pijl, 1984) while Asian corporate elites are potential growing power groups that are successfully integrating into western business (De Graaff, 2020). In our case, only being American or Asian national is positively associated with becoming a member of the transnational corporate elite. This result might indicate that there is indeed an emergence of Asian corporate elites entering the transnational field and the decline of the European corporate elite.

The modeling results present evidence for the enduring advantage of individuals holding noble titles that transfers to the transnational corporate elite field. This first quantitative investigation shows that individuals with high levels of specific types of capital, that can be manifested in holding a noble title, have an advantage in reaching positions within the transnational field. But these nationally-created capital types can be used in different ways in the transnational field, and the strategies of applying them are explored in a more qualitative manner in the forthcoming section.

4.3. Varieties of strategies to sustain the position within the transnational elite field

While there is a small group of individuals in our sample who hold noble titles and obtain transnational positions at the same time, this group is very diverse. What is common for all of them, however, is that these individuals all struggle for positions and status in this newly establishing transnational field. I further argue that in order to enter this field and sustain their status within it, these individuals apply diverse strategies, depending on their relation to the capital. I develop this argument by going deeper in exploring their strategies to deal with

this capital and focusing on their embeddedness in networks of relations with each other.

We first zoom in on the group of individuals holding noble titles by visualizing the network of corporate nobility in Figure 1. In this network, two individuals who are considered noble are connected if they hold board positions in the same organization, and transnational individuals have a larger node size. Out of 5,837 individuals with noble titles, only 1,700 people (30%) obtain positions within the same organization with another member of nobility. The rest are network isolates and are not presented in Figure 1. This means that in the majority of cases, individuals with noble titles do not tend to hold positions together with other members of nobility: individuals holding noble titles are equally well-connected with individuals without noble titles. There is no any prominent cluster of transnational individuals: they are evenly distributed among different parts of the network.

This network is relatively dispersed and consists of a large number of small components that are defined by regional and national borders. The largest connected component of the network is represented in the center and consists of the British nobility. These individuals are all densely connected because the British nobility often meets at the boards and committees of the same funds, charities, foundations, research institutes, media companies. The most exemplary organizations are, for instance, The British Museum Friends, The Cambridge China Development Trust, Institute for Public Policy Research, The Economist newspaper. These organizations have a few individuals who are considered part of the nobility on their boards or trustee committees and they are well-embedded in national networks of similar types of organizations together with other members of nobility. There are also cases when British nobility members are on boards of more profit-oriented corporations abroad, such as financial institutions, banks, industrial firms, while they do not leave their national networks. In these cases, these individuals are on boards of a few multinational corporations, on boards of British cultural institutions, and might have had governmental positions before. Due to relevant education and experience, these individuals are involved in global corporate networks and at the same time are embedded in national elite circles by being associated with

significant cultural institutions and clubs. In the majority of cases, British nobility does not own the corporations that they are affiliated with. Instead, they control museums, foundations, institutes and they are invited on these boards because of their social, cultural, and symbolic capital.

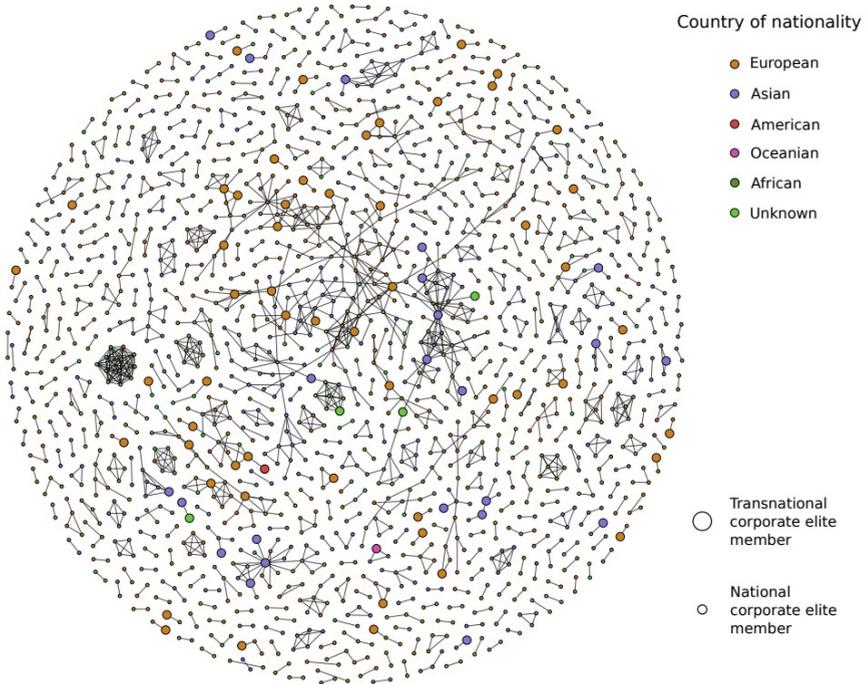


Figure 1. The global network of the corporate elite nobility. Nodes are individuals with noble titles, edges are being the board members at the same organization. Node color indicates the nationality of individuals. Larger node sizes are transnational corporate elite members. Source: visualization by the author based on the Orbis Bureau van Dijk dataset.

Other densely clustered groups of nodes in Figure 1 are much smaller in the group size and are located on the network periphery. These are also members of the European national nobility, who, besides being affiliated with non-profit organizations, are predominantly on boards of financial institutions, banks, and

industrial firms within Europe. These individuals are often clustered because they are part of one family: Rothschild and Faber-Castell are the most prominent examples of these corporate dynasties. These families are opening up to the transnational corporate network in two distinct ways. First, by giving more space and power to individuals from outside of the family but with relevant international education and experience. For ages, only family members were in control of these family firms while today outsiders are more often accepted to corporate boardrooms and top management teams, even though a small number of seats are still preserved for family members or other individuals with noble titles. For example, managing and supervisory boards of Rothschild & Co consist mostly of individuals without noble titles, while Alexandre de Rothschild remains an executive chairman and there are a few Rothschild family members who sit on the supervisory board. The case of the Faber-Castell family is similar: family members were on the board for generations, only recently the first-ever managing director outside of the family was appointed. The second way of transitioning to the transnational field for noble families is by steadily expanding corporate activities of their family firms abroad and preserving their place at global policy networks, cultural organizations, foundations, and committees. Rothschild banking family members, for example, are tied with global foundations, clubs, trusts all over the world: they own and control firms all over Europe, and their firms receive investments from abroad.

We can conclude that European nobility members may hold less power over economic resources today, while they preserve their power by being actively involved in foundations, charities, clubs that are aimed at defining culturally and socially relevant issues within their nation-states and at the international level. Together with relevant education, a noble title, as well as by bringing rich networks, they are also able to have unique access to high positions within the corporate world at national and global levels. Their main strategy to become a part of the transnational field is largely based on capital forms, often cultural and social in nature, that are successfully adapted and re-activated in the contemporary realities.

Other groups of clustered nodes in the network are represented by royal and noble families from Middle Eastern countries such as Saudi Arabia, the United Arab Emirates, Qatar, Oman. Middle Eastern nobility, in comparison with European nobility, have more direct access to their economic capital. Typical examples are royal and aristocratic families from the United Arab Emirates and Qatar: members of Al-Saud or Al-Thani royal families often sit on boards of corporations owned by their families. The Gulf nobility controls and owns corporations that belong to key industries in the region such as oil, gas, construction, financial services and they also expand their control by buying shares in corporations all over the world. For example, in the detailed studies of the investment strategies of the Gulf corporations, Harris (2013, 2014) shows that Dubai World, Istithmar, Abu Dhabi Investment Authority, Qatar Investment Authority have large investments in global companies such as Barneys New York, Mandarin Oriental, Barclays, LVMH, Volkswagen, Porsche, ICBC, and others. This is a distinct strategy for Middle Eastern national noble families to become transnationally recognizable and to gain a position in the transnational corporate elite network: to own shares in international companies.

Most of these largest Middle Eastern corporations have boards consisting predominantly of members of one or a few established noble families. But similar to some large European family-owned firms, these firms are also becoming more open to accepting individuals outside of nobility but with international experience and education, albeit on a much smaller scale. For example, the board of Qatar Investment Authority consists of only noble family members, with a CEO who is presumably not from an aristocratic family. Until recently, the chairman of Dubai World, the major investment tool of the United Arab Emirates aristocracy, was an individual without a noble title, while all other members were family members with a noble title. While individuals without a noble title are among the majority on European family firm boards, in the Middle Eastern case, they are in the minority and more likely to obtain supervisory board or senior management positions that would be often filled with members of western and Middle Eastern business elites. Omantel, one of the largest companies in Oman, specialized in telecommunications, has a board consisting of only individuals with noble titles, but around half of its

management team consists of western corporate elite members with current and previous appointments all over the world.

In contrast to the various ways in which the European nobility is part of the transnational corporate elite field, largely based on activating social and cultural capital, positions of Middle Eastern nobility are largely determined by the levels of economic capital. The Gulf aristocracy has a strong statist character: noble families here do not only own and control the means of production but they also have power by controlling the states with rich resources. This nobility is well integrated into global flows of capital accumulation; countries such as the United Arab Emirates and Qatar are one of the central nodes in the global network of capital flows, connecting in east and west (Babic et al., 2020). This position is gained by investment flows abroad, strong family control over corporations, and by a recent turn towards accepting individuals with western experience and networks on their boards while attracting them with financial remuneration.

Exploring the nobility network and zooming deeper into specific cases of individuals, families, and organizations, I demonstrate here the diversity of strategies applied for entering the transnational elite field. Two distinct and the most prominent strategies are the strategies of the European and the Middle Eastern nobility. Even though these are extremely different groups, what unites them is that they are all interested in their reproduction as elites and in preserving their power in national contexts and possibly transferring it further to the global scale. I show here that the transition to the transnational field and accumulation of positions within it is largely determined by capitals that are in the hands of individuals who are considered part of the nobility. While the European nobility preserves its position in the transnational field by utilizing social and cultural capital and relying less on economic capital, the Middle Eastern nobility occupies the part of the field by activating its economic capital. These findings show that elite reproduction within the transnational field is not significantly different from elite reproduction, existing within national fields.

5. Conclusion

The aim of this chapter was to test if the positional advantage of individuals from noble families transfers to the transnational elite field. The paper is the first study that tests the advantage of individuals who are considered noble at the global level, by using a large dataset of corporate positions and noble titles over the world. In line with the stream of the literature on the enduring socio-economic privilege of modern European aristocracy (Dronkers, 2003; Korom & Dronkers, 2009; Schijf et al., 2004), the results confirm that individuals of noble origin obtain a positional advantage also at the global level. The findings demonstrate that the transnational field for corporate elite members to meet and act is largely determined by capitals created and reproduced within nation-states. Within this emerging transnational field, different elite fractions apply diverse strategies to struggle for influential positions, depending on their access to diverse forms of capital. The paper makes a key contribution to elite research by revealing that elite reproduction in the transnational contexts is not significantly different yet from the elite reproduction that exists within national domains.

To illustrate the most prominent examples of strategies used by nobility to compete for positions within the transnational field, I presented the cases of the European and Middle Eastern noble families. These are ideal-typical examples and we should acknowledge that national elites are not always unified, as Bond (2012) reveals in the study of club affiliations of the British House of Lords. For example, the patterns of club affiliations of British lords and their personal networks are largely structured by their education, profession, and party affiliations, indicating that there is no one British elite with a clearly defined consensus. Similarly, Naudet et al. (2018) show that the social space of the Indian corporate elite is divided along the lines of educational levels, the level of social capital, and caste, and in this sense, there is no one, unified corporate elite even within one nation-state. Exploring corporate affiliations of individuals with noble titles, in this chapter I sketched only two distinct ways of obtaining transnational positions and potentially becoming a transnational corporate elite member. It is worth mentioning that the demarcation line between activating specific types of capital but ignoring the other capital types is blurry: elites are

more likely to apply a spectrum of specific capital types to strengthen their positions within societies, as Monier theorizes in her study of French-American transnational philanthropic organizations (Monier, 2018). What I showed here is that the nobility has an advantage in the transnational field, national elites potentially apply different strategies to enter this field, and elite reproduction mechanisms in the transnational field do not differ significantly from those existing in national fields. Exploring these and other strategies of individuals with noble titles to accumulate positions and increase social status within multiple national contexts needs further qualitative investigation.

Limitations of the study arise from using a large and complex dataset, gathered from multiple national sources and, as a result, suffering from data quality. When possible, manual checks were applied to clean duplicated names, dubious aristocratic titles, and erroneous positions, but in comparison with detailed studies of European nobility that use reliable and high-quality data sources, extracted from national aristocracy registrars, the presented study may suffer from lower data quality. This is also visible in a relatively small number of individuals who hold noble titles and obtain positions at corporate boards, because the actual size of the corporate aristocracy is probably larger in the world. This under-reporting of noble titles can be also explained by cultural differences among different countries. For instance, in some countries it is not culturally accepted to demonstrate your noble title in professional domains while in other countries it is natural to be open about holding a noble title. But if we observe the presence of a noble advantage even with a slightly underestimated sample, it means that this effect is even more prominent in reality. Nobility has a persistent socio-economic advantage not only within their nation-states, but also globally.

Following previous chapters that already established a level of the transnational corporate elite fragmentation, this chapter focused on exploring a variety of strategies, applied by national elite fractions to obtain transnational positions. This paper shows that different elite groups, or fractions, apply various strategies to obtain transnational positions, depending on their relation to capital. Because individuals who hold noble titles have higher chances of obtaining transnational corporate elite positions, the chapter concludes that the

transnational elite reproduction follows similar rules to those within national contexts. Even if some of the actions of these transnational elite members have been moved to the transnational space, as, for example, in the case of the Middle Eastern aristocracy, which invests large amounts of money all across the world, these transnational elites are formed and reproduced within national elite circles. Moreover, even if some of these actions are taking place across borders, it is likely that the interests of national elite groups are behind these transnational actions, not the interests of an abstract global elite.

Conclusion

This dissertation aimed to answer the following research question: what is the nature of the transnational corporate elite network? This study explored how corporate elites structure their national and international networks using the theory of the transnational capitalist class as a key theoretical backdrop and social network analysis as the main methodological framework. Below, I will present a brief summary of how each chapter answered the main research question. Later I discuss the key contributions of the study, its potential real-world consequences, and avenues for further research.

Chapter 1 sheds light on the nature of the transnational corporate elite network by showing that it is regionally fragmented. Applying the network backbone detection algorithm, this chapter finds a set of key global cities in which transnational elite members operate. This network backbone consists of a few regionally-clustered groups of cities. The most prominent group in this backbone is the European corporate elite, centered around the city of London. Among other significant network parts are Asian and Oceanian elites, clustered around cities such as Mumbai, Singapore, and Sydney. This chapter highlights that transnational corporate elites do not lose their connection to national elite circles as they move to the transnational space. The transnational corporate elite network therefore remains highly fragmented and is structured along regional axes.

Having established that the transnational corporate elite network is currently fragmented and regionally organized, *Chapter 2* investigates how this network has been expanding over time. This chapter answers the research question by showing that the transnationalization of the corporate elite network has been following regionally-determined patterns over the course of 2000–2017. Clustering board appointment sequences of transnational directors, *Chapter 2* determines six transnationalization paths that corporate elites have followed in this period. The central path in this transnational network is the one connecting European and North American corporate elites. But over time other regional elites, such as Asian elites, have been extensively forming transnational

corporate ties. *Chapter 2* concludes that while the transnational corporate elite network might appear as a global social structure, its generating mechanisms are predominantly regionally organized.

Chapters 3 and 4 are case studies of national elite groups, exploring specific parts of this fragmented transnational corporate elite network. *Chapter 3* answers the key research question of the dissertation by highlighting that properties of national elite networks play a significant role in the elite transnationalization process. This chapter uncovers how ties are being established among different regional fractions, by studying interlocking directorate networks between Chinese and European corporations. *Chapter 3* analyzes the characteristics of the key network actors, corporations and individuals, who create these interlocking directorate ties among different elite groups. This chapter shows that, even though the transnational network remains fragmented, there are common business practices that strengthen ties across different parts of the network. Chinese and European corporations are currently establishing ties through forming interlocking directorates—a key practice for enhancing corporate elite cohesion within and across nation-states. *Chapter 3* concludes that the nature of the transnational corporate elite network is determined by network-building strategies of multiple regional elite groups.

Chapter 4 goes deeper into exploring the driving mechanisms of elite networks within a nation-state. This chapter analyzes how interlocking directorate networks are forming and evolving in Denmark. It answers the central research question by showing that the nature of corporate elite networks, both national and transnational, is shaped by personal and corporate considerations. Applying relational event modeling, this chapter finds that elite interests (such as enhancing group cohesion) and corporate interests (such as reaching valuable resources) may co-exist within one corporate elite network. The findings reveal that both personal and corporate interests drive the evolution of interlocking directorate networks, and that these interests are complementary rather than conflicting. This chapter highlights that the transnational corporate elite network is complex in nature, as national elite networks are themselves characterized by a variety of actors and their interests.

Chapter 5 studies whether or not the transnationalization of corporate and elite networks has transformed the fundamental process of elite reproduction. It answers the main research question of the dissertation by showing the dependence of the transnational elite network on nationally-created systems of elite formation and reproduction. Applying regression analysis, *Chapter 5* finds that individuals holding noble titles have higher chances of becoming transnational elite members in comparison with non-titled individuals, like they do within their nation-states. Detailed exploration of the corporate nobility network reveals that elites use a variety of nationally-created types of capital to obtain transnational positions. *Chapter 5* concludes that the transnational corporate elite reproduction is not significantly different from elite reproduction existing within national domains.

The chapters deliver a wide range of results, but the most fundamental findings of this dissertation can be summarized in the following three points.

First, the dissertation shows that the transnational corporate elite network remains fragmented. This network consists of distinct network clusters and is characterized by regional patterns of elite transnationalization. The Euro-American elite fraction remains the central group within this transnational network, attracting individuals and resources all across the globe, as has been shown in *Chapters 1* and *2*. But we also currently observe a rise and strengthening of new regional elite groups within the network. For an illustration, see the examples of Chinese and Middle Eastern corporate elites discussed in *Chapters 3* and *5*. Because of this fragmented nature of the corporate elite network, I conclude that the transnational corporate elite is rather a consolidation of national elites than a united elite group with clearly defined interests. Transferring this conclusion to the transnational capitalist class literature, it is possible to conclude that the globalization of upper classes is in a similar state today. This would mean that it is early to speak of a class-conscious group of so-called transnational capitalists with established group interests. Class members remain embedded in their national elite networks and represent interests of their national upper classes, in a similar way to transnational corporate elite members.

Second, the study reveals that elite formation and reproduction of the members of the transnational corporate elite are organized predominantly within nation-states. It might be common among executives of large multinational corporations to have some form of international experience, such as enjoying education abroad or receiving international work experience, but their elite socialization and reproduction remains rooted in national elite circles, as *Chapter 5* shows. Inherited capital of elite families plays a role within national domains and also significantly increases chances of individuals entering transnational elite spaces. This means that the transnational elite formation has not yet entirely moved to the transnational space, in line with the findings of *Chapter 5*. Corporate elite members are formed and reproduced as elites within their nation-states, although some of them are currently densely connected transnationally. Again, this strengthens the argument that the transnational corporate elite is rather a consolidation of national elites, meeting in the global space to find consensus and coordinate actions. *Chapter 5* explores affiliation networks of a few noble families, and shows that while these families are becoming open to individuals from other nation-states and different backgrounds, they are still aimed at preserving their elite cohesion and privilege. Together with the results of *Chapters 1* and *2* on the significance of national elite networks, this finding indicates that the transnational elite members are more likely to represent interests of their national elites within transnational meeting spaces. Extrapolating this to the transnational capitalist class literature, it may also be more feasible to conclude that this class is better conceptualized as a consolidation of globalized national upper classes. Members of this class similarly obtained their transnational positions following national elite socialization routes. In effect, they are more likely to represent the interests of national upper classes within the transnational space, even though they might, in less significant ways, already behave as members of the transnational capitalist class.

Third, the findings of this dissertation suggest that practice adaptation is taking place among different fractions of the transnational corporate elite network. Examples of these practices are board interlocking practices, inviting board members with international experience and connections, and making focused investments in specific locations, as *Chapters 3* and *5* outline. Elites adapt these

practices to their national contexts and use them to integrate into the globalized business world. This suggests that there is a potential for the establishment of a more consolidated transnational corporate elite network. For instance, *Chapters 1 and 2* showed that while the transnational elite network remain concentrated around Europe and North America, there is an emergence of new regional elites that are building connections with the Euro-American core through interlocking directorates, as *Chapter 3* showed. This practice adaptation and strengthening of ties among specific regional elites might also be a first sign of a power re-balance. But it is too early to draw definitive conclusions about the practice adaptation among different elite fractions, and to discuss whether it will result in a more integrated, or on the contrary, even more fragmented network of the transnational corporate elite. By expanding these findings to the transnational capitalist class studies, I conclude that some of the operations of investigated individuals and elite fractions are, in fact, taking place within transnational spaces. But again, even if some of these actions are transnational, formation and reproduction of the transnational capitalists class members and their ways of pursuing these actions are rooted in national class interests. As such, these actions are not necessarily coordinated actions on behalf of a globalized group of individuals with a formed class interest. These findings show that there might not even be such a group as the transnational capitalist class, but rather a consolidation of transnational elite members that, at times, operate in transnational spaces.

All together, the chapters of this dissertation show that the nature of the transnational corporate elite network is significantly determined by properties of national elite networks. The fragmentation of the transnational elite network, regional patterns of elite transnationalization, and persistent embeddedness in national elite circles—all confirm that the orientation and interests of the transnational corporate elite remain intertwined with national elite networks.

A topic that remains open and needs more focused discussion is the possibility of investigating the transnational corporate elite network and extrapolating these findings to the transnational capitalist class literature. This approach has been extensively discussed and criticized in the literature (see, for example, Burris & Staples, 2012; Staples, 2006). However, the transnational capitalist class theory

remains a central theory, extensively applied to explain the increasing international orientation of corporate elites. This dissertation, on the one hand, contributes to this theory by extrapolating some findings about the structure of the transnational corporate elite network to the nature of this class. For example, the findings suggest that some actions of these class members might have been moved to the transnational space but their interests are likely to be densely tied to national domains. This means it is too early to speak about the establishment of a coherent network of the transnational corporate elite, and, as a result of it, a transnational capitalist class with interests, entirely disconnected from national domains. On the other hand, because of limits in applying the conceptual lens of the transnational capitalist class theory, some chapters of this dissertation use alternative theories. For example, *Chapter 1* applies the global cities theory, drawn from urban studies, while *Chapter 5* uses capital theory from sociology. These theories are applied because the transnational capitalist class theory is unable to explain all aspects of the nature, interests, and operations of the transnational corporate elite, although it provides a stimulating perspective on the potential consequences of this establishing network. These alternative theories cast new light on the complexity of actors' networks, their locations, and capital configurations, and illuminate paths leading beyond classical class and elite theories.

The findings of this dissertation are based on the analysis of a large-scale dataset of corporate elite positions. Such an empirical approach invites and deserves discussion about the pros and cons of using big data in corporate network research. The big data approach has limitations, for example: lower data quality, possible blind spots in specific parts of the network, and a limited attention to the meaning of ties between actors. But the novelty of the approach outweighs its drawbacks. For instance, using sequence clustering on a wide range of countries, regions, and corporations allows us to reveal the current state of the global network fragmentation. This level of fragmentation would have been far less detailed if the sample had been restricted to a few hundred western corporations. Also, without the large-scale approach, it would not have been feasible to build a unique dataset of corporate nobility and, as a result, study elite reproduction mechanisms on a global scale. These are only a few examples of how the field can benefit from the large-scale approach. In sum, there is

potential in using large-scale datasets to investigate the corporate elite transnationalization, but even more insights might be gleaned about the current state, specific aspects, and consequences of this transnationalization when such large-scale approaches are combined with detailed qualitative case studies.

Besides the novel findings on the structure of the transnational corporate elite network, the variety of innovative methodological solutions applied in this dissertation make up a key contribution of this work. The study focused especially on the analysis of the dynamic nature of corporate network transnationalization through the application of sequence analysis and relational event modeling. It analyzed the multi-mode nature of corporate networks by applying two-mode network analysis techniques, and combined multiple types of elite ties by using the backbone detection method. Future studies on corporate elite networks will benefit from some of the innovative approaches presented in this dissertation, as well as from the breadth of its reach. Some methodological aspects that need attention in the future are: the creation of new ways to deal with the dynamic and temporal nature of corporate networks, and the development of the approaches to analyze multi-level and multi-actor network structures. Corporate networks are highly temporal in their nature. For instance, board members join and leave corporate boards, firms send investments and participate in mergers and acquisitions. However, this temporal nature of corporate networks is rarely analyzed with relevant methodological tools. Analyzing temporal network snapshots, a common approach in the literature, does not allow us to uncover the dynamic patterns of individual and corporate behavior. Besides, corporate networks are characterized by a multi-level structure. For instance, networks of corporate ownership and interlocking directorates are often correlated but rarely studied as part of one multi-level network structure. Moreover, corporate networks consist of multiple types of actors, for instance, corporations, board members, employees, shareholders etc. Because modern corporations are highly complex in their networks of operations (Reurink & Garcia-Bernardo, 2020), there is a need to apply relevant methodological tools that would allow us to tackle these complexities.

The revealed structure and properties of the transnational corporate elite network have real-world consequences. These consequences were not the

primary focus of this work, but outlining them briefly will, hopefully, stimulate further studies. The most likely consequences of the discovered elite network structure are: the restructuring of corporate forms, the transformation of business practices, and the rise of wealth inequality levels.

First, the globalization of elite networks affects corporations by, for instance, modifying corporate ownership structures, shifting locations of corporate headquarters and subsidiaries, and stimulating new mergers and acquisitions. Based on the ongoing practice adaptation revealed in this study, we can predict that the variety of corporate forms and structures will become more homogeneous over time (Ajdacic et al., 2020). The discovered adaptation of specific business practices and transnationalizing organizational environments will likely influence decision-making in boardrooms about the future of globalizing corporations.

Second, the persistent nationally-embedded orientation of the transnational corporate elite might affect the diffusion of business practices in general. These practices may spread in different ways, depending on whether or not the corporate network is highly concentrated or rather diffused across multiple network clusters. If the network is highly concentrated, the central elite group might effectively promote its interests and practices to other parts of the network. But if the network is diffused in nature, we might observe less centralized diffusion of practices as well as the presence of multiple, and possibly competing, national elite clusters. The findings of this dissertation show that there is an ongoing restructuring within the transnational corporate elite network. This network is expanding from the predominantly Euro-American core towards new regional centers of elite power and control. At the same time, the latter elite groups effectively integrate some of the practices from the Euro-American core into local business contexts, combining them with more nation-specific practices of conducting business. These global changes in the network structure might, at some point, result in the formation and diffusion of novel types of business practices, less connected with national corporate contexts but rather emerging from the transnational business spaces.

Finally, the findings of this study have far-reaching consequences for increasing wealth inequality. The revealed concentration of corporate elites in specific parts of the world, the integration of certain national elite groups to international domains, as well as the large-scale global investments from some individual and corporate actors, all have inevitable consequences on global wealth concentration. Besides, one of the findings show that inherited capital of elites is well-preserved within national domains and is currently being successfully transformed and accumulated within globalized contexts, which in turn contributes to the rise of already high levels of global wealth inequality.

These potential consequences invite further empirical investigations that will help the research on transnationalizing elites and classes to progress. Below I will outline a few possible research designs for studying the consequences of this transnationalization.

First, this dissertation leaves the issue of coordinated political action and class consciousness of the transnational corporate elite unresolved. In order to investigate political action, I suggest using datasets on party donations, legislative document development, or lobbying from elite groups whose members are part of transnational corporate networks. This research might be conducted as a case study of one national elite, or as a comparative study of a few national elite groups who participate in political actions nationally and transnationally. In order to study class consciousness, I believe the most feasible research design is qualitative and might take the form of in-depth interviews with some of the transnational corporate elite members studied in this dissertation. Such a qualitative investigation will provide insights about the meaning of uncovered ties, the international educational and professional experiences of individuals, and might reveal if they think of themselves as a globalized elite or class.

Second, the dissertation does not study the increasing wealth inequality and concentration as a result of growing number of ties between global corporations. This question can be addressed by combining the utilized dataset with other data sources on corporate activities and national socio-economic indicators. One of the central topics here would be increasing wage differences within and

between-corporations, among different sectors, and in and between nation-states as a result of corporate transnationalization. The role of corporate payouts to shareholders as a result of decision-making on transnationalizing corporate boards also deserves further study. These payouts lead to further asset-based wealth accumulation and contribute to an increasingly skewed concentration of wealth. Finally, further studies might focus on the role of business environments in driving existing inequality regimes within and between countries.

Elite interests and networks are globalizing. But as researchers, we are often limited in the resources that we can apply to study this phenomenon. The dissertation aimed to show the possibilities of conducting a research on globalizing networks of corporate elites, by combining a variety of theoretical frameworks and by using novel methodological tools. The aim of this work was to study the nature of the transnational corporate elite network. By conducting analyses of diverse aspects of corporate elite network transnationalization, it answered broader questions on corporate elite fragmentation, practices, and reproduction. I found that the transnational corporate elite network is fragmented, that there is an ongoing practice adaptation among its different fractions, and that transnational elite reproduction remains firmly embedded in national elite contexts. These insights should prove fruitful for further research.

This dissertation did not address directly the questions of class consciousness or political actions of these elite members. Instead, I chose to hypothesize about the consequences of the revealed network structure, and leave the issues of consciousness and actions to further research. To stimulate studies in this field, I outline a few possible research designs. Analyzing transnational networks of corporate elites is the first step towards understanding the changing nature of various elite groups across the globe. The further study of the globalization of elite groups, their networks, interests, and actions will be of great importance in class and elite scholarship, and also have real-world significance. Exploring these aspects of elite behavior will tell us more about the power of elites and corporations in modern societies.

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