NORDIC FINANCE AND THE GOOD SOCIETY

PROJECT REPORT

CBS COPENHAGEN BUSINESS SCHOOL
HANDELSHØJSKOLEN

CENTER FOR CORPORATE GOVERNANCE

Table of Contents

Table of figures and tables 3

Introduction 4

Chapter One: The Aim of the Project 12

Target group 13

Chapter Two: The Research Team and Stakeholders 14

Chapter Three: Research Areas and Output 19

1. Research Area: Macro-Economic Impact of the Financial Sector 20

Introduction to the problem 20

Research output 22

Suggested readings 26

2. Research Area: Monetary Policies, Growth, and Job Development 27

Introduction to the problem 27

Research output 29

Suggested readings 34

3. Research Area: Competitive Landscape and the Impact of New Regulation in Europe 35

Introduction to the problem 35

Research output 36

Suggested readings: 40

4. Research area: the Nordic Financial Corporate Governance Model 42

Introduction to the problem 42

Research output 42

Suggested readings 45

5. Research area: National Compliance and Regulation, Including the Impact on Employees and Board Work 46

Introduction to the problem 46

Research output 47

Suggested readings 53

6. Research Area: Financial Benchmarks, Risk, and Reward in the Banking Sector 54

Introduction to the problem 54

Research output 55

Suggested readings 62

7. Research area: Competitiveness, strategy and innovation in banks 63

Introduction to the problem 63
Research output 64
.... 66
Suggested readings 67
8. Research area: The Asset Management Sector – Strategy and Innovation 68
Introduction to the problem 68
Research output 72
Suggested readings 76
9. Research area: Debt Strategies and Funding of Long-Term Capital 78
10. Research area: Value of Financial Advice 79
Introduction to the problem 79
Research output 82
Suggested readings 84
Chapter Four: Identification of New Research Areas 85
Chapter Five: Dissemination and impact of the project 86
Dissemination 86
Networking: Important guests and contributors. 86
Events, seminars and conferences 88
Reference Lists 92

Table of figures and tables

Table 1: List of team members and their institutions 14
Table 2: List of seminars and conferences held 88

Figure 1: Logos of the NFGS sponsors and partners 13
Figure 2: Enabling the ecosystem of alternative providers 21
Figure 3: Measuring the natural interest rate for the United States and Europe 28
Figure 4: Leverage ratio by injunction status. All firms. Years 2010-2015 32
Figure 5: Number of banks with different strategies for targeting RoE and the target level 56
Figure 6: Target level, actual RoE, and the achievement of targets 57
Figure 7: Banks' allocation among assets with non-zero risk weightings in the US 60
Figure 8: Key Innovations for the cashless society 65
Figure 9: Key characteristics of the future value transfer system 66
Figure 10: Total AuM in Denmark, Finland, Norway, and Sweden, by share of total AuM of each country. Derived from DNB Markets, 2019. 69
Figure 11: AuM in Denmark, Sweden, Finland, and Denmark by asset class. Derived from DNB Markets, 2019 69
Figure 12: Composition of AuM in Norway, Sweden, Finland, and Denmark. Source: DNB Markets, 2018 70
Figure 13: Most important source of advice for different levels of literacy 80
Figure 14: The percentage of people aged 65+ in the Nordic countries 81

Infobox 1:European Single Rule Book 75
Infobox 2: Aging population 81

Introduction

The core goal of the Nordic Finance and the Good Society (NFGS) research project is to analyse the new strategic perspectives and trends within the financial sector and bring to light the opportunities and challenges the financial sector may experience in the coming future. Furthermore, the project aims to contribute to discussions on future strategy and business policy in both a Danish and Nordic context, as well as to provide new knowledge on corporate governance and financial strategy that can aid in developing new teaching areas.

The financial sector has been in transition since the 80s, when the traditional national banking, asset managers and stock market markets were being liberalised, and international competition emerged as a new business driver in the financial community. In parallel, one can observe that the image of the financial sector has been deteriorating radically over the last couple of decades; in the public debate, there is a perception that it is a sector driven by wrong values, poor return to shareholders, and continuous involvement in numerous scandals. On the other hand, there is no other sector which contributes as fundamentally to fulfilling the dream of owning your first house, building your own enterprise, or securing a stable retirement.

It must also be recognised that a society without risk would be a low growth environment. Society's interest in keeping the financial actors in check must balance with the desire for economic development. The wealth of the Nordic countries is largely created by a strong start-up scene, numerous SMVs and many leading Nordic-based multinationals whose success has been generated by innovation and quick adaptation to new market environments. To establish a strong foundation for the future, this innovation-based model has and will depend more on adequate access to financing regardless of whether it is equity or debt.

Furthermore, the financial sector, and in particular the payment market, is becoming one of the most innovative sectors, where competition is fierce, and banks are forced to think about "new standards" in doing business. Thus, many are beginning to think of the sector as a "tech sector" rather than a traditional finance industry. This development, combined with the fact that the Nordic countries now have one of the strongest fintech sectors globally, is challenging all traditional value chains in the banking and asset management sectors. The final outcome of this Tithonian shift is by no means given; the traditional tranquillity is broken, the image of a dole financial sector is radically shifting, and many stable workplaces have already vanished, margins are radically declining, and share prices in the traditional banking and asset management sector have largely been underperforming for more than a decade.

The discussion on the future of Nordic finance is also deeply intertwined with the debate on sustainable economic growth and demographic changes, especially the growing life expectancy, where many Nordic women can expect to live up to 100 years. The entire working pattern inside the job market is changing; in the past, one would expect to have 3-5 jobs throughout a professional career, and receive a predictable pension, but now the expectation is that the coming generations will have dozens of jobs and change between permanent jobs, entrepreneurial activities, and educational breaks. This environment, if it materialises, will require very different savings products, new saving patterns, and major policy and regulatory changes. Nordic Finance and the Good Society, as a research project, focuses on these challenges; our findings and recommendations will be presented in the following sections.

Executive summary and recommendations

1. Macro-Economic Impact of the Financial Sector

Is the financial sector in any way contributing to future growth? Despite harsh criticism of the financial sector, this research documents that the value of the financial sector is pivotal, not only through employment, but also by providing financing to businesses and consumers. With globalisation and increased competition, companies and markets need to rely more on innovation and entrepreneurial activities, which is expensive and often risky. An extensive review of existing literature in the area concludes that an efficient financial sector structure improves capital allocation and risk sharing. Furthermore, it provides a foundation for a prospering economy and thus adds value to society. It must also be recognised that stronger capital market financing (compared to debt financing) can be a potential solution to a more sustainable growth. In a Danish context, there is a significant, positive correlation between the development of the financial sector and economic growth. Furthermore, findings from recent country-level studies, which apply more advanced econometric methods, suggest that this correlation is causal. Furthermore, analyses of firm-level data support the view that financial sector development may fuel economic growth.

2. Monetary Policies, Growth and Job Development

Traditionally, the role of the Nordic central banks and the German central bank has been to provide monetary stability, which is at the core of the current given policy objective of the European Central Bank (ECB). In the past, this monetary target has not been directly linked to any growth, employment, or financial stability objectives.

This research project demonstrates that an essential part of economic and job growth is the right monetary policy coupled with access to liquidity of small- and medium-sized enterprises (SMEs). Access to liquidity for non-listed companies is essential, especially during an economic downturn or in a low growth environment. In a Danish context, this report found evidence that the current structure and policies applied from 2009 to 2015 were not appropriate and should be adapted so that job loss of a comparable size can be avoided in the future. The banks are and will remain essential in the entire liquidity transformation process for all economic actors who do not have direct access to bond or central bank financing.

As an additional observation, it was noted that banks differed with respect to how well they could serve SMEs if they come under pressure themselves. This means that it is essential for an SME and in particular its board to select the most appropriate banking relationship if financial stability and growth are part of the company's agenda.

3. Competitive Landscape and the Impact of New Regulation in Europe

The dramatic increase in financial regulation has impacted the financial market in multiple ways. With the financial sector being mobile and able to work across borders, many participants can and will be tempted to exploit regulatory arbitrage, e.g. by relocating their business or conduct business

in other countries through franchising or subsidiaries. This research found no indication of harmful regulatory competition among the Nordic countries, nor did it find evidence of financial players moving from one Nordic country to another to shun regulatory control.

Over the past decade, the financial sector has experienced technological innovation and the development of digital products and services. Both start-ups and well-established companies, who would traditionally not count as financial institutions but more as technology companies, are entering the financial markets with the help of technological innovation and development. This is why it is essential that the regulations in the financial sector are up to date with the latest and the future developments of the sector. This report advocates that open, national regulatory competition should be maintained within an overall EU framework.

From a Nordic perspective, an unequal tax competition is experienced, both inside the EU and globally. There should be as a guiding benchmark that the ultimate recipient should be fully taxed. Albeit it should be noted that taxation is still under national jurisdiction, which means there is a need to have a tax-neutral vehicle or solution when international investors want to invest, for example, across the European Union (EU). This is relevant for Nordic financial institutions, as, in particular, asset managers do not have any real choice other than to register their international products in jurisdictions like Luxembourg or Ireland, if they want to remain competitive. The Nordic countries should thus consider similar frameworks since, ceteris paribus, it would increase the competitiveness of the Nordic players in the financial sector, and increase local tax revenues and employment.

4. The Nordic Financial Corporate Governance Model

The Nordic Corporate Governance Model is unique and is fundamentally based on a model of openness, trust, integrity, and close engagement between all the stakeholders. It has served the Nordic countries well and has aided in creating some of the richest countries in the world, societies with little corruption, and some of the most satisfied citizens globally. There is no evidence that any other corporate governance model should be used in the Nordic financial sector. From a corporate governance and policy perspective, the planned departure of the UK from the EU should be a considerable concern if the EU pushes for a German/French governance model, but it could also be an opportunity to promote the Nordic model as a European standard.

Employees are important stakeholders in the Nordic Corporate Governance Model. The close employee-employer relationship, including board representation of employees, has created an environment with little friction, minimal labour unrest, and satisfactory working conditions. No evidence has been presented that suggests that this model should be changed, or an alternative model could provide better utility for the financial sector or the society at large.

5. National Compliance and Regulation, including the impact on Employees and Board Work

There is no doubt that stricter regulations affect the financial sector in general as well as the everyday activities of board members, executives, and employees. In particular, the customers of financial institutions are deeply affected by the increase in regulations and the added paperwork they bring regarding transactions and business in general. Additionally, employees in financial institutions face challenges in communicating and explaining the regulations and their reasons to customers. The long-term economic impact of regulation is still uncertain and the traditional solution of requesting more regulation has so far not provided any major real solutions concerning financial instability, money laundering, or tax avoidance. The entire system needs to be redeveloped, factoring in elements such as the real consequences of economic cross-border activities, the different corporate governance practices, global transparency standards, and new digital solutions and payment systems.

The financial regulation of board composition allows for less position overlaps but requires boards to be involved in decisions, which are traditionally the domain of executives. With the line between the board and the leadership blurred, the governance model is moving away from the Nordic model into an Anglo-American model. This development places more responsibility on the board of directors, in particular regarding credit decisions. This fundamental change and increase in individual risk profile might make it increasingly difficult to attract the right kind of board members in the future, since it could be more attractive financially and less risky to be working in other business sectors.

6. Financial Benchmarks, Risks and Rewards in the Banking Sector

Due to the golden era of the equity market from the 1980s until the financial crisis of 2008, Nordic public bank banks reached an average Return on Equity (RoE) of more than 15%. The average return of Nordic banks has now on average declined down to 8%. The recent low growth environment, combined with fierce competition, has put a spotlight on banks' return expectations and their risk-taking models. Furthermore, national and international micro-prudential banking regulations, like the Basel Accords, have impacted banks' liabilities as well as their asset choices and business models.

Banks are profit-maximising corporations and need to generate earnings while attracting investors to maintain their market value. Targeting RoE has been a widely used strategy to feed and guide the needs of (institutional) investors and the stock market. However, as documented in the research report, these targets were not achieved in many cases. To partly compensate for the declining financial performance, management has tried to achieve productivity gains by shredding traditional banking staff. It is questionable whether further gains can be achieved in this area. Why should one be concerned if financial institutions are delivering a sub-standard market?

A fundamental assumption in most political and regulatory work is that one can always find institutional capital to invest in the financial sector. But what happens if the return decreases to a level where it is no longer interesting to invest in this sector? Policy makers and regulators must

monitor this development carefully as it will either trigger a new wave of consolidation in the banking sector or significantly restrict its future development.

7. Competitiveness, Strategy, and Innovation in Banks

Today, the banking system is challenged by disruption from both internal and external competition. A strong fintech scene is emerging across the globe and in the Nordic countries in particular. There is a rapid shift towards a completely cashless Nordic society, expected by many to already be in place by 2025, and, in many smaller cities, clients will experience a branchless banking system, where most banking activities are managed on mobile devices.

While the fintech sector is having its fair share of media coverage and is very vibrant in the Nordic countries, its impact on the financial sector has only been marginal so far. The global fintech scene has attracted more than USD 100 billion, where a large proportion has been targeted at digital currency initiatives. Undoubtedly, fintech offers great promise in creating new economic value. However, the innovators must offer full transparency and long-term stability if they want to gain the trust of the broader public, support of the regulators, and political acceptance.

The financial sector, in particular the Nordic payment market, is becoming one of the most innovative sectors, where competition is fierce, cash is expected to completely disappear over the coming decade and banks are forced to think about "new standards" in doing business. This means that many are beginning to think of the sector as a "tech sector" rather than a traditional finance industry. This change requires significant investment and the capability to grow new platforms, which might become global standards if managed successfully. While it was not a primary focus on this project, concern must be expressed if there is ever a systemic failure in a digital, non-cash-based banking world since there would no longer be a back-up solution for the Nordic citizens coming from normal cash payments.

8. The Asset Management Sector – Strategy and Innovation

As highlighted by several researchers in this project, asset managers also play an important role in economic growth in the society of today. As mediators, they channel savings towards investments by linking investors with companies, effectively contributing to job creation, the smooth operation of the financial markets, and monetary returns on savings.

The entire asset management sector, like the banking sector, is being challenged by new competitive forces while being disrupted from a technological perspective. In the beta/index product space, American banks or asset managers are becoming global leaders and offer their products at fractional costs (below 10 basis points) or even for free. This research project finds no evidence that Nordic players will be able to compete for leading positions in the beta space, neither regionally nor internationally.

Is there hope for the asset management sector? Despite a total population of less than 30 million, the Nordic region is home to some of the largest fortunes in the world, with total assets of more than € 2,000 billion. Furthermore, the Nordic countries are home to a combination of some of the largest

pension funds in Europe (ATP, AP, etc.), sovereign wealth funds, family offices, and different long-term foundations (e.g. Novo, Wallenberg, etc.). Many of the Nordic asset managers outside the alfa space are some of the best-rated independent managers and have shown remarkable consistency while being highly innovative. Furthermore, Nordic fund managers communicate more on fund performance and values than the US fund managers.

In addition, the Nordic funds, tested during the research period, actually perform better over a one-year and three-year period. Furthermore, the Nordic manager typically communicates regarding such topics as long-term orientation and defined values, a strategy not used as frequently by the US asset managers. Moreover, the Nordic funds are more long-term-oriented than the US funds.

The Nordic corporate governance and transparency standards, consistently rated as some of the best in the world by, among others, the IMF and Transparency International, could give asset managers a unique opportunity in the alfa space. Currently, The Nordic countries are front-runners in such important discussions as sustainability and green societies. Furthermore, Nordic asset managers have access to truly Nordic digital innovation (fintech), which further strengthens their competitive advantage.

9. Debt Strategies and Funding of Long-Term Capital

Access to debt and long-term capital is essential, as also discussed under section 2. The Danish capital market is strong but appears to be unbalanced, as the Danish Bond market is strong while the Danish stock market is below average in size compared to other similar economies. When looking deeper into the Danish market, banks are the dominant players in terms of credit provision but are increasingly focusing on retail and residential loans. This is of concern since efficient access to debt and other terms of long-term capital is essential, especially for SMEs, in order to drive sustainable economic growth.

10. Value of Financial Advice

Do all citizens have access to the right and relevant financial advice? If not, it might become a democratic problem when traditional relationship banking is disappearing outside the wealth management segment and could cause long-term wealth discrepancy.

Historically, the debate around financial advice has largely focused on what fees are charged by either banks or asset managers, and, in particular, whether these are fair and competitive. Along the same lines, there has been, and still is, a vivid debate on whether one should invest in products which are mirroring the actual market (e.g. Beta products, where costs are low and, in some cases, moving towards zero) or should be seeking products which are pursuing an absolute return, providing access to new markets, beating a benchmark or asset classes (e.g. Alpha products).

With the advent of digital wealth management (robo-advice), much of the value proposition of human advice now lies in communicating the individual benefit and helping with the interpretation of a given product selection. Robo-advice further opens up the possibility for low-cost solutions across all social groups. Empirical evidence documents that the likelihood of following financial advice depends on different factors for male and female clients; male advisees are more likely to

follow financial advice if the age and gender of the advisor corresponds to their own, whereas female advisees are more likely to follow their advisor's recommendations if the advisor's marital and parental status corresponds to their own. Specifically, the evidence points to the fact that targeted client-advisor pairings could help facilitate the transmission of digital information by harnessing the benefit from better mutual understanding. Similarly, individuals might perceive robo-advice as impersonal or inadequately customised to their preferences, because they do not share or believe to share any common characteristics with the computer algorithm. Any financial relationship is based on a statement of trust. If the perception of the industry is to change, the banks must accept that the government and the wider public are their number-one clients. Despite the overall high educational level and standards in the Nordic countries, the research group is still left with the impression there is a major issue around financial literacy, which has been no means be resolved despite various industry and political attempts. Furthermore, much of the current legislation is also causing a reactive/passive investment behaviour which in many cases contradicts long-term wealth maximation for the individual investor.

-- --

When this research project commenced in 2014, the opinion was that the impact of the financial crisis was essentially over, and the real challenge was now coming from fintech start-ups, digital disruption inside the industry, and global behemoths like Apple Banking or Amazon. In a Nordic context, this assumption is still valid but becomes questionable in a broader international perspective given a mountain of debt in many countries, the declining impact of monetary policies, and major market imbalances.

The Nordic financial sector has not regained the trust lost after the last financial crisis, and the connection between the sector and its values with the remaining society is weak. Governments have been asking important questions about what it takes to see stable, economic growth, and what constitutes an efficient financial system structure.[1] Whether the financial system is primarily banking-based or market-based has not been a relevant discussion until recently, where global instability has increased. The literature further suggests that bank loans and other similar debt instruments are becoming less important as financing methods for the corporate sector.

All the above-mentioned issues point in different directions, and the way forward could be to establish a new set of set of Nordic financial corporate governance principles.

The report is, after the section about the need for having new corporate governance principles in the financial sector, structured in such a way whereby each section gives: (1) an introduction to the key discussions around of the 10 research areas, (2) a review of the key research findings and conclusions, and (3) suggested readings for the enthusiastic reader who would like to gain an even more profound understanding of a given area.

Copenhagen March 2019

[1] "Financial system structure" refers to the mixture of financial institutions and financial markets (Rapp & Udoieva, 2018)

The Nordic Financial Governance Principles

The Nordic Corporate Governance Model has been gaining attention in the past few years, primarily because it strongly encourages shareholders to be engaged in the governance of their portfolio companies, and well-developed minority protection. The Nordic Model is built on trust; trust in businesses, trust in leadership, and trust in markets. The globalisation of and the mobility within the financial market has become a challenge to this trust, as it opens the door for individuals with less focus on trust and more on short-term profits, be they legal or illegal profits.

The current situation in the financial sector has some important similarities to the situation experienced in the late 90s, when it became apparent there was a need for a new set of corporate principles in larger companies. This situation triggered the need to establish an independent commission, which has the clear aim of establishing a new set of corporate governance principles. It ultimately triggered the foundation of the Nørby commission, which paved the way for a new set of standards and values when issuing its final report "*Nørby-udvalget rapport on Corporate Governance – Anbefalinger for god selskabs ledelse*" on March 2, 2001. We are of the firm opinion that a similar commission must be established, either at a Danish or at a Nordic level.

It is necessary to bring trust back to the sector, focus more on clients, and emphasise long-term profits and responsible leadership and business. This commission should analyse, discuss and recommend what corporate governance principles financial institutions and their stakeholders should embrace in the coming decades. It should, as a part of this process, be discussed:

1. Should client trust be at the heart of every decision, and, if yes, how?
2. Should citizens have access to basic financial products and the right to receive balanced financial advice?
3. Should a financial product be promoted or sold if it is not in the interest of the client?
4. Should each financial institution be based on, managed, and guided by a model where long-term value creation is at the core of its business model?
5. Should pricing of financial products always be open, fair, and balanced, and should there be full openness about all fee arrangements, both direct and indirect?
6. Should we demand that sustainability must be a focal point of every investment or loan granted?
7. Should board members and executives not only be deemed fit and proper but also be judged on whether they act in line with the core values of the financial institution and its clearly defined principles?

Hopefully, some of these questions will inspire a vivid debate and offer suggestions towards a set of principles that can contribute with a new strategic development of the financial sector.

Acknowledgement. A project of this magnitude could have never has been conducted without significant financial support and academic assistance. We would like to thank our sponsors deeply for their generous financial support. We would also like to thank all the scholars in- and outside CBS for their strong dedication, genuine insider knowledge and patience. Numerous executives, public servants, including from the Danish FSA, National Banks and students have joined more than 25 seminars, adding a clear stakeholder perspective, they have richly shared their experience, added critical remarks or concerns and kept us moving forward.

Chapter One: The Aim of the Project

The core goal of the NFGS research project, as previously mentioned, is to analyse the new strategic perspectives and trends within the financial sector and bring to light opportunities and challenges the financial sector may experience in the coming future. Furthermore, the project aims to contribute to future strategy and business policy discussions in both a Danish and Nordic context, as well as provide new knowledge on corporate governance and financial strategy that can create opportunities for developing new courses that encompass both fields. The project takes an open, multi-disciplinary approach, and further aims to give the general public access to leading research on the Danish and Nordic financial sector during a defined period. Indirectly, the purpose of this research has also been to generate a wider academic and public debate about the conditions and the future of the financial sector.

In the initial research grant request, the declared objective was to publish 12-14 papers in relevant disciplines and prepare a comprehensive research report outlining strategic positions throughout the sector, including the competitive environment, employment potential and future business opportunities. In reality, this project has delivered more than 29 publications which have been supported by more than 17 seminars.

The intellectual foundation of the project is largely driven by the findings of the 2013 Nobel prize winner, Robert Schiller, who has firmly reminded every stakeholder in the financial sector that any modern society is a characterised by a well-functioning, trust-based, and competitive financial sector.

The financial sector is an essential part of modern society, yet it faces a critical need of review following the financial crisis in 2008. The perpetual growth trend experienced in previous decades broke down, the sector's image deteriorated, and numerous regulations were introduced in the EU and at a national state level. The subsequent low growth, debt overhang, and very low interest rates pose serious problems for existing business models. At the same time, technological change, including digitalisation and globalisation, poses major challenges for the sector.

The 2008 crisis created a breach of trust between various stakeholders and the financial institutions. This breach in trust has introduced high costs for the financial sector; cost of compliance to regulatory requirements, cost of disappearing or unhappy customers, and cost of declined reputation and low social branding. Sadly, the recent disclosures of money laundering, market fixings, and aggressive tax avoidance have by no means helped to re-establish trust in the financial sector.

The Nordic financial sector needs to be alert in this ever-changing market environment and rethink its business models, product development, and sustainability activities. Otherwise, it may face a negative impact from a shareholders' perspective. Ultimately, the Nordic finance sector needs to establish a new competitive platform or risk marginalisation in the EU.

The research sponsors

The research project and its purpose strike a chord with many Danish and Nordic financial institutions; understanding and learning from the current business environment with a clear aim of how to take the sector forward. From a conceptual perspective, it is also important to have participants from the employees' and employers' sides. In 2014, eight sponsoring organisations expressed interest in joining this project and had a desire to invest in research to improve the future of the financial sector in which they work. Furthermore, six partner organisations joined this project with in-kind contributions.

Figure 1: Logos of the NFGS sponsors and partners

The sponsors are the following:

- Nordic Financial Unions (NFU)
- Finansforbundet (Financial Services Union)
- C World Wide (formerly Carnegie)
- Danske Bank
- Lokale Pengeinstitutter (LOPI) (The Association of Local Banks, Savings Banks and Cooperative Banks in Denmark)
- Finans Danmark
- SparInvest Holdings
- CphBusiness

The project was ensured complete research independence from the outset, and all contractual obligations were structured along the general CBS research guidelines. Research findings have been presented and reviewed during various internal seminars, at international conferences, and selectively to our advisory council.

Target group

This research project targets various stakeholders who would benefit from the outcome. These target groups are, among others: (a) key policy makers in the Nordic countries, and (b) leading decision makers, including board members, financial union representatives, and business leaders.

The research project has received positive feedback from every stakeholder approached, and the researchers have been active in building up a strong network of relevant stakeholders and presenting various outputs at both national and European institutions. This confirms the relevance of the research project and the findings generated from the focus areas. Furthermore, the researchers were invited to present their work and key findings at different events, to name a few:

a) EU Commission in Brussels
b) ESMA Conference in Paris
c) Danish FSA events in Copenhagen
d) Various board meetings and programmes

Chapter Two: The Research Team and Stakeholders

The research project has gained massive support from the outset, both from the financial sector and from researchers interested in contributing to the goals of the project. The dynamic and motivated team consists of 24 researchers and senior advisors from organisations around the world. The team members have been selected based on their research interests and their previous experience within a given research field. Furthermore, the aim of the selections is to build a strong, international network that could contribute to both the final research output and to seminars and the dissemination of the research findings. All scholars and sponsors related to this project are independent, and all contractual arrangements with CBS are in line with the general guidelines for independent and free research. The contributing team members and their institutions are as follows:

Table 1: List of team members and their institutions

Name	Organisation
Anna Linda Musacchio Adorisio	Copenhagen Business School, Denmark
Arturo Bris	IMD (International Institute for Management Development), Switzerland
Alexandra Andhov (Horváthová)	Copenhagen University, Denmark
Bjørn Preuss	Copenhagen Business School, Denmark
Caren Yinxia Nielsen	Copenhagen Business School, Denmark
Carina Antonia Hallin	Copenhagen Business School, Denmark
Georg Ringe	University of Hamburg, Germany
Hanne Birkemose	Aarhus University, Denmark
Jan Damsgaard	Copenhagen Business School, Denmark
Jesper Lau Hansen	Copenhagen University, Denmark
Jonas Hedman	Copenhagen Business School, Denmark
Lars Christian Ohnemus	Copenhagen Business School, Denmark
Lars Norup	PwC, Denmark
Marc Steffen Rapp	Copenhagen Business School, Denmark / University of Marburg, Germany
Michael Camphausen	Copenhagen Business School, Denmark / Camphausen Walldén, Denmark
Niels Westergård-Nielsen	Copenhagen Business School, Denmark
Nis Jul Clausen	University of Southern Denmark, Denmark
Oscar Stolper	University of Marburg, Germany
Peter Bogetoft	Copenhagen Business School, Denmark
Peter Loft	Regional Municipality of Bornholm, Denmark
Tanja Jørgensen	Aarhus University, Denmark
Therese Strand	Copenhagen Business School, Denmark
Thomas Poulsen	Copenhagen Business School, Denmark
Tom Kirchmaier	Copenhagen Business School, Denmark

From the start, it was decided to select a multidisciplinary team with different competencies and experiences that have brought value to the table. The profiles of the main contributors are:

Anna Linda Musacchio Adorisio, PhD, has been Associate Professor of the Department of Management, Society and Communication at Copenhagen Business School, Denmark since 2014, and Honorary Professorial Fellow of Queen Mary University of London since 2011. After completing her PhD (2008) in Communication Sciences at the University of Lugano, Switzerland, she has been a recipient of prestigious post-doctoral grants from the Swiss National Science Foundation (2009-2010) and the Wallander-Hedelius-Browaldh Foundation (2010-2013) to conduct research at the College of Business of New Mexico State University and at Gothenburg Research Institute, University of Gothenburg, Sweden. Her research interests revolve around the role of language and narrative practices in the financial sector. Prior to her PhD, she has worked in the financial services industry, in which she has earned professional certification.

Arturo Bris is a professor of Finance at IMD and has headed the school's world-renowned World Competitive Centre since January 2014. Professor Bris has directed the Advanced Strategic Management programme from 2009-2014 and has furthermore directed many programmes for executive managers in various industries. Prior to joining IMD, Bris was the Robert B. & Candice J. Haas Associate Professor of Corporate Finance at Yale School of Management and was a research associate at the European Corporate Governance Institute. He has worked extensively on issues concerning corporate governance, financial regulations, and international valuation.

Alexandra Andhov (née Horváthová) is Assistant Professor at the Faculty of Law, University of Copenhagen. She holds an MA in Law from Comenius University (2010), an LL.M in International Business Law from the Central European University (2011), and an S.J.D. in International Business Law from the Central European University (2015). She has been a visiting researcher at Oxford Law School (2013) and Cornell Law School (2014). Before coming to Denmark, she was a research fellow at the Center for Integrity in Business and Government at the CEU Business School (2012-2015), and she has worked for CMS Cameron McKenna in Budapest with their litigation and arbitration team. Andhov's main areas of research are capital market law, contract law, corporate governance, and corporate social responsibility. She has published articles on these topics, in European as well as US law journals. In the Center for Corporate Governance at CBS, Alexandra focuses on the position and protection of employees of diverse financial intermediaries in capital markets in the Nordic countries.

Bjørn Preuss holds an MSc in Business and Economics, an MSc in Philosophy from Mälardalen University Västerås, Sweden, as well as an MA in Business Administration from University of Applied Sciences Kiel, Germany. He is currently studying for his PhD about the influence of Nordic corporate culture on the M&A process at Radboud University, the Netherlands, and is an external lecturer at the Department of International Economics, Government, and Business at Copenhagen Business School. His main research and teaching areas are in the fields of corporate finance, strategic management, and data science. Bjørn's research interest is to look into the asset management sector in the Nordic countries.

Caren Yinxia Nielsen is a postdoc at the Center for Corporate Governance at Copenhagen Business School. Her research focuses on financial markets and institutions, banking and bank regulations, financial risk management and asset allocation and pricing.

Carina Antonia Hallin is one of the pioneers in the science of collective intelligence. Hallin has studied collective intelligence in multinationals since 2005. She is also the founder and head of the Collective Intelligence Unit at the Department of International Economics, Government, and Business. She is a member of the global community of Collective Intelligence Scientists and is a regularly invited speaker by both international and national public and private organisations, such as the OECD countries, the National Endowment for Science, Technology and the Arts (NESTA) UK, the Confederation of Danish Industry, the Copenhagen Institute for Future Studies, Novozymes, LEGO, Radiometer, and other international conference organisers, such as Corporate Parity.

Georg Ringe is the Chair for Economic Analysis of Law at Hamburg University. He is a former professor of International Business Law at Copenhagen Business School and former lecturer at the University of Oxford. Furthermore, he has been a visiting professor at various universities around the world, most recently Columbia Law School. Ringe specialises in European and global aspects of corporate and financial law. He is a fellow of the European Banking Institute and the managing editor of the *Journal of Financial Regulation*, published by Oxford University Press. He has advised the EU Commission and the European Parliament on issues of European company law.

Hanne Søndergaard Birkemose is Associate Professor at the Institute of Law at Aarhus University. Her research area is within corporate law, international corporate law, and finance law. She has authored several publications in both Danish and international journals.

Jan Damsgaard is Head of Department of Digitalisation at Copenhagen Business School. He holds a PhD in Information Systems and an MA in Computer Science and Psychology. His research focuses on the digital transformation of businesses, for example by mobile phone or the Internet. He has worked and performed research at several institutions in the US, China, Finland, and Australia. He consults on IT innovation and business transformation, and, in 2014, the Danish Academy of Technical Sciences appointed him National Digital Advisor (Digital Vismand).

Jesper Lau Hansen is a professor at the Center for Market and Economic law at Copenhagen Business School. He was the previous head of CCCL, and his primary fields of research are within financial markets law, regulation of publically traded companies and financial institutions, EU law, and comparative Nordic law.

Jonas Hedman is a professor at the Department of Digitalisation at Copenhagen Business School. His research focuses on the digital transformation of the financial sector and the role of fintech in particular. He has been working on a project in Sweden concerning when merchants will stop accepting cash, and a project on the future of money and so-called Smart Money.

Lars Christian Ohnemus is the Director of the Center for Corporate Governance at Copenhagen Business School. He is a seasoned executive with experience from the academic world, international board work, and executive positions. He received his PhD from Copenhagen Business School. Furthermore, has a wide and profound network among Danish, Nordic, and Central European business executives. Ohnemus has been directly and indirectly involved in research and teaching activities at Copenhagen Business School and the Baltic Management Institute (BMI) for nearly a decade.

Lars Norup is an external lecturer and advisor at Copenhagen Business School, and Head of Strategy and Capital at Arbejdernes Larndsbank. He has previously been the head of Financial Risk Management

and Capital Optimisation at PwC Denmark and a partner at RiskRepair Financial Consultancy, and the Global Head of Derivative Marketing and Structuring at Danske Bank. Norup has comprehensive knowledge about financial institutions and the finance and banking sector.

Marc Steffen Rapp is a professor of Business and head of Management Accounting Research Group at Phillips-Universität Marburg, Germany. During this research project, Rapp held a part-time associate professorship at the Center for Corporate Governance at Copenhagen Business School and was affiliated with the Center for Corporate Governance at HHL – Leipzig Graduate School of Management. Rapp has established a research project on the effect of state ownership on corporate investments with Patrick Jaslowitzer (Marburg) and Bill Megginson (University of Oklahoma).

Michael Camphausen is a partner at the law firm Camphausen/Co and has many years of specialisation in banking and finance law. Camphausen received his PhD in 2011 on the topic of regulations and supervision of financial companies with a special focus on regulatory conditions for banks. His thesis focused on the regulation of bank licences, monopolies, and other activities. Camphausen has published several articles on bank and financing law in academic journals and books. He is a popular speaker in the financial sector, and expert commentator in the media. He writes columns for FinansWatch and Berlingske Busines on bank law subjects. The International Chamber of Commerce in Paris appointed Camphausen as the Danish member of the new high-level expert group on Economic Policy, where he contributes with his expertise.

Niels Westergård-Nielsen is a professor at Copenhagen Business School. He has a PhD (Lic.polit) from the University of Copenhagen, and he has been a visiting scholar at the University of Wisconsin, the University of Chicago, Harvard University, and many others. His current research interests lie within firm-level job creation and destruction and their causes, firm-level performance and the employees, the role of entrepreneurship, work environment, sickness absenteeism, ownership and performance, and the value of board work. Currently, he is the director of the Centre for Owner-Managed Businesses at Copenhagen Business School.

Nis Jul Clausen is a professor of Law at the Department of Law at University of Southern Denmark. Since 1995, Clausen has been a permanent Scholar in Residence, Duke University, and from 1983 to 1997, he was an associate professor at Odense University, Aarhus School of Business, and Copenhagen Business School. His research is primarily situated within the area of Business Law, with a core focus on national and international company law, securities regulations, law of finance, and banking law.

Oscar Stolper is an assistant professor of Finance at the Phillips-Universität Marburg in Germany. His major research focus lies in analysing the decision behaviour of private households in their role as financial market participants. His work is published in top-tier finance journals, including the *Review of Financial Studies* and *the Journal of Banking and Finance*, and he frequently presents at leading conferences in academic finance. Moreover, he is a member of various academic associations and contributes to an ongoing knowledge transfer in the field of finance.

Peter Bogetoft is a professor at the Department of Economics at Copenhagen Business School. Bogetoft has published more than 50 scientific articles and seven books and has made important contributions to a wide variety of areas, including planning, accounting, political economics, mechanism design, decision theory, industrial organisations, cooperatives, and the design of production contracts. His research ranges from pure theory to empirical testing of theory, to normative applications in

regulations, contract design, and decision support. He has been involved in a series of projects with industries and governmental bodies in many European countries on the application of theories, in particular with respect to regulation and benchmarking.

Peter Loft was the Municipal Manager of Bornholm, Denmark until October 2018. Previously, he has been a senior advisor in the Public Affairs Group and Autobranchen Danmark and has served several Ministers of Taxation as the Head of Department of the Danish Ministry of Taxation. He has strong political and analytical skills with deep insight into taxation systems. Furthermore, he is an adjunct professor at Copenhagen Business School.

Tanja Jørgensen is Professor at the Institute of Law at Aarhus University. Her research area is within property law, consumer credit law, and finance law. Furthermore, she is the coordinator for the Research Group on Law and Finance. Jørgensen has authored several publications in both Danish and International journals.

Therese Strand is an assistant professor at the Center for Corporate Governance at CBS. In 2014-2015, Strand was a visiting scholar at Yale Law School in the US. Previously, she has been a visiting scholar at Harvard Law School and has been affiliated with the Finance Department at Stockholm University and the Centre for Business and Policy Studies in Stockholm. She has also been a visiting MBA lecturer at Thammasat University, Thailand. Strand's current research interest focuses on the law and economics of corporate ownership in Europe and the United States.

Thomas Poulsen is Associate Professor at the Center for Corporate Governance at Copenhagen Business School and holds a PhD in Finance from Aarhus Business School. His research currently focuses on long-term ownership in general and industrial foundations in particular, as well as on labour relations and wage inequality. Over the years, Poulsen has published in the leading field journal of corporate governance, *Corporate Governance: An international Review*, twice.

Tom Kirchmaier is a professor in Governance, Risk Management, Regulation and Compliance at the Center for Corporate Governance and is affiliated with the Centre for Economic Performance at the London School of Economics (LSE). Tom was the Deputy Director of Corporate Governance at LSE and is now the academic leader of the Governance, Risk Management and Compliance project at Center for Corporate Governance.

Chapter Three: Research Areas and Output

When developing the research project, it became clear that there were some key factors and challenges, both internally and externally to the financial sector, that were important to understand in order to identify the future research areas and research questions. These factors were following:

1) External factors:
    a. The impact of technology and new digital business models
    b. The macroeconomic environment and especially the link between economic growth and the financial sector
    c. The influence of a low/zero interest rate environment on the banking sector in the future
    d. Demographic development, and in particular the impact of an aging population
    e. The regulatory and political environment; the environment has changed significantly since 2008
    f. Competition; whether there is a real change, or the incumbents will continue to dominate the sector

2) Internal factors:
    a. Shareholder expectations and economic benchmarks
    b. New business models and innovation
    c. Staff competencies and future staffing

From these key factors, the final 10 research topics were identified and developed. The 10 selected focus areas were:

1) Macro-economic impact of the financial sector
2) Monetary policies, growth, and job development
3) Competitive landscape and the impact of new regulations in Europe
4) Nordic Financial Corporate Governance Model
5) National compliance and regulation, including impact on employees and board work
6) Financial benchmarks, risk, and reward in the banking sector
7) Competitiveness, strategy, and innovation in banks
8) Asset management sector – strategy and innovation
9) Debt strategies and funding of long-term capital
10) Value of financial advice

Given the length of research period and new insight, several of the research questions changed over time. However, the 10 final research topics have remained the same.

1. Research Area: Macro-Economic Impact of the Financial Sector

Introduction to the problem

Our modern society is, without question, dependent on stable and reliable financial institutions. As an important transmission mechanism of financial assets and liabilities, the financial sector is very often in the middle of every societal aspect, either directly or indirectly, regardless of whether one is discussing the financing of SMEs, long-term financial saving products, financing housing, or the change to a more modern and sustainable economic model. This environment triggers some fundamental enquiries: What is the right size of the financial sector? Are the current product offerings competitive and really serving the needs expected at both the macro- and micro-economic level? This further raises some fundamental questions as to whether the financial sector is contributing positively or negatively in terms of economic growth and wealth to the society, and what guiding principles the policy makers should aim for in the future. In this debate, it is essential to understand whether the financial sector can generate value for society as well as to identify possible "channels" and define "value". With respect to channels, it is argued that the financial sector adds value to society through (at least) three different channels. Firstly, by directly generating gross value added (GVA). Secondly, by providing financing to the corporate sector and enabling the corporate sector to generate GVA. Thirdly, by providing investment opportunities to private households, which in turn allows households to reallocate and thus to optimise their consumption streams. Regarding value, the research adopts a relatively conservative approach and measures value in terms of economic development proxied by gross domestic product (GDP). Economic stability and firm growth are alternative measures used in the analysis.

Fuelled by this, as well as the nearly total collapse of the financial system in 2008-2009, leading researchers have questioned whether our current academic paradigms and past research works can still be trusted to prevent a similar economic havoc in the future.

According to the IMF (2018), the Nordic countries are some of the richest in the world; Norway as #9, Denmark as #15, Sweden is ranked as #18, Finland as #22, and Iceland as #13.[2] The financial sector in the Nordic countries contributes to 2.9-5.8% of total GDP (OECD, 2019), which is considerable. The current financial sector emerged during a period when the Nordic countries were primarily dependent on the farming and industrial sectors. With the exception of some periods of crisis (e.g. Finland, 1990, Sweden, 1991-92, , and Denmark, 2008-2010), the financial sector has been stable. It has been the backbone of economic growth and wealth for the society. Given its value, it is important is to understand how the future of the financial sector can affect future macro-economic growth of the Nordic region, especially given the significant regulatory changes, the low interest rate environment, and rapidly changing business models frequently driven by digital disruption.

There is a real risk that the core of our financial system will be disrupted by globalisation combined with the declining importance of local players, digital currencies, and the unforeseen consequences of new regulation. New Non Traditional Network Models in the industry will increasingly disrupt the Traditional Full Service Bank model. (Figure 2) The number of Nordic banks has declined from 772 to 590 over the last decade (2008-2017), and there are few signs that this consolidation trend will be

[2] Measured in GNI per capita, 2018

slowing down (Finanssektorens Arbejdsgiverforening, 2015; European Banking Federation, 2018; Finance Finland, 2017).

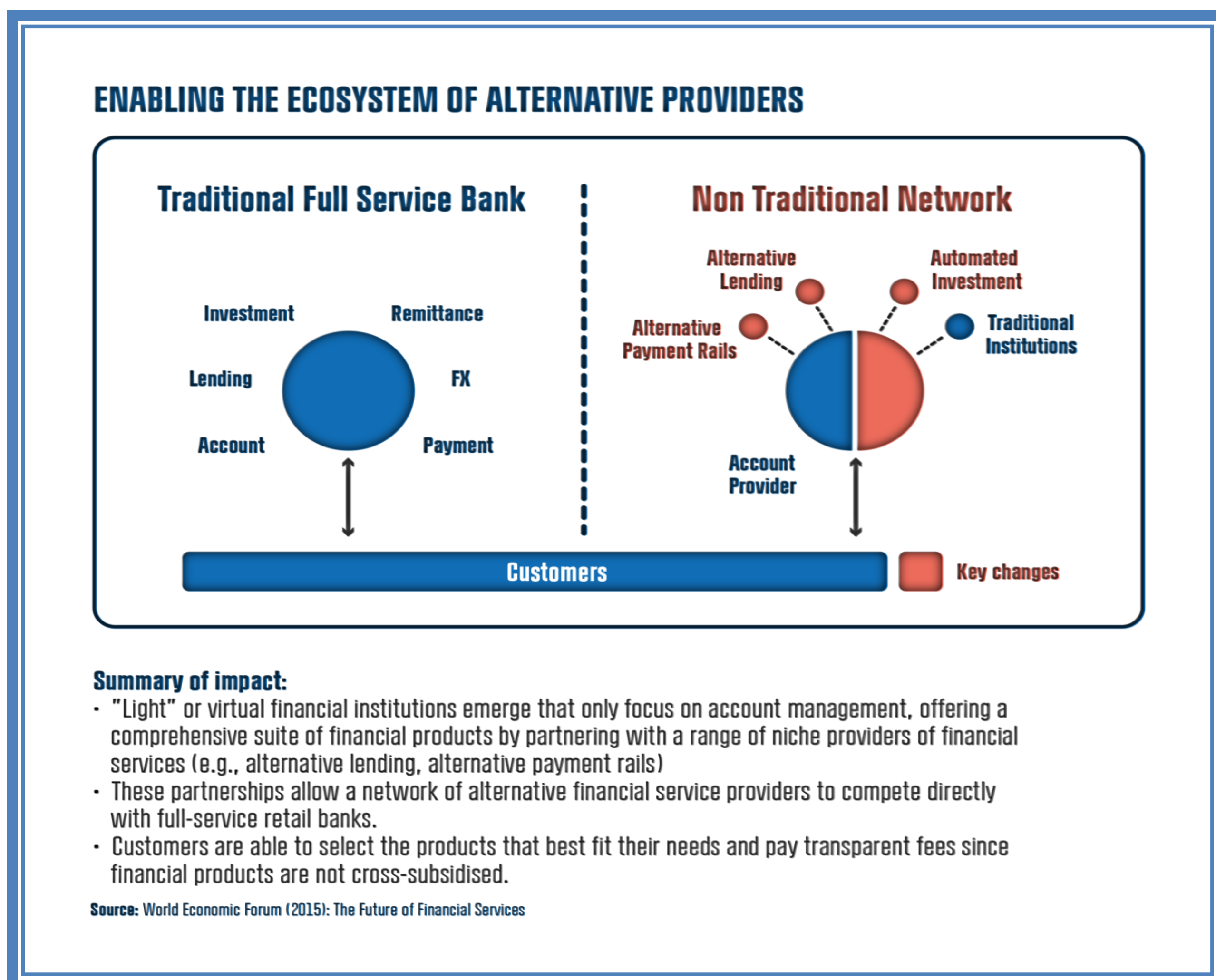


Figure 2: Enabling the ecosystem of alternative providers

On a global level, there are still some major structural issues when looking at the different capital market structures. Entrepreneurs in Europe, including the Nordics, are still to a large degree dependent on access to bank financing and have a weak equity base compared to many of their US or Far East competitors. At a political level in Europe, there is a strong commitment to achieve the UN Sustainable Development targets by 2030, but the expected price tag for achieving the agreed CO_2 reduction targets alone is close to €180 billion (European Commission, n.d.). Nonetheless, the question of how this should be financed is still completely open. Hence, in relative terms, capital and debt markets will never be more important than in the future, if the desired targets in terms of economic growth and sustainability are to be reached.

Research output

Researchers	Publications
Marc Steffen Rapp, Arturo Bris, Carina Hallin	➢ Marc Rapp: What matters in the finance-growth nexus of developed economies? ➢ Marc Rapp: Financial sector structure and economic growth: A fresh look with focus on Denmark (Discussion paper) ➢ Marc Rapp: Financial sector structure and economic growth (Summary) ➢ Marc Rapp: Financial sector structure and economic growth (Key findings)

- *What is the role of the financial structure for macro-economic growth?*
- *Does the financial sector in Denmark and in the other Nordic countries create any economic wealth for society? If yes, can growth be achieved without accepting any additional risks from a governmental perspective?*
- *Is the financial sector providing any competition from a macro-economic perspective?*
- *What is the financial structure of Denmark and other Nordic countries compared to other Nordic/European countries? What are the recent developments (compared to other European countries)?*
- *Does financial structure have an impact on financing decisions of the corporate sector?*
- *What explains the investment behaviour of large European firms during the recent financial crisis?*

The first research question aims to understand the role of the financial sector in future societal and economic growth. The initial hypothesis is that developed capital markets may be beneficial for economic development and stability (Rapp, 2016b). The question of how to measure societal value is of key importance, and it is usually done by measuring the level of GDP per capita. An increase in societal value can come from increased financing to corporations, who are then more able to create value through offering their products and services. In most cases, the financing comes from the financial sector, especially in Europe, which means that the financial sector facilitates value creation for society at large (Rapp, 2016b).

The financial crisis in 2008 had a devastating impact on the financial sector and society in general. The financial sector faced harsh criticism in the aftermath of the crisis, as the societal value of the financial sector was fundamentally questioned. The financial sector has still not regained the trust lost after the crisis, and the connection between the sector and its values with the remaining society is weak. Governments have been asking important questions about what it takes to see stable, economic growth, and what constitutes an efficient financial system structure.[3] Whether the financial system was mainly bank-based or market-based has not been a relevant discussion until recently, where global instability has increased (Rapp & Udoieva, 2018).

[3] "Financial system structure" refers to the mixture of financial institutions and financial markets (Rapp & Udoieva, 2018)

Furthermore, in the aftermath of the recent financial crisis, commentators around the world started to question whether the financial sector actually creates such value. Relatedly, regulators became increasingly concerned about misbehaviour in the financial sector and thus tightened the legal framework to restrict actors' room for manoeuvre (e.g. the international regulatory framework for banks, also known as *Basel III*). However, faced with plummeting economic activity, governments around the world acknowledged that providing financing to the corporate sector is of first-order importance when it comes to enhancing an economy's competitiveness and implemented various initiatives. The Capital Markets Union (CMU) initiative of the European Commission, which is a key pillar of Investment Plan within the "Jobs, Growth and Investment" priority, is a prominent example in this regard.

According to Marc Rapp (2016a), stronger capital market financing can be a potential solution to the growth challenge. Despite considerable criticism of the financial sector, economists still believe that the value of the financial sector is pivotal. This is not only through employment, but also by providing financing to businesses. With globalisation and increased competition, companies and markets need to rely more on innovation and entrepreneurial activities, which is expensive and often risky (Rapp, 2016b). Rapp (2016a) provides two propositions for why stronger capital markets can be a source of economic growth:

The first proposition argues that companies may gain from access to market finance. With challenges resulting from globalisation, market competition, and increased reliance on intangible assets, the role of equity is becoming more important, especially in the non-financial sector. However, it is worth noting that although the size and liquidity of the stock market has increased over the last 20 years, the number of listed companies has declined (Rapp, 2016b). The second proposition, which is based on empirical evidence from 32 OECD countries between 1994 and 2013, asserts that capital markets, and especially a well-developed stock market, have the potential to drive economic growth and alleviate fluctuations in the financial market. Capital market financing consists of stocks and bonds. Overall, the conclusion for the research work, which is consistent with the already established research view and findings, is that stock markets in advanced economies show better results in driving economic growth and reducing economic risk.

In his research, Rapp (2016b) further mentions that the increase in regulations since the 2008 crisis may slow down banking activities while capital markets might be able to thrive more easily. The literature also suggests that bank loans and other similar debt instruments are becoming less important as financing methods for the corporate sector. Meanwhile, long-term financing for companies is increasing in importance.

Furthermore, an extensive review of the existing literature suggests that an efficient financial sector structure improves capital allocation and risk sharing. In effect, it may provide ground for a prospering economy and may thus add value to society. To establish this link, the early literature has examined country-level data and found that there is a significant positive correlation between financial sector development and economic growth. Findings from recent country-level studies that apply more advanced econometric methods suggest that this correlation is indeed causal. Analyses using firm-level data support the view that financial sector development may fuel economic growth.

In parallel, the literature has provided evidence suggesting that market-based financing alternatives become more important with economic development. An in-depth analysis of corporate capital

structures with a focus on non-financial firms in Europe and the US reveals an increasing importance of equity financing in recent years. In addition, it suggests that in the aftermath of the financial crisis parts of the corporate sector started to operate with zero or negative net debt, in other words, they began to act as net lenders. Moreover, there is some evidence that bank loans (and similar debt instruments) became less important, but market-based debt financing gained momentum.

Further analyses suggest that firms face increasing uncertainty in product as well as in capital markets. Moreover, the asset structure has changed, with intangible assets gaining ground. This all suggests that long-term financing becomes more important and provides some rationale for the changes in capital structures discussed earlier. Finally, it is shown that firms engaged in innovation are more heavily financed by equity, and that more equity financing positively correlates with future firm growth. Overall, these findings make a strong case for initiatives aiming to encourage and stimulate: (i) market-based debt financing, and (ii) equity financing.

Additional analysis at the country-level supports this view. Examining OECD countries, a positive correlation between financial sector size and economic development is documented. Conceptually the financial sector size is measured as the aggregate of three parts: amount of credit to the private sector, size of the private bond market and market capitalisation of the stock market.

However, in further analyses, which differentiate between the three different categories, account for unobserved country heterogeneity, and concentrate on the dynamics of economic development, only measures of capital market size, and specifically the measure for stock market size, remain consistently correlated with economic growth. Advanced econometric tests even suggest that the observed correlation is likely to be causal, indicating that stock market size positively impacts economic growth. Moreover, the stock market is positively correlated with measures of economic stability. In effect, these results strongly advocate initiatives promoting market-based bond and equity financing for the corporate sector.

In contrast, the analysis provides evidence that caution is warranted with respect to private credit volume. For OECD countries private credit volume is (consistently) negatively associated with economic growth and negatively with measures of economic stability.

Examining the development of financial sectors across countries, it is documented that over the last 20 years financial sectors have expanded in most countries of the world. However, there is substantial cross-country variation. The Danish financial sector is comparably large when measured in the aggregate, i.e. by the sum of the following three parts: amount of credit to the private sector, size of the private bond market and capitalisation of the stock market. Over the last 10 years, the financial sector amounted to 273% of GDP for the average OECD country and to some 329% for the average EU15 country, while the Danish financial sector amounted to 463% of GDP. In other words, according to these measures the Danish financial sector is 41% larger than its average EU15 peer and 70% larger than its average OECD peer.

The large financial sector size is explained by a relatively high private credit volume (194% of GDP in Denmark, compared to 136% within the EU15 and 116% within the OECD) and a relatively large bond market (204% of GDP, compared to 122% within the EU15 and 89% within the OECD). Thereby, the private credit volume in Denmark is skewed towards residential loans (and mortgages) that amount to 106% of GDP compared to 53% for the average EU15 country.

A different picture emerges when it comes to studying the Danish stock market. While it has grown over the years in terms of size, the size is still below average in the cross-country comparison. This pattern becomes particularly striking once one takes into account the dominant role Novo Nordisk plays in the Danish stock market. In addition, the use of the stock market, measured by the number of listed firms normalised for population or the proportion of listed firms among all enterprises, has decreased over time. Limited IPO activity and substantial delisting activities among previously listed Danish firms may rationalise this pattern.

Overall, the previous analysis makes a strong case for promoting capital market-oriented financing solutions in developed economies. Additional analyses regarding Danish firms' (perceived) lack of financing as well as the development of the Danish corporate sector accentuate that the arguments put forward also apply to Denmark.

As a result, there are a couple of challenges for market participants and regulators when it comes to deciding about the future direction of the Danish financial sector. With respect to the stock market, the various actors must aim to ensure that the benefits of being listed are not outweighed by the cost of going public, i.e. the cost of the IPO process in case the firm is not yet listed, and the cost of being public. To positively influence the listing decision of firms, the market must provide the appropriate infrastructure (trading facilities, equity research, broker services) to ensure a sustainable level of liquidity. Relatedly, regulators might want to carefully reconsider the taxation of corporate profits and capital income. Traditional corporate tax codes penalise equity financing, which, however, is one of the major ingredients for corporate innovation. In addition, high capital income taxation will translate into a high cost of capital for firms and thus low levels of corporate investment. Both arguments apply to the Danish tax code.

Beyond initiatives directly aiming at promoting the stock market, there are also other issues that warrant attention. *First*, a healthy corporate bond market may allow (some) firms to reduce their cost of capital. Accordingly, the various actors (exchanges, investment banks, and investors) should carefully look at the experience and lessons learnt from other countries. *Second*, with high levels of private credit volume in Denmark, it seems advisable to carefully monitor the aggregate private credit volume and – again – to promote the capital market-oriented financing of firms.

When looking more deeply into the Danish market, banks are the dominant players in the market in terms of credit providers and are strongly driven by residential loans. The Danish capital market is strong but appears to be unbalanced, as the Danish bond market is strong while the Danish stock market is below average in size. Professor Bris has highlighted in his 2015 analysis that these research findings are valuable in the debate on the importance of financial systems, and how countries structure their financial systems in order to drive sustainable economic growth.

The existing literature on this subject shows that there is a strong, positive correlation between financial sector size and development and economic growth (Rapp, 2016b). A positive development of the financial sector may drive economic growth in countries. The literature in this field also illustrates that alternative financing methods are important in driving economic growth in countries and presents a strong case for capital market solutions.

The Single Rulebook, which was coined in 2009, opens up the possibility for a more resilient, transparent and efficient European banking sector. There is a clear advantage in that this regulatory framework would allow for more completion inside the EU.

Suggested readings

Boyd, J. H. & Smith, B. D. (1998). The evolution of debt and equity markets in economic development. *Economic theory.* **12**(3): 519 – 560.

Dermirgüc-Kunt, A., Feyen, E. & Levine, R. (2013). The evolving importance of banks and securities markets. *The World Bank Economic Review*. **27**(3): 476-490.

Dermirgüc-Kunt, A. & Maksimovic, V. (2002). Funding growth in Bank-based and Market-based financial systems: Evidence from firm-level data. *Journal of Financial Economics*. **65**(3): 337-363.

Porter, M. E. (1992). Captial Disadvantage: America´s failing capital investment system. *Harvard Business Review*. **70**. P: 65-82.

Rousseau, P. & Wachtel, P. (2011). What is happening to the impact of financial deepening on economic growth? *Economic Inquiry.* **49**(1): 276-288.

2. Research Area: Monetary Policies, Growth, and Job Development

Introduction to the problem

The traditional thinking among economists is that the policy makers have two leading tools at their disposal in case of an economic downturn: (a) fiscal changes in order to stimulate the demand side, and (b) changes in monetary policies by reducing interest rates, providing more liquidity into the financial system, or a combination of both. A range of important scholars (Stieglitz, Krugman, Westergård, etc.) have questioned if the right policy tools have been applied, and if traditional economic thinking can still be applied in a global financial system.

In Europe, total employment is still below the level of 2007, and it took most of the European countries close to a decade to recover from the economic meltdown of 2008. While the Nordic countries have performed comparatively better, the growth rates are still below what has been experienced in the past despite the all-time-low interest rates.

Traditionally, the role of the different Nordic central banks and the German central bank has been to provide monetary stability, which is also at the core of the current given policy objective of the European Central Bank (ECB). In the past, this monetary target has not been directly linked to any growth, employment, or financial stability objectives. However, the current situation is raising the question of whether there could be a real relationship between growth, the role of long-term financial stability, the quality of the financial sector supervision, and the actual monetary role of the central banking system.

Rightly or wrongly, the assumption has previously been that banking supervision and central banking have nothing to do with one another: *"any notion that central banking has to do with financial stability would generate moral hazard"* (Hellwig. 2014).

Economic and job growth is essentially coming from SMEs, especially in the Nordic countries. While an interest rate reduction might lead to lower financial costs for a given firm, what is in most cases truly essential is the access to liquidity and growth capital before management dares to make any commitment to a growth agenda. This leads back to a vital need to have a genuine understanding of the actual role of banks in the money-creation process, especially from a research perspective (Jakab & Kumhof, 2015).

When the financial crisis of 2008 hit the world, the financial market, and the banking system in particular, already had significant regulatory requirements and more followed in the subsequent years (like Basel III). While it was the intention, these new regulations created barriers for companies in reorganising their work and getting through the crisis with as little damage as possible. Those countries and regions who abstained from heavy regulations have shown a more positive return from the crisis than those more heavily regulated (Gropp et al., 2017).

During and after the crisis, banks began to reduce their lending to consumers and SMEs. Hence, credit was one of the first things to be hit hard by the crisis, and it declined rapidly during the period (Poulsen & Westergård-Nielsen, 2018).

Currently, the Nordic countries, like many other countries in Europe, are faced with a rapidly aging population, which will have a negative impact on growth. Recent US and European academic papers are suggesting that this demographic change will negatively impact the GDP growth rate. Intuitively, with increasing age, one is less likely to take major financial risks, be it creating your own firm, investing in start-ups, or purchasing major financial assets.

The exceptional monetary policy applied during the last decade, combined with an aging population, has caused a low/zero interest rate environment, with wide-ranging consequences, especially for the operating margins of banks and the entire pension system. Long-terms real interest rates have declined to a level basically never tested before in modern history see figure 3 and where academic research is limited. The result that RoE for banks has been declining systematically (Nielsen & Ohnemus, 2018), which in turn has led to a significant reduction in employment in the financial sector. Modern banks are changing to different digital platforms, where the human impact factor coming from employees and direct client interactions is becoming rare.

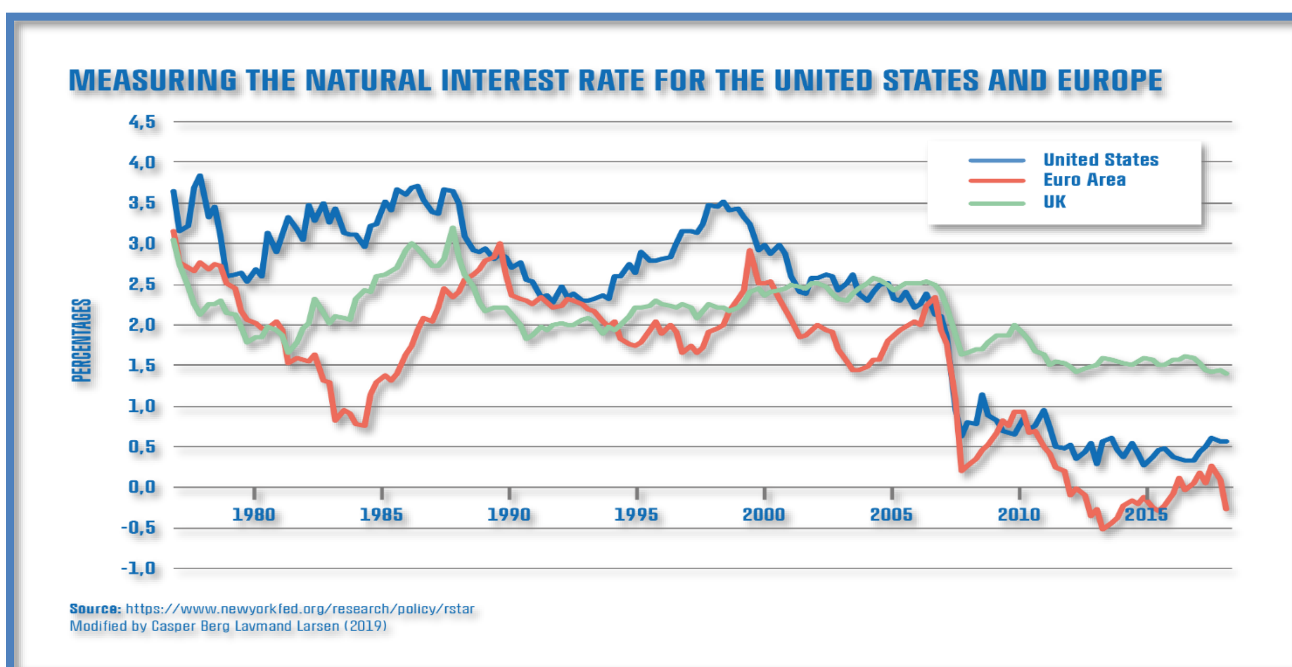


Figure 3: Measuring the natural interest rate for the United States and Europe

While this development is understandable from a shareholder perspective, the Danish labour market model has its fundamental roots in a system based on trust, co-determination, and strong commitment from all stakeholders. The question is whether this system can and will survive in a new monetary and digital reality in the future.

Research output

Researchers	**Publications**
Niels Westergård-Nielsen, Thomas Poulsen	➢ Thomas Poulsen & Niels Westergård-Nielsen: Credit constraints and job destruction ➢ Niels Westergård-Nielsen & Ioana Neamtu: The real effects of the credit constraints in the economic crisis

- *What is the relationship between firm growth and access to bank finance?*
- *What is the impact of low or zero interest environments?*
- *What role does the Nordic, and in particular Danish, co-determination model play regarding trust, commitment, and productivity?*

Discouraged borrowers

The financial crisis has put monetary and credit policies in the focus of political and academic discussions (Neamtu & Westergård-Nielsen, 2017). Academics have been asking whether the credit policy has been too heavily tightened, which could be the reason why firms are growing at a slower pace than before. Constricted control often causes banks to react in the form of a withdrawal of credits and rejection of loan applications. The enforcement of credit policies by the financial authorities may have banks cautious in their lending procedures (Neamtu & Westergård-Nielsen, 2017).

In Denmark, firms rely heavily on debt financing (Rapp, 2016b; Poulsen & Westergård-Nielsen, 2018), which means access to finance through loans is of high importance for the market. The crisis has forced 18 banks in Denmark to close down, and the FSA is still keeping a firm grip on the remaining banks (Neamtu & Westergård-Nielsen, 2017). Their firm approach to banks has changed the behaviour of the banks and caused them to become cautious and highly selective as to whom they lend money. Hence, many customers are denied loans, which discourages customers (including companies) from applying again, if at all, due to the fear of being rejected (Neamtu & Westergård-Nielsen, 2017). These discouraged companies are often those that need external finance in order to thrive. This can therefore have, and actually has had, real effects on companies and their processes of job destruction. Companies are more likely to scale down their activities than finance their need with equity (Poulsen & Westergård-Nielsen, 2018).

Current research shows that when companies are strapped for cash, they choose between saving money and investing during the cash crunch period. In Neamtu and Westergård-Nielsen's research (2017) on the real effects of the credit constraints, they find that companies most often choose to save money through job destruction and lowering wage costs, instead of investing in, for instance, innovation. Neamtu and Westergård-Nielsen's (2017) research further identifies the net job creation in 2011 and 2012 to show how different sectors are coming out of the crisis.

Neamtu and Westergård-Nielsen's (2017) research also concerned the role of the banker in the lending decision to agree to or deny a loan request from a company. Banks may look at the z-score[4] of the company and from there determine if the company is likely to be in financial trouble, and thereby entail a risk for the bank in losing their money. The research looks at what may happen if the banker determines that the company is at risk of being in financial trouble and decides to reject their loan request. In 50% of the cases, the banker says no and creates even more financial difficulties for the company. In their paper, Neamtu and Westergård-Nielsen (2017) group bankers into six categories based on the combined z-score and the likelihood of financial difficulties: (a) The banker agrees with the high z-score and gives credit; (b) the banker agrees with the low z-score and gives no credit; (c) the z-score says no risk but the company does not receive the loan (bad banker situation); (d) the z-score indicates a high risk of financial troubles, but the company still receives the loan (naïve banker); (e) the z-score is in a grey area, and the banker says yes (risky banker); (f) the z-score is in a grey area, and the banker says no (risk-averse banker) (Neamtu & Westergård-Nielsen, 2017).

When Neamtu and Westergård-Nielsen (2017) analysed the bankers in Denmark from 2011 to 2013 and their role in the loan process, it struck the authors that around 25% of the bankers fell into the "risky banker" category, meaning they lent to companies despite the company falling into the grey area according to the z-score. This may indicate that there are still brave bankers around who want to help companies and the economy thrive.

The reason why the banker's role is considered in this research is that their judgement of whether companies are at risk or likely to face financial troubles affects the behaviour of the companies. Companies with a good z-score which get the bad banker are more likely to destroy jobs than create them. The same goes for the companies in the situation of the risk-averse banker. The findings therefore mean that a negative bank decision on a loan application can have a real effect on the company's choice of saving money or investing. If they choose saving, which is most often the case, they do so by eliminating employees and destroying jobs. However, it is worth noting that while a bank willing to lend is not sufficient to create more jobs, it does help the process. One thing which helps in creating jobs is a strong human capital in the company. Neamtu and Westergård-Nielsen (2017) found that more human capital leads to more expansion of the company and an increase in jobs.

Poulsen and Westergård-Nielsen (2018) looked into the correlation between banks receiving injunctions and the destruction of jobs in the Danish market. They found that banks which received injunctions during 2010-2015 appeared to reduce their credit supply. This does not necessarily have to impact companies who are customers at these banks, as they could substitute their finance needs with equity. However, research shows that this is not the case, and companies will instead lower their activities and salary costs. Poulsen and Westergård-Nielsen's research (2018) identifies that companies, whose bank received an injunction, increased their debt by 3% less and increased their assets by 2% less than other companies did the year after the induction. This can lead to a decrease in business activities and a stagnation of growth. These companies further showed 2% less growth in their employee costs than other companies. These numbers show that injunctions of banks do have real consequences for companies and economic growth.

---

[4] *The **Z-score formula for predicting bankruptcy** was published in 1968 by Edward I. Altman, who was, at the time, an Assistant Professor of Finance at New York University. The formula may be used to predict the probability that a firm will go into bankruptcy within two years.*

When it comes to the size of the banks, Poulsen and Westergård-Nielsen's (2018) research showed that larger banks in Denmark were underrepresented in the injunction group. Larger banks are more frequently visited by the Danish FSA and, as a general rule, their loan portfolio has a higher solvency ratio than other banks. In Denmark, the five largest banks accounted for almost 80% of total lending in 2014. It appears to be the trend that large banks cater to large companies and small banks to smaller companies. For the smaller companies, the cost of changing banks is high, which can have an economic impact on the growth of the company. Furthermore, larger banks who do receive injunctions are more likely to transmit the effects of the injunction to their smaller company customers (by constraining credit). Hence, large companies with large banks fare better than small companies with large banks.

Ideally, financial systems efficiently allocate resources to productive use, i.e. to investment opportunities with positive net present values, and economic growth follows by way of capital accumulation and technological innovation. Imperfections, such as asymmetric information and transaction costs, may nevertheless disturb this harmony. Financial intermediaries might not be able to overcome all of these imperfections, and they themselves may also be subject to some of them, meaning that finance does not necessarily follow where enterprise leads.

Job destruction

Credit was reduced for many firms during the financial crisis of 2008, and employment was reduced in most sectors. There is less agreement about the linkages between the financial system in general, the credit markets in particular, and job destruction as a result. One important strand of the scholarly literature has sought to determine whether the loan demand of firms decreased more than the loan supply of banks, but a stable conclusion is yet to emerge; the literature is either precise about the real effects but not the source of the credit constraint, or it is precise about the credit constraint but not the real effects. Furthermore, the analyses do not establish a direct link between banks and their customers, which is important as banks should be expected to continuously change their capital ratios to reflect the risk in their underlying portfolio. When this direct link is missing, results are driven entirely by firm (bank) characteristics, and all banks (firms) are assumed to, or at least treated as if they act, according to the same opportunity set and rationale, which easily becomes a problematic assumption.

To the best of our knowledge, the paper by Thomas Poulsen and Niels Westergård-Nielsen (2018) is the first to bridge the abovementioned gap. They use exogenous variation in the loan supply of banks, coming from changes in the Danish FSA's individual minimum capital requirements of local banks, to examine whether and how such financial shocks are transmitted to business customers. Poulsen and Westergård-Nielsen (2018) constructed a new and unique research dataset which combines Danish firm-level information and bank-level information. There are only a few prior examples of such a linked dataset in the literature. In their work, Poulsen and Westergård-Nielsen (2018) were able to establish causality by exploiting the exogenous variation in the loan supply of banks induced by injunctions from the financial regulator to increase solvency. This was done through hand collection and manual coding of all public reports from the bank inspections conducted by the Danish FSA since 2010.

Denmark is ideal for such an analysis, as one of the requirements that came with the second so-called bank package in 2019 was public access to the FSA inspection reports. Moreover, a substantial proportion of the limited liability firms disclose their banking relationships together with balance sheet notes on bank debt. This facilitates a match between firms and banks and allows us to look at bank debt specifically. Denmark is also an archetypical European country in that firms rely heavily on debt

financing from a large banking sector, where the largest bank (Danske Bank) alone has a balance sheet that is 150% of the national GDP.

The FSA conducted 284 inspections from 2010 to 2015, resulting in 54 injunctions to raise minimum capital requirements.[5] Poulsen and Westergård-Nielsen (2018) empirically examined the effects of these injunctions using data from 2010 to 2015 on approximately 15,000 firms and 89 banks. The results clearly show that higher capital requirements for banks have implications for firms' capital structure and activity, and further affect employment and defaults. In the year following the injunction, debt decreased in firms with banks that received an injunction relative to firms with banks which did not receive an injunction. Advanced firm-level regressions on changes in the amount of debt, with controls for a number of firm and bank variables, show that debt was reduced by 3% on average. This result is statistically significant and economically important.

The above effect is further evident from the simple mean values depicted in Figure 4. The change in the debt-to-asset ratios for firms with banks that did and did not receive an injunction is graphed, where time t indicates the year of the injunction. The average debt ratio for all firms was calculated for each year from t-1 to t+1, and the firms were grouped by their banks' injunction status. The figure then shows the pooled average across years by group. The first observation is that debt ratios differ by less than one percentage point in time t-1, which is reassuring, since it indicates that firms are indeed similar ex-ante. Secondly, in the year after the injunction, leverage is almost 3 percentage points lower for firms with banks that received an injunction, a difference which is statistically different from zero.

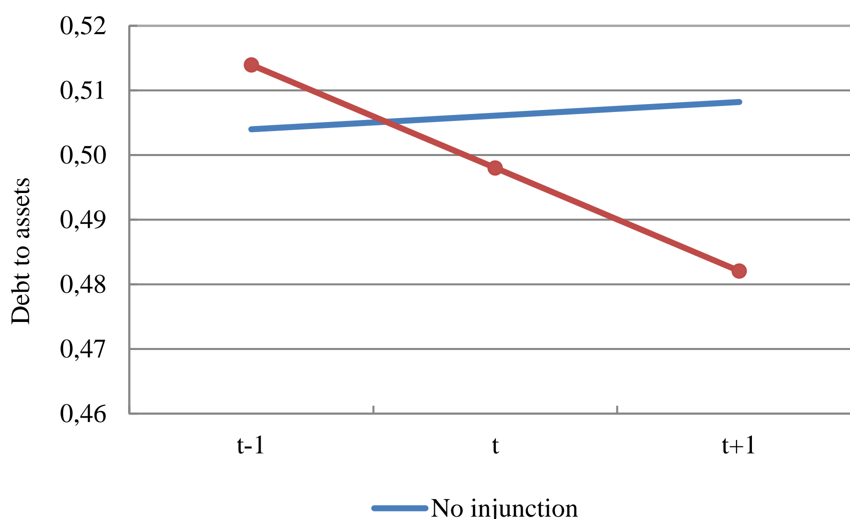


Figure 4: Leverage ratio by injunction status. All firms. Years 2010-2015

[5] The Basel II framework allows banks to use internal models to estimate the minimum capital requirement needed to cover their risky assets. It obliges supervisory authorities to review and evaluate the adequacy of these internal models, and it gives them authority to issue injunctions if the minimum capital is deemed inadequate.

Total debt comprises different elements, some of which are long term or short term, and some of which are bank debt or other debt. For the results just reported, Poulsen and Westergård-Nielsen (2018) focused on total debt in order to capture reallocations of debt, primarily between banks. This is due to their interest in the real effects, i.e. the origin of credit is less of a concern than the availability of credit to this particular firm somewhere in the financial system. However, they also argue that bank debt may specifically be the most important part of total debt to focus on, and, more specifically, that short-term bank debt should be the focus, as this is where banks can make immediate adjustments. Reducing short-term loans directly curbs the capital shortfall. In other words, if there is a bank lending channel, there should be an observable effect on short-term bank debt. Using short-term bank debt rather than total debt, they find that firms with banks that receive injunctions grow their short-term bank debt by as much as 15% less than other firms in the year following the injunction.

While banks appear to reduce their credit supply after an injunction, it does not necessarily have implications for business in general. Firstly, firms can substitute bank debt with other types of debt. Secondly, they can substitute debt with equity, in which case there should be an observable increase in equity when debt decreases. This would be in accordance with an assumption of efficient capital markets. To determine whether this is in fact the case, Poulsen and Westergård-Nielsen (2018) used the change in equity as the dependent variable instead of the change in debt. In this specification, the estimated coefficient of the injunction variable is not significantly different from zero, suggesting that firms do not make up for the credit cut with more equity. On average, corporate financing is thus limited by injunctions.

When there is a bank lending channel, what happens to banks will eventually have repercussions for their customers. As a corollary to the fact that debt is reduced and equity does not increase, business activity should go down, which is exactly what is observed, when the change in total assets is used as the dependent variable; firms with banks that receive injunctions increase their assets by 2% less than other firms in the year following the injunction. When asset growth is low, and activity stagnates, firms will eventually have to respond by cutting costs one way or another. In this respect, Poulsen and Westergård-Nielsen (2018) looked into what happens to employee costs, since it captures both the quantity of labour (number of employees) and the price of labour (wages). They found that employee costs grow by 2% less in firms with banks that receive injunctions.

By slowing down economic activity and reducing overall employee costs, injunctions appear to have real consequences for the economy. As a final attempt to understand these consequences, the researchers looked into what happens to the probability of default and found that it increases by 0.3%. The average default probability in the sample is 1%, and with a point estimate of 0.3%; this result implies that for a firm with an average default probability, the probability will increase by 30% if the bank receives an injunction.

Finally, the paper documents that the importance of a capital requirement-driven bank lending channel varies by firm type. Specifically, Poulsen and Westergård-Nielsen (2018) examined whether the firm-level effects are different for firms of different sizes and for firms with a small or large bank. As regards firm size, it should be recognised that larger firms have better opportunities to shift from one bank to another and thus mitigate the potential effect of an injunction. Moreover, banks may be more reluctant to cut the credit supply to large, important customers, and, by contrast, be more likely to tighten up regarding smaller and perhaps more marginal customers. They found that the negative effects pertain

to smaller firms. They also found that the negative effects pertain to firms with large banks, where large banks are the systemically important financial institutions; it seems that the average effects are entirely due to large banks, which apparently pass the consequences of the injunctions on to their corporate customers, whereas smaller banks somehow either manage or decide not to do this. Finally, the negative effects are greatest for small firms with large banks, whereas large firms with large banks do well.

Suggested readings

Aiyar, S., Calomiris, C.W., Wieladek, T. 2014. Does macro-prudential regulation leak? Evidence from a UK policy experiment. *Journal of Money, Credit and Banking* 46, 181-214.

Berger, A.N., Demirgüç-Kunt, A., Levine, R., Haubrich, J.G. 2004. Bank concentration and competition: An evolution in the making. *Journal of Money, Credit and Banking* 36, 433-451.

Campello, M., Graham, J.R., Harvey, C.R. 2010. The real effects of financial constraints: Evidence from a financial crisis. *Journal of Financial Economics* 97, 470-487.

Chodorow-Reich, G. 2014. The employment effects of credit market disruptions: Firm-level evidence from the 2008-9 financial crisis. *The Quarterly Journal of Economics* 129, 1-59.

Francis, W.B., Osborne, M. 2012. Capital requirements and bank behavior in the UK: Are there lessons for international capital standards? *Journal of Banking and Finance* 36, 803-816.

Gaiotti, E. 2013. Credit availability and investment: Lessons from the “great recession”. *European Economic Review* 59, 212-227.

Laeven, L., Valencia, F. 2013. The real effects of financial sector interventions during crises. *Journal of Money, Credit and Banking* 45, 147-177.

Levine, R. 1997. Financial development and economic growth: Views and agenda. *Journal of Economic Literature* 35, 688-726.

Wurgler, J. 2000. Financial markets and the allocation of capital. *Journal of Financial Economics* 58, 187-214.

Addison, J.T., Schnabel, C. (2011). Worker directors: A German product that did not export? *Industrial Relations: A Journal of Economy and Society*, 50: 354-374.

Berglund, T., Holmen, M. (2016). Employees on corporate boards. *Multinational Finance Journal*, 2: 237-271.

Bryson, A, (2004). Managerial responsiveness to union and nonunion worker voice in Britain. *Industrial Relations: A Journal of Economy and Society*, 43: 213-241.

3. Research Area: Competitive Landscape and the Impact of New Regulation in Europe

Introduction to the problem

Regulation has been an integrated part of any financial system for thousands of years, likely starting when Roman emperors dictated what would happen to money forgers. The last 100 years have seen several waves of comprehensive regulatory initiatives, in particular during the 1930s, 1980s, and most recently starting with 2009. This said, the overriding policy objectives have always been to provide a general financial framework with financial stability, predictability, and transparency.

Some of the repercussions of the financial crisis of 2008 have been increased regulation in the financial sector, and changes in the competitive landscape of financial services. The crisis has showed many countries and markets that further regulation is needed. Frequently, the political answer is to establish new national and/or European regulations with the aim of ensuring that a future financial crisis will not be as devastating: "*After a crisis in which the taxpayer bailed out the banks to the tune of many billions, the authorities cannot allow financial regulations to be guided by considerations of trade promotions. The public interest, not private profit, is what the rules should protect*" (Financial Times, 2014). Amongst many other things, the EU is in the process of implementing the Basel III framework, which can be considered a rigid rulebook on bank capital regulation and might trigger a wave of consolidation in the banking sector. Basel IV is already in the pipeline and is expected to set out additional requirements and more regulation.

In a dynamic market economy, it is essential that there is fair competition and that entry barriers are not becoming prohibitive for new players such as fintech or retailers entering into the financial sector. Regulation frequently has a disproportionate aspect in that it may, in relative terms, be punishing the smaller or new players harder than the major incumbents in the sector. Basel III and the creation of a Single Rule Book will create a more even playing field in the industry.

Regulation is not only a national debate; there is a genuine fear that European banks can become uncompetitive if they are required to adopt tighter regulations than their American or Asian counterparts. Regulatory and tax competition will be a predominant concern in the years to come, and the question is to what degree it will also take place inside the EU in the future. Will regulatory and tax incentives, as granted by financial centres in places like Luxembourg, Ireland, and Malta, prevail and be accepted by other EU Member States in the future? Or will the Nordic countries, including Denmark, be developing similar platforms in order to attract international asset managers and other financial firms that seek to be involved in cross-border banking and investment activities?

For more than a century, London has been the financial centre of Europe, even though the ECB, asset managers, insurance companies, and many banks are also clustered in locations such as Frankfurt, Paris, Amsterdam, Vienna, Milan, Stockholm, and Copenhagen. The fear of Brexit has already triggered an exodus of financial workplaces from London to other European locations (Ringe, 2018).

What has not been appreciated by the wider public, however, is that the UK government has been a stern speaker for a modern and liberal financial system as opposed to the more conservative and regulated

environment favoured by the French and German governments. Historically, the Nordic governments have, on most regulatory issues, sided with the UK government, an option which most likely will not be possible in the future.

New regulations are not the only challenges the financial sector is facing; technological disruption in the sector combined with a wave of fintech start-ups are challenging all incumbent business models, and in particular the "old" way of offering personalised financial services. However, with these new and very different businesses models, regulation needs to be updated and adapted in order to be relevant, provide more scope for competition, and not stifle start-ups from the beginning. The regulators in Europe are taking very different approaches, where they, in unison, should be actively promoting a dynamic fintech environment, including the establishment of "Sandboxes" (i.e. an environment where different regulatory models can be tested for a selective group of industry players).

Research output

Researchers	**Publications**
Georg Ringe, Caren Yinxia Nielsen, Michael Camphausen Jonas Helman	➢ Michael Camphausen: Reguleringen af bankernes virksomhedsområde i lyset af digitaliseringen ➢ Michael Camphausen: Finanstilsynets fintech initiativer og etablering af fintech enhed – regulatoriske refleksioner og input ➢ Michael Camphausen: High level response to the European Commission public consultation on Fintech – Regulatory reflections and input ➢ Georg Ringe: Regulatory competition in global financial markets – the case for a special resolution regime ➢ Georg Ringe: The Irrelevance of Brexit for the European Financial Market ➢ Georg Ringe: A Regulatory Sandbox for Robo Advice

- *What is the effect of regulatory competition on financial regulation? What options exist to respond to the problems of, for example, a threat to the financial stability?*
- *Is global competition for financial services affecting the Nordic region? In which parts? If so, what can we do about it?*
- *What is the effect of Brexit on the current setup of the EU financial market, especially from a regulatory perspective?*
- *Fintech and regulatory standards, what is the right approach?*

Broader regulation and regulatory competition

The abovementioned increase in financial regulation has impacted on the financial market in more ways than one. With the financial sector being mobile and able to work cross-borders, many participants can undergo regulatory arbitrage, i.e. strategies to avoid the reach of regulation to their business by, for instance, relocating their business or conducting business in other countries through franchising or

subsidiaries (Ringe, 2016). Such arbitrage can trigger regulatory competition[6] as firms will be able to exploit the differences between legal systems at a national level. between countries and markets.

Arguably, regulatory competition can have many advantages over other global approaches, as it may lead to more efficient regulatory standards. However, the downside of regulatory competition is that countries may lower their regulatory standards so much that it may undermine financial stability as a global public good. Regulatory competition can be either *offensive* or *defensive*. The most common form is the defensive competition, where regulators are forced to react to regulatory arbitrage and change their laws and regulations to attract companies to their jurisdiction (Ringe, 2016). Policy makers need to find a fair and effective regime which allows for competition but decreases the risk of financial instability. Ringe (2016) argues that there could be potential for a global resolution scheme to be implemented that should moderate this dilemma.

The crisis of 2008 showed society how intertwined the financial markets have become. A major repercussion from the financial crisis is tightened regulation in many countries. This increase in regulation can spark interest within financial businesses to look abroad to a country with more lax regulation for business purposes. The globalisation and technological development in the financial market have also reduced the cost of transferring business abroad. In many cases, companies do not need to physically move to another country in order to avoid the tight regulations. They structure their trading operations and other financial services in a way that escapes the reach of domestic regulation, and their subsidiaries or affiliates then execute their transactions. Regulatory competition and arbitrage in the financial market is a reality that cannot be ignored (Ringe, 2016). Incentives for arbitrage can be high, as the difference in regulations are immediately visible in the profit sheets of companies.

This increases the pressure on regulators and governments to answer the arbitrage. Governments cannot afford and are not interested in losing banks from their jurisdiction, especially due to the important economic role banks play in society. The most common response to regulatory competition has been to focus on harmonisation of laws and rules. Thus far, the EU has harmonised large parts of the financial regulation. According to common economic theory, the logic behind harmonisation is that similar or identical legal standards and regulations will reduce the incentive to arbitrage. One example of this is the Basel Accord agreement aiming to harmonise the capital requirements of banks. The Basel Accord further aims to enhance financial stability and provides recommendations regarding capital risk, market risk and operational risk.[7]

The road towards harmonious financial standards is not without criticism. Critics argue that harmonised standards undermine the virtues of competition, stifle innovation, and cut creativity and collective learning (Ringe, 2016). According to Whitehead (2011), promoting regulatory coordination can reduce effectiveness and alter key presumptions on financial risks. Hence, according to critics, while harmonised regulation can help reduce risk, it can also become a source of instability.

In his paper, *Regulatory competition in global financial markets*, Georg Ringe (2016) argues that international harmonisation with extraterritorial reach may actually lead to financial instability. He

[6] Regulatory competition is competition between regulators, and law and policy makers.
[7] https://www.investopedia.com/terms/b/basel_accord.asp

suggests that a special resolution[8] regime could bring valuable benefits to the markets; this resolution regime could help introduce market discipline and eliminate market instability. Resolution can also be beneficial in managing regulatory competition, as it offers additional tools and structure. The main tool resolution brings to the table is the ability for regulators to deal with failing banks without disrupting the market, which happened in the 2008 crisis. In the 2008 crisis, banks had become "too big to fail", and the government had to step in and "save" them at the taxpayers' expense. The idea is that resolution gives the regulators and policy makers the ability to take the failing institution down without this extra cost to the market. The key focus which regulators and policy makers have to keep in mind, is that the primary objective of financial regulation is to ensure financial stability and foster competition in the financial sector.

Brexit

There is no doubt that the result of the 2016 Referendum for the UK to leave the EU is of epochal significance and will bring important consequences for the financial regulation framework in Europe (among many other things, of course). It is crucial to prepare for this event and to safeguard against any negative repercussions, also for the Nordic community.

Georg Ringe's (2018) research observes that among participants in the global financial market, "Brexit" is commonly painted as an almost apocalypse-like scenario. A British exit from the EU arguably involves a significant disruption to financial integration in Europe, which will threaten the pre-eminence of London as a global financial centre and impose significant costs on all market participants. However, Ringe (2018) argues that, in reality, the impact of Brexit on financial services will be minuscule, if not irrelevant. This optimism is grounded in the economic stakes for both sides (the UK and the EU27) in retaining the benefits of access to a Single European Market for financial services. Given the joint economic interests, a likely outcome of the Brexit negotiations is a solution that formally satisfies the 2016 Referendum result, but in substance keeps Britain closely involved in the EU financial market. Alternatively, one could expect an agreement on the basis of regulatory equivalence. If an agreement is not achieved, private solutions by market actors are likely.

Ringe (2018) borrows from past examples in the EU financial market integration, which displayed ingenious creativity at work in facilitating a desired outcome within the existing convoluted legal framework. These past experiences lead to the prediction of a similar approach being used for accommodating Brexit. The broader point is then that the EU financial services framework repeatedly sees a victory of politics or economics over the law. That is to say, formal legal problems or structures are brushed aside when political necessities or economic exigencies so require.

Fintech regulation

One of the main changes the financial sector is facing these days is a technology disruption in the form of digitalisation and fintech start-ups. These start-ups are changing the competitive landscape of the industry, forcing "old" business models to rethink their ways. Because of this, many think of fintech as opposing the financial sector. Instead, fintech services should be considered a natural extension of the traditional financial services, with new and innovative business models (Camphausen, 2017). It is therefore important, when thinking about financial regulations, to consider these two business

[8] Resolution is an "administrative process in which the goal is to protect the liquidity needs of short-term creditors, especially depositors, and to manage financial assets in a way that preserves their value and the franchise value of the failing institution" (Ringe, 2016; 45).

approaches in the same category – financial service regulations. It is fair to question whether the current financial regulators are actually up to date and equipped to handle the changes they are seeing (Camphausen, 2018; Ringe & Ruof, 2018). Focusing on the level-playing-field arguments for the financial sector, the best way to allow for fair competition is to look at the financial services the entities offer (activities and products) instead of the players themselves. By incorporating fintech into the broader picture of financial service regulation, there is more opportunity for innovation, growth, trade, and employment within the sector.

A technology-neutral regulation is needed – one that is more flexible and takes the risk levels of the financial activity into account instead of focusing on the providers. This will allow start-ups to scale up their businesses more easily while still being compliant with financial service regulations. As has been mentioned above, the financial sector and its products are highly mobile and can easily transcend country borders. Hence, there is a need for a common framework, at least at the EU level, which allows for the sharing of best practices and innovation without violating various national or local directives (Camphausen, 2017). It is also important to make sure that the current regulations are driving competition and allowing the current business models to compete with up-and-coming start-ups or new market entrants (Camphausen, 2018).

The challenge is to design a regulatory environment where new business models can thrive, and where potential risks to both investors and the financial stability are monitored while simultaneously creating legal certainty for all market participants. Ringe & Ruof (2018) proposes a regulatory 'sandbox' – an experimentation space – as a first step to facilitate this. A sandbox would allow market participants to test fintech services in the real market with real consumers while under close scrutiny of a supervisor. The benefit of such an approach is that it fuels the development of new business practices and reduces the 'time to market' cycle of financial innovation while simultaneously safeguarding consumer protection. At the same time, a sandbox allows for mutual learning in a field concerning frequently little-known products and services, both for firms and for the regulator. This would help in reducing the prevalent regulatory uncertainty for all market participants (Ringe & Ruof, 2018).

In the EU legal framework with various layers of legal instruments, the implementation of a sandbox concept is not a straightforward process. Ringe & Ruof (2018) proposes a 'guided sandbox', operated by the EU Member States, and with endorsement, support, and monitoring by EU institutions. This innovative approach would be somewhat uncharted territory for the EU and would thereby also contribute to the future development of the EU financial market governance as a whole.

The Danish regulation is stricter than EU regulation on the topic of banks and other financial service providers not being allowed to own or influence other types of businesses, e.g. tech companies. However, tech companies are allowed to own and/or influence banks (Camphausen, 2018). This might have a significant impact on the Danish financial market, as many of the fintech start-ups might be listed as tech companies, and new market entrants like Google, Microsoft, and Apple are able to influence the financial sector as they are allowed to own and manage financial service providers and offer financial products. Thus, this regulation is creating a barrier for current financial business models in capitalising on technological development and the products they can and will offer to clients. There is a great deal of work to be done in making sure regulations are fair and allow for a level playing field and equal access to opportunities.

It is important that both current and future financial regulations have to *"incorporate the newer principles of technology neutrality, proportionality, innovation-friendly, market entry-friendly, consumer supporting, and true level playing field"* (Camphausen, 2017). This will allow for more risk- and principle-based regulations instead of a more expensive and rigid legal framework for fintech and other financial service providers. Moreover, this will prepare the market for the technological development that is entering the market or may come in the near future (e.g. blockchain, artificial intelligence (AI), robotics, etc.).

Competitive landscape in the financial sector

Over the past decade, the financial sector has been experiencing technological innovation and the development of digital products and services. Both start-ups and well-established companies, who traditionally would not count as financial institutions but more as technology companies, are entering the financial markets with the help of this technological innovation and development. This is why it is extremely important that the regulations in the financial sector are up to date with the development and the future of the sector and do not remain rigid and challenging for the financial institutions trying to stay afloat in the market. Many aspects of the financial sector have a substantial impact on society and its members. Because of its societal impact, the payment market is highly regulated, and regulatory agencies have a strong influence on how the market players position themselves (Hedman & Henningsson, 2015).
The payment market is an aspect of the financial sector which has become a hotspot for technological innovation and is seeing market entrants like mobile phone developers, telecom operators, and other tech start-ups (Hedman & Henningsson, 2015). This is transforming the financial sector and forcing banks to change their strategies to fight off new competitors (Hedman & Henningsson, 2015). However, it is important to note that more often than not, the companies are dependent on other market players in delivering their products, and so an "ecosystem" is developed, where companies contribute through innovation in either competitive or collaborative ways (Hedman & Henningsson, 2015).

For companies to maximise their potential in this fast-growing, competitive market, they must offer value-added services to, for instance, their mobile payments, which increases the likelihood for customers to use that payment method (Ausburg & Hedman, 2014). Including such services to the standard mobile payment schemes can increase client uptake and ensure faster adoption of the products (Augsburg & Hedman, 2014). This can help financial institutions in their fight against competitions and help them establish a strong market share.

In reality, the largest driver of change in the financial sector is not technological disruption, but rather the political boundaries and the radically increasing amount of regulation; "The new masters of the financial universe are neither bank bosses nor hedge-fund titans. They are the regulators whose job it is to make finance safer." (The Economist, 2015).

Suggested readings:

Anat Admati & Martin Hellwig, (2014). *The Bankers' New Clothes*, Princeton University Press, Princeton, NJ.

Katharina Pistor, (2013). A legal theory of finance. *Journal of Comparative Economics,* 41(2): 315.

Andrew Karolyi & Alvaro G. Taboada, (2015). Regulatory arbitrage and cross-border bank acquisitions, *Journal of Finance,* **70**(6): 2395-2450.

Jeffrey N. Gordon & Wolf-Georg Ringe. (2015). Bank Resolution in the European Banking Union: A Transatlantic Perspective on What It Would Take, *Columbia Law Review*. **115**

Robert Shiller. (2013). *Finance and the Good Society,* Princeton University Press, Princeton, NJ.

Luigi Zingales. (2015). Does Finance Benefit Society? American Finance Association Presidential Address, *Journal of Finance* **70**(4)**:** 1327-1363.

Barry Eichengreen, (2015). The Next Financial Crisis. *Economia Politica* **32.**

Eilis Ferran, Niamh Moloney, Jennifer Hill & John C. Coffee, Jr. (2012). *The Regulatory Aftermath of the Financial Crisis*, Cambridge University Press, Cambridge, UK.

4. Research area: the Nordic Financial Corporate Governance Model

Introduction to the problem

The so-called Nordic model has received some considerable international attention over the past few years, mainly due to its known welfare state characteristics and strong labour unions. The Nordic model has its roots in a combination of social democracy and liberalism (Thomsen, 2016a). One of the aspects that can be traced back to social democracy is the idea of employee representation on company boards. Despite the awareness of the Nordic welfare model, the lesser-known[9] Nordic Corporate Governance Model is equally important to analyse and understand. Thomsen (2016a) argues that it is crucial that the business sector is included in the Nordic model, as the welfare state needs to be financed in some way; without the business sector, the Nordic welfare state would collapse. Another important aspect is that the Nordic Corporate Governance Model has emerged in conjunction with the Nordic welfare state and has been influenced by Nordic reality (e.g. high taxation, income equality, social security, etc.).

Research output

Researchers	**Publications**
Therese Strand, Thomas Poulsen	➢ Thomas Poulsen and Aleksandra Gregoric: Board-level employee representation: A functioning mechanism of employee voice

- *Is there a Nordic Governance model – if yes, can it be used in the financial sector?*
- *What role does the Nordic Corporate Governance Model play for the prosperity of the entire Nordic financial sector and its responsibility towards society and employees? What changes in this model can be identified – what are the tendencies for change and possible consequences for employees/companies/sector?*
- *How does the Nordic Governance Model influence Nordic Finance?*
- *What role does the Danish co-determination model play regarding trust, commitment, and productivity?*

The key elements of the Nordic Corporate Governance Model are: a distinct legal system, high governance ratings, and low levels of corruption, along with concentrated ownership, foundation ownership, semi two-tier board structure, employee representation and low-powered managerial incentives. Thomsen (2016a) argues that due to the large government sector, strong unions, and stakeholder-oriented governance, the Nordic countries are coordinated market economies, which in turn affects the Nordic Corporate Governance Model. Culture could also have an impact on the Nordic Corporate Governance Model, as the Nordic countries arguably have a fairly homogeneous population,

[9] Especially outside the Nordic countries

and a similar history and culture. Social capital (trust and cohesion) has a role within the Nordic Corporate Governance Model, which may be easier to maintain in smaller, more homogeneous countries than in larger, emerging markets. This might have enabled the Nordic countries to sustain a high tax pressure, which, in turn, has helped develop the welfare state and the Nordic Corporate Governance Model.

Based on the rankings of the Nordic countries in various indicators, and after looking at the data through statistical tests, it is clear that the Nordic countries conduct above average corporate governance in all governance dimensions (Thomsen, 2016a). The high rankings in various indicators (e.g. the World Bank Governance Indicator, Transparency International, etc.) support this argument; there is something to this notion of a Nordic Corporate Governance Model and its involvement in a high quality of life in the Nordic region.

The role of board-level employee representation (BLER) in modern corporations has been attracting increasing interest (Poulsen & Gregoric, forthcoming). At present, no research work relates to the financial sector specifically but rather about corporations in general. BLER is seen as a solution to contracting problems between employees and employers (shareholders). In this section, Gregoric and Poulsen outline the benefits and costs of this mechanism from the employee perspective. They theorise how these benefits and costs vary with firm characteristics and, using data on Danish corporations, empirically investigate whether this explains the distribution of BLER across firms.

Legal provisions granting employees seats on corporate boards are a common but also much debated feature of the European social model. In this regard, scholarly and political discussions tend to revolve around the German model of mandated BLER in large corporations, where employees elect half of the board members. This model has not been free of critique, often directing scholars and practitioners to view it because of political considerations rather than as a governance mechanism that can successfully mitigate transaction costs in employee-employer contracting. The research by Gregoric and Poulsen seeks to revisit the role of BLER as a governance solution to contracting issues between employees and employers. They study BLER as a mechanism that allows workers as a group to manage uncertainties, secure their share of organisational rents, but also contribute to better and more informed strategic decisions.

Their contribution comes, in part, from their focus on the Danish model of voluntary and minority BLER, which is typical for the Nordic approach to this corporate governance mechanism. Specifically, they frame the benefits of representation in terms of content (formal rights assigned to employee directors) and efficacy. This framing follows scholarly work pointing to the fact that employee preferences for voice depend on both the formally defined rights associated with a specific voice mechanism and the actual possibility of successfully implementing these rights. Drawing on this framework, Gregoric and Poulsen then consider the circumstances under which the benefits of BLER outweigh the costs of such representation, thereby delineating how the value of implementing BLER, from the perspective of the employees might vary depending on workplace characteristics and the environment in which the firm operates.

The returns that BLER conveys to employees are based upon the strategic functions of the board of directors, as these delineate the range of issues that worker directors might influence. By participating in the strategic decision-making, employee directors have the opportunity to detect and prevent opportunistic actions by shareholders and mitigate worker exposure to uncertainties and strategic

decisions that might cause a deterioration of their rents. In this way, BLER complements works councils and unions in securing workers a fair share of organisational rents. By contributing to strategic decisions, employee directors also have the opportunity to influence the size of the total firm rent. Specifically, worker directors might facilitate the transmission of firm-specific knowledge (i.e., the skills and knowledge that increase worker productivity in a specific firm but not in other firms as well) to managers, shareholders, and their representatives on the board.

The formal rights to participate in strategic decision-making might, however, translate poorly to actual influence on boards, particularly in cases where worker directors are not in a majority. Lower influence, in turn, implies lower anticipated benefits from BLER; lower anticipated power from voice then negatively affects workers' decision to make use of the voice mechanism. Gregoric and Poulsen thus associate the efficacy of BLER to the employers' perception of the potential positive allocative effects of BLER – this could be BLER's contribution to employee commitment, investments in firm-specific knowledge, and improved employee-employer cooperation. Indeed, while firm-specific knowledge and skills are key factors for firms' long-term performance, their magnitude and impact on firm performance likely depend on the existence of employee governance mechanisms that reduce workers' exposure to employers' opportunism. Finally, from the employers' perspective, BLER might be beneficial to the firm as employee directors might transfer important firm-specific information to the board and help it communicate its decisions to the employees, thereby improving decision-making, while also fostering mutually beneficial (as opposed to competitive) agreements.

An important proposition from this is that the benefits of BLER will be higher in companies (sectors) that rely heavily on firm-specific skills and knowledge to achieve a competitive advantage, and where employees are therefore expected and required to make substantial firm-specific investments in human capital. When employees develop firm-specific knowledge and skills, their returns from employment in the current firm exceed the returns from alternative employment, making them vulnerable to managers' opportunism and poor strategic decisions. Consequently, these types of workers might benefit more from BLER, as it would provide them with the opportunity to influence strategic decisions and consequently reduce uncertainty and secure their rents in the firm.

Firm-specific knowledge also raises the benefits of BLER by leveraging the power of worker directors, thus increasing BLER's efficacy. Firm-specific human capital gives employees power, because they can threaten to withhold these resources. Thus, in firms with higher firm-specific knowledge, employers should be more inclined to support BLER as this mechanism might help them sustain the accumulation of firm-specific resources in the firm, as well as foster a cooperative relationship with the employees. Moreover, when critical resources are present at different organisational levels, the specialised knowledge, a valuable ingredient in strategic decision-making, is no longer concentrated at the top. The value of employee contributions to board decision-making (through transmission of firm-specific information) is thus likely to be higher in such firms. Consequently, in the pursuit of high employee commitment and more informed decision-making, employers might be more supportive of BLER in firms that depend heavily on firm-specific knowledge and skills.

Another important proposition is that the efficacy (benefits) of BLER is also higher in firms with more powerful unions. While unions might constitute an alternative mechanism for expressing employees' preferences and strengthen the threat of exit, they could also act as a complementary stakeholder with whom employee directors could build coalitions to reinforce their influence on the board. Unions have

at their disposal collective power and resources that might make the employee voice less susceptible to managerial (shareholder) influence. Moreover, employers might see alternative voice mechanisms, such as BLER, as a mediator in the employer-union bargaining; this mechanism is likely to be more relevant in firms with higher union density. The coexistence of union and non-union voices also provides for multiple channels of employer-employee interactions, thereby also increasing the efficiency of BLER. That is to say, the unions take care of issues that might otherwise create conflicts and obstruct employee-shareholder interaction on the board, such as working conditions and salaries. As other workplace-related issues are taken off the table, worker directors might be better able to focus on strategic issues; in the anticipation of this, employers' support for BLER is likely to be higher.

Labour unions also lower the costs of employee board-level representation. Scholarly research on works councils suggests that unions, through the provision of cognitive and other resources, might be critical of the ability of non-union mechanisms to strategically exploit the rights assigned to them. As an independent representative of worker interests, a union might also assist employee directors with gathering and aggregating workers' preferences. This is likely to reduce the costs of employee board representation.

Poulsen and Gregoric´s (forthcoming) work carries important policy implications. By providing support for the role of BLER as a governance mechanism in employee-employer contracting, they provide a rationale for the existence of systems of employee board representation that are more modest than the German parity-based codetermination. This is important, considering that some countries, such as the UK, are debating the introduction of some sort of non-controlling role for employees in firms' decision-making. Their results, however, suggest that the success of such systems is conditional on the firm-specific knowledge and skills of firm employees and, potentially, on the support of other complementary mechanisms of employee voice that leverage the power and increase the efficiency of BLER.

Suggested readings

Addison, J.T. and Schnabel, C. (2011). Worker directors: A German product that did not export? *Industrial Relations: A Journal of Economy and Society*, 50: 354-374.

Berglund, T. and Holmen, M. (2016). Employees on corporate boards. *Multinational Finance Journal*, 2: 237-271.

Bryson, A. (2004). Managerial responsiveness to union and nonunion worker voice in Britain. *Industrial Relations: A Journal of Economy and Society*, 43: 213-241.

Conchon, A. (2011). Board-level employee representation rights in Europe. Facts and Trends, Report 121, ETUI, Brussels.

Fauver, L. and Fuerst, M.E. (2006). Does good corporate governance include employee representation? Evidence from German corporate boards. *Journal of Financial Economics*, 82: 673-710.

5. Research area: National Compliance and Regulation, Including the Impact on Employees and Board Work

Introduction to the problem

The national financial regulation establishes the borders for how a financial institution can act regardless of whether one is a board member, executive, or employee. This is a substantial difference compared to most other sectors, where companies operate in traditional open markets, and where in most cases barriers to entry are lower, and regulatory boundaries are insignificant. Furthermore, the financial sector is unique as there are double-layered approval processes, in the sense that a board member or an executive would have to be approved by the relevant corporate bodies before being declared fit and proper by a respective financial regulatory body (e.g. Finanstilsynet in Denmark).

The regulatory bodies in Europe give firm risk guidance; sanctions can be imposed if they are not followed, and in extreme cases board members can be replaced against the will of the shareholders. This new regulatory system is a fundamental paradigm shift compared to the more traditional corporate governance models seen in other sectors in Europe and the US. This triggers the questions: What is the current relationship between the Danish FSA and Danish directors, including board members? And what are the implications of the new role and regulatory tools of the Danish Financial Supervisory Authority?

As has been mentioned in earlier chapters, there has been an increase in regulations and compliance requirements since the financial crisis of 2008. The crisis made it clear how intergrated the banks and other financial institutions had become, which made the impact from the crisis that much worse. At same time, there was very limited empirical evidence on what the long-term consequences would be, and if other options would be more beneficial for the societal development.

Not only do these stricter regulations affect the financial sector in general, they also affect the everyday activities of board members, leaders, and employees. The customers of financial institutions are also deeply affected by the increase in regulations and the added paperwork they bring regarding transactions and business in general. Employees in financial institutions are facing challenges in communicating and explaining the regulations and their reasons to customers (Clausen et al., 2016). It is therefore strange how little attention this aspect has received in the debate on financial regulations and their impact.

The Nordic financial sector is increasingly faced with European and global competition, which was not the case just a few years ago. In this context, it is also important to assess whether the Danish tax environment is competitive for Danish financial institutions. Globally, many of the fintech newcomers are establishing themselves in low tax jurisdictions (such as Apple in Ireland). The same can be observed in the asset management industry, where international investors expect that the Nordic players are working with a model where there is no or limited tax leakage, which can only be achieved in locations like Luxembourg, Ireland and Malta, or similar jurisdictions.

Research output

Researchers	**Publications**
Hanne Søndergård Birkemose, Nis Jul Clausen, Lars Ohnemus, Alexandra Horváthová, Peter Loft, Tanja Jørgensen	➢ Hanne Birkemose, Nis Clausen & Lars Ohnemus: Bankebestyrelsens byrde ➢ Lars Ohnemus: Regulering i den danske banksektor. ➢ Peter Loft: Skattemæssige rammevilkår for finansielle institutioner ➢ Alexandra Horváthová: Nordic Implementation of EU Financial Rules – Position of the Employees

- *Does National Compliance and Regulation have any material impact, including on executives and employees?*
- *What is the relationship between the Danish FSA and Danish directors, including board members?*
- *What are the implications of the new role and tools of the Danish Financial Supervisory Authority, the new framework for supervisory organisation, and its effects on the relationship between supervisor/state and financial companies?*
- *How has this paradigm shift (after the 2008 financial crisis) impacted the regulatory framework, its scope, its coherence, and its effects, and what are the considerations behind it?*
- *What are the results of the new regulatory principles and framework of financial corporate governance, its development, and the context of general financial regulation?*
- *Is the tax environment competitive for Danish financial institutions?*

Regulatory influence on the banking sector

It is clear that the regulatory increase that the financial sector has been experiencing since 2008 is affecting all aspects of and roles within the sector. As a part of this research project, a survey was sent to 388 executives and board members in 2015 to gain more information about the influence the stricter regulations have on board members and leadership of financial institutions. The response rate was 49%, which is satisfactory for this kind of survey (Clausen et al., 2016).

A vast majority of 99% of the survey respondents agree that the increased regulation has resulted in an increase in their workload as a board member. According to the respondents, the board members are now spending more time on smaller, non-value-adding tasks, instead of focusing on strategy and business development. According to 57% of survey respondents, around 20% of board meetings focus on topics related to regulations. Still, there seems to be some disagreement as to whether the current level of regulation is appropriate. Around 48% of the board members believe that the level of regulation is out of proportion and unbalanced, while 41% find that it is appropriate (Birkmose, Clausen & Ohnemus, 2017). Not only have the activities of boards increased, their responsibilities have also further increased, and the division between the leadership and the board is becoming increasingly blurred with the increased regulations (Birkmose, Clausen & Ohnemus, 2017). This development is challenging the aforementioned Nordic Corporate Governance Model that has been dominating the Nordic companies (Lekvall ed., 2014) with the risk that the actual governance model is moving towards an Anglo-American setup. The Nordic Corporate Governance Model is an intermediary one-tier model; there are two tiers with a distinction between responsibility of the board and the leadership, but it allows for some overlaps

as executives may also serve on the board as a minority. The financial regulation of the board composition allows for less overlap regarding people but requires boards to be involved in decisions which are traditionally the domain of executives. (Clausen et al., 2016). With the blurred line between the board and the leadership, the governance model is moving away from the Nordic model into more Anglo-American based model (Thomsen, 2016a & 2016b). This development places more responsibility on the board of directors, in particular regarding credit decisions, and may partly explain the significantly increasing workload experienced by many board members. More research is needed to understand the wider consequences of the shifted balance in the Nordic Corporate Governance Model.

It is not only the work of the boards that is affected by the new, stricter regulation. According to the survey, 83% of the executives find that the regulation has become a problem in relation to the customers and the business models of financial institutions. For one thing, new procedures due to amended regulation have to be explained to the customers. Secondly, it has affected the lending to SMEs (Poulsen & Westergård-Nielsen, 2017). This may further push the development of a 'grey capital market'. The survey does not give a clear answer as to whether such a development is considered a problem; 43% agree that it may be a problem from a competitive point of view, while 37% disagree.

Regulations have also introduced stricter criteria for executives and board members by increasing the competency requirements for "Fit and Proper" (Birkmose, Clausen & Ohnemus, 2017). These requirements have been in place for a number of years to ensure that executives and board members are honourable as well as qualified for the job. This should minimise the likelihood of executives and board members misusing their positions. These requirements have been continuously intensified since the financial crisis and are of concern to the survey respondents, as they are worried that it will be hard to find qualified candidates in the future with such rigid criteria (Clausen et al., 2016). This concern is reinforced by the increase in obligations that board members experience.

The FSA plays an important role in securing financial stability in Denmark (Clausen et al., 2016). The amended regulation has given the FSA stronger powers to evaluate whether a person is fit and proper for a board position (Birkmose, Clausen & Ohnemus, 2017); the FSA can deny appointment to leadership positions if they deem the candidate unfit and improper based on his/her previous experience and actions. They can also require that a financial institution dismisses an executive or a board member. The amended regulation also necessitates that the FSA becomes more involved in the risk assessments and business models of financial institutions. This is somewhat critical in relation to the operations of a bank, as risk management has become much more pivotal in the duties of the board. While 47% of the board members found that the FSA was fair in its evaluation of the financial institution's risk, 34% did not find that the FSA gave a fair risk assessment. In this respect, it is of significant importance that there seems to be a lack of trust. According to the survey, 45% of the board members disagree that it is possible to enter into dialogue with the FSA based on trust. Moreover, only 32% agreed that FSA should be involved in the risk analysis, whereas 34% disagreed. This disagreement is a sign that this topic needs further discussion and clearer guidelines.

The findings from this research area identify three paradigms that the future regulatory changes need to keep in mind if the financial sector is expected to thrive in the future (Birkmose, Clausen & Ohnemus, 2017);

1) Discussion on proportionality: Should large and small financial institutions be regulated in the same way? There is a need to look at competitive abilities of the various institutions and how we wish to see the structure of the financial sector in the future.
2) Selecting the governance model: How do we want to divide the roles and responsibilities of the board and the leadership in the future?
3) International competition and fintech: The financial sector will be faced with increased international competition and technological development. As mentioned above, the local and national regulations will have a huge influence on where financial institutions will register their activities in the future.

EU Financial regulations and Finance employees

Many of the newly adopted financial regulations by the EU (e.g. BRRD, CRR, CRD IV, SRM, MiFID II, MiFIR, etc.) have already been transposed into the Nordic legal systems, and that transposition has been relatively homogeneous across the entire region. Naturally, there are some differences among the Nordic states due to their different legal standing in relation to the EU and the Eurozone. Given that the newly adopted regulatory framework predominantly consists of Directives, Member States have been provided with the necessary flexibility in their transposition and subsequent implementation. During the research, only Denmark was punctual in its transposition, whereas Sweden and Finland were slightly delayed (Horváthová, 2017). This has predominantly been caused by the complexity of the new regulatory framework.

The main research question is whether the position of employees in financial institutions has changed due to the abovementioned regulatory framework, focusing in particular on employees' position within the corporate governance structure, their labour rights, and additional protection (whistleblowing). Interestingly, despite the observation that in the Nordic countries there is a move from Nordic Corporate Governance Model to an Anglo-American based model (Thomsen, 2016a & 2016b), the EU has undertaken an entirely opposite course (Horváthová, 2017). After the financial crisis, the EU has sought a more stable, transparent, and fair model, involving more stakeholders, including the employees. After the crisis, the discussion evolved around stability, long-termism instead of short-termism, and adequate monitoring mechanisms. It is thus natural that, aside from the board, enforcement agencies, or investors, the regulation needs to provide the necessary rights and tools for the employees, which has been the case for a long time in the Nordics (see Horváthová, 2017).

Employees in the financial sector represent one of the key stakeholder groups in the Nordic Corporate Governance Model and have a significant role in the organisation achieving its goals (Horváthová, 2017). Despite its important role in the financial sector, this group has often been neglected in the discussion about regulatory impact. Many of the EU legislations aim to protect the employees in different ways, but little has been researched into whether these legislations actually have the intended impact. This report represents one of the first attempts in this regard and has been limited to documentary research only. When discussing the employees, they are most often categorised with the "private side" of the company, which also includes shareholders. At the other side of the equation are customers, creditors and the wider society. Arguably, employees also belong to the second part and are therefore impacted by finance regulations on both levels (Horváthová, 2017).

The Nordic countries possess tools within the Nordic Corporate Governance Model that drive employee protection. These tools are mainly, but not exclusively: employee representation, the right to form a

union, and collective bargaining. In the Nordic region, employees have a strong position, and there is a high degree of unionisation; in Iceland, it is over 80%, 74% in Finland, 70% in Sweden, 67% in Denmark, and Norway at the bottom with 52% (Horváthová, 2017). The unions allow employees a certain level of job security, which, in turn, has an impact on job satisfaction through employee compensation, social programmes, and unemployment benefits (Horváthová, 2017). These tools, and this strong employee involvement, have made the Nordic countries well prepared to transpose the various legislations to national levels, as the employees already have the abovementioned rights. The report offers a detailed analysis within several areas of the employees' position and protection and reflects upon the extent to which the new rules have affected them.

Firstly, the new regulatory framework addresses employees' participation in management and their representation on the board of directors. Employee representation in governing bodies contributes to sound and effective corporate governance, as it is in the best interests of the employees for the institution to achieve sustainable and long-term performance. (Horváthová, 2017). Although CRD IV, IID and MiFID II all address employees' representation on the board and emphasise its importance, they clearly acknowledge the diverse governance structures across Member States and leave the division of function powers to the Member States. Furthermore, the new regulatory framework addresses the issue of diversity. Although all Nordic countries address the diversity issue and require the adoption of diversity policies, it remains of concern that diversity is narrowed down to a term, where only sex is the determining factor. Based on the above, it is evident that the EU is emphasising the importance of employees' representation on and direct role in governance. However, these provisions only have a limited effect on the Nordic Member States, as the employees' representation and employee-appointed directors on the boards of large corporations, including the financial sector, have been a widespread practice.

Secondly, concerns present in all the EU acts are remuneration and short-termism**.** The financial crisis of 2008 has uncovered twistedand unethical remuneration strategies in financial institutions that have greatly supported excessive risk taking and short-termism, which arguably substantially contributed to the financial crisis. One part of the new framework should directly target the short-termism through the adoption and active review of remuneration policies. Each and every financial institution has to adopt a remuneration policy that reflects employees' remuneration. This policy should be based on a combination of the assessment of the individual, their business unit, as well as the overall results of the institution. Furthermore, the variable component of remuneration shall not exceed 100% of the fixed component for any employee (Horváthová, 2017). These new rules represent a novelty for the Nordics. Where Denmark only transposed the rules in regard to the significant financial institutions, other Nordic jurisdictions require the establishment of remuneration committees in all financial institutions. Furthermore, the recent EU directives have surprisingly addressed the issue of collective bargaining within financial institutions regarding remuneration policies. In the Nordic region, collective bargaining as a right is guaranteed to all trade unions, given that they are the most suitable body to take this on.

Many directives have focused on the workers' right to be informed and consulted on a number of issues within the performance and strategy of the company. These directives not only focus on the financial regulatory framework, but also address the general national labour laws, which require informing and consulting employees as a part of corporate behaviour. The BRRD and SRD have advanced this attitude, in that they require the resolution authorities to inform and consult employee representatives where appropriate. In addition, many directives also speak about the competences and training of employees.

It is the obligation of financial institutions to ensure that staff who advise on or sell investment products to retail clients possess an appropriate level of knowledge and competence in relation to the products offered. In the Nordics, since 1989, the focus on employees' rights to vocational training has only grown stronger, and, in 1998, it was considered a key aspect of "employability" and an important feature to enhance the competencies of companies. In the wake of complex financial products, the necessity to further educate the employees is critical.

Whistleblower protection has been included in many of the directives, as its importance has only grown exponentially after the last financial crisis. Employees are often in a very unique position within their institutions to observe and recognise wrongdoings. Whistleblowers therefore provide an important service to other employees and stakeholders by reporting these wrongdoings. It is crucial to have the right protection in place for employees to feel secure when whistleblowing, so they do not fear personal consequences. Prior to the financial crisis, general employees' protection has been in place in general labour law. For instance, in Norway, a general whistleblowing protection act has been available since 2005 (the Working Environment Act), which obliges all employers to establish whistleblowing protection (Horváthová, 2017). Following the adoption of the new regulatory framework, all Nordic states have proceeded to strengthen the whistleblowing protection, and some jurisdictions also offer additional whistleblowing mechanisms. In Denmark, one whistleblowing mechanism has been externally developed by the Danish Financial Supervisory Authority, whereas the other mechanisms are individualised, obligatory mechanisms operated by the financial institutions themselves. A highly similar approach has been undertaken in Sweden.

It is without any doubt that the EU financial regulation has grown exponentially over the last 10 years. This has been due to the aim of creating a common capital market as well as establishing microeconomic and macro-economic tools to protect the European Union and its Member States from a similar financial crisis. Many Member States, political parties, politicians, and interest groups have been raising their concerns about the heightened regulation and possible gold-plating[10] in some of the Member States. Others questioned the efficiency and coherence between all these diverse Directives and Regulations. Many of these concerns are well-founded and deserve further research. However, concerning this research, from a regulatory perspective, the recent financial framework has only affected the position of employees in a minor way. Nordic countries have provided protection and support for employees as well as their representation in management before the EU regulations. Therefore, a concern of gold-plating regarding this specific area is unfounded.

This research has uncovered four areas that need further research in order to review the position of employees and their proper protection within the financial regulation (Horváthová, 2017):

1. How is the diversity of boards understood and materialised by the financial institutions?
2. How are the remuneration committees and policies formed and what kind of documentation do they access and review?
3. How, specifically, do the remuneration policies address short-termism in their structure? And do they reflect on the competency and training activities of the employees?
4. What are the particularities and data of whistleblowing mechanisms?

[10] Gold-plating is a term used when an excessive set rules, regulations, and guidelines, whether on regional, national, or local level, interfere with the goals these are expected to achieve.

Regulation and Anti-Money Laundering

It also without doubt that Anti-Money Laundering (AML) has and will continue gain significant attention in the coming years from both a political and regulatory perspective. 2018 saw a surge of money laundering scandals where various financial institutions and countries were involved. Financial institutions like UBS, Rabobank, ING, Deutsche Bank and Danske Bank faced high fines, legal disputes and criminal investigations after having being caught in criminal activities or failing to report suspicious activities.

According to Professor Tom Kirchmaier (CBS), the AML system is broken, and it is broken everywhere regardless of whether one is talking about the Nordics, other EU countries or the US. The AML framework developed in 1987 by the G7 consists of 40 rules that should provide guidelines on how to approach or avoid the problem. The downside of the system is that is appears to be written by lawyers for lawyers and the focus on operationalisation and practicalities have not been considered. According to Kirchmaier, this has profound implications as this allows banks, lawyers and compliance officers to interpret and judge the rules and the situations.

The fact that the rules were written over 30 years ago further affects their implementation. They are labour-intensive and inconsistent, which makes the process even harder to work with. Today, computer programs are much more efficient and capable. Along with more effective computer programs, the substantial advances in econometrics and machine learning are opening up more possibilities for finding new and better ways to detect and track suspicious transactions and their origins.

However, before we start finding new ways to detect these transactions, we have to understand what money laundering includes, as it has very diverse actors and purposes. Looking at money laundering activities close up, four sub-categories of financial crimes count as money laundering. First, there is the "washing" of dirty money, most often the proceeds of criminal activities. Then there is embezzlement of state funds, tax evasions and serious corruption. The third category is the avoidance of currency control, but with the funds principally coming from China, European financial institutions are not as involved in this category. Last, but certainly not least, is terror finance.

Each of these four categories needs different approaches, which means that the 40 general rules established in 1987 are not equipped for and capable of answering the various needs. By analysing the various categories and the problems they impose, there are more opportunities to develop highly specified and successful algorithms to detect the various types of suspicious transactions.

Suggested readings

Nis Jul Clausen. (2018), *Det danske retsopgør efter finanskrisen: en foreløbig status*, s. 39-63 i Kleineman, J. (red.), *Nordiska förmögenhetsrättsdagarna*. Stockholm: Jure, Bind 29.

Nis Jul Clausen. (2016), *Ansvar for finansiel rådgivning: og hvad så med juraen?*, s. 23-43 i Pedersen, H. V. G. (red.), *Juridiske emner ved Syddansk Universitet*. København: Djøf Forlag.

Camilla Hørby Jensen. (red.), Nis Jul Clausen, Tanja Jørgensen, Nina D. Legind, Mette Winther Løfquist & Hans Viggo G. Pedersen (2013), *Bankjura: Udvalgte Emner*. 2 udg. København: Djøf Forlag.

Hanne S. Birkmose. (2013), *Kampen om bestyrelsen: Finanstilsynets skærpede krav til bestyrelsen i pengeinstitutterne*, s. 27-42 i Nina Dietz Legind, Bent Ole Gram Mortensen, Hans Viggo Godsk Pedersen & Karsten Engsig Sørensen (red). Kbh.: Djøf Forlag.

Tanja Jørgensen. (2013), *Kunden og Finanstilsynet*, s. 9-20. Erhvervsjuridisk Tidsskrift, Nr. 1.

Den Finansielle Krise i Danmark – årsager, konsekvenser og læring (2013), (Rangvid-rapporten).

Michael Camphausen. (2011), *Pengeinstitutter. Tilladelse, eneret og virksomhedsområde*. København: Karnov Group Denmark A/S.

Hanne S. Birkmose. (2011), *Ledelsen af finansielle virksomheder i Danmark: status quo eller skærpede krav*, s. 47-69. Nordisk Tidsskrift for Selskabsret, Nr. 1.

Nis Jul Clausen. (2010), *Markedsføring, rådgivning og salg: finanstilsynets nye og skærpede praksis*, 3, s. 10-15. Finans - Invest.

Nis Jul Clausen. (2010), *Den finansielle virksomhed og kunderelationer*, s. 471-499 i Nina D. Legind & Nis Jul Clausen, *Erhvervsjura for den finansielle sektor*. 3. udgave

6. Research Area: Financial Benchmarks, Risk, and Reward in the Banking Sector

Introduction to the problem

The debate on whether banks should provide return guidance to the market has now been going on for more than a decade in both academia and the bank sector. Return on Equity[11] (RoE) is one of the most commonly used metrics for bank profitability and performance. Banks set RoE targets as a signal and perception that they are working for returning profits to investors. Other banks or corporations instead pay out dividends to return some of the profits to equity holders.

It is essential in a free-market, non-state-driven financial sector that financial institutions, including banks, can attract institutional capital in sufficient volumes and that investors can expect a fair risk-adjusted return on their (bank) investments. One of the current key political assumptions is that future financial crises can be mitigated to a large degree if the banks are working with higher equity ratios and less debt versus the banking environment prevailing until the financial crisis emerged. On top of this, there are suppositions that investors will keep investing in the sector, the banks will be attractive as investment cases, and capital raising should not be an issue in the future.

An important aspect of corporate governance is to ensure that the suppliers of capital (equity holders) get a return on their investment (Shleifer & Vishny, 1997). This is essential to safeguard the legal interests plus functionality of the external capital.

The use of RoE has been gaining significant attention in the recent years. As a measurement of performance and profitability, RoE does not take into account the riskiness of the corporation; other measures, such as return on risk-adjusted assets, and return on economic capital, are recommended instead. Risk adjustment and modelling is different across corporations and nations, and there is even modelling ambiguity for the international standards based on the Basel Accords.[12] Nevertheless, RoE is widely used in the financial sector and can be used as a benchmark when comparing with other sectors.

Many banks set RoE targets which are published and reviewed in their financial reports and investor events and are frequently discussed in the media. Banks are frequently criticised for targeting RoE, as it could encourage banks to increase the leverage ratio to race competitors rather than enhance their management skills of extracting returns from their existing asset pools (Haldane, 2009).

The ramifications of the recent financial crisis, and intensified by the sub-prime mortgage crisis, have placed a sharp spotlight on the banks' risk taking and their potential systemic risk. In response to this type of criticism, regulatory frameworks, such as the Basel Accords, have been put in place to require banks to hold more capital regarding the risk profile of their assets, and to put an upper limit on banks' risk taking. In particular, Basel III (2010) caps banks' leverage and imposes requirements for additional conservation and countercyclical capital buffers.

[11] The ratio of net income to total book equity

[12] The Basel Accords are the banking supervision accords promulgated by the Basel Committee on Banking Supervision.

The direct effect of raising new capital to comply with the more constrained capital regulation is lower RoE. This paradox of complying with higher capital requirement and reaching higher RoE targets could result in the reduction of assets or a reshuffling of asset pools instead of raising new capital.

Conceptually, RoE targets send a signal to investors that the bank manager promises to serve the interest of the banks' shareholders and operate a predictable business model. However, banks with RoE targets might allocate more capital to high-risk assets in order to generate a higher return. In so doing, they would thereby reduce business areas which are perhaps important for a given sector or region, but which do not match the predefined financial objectives promised to the financial markets, such as reducing systemic risk.

Is the simple way out to just drop any financial targets or guidance to the shareholders, which is increasingly being observed in Europe? This will most likely be counterproductive since it will further reduce the transparency and trust in the sector.

Research output

Researchers	**Publications**
Lars Ohnemus, Caren Nielsen, Therese Strand, Tom Kirchmaier	➢ Caren Nielsen & Lars Ohnemus (2018a): Etablering af mål for egenkapitalforrentning hos banker – hvad kan aktionærerne forvente som afkast? ➢ Caren Nielsen & Lars Ohnemus (2018b): Targeting return on Equity: banks' ownership structure and risk taking ➢ Caren Nielsen & Frederik Lundtofte (2018): The Effect of stricter capital regulation on banks' risk-taking: theory and evidence

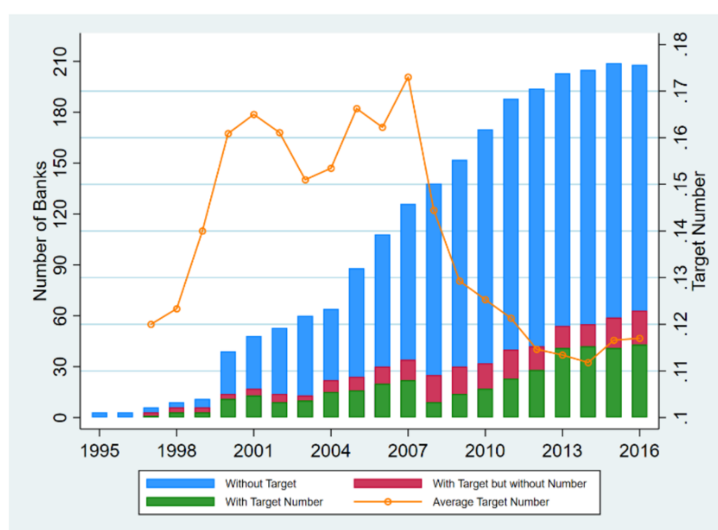
- *Is there any link between financial benchmarks, risk, and reward programmes?*
- *What consequences could RoE targets have on the Nordic financial sector? Could these targets lead to negative behaviour from a risk management and shareholder perspective? And would one or several new benchmarks be more relevant both from an internal and external perspective?*

The research outcomes of this area are the peer-reviewed journal publications, Nielsen and Ohnemus (2018a) and Lundtofte and Nielsen (2018), and a published working paper, Nielsen and Ohnemus (2018b). Nielsen and Ohnemus (2018a) compare public commercial banks with different strategies regarding RoE targeting in Denmark to banks in other Nordic countries and the rest of the Europe from 1995 to 2016, with a special focus on the change of state after the recent global financial crisis (2007-2009). It reveals the different characteristics and risk profiles of banks setting RoE targets or not and with different strategies of publishing RoE targets, within Europe and with a focus on Denmark. Nielsen and Ohnemus (2018b) extend the analysis to individual European banks and to the studies of their risk taking and corporate governance. With more detailed data on banking regulation in the US, Lundtofte and Nielsen (2018) model the impact of a higher capital requirement on banks' asset choices and test the model empirically.

Targeting RoE

Some banks disclose the exact numbers of their targets, while others unfold their targets differently, such as "competitive with top peers". Nielsen and Ohnemus (2018a and 2018b) show that almost half of the public commercial banks in a sample of 32 European countries have set some form of target for RoE. Figure 5 depicts the numbers of banks with different strategies of targeting and disclosing and the explicit target levels, if available. An obvious trend is that the number of banks with targets (the sum of the green and cranberry bars) and the number of banks with available target numbers (the green bar) are pro-cyclical. This trend is more distinct for the average target level. Banks with RoE targets are more prone to set targets higher when the market conditions improve. This illustrates that banks set targets due to the confidence of better performance in terms of RoE, and the publication of the targets conveys this information to the investors.

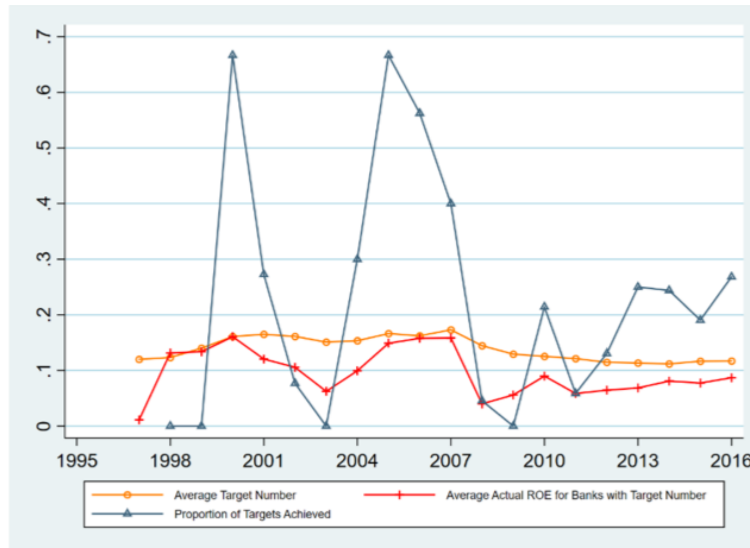
Figure 5: Number of banks with different strategies for targeting RoE and the target level



The number, at the end of each year, of banks without targets, banks with targets but without exact target levels, and banks with exact target levels (and for these, the average target level). Source: Nielsen and Ohnemus, 2018b.

Nielsen and Ohnemus (2018a and 2018b) also look closely into the explicit target levels in Figure 6, which shows the average published target level, the average actual RoE for those banks, and the average proportion of targets achieved in the following year. The RoE target is less pro-cyclical than the actual RoE; banks set more stable and ambitious targets, and even more so during the economic downturn. This helps us to understand why banks prefer to set targets for the medium and/or long term. The resulting average achievement rate is much more pro-cyclical, which is expected as not all the targets are set for a one-year horizon. Comparing actual RoE with one-year horizon targets, on average, 23.7% of the targets are achieved.

Figure 6: Target level, actual RoE, and the achievement of targets



The average, at the end of each year, of published RoE target levels, actual RoE reached for those banks, and proportion of targets achieved in the following year. Source: Nielsen and Ohnemus, 2018.

In accordance with Haldane's (2009) observation, leverage is here the main driver of RoE rather than return on assets, especially for the banks targeting RoE (Nielsen & Ohnemus, 2018a and 2018b).

What are the levels of RoE in the Nordics versus other European countries? Nielsen and Ohnemus (2018a) show that, on average, Danish banks deliver a return on equity of 3.6%, considerably lower than the 12.6% of other Nordic banks, and close to the 4% of other European banks. The average return on equity of Danish banks dropped dramatically from 15% before the crisis (irrespective of targeting) to 8.6%/-0.9% for banks with/without the RoE target, similar to non-Nordic European banks.

Similar to other European banks, Danish banks with RoE targets earn a high return on equity by leveraging up their balance sheets instead of generating a high return on assets. However, this image has improved after the crisis, in that Danish banks with targets have started to earn higher returns on assets, similar to non-Nordic banks. Although high leverage for banks with targets is still a concern after the crisis, an encouraging fact is that banks in Europe hold more capital than before the crisis.

Size is another concern, as banks with targets are generally very large. However, compared to the banks without targets, banks with targets generally have higher asset quality. This has been especially true for Nordic banks since 2012 (Nielsen and Ohnemus, 2018a).

Focusing on individual banks, Nielsen and Ohnemus (2018b) discover the linkage between banks' ownership structure and their RoE-targeting strategy, as well as the link between targeting RoE and risk-taking behaviour in the following year. The results indicate that the balancing power of shareholders and the manager is linked to the banks' preference of whether to target RoE and how to disclose the potential target.

More specifically, banks with larger shareholders having concentrated control (voting rights), rather than being large in terms of cash-flow rights, are more likely to target RoE. This is consistent with the literature on having large controlling shareholders, as they may exercise their voting rights to control

the management and thereby reduce the agency conflict between shareholders and the manager (Shleifer and Vishny, 1986, 1997; La Porta et al., 2002). At the same time, since the expropriation of resources from the corporation by the controlling shareholders is costly (Jensen & Meckling, 1976), increasing the cash-flow rights of the controlling owner will reduce this type of expropriation, holding other factors constant (Burkart et al., 1997).

Not all target levels are published explicitly. Among the banks with RoE targets, the banks with larger insider holdings are less likely to publish the exact number of the target. According to the theory of information asymmetry and signalling, a bank's insiders have greater and more accurate information of the bank than outsiders and would attempt to signal bank quality to the market. Yet, the results indicate that the insiders are against signalling to the market when they hold more cash-flow rights. This is in line with agency theory, in that insiders have conflicts of interest with other shareholders (Nielsen & Ohnemus, 2018b).

What would the manager do to achieve the set goal for RoE? What is the actions' implication on the banks' risk-taking in the following year? Nielsen and Ohnemus (2018b) show that banks which are more likely to target RoE, have a higher return-on-assets volatility and a higher stock tail risk (Value-at-Risk at 95% confidence level) in the coming year. The results indicate that when banks become more likely to target RoE, they become more committed to enhancing their management skills in order to generate high returns on assets, which then leads to a higher volatility of quarterly earnings. The higher stock tail risk signals that investors evaluate the strategy of targeting RoE as risky.

The risk-taking implications are different for banks that pay out dividends. For dividend-paying banks, leveraging up their balance sheets becomes a short-cut to achieving a high return on equity. This is in line with Haldane's (2009) observation and Pagratis et al.'s (2014) estimation that banks leverage up their balance sheets to race with competitors. The policy of paying out dividends might contribute to an increased leverage ratio due to limited investment, since payout policy is sticky (Lintner, 1956; Leary and Michaely, 2011; Farre-Mensa et al., 2014), and managers state that they would rather forego some positive net-present-value projects than cutting dividends (Brav et al., 2005).

For dividend-paying banks, the negative effect of targeting RoE on stock tail risk is not statistically significant. This indicates that investors favour stocks paying out dividends. Additionally, dividend-paying banks are less likely to default within a year, which reflects the investors' preferences, since the calculation of default risk uses the stock market valuation to infer the market valuation of the banks' assets.

These findings not only contribute to the understanding of the banks' behaviour of targeting RoE, but also the link between bank ownership structure and risk taking, documented by Saunders et al. (1990) and Laeven and Levine (2009).

The impact of capital requirement on the credit risk of banks' assets

National and international micro-prudential banking regulations have impacted not only on banks' liabilities but also their asset choices and business models. Due to the importance of the banking sector in intermediating funding to the broad economy, capital regulations, particularly the international Basel Accords, have been put in place to limit banks' risk-taking and to ensure a sound economy, especially after the catastrophic banking crisis. How banks react to the restrictive regulations is ambiguous, since banks can invest more in high-risk assets in order to compensate for the higher regulatory costs.

Since a simple flat ratio of capital to assets might incentivise banks to hold more high-risk assets (Koehn & Santomero, 1980; Kim & Santomero, 1988), regulators have been refining capital regulation to match the actual risk of the assets of banks. Nonetheless, Basel II has been questioned for exacerbating the procyclicality of banks' lending (Repullo & Suarez, 2013; Behn et al., 2016). In response to this type of criticism, Basel III adds a capital preservation buffer and a countercyclical buffer, and Basel IV emphasises the calculation of the risk-weighted assets and reconciles the internal ratings-based approach with the standardised approach. In the US, regulators have maintained a flat leverage ratio since 1981 (Volcker, 1987; Deloitte, 2014). More recently, however, they have introduced a supplementary leverage ratio for the very largest banks, which takes off-balance sheet items into account.

How do individual banks navigate in a landscape of cycles of credit yields and risk, such as the one during the pre-crisis surge in yields in the sub-prime markets, or the credit shocks induced by the failure of Lehman Brothers, with simultaneous changes in capital regulation? For instance, if a bank faces increasing default probabilities and default correlations among its clients, how does it reassess the credit risks of existing and new potential assets and decide on a reallocation while also facing a more stringent capital regulation? To answer these questions, Lundtofte and Nielsen (2018) revisit the literature on banks' asset portfolio choices (Koehn & Santomero, 1980; Kim & Santomero, 1988; Rochet, 1992; Furfine, 2001; Milne, 2002) with a special focus on credit risk.

Figure 7 shows asset allocation among risky assets whose risk weightings are non-zero for all stand-alone banks and bank-holding companies in the US. Prior to the financial crisis, there is an increase in the proportion allocated to the riskiest assets. Since it takes time to adjust long-term assets, this proportion declines sometime after the onset of the financial crisis of 2008, and when it declines, it is a sharp decline. Towards the end of the sample period, the banks' risk-taking starts to increase again. The risk-based capital-adequacy requirements pose additional costs for riskier assets, since banks have to reserve more capital for assets with a higher credit risk. How will banks react to such regulatory changes? Banks also have incentives to take more risk in order to gain higher earnings and compensate for the higher costs of their capital reserves. Thus, whether or not tightening capital requirement will have the desired effect remains an open question.

Lundtofte and Nielsen (2018) regard a bank as the manager of its assets and consider the bank's portfolio allocation with a minimum regulatory capital requirement as a possible binding condition. Drawing on the credit portfolio optimisation literature, the effects of risk-based capital regulation on the credit risk of banks' assets are disentangled. When risk-based capital regulation is binding, the risk weightings assigned by the regulator affect the original measures of risk and valuation of assets; volatility around expected loss due to default risk, and Sharpe ratio (Sharpe, 1966), respectively. However, if the risk weightings are not consistent with the assets' true risk measures, there could be opportunities for regulatory arbitrage, in that banks could invest more in assets with a high level of true risk but with a low regulatory risk weighting. If the regulator imposes new and more stringent regulations, the bank, whose capital is already constrained, will skew the risky portfolio to high-risk, high-earning assets, provided that the reward-to-regulatory-cost ratio of high-risk assets is higher than that of low-risk assets. If the reward-to-regulatory cost ratio of high-risk assets is instead lower than that of low-risk assets, the opposite could occur.

Figure 7: Banks' allocation among assets with non-zero risk weightings in the US

The proportions of high- and low-risk assets to total amounts allocated to risky assets, i.e. the proportions of assets with 100% risk weight and proportions of assets with 20% and 50% risk weights, respectively, for all stand-alone banks and bank-holding companies in the US. Source: Nielsen and Lundtofte, 2018.

Lundtofte and Nielsen (2018) test these implications using bank-level data on assets with different risk categories for all US banks with the shift from Basel I to Basel II. The empirical examination largely verifies the predictions of how banks' choices between high-risk, high-earning assets and low-risk, low-earning assets react to the updated information on assets' earnings and default probabilities; the implementation of a stricter regulation through the introduction of Basel II led the banks to increase the share of high-risk assets in the risky part of their portfolios.

They also test these implications using bank-level data on assets with different risk categories for all US banks with the shift from Basel I to Basel II. The empirical examination largely verifies their predictions of how banks' choices between high-risk, high-earning assets and low-risk, low-earning assets react to the updated information on assets' earnings and default probabilities, and they find that the implementation of a stricter regulation through the introduction of Basel II actually led them to increase the share of high-risk assets in the risky part of their portfolios.

To the best of our knowledge, there is no study available on the decomposition of assets with different risk levels in relation to the capital regulation for European banks.

Naturally, banks' asset risks depend on the banks' governance and business models. Therefore, this could lead to a difference in asset risks between European banks and the banks in other regions of the world. Le Leslé and Avramova (2012) use the ratio of total risk-weighted assets (RWA) to total assets – named as RWA density – as an indication of a bank's asset riskiness. Their sample of systemically important banks shows that the RWA density of European banks tends to be lower than those of Asian and North American banks. Within each of these regions, there are some notable (but simplified) cross-country differences. Furthermore, within Europe, some banks from Spain, Italy, and the UK, which are

more geared towards retail activities, have a higher RWA density than some banks based in France, Germany, and Switzerland, whose bank profiles are more towards universal or investment banking. Iannotta et al. (2007) compare the performance and risk of a sample of 181 large banks with different ownership structures from 15 European countries over a period from 1990 to 2004. They find that mutual banks have lower asset risk than both private and public sector banks. Moreover, a higher ownership concentration is associated with lower asset risk.

Nevertheless, risk weightings are criticised for their distance from the actual risks of the assets and space of possible manipulation. Acharya et al. (2014) compare the capital shortfall measured by regulatory stress tests based on risk-weighted assets, to that of a benchmark methodology — the "V-Lab stress test"— based on the market data for US and European banks. They find that the ranking of financial institutions based on capital shortfalls is not well correlated to the ranking of the market-based V-Lab stress test. Furthermore, the banks that appeared to be best capitalised relative to risk-weighted assets were no better than the rest when the European economy deteriorated into the sovereign debt crisis in 2011.

Overall, due to the golden era of the equity market for the financial sector from the 1980s to 2006 (Haldane, 2009), banks have been able to take high leverage and some banks can reach a RoE of more than 20%. However, the recent financial crisis has put a spotlight on banks' excess risk taking. More stringent banking regulations aim to put a cap on banks' risk taking and to ensure a sound economy. Yet, as perceived profit-maximisation corporations, banks not only need to generate earnings but also to attract investors within the current competitive markets and to comply the regulatory capital requirements.

Targeting RoE has been a widely used strategy to feed the needs of, in particular, investors. Nielsen and Ohnemus (2018a, 2018b) explore the details of RoE targeting and its linkage to corporate governance and banks' risk taking. Their studies give insights into the scope of banks' risk taking and implications to the regulation, i.e. targeting RoE lends to a certain level of risk taking but not to the extent of the need for additional regulation besides capital requirement. Yet, more stringent capital requirements do have a possible effect of pushing banks to skew the risky asset portfolio to high-risk assets (Lundtofte and Nielsen (2018).

However, limiting risk taking also limits earnings. How can we promote earnings in the banking sector while maintaining the soundness of the broad economy? How can we maintain the competitiveness of the banking sector while the shadow banking is expanding and new innovative financing is flourishing?

Suggested readings

Furfine, C. (2001). Bank portfolio allocation: The impact of capital requirements, regulatory monitoring, and economic conditions. *Journal of Financial Services Research*, *20*, 33–56.

Milne, A. (2002). Bank capital regulation as an incentive mechanism: Implications for portfolio choice. *Journal of Banking and Finance*, *26*, 1–23.

Pagratis, S., Karakatsani, E., & Louri, H. (2014). Bank leverage and return on equity targeting: intrinsic procyclicality of short-term choices. Working paper, No. 189, Bank of Greece.

Acharya, V., Engle, R., & Pierret, D. (2014). Testing macroprudential stress tests: The risk of regulatory risk weights. *Journal of Monetary Economics*, *65*, 36-53.

Behn, M., Haselmann, R., & Wachtel, P. (2016). Procyclical capital regulation and lending. *Journal of Finance*, *71*, 919–956.

Brav, A., Graham, J. R., Harvey, C. R., & Michaely, R. (2005). Payout policy in the 21st century. *Journal of Financial Economics*, 77, 483–527.

Farre-Mensa, J., Michaely, R., & Schmalz, M. (2014). Payout policy. *Annual Review of Financial Economics*, *6,* 75–134.

Iannotta, G., Nocera, G., & Sironi, A. (2007). Ownership structure, risk and performance in the European banking industry. *Journal of Banking and Finance*, *31*(7), 2127-2149.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*, 305–360.

La Porta, R., Lopez-de Silanes, F., Shleifer, A., & Vishny, R. (2002). Investor protection and corporate valuation. *Journal of Finance*, 57, 1147–1170.

Laeven, L., & Levine, R. (2009). Bank governance, regulation and risk taking. *Journal of Financial Economics*, *93*, 259–275.

Le Leslé, Vanessa & Avramova, Sofiya (2012), Revisiting Risk-Weighted Assets. IMF Working Paper No. 12/90. Available at SSRN: https://ssrn.com/abstract=2050263

Leary, M. T., & Michaely, R. (2011). Determinants of dividend smoothing: Empirical evidence. *Review of Financial Studies*, *24*, 3197–3249.

Repullo, R., & Suarez, J. (2013). The procyclical effects of bank capital regulation. *Review of Financial Studies*, *26*, 452–490.

Rochet, J.-C. (1992). Capital requirements and the behaviour of commercial banks. *European Economic Review*, *36*, 1137–1178.

Trichet J.-C. (2008), Risk and the Macro-economy. Remarks at the conference “The ECB and its Watchers X”. link: https://www.ecb.europa.eu/press/key/date/2008/html/sp080905.en.html

7. Research area: Competitiveness, strategy and innovation in banks

Introduction to the problem

The Nordic countries are global leaders in access to and acceptance of digital platforms, including cashless banking and asset management systems. Citizens accept and have faith in these services and see the obvious benefits with very few pushbacks.

For decades, the banking system has been a symbol of conservatism, and it was exceptionally difficult to get consumers to shift from one bank to another (Ohnemus, 2010). In a non-digital economy, the banking relationship was fundamentally based on trust, long-term relationships, and a fundamental belief that the banking advisor, as a general rule, would be acting in the best interests of the client.

Today, the banking system is challenged by disruption from both internal and external competition. A strong fintech scene is emerging across the globe, and in the Nordic countries in particular. There is a rapid shift moving towards a completely cashless and branchless banking system, where most of the banking activities are managed on mobile devices. The impact on employment in the traditional financial sector has been significant, where the number of employees is decreased by more than 15% since 2008.

Traditionally, a bank generated revenue through three principal channels: (a) the difference in interest margins, (b) fees, and (c) return on own holdings. Net interest margins have been shrinking significantly in Europe, including the Nordics. This is a result of inflation, the low-interest environment driven by the ECB, the reduced risk profile of an aging population, and lower demand of loans from enterprises. Furthermore, the various service fees are confronted with massive digital competition and new business models (e.g. the fees which can be charged for payment transfers, trading of shares, etc., are shrinking relentlessly, and in some cases moving towards zero). When turning to the results from own holdings, a similar pattern can be observed caused by falling investment returns and stricter investment guidelines coming from the new regulatory environment.

Consumers are increasingly shifting to non-banking-related brands like Apple Pay, Norwegian, because they are otherwise affiliated with these brands and trust them more. Direct client relationships for younger consumers (under 30 years) are now reduced to 4% for the age group, which will further facilitate brand shifting in the future.

These challenges raise the question of whether Nordic players are competitive and have the necessary digital innovation skills to sustain in the future.

Research output

Researchers	Publications
Lars Ohnemus, Jan Damsgaard, Lars Norup, Peter Bogetoft, Jonas Hedman, Oscar Stolper, Carina Hallin	➢ Johannes Sang Un Chae & Jonas Hedman: Business Models for NFC based mobile payments ➢ Stefan Henningsson & Jonas Hedman: The new Normal: Market cooperation in the mobile payment ecosystem ➢ Xiao, Jonas Hedman & Emma Runnemark: Do consumers pay more using debit cards than cash? ➢ Jacques Holst, Martin Kjeldsen, Jonas Hedman & Felix F. Tan: Payment instrument characteristics ➢ Christel Augsburg & Jonas Hedman: Value added services and adaption of mobile payment ➢ Ben Eaton, Jonas Hedman & Rony Medaglia: Three different ways to skin a cat: financialisation in the emergence of national e-ID solutions ➢ Jonas Hedman, Felix F. Tan, Jacques Holst & Martin Kjeldsen: Taxonomy of payments: a repertory grid analysis ➢ Niklas Arvidsson, Jonas Hedman & Björn Segendorf: Cashless Society: When will Merchants Stop Accepting Cash in Sweden – A research model ➢ Oded Koren, Carina Hallin, Nir Perel, Dror Bendet: Enhancement of the K-means Algorithm for Mixed Data in Big Data Platforms ➢ Erol Kazan, Chee-Wee Tan, Eric T. Lim, Carsten Sørensen & Jan Damsgaard: ➢ Disentangling Digital Platform Competition: The Case of UK Mobile Payment Platforms

- *Does the Nordic, and in particular the Danish, banking sector have any competitive advantages compared to other players in Europe?*
- *Can any of these advantages be used to build up a leading position inside the EU? And what are the major competitive disadvantages or inappropriate framework conditions that would have to be addressed in the future for interregional, regional, and local banks?*
- *What business model can be applied in a low- or zero-interest environment? And what would be the consequences from a business and regulatory perspective?*

With increased data flow and the big data trends, managers have access to significantly more information about their stakeholders and their preferences and activities than ever before. The use of big data platforms can give companies and managers a competitive advantage through analysing all the data and constructing it in a form that managers can use in decision-making processes (Koren et al., 2019).

The financial sector has been undergoing technological innovation for nearly three decades, starting in the 1990s with electronic internet transactions, to mobile payments in the 2000s (Xiao, Hedman & Runnemark, 2015). Cash is slowly vanishing while digital payments and the use of credit cards are rising. In Denmark alone, around 87% of the population between 15 and 79 have the national credit card (Dankort), which is increasingly becoming embedded into mobile phones, allowing people to pay with their phones instead their cards (Xiao, Hedman & Runnemark, 2015).

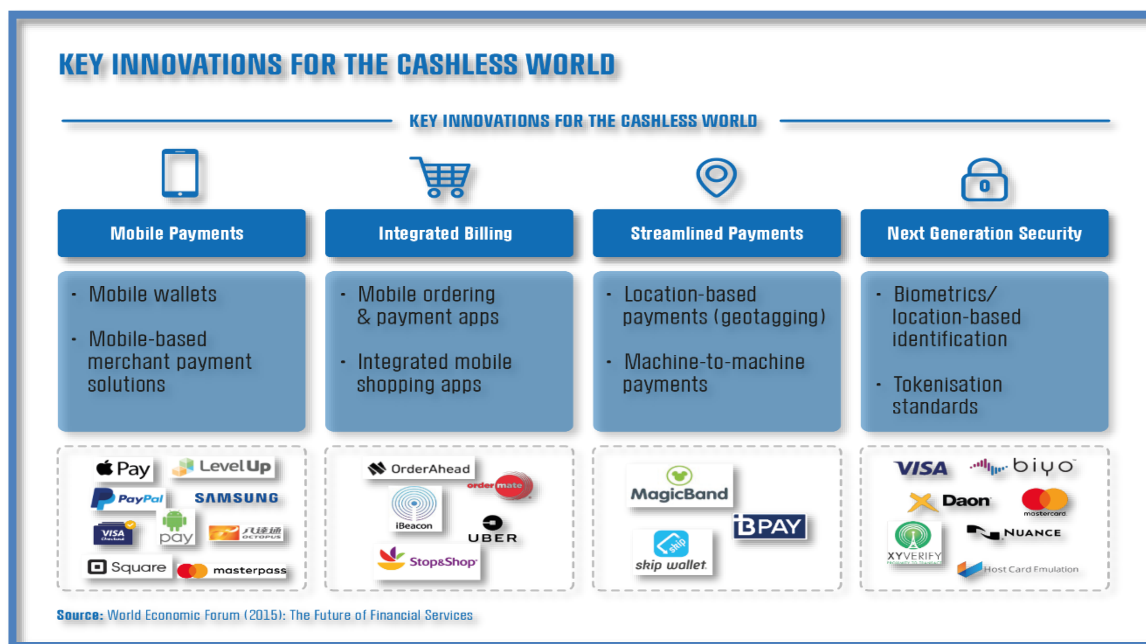


Figure 8: Key Innovations for the cashless society

Innovation is playing a crucial role in a cashless world as shown in figure 9. Strong mobile payment platforms are key to success but other elements like integrated billing and state-of-art security standards are also gaining importance

These digital and technological innovations are taking the world by storm (Kazan, Tan, Lim, Sørensen, & Damsgaard, 2018), and they have not missed the financial sector. Many aspects of the financial sector, like payment methods, have been fundamentally changed due to digital innovation. Cash is declining (Arvidsson, Hedman & Segendorf, 2017), and credit cards, online banking, e-money, and SMS payments are slowly becoming the main methods of payment (Hedman et al., 2017). Countries, especially Nordic countries, are seeing a decrease in outstanding cash; in 2016, Sweden had around 1.5% of cash-in-circulation as a share of GDP, a level which is still decreasing (Arvidsson, Hedman & Segendorf, 2017). Research identifies long-term credit card usage and the introduction of mobile payment methods as potential explanations of the decline (Arvidsson, Hedman & Segendorf, 2017). With more digitalisation taking place in the sector, trust is becoming vital, especially when non-financial players enter the financial markets and offer, for example, payment solutions, such as Apple and Google (Hedman et al., 2017). Runnemark, Hedman and Xiao (2015) found that customers are more willing to pay if there is a card option than if cash is the only payment method.

Near Field Communications (NFC) are considered the future of payments (Chae & Hedman, 2015), but NFC is a communication protocol that supports contactless payment through wireless connection, for

example between a mobile phone and a point of sale (POS) (Chae & Hedman, 2015). Despite this being considered the way forward, it has seen a slow adoption among businesses, which may be related to the technological development it requires, and the changes required in business models. In order to be successful with digital innovations, there is a need to work with competitors and create a digital ecosystem[13] (Chae & Hedman, 2015; Hedman & Henningsson, 2015).

The financial sector, and in particular the payment market, is becoming one of the most innovative sectors, where competition is fierce, and banks are forced to think about "new standards" in doing business. This means that many are beginning to think of the sector as a "tech sector" rather than a traditional finance industry (Hedman & Henningsson, 2015).

The traditional value chains are getting completely challenged and frequently (re)structured in a different pattern or model, as shown in figure 10

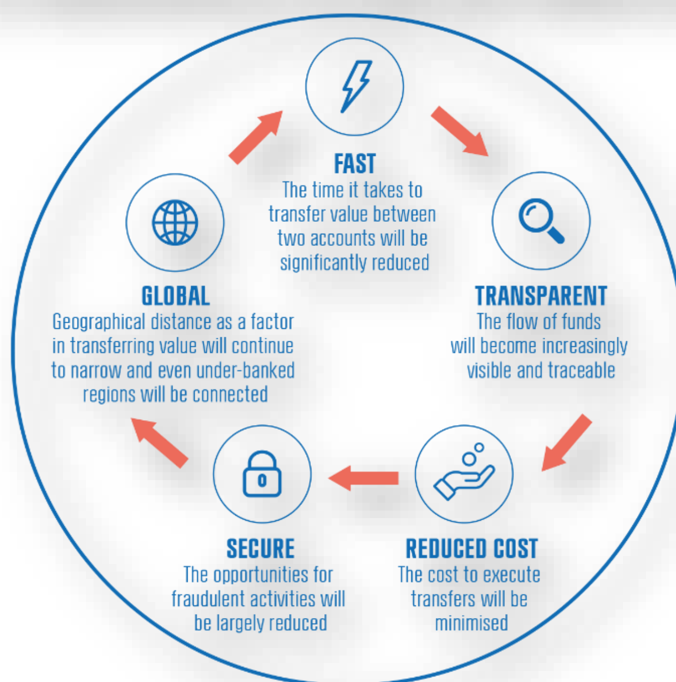


Figure 9: Key characteristics of the future value transfer system

[13] A digital ecosystem is a competitive and collaborative environment where stakeholders work together towards a successful delivery of new products and/or services (Chae & Hedman, 2015).

Suggested readings

Ferguson, N. (2009). The ascent of money: a financial history of the world. New York, N.Y., Penguin Books.

Rogoff, K. S. (2017). The Curse of Cash: How Large-Denomination Bills Aid Crime and Tax Evasion and Constrain Monetary Policy. Princeton, N.J., Princeton University Press.

Runnemark, E., et al. (2015). "Do consumers pay more using debit cards than cash?" Electronic Commerce Research and Applications **14**(5): 285-291.

Raghubir, P. and J. Srivastava (2009). "The denomination effect." Journal of Consumer Research **36**(4): 701-713.
Makadok, R. (2011). "Invited editorial: The four theories of profit and their joint effects." Journal of Management **37**(5): 1316-1334.

Simmel, G. (2004). The philosophy of money. Hove, UK, Psychology Press.

Werner, R. A. (2014). "How do banks create money, and why can other firms not do the same? An explanation for the coexistence of lending and deposit-taking." International Review of Financial Analysis **36**(December): 71-77.

8. Research area: The Asset Management Sector – Strategy and Innovation

Introduction to the problem

Traditionally, local players, who enjoyed a competitive advantage due to their strong brands and local distribution power, have dominated the asset management sector in the Nordic countries, and especially in Denmark due to the skewed tax system. In addition, there was an observable bias until the European passport for asset managers was introduced across the EU.

The entire asset management sector is, like the banking sector, being challenged by new competitive forces while at the same time also being disrupted from a technological perspective. When adding these two elements together the entire industry will ultimately be changed. The Nordic countries, regardless of the fact that the total population of the regions is relatively low, are home to some of the largest fortunes in the world, with total assets of more than €2,000 billion Furthermore, the Nordic countries are home to a combination of some of the largest pension funds in Europe (ATP, AP etc.), sovereign wealth funds, family offices, and different long-term foundations (e.g. Novo, Wallenberg etc.).

Asset managers play an important role in economic growth in the modern society. As mediators, they channel savings towards investments by linking investors with companies, effectively contributing to job creation, smooth operation of the financial markets, and monetary returns on savings (Efama, 2018). Put into perspective, Assets under Management (AuM) in Europe amounted to 147% of European GDP at the end of 2017, a number which has grown steadily since the 2008 financial crisis:

Figure 11: European AuM in EUR trillion and percentage of European GDP

European AuM (EUR trillion and percent). The amount of AuM is divided into that placed in investment funds, and that placed in discretionary mandates. Source: Efama, 2018.

While countries like the UK, France, and Germany hold the biggest shares of AuM (partly due to larger populations and large pools of savings), the Nordic countries have traditions of employing professional asset managers to manage their savings (Efama, 2015). The importance of asset management in the

Nordic countries is further evident as, of the total 216 asset managers in the Nordic countries[14], 24 are among the world's top 400 asset managers[15] (Efama, 2018; Fjármálaeftirlitið, 2018; IPE, 2018).

In Denmark, Finland, Norway, and Sweden, total AuM amounted to €766.8 bn in January 2018, with Sweden holding the largest share (see Figure 12) (DNB Markets, 2018). This is to be expected as Sweden, with 100 asset management firms, is home to the most asset management firms of the Nordic countries.

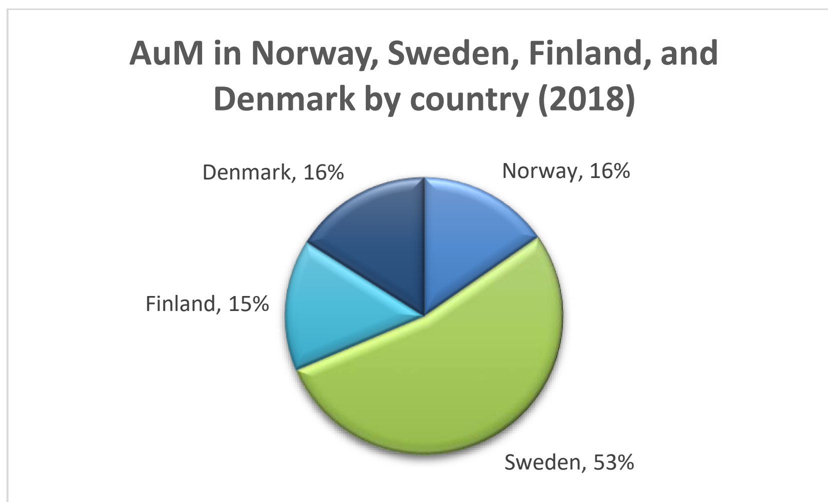


Figure 10: Total AuM in Denmark, Finland, Norway, and Sweden, by share of total AuM of each country. Derived from DNB Markets, 2019.

The composition of AuM by asset class in the Nordic region (excluding Iceland) is heavily weighed by equities, which constitute 52% of all AuM in the region.

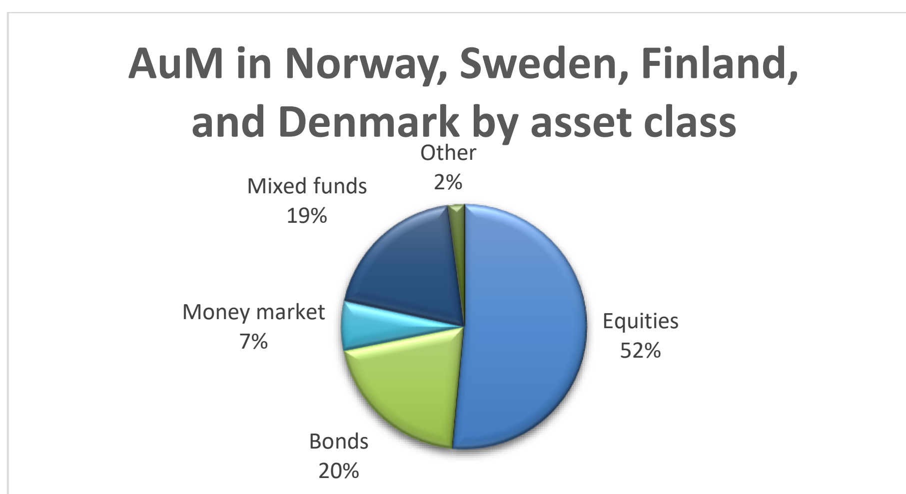


Figure 11: AuM in Denmark, Sweden, Finland, and Denmark by asset class. Derived from DNB Markets, 2019

[14] 50 in Denmark, 25 in Finland, 10 in Iceland, 31 in Norway, and 100 in Sweden
[15] 9 in Denmark, 5 in Finland, 1 in Iceland, 4 in Norway, and 5 in Sweden

The individual countries, however, vary significantly in their compositions of AuM by asset class (see Figure 12). Equities are very significant in Norway and Sweden compared to Denmark and Finland, whereas bonds weigh more heavily in Norway, Finland, and Denmark than they do in Sweden. Furthermore, mixed funds play a bigger role in Denmark, Finland, and Sweden than in Norway, and money market assets play a larger role in Finland than in any of the other three countries.

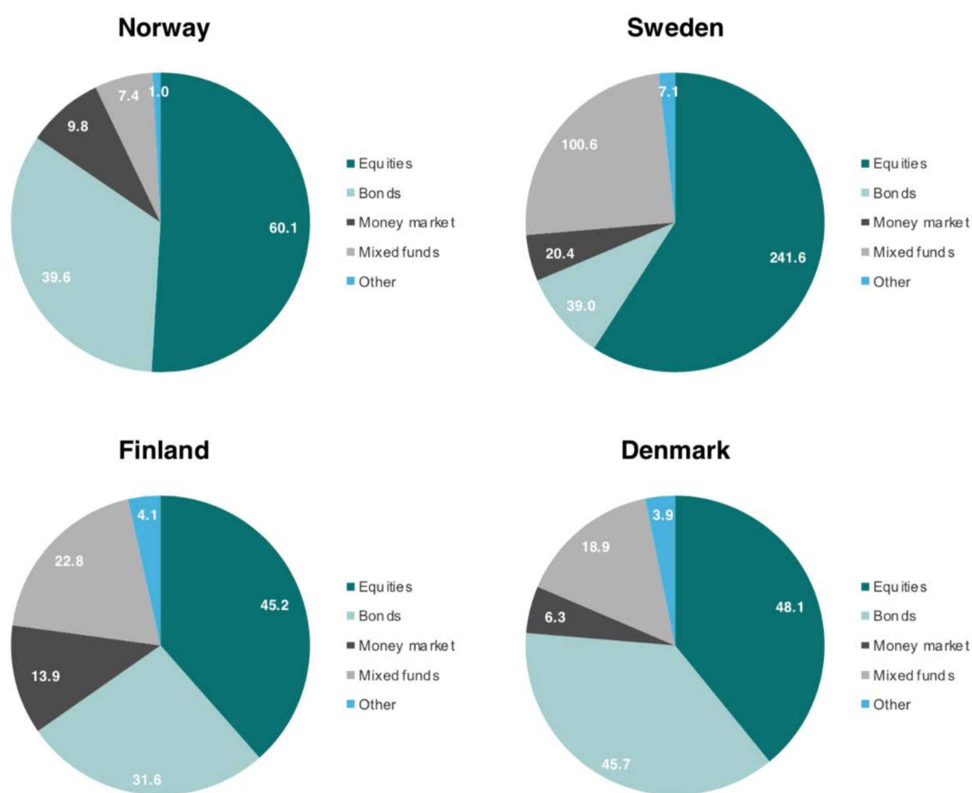


Figure 12: Composition of AuM in Norway, Sweden, Finland, and Denmark. Source: DNB Markets, 2018

The clients of asset managers comprise two main investor segments; retail investors (households and high net worth individuals), and institutional investors (dominated by insurance companies and pension funds). While asset managers keep an updated portfolio to follow the general trends in demand (e.g. through the availability of products complying with ESG (Environmental, Social, and Governance) issues), the demands of these two investor segments are diverging. With respect to retail investors, Millennials and Generation Z investors will hold a large share of the global investable assets in the future. They demand online and mobile investment channels, small initial investment amount requirements, and 24/7 access to investment advice through smart devices. The other segment, institutional investors, prefer instead high portfolio transparency, tailored solutions, and global products.

The landscape in which Nordic asset managers operate is constantly changing. In addition to the aforementioned demand divergence, asset managers are facing regulatory changes which may create conflict between complying with regulations and complying with changes in demand. One such regulation is the new EU General Data Protection Regulation (GDPR). In order to adapt to demand trends, asset managers may be encouraged to adopt new technology practices, such as utilising cloud services to minimise costs of complying with online and mobile demands from retail investors. However,

the new EU GDPR restricts which information may be stored in cloud services, inhibiting the asset managers from fully utilising the service (Deloitte, 2018).

Asset managers are being forced to focus on the globalisation of the financial sector and an avalanche of new and very different business models. The financial products are very mobile, and the managers need to be aware of how this affects their business and need for capital. In parallel, there is a major shift taking place between actively managed funds and exchange-traded funds (ETFs). The ETFs are now strong market leaders in a range of countries, including the US, and continue to grow. Furthermore, fund asset managers (e.g. Vandgaurd) are increasingly offering ETFs without charging any management fees. Besides this, these products are typically aiming at the mass markets, where hedge funds and Private Equity (PE) funds are directed towards institutional investors and high net worth individuals (Economist, 2015).

The asset management industry is to a large degree dominated by leading US asset managers, and very few European players have reached any kind of scale which could challenge their US counterparts. However, it should be noted that this is a marketplace where trust and clear brand values are becoming increasingly important. This development clearly provides a very strong foundation for the future of Nordic asset managers, which consistently have delivered an above market performance (Morningstar , 2017).

The relatively small size of the Nordic market also has forced many asset managers to focus on export opportunities, which thus triggers the question of whether the tax framework conditions are right for exporting financial services.

The Nordic region, and specifically Denmark, has asset managers with a strong IT background and consumers which are either fully or partially using various digital platforms. In fact, there have already been some remarkable Nordic successes, like Saxobank.

Many of these smaller Nordic asset managers face a price pressure from international players and the trend of investing in low cost index funds. Can they grow in such an environment, or will they perish among global competitors?

Research output

Researchers	**Publications**
Torben Juul Andersen, Björn Preuss, Oscar Stolper	➢ Björn Preuss: Equity Fund Management Promise and Action: A Comparative study of Nordic and US Funds

- *The Nordics, and specifically Denmark, have asset managers with a strong IT background as well as a remarkable track record. However, these asset managers face price pressure from international players and the trend of investing in low cost index funds. Based on a comparison between the Nordic and US asset management sectors, what is the impact?*
- *Are the tax framework conditions right for exporting financial services?*

Recent research and the latest market data have shown that the field of beta investments is to a large extent dominated by US players. When looking at the large providers of index product, most of them originate from the US like BlackRock or Vanguard or are UK-based like Aberdeen AM or Lyxor. Amongst non-Anglo-Saxon players in Europe, DB x-trackers from Deutsche Bank is a provider of reasonable size. Beside this, the market is quite small.

Looking at the development of the beta- versus alpha-focused asset managers shows that beta-focused funds are at the forefront. The number of issued ETFs is growing and passive investments are becoming more and more popular. Some managers try to offer a mix by delivering products that try to offer the best of both worlds, see Kahn and Lemmon (2016).[16] A main reason is, on the one hand, the popularity of beta products like ETFs but, on the other, the low fee structure of these products. As a study from EY in 2017 pointed out, the fee structure of ETFs is declining and, in some cases, close to zero, which has caused AM to seek ways to increase fees.[17] In contrast to this are rising costs due to regulation and the pressure to innovate due to changed consumption of AM products.[18] We see in this an opportunity for a change in the global market for asset management if funds use technology to cater for the increased complexity.

Seeing a development in Europe against alpha and towards beta with low fees, we ask the question, how does this look for Nordic-based asset managers? Studies on the Nordic market for beta products have shown a dominance from US or central European players. According to a study from Nordic Hedge, most of the ETFs listed on Nordic exchanges are from other European players, especially db x-trackers. However, when looking at the traded volume, the study showed a dominance by Handelsbanken's ETF products. This is surprising since the volume of those ETFs and the liquidity is, compared to

16 Kahn, R. N., & Lemmon, M. (2016). The asset manager's dilemma: How smart beta is disrupting the investment management industry. Financial Analysts Journal, 72(1), 15-20.
17 https://www.ey.com/Publication/vwLUAssets/ey-global-etf-survey-2017/$FILE/ey-global-etf-survey-2017.pdf
18 https://www.pwc.com/jg/en/publications/etf-2020-exchange-traded-funds-pwc.pdf

international standards, small. Stating this, the Nordic market seems to prefer Nordic offers. However, on an international level, these play a niche role and are priced higher than the US competitors.

These trends drive the Nordic AM sector in two directions. One of which tries to connect to the global market, going for beta funds. In particular, Handelsbanken seems to dominate the field of ETF trades on Nordic exchanges. Critics however, say that Nordic institutions might not be able to catch up with this trend on a global scale and might only dominate Nordic markets, as the study from Hedge Nordic also suggests.[19] Another group, for example, SEB, drives its AM products to solutions. That means that besides just being a fund they aim to offer their customers asset management solutions. They wish to offer customers a combination of alpha and beta, as also stated in the global report from Kahn and Lemmon (2016).

Alongside the traditional players, increasing numbers of small asset managers are emerging in the Nordic region. These try to use modern technology like AI and machine learning to trade securities to offer an extra service and better returns or market neutrality to justify fees.[20] Accordingly, the Nordics are a frontrunner in these technologies, and they might have more impact on the European market. Such applications of technology might be an opportunity for emerging managers to face increased complexity and regulation, and, through this, play a role in the European market as a frontrunner. Besides technological innovation, special funds or boutiques like activist funds have succeeded in transferring models from the US to the Nordics and Europe and, through doing so, are market leaders, such as Sweden's Cevian Capital, which is the biggest European activist investor. [21,22] While it should be admitted that this is only one example, given its success, it might be a suitable role model for AM in other areas and specialisations.

When it comes to increasing the flow of funds, it is important to look at hard facts like performance and risk exposure, as well as softer facts like marketing and external communication (Preuss, 2018). While the harder facts occupy the research agenda, little research has been conducted on the softer facts, such as the role of communicating organisational values externally. Preuss (2018) incorporates modern methods like natural language processing, text mining, and unsupervised learning to determine patterns in the communications from equity funds in the US and the Nordic countries. By quantifying textual data from the funds and applying machine learning algorithms, Preuss (2018) discovers patterns in the data and link them traditional measures such as risk or profitability.

Fund managers communicating the fund values is important as this has the possibility to convince investors to invest their funds. Furthermore, it is of great importance that the communication on the organisational values lives up to the investors' expectations in the long-run (Preuss, 2018). This is especially important to keep in mind since companies are communicating more with the stock market than ever before. Clear communication can and will reduce the inherit risk of investor miscommunication.

The Nordic asset management industry has successfully entered a range of foreign markets and has been ranked among the best in Europe by MorningStar (2018). Preuss (2018) looks at the differences

---

19 https://hedgenordic.com/wp-content/uploads/2014/11/Hedgenordic_ETF_2014_.pdf
20 https://hedgenordic.com/2017/11/fim-launches-first-nordic-ai-powered-fund/
21 https://thehedgefundjournal.com/cevian-capital/
22 https://www.ft.com/content/1fdd0a6c-92ed-11e7-a9e6-11d2f0ebb7f0

between Nordic and US fund managers and their communication to investors, finding a clear difference between these two groups. This can be due to cultural differences. There is also a chance that this is due to national legislation that affects what companies are allowed to communicate. If the latter is the case, the implication is considered minimal as the study indicates that fund managers tend to communicate in what they believe is the right way to communicate. Preuss (2018) identifies that Nordic asset managers prefer to communicate values like *"ongoing", "rewards", and "growth",* while the US asset managers favour values like *"institutional".* This difference can indicate that the Nordic fund managers aim to reach private investors, while their US counterparts aim to reach institutional investors. Another difference between these two areas is that the Nordic countries communicate the place of origin more often than their US counterparts, e.g. "*Sweden", "Swedish", "Nordic", "Danske".* A reason behind the choice of communicating the country/region is that the investors view it as a positive sign that the fund is located in one or more of the Nordic countries (Preuss, 2018).

As mentioned, the Nordic fund managers communicate more on fund performance than the US fund managers. The dialogue about performance is reflected in the actual activities of the Nordic fund managers. According to Preuss (2018), the Nordic funds actually perform better over a one-year and three-year period. Furthermore, the Nordic region communicates long-term orientation and values, a strategy not used as frequently by the US asset managers. Moreover, in real activities, the Nordic funds are more long-term-oriented than the US funds. This could again be cultural, as the institutional investors which the US fund managers aim to reach are more short-term-focused than the private investors in the Nordic region.

This all gives a valuable indication that it is important for the Nordic asset managers to think about how they communicate about their company and their financial products, as it will have impact on who invests in their funds and minimises the risk of miscommunication.

Creating a sustainable asset management sector in the Nordics is to a large extent based on increasing the fund flow towards Nordic asset managers. The ability to sustain and increase the assets under management is a core skill for fund managers (Kacperczyk, Nieuwerbrugh, & Veldkamp, 2014). Recent studies have shown that beside hard facts like performance and risk exposure, softer facts like marketing-related issues and communication towards market participants play a significant role when it comes to increasing the flow of funds. (Sensoy, 2009)

EUROPEAN SINGLE RULE BOOK

European Single Rule Book
The implementation of Basel III in European law is rapidly approaching and represents the first step towards a uniform supervisory framework.

Up to now, concepts of the Basel Committee on Banking Supervision (BCBS) drawn up at the international level have been taken into consideration in the corresponding European directives.

With the implementation of the "Basel NT concepts" at European level a new route is being taken, which provides for standardisation of regulatory law.

Source: Source: Reply Xuccess

Infobox 1:European Single Rule Book

One major factor in increasing assets under management is financial market communication. According to Goodman (2006), corporate communication is an important success factor for a company. Communicating with the financial market is a central aspect of the strategic operations (van Woerkum & Aarts, 2008). This statement especially holds true for funds; besides the influence on the corporate success, it also has an impact on decreasing information asymmetries, and with that it helps to allocate resources more efficiently. (Yang, Kwak, Kaizoji, & Kim, 2008). The basis for this is that corporate proclamations will decrease the estimated risk of investors and analysts related to the company (Diamond & Verrecchia, 1991).

A driver of successful communication is the selection of values to communicate that have either a positive or negative impact on the way the communication is perceived. Consequently, marketing-related factors might play a significant role in attracting assets; culture plays a role in differentiating the two regions incorporated in this study. According to a common definition among researchers and practitioners, culture is a system of values, beliefs, and assumptions that is shared among employees (Hofstede, 1983). The culture significantly influences how people interact in an organisational/professional setup (Rosenblatt, 2011) (Migliore, 2011) (Weber, Shenkar, & Raveh, 1996).

In addition to the general market environment and communication strategy, the general tax framework conditions in the Nordic countries and especially in Denmark must be considered if the sector is to be successful in a global context.

The asset management market is a highly internationalised market where uniform framework conditions are crucial for the potential of each country's financial sector to assert itself as an exporter. The Danish asset management sector relies heavily on the Danish framework conditions, as they have a direct importance to the size and employment of the sector. The opportunities for the Danish financial sector in the international market will also depend on the access to recruiting employees with sufficient competencies, whereby personal taxation also becomes important. However, this is not an area of focus for this research project.

The current Danish tax code is complex since one has to differentiate between the actual taxation of mutual funds (investeringsforeninger) and the actual taxation of the investor that has acquired investment units in the given mutual fund. Furthermore, there is, under the Danish tax code, a consideration if there is a minimum taxation of the mutual fund, if it is an investment firm, a so-called

accumulative mutual fund (akkumulerende investeringsforening) or kontoførende mutual fund (Peter Loft; 2015). Under UCISTS IV mutual funds can merge across different national borders and can also be managed across national borders.

Currently, there is no tax neutrality between, for example, how Danish mutual funds are treated compared with direct foreign mutual funds and the same applies for foreign direct and indirect investments in Danish investment products.

At present, a Danish investor must be taxed consistently, irrespective of whether he or she makes the investment directly in a company or indirectly through an investment association. In order to maintain this general principle, it has been necessary to occasionally deviate from it, especially in relation to foreign investors and foreign providers.

Foreign investors pay taxes from both the distribution from the investment vehicle (like a mutual fund) and inside the investment vehicle.

In practice, the Danish rules on calculating the minimum income tax appear to be an obstacle to foreign investment institutes' offer of investment securities to investors.

The possibility of division into share classes could reduce this problem and thus promote sales opportunities for foreign investment institutions in the Danish market, but this option is not available under applicable law and the tax ministry rejects the possibility to establish this. The current rules, under which the administration of foreign securities funds from Danish investment management companies establish a Danish tax liability, do not make it attractive to place the management companies in this country.

In conclusion, the current legislation has a negative impact on industry growth, employment in the sector and indirectly forces many of the Danish asset managers to seek tax solutions and models in countries like Luxembourg and Ireland in order to stay competitive, globally. It would be of general interest and also beneficial for Danish society and the local asset management to achieve a tax system solution that has been developed for the Danish shipping industry or a model based on tax neutrality for international investors.

Suggested readings

Diamond, D. W., & Verrecchia, R. E. (1991). Disclosure, liquidity, and the cost of capital. *The Journal of Finance, 46*(4), 1325–1359.

Goodman, M. B. (2006). Corporate communication practice and pedagogy at the dawn of the new millennium. *Corporate Communications: An International Journal, 11*(3), 196–213.

Kacperczyk, M., Nieuwerbrugh, S. V., & Veldkamp, L. (2014). Time-varying fund manager skill. *The Journal of Finance, 69*(4), 1455–1484.

Migliore, L. A. (2011). Relation between big five personality traits and hofstede's cultural dimensions: Samples from the USA and India. *Cross Cultural Management: An International Journal, 18*(1), 38–54.

Rosenblatt, V. (2011). The impact of institutional processes, social networks, and culture on diffusion of global work values in multinational organizations. *Cross Cultural Management: An International Journal, 18*(1), 105–121.

Sensoy, B. A. (2009). Performance evaluation and self-designated benchmark indexes in the mutual fund industry. *Journal of Financial Economics, 92*(1), 25–39.

van Woerkum, C., & Aarts, N. (2008). Staying connected: The communication between organizations and their environment. *Corporate Communications: An International Journal, 13*(2), 197–211.

Weber, Y., Shenkar, O., & Raveh, A. (1996). National and corporate cultural fit in mergers/acquisitions: An exploratory study. *Management science, 42*(8), 1215–1227.

Yang, J.-S., Kwak, W., Kaizoji, T., & Kim, I.-m. (2008). Increasing market efficiency in the stock markets. *The European Physical Journal B, 61*(2), 241–246.

9. Research area: Debt Strategies and Funding of Long-Term Capital

When it comes to financing the corporate sector, the financial sector provides – broadly speaking – two categories of financing instruments to enterprises: debt and equity. While both provide capital to firms, their economics with respect to risk sharing and bearing, but also with respect to dealing with moral hazard problems, are fundamentally different. Both debt and equity may be provided directly by the capital market, or indirectly by financial intermediaries. However, for debt instruments the latter case is more important. Specifically, banks play an important role here.

With respect to the bond market, it is documented that while the (relative) size of the Danish bond market has more than doubled over the last 20 years, it is dominated by banks. Corporates, in contrast, seem virtually absent. Indeed, some 99% of the bond market is attributable to financial institutions, leaving only marginal stakes for the corporate sector.

As this project progressed, it was decided to merge this research part under sections 1 and 2.

10. Research area: Value of Financial Advice

Introduction to the problem

Do all citizens have access to the right and relevant financial advice? If this is not the case, it might become a democratic problem and provide long-term wealth discrepancy. Historically, this debate has largely focused on what fees are charged, by either banks or asset managers, and in particular if they are fair and competitive. Along the same lines, there has been and still is a vivid debate if one should be investing in products which are mirroring the actual market (Beta products where costs are low or in some cases moving closer to zero) or seeking products which are pursuing an absolute return, providing access to new markets or asset classes (i.e. Alpha products). Evidence from the financial crisis in 2008 suggested that many traditional retail investors had invested in financial products and taken risks that they did not fully understand (Hobdari, forthcoming).

This discussion is deeply intertwined into the entire debate about demographics in a world and especially where the life expectancy is growing, where many women, particularly in the Nordics, can expect to live up to 100 years and the entire working pattern inside the job market is essentially changing. In the past one would perhaps expect to have 3-5 jobs throughout a professional career. Now the expectation is that the coming generations would have dozens of jobs, and be changing between permanent jobs, self-employment, education breaks and start-ups. This environment, if it materialises, would require very different savings and saving patterns. Adding to the complexity of this debate is that approximately 80% of citizens have no or only limited interest or understanding of how to invest.

Along the same lines of argument and concern it is essential to understand if there a link between financial literacy and stock market participation. (Rooij, Lusardi & Allesie, 2011). The majority of the respondents display financial knowledge and how some grasp of concepts such as, interest compounding, inflation and time value of money. However, very few go beyond these basic concepts; many of the respondents do not know the difference between bonds and stocks.

As it can be seen from figure 15 here below, most consumers are seeking advice from parents, friends and acquaintances.

MOST IMPORTANT SOURCE OF ADVICE FOR DIFFERENT LEVELS OF LITERACY

Most important source of advice for different levels of literacy. This table shows, for different levels of basic and advanced financial literacy, the sources of advice used in making important financial decisions. We group the basic and advanced literacy measures in four quartiles and report weighted percentages of households within each literacy quartile using a specific source of information (N = 1,135). The data are from 2005-2006 DNB Household Survey.

What is your most important source of advice when you have to make important financial decisions for the household?	Basic literacy quartiles			
	1 (low)	2	3	4 (high)
Parents, friends, or acquaintances	40.2	34.4	28.8	20.8
Information from the newspaper	3.6	7.8	8.9	9.5
Financial magazines, guides, books	3.9	7.5	9.3	12.4
Brochures from my bank or mortgage adviser	10.6	6.8	6.0	8.1
Advertisements on TV, in papers, or other media	3.7	3.2	2.8	3.9
Professional financial advisers	21.8	21.3	24.2	25.5
Financial computer programs	0.0	0.3	0.9	0.7
Financial information on the Internet	4.0	7.5	8.1	10.5
Other	12.3	11.4	11.0	8.6

Source: Maarten van Rooij, Annamaria Lusardi & Rob Alessie: Financial literacy and stock market participation (2011)

Figure 13: Most important source of advice for different levels of literacy

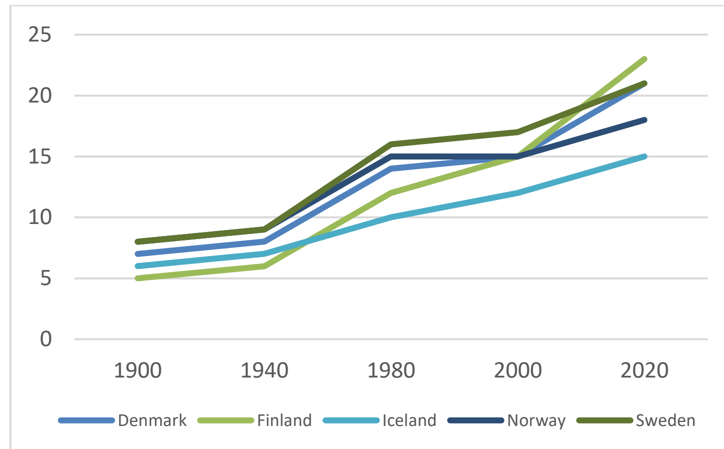
Perhaps most importantly, the abovementioned study concludes that those with low financial literacy are much less likely to invest in stocks. Complexity of the financial markets and products thus adds another dimension from a consumer perspective.

In the past one could assume that one's savings on a bank deposit would provide a stable return, ideally in line or above inflation. In a low-inflation environment, the real return is, however, actually negative after fees and taxes. There are in the Nordics, considerable (cash) savings but it is open to debate if and how these funds should be invested. The obvious answer in order to get a better return would be to invest in the stock market or bonds. But, in an environment where government bonds are also yielding, as seen in the Nordics, in real terms, a negative return after inflation and taxes, what is then left?

With a highly diverse financial sector and various financial products, many people are unable to establish an overview of what opportunities there are in the market. This means there is a demand for various forms of financial advice and circulation of information. The question is, however, if financial advice has a return on investment – both for the customer as well as for the financial institution offering the advice.

What is adding to the complexity of this debate is that average life expectancy in the Nordic countries is growing continuously and is expected to continue to grow in the future for both men and women (Statistics Denmark, 2019; Statistikmyndigheten SCB, 2010; Statistisk Sentralbyrå, 2018; Statistics Finland, 2018; Statistics Iceland, 2018). With birth rates stabilising across the Nordic region at the same time, the share of people in the population aged 65+ is expected to grow in the future:

Figure 14: The percentage of people aged 65+ in the Nordic countries



Percentage of people aged 65+ in the Nordic countries in 1900, 1940, 1980, 2000, and projection for 2020. Derived from Uhlenberg, 2009.

Looking at the population shares of different age groups from the Nordic countries, it is evident that Millennials[23] (i.e. those aged 20-35 in 2015) are an important group in all countries. It can be seen in all five Nordic countries that Millennials maintain a relatively large share of the population distribution in the years 2015-2030 (projection). Women have a higher average life expectancy than men in all five countries, and as the development of said life expectancy is practically mirrored by that of men,

AGING POPULATION

Aging population
In June 2018, ATP in Denmark made public their new calculations for the aging population and according to the report, 40% of girls born in 2018 will live long enough to celebrate their 100th birthday.

ATPs new calculation method raises the life expectancy of women born in 2018 up from 93,4 years to 95,6 years, and for men born the same year from 88,7 years to 92,4 years.
This increase in life expectancy can be very costly for the financial sector.

Source: Berlingske, 07.03.2019

Infobox 2: Aging population

Millennial women hold a larger share of the population in the older age segments. However, as the life expectancies of men and women are converging in all Nordic countries, the shares held by women and men in the different age groups will converge towards 50%.

Much of the current consumer regulation favours short term, less risk-based investment (i.e. low equity or alternative asset allocation) which means that the actual average realised return after fees and inflation is frequently miniscule of even negative. If this kind of regulation is maintained in the future it will lead to increasing wealth disparity since most retail investors will be missing out on the long-term equity premium and it will have an unacceptable gender bias.

[23] The Millennials, also known as Generation Y, were born in 1981-1995.

Adding to this challenge is, with a highly diverse financial sector and numerous financial products, many consumers are unable to establish an overview of what opportunities there are in the market. This should create a demand for various forms of independent financial advice and the circulation of relevant information. The question is, however, if financial advice has a return on investment for the customer as well as for the financial institution offering the advice.

Research output

Researchers	**Publications**
Bersant Hobdari, Oscar Stolper	➢ Bersant Hobdari: To seek or not to seek financial advice: A review of international evidence ➢ Oscar Stopler: It takes two to Tango: Households´ Response to Financial advice and the role of Financial Literacy. ➢ Oscar Stolper & Andreas Walter: Birds of a Feather: The impact of Homophily on propensity to follow financial advice.

The research on financial advice is significantly increasing and is often a priority of policy agenda for regulators, international organisations and private financial institutions (Hobdari, forthcoming). Financial advice is a set of complex, interrelated processes and in order to gain valuable insight into the topic, many angles have to be studied and analysed. The following research questions guided the research for this focus area.

- *Which determinants drive households' acceptance of financial advice?*
- *Which role does individuals' financial literacy play when it comes to consulting with financial advisors and following their recommendations?*
- *What is the value added of the personal financial advisor as opposed to robo-advice?*
- *What is the role of trust in the advisor, the bank and the financial system when it comes to heeding financial advice?*

Financial advisors do not adhere to a single professional certification, body of knowledge or regulatory structure and their qualifications can and will vary (Hobdari, forthcoming). Well-trained advisors should have in-depth knowledge of various financial topics including investment theory, taxes, risk management, estate and retirement planning (Hobdari, forthcoming). Generally, financial advice can be provided by four types of providers: technical experts, transactional agents, counsellors, and coaches.

Technical experts provide technical financial information for a fee and have a specific area of expertise. These providers assist in situations when financial information is hard to acquire and understand. Transactional agents provide financial advice based on a specific context of the financial transaction. They typically help clients in the buying and selling of financial products. Financial counselling most often comes into play to help with a serious financial problem advising on specific financial issues. Counsellors often lack the in-depth knowledge but rather try to establish a productive relationship with clients. Financial coaching consists of one-on-one meetings with clients where the focus is on performance improvements and goals are set and reached. The fifth advisor type, "robo-advice", is slowly entering the market of financial advice.

With the advent of digital wealth management ("robo-advice"), much of the value proposition of human advice now lies in communicating the individual benefit or help with the interpretation of a given product selection to the client. The empirical evidence of Stolper and Walter (2019) documents that the likelihood of following financial advice increases in homophily on gender and age for male clients and sameness on marital and parental status for female advisees. In fact, their results suggest that client-advisor matching increases individuals' propensity to follow financial advice. Specifically, the evidence in Stolper and Walter (2019) points to the fact that targeted client-advisor pairings could help in facilitating the transmission of information by harnessing the effect that individuals matched on homophilous ties benefit from better mutual understanding. Similarly, individuals might perceive robo-advice as impersonal or inadequately customised to their preferences, because they do not share any common characteristics with the computer algorithm. As a consequence, they could be less likely to follow the recommendations of robo-advisors as compared to those of human advisors. Supporting this conjecture, Deutsche Bank's decision to call its robo-advisor "Robin"—thereby following previous examples of naming technology to humanise it (e.g., Apple's "Siri" and Amazon's "Alexa")—may be regarded as an attempt to at least partially overcome this drawback of robo-advice as opposed to human financial advice. Research further shows that the communication channels do matter and when it comes to online advice, clients prefer audio and video advice (Hobdari, forthcoming).

In a research project closely related to Stolper and Walter (2019), Stolper (2018) examines clients' propensity to follow largely standardised investment recommendations of bank advisors with and without personal security holdings. He documents that advisees are significantly less likely to heed the investment advice of advisors who do not hold securities themselves and shows that this relationship primarily stems from clients of uninvested advisors ignoring their recommendations to invest in stocks and equity funds, while he does not observe this pattern for fixed-income products. The results of Stolper (2018) suggest that advisor preferences shape clients' investment decisions even if these preferences are not reflected in the advice itself. This finding extends prior research in the field which focused on the advice rather than the advisor.

How does an individual's general skills concerning financial matters interfere with the value-added of financial advice? Stolper and Walter (2019) further review the role of individuals' financial literacy for the use of professional financial advice and assess whether expert intervention can serve as a substitute for financial literacy. They find that, in order to answer this question properly, it is important to look at a setting in which the risk of product mis-selling is effectively minimised in order to avoid results being confounded by clients' anticipation of moral hazard by advisors.

Stolper (2018) investigates households' response to advice when in such a controlled setting and documents a low degree of following standardised financial advice: two-thirds of the households under review ignore the advice completely, and, if they choose to heed it, they tend to follow it only to a relatively limited extent. Moreover, he finds that standardised financial advice is not able to break up the negative effect of financial literacy on following advisors' recommendations. This is further supported by Hobdari´s (forthcoming) findings. Instead, even in a setting where the potential for mis-selling is mitigated, the negative impact of advisees' financial knowledge on their propensity to implement financial advice remains statistically and economically significant for all advisees under review except for the affluent households. The findings of Stolper (2018) support the notion that an increase in financial literacy leads to a higher confidence in one's own judgment and prompts individuals to use financial advice as just another source of information they process when making their financial

decisions. However, the value of financial advice is particularly high for the most financially vulnerable households. The presentation of various financial products and portfolio risks also has an effect on how clients relate and perceive it, especially clients with low financial literacy (Hobdari, forthcoming).

Finally, trust is a very important issue when leveraging the full value of financial advice. Pauls, Stolper and Walter (2016) investigate how two key dimensions of trust formation, i.e. interpersonal trust in the advisor (narrow-scope trust) and broader trust in the business context in which the advisor operates (broad-scope trust), impact households' overall trust in financial advice. To capture the potential influence of broad-scope trust, they contrast households' propensity to trust financial advice provided by advisors employed at community banks versus large banks, which have been shown to feature fundamentally different trust profiles. Pauls, Stolper and Walter (2016) document that financial advice provided by large-bank advisors is significantly less likely to be trusted, i.e. rejecting the notion that trust in financial advice is essentially equivalent to trusting one's financial advisor. Instead, Pauls, Stolper and Walter (2016) provide strong evidence in support of an integrated conceptualisation of clients' trust in financial advice, which highlights the importance of establishing broad-scope trust. When it comes to online advice, trustworthiness is just as important and clients are highly sensitive towards it (Hobdari, forthcoming). Hobdari identifies that personal recommendations, known financial brands and the website design do influence the perception of transaction security and trustworthiness of clients.

Taken together, this empirical evidence is valuable in the debate on the value of financial advice in order to drive sustainable, economic growth.

Suggested readings

Bergstresser, D., Chalmers, J.M.R. & Tufano, P. (2009). Assessing the cost and benefits of brokers in the mutual fund industry. *Review of Financial Studies*, **22**: 4129-4156.

Bhattacharya, U., Hackethal, A., Kaesler, S., Loos, B. & Meyer, S. (2012). Is unbiased financial advice to retail investors sufficient? Answers from a large field study. *Review of Financial Studies*. **25**: 975-1031.

Bucher-Koenen, T. & Koenen, J. (2015). Do seemingly smarter consumers get better advice? Max Planck Institute for Social Law and Social Policy Discussion Paper No. 01-2015. Available at SSRN: http://dx.doi.org/10.2139/ssrn.2572961

Calcagno, R. & Monticone, C. (2015). Financial literacy and the demand for financial advice. *Journal of Banking and Finance*. **50**: 363-380.

Hackethal, A., Halliassos, M. & Jappelli, T. (2012). Financial advisors: A case of babysitters? *Journal of Banking and Finance*. **36**: 509-524.

Lachance, M. & Tang, N. (2012). Financial advice and trust. *Financial services review*. **21**: 209-226.

Von Gaudecker, H-M. (2015). How does household portfolio diversification vary with financial literacy and financial advice? *Journal of Finance*. **70**: 489-507.

Chapter Four: Identification of New Research Areas

As the work on each research area progressed and articles were produced, the question of future research directions was raised. The regular interactions and dialogue with partners and other stakeholders at meetings, seminars, and conferences, shed light on areas this research has not focused upon, but which prove to be of high importance to the financial sector. Inspired by the current research, the research gaps identified, and the positive collaboration with our stakeholders, a concept paper is currently in preparation.

During an international conference on sustainable finance in October 2017, it became clear that the topic of sustainable finance, responsible investments, and the role of the Sustainable Development Goals in the financial sector is an essential area of focus for future research. Financial institutions are working hard on incorporating sustainable processes and products, but the fundamental role and importance of financial institutions in economic, environmental, and social development still requires more research.

The topic of risk and regulation in the financial sector is still an important area of focus for further research, as the market is constantly changing and developing, forcing regulations and the need for compliance to follow. The real impact on the financial sector and its opportunities and challenges have been touched upon in this report, but many questions are yet to be answered.

After having identified a long list of highly important research areas that could benefit the financial sector and bring value to political, societal, and academic debates, the areas were narrowed down to eight in collaboration with the researchers and partner organisations.

The eight identified research areas for further research in NFGS:

1) Sustainable Finance (ESG)
2) Long-term Ownership
3) The Value of Financial Advice
4) Risk Management and Anti-Money Laundering
5) Compliance and Regulation
6) Competitiveness and Business Models
7) Technology, Crypto-Currencies and Blockchain
8) Equal Access to Financing – a Local Perspective on Finance and Employment

The plan is to launch a new phase of Nordic Finance and Good Society starting in September 2019, and the project will have an even stronger Nordic focus given the latest political waves in Southern Europe, UK and France.

Chapter Five: Dissemination and impact of the project

One of the main objectives of this project is to contribute to the public debate with research-based input and recommendations for practitioners and policymakers. In order to accomplish this objective, various communication channels have been used to raise awareness about the project and research topics, contribute to the current debate, and to make sure research findings and conclusions reached the right audience.

Dissemination

Dissemination of the project findings has been of huge importance as it gives the research a much greater impact. Potentially, it can change policy and practice.

With a range of research areas, it has been essential to keep track of all the research outcomes and papers written and published by the research team. All papers and articles are shared on the project website[24] where stakeholders can access information about the progress of the project, upcoming and past events, find information about the research team and download published articles and working papers.

To further keep stakeholders updated with the progress of the project and upcoming events and seminars, a newsletter was sent out once or twice a year. This allowed the research team, on a regular basis, to inform stakeholders about new articles, working papers and upcoming events. During the time of the research project, the newsletter recipient numbers grew to over 500, from the financial sector as well as other related sectors and academic institutions.

In general, journalists have been very interested in the research project. Journalists from the Danish media have attended conferences, conducted interviews with speakers and have contacted some of our researchers in order to share their research findings. Coverage by the media helped us reach a wider audience, and therefore be able to contribute more to the current debate within society as well as to bring new topics to light. Articles and interviews have been published in the following media: Børsen, Weekendavisen, Finans.dk, Politiken Berlingske Tidende and Finans Invest.

Networking: Important guests and contributors.

The research topics struck a chord with many external, important sector players, who were interested in participating and contributing to the project, most often in the form of speakers at seminars and conferences. The research project attracted many people who all contributed in constructing and sharing knowledge on how to create a better and stronger financial sector.

[24] www.nfgs.dk

Below you will find an outline of seminars/conferences and the speakers involved:

a) The first seminar in the project; "How to get Financial Regulation Back on Track?" was held on June 2nd 2015. World-renowned expert Professor Roberta Romano from Yale was keynote. She presented her ideas for reform and afterwards lead a discussion with a panel of experienced financial executives; Arvid Ahrin, (General Secretary - Nordic Financial Union (NFU), Jesper Berg (Managing Direktor - Nykredit,), Michael Camphausen (Lawyer CamphausenWalldén) and Jacob Gyntelberg, (Senior Vice President, Head of Capital and Regulatory Strategy - Danske Bank) J
b) John Kay, one of Britain´s leading economists and a successful businessperson, visited CCG in 2016. He is a distinguished academic and a fellow of the British Academy and the Royal Society of Edinburgh.
c) In 2018, the Chairman of the European Banking Authority, Mr. Andrea Enria visited CCG. He came to deliver two seminars; one open seminar on fintech and one closed workshop on bail-in.
d) Professor Roberta Romano from Yale was key note World-renowned expert and presented her ideas for reform and lead a discussion with a panel of experienced financial executives; Arvid Ahrin, (NFU) Jesper Berg (Nykredit,) Michael Camphausen (CamphausenWalldén) and Jacob Gyntelberg, (Danske Bank
e) Arturo Bris, professor of Finance and Director of IMD World Competitive Center, held a business seminar in 2015. The seminar was followed by a panel discussion between. Ole Andersen Ole Andersen (former Chairman Danske Bank), Ulrik Nødgaard (CEO Danish Bankers Association – FinansDanmark), Kent Petersen (President, Financial Services Union Denmark)
f) January 2018, Denmark Mission Chief, IMF European Department, Miguel Segoviano, came with his team to Denmark to meet with various organisations, CBS being one of them. The aim of the visit was for IMF to gain academic insight into the financial situation in Denmark and the value-creation taking place in the financial sector.
g) For the international conference, Banking on the Future, the Minister of Industry, Business and Financial Affairs, Brian Mikkelsen came to share his views on where he sees the sector moving and what could be the opportunities and challenges in the coming years.
h) The CEO of the Danish FSA, Jesper Berg, also took part in the conference, Banking on the Future, along with Governor at the Central Bank, Per Callesen.
i) CEOs of banks: Merkur Andelskasse, Middelfart Sparekasse, Handelsbanken DK also came to Banking on the Future and discussed their organisations' approach to sustainability and how they see the financial sector as being a responsible sector in the future.
j) Former President of Nasdaq Copenhagen, Bjørn Sibbern, came to talk about the future of the financial sector and the equity culture Denmark may want to promote. He shared his experience from NASDAQ on Why Nasdaq lists Large Caps in Denmark and Micro and Small Caps in Sweden.

Another objective of the project was to ensure that findings and output would be shared with the right people and the right institutions in order to maximise the effect of the research and make an impact on policies and practices.

The research team worked diligently on building a strong network and identifying the right people, forums and organisations in which to disseminate their research findings.

With a strong network, the research team was able to share their research and output where it would have the biggest impact on the future of the financial sector. The researchers were, for instance, invited to present their findings at the following institutions and events:

a) EU Commission in Brussels
b) ESMA conference in Paris
c) Danish FSA events in Copenhagen
d) Various board meetings and programmes
e) Various Industry events
f) The People's Political Festival at Bornholm

Events, seminars and conferences

One of the most effective ways of disseminating research, sharing information and gaining new knowledge is to organise academic seminars and conferences. During the projects four-year period, we have organised 20 seminars and conferences. Invitations were sent to between 500 and 1000 people in our network.

On average each seminar had around 30-40 participants from the financial sector and academia. The focus was primarily on discussing a particular issue.

The conferences were bigger in scale, and usually involved a number of talks by prominent speakers, from academia as well as business people, and participation was therefore higher, with, on average, around 100 participants.

Below is an overview of the seminars and conferences held during the 4-year period.

Table 2: List of seminars and conferences held

Event	Speaker	Affiliation	Topic
Business seminar followed by a panel discussion – 2015	**Professor Roberta Romano**	Sterling Professor of Law and Director, **Yale Law School** Center for the Study of Corporate Law	How to get Financial Regulation Back on Track?
Business Seminar followed by a Panel discussion – 2015	**Professor Arturo Bris**	Professor of Finance and **Director of IMD** World Competitive Center	Global Competitiveness and the Financial sector in the Nordic Countries
Financial Regulation seminar - 2015	**Professor Daniel Awrey**	Professor of Financial	The Mechanisms of Derivatives Market Efficiency

		Regulation at **Oxford University**	
Financial Regulation Seminar - 2015	**Professor Kathryn Judge**	Professor of Law at **Columbia Law School** and editor of the *Journal of Financial Regulation*	Information Gaps and Shadow Banking
Financial Regulation Seminar - 2015	**Martin Hellwig**	Director of **Max Planck Institute** for Research on Collective Goods	Banks, Governments and Central Banks in the Crisis
Financial Regulation Seminar- 2016	**Professor David Vines**	Professor of Economics, **University of Oxford.**	Restoring Trust in the Financial System
Financial Regulation Seminar **- 2016**	**Professor Dirk Schoenmaker**	Professor of Banking and Finance, **Erasmus University Rotterdam**	Should the "Outs" join the Banking Union?
Research Seminar 2016	**Prof. Dr. Marc Steffen Rapp**	Professor of Business Administration, **Philipps-Universität Marburg**	Financial Sector Structure and Economic Growth- A look at the Nordic Countries
Business Seminar Various speakers - 2016	**Bjørn Sibbern** (Nasdaq Copenhagen) **Jella Benner-Heinacher** (Deutsche Schutzvereinigung für Wertpapierbesitz e.V. (DSW) **Lars Milberg (**Aktiespararna) **Marc S. Rapp** (Philipps-Universität Marburg) **Peter Loft** (Adjunct Professor at CBS)		The Future of the Financial Sector - How to promote and secure an equity culture in Denmark?
Research Seminar - 2016	**Professor Sangin Park**	Professor of Economics at **Seoul National University**	Ownership Structure and Foreign Shareholdings: Evidence from Korea
Business Seminar with -2016	**Professor John Kay**	John Kay is one of Britain's leading economists and has been a fellow	"Other People's Money"

		of **St. John's College, Oxford**	
Research Seminar - 2016	**David Zaring,**	Associate Professor of Legal Studies and Business Ethics at **University of Pennsylvania**	The Foreign Relations Power of the Federal Reserve
Business Seminar- various speakers 2016	**Anders Klinkby** (The Danish Investment Association) **Steen Thomsen**(CBS) **Jeppe Christiansen** (Maj Invest) **Christian Hyldahl** (ATP) **Niels-Ulrik Mousten** (PFA)		Asset Management – a growing industry?
Financial Regulation Seminar - 2016	**Professor Ryan Bubb**	Professor of Law at **New York University**	Regulation Motivation: A New Perspective on the Volcker Rule
Business Seminar - 2016	**Professor Eric Talley,**	Professor of Law at **Columbia University**	Contracting Out the Fiduciary Duty of Loyalty: An Empirical Analysis of Corporate Opportunity Waivers
Financial Advice seminar with various speakers - 2017	**Oscar Stopler** (Philipps-Universität Marburg) **Niels-Ulrik Moustens** (PFA) **Bersant Hobdari** (CBS)		Does Financial advice create any value at all? And what are the consequences if there is no guidance?
Responsible Banking Conference - various speakers- 2017	**Brian Mikkelsen** (Minister of Industry, Business and Financial Affairs **Per Callesen** (Governor at the Central Bank) And many more		Banking on the Future – Rethinking the financial sector
Visit from IMF 2018	Miguel Segoviano	Denmark Mission Chief, IMF European Department	To discuss the financial situation in Denmark
Visit from the European Banking Authority	**Chairman Andrea Enria**	**The European Banking Authority**	Two seminars where organized 1) an open seminar on fintech 2) a closed workshop on bail-in.
Research seminar 2018	**Professor Georg Ringe**	Professor of Law at the **University of Hamburg**	Seminar on Brexit, EU Capital Markets and the future of the Euro

Business seminar 2018	Lars Christensen	CEO and Founder of Markets and Money Advisory	Seminar on Why rates yields are so low, - implications for monetary policy
Research Seminar 2019	Philipp Krüger	Associate professor in Finance at **University of Geneva**	Seminar on the importance of climate risks for Institutional Investors.

It became clear during the process that workshops, conferences and seminars were a crucial part of making sure that the research will have the impact the project was aiming for. Participation from the industry players demonstrated that there is a huge need for combining academic research and practice in order to improve practices and processes and ultimately develop a stronger financial sector that will ultimately develop society.

During the seminars and conferences, the informal dialogue between speakers, participants and researchers also led to various new research ideas and deeper knowledge of current areas of focus.

Reference Lists

Acharya, V., Engle, R., & Pierret, D. (2014). Testing macroprudential stress tests: The risk of regulatory risk weights. *Journal of Monetary Economics*, *65*, 36-53.

Arvidsson, N., Hedman, J. & Segendorf, B. (2017). Cashless Society: When will merchants stop accepting cash in Sweden – A research model. Revised Papers of the 8th International Workshop, FinanceCom 2016.

Augsburg, C. & Hedman, J. (2014). Value Added Services and Adoption of Mobile Payments. Proceedings of the Sixteenth International Conference on Electronic Commerce. . red. /Shih-Fen Cheng; Johnna Capitano. New York.3(1): 29-49.

Behn, M., Haselmann, R., & Wachtel, P. (2016). Procyclical capital regulation and lending. *Journal of Finance*, *71*, 919–956.

Birkemose, H. S., Clausen, N. J. & Ohnemus, L. (2017). Bankbestyrelsens byrder – jura, risikostyring eller forretningsudvikling? *Finans/Invest*. **1**, February: 6-13.

Brav, A., Graham, J. R., Harvey, C. R., & Michaely, R. (2005). Payout policy in the 21st century. *Journal of Financial Economics*, 77, 483–527.

Burkart, M., Gromb, D., & Panunzi, F. (1997). Large shareholders, monitoring, and the value of the firm. *Quarterly Journal of Economics*, *112,* 693–728.

Camphausen, M. (2018). Reguleringen af bankernes virksomhedsområde I lyset af digitaliseringen. *Finans/Invest*. **1**. P: 27-31.

Camphausen, M. (2017). High level response to the European Commission public consultation on Fintech – regulatory reflections and input. Discussion paper, retrieved from: http://www.nfgs.dk/wp-content/uploads/2017/06/CBS-response-to-the-EC-consultation-on-fintech-June-2017.pdf

Chae, J, S. U. & Hedman, J. (2015). Business Models for NFC based mobile payments. *Journal of Business Models.*

Clausen, N. J., Poulsen, T., Ringe, W-G. & Ohnemus, L. (2016). Regulering i den danske banksektor: Resultater fra spørgeskemaundersøgelse blandt bestyrelsesmedlemmer i den finansielle sektor. Retrieved from: http://www.nfgs.dk/wp-content/uploads/2018/02/Regulering-i-den-danske-banksektor-Resultater-fra-sp%C3%B8rgeskemaunders%C3%B8gelse-blandt-bestyrelsesmedlemmer-i-den-finansielle-sektor.pdf

Deloitte (2014). U.S. regulatory capital: Basel III supplementary leverage ratio final rule. Key highlights for advanced approaches banks. Deloitte Development LLC.

Deloitte (2018). Asset Management Regulatory Outlook 2018. Link´n Learn. Retrieved from https://www2.deloitte.com/content/dam/Deloitte/ie/Documents/FinancialServices/investmentmanagement/Regulatory%20outlook%202018%20Final.pdf

Diamond, D. W., & Verrecchia, R. E. (1991). Disclosure, liquidity, and the cost of capital. *The Journal of Finance, 46*(4), 1325–1359.

EFAMA (2018). Asset Management in Europe. 10th Edition, fact and figures. Retrieved from https://www.efama.org/Publications/Statistics/Asset%20Management%20Report/EFAMA_Asset%20Management%20Report%202018%20voor%20web.pdf

EFAMA (2015). EFAMA annual report. Retrieved from https://www.efama.org/Publications/Public/Annual%20Reports/351765_LR_WEB_AnnualReport_EFAMA_2015.pdf

European Banking Federation (2018). Banking in Europe: EBF Facts & Figures 2018. Retrieved from: https://www.ebf.eu/wp-content/uploads/2018/09/Banking-in-Europe-2018-EBF-Facts-and-Figures.pdf

Farre-Mensa, J., Michaely, R., & Schmalz, M. (2014). Payout policy. *Annual Review of Financial Economics*, *6,* 75–134.

Financial Times (October 9, 2014). Hold Britain's banks to higher standards: New rules on personal accountability are tough but necessary.

Finanssektorens Arbejdsgiverforening (2015). Nordic Bank statistics 2014. Retrieved from https://www.fanet.dk/system/files/publication_files/nordic_bank_statistics_web_endelig.pdf

Fjarmalaeftirlitid (2018). Annual report. Retrieved from https://www.fme.is/media/utgefid-efni/arsskyrsla-fme-09052018.pdf

Furfine, C. (2001). Bank portfolio allocation: The impact of capital requirements, regulatory monitoring, and economic conditions. *Journal of Financial Services Research*, *20*, 33–56.

Goodman, M. B. (2006). Corporate communication practice and pedagogy at the dawn of the new millennium. *Corporate Communications: An International Journal, 11*(3), 196–213.

Gropp, R., Rocholl, J. & Saadi, V. (2017). The Cleansing Effect of Banking Crises. Background Paper, OECD. Retrieved from: https://www.oecd.org/global-forum-productivity/events/The-cleansing-effect-of-banking-crises.pdf

Haldane, A. (2009). Small lessons from a big crisis. Remarks at the Federal Reserve Bank of Chicago 45th Annual Conference "Reforming Financial Regulation".

Hedman, J. & Henningsson, S. (2015). The new normal: Market cooperation in the mobile payment ecosystem. *Electronic Commerce Research and Application*. **14**; 305-3018.

Hedman, J., Tan, F. B., Holst, J. & Kjeldsen, M. (2017). Taxonomy of payments: a repertory grid analysis. *International Journal of Bank Marketing*. **35**(1): 75-96.

Hellwig, M. (2014). Financial Stability, Monetary Policy, Banking Supervision and Central Banking. Retrieved from https://www.nbp.pl/badania/seminaria/14xi2014-1.pdf

Hobdari, B. (forthcoming). To seek or not to seek financial advice: a review of international evidence.

Hofstede, G. (1983). The cultural relativity of organizational practices and theories. *Journal of international business studies, 14*(2), 75–89.

Horváthová, A. (2017). Nordic Implementation of EU Financial Rules – Position of Employees. Retrieved from: http://www.nfgs.dk/wp-content/uploads/2018/02/Nordic-Implementation-of-EU-Financial-Rules-Final-report.pdf

Iannotta, G., Nocera, G., & Sironi, A. (2007). Ownership structure, risk and performance in the European banking industry. *Journal of Banking and Finance*, **31**(7), 2127-2149.

IMF (2018). IMF annual report: https://www.imf.org/external/pubs/ft/ar/2018/eng/assets/pdf/imf-annual-report-2018.pdf

Jakab, Z & Kumhof, M. (2015), Banks are Not Intermediaries of Loanable Funds – And Why This Matters (May 29, 2015). Bank of England Working Paper No. 529. Retrieved from: http://dx.doi.org/10.2139/ssrn.2612050

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*, 305–360.

Kacperczyk, M., Nieuwerbrugh, S. V., & Veldkamp, L. (2014). Time-varying fund manager skill. *The Journal of Finance, 69*(4), 1455–1484.

Kahn, R. N. & Lemmon, M. (2016). The Asset manager´s dilemma: How smart beta is disrupting the investment management industry. *Financial Analysts Journal.* **72**(1): 15-20.

Kazan, E., Tan, C-W., Kim, E. T. K. & Sørensen, C., Damsgaard, J. (2018). Disentangling Digital Platform Competition : The Case of UK Mobile Payment Platforms. *Journal of Management Information Systems*, **35**(1), p. 180-219

Kim, D., & Santomero, A. M. (1988). Risk in banking and capital regulation. *Journal of Finance*, *43*, 1219–1233.

Koehn, M., & Santomero, A. M. (1980). Regulation of bank capital and portfolio risk. *Journal of Finance*, *35*, 1235–1244.

Koren, O., Hallin, C. A., Perel, N. & Bendet, D. (2019). Enhancement of the K-means Algorithm for Mixed Data in Big Data Platforms. I K. Arai, S. Kapoor, & R. Bhatia (red.), *Intelligent Systems and Applications: Proceedings of the 2018 Intelligent Systems Conference (IntelliSys) Volume 1* (Bind 1, s. 1025-1040). Cham: Springer. Advances in Intelligent Systems and Computing, Nr. 686, DOI: 10.1007/978-3-030-01054-6_71

Le Leslé, Vanessa & Avramova, Sofiya (2012), Revisiting Risk-Weighted Assets. IMF Working Paper No. 12/90. Available at SSRN: https://ssrn.com/abstract=2050263

La Porta, R., Lopez-de Silanes, F., Shleifer, A., & Vishny, R. (2002). Investor protection and corporate valuation. *Journal of Finance*, 57, 1147–1170.

Laeven, L., & Levine, R. (2009). Bank governance, regulation and risk taking. *Journal of Financial Economics*, *93*, 259–275.

Leary, M. T., & Michaely, R. (2011). Determinants of dividend smoothing: Empirical evidence. *Review of Financial Studies*, *24*, 3197–3249.

Lekvall, P. (2014). *The Nordic Corporate Governance Model*. SNS Förlag, Stockholm, Sweden.

Lintner, J. (1956). Distribution of incomes of corporations among dividends, retained earnings, and taxes. *American Economic Review*, *46*, 97–113.

Loft. P. (2015). Skattemæssige rammevilkår for finansielle institutionser. Retrieved from http://www.nfgs.dk/wp-content/uploads/2018/04/Skattem%C3%A6ssige-rammevilk%C3%A5r-for-finansielle-institutioner-peter-loft.pdf

Lundtofte, F. & Nielsen, C. Y. (2018). The Effect on Stricter Capital Regulation on Banks' Risk-Taking: Theory and Evidence. *European Financial Management*. DOI: 10.1111/eufm.12205

Migliore, L. A. (2011). Relation between big five personality traits and hofstede's cultural dimensions: Samples from the USA and India. *Cross Cultural Management: An International Journal, 18*(1), 38–54.

Milne, A. (2002). Bank capital regulation as an incentive mechanism: Implications for portfolio choice. *Journal of Banking and Finance*, *26*, 1–23.

Neamtu, I. & Westergård-Nielsen, N. (2017). The real effects of the credit constraints in the economic crisis. Retrieved from: http://www.nfgs.dk/wp-content/uploads/2018/12/real-effects-of-credit-constraint_new-2017-version.pdf

Nielsen, C. Y., & Ohnemus, L. (2018a), Etablering af mål for egenkapitalforrentning hos banker – hvad kan aktionærerne forvente som afkast? *Finans/Invest*, *(6)*, 21-26.

Nielsen, C. Y., & Ohnemus, L. (2018b). Targeting Return on Equity: Banks' Ownership Structure and Risk Taking. Working paper. DOI: 10.2139/ssrn.3265180

Ohnemus, L. C. (2010). Brand Thrust: Strategic Branding and Shareholder Value: An Empirical Reconciliation of Two Critical Concepts. (PhD series, nr. 12.2010), Frederiksberg, Denmark.

Pagratis, S., Karakatsani, E., & Louri, H. (2014). Bank leverage and return on equity targeting: intrinsic procyclicality of short-term choices. Working paper, No. 189, Bank of Greece.

Pauls, T., Stolper, O. & Walter, A. (2016). Broad-Scope Trust and Financial Advice. Available at http://dx.doi.org/10.2139/ssrn.2670484

Poulsen, T. & Westergård-Nielsen, N. (2018). Credit constraints and job destruction. Retrieved from: http://www.nfgs.dk/wp-content/uploads/2018/11/Credit-constraints-and-job-destruction.pdf

Poulsen, T. & Gregoric, A. (forthcoming). Board-Level employee representation: A functioning mechanism of employee voice.

Preuss, B. (2018). Equity Fund Managements Promise and Action: A Comparative Study of Nordic and US Fund's. 10.13140/RG.2.2.23105.86885.

Rapp. M. S. & Udoieva, I. A. (2018). What matters in the finance-growth nexus of advanced economies? Evidence from OECD Countries. *Applied Economics.* **50**(6): 676-690.

Rapp, M. S. (2016a). Project summary. Retrieved from: http://www.nfgs.dk/wp-content/uploads/2017/07/Financial-Sector-Structure-and-Economic-Growth-01-Project-Summary.pdf

Rapp, M. S. (2016b). Financial Sector Structure and Economic Growth: A Fresh Look with a Focus on Denmark. Discussion paper, retrieved from: http://www.nfgs.dk/wp-content/uploads/2017/07/Financial-Sector-Structure-and-Economic-Growth-03-Report.pdf

Repullo, R., & Suarez, J. (2013). The procyclical effects of bank capital regulation. *Review of Financial Studies*, *26*, 452–490.

Ringe, W-G. (2016). Regulatory Competition in Global Financial Markets – the Case for a Special Resolution Regime. *Annals of Corporate Governance*. **1**(3): 175-247.

Ringe. W-G. (2018a). The Irrelevance of Brexit for the European Financial Market. *European Business Organization law Review*. **19**(1): 1-34.

Ringe, W-G. & Ruof, C. (2018). A regulatory Sandbox for Robo Advice. ILE Working Paper Series, No. 14, University of Hamburg, Institute of Law and Economics (ILE), Hamburg

Rochet, J.-C. (1992). Capital requirements and the behaviour of commercial banks. *European Economic Review*, *36*, 1137–1178.

Rooji, M., Lusardi, A. & Alessie, R. (2011). Financial Literacy, Retirement planning and Household Wealth. Working paper nr. 313. Retrieved from https://www.dnb.nl/en/binaries/working%20paper%20313_tcm47-257145.pdf

Rosenblatt, V. (2011). The impact of institutional processes, social networks, and culture on diffusion of global work values in multinational organizations. *Cross Cultural Management: An International Journal, 18*(1), 105–121.

Runnemark, E., Hedman, J & Xiao, X. (2015). Do consumers pay more using debit cards than cash? *Electronic Commerce Research and Application*. **14**(5): 285-291.

Saunders, A., Strock, E., & Travlos, N. G. (1990). Ownership structure, deregulation, and bank risk taking. *Journal of Finance*, *45,* 643–654.

Sensoy, B. A. (2009). Performance evaluation and self-designated benchmark indexes in the mutual fund industry. *Journal of Financial Economics, 92*(1), 25–39.

Sharpe, W. F. (1966). Mutual fund performance. *Journal of Business*, *39*, 119–138.

Shleifer, A., & Vishny, R. W. (1986). Large shareholders and corporate control. *Journal of Political Economy*, *94*, 461–488.

Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *Journal of finance*, *52*(2), 737-783

Stolper, O. & Walter, A. (2019). Birds of a Feather: The impact of Homophily on the propensity to follow financial advice. *The Review of Financial Studies*. **32**(2): 524-563.

Stopler, O. (2018). It takes two to Tango: Households´ response to financial advice and the role of financial literacy. *Journal of Banking and Finance*. **29**. P: 295-310.

The Economist (2015). Financial supervision, one regulator to rule them all. Retrieved from https://www.economist.com/leaders/2015/08/06/one-regulator-to-rule-them-all

Thomsen, S. (2016a). The Nordic Corporate Governance Model. *Management and Organization Review*. **12**(1): 189-204.

Thomsen, S. (2016b). Nordic Corporate Governance Revisited. *Nordic Journal of Business.* **65**(1): 4-12.

Weber, Y., Shenkar, O., & Raveh, A. (1996). National and corporate cultural fit in mergers/acquisitions: An exploratory study. *Management science, 42*(8), 1215–1227.

Westergård-Nielsen, N. & Neamtu, I. (2012). How are firms affected by the crisis and how do they react? Discussion paper no: 6671. Retrieved from http://ftp.iza.org/dp6671.pdf

Whitehead, C. K. (2011). Destructive Coordination. *Cornell Law Faculty Publications.* Paper 183.

van Woerkum, C., & Aarts, N. (2008). Staying connected: The communication between organizations and their environment. *Corporate Communications: An International Journal, 13*(2), 197–211.

Volcker, P. (1987). Testimony to Congress. *Federal Reserve Bulletin*, June, 435–440.

Xiao, X., Hedman, J. & Runnemark, E. (2015). Use of Payment Technology : A Perspective Based on Theory of Consumption Value. in: ECIS 2015 Proceedings. red. /Jörg Becker; Jan vom Brocke; Marco De Marco. Atlanta, GA : Association for Information Systems. AIS Electronic Library (AISeL) 2015 (Proceedings of the European Conference on Information Systems)

Yang, J.-S., Kwak, W., Kaizoji, T., & Kim, I.-m. (2008). Increasing market efficiency in the stock markets. *The European Physical Journal B, 61*(2), 241–246.

COPENHAGEN BUSINESS SCHOOL
CENTER FOR CORPORATE GOVERNANCE, ACC
SOLBJERG PLADS 3
2000 FREDERIKSBERG
DENMARK
WWW.CBS.DK

FINANS DANMARK

cphbusiness
COPENHAGEN BUSINESS ACADEMY

LOKALE PENGEINSTITUTTER

Sparinvest

CENTER FOR CORPORATE GOVERNANCE