The digital transformation of financial services and labour relations in the FinTech sector

SUMMARY REPORT

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Content

Acknowledgement

This research was funded by the European Commission under the project title 'How Fintech affects the financial sector and what the effects are on collective bargaining in the European financial sector' (VS/2020/0113). We would like to thank our colleagues Bertil Rolandsson and Bengt Larsson from University of Gothenburg Anna Ilsøe and Trine Pernille Larsen from Copenhagen University, Jaan Masso from Tartu University and Alex Lehr from Radboud University Nijmegen, who provided valuable national insights and expertise to the research, as well as the project partners, UNI Europa, the Nordic Financial Unions and Gothenburg University.

We would also like to thank the members of the project steering group, Paul Suilen, FNV, Ella Sjödin, Finansförbundet, Carin Hallerström, Nordic Financial Unions and Cristina Lorenzo Burgos, CCOO, for committing their time and efforts to the project, as well as the project coordinators Morten Clausen, UNI Europa/Nordic Financial Unions, and Vasilka Lalevska and Simon Jernberg, Nordic Financial Unions.

CHAPTER 1

INTRO-
DUCTION

This is the final report from the project How FinTech affects the financial sector and what the effects are on collective bargaining in the European financial sector, which was supported financially by the European Commission (DG Employment, Social Affairs and Inclusion). The project was led by Morten Clausen at UNI Europa in cooperation with Nordic Financial Unions (NFU) and University of Gothenburg (SE). The project team included researchers from University of Copenhagen (DK), Radboud University (NL), and University of Tartu (EE). The project's objective was to increase the understanding of what effects FinTech companies are having on work, employment, and industrial relations. The overall questions approached by the project were thus to what extent global and European FinTech trends affect the European financial sectors, and how these impact skill requirements and employment relations.

Digital technologies are often depicted as driving dramatic changes in markets and employment relations. New technological solutions disrupt established market relations as entrepreneurial challenger firms introduce new business models and force established actors to rethink their business models, competence requirements, and organization of work and employment relations (Frey and Osborne, 2017; Susskind and Susskind, 2015). This is also the role digital technologies have been said to play in studies of the banking and financial services markets (Arner et al., 2017; Rolandsson et al., 2020; cf. Lomachynska, 2020). In the specific case of financial technologies (FinTech), this development is to a high degree driven by new entrepreneurial start-ups creating new niches in the financial markets. These FinTech companies provide updated, innovative, and often mobile App-based digital services and AI, utilizing the emerging open banking infrastructure (Breidbach et al., 2020; Degryse, 2016; Lomachynska, 2020). The number of FinTech companies has increased rapidly during the last decades, and investment in the FinTech niche is increasing as many FinTechs are scaling up and becoming established (Chiu, 2016).

The expansion of FinTech companies supplying digitally sophisticated and niche products and services in the financial markets challenges traditional banks and their "one-stop-shop" business models and value chains, which integrate a wide range of products under one "roof". As investments are increasing, this development raises concerns for established and conventional businesses models in the financial markets. Echoing studies addressing the more general implications of the digital transformation of the labour market (Brynjolfsson and MacAfee, 2014; Umans et al., 2018), such changes also raise questions about what type of jobs employees in traditional banking and finance will face in the future (Abassi et al., 2021; Dølvik et al., 2020; Rego, 2018).

In this report, we address this development by analysing the development of FinTech companies, their interaction with the traditional actors, and their employment relations in four countries: Denmark, Estonia, the Netherlands, and Sweden. These countries were selected on the basis that all four of them are small and open economies with high levels of digitalization (European Commission, 2021). Three of the countries have strong though somewhat varied traditions in industrial and employment relations, whereas Estonia relies on weaker arrangements. This variation makes it possible to discuss the importance of the industrial relations context and traditions.

The aim of the report is to analyse how FinTech companies affect the markets for financial services as well as the employment relations in the sector. A few general research questions have guided the analyses of the four country cases of Denmark, Estonia, the Netherlands, and Sweden. How are the national FinTech company markets developing? How can we understand the relation between the traditional banks and the new FinTechs? To what extent do employer associations and trade unions play a role in employment relations in FinTech companies?

Empirically, the report is based on both desk research and primary material: First, we collected public and organisational reports and policy documents, as well as information from the internet, providing information on national level FinTech development, the regulatory context, the existence of FinTech organisations and communities, and employee characteristics and employment relations in the FinTech niche. Certain databases comprising statistical information have also been used when needed. As there are also joint EU-developments on the regulatory and policy areas, we also collected documents relating to that level.

Second, we made in total 38 semi-structured interviews with key actors in the four countries, representing A) traditional banks, B) established FinTech companies, Fintech associations, hubs and communities, C) trade union and/or employer association representatives. The choice of respondents also varied somewhat between the national case studies, depending on for which actors such information on positions and experiences was possible to gather through desk research. An important delimitation of the qualitative empirical studies is that the main focus has been on FinTech companies within payment and credit services, whereas less focus has been given InsurTech, RegTech and Crypto-Currency companies (see Chapter 2 for definitions). In order to keep the respondents' identities confidential, we only give a general overview of the four main categories of respondents per country in table 1.

Table 1.
Number of interview respondents representing different key actors in country

	DK	EE	NL	SE	TOTAL
Banks	*	2	3	4	9
FinTech / Fintech associations	6	2	2	3	13
Trade Unions / Employer organisations	4	4	5	3	16

* Two of the Swedish interviewees represented a bank with activities in both Sweden and Denmark.

In this report, we only give brief summarized versions of the empirical results of the country case studies. A more detailed description of methods, materials and more dense empirical descriptions is to be given in a longer report also produced in the project.

The following chapter puts the FinTech development into context by discussing the technologies, regulatory developments, and employment relations issues as well as the industrial relations. The subsequent chapter presents the four country cases. The final chapter is a concluding discussion in which we synthesize the results from the empirical country case studies, and discuss their implications as regards the FinTech driven transformation of the financial markets, the consolidation of the FinTech niche, and signs of emerging formations of employment relations in these countries.

CHAPTER 2

The wider context of the Fintech development

By describing the role of digital technologies, regulation and the industrial relations settings, the following chapter aims to put the FinTech development and FinTech companies into context. Starting with the technological dimension, we may define “FinTechs” as a term for new challenging companies using different types of software or hardware to facilitate financial services, such as bill payment, investment, crowdfunding, retail banking, or the use of cryptocurrencies (Alt and Puschmann, 2012; Hsu, 2018). FinTechs are developing and facilitating services in broader ecosystems of actors sharing data with each other, involving e.g., traditional banks and insurance companies. FinTechs are thus not only competitors to established actors but may also function as intermediaries or dis-intermediaries in the relation between existing financial service providers and consumers. By specialising and reducing their in-house services (outsourcing), traditional actors such as banks are also providing opportunities for FinTechs to set up businesses based on tasks that used to be part of these companies (Puschmann, 2017).

Crowdfunding and blockchain are particularly prominent technologies in this development (Alt and Puschmann, 2012; Cai, 2018). Crowdfunding is a technology based on different types of peer-to-peer networks. A number of studies look into how crowdfunding facilitates a variety of business activities based on mediation of financial resources on Internet-based platforms without involving standard financial intermediaries (Belleflamme et al., 2015; Mollick, 2014; Schwienbacher and Larralde, 2012; Wei and Lin, 2016). FinTechs, acting as crowdfunding-entrepreneurs, help to by-pass traditional financial intermediaries, thereby avoiding expensive registration requirements (Belleflamme et al., 2014).

Blockchain technology serves trust and transparency by enabling users to validate and track transactions and stored information in linked blocks (Cai, 2018). Like crowdfunding, blockchain draws on peer-to-peer networks that transfers value between participants without an intermediary but it also records transaction information in a block added to prior transaction information. The technology offers a system of distributed governance that substitutes centralised agents or traditional financial intermediaries who normally maintain trust and governance. Thereby, blockchain is said to have the potential to disrupt how the global financial system works and to change the nature of investment (Fanning and Centers, 2016; Pollari, 2016). By involving other technologies such as cloud computing, blockchain may make it possible for corporations to outsource overhead and authentication of traded goods as well as crowdsource innovation. They may then also eliminate middle managers and outsource accounting functions (Nowiński and Kozma, 2017; Scott et al., 2017; Tapscott and Tapscott, 2017). New applications, involving different forms of artificial intelligence, are also linked with blockchain (sometimes justifying the term the Blockchain 3.0) (Burgess and Colangelo, 2015). However, research often concludes that this type of advanced blockchain technology is still in its infancy (Cai, 2021).

FinTech actors and activities

By acting as intermediaries, or by creating dis-intermediation, FinTechs are operating in a rather complex regulatory context. Financial technology is used in an increasingly wide range of services and products that encompass not only activities in the core of finance such as payments, but also ancillary activities of a more non-financial nature (EBA, 2019). Whereas the former may be under both European and national regulation, the latter is largely without regulation. This variation in regulatory context relates to the varying kinds of companies that develop and use financial technology and which, together with the advanced digital infrastructure, make up a complex "business ecology" on the financial markets (cf. Abbott, 2005; Adner 2017; Bogers et al., 2019; Lomachynska, 2020). The variety of actors that jointly constitutes these business ecologies, is thus covered by different regulatory rules.

Traditional banking and finance companies typically produce a wide range of financial products, which are often bundled. The main actors often provide "one-stop shop" solutions and build up long term trust-based customer relations, targeting broad customer groups (Lee and Shin, 2018). These institutions perform the important financial function of maturity transformation. That is, they convert short term funding into long-term loans. The rules regarding fractional reserve requirements also give them an advantage in that they can "create" money and liquidity, and thereby make profit not only from fees,

but from the interest margin as well (Navaretti et al., 2018). The development in financial technology is of course utilized by these traditional actors in the financial markets – either in-house, by owning (joint) FinTech companies, or through outsourcing. Thereby, they may improve business efficiency, reduce costs of financial products and services through standardization, and improve both risk assessments and individualization of products with lower fees and better functionality (Romãnova et al., 2018).

The development of financial technology has also led to an increase of new companies that compete with or complement the traditional actors. These market-challengers are at least of three kinds: FinTech companies, TechFin companies and RegTech companies. FinTech companies (or just FinTechs – here including insurance-oriented companies, often called InsurTechs) are to a large extent relatively recent start-ups or SMEs. As they are often quite niche, and produce unbundled services, there are various business models among them. They act either as intermediaries or as dis-intermediaries on the market, by providing platforms that match e.g., borrowers and lenders directly without intermediation. Not seldom, they draw in younger and wealthier customers as compared to the traditional actors, and they base their customer relations on 'automatic machine-based trust', rather than on long-term built trust (Lee and Shin, 2018; Navaretti et al., 2018, p.18). TechFin companies are "non-financial firms, (such as technology, e-commerce and telecommunications companies) entering financial services businesses" (Zetzsche et al., 2018, p.395). They are usually large, well-established BigTechs that expand into finance based on existing customer relationships and large amounts of customer data. RegTech-companies are firms that provide technological or automated processes to perform monitoring, compliance and reporting related to existent regulation in the area of banking and finance (Arner et al., 2017).

Regulatory developments and challenges

Even if there is a strong focus in the debate on how alternative finance, that is FinTech, TechFin and RegTech companies, are challenging traditional banking and financial firms, the former is still very small in terms of volume often oriented on domestic markets (Demertzis et al., 2018). Much of their regulation is thus national. As many of them are in the "ancillary" rather than core of finance, they may also avoid applying for banking licenses and may even be outside of regulation (EBA 2019; cf. Navaretti et al., 2018; Vives, 2017). Even so, there are of course EU policies and regulatory initiatives of importance for them: e.g. the European Commission's (EC) Capital Market Union initiative, aiming for increased cross-border financial integration; the EC Consumer Financial Action Plan; the EC Cyber security strategy; the EC digital single market strategy; the General Data Protection Regulation (GDPR) the EC FinTech Action Plan (European Commission, 2018); the EC anti-money laundering directive (Directive 2018/843/

EU); and the European Banking Authorities (EBA) Fintech Roadmap (EBA, 2018) aimed at mapping current authorization and licensing approaches for FinTech-companies in order to present recommendations regarding the need to adapt the EU financial services legislation.

The regulations that are of greatest importance for the current FinTech development in the EU are probably the EU Payment Service Directives (PSD1 and PSD2), aiming to establish efficient markets for payment services in the European Economic Area (Romānova et al., 2018). The PSD2 allows non-financial companies (Third Party Payment Providers) to provide access to financial services for bank customers. On this basis, FinTech-companies and stores/vendors can access customers' payment accounts and initiate payments and bank transfers for them. Thereby, this regulation has stimulated new actors to create innovative solutions for payment, savings, lending and other financial services. However, the PSD2 also harmonizes consumer protection and has increased the requirements on website authentication and electronic seals in communication between financial services companies.

Some of the main risks and problems that have been discussed in the wake of the FinTech development relate to issues such as shadow banking, cyber security and data protection, risk assessment, inaccurate pricing or customer discrimination due to biased algorithms, and problems related to taxation (Romānova et al., 2018; Vives, 2017; Zetzsche et al., 2018). The tricky parts are said to be the balance between competition and financial stability, and between security and protection for data and customers. On the one hand, the main actors are asking for a level playing field, which would imply stricter regulatory measures taken against the new challengers on the financial market. On the other hand, not all disruption on the market is seen as bad from the consumer perspective, since they may benefit from improved quality and efficiency leading to lower costs (Demertzis et al., 2018; Romānova et al., 2018).

At the national level, there are some attempts to try out flexible case-by-case regulation such as restricted licenses, special charters or exemptions, or even experimental forms of regulation in terms of regulatory sandboxes, piloting exercises and innovation hubs (Claessens et al., 2018; EBA, 2018; Zetzsche et al., 2018). The latter two create controlled environments for testing out new products in a monitored way without risking "punishment" by regulators. A few European countries have started such regulatory sandboxes (UK 2016, NL 2017, CH 2017), and others are under way or have recently initiated projects in such a direction. The EBA Fintech Roadmap (EBA, 2018) sets out a program to monitor and analyse these developments.

FinTech, industrial relations and effects on employment

Turning to the industrial relations context, we may note that the banking and finance sector in general has a relatively large proportion of young and highly educated employees as compared to other sectors and the gender representation is quite balanced in the sector overall (Eurofound, 2016; 2019). As for the size of workplaces in the banking and finance sector overall, there are more employees in large and SME enterprises as compared to the means of all sectors, and relatively fewer employees in micro-companies (1-9 employees).

Employment in the European banking and finance sector in the broad sense (NACE 64 and 66) decreased by approximately 4% between 2010 and 2018, a period during which the number of companies decreased by 25%, mainly because of mergers (Eurofound, 2019). There has been a slight decline in employment in core banking activities (particularly NACE 64.19), whereas 'auxiliary' activities (particularly NACE 66.10 and 66.30) have seen a rise in employment. Divergences between countries are shown by Holtgrewe et al. (2017) who find the UK leading in FinTech development, whereas the strongest normalization and spread of financial services based on digitalization, and the most optimistic evaluation from trade unions on this development, is found in the Nordic countries. In contrast, there were more "defeatist" opinions in Austria because of ongoing rationalization, whereas Italy was somewhere in between, in that they seemed to be already through the worst part of cost-cutting rationalizations.

New financial technologies are said to have led to a shift towards distance/online banking, an increase in collaboration and outsourcing, but also increased competition from new challengers, not only within FinTech and TechFin companies, but also pure online banks, often called neo-banks (Eurofound, 2019). If one adds to this the regulation following the financial and economic crises at the end of the first decade of 2000, a number of overlapping consequences for employees and the sector overall have been discussed – of which only some are given hard evidence:

Employee consequences in previous research

- Automation and the substitution of employees with robots (Coralie and Fuensanta 2018; Dølvik et al., 2020).
- "Job polarization" in the sense that there is increased standardization of tasks for some groups and increases in autonomy and skill requirements for others (Coralie and Fuensanta 2018; Dølvik et al., 2020).
- Increase in part-time work (it doubled in the period 1998-2014), and in time-pressure within working hours (Coralie and Fuensanta, 2018; Eurofound, 2019).
- Downsizing and closure of certain branches, with redundancies and employment decline as an effect: particularly in core banking (Beuker et al., 2019; Eurofound, 2019), and for smaller banks, savings banks or credit unions, and local branches (Coralie and Fuensanta, 2018; Holtgrewe et al., 2017).
- The increase in outsourcing from traditional banks and the improved market for consulting firms (Eurofound, 2019).
- Reduced wages and increases in employee turnover in new low-cost banks in some countries (Coralie and Fuensanta, 2018).
- Demands for competencies in risk analysis and compliance due to new regulation and accompanying documentation requirements (Dølvik et al., 2020).
- Changed recruitment strategies and the need for continuous training and professional development (Coralie and Fuensanta, 2018).
- New companies escaping collective agreements, and the risk that competition over members and organisational domains increases between trade unions (Holtgrewe et al., 2017).
- Unionization, and the lack of trade union representation addressing uncertain employment and working conditions in small start-ups – e.g., if staffing with young local students or young entrepreneurs (Coralie and Fuensanta, 2018).

Industrial relations in Banking and finance

According to Eurofound (2016), there existed official structures of employee representation in around 44% of the firms or establishments in the financial services sector in the EU 28, which was quite high as compared to other sectors. As in most sectors, national level industrial relations in banking and finance are very much shaped by the general differences in industrial relation traditions and institutions across Europe (Eurofound, 2019; cf. Furåker and Larsson, 2020). Whereas there is relatively high trade union density in the Nordic countries in the sector, it is more moderate in many central western and southern countries, and moderate to low in central and eastern European countries. Collective bargaining coverage and differences between multi and single bargaining practices vary in the EU 27 according to table 2.

Table 2.
Collective bargaining coverage and collective bargaining level in banking

	Collective bargaining coverage				Information not available
	More than 90%	51 - 90%	25 - 50%	Less than 25%	
Single-employer bargaining sole or prevailing level	NL	CY, HR, SK	HU, IE, MT	LT, RO, UK	BG, LV
Multi-employer bargaining sole or prevailing level	AT, BE, FI, FR, IT, SI	DE, DK, EL, ES, LU, PT, SE	CZ		
No collective bargaining	EE				

* Source: Eurofound (2019, p. 46).

There are almost 100 trade unions active in the sector across the EU27. Approximately two thirds of these are affiliated to UNI Europa, the European umbrella organisation in private services. On the employer side there are around 70 employer associations identified in banking, approximately half of them affiliated to the European Banking Federation (EBF), whereas seven are members of the European Savings and Retail Banking group (ESBG), and 14 are members of the European Association of Cooperative Banks (EACB). Not all national employer associations are, however, active in collective bargaining since they are more of trade or business associations than proper employer organisations.

In a majority of countries, at least one trade union and one employer organisation take part in government consultations practices, whereas in some countries none of these, or just one of the employer organisations, has such access to policymaking arenas. As discussed by Holtgrewe et al. (2017) there are, however, large differences in social partner involvement in policy initiatives regarding digitalization of services (innovation, infrastructures, and regulation). Whereas there is little influence from social partners in central and eastern Europe, and in southern Europe, in the UK the influence is said to be through various councils and initiatives from industry leaders, and in the Nordic countries there is a wider variety of bi- and tripartite discussions and consultations.

CHAPTER 3

FinTechs in Sweden, Netherlands, Estonia and Denmark

The following chapter presents the different country cases that have been investigated in this project. In all countries, Fintech companies appear to gain more muscles to challenge business models and traditional institutions in charge of policy making, regulation and employment relations (World Economic Forum, 2016; Hagberg et al., 2021). At the same time our findings suggest that FinTechs are becoming increasingly integrated into what we refer to as a new market ecology, where established actors still play a major role (Bogers et al., 2019). The chapter starts by presenting findings from Sweden, before moving on to the Netherlands, Estonia, and Denmark.

Sweden[1]

The size and composition of the Swedish FinTech industry

In 2019 there were approximately 450 FinTechs in Sweden, mainly concentrated to Stockholm. The fact that the number of new start-ups has been decreasing lately while existing FinTechs expand, indicates that there is consolidation going on. The number of FinTech-employees have increased from around 300 in 2000 to 6,000-10,000 in 2018, and many companies are currently expanding and recruiting staff. Most companies are nevertheless small. In 2020 approximately 60% of the Swedish FinTechs employed less than 10 persons, while around 30% of the employees in the sector work in companies with more than 200 employees (Gromek, 2018; Ingram-Bogusz and Andersen, 2020; Invest Stockholm, 2019; Swedish Fintech Association, 2020).

The workforce in FinTechs is male dominated (approx. 70%), with a majority being educated in finance, management, or engineering/IT. Around a third have been recruited from within banking and finance, and another third comes from the software/IT sector. The majority have a working life experience of 5-10 years before being recruited, and the majority is recruited from Sweden, while around 20% come from abroad (Gromek, 2018; Ingram-Bogusz and Andersen, 2020). The strong growth is related to high levels of investment, a high proportion of programmers

[1] This section is a summary of a national report produced by Bengt Larsson and Bertil Rolandsson.

and system developers, an innovation-friendly context, and an early adoption of new technologies in both the banking sector and among consumers in general (Gromek, 2018; Finansinpektionen, 2017a; Ingram-Bogusz and Andersen, 2020; Omberg, 2020; Riksbanken, 2017; 2019; Swedish Bankers' Association, 2019; 2020).

Thereis a trend towards integration of previously informal networks and communities among Swedish FinTechs. Formal organizations have emerged, such as The Swedish Fintech Association established 2017; FINDEC – Stockholm's Fintech Hub, in 2018; and in 2020, the Swedish Central Bank supported the establishment of a BIS Innovation Hub for the Nordic-Baltic area. These organisations aim to integrate the FinTech community, increase the sharing of experiences, and mediate contacts with relevant authorities, financiers, and consultants. They also distribute information to members, create events and meetings to facilitate contacts with the Swedish Bankers' Association and Financial Supervisory Authority, as well as with FinTechs communities abroad and actors at the European level consultation processes.

The relation between FinTechs and traditional banks

Traditional banks, with the Swedish Bankers' Association at the forefront, are today positive to the opening of the value chain in banking for competition and specialization through platform-based services. They find this development needed to meet customer demand and to stay open to innovation (Swedish Bankers' Association, 2017; 2019). As compared to previously, a more collaborative view toward FinTechs has thus developed, which relates to the above depicted consolidation of the FinTech niche and the European development relating to the PSD2. To keep up with Fintech competition, banks are also moving into areas in which they have not previously been active. The banks thus try to meet the customer demand by combining in-house services with services based on open banking, new technological solutions, and digital user interfaces. Another important strategy for banks is to collaborate with and scout for and invest in start-ups, or purchase FinTech concepts and adjust them so that they may be integrated in the product line.

However, there are organisational and regulatory obstacles for banks to partner up with FinTechs, and both banks and FinTechs point to the need for a level playing field in the national and European markets. Still, they have different points of view. Banks and authorities find some of the new business models and technical solutions difficult to apply existing regulation to, whereas FinTechs find existing regulation difficult and costly to navigate. The banks find that FinTechs sometimes run under the radar of regulation or meet softer regulatory requirements than the banks, whereas FinTech representatives find that existing regulation is modelled on traditional banking.

Both the banks and the FinTech representatives thus point to the advantage the other part have. The problem for the Banks is that they may become back-end distributors for FinTechs they cannot control, and that this may harm not only consumer security but also trust in the banking system as such. The problem for FinTechs is that they have difficulties in developing their business models, particularly since there is no sandbox environment in Sweden, and they do not receive the help needed from the innovation centre at the Supervisory Authority. In addition, they find some difficulties in getting access to the financial infrastructure and API-solutions; and that the banks act as gatekeepers in this (Finansinspektionen, 2017a; 2017b; Ingram-Bogusz and Andersen, 2020; Riksbank, 2017; Swedish Bankers' Association, 2017; 2019, 2020; Swedish Fintech Association, 2020).

Collective organisation and employment relations in Swedish FinTechs

Trade union density (approx. 65%) and collective bargaining coverage (approx. 70%) is rather high in the banking sector in Sweden (Eurofound, 2019; Kjellberg, 2019a; 2019b), but the situation in the FinTechs is quite different. Few FinTechs are members of employer organisations and even fewer FinTech employees seem to be members of trade unions. Estimations based on publicly reported employer association membership indicate that around 5-10% of the Fintech companies are organised. Given the size of these companies, an informed guess would be that somewhere around 12-20% of the employees in Swedish FinTechs are covered by collective agreements.

From the interviews, it seems there is a mutual lack of knowledge and even disinterest between FinTech employees and trade unions. These young and highly educated employees know their worth and would change job if the conditions did not suit them, and therefore do not really see the benefits of being trade union members. On the other hand, trade unions are a bit uncertain whether it would be in the interest of their existing members to organise employees in small start-ups since they face a great risk of being unemployed. In our interviews, union representatives did also appear to be uncertain about their sectoral belonging, and thus which union that is entitled to view them as potential members even though the unions have agreements to prevent rivalry and manage difficulties to identify sectoral belonging of certain new businesses.

Swedish FinTech companies seem to know the value of their staff, and since they have some difficulties in recruiting the competences needed for expansion, they are forced to provide working conditions and an organisational culture appreciated by their employees. The larger FinTechs also develop more organised employment relations coordinated by a HR-function, and to some extent they mirror the contents of existing collective agreement in banking and finance in their employment contracts – such as vacations, insurances, and pension plans. As for the wages, established FinTechs who are recruiting on a regular basis both have the knowledge and need to keep up with the existing remuneration levels on the market.

The Netherlands [2]

The size and composition of the Dutch FinTech industry

There were around 400 FinTech companies in 2020 in the Netherlands, mainly concentrated in Amsterdam and the Randstad area. The FinTech market is characterized by a few large companies and many small ones, and it appears to both be increasing in size and starting to consolidate in composition. The number of new start-ups is decreasing while the numbers of partnerships and acquisition are expected to increase. In 2019, 52% of FinTech employees work in companies with 10 or less employees, while 3% of businesses have more than 250 employees – and the 20 fastest growing companies together employed almost 4,000 persons in 2019, a 25% increase compared to 2018. Factors facilitating this growth are a good digital infrastructure, a high adoption rate of FinTech among consumers, a favourable taxation and entrepreneurial climate, a SME-favourable legislation, support from the government, and the presence of big-tech company headquarters (EYGM Ltd., 2018, Fintech Aera, 2020; Heinink, 2020; Holland FinTech, 2018a; 2018b; van der Kroft et al., 2019; van Kempen, 2021).

The FinTech community is integrated by a few main organisations. *Techleap.NL* (formerly StartupDelta) is a public-private partnership established in 2015. Its activities include provision of knowledge and training programs; upscaling, internationalization and investment support; and supporting peer networks and collaboration with government and universities. *Holland Fintech* founded in 2014 is a network/ecosystem for sharing information and expertise, organizing events, interest representation, and attracting staff to the sector. The Dutch United Payment Institutions *(Verenigde Betaalinstellingen Nederland, VBIN)* is a business association founded in 2012 that represents the new financial service providers and payment institutions that have emerged after the introduction of PSD2, with many FinTech companies as members (techleap.nl, 2022).

[2] This section is a summary of a national report produced by Alex Lehr.

The relation between FinTechs and traditional banks

The entrance of FinTechs has increased competition for traditional banks. Yet, despite initial apprehensiveness the banks are today generally positive. They need cooperation with FinTechs to ensure innovation, whereas FinTechs need access to the clients of banks. Cooperation with or acquisition of FinTechs are thus strategies to stay relevant in a technology driven market, and the transaction costs are often low enough to favour external partnerships over in-house development. Cooperation with FinTechs may particularly benefit smaller banks looking to increase their market share despite limited capacity for in-house technological developments. Indeed, the primary source of concern regarding competition for traditional banks is not directed towards FinTech companies, but towards BigTech companies moving into financial service provision.

Competition as well as cooperation between banks and FinTechs are both shaped and impeded by regulatory structures. Regulation delimit the banks possibility to outsource operations to FinTechs and put responsibilities on banks for external partner activities, while they are seen as entry-barriers and financial burdens by FinTechs. There have been efforts to improve the regulatory climate. The Dutch Central Bank (DNB) and the Dutch Authority for the Financial Markets (AFM) have established the InnovationHub to guide new market entrants, and a “regulatory sandbox”. It is, however, unclear how extensively this is used and whether this is sufficient for

FinTechs. The banks, on the other hand are requesting a more level playing field between banks and FinTechs, one shaped by "same risk, same rules, same supervision" (e.g., De Nederlandsche Bank and AFM, 2016; Fintech Aera, 2020; Holland Fintech, 2018b; NVB, 2020; cf. Roland Berger GmbH, 2016; Zetsche et al., 2017).

It is too early to draw conclusions on the impact of FinTechs on work organization in banking, but some trends exist: Employment have decreased in the financial sector since the mid-2000s, as has the number of physical bank branches, but technological advances and increased regulation also created employment opportunities. Employment changes may be said to be characterized by a qualitative re-composition of the workforce, in which technical, analytical, and ICT-related skills are increasingly important. In addition, the use of AGILE work practices within banking, centring on project work and flexibility have been influenced and reinforced by work processes in the FinTechs (see: van Uitert and Kalkhoven, 2018) (BNR, 2017; NOS, 2019).

Collective organisation and employment relations in Dutch FinTechs

Trade union density in the financial sector is estimated to be around six percent, which is around a third of the also rather low-level national level density. Collective bargaining is however high (>95%) as agreements apply to union and non-union employees alike. No FinTechs are covered by such agreements, and trade union membership in these companies is likely very limited to non-existent. From the perspective of FinTechs, their employees are unlikely to join "outdated" collective interest organizations, as good working conditions and attention to employee voice effectively creating little need for trade union representation (Eurofound, 2019; Gielen and Floris, 2018; Jansen and Lehr, 2019; Keune, Been and Tros, 2020; OECD, 2021).

However, FinTech employees are generally in a good position. As FinTechs are growing they compete in attracting and retaining highly educated employees through good employment practices. While they usually cannot match wages in banking, they offer things such as training and employment security. Despite the substantial use of temporary and part-time contracts and solo self-employment in the Netherlands, FinTechs appear to refrain from this. FinTechs also take efforts to shape a working environment

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geared towards a relatively young, highly educated, urbanite, environmentally and socially conscious workforce. This may include the provision of social and recreational activities, and an explicit ambition to foster sustainability.

FinTech companies combine elements of ICT and finance, and hence do not neatly fit within existing sectoral divisions in the Netherlands. This is a challenge for both business organization and trade unions when engaging with FinTech. As companies are growing, they will increasingly feature works council representation, which is mandated for businesses with 50 or more employees. This mode of representation may be more appealing to the FinTech business than trade unions. Still, also union representation may become more interesting for employees in the future, as company sizes increase, labour market tightness decreases, and the staff-composition increases in age. Even if the trade unions' stance towards FinTechs initially was more concerned with safeguarding the employees in traditional banks, all major unions today express an interest to represent FinTech employees. Some see a potential in bringing FinTechs under the umbrella of the banking collective agreement, but also recognize that this unlikely will find sufficient support due to the differing interests of the traditional banks and FinTechs. A specific FinTech collective agreement is likely a more realistic alternative, but whether and how this can be achieved remains unclear.

Estonia [3]

The size and composition of the Estonian FinTech industry

The FinTech sector in Estonia has been growing rapidly the last few years but does not show the same trend towards consolidation as in the Swedish and Dutch cases. In 2021 the number of FinTech companies in Estonia were slightly above 200, of which a third were less than four years old. During the first quarter of 2021 the reported number of FinTech start-up companies was 155, with the total number of employees reaching over 1,800. Most of the companies are small, the average size during the last few years has been around 10 employees. However, there also exist some large FinTechs operating in the areas of deposit and lending, payments, and infrastructure (Laidroo et al., 2021; Startup Estonia, 2021; Tirmaste et al., 2019).

This rapid growth has been facilitated by a favourable business climate, a reasonably good availability of skilled workforce, and Estonia's track record as a digital-flagship country. Early-stage adoption of digital technologies in banking started in the 90s. There is wide usage of digital services in the public sector, and Estonia has a strong and large ICT sector. Studies indicate that a third of the employees in FinTechs were working outside of Estonia, and there have been some recruitment difficulties in the sector. However, the initiative to accommodate a start-up visa for skilled foreign labour has improved the possibilities to attract foreign staff (Laidroo et al., 2021, Startup Estonia, 2021; Tirmaste et al., 2019; Vettik-Leemet and Mets, n.d.).

Even though the FinTech community is not that strongly integrated yet, there exist government or private funded programs that facilitate the growth of the sector. *Startup Estonia* is a program of the KredEx Foundation, which is a governmental institution set up in 2001. An *Innovation Hub* was established by the Finantsinspektsioon (Financial Supervision Agency) to inform and advice about regulation and solutions for innovative companies in the financial sector. Among the private communities are *Startup Wise Guys*, working with Swedbank to offer its accelerator programme, and the *Lighthouse Development Program*, created by MasterCard and NFT Venture. Lighthouse connects companies with experts through workshops (Tirmaste et al., 2019; Vettik-Leemet and Mets, n.d.).

[3] This section is a summary of a national report produced by Jaan Masso, Kadri Karma and Ilona Pavlenkova.

Startup Estonia

The relation between FinTechs and traditional banks

The Estonian FinTech development has added value to traditional bank services. Banks seem to be open to cooperation, and the two market leaders in Estonia – Swedbank and SEB, both Swedish banks – are fostering cooperation by providing FinTech accelerator programs. The banks' attitude towards FinTechs is generally positive. They see FinTech services mainly as complementary to traditional bank services, leading to a win-win situation helping banks to satisfy customer demand at a lower cost. FinTechs are not seen mainly as competitors, as the main competition is still between the large banks, and future competition from Big Techs. However, the FinTechs increase the differentiation on the market by opening new niches.

There are cooperation difficulties, though, relating not only to regulation but also to cultural and business model differences. For banks, there is a challenge in forging an infrastructure able to offer services closer to the end consumer. In addition, as FinTechs are growing fast there are differences in how they address these changes and the banks, who change and operate at a calmer pace, have more time in arriving at results. It may thus be difficult to match values and cultures and work jointly on projects.

The limited national market makes many FinTechs oriented towards international markets from the start, as they see their main potential for growth there. According to the employer organization, Estonia is thus different from many other countries where the internal market is prime target and where international expansion comes at a later stage. As mentioned above, another problem for Estonian FinTechs is the skill shortage, which has increased with the rapid growth of the FinTech sector. In accordance with the situation in the other countries, it can thus be hard to find people with IT skills and the needed language skills for customer support functions (Laidroo et al., 2021).

Collective organisation and employment relations in Estonian FinTechs

Estonian industrial relations, collective bargaining and social dialogue are among the least developed in the EU, and especially so in the financial sector. Collective bargaining is below 10% nationally, and sectoral level collective agreements are being present just in a few sectors, but not in banking and finance. In accordance, the level of unionisation in banking is low, and there are negative attitudes towards unions and collective bargaining. A sector specific union, The Association of Estonian Financial Sector Employees, was created in 2013 but disbanded in 2019. However, a union in Luminor bank was established in 2015, with a signing of the first collective agreement in the Estonian financial sector in 2018. (Kallaste and Woolfson, 2009; Masso et al., 2019).

There are thus not much of collectively organised employment relations in the FinTech sector in Estonia. According to employer representatives, the reason is that the wage level in the finance and technology sectors are high, and employees do not feel a need for unions to secure their rights. The background is that FinTechs are dependent on their employees' competences and thus need to ensure their employees motivation and wellbeing. In addition, as a majority of FinTechs are small and flexible companies, there is less room for trade unions in them as opposed to the larger banks.

Still, all is not perfect for employees in FinTechs, or in the banking sector at large. There are quite limited opportunities for on-the-job training for employees. According to the interviews there are some outsourcing of services and some hiring of employees on hourly rates on the Tech side. Even so, most employees in both the banks and FinTechs in this study appear to have formal contractual arrangements with their employers. According to the trade unions, this is however not good enough as it is rather easy to lay-off employees. One would perhaps expect that the high degree of foreign direct investments in the banking sector, with many of the large banks coming from the Scandinavian countries, would lead to a situation mirroring the high employee standards of the Scandinavian countries. There are some cases indicating this, however, there is also a tendency in most countries that the companies adapt their labour standards to those of the host country rather than attempting to maintain the higher labour standards applied at home. (Masso et al. 2018).

Denmark [4]

The size and composition of the Danish FinTech industry

The Danish Fintech industry, which is mostly concentrated around Copenhagen, has grown rapidly in the last five years, accompanied by a fast job growth and substantial investments. In 2020, the number of Fintech companies in Denmark reached 280, which was an increase of 144 per cent since 2016. In addition, more than 2,300 jobs were created in the sector during the last five years. As new actors enter FinTech, there is a continuous differentiation of the services, and new collaborations emerge between the actors that shape the development. (Business Insights DK, 2021; Copenhagen Fintech Policy, 2021; Kulager, 2020).

The Danish Fintech industry is organized and integrated through a number of hubs. *Copenhagen Fintech Lab* was created in 2016 by the organization Copenhagen Fintech, which in turn was established by the social partners in finance and banking with support from a range of partners from the sector. The lab aims to make Copenhagen a leading FinTech hub by supporting technology-led innovators. It facilitates a co-working space housed by The Financial Services Union Denmark (Finansforbundet) and helps the social partners to get to know the new Fintech players and to survey upcoming competence requirements. In 2016, the insurance company Tryg established a hub called *The Camp*, which houses a co-working space for start-ups. Besides housing this space, the aim is to facilitate dialogue between Insurtech start-ups and Tryg, to stimulate partnerships as well as arrange conferences, where start-ups and established players in the insurance sector can meet external experts and initiate dialogue. There are also several FinTech companies affiliated to Symbion, which is one of the largest start-up hubs in Denmark.

In a recent initiative *Copenhagen Fintech Policy* was founded by Finansforbundet, Finance Denmark, Insurance and Pension Denmark, Confederation of Danish Industries and Copenhagen Fintech. Copenhagen Fintech Policy tries to make the parliament aware of recruitment challenges within Fintech, which is one of the main barriers to growth in the sector. It is difficult to attract enough workers with the right tech competences. One of the reasons is the strict regulations in Denmark with regard to hiring foreign workers from outside the EU (Copenhagen Fintech Policy, 2021).

[4] This section is a summary of a national report produced by Anna Ilsøe and Trine P. Larsen. Most of the analysis draws on information obtained from interviews with fintech directors, presidents of unions and employers associations and tech lab directors during 2020-2021.

The relation between FinTechs and traditional banks

The Danish banking sector faces different challenges, of which ICT investments and development is a main one. Smaller companies have difficulties in affording adequate ICT development, hence SMEs have joined forces and run four data companies (BEC, SDC, Bankdata and JN-data), which deliver all ICT services and development. The large banks can afford their own ICT departments, but large size may also lead to difficulties concerning innovation and research development in-house. Several banks thus outsource research and research initiatives or partner up with smaller Fintech companies who are responsible for the innovative part of various projects. According to Copenhagen Fintech Lab, there are currently more than 100 partnerships between Fintech companies and traditional actors in finance and banking in Denmark (cf. Rolandsson et al., 2020; Shapiro, 2018a).

Partnership is core in FinTech as well as in traditional banking and finance. A main argument is that digital innovation works better outside the work organization and the IT infrastructure of the traditional banks, i.e., in smaller Fintech companies or in outsourced entities that are more agile than traditional banks. According to interviews with FinTech companies and hub representatives, traditional banks can offer Fintech start-ups important infrastructure in the form of access to data companies and expertise within compliance and regulation. Moreover, the traditional banks often have larger sums to invest in new start-ups, which can speed up growth. All these factors are important, when Fintech companies seek to scale up in a national market or enter new markets internationally. To sum up, the partnership between traditional finance companies and Fintech start-ups seems to be a win-win situation for both parties involved.

The Camp, Denmark

There are however some cooperation difficulties. The above-mentioned regulatory difficulties are among these. Another is that large parts of the Danish banking sectors use of legacy systems, which make collaboration with innovative start-up FinTechs challenging.

The different digital infrastructure in Fintech companies, vis-á-vis traditional banks seem to cause trouble and tend to be considered a constraint by both start-ups and traditional banks.

Collective organisation and employment relations in Danish FinTechs

Collective organization and social dialogue are strong in Danish banking, with a general agreement coverage of 80 % and high membership rates of unions and employers´ associations. Danish social partners have traditions of collaborating in tripartite arrangements on various themes, including digitalization – also in the financial sector (Ilsøe, 2017; Shapiro, 2018b).

In 2021, three of the largest FinTechs in Denmark formed an employer association for Danish Fintech companies, Arbejdsgiverforeningen for FinTech (AF), which negotiated a framework agreement with the trade union Finansforbundet. Members of AF explain that the internal and external legitimacy on the market played a key role for taking this step. The agreement was also necessary to facilitate a structure on wages and working conditions and clear rules within the organizations, as individual bargaining tend to be time consuming. However, the agreement differs from traditional sector-level agreements due to being a framework agreement, delegating important labour standards such as wage, working time and pensions to company-level bargaining, which is mandated for FinTechs signing the agreement.

The trade union, Finansforbundet, sees the framework agreement as a lever to start covering the FinTech industry with collective agreements. In many ways, the agreement can be seen as a result of previous institution-building via Copenhagen Fintech Policy and Copenhagen Fintech Lab. However, it is also intended to be the first step on the way to organize workers in the future. As the framework agreement is very new, this study has been unable to evaluate the effects of the agreement and its implementation and further implications. Future studies should further examine the impact of the framework agreement for social dialogue at company level as ample research on company level bargaining indicate that local social partners utilise the various openings for local bargaining in distinct sector agreements differently (Ilsøe, 2012; Larsen and Navrbjerg, 2015).

CHAPTER 4

Discussion

By comparing and identifying some commonalities of the development and situation in the four countries we will now address the questions initially raised: How are the national FinTech company markets developing? How can we understand the relation between the traditional banks and the new FinTechs? To what extent does employer associations and trade unions play a role for employment relations in FinTech companies

Transformation of financial markets – Disruption or "coopetitive" interdependence?

As discussed in the introduction, research on financial businesses have repeatedly depicted digital technologies as a source of dramatic change, fostering disruptive innovation effects both for established business models and for working conditions and employment relations (Arner et al., 2016; Breidbach et al., 2020; Chiu, 2016; Degryse, 2016; cf. Lomachynska, 2020). This is a development that has raised concerns not just for the survival of conventional business models in the financial markets, but also for what type of jobs employees in traditional banking and finance will face in the future (Abassi et al., 2021; Rego, 2018; Rolandsson et al., 2020).

Our analysis point to a more multifaceted development. Rather than offering a completely new business domain or disruption of existing business models, it indicates that FinTechs become integrated in a new market ecology (Atkinson and Wu, 2017; Lomachynska, 2020, cf. Langley and Leyshon, 2021). As the value chain of traditional banking and finance is opened up with help of digital technology and open banking, varying relations between traditional actors and FinTechs emerge. That is, a set of competitive, cooperative and co-optative relations are established between FinTechs and established actors. This new market ecology is, in other words, formed by *'coopetitive' interdependence* between the actors (Bogers et al., 2019). That is, there is a combination of competition and cooperation using the same infrastructure.

FinTechs and the emerging forms of cooperation in the new market ecology

There are of course FinTechs acting as challengers to the traditional incumbents on the market, e.g., those aiming to become established as neo-banks without any physical branches (cf. Hodson, 2021). However, many FinTechs are deeply engaged in collaboration and strategic partnerships with traditional banks and other established actors (cf. Brandl and Hornuf, 2020; Hornuf et al., 2021). Thereby they function as catalysts in the transformation towards a more complex financial "market ecology", with which we mean the existence of several interlinked actors, engaging with each other to develop a specific domain by using the same infrastructure (Abbott, 2005; Adner, 2017; Bogers et al., 2019; Lomanchynska, 2020).

This development is mirrored in the attitudes towards FinTechs and their diversification of financial services from traditional banks as well as regulators and supervisory authorities, which appear to be generally positive. As long as the banks do not risk becoming back-end suppliers for services or products that are undermining consumer trust in the financial markets, or threaten consumer protection, regulatory control or financial stability, established actors are supporters of this development – which is perhaps no surprise, given that the EU Digital Finance Strategy, advocating open banking and the scaling up of FinTech, is embraced in all four countries.

Traditional banks and business associations in all four countries view the FinTech development as necessary to ensure sufficient innovation to meet customer demand and stay competitive. Across the different country contexts, traditional banks are therefore building alliances or strategic partnerships with FinTechs to meet future demand for services and products. This is seen as necessary as they already are under pressure to open their value chains through the open banking regulations of the second EU Payment Services Directive (PSD2). By offering access to their clients as a customer base, or financial muscles, the banks remain key actors in the new market ecology, while cooperating with or co-opting innovative FinTech ideas to hold off BigTechs who are also teaming up with FinTechs in offering payment and credit solutions (cf. Brandl and Hornuf, 2020).

Even if traditional banks have the financial capacity to develop FinTech services in-house, they often see collaboration with FinTechs as a good way to maintain their position while being updated through innovation. The additional transaction costs are often also seen as sufficiently low to favour external partnerships over in-house development, thereby utilizing the entrepreneurial culture fostered in FinTechs. As collaboration enable banks to cherry pick already developed and proven concepts rather than develop their

own, collaboration also allow the banks to externalize some investment risks. The demand for updated IT-systems and the fact that regulatory pressures require substantial investments, provide further reasons for both banks and FinTechs to collaborate.

We may nevertheless identify challenges constraining the collaboration and coordination between banks and FinTech companies. The most explicit challenge is regulations constraining or delaying innovation or development of services and products. Even if regulatory requirements contribute positively to business activities and the potential for collaboration, by reducing uncertainty and reinforcing consumer confidence and security, regulation also decelerates FinTech implementation. Banks are covered by stricter regulation and control than FinTechs, who more often experiment in a regulatory grey zone. This creates obstacles for both sides, and this is why banks may prefer to purchase and co-opt FinTech ideas rather than team up with them in cooperation. It is also a reason why some FinTechs search for partners outside of the national arena. FinTech representatives point out, that stricter regulation has led to high administrative costs and difficulties in knowing what innovations they may develop. In addition, there are technical and cultural issues that still hinder cooperation (cf. Brandl and Hornuf, 2020). Some banks are dependent on older software and cultural ideas about banking, locking them into certain ways of doing things or slowing down the adjustment to new products and services. The other side of the coin is that this creates difficulties for FinTechs in utilizing bank or customer account data through open APIs to the extent or at the speed they want.

Across the four countries, several FinTech representatives emphasise the importance of state controlled regulatory arrangements providing legal guidance and even FinTech experimentation in so called regulatory sandboxes, to make it easier for FinTechs to develop products and services in uncertain or complex regulatory grey zones.

Consolidation of the FinTech Sector – from start-ups to scale-ups?

We have found indications of an emerging consolidation going on in the FinTech niche in the countries studied. Even if an increasing number of small firms still play an important role, a handful of expanding companies are starting to attract a larger portion of the investments, and there are several mergers with-, and acquisitions by incumbents in these markets. Further confirming this trend toward consolidation is that in some of the countries – particularly the Netherlands and Sweden – the number of new start-ups is beginning to decrease somewhat, whereas the number of employees and the turn-over continues to increase rapidly. Even though Estonia is clearly not showing a similar development yet, such a trend may occur in the near future. As FinTechs scale up and grow in number of employees, and become established actors, they seem to move slightly away from the most extreme forms of entrepreneurial culture and improvised employment relations of the small start-up. However, the niche continues to be dominated by small firms – in particular in Estonia where the number of small start-ups is still increasing.

In all four countries we have also found a consolidation of the FinTech niche pursued by what we may refer to as private or public-private "governance units" (cf. Langley and Leyshon, 2021). These are not producing services but rather help to organize the market ecology through regulation, information and by bringing actors into dialogue (Ahrne et al., 2015; Fligstein and McAdam, 2012). These governance units consist of a growing number of FinTech associations and communities; start-up hubs and dialogue fora between banks/bankers' associations, authorities and FinTechs; and as we will discuss, initiatives taken by employer organisations and trade unions. With the increasing growth and entanglement of the activities of such governance units, we can expect that the mutual understanding between actors and the cooperative integration of FinTechs into the market ecology will develop further.

An emerging formation of FinTech employment relations?

Just as the consumer markets in banking and finance are regulated and organized, in many countries the labour markets are also highly regulated and organized by the state, trade unions and employer associations (Baccaro and Howell, 2017; Bamber et al., 2016). In line with the discussion above, there are "governance units" on the labour markets (Ahrne et al., 2015; Fligstein and McAdam, 2012). That is, the state, employer associations, trade unions, and other forms of local worker representation such as works councils in the Netherlands, are shaping the employment relations on the market. In the following section, we will discuss the particularities of the employment relations in the FinTech niche: both the relatively weak organisation on the employee side, and the relatively weak – though in some cases emergent – formation of organisation on the employer side.

Two contextual factors are important to discuss in relation to the formation of employment relations in the FinTech niche. The first is size and relation to the regular banking and finance market. The FinTech niche is still rather small in terms of number of employees in all four countries. In addition, even if the FinTech niche grows, its employee growth may have been limited, because of the technological possibility to scale up on the consumer market without a corresponding increase in staff. In banking and finance in general, there have even been a tendency, that technological development has led to a decrease in number of total employees (Rolandsson et al., 2020). However, there has been an increase in the demand for highly educated and specialised staff, managing risk analysis and compliance or to develop the tech-side of banking and finance (Dølvik et al., 2020). Since the development and use of financial technology in FinTech companies was both foreshadowed and is still ongoing also in traditional banks, FinTech companies are to some extent competing with the traditional actors in recruiting staff with competences in these areas on the labour market. In addition, FinTech companies also compete with other Tech-businesses on the labour market, in that they recruit software developers and tech engineers who are more outsiders of the regular labour market in banking and finance.

The second important contextual factor is the variation in existing industrial relations in banking and finance in the four countries studied. As discussed in the introduction there are differences in the industrial relations setup and culture between the countries, but there are also differences in the banking and finance sector as regards trade union density, collective bargaining coverage and the existence and level of collective bargaining. Whereas collective bargaining coverage in the banking sector have been very high in the Netherlands (95%), Denmark (80%) and Sweden (65%), it has been non-existent to very low in Estonia (Eurofound 2019). The percentage of employees being members of a trade union in banking also vary. Union density in Denmark (76%) and Sweden (approx. 47%) is rather high compared to the Netherlands (approx. 6%) and Estonia, where it is very low. These differences affect the degree of organized employment relations also in the FinTech niche, so that we would expect more collective bargaining in the Nordic countries and the Netherlands, and more trade union membership in Denmark and Sweden, as compared to Estonia.

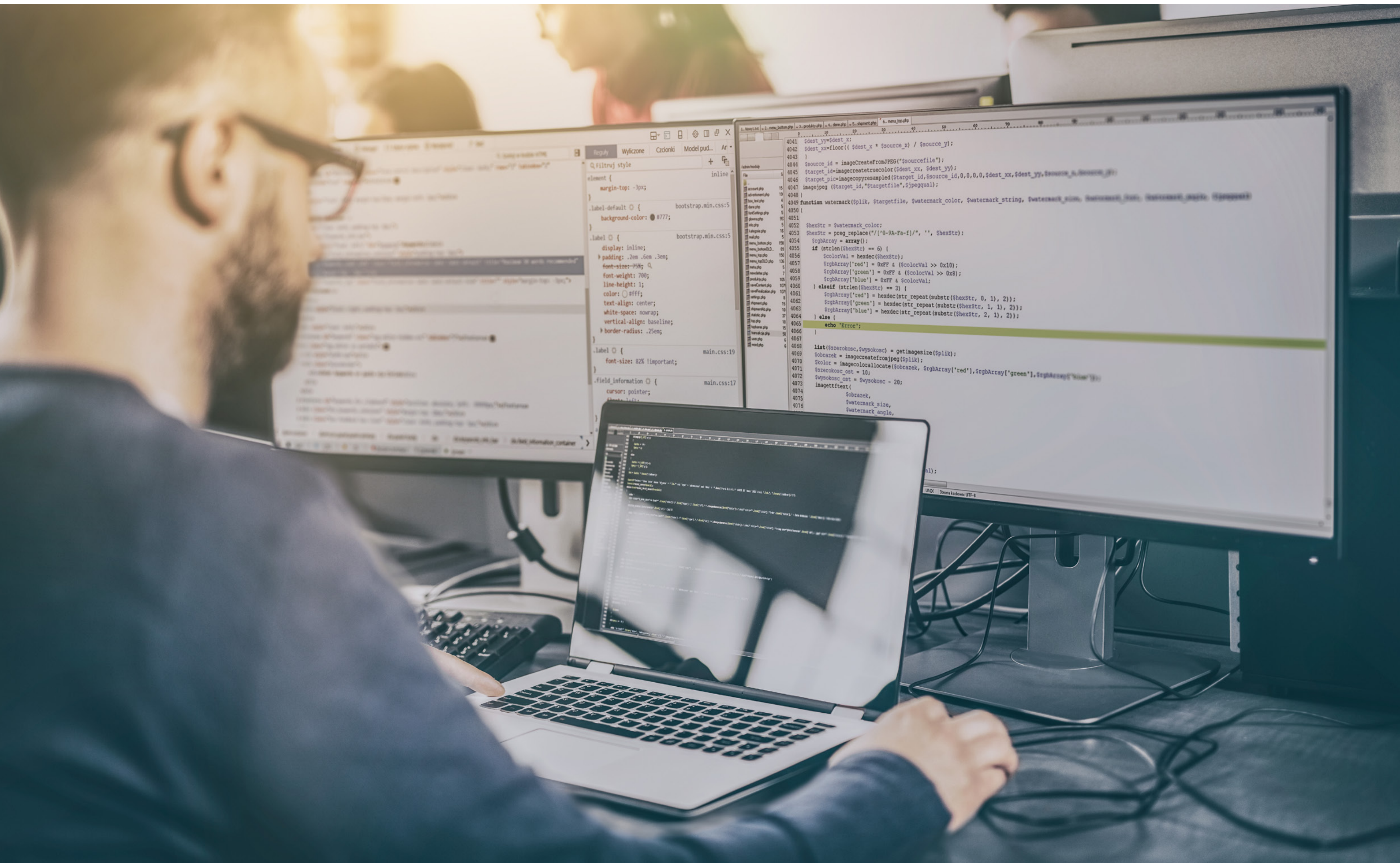
Employees and trade unions in FinTech – a mutual un-interest?

Even though there is no systematic data available, the interviews indicate that there is less collective organisation in terms of trade union membership and collective bargaining in the FinTech niche as compared to banking and finance generally. This is most evident in Estonia, where the degree of organisation of employment relations is practically non-existent in the banking and finance sector in general

A fair share of the workforce that match the FinTech skill requirements appear to be young and highly qualified, with competences in both finance and software development, or specialized in one of them. They are depicted as in-demand early career finance- and tech-professionals who are mobile and in a phase of life where they still appreciate flexible working conditions and contractual arrangements. Consequently, it seems that both the knowledge of and the interest in trade unions is relatively low among FinTech staff in these countries. It is perhaps not a surprise that this is the case in Estonia and the Netherlands, where trade union membership in general is low in the banking and finance sector. However, we find this to be the case also in the two Scandinavian countries, where union membership is more common and where there is a long tradition of high trade union density and a lot of regulatory responsibility for employment conditions given to the social partners.

Both representatives for the business side and the trade unions in all countries describe this type of indifference to trade unions as rather common. Trade unions are seen as something from an old era that have little to do with these young individualistic and career-oriented individuals, who are highly valued on the labour market (cf. Berglund, 2011). Furthermore, the high level of foreign workers in some of the FinTech companies may shape a situation in which there is an extensive number of employees without knowledge of the existing industrial relations and the standing of trade unions in the country where they are employed.

Many of the FinTech employees are said to value other things than employment security or collective regulation of wages and working conditions. This is acknowledged by trade union representatives experiencing that they are seen as a bit boring by this segment of the labour market – who do not identify with trade unions. There is of course a cultural and identity aspect to this. Young persons from metropolitan business schools and software developers working in entrepreneurial and creative industries do not exactly fit the stereotypical view of trade union members. As shown in other Tech-penetrated sectors, the culture and opportunities for fulfilment of creative ambitions seem to be higher on these employees' agendas (cf. Kunda, 1995). In addition, as these employees know their value and have good opportunities to change job and employer, they may of course use individual exit rather than collective voice if they are unsatisfied with the pay or working conditions.



Against this background it is thus quite understandable that FinTech staff is rather hard to organize for the trade unions. As many are employed in SMEs and there is an uncertain sectoral belonging in staff combining Finance with Tech and Software development, neither the companies nor the staff appear to fit neatly into the existing sectoral divisions among employer associations and trade unions. In Sweden for instance, we identified hesitancy among representatives from the regular trade union in bank and finance concerning whether it would really benefit the interest of their members to recruit FinTech employees. Even though they would not say no to new members, they also pointed out that if they were approached by FinTech employees or companies, they would consider recommending them to talk to another union engaged in recruiting members from tech-companies. Interestingly, one representative from this other union organizing employees in the tech-business also declared that they, on the other hand, would consider directing FinTech-employees to the regular union for bank and finance. This may of course be individual opinions, and we should add that there exists an agreement regarding between these unions regarding their collaboration and competition.

Toward a formation of collective organisation on the employer side?

The above discussed characteristics of the FinTech labour force, and the mutual un-interest between FinTech employees and trade unions explain why employment relation challenges, that are usually addressed collectively, tend to be solved ad-hoc locally in FinTechs. However, from the interviews, it seems that FinTechs have to offer the working conditions that employees want or expect, even though there is little in the way of organisation or collective bargaining/agreements. The exception is the recent development in Denmark, in which a collective agreement was signed for the FinTech niche in 2021. However, it is worth noting, that this agreement is looser in its form than traditional ones, in that it is a framework agreement leaving much space for local negotiation and flexibility in detailing wage, working-time, pensions and other aspects of working conditions.

The reason that FinTech companies have to offer working conditions and wages that seem reasonable for the employees within the national context, is that the demand for these early career finance- and tech-professionals makes it into somewhat of a “seller’s market”. Representatives for the FinTech niche in all four countries pointed out, that their companies encounter difficulties in attracting the skills they need, and thus need to make an effort to retain competent staff by ensuring that they are happy and excited about the work and working conditions. Because of the technologically and financially

advanced products, many try to avoid having to recruit short term staff and instead offer permanent contracts. With the caveat that we only interviewed a small fragment of the population of FinTechs and representatives for business organisations and trade unions, the general impression is that the FinTech niche to a rather low degree is using the type of precarious workforce doing gig-work, that is common in the platform economy in sectors like transport, translation, food couriers etc. (Ilsøe and Larsen, 2020; Jesnes et al., 2020; Rolandsson et al., 2020).

As there is an explicit need to recruit and retain highly educated staff with front-line competencies in FinTech, the workforce enjoys a rather strong position on the labour market. In addition, as many FinTechs recruit new staff recurrently as they scale up, the employers have a good awareness of what the competitive pay levels are. The general impression from the four country case studies is thus, that FinTech companies have to keep up with the wage development on the national market and also offer an organisational climate characterised by the flexible and creative working conditions sought after by prospective employees. When FinTechs are scaling up, there is a tendency that they try to form more stable employment relations by establishing organisational HR-functions, working with recruitment and retaining activities, through organisational culture, training opportunities, etc.

In many cases the market-based mechanisms discussed above force FinTech companies to offer wages and working conditions that from the employees' point of view seem reasonable. However, there are also signs of an emergent formation of collective organisation of employment relations in the FinTech niche – at least in the Scandinavian countries. In the Swedish case, a number of FinTechs are actually members of an employer’s associations, thus securing collective agreements for their employees. In addition, in both Sweden and Denmark, at least the larger FinTechs are knowledgeable of the principles of collective agreements, and several of them have aligned pensions and the like to the existing collective agreement in the banking sector. In the Danish case, it should be noted that the collective agreement for the FinTech niche signed in 2021 to some extent was an effect of such joint organisation from the employers’ side. Some of the larger FinTechs found a need to establish an employer organisation for FinTech companies within this sector, Arbejdsgiverforeningen for Fintech companies, AF, and negotiate collective agreements with the already existing trade union in the banking and finance sector (Finansforbundet). One may expect that this will in the long run affect trade union density in the sector, as this might increase the legitimacy and interest in becoming trade union members among FinTech staff.

The Danish case can of course be seen as an outlier in a European context. But it can also be seen as a breakthrough from an underlying trend toward an emergent formation of collective organisations within the FinTech sector more broadly. The Danish development will surely be an inspiration for other Scandinavian countries, given their tradition of collective organisation and collective agreements. However, we believe that this development is related to the already growing strength of other “governance units” integrating the FinTech niche and connecting it to the broader field of banking and finance. As discussed above, the national case studies have shown an increasing consolidation of the FinTech niche in the form of a growth in communities and associations that function as governance units: hubs, Fintech associations, and other more and less structured communication arenas and communities, which integrate the FinTech niche, and also connects to the established private and state actors, such as bankers’ associations, employer organisations, and supervisory authorities. These organisations and arenas are not only used to discuss the technical, financial, and regulative side of FinTechs, but also raise questions regarding recruitment and training.

Whether this development will foster employer organisations performing collective bargaining in more countries is of course an open question, and one that depends on the national traditions of employment relations as well as other contextual factors in each country. However, as shown above, such a development may be of interest to FinTech companies as they grow and become more established. As explicitly stated in the Danish case, and to some extent indicated in the Swedish case, what is at stake in this development is ultimately the legitimacy of FinTech companies and the FinTech niche as a serious force not only on the financial markets, but on the labour market as well.

Concluding remarks and recommendations

In all four countries studied – Denmark, Estonia, the Netherlands and Sweden – we see a development fostering a pervasive digital transformation of the financial services. FinTech companies do not necessarily disrupt existing businesses – at least not in the radical sense. As the FinTech niche in all four countries appear to consolidate through the emergence of a new business ecology, our analysis rather suggest, that the development consists of an intense and innovative differentiation of the services on the market. The FinTech development thus promote an increasingly complex infrastructure of financial services: Some FinTechs act as competitors to the traditional banks, trying to develop into neo-banks, supplying payment solutions, credits, and savings services directly to customers, e.g., in online shopping/e-commerce (cf. Hodson, 2021). However, FinTechs primarily position themselves as partners by providing technical solutions or even ideas that are bought by banks and thus co-opted or integrated through strategic partnerships (cf. Brandl and Hornuf, 2020; Hornuf et al., 2020). They may also forge a position as intermediaries between the bank and the customer, utilizing open banking solutions based on customer and account-information from the regular banks. In doing so, they are shaping both a possibility to add new services, and for customers to utilize and get an overview of services from different actors on the market (cf. Lomachynska, 2020).

Contrary to studies describing how digital services destroy job opportunities (Brynjolfsson and MacAfee, 2014; Umans et al., 2018), this change can then also be expected to raise demands for new skills, urging us to look further into what type of jobs employees in bank and finance may face in the future (Abassi et al., 2021; Rego, 2018). The rapid development makes it difficult to provide the final answer to how such skill requirements will look. Our report nevertheless finds that policy makers, business associations and FinTech communities are more concerned with a lack of education and competence development addressing demands for new combinations of tech and financial skills, than the risk of job losses in the sector at large.

Given the difficulties in recruiting adequate competencies to the Fintech niche, a first recommendation is that policy makers and labour market parties investigate more closely what type of skills the FinTech sector demands and engage in identifying what type of educational programs can support the existing and emerging skill requirements. Even though the highly educated early career finance- and tech-professionals that make up the core of FinTech staff, are very much taking care of keeping up in skills and competencies, there may also be opportunities for both employer organisations and trade unions to team up with the FinTech associations and communities in developing professional upskilling and training fora.

Even if some issues are country specific, we may nevertheless point, out that both employer organisations and trade unions

in all countries – with exception of the latest development in Denmark – seem hesitant in how to address employer relation issues related to the FinTech development. According to our sources, existing employer organisations and trade unions in the banking and finance sector struggle to attract members from the FinTech companies, and it seems uncertain to what organisations the companies and employees should belong. Part of the problem is a lack of knowledge of the FinTech business as such, and part of the problem is the combination of finance and tech, which point in somewhat different sectoral directions.

As regards the latter problem, we have information on agreements on how to manage blurred boundaries between trade unions active in the labour market in banking and finance in Sweden, and that may of course be a way forward in identifying the belonging of FinTech companies and employees in the national social partner structure. In addition to this, however, it seems that both employer organisations and trade unions need more knowledge about the FinTech business and its development.

Both employer organizations and unions could also gain from further raising their awareness of which companies and type of workforce characterize the FinTech sector and how their interests can be served by employer associations and trade unions. To do so, they could benefit from collaborating with the FinTech business hubs and associations, which appear to be increasingly engaged with questions of relevance to the emerging organization of employer relations. In Estonia, where industrial relations appear to play a less significant role, such hubs could even play a more pivotal role.

Considering to what extent employer organisations and trade unions will play a role for future employment relations, we may point out, that there are indications that the parties in some of the countries also play an increasingly crucial role as it becomes more and more important for FinTechs to get recognition as legitimate and trustworthy actors in the field. We have for instance mentioned the setting up of a Danish employer organisation, indicating that certain characteristics of a Scandinavian industrial relation regime may prevail. This is an example that labour market parties from other countries may learn from. Employer organisations and trade unions from other Scandinavian countries, characterized by similar industrial relation regimes, should have an interest in the Danish development. Given that there are Nordic actors like the Nordic Financial Union (NFU), a suggestion could even be that they may set up seminars where Danish actors are able to share their experiences with parties from the other countries. Similarly, there should be an interest from the social partners in most European countries, to find out how they may influence organization of employment relations within the emerging realm of FinTech. Furthermore, raising awareness about different cross-national concerns, i.e. blurred boundaries and regulations, competence and skills needs and employment relations in FinTechs, could be done more explicitly, through knowledge sharing and projects, related to the European Sectoral Social Dialogue in Banking.

In addition, further studies need to be initiated to understand broader long-term consequences, including not just the future supply of skills, but also contractual arrangements, future pension requirements and concerns for work-life balance that may become topics of a more crucial and acute concern. Such further studies should also recognise implications for the industrial relation regimes that characterise the different countries, and how such regimes may play a part in the forging of employment relations shaping conditions for negotiations between the parties on the labour market. The following table sums up some of the identified recommendations in this report, addressing policy makers, trade unions and employer organisations.

Recommendations:

- Policy makers and social partners could investigate more closely what type of skills the FinTech sector requests and engage in identifying what type of educational programs could help meet the existing and emerging skill requirements.

- While identifying educational programs that can support existing and emerging skill requirements, trade unions and employer associations should consider how to address governments and national policy makers (in particular in European countries characterized by limited social dialogue).

- Employer organisations and trade unions could utilize opportunities to team up with FinTech associations and communities in developing professional skills and training development fora.

- Employer organisations and trade unions could develop agreements with their sister organisations to manage blurred boundaries and thus guide companies and employees to the appropriate organisation to belong to.

- Employer organisations and trade unions could cooperate with FinTech associations and hubs in raising awareness of business and workforce characteristics in FinTech, and how their companies' and employees' interests can be served by employer associations and trade unions.

- Organisations like UNI Europa and Nordic Financial Unions could arrange seminars where experiences of collective agreements and best practices are shared between interested parties.

- Knowledge sharing and/or projects related to FinTech could be initiated in the European Sectoral Social Dialogue on Banking.

- Further studies could be initiated to analyse broader long-term consequences, including not just the future supply of skills, but also contractual arrangements, future pension requirements or concerns for work-life balance in FinTech.

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