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Online peer-to-peer lending and its implications for small business credit financing in Norway

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Abstract

This thesis seeks to explore how the emergence of online peer-to-peer (P2P) lending will impact small businesses lending in Norway. Increasing attention has been drawn to small businesses and their apparent struggle to obtain appropriate credit financing. At the same time, online P2P lending, part of the new wave of financial technologies, has been held up as a potential remedy for this credit rationing. Our research involves two main parts. First, we study the extent to which Norwegian small businesses experience a shortage of access to credit financing. Second, we attempt to answer whether online P2P lending can improve the current state of small business lending. To answer these questions we have conducted in-depth interviews with different stakeholders related to the issue. We also draw on literature that spans the fields of strategy, economics and innovation, to shed light on why small businesses have difficulties in getting loans and whether online P2P lending can be part of the solution.

Our findings suggest that small businesses have suffered from stricter capital requirements imposed on financial services following the financial crisis, as well as consolidation of local banks. Further, we find that online P2P lending can be particularly useful to small businesses without the proper collateral for securitization of loans, primarily because of different cost structures. However, we also find that some of the value promised by the emerging lenders is of limited value so far; such as expediency and innovative credit assessment. Our research leads us to believe it is unlikely that online P2P lending will disrupt traditional banks in the near future. Instead, the industry looks to evolve as a much-needed supplement in the market for small business lending, specializing and catering to their needs.

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1. Introduction

Small businesses can be considered the backbone of the Norwegian economy. They account for 93% of all registered enterprises and employ more than half of the population. In terms of value creation, they produce higher output per employee than their larger peers, and also contribute more to innovation. Yet, small businesses often find themselves underserved by banks with regards to their financing needs. Their specialized, fluctuating and risky nature does not always harmonize with the bank's' requirements for issuing loans. This is a potential problem because small businesses are strongly dependent on bank loans given a lack of other financing options. In addition, the situation appears to have been exacerbated in recent years, particularly following the global financial crisis which saw banks tighten the supply of loans on account of new capital requirements. In this thesis, we explore the extent of this problem, and how online peer-to-peer (P2P) lending as a technological innovation can potentially offset some of its adverse effects.

"Fintech" has been the buzzword of recent years within financial service provision. New technologies are applied to offer products and services traditionally carried out by banks, insurance companies and advisories in a different way. It has been labelled "the unbundling of banking" as emerging entrants focus their efforts on single-purpose solutions to create a better user experience for the customers. Online P2P lending is an example of this. It is perhaps the most mature sub-category of the new wave of financial technologies, as indicated by the consulting firm Gartner's Hype Cycle of 2016, which describes it as beyond the peak of inflated expectations and "sliding into the trough". Online P2P lending is the practice of lending money to individuals or businesses through a digital service that matches lenders with borrowers. In a sense, it represents a reinvention of the original concept of lending, as the underlying value proposition is to transform deposits into loans at the lowest

possible cost, and to ensure an efficient distribution of means. This can be achieved through automated processes and new approaches to credit assessment.

The aim of this thesis is to provide a strategic assessment of whether online P2P lenders can disrupt small business lending. To do so, we first investigate the perceived credit gap in small business lending. We then provide information about how the loan application process for small businesses is currently managed in traditional banks. Subsequently, we give an account of online P2P lending abroad before we present our research on the state of the industry in Norway. Finally, we discuss our findings in relation to relevant theory.

Our goal is that the thesis will contribute to enhanced knowledge on the subject of alternative small business financing. Alternative financing sources like online P2P lending receive a great deal of attention, but few studies have specifically looked at how their services can impact their customers financially. That said, we must emphasize that our approach, and therefore results, are of qualitative nature. The main value of this thesis is its thorough analysis of the specific value online P2P lenders offer small businesses in the Norwegian context. Given the novelty of the subject, our research is primarily based on in-depth interviews and strategic literature.

2. Research question

Prior to our main thesis, we conducted a brief preliminary study of the interaction between small businesses and banks. The aim was to delve into the perceived notion we had that many small businesses are underserved by the banks. Our research indicated that credit was the most salient problem, with a high percentage of the businesses inquired experiencing difficulties in obtaining desired credit financing under the current circumstances. The small businesses we spoke with frequently mentioned strict collateral requirements, unfavorable terms and conditions, lengthy processing time, and plain refusals as reasons for this perception. Intrigued by this potential shortage of access to credit, we sat out to

explore the issue in depth and to see what could be done about the situation. We identified online P2P lending as a possible solution, since the nascent industry specifically targets small businesses by trying to address some of the frustrations listed above.

We have confined the geographic scope of the thesis to Norway for a couple of reasons. Although the concept of online P2P lending has been around for more than ten years in the UK and the US, it is relatively new in Norway. Given the unique regulatory environment and composition of small businesses, we believe this is a context worthwhile of study. Moreover, it is highly topical for reasons we shall explain later on. The research question reads as follows:

"How will the emergence of online peer-to-peer lending impact small business lending in Norway?"

Followed by two sub-questions to accentuate that the thesis is primarily divided in two parts:

1. To what extent do Norwegian small businesses experience a shortage of access to credit financing?
2. How can online P2P lending improve the current state of small business lending?

We have chosen to focus on small businesses with more than one year of operations. This is due to complexities involved in start-up companies, as their financing usually relies on a number of different sources (bootstrapping, angel investors, VC, state subsidies, etc). We define small businesses as companies with less than ten employees. The remainder of the thesis is organized as follows: Section 3 contains the theoretical framework we use to analyze online P2P lending. Section 4 presents our methodology. While section 5 is a presentation of findings from primary- and secondary sources. Exhibiting information regarding small business credit access, the current credit assessment process in traditional institutions, and online P2P lending respectively. Section 6 provides a discussion of the research question in light of data and theory, and section 7 concludes.

3. Theoretical framework

Our study draws on research in disciplines that span the fields of strategy, economics and innovation. Specifically, we use transaction cost economics (TCE), disruptive innovation theory and value network theory to shed light on both why small businesses have difficulties in getting loans and why online P2P lending can offer a solution. To place our own contribution in perspective, we first review the relevant literature and subsequently apply the theoretical framework in a discussion of our findings. Given some of the challenges with accessible data, application of literature will be an integral part of this thesis.

3.1 Transaction cost economics (TCE)

Transaction costs refer to the costs incurred from conducting an economic exchange. It is the notion that every exchange, be that of a good or a service, bears some costs that inherently represent the cost of participating in the market. Scholars generally agree on the presence of transaction costs, but their definitions are often varying and opaque. Before diving into the literature, we should emphasize the fine difference between transaction costs and transaction cost *theory*. The latter is an economic theory of the firm, seeking to address its nature, boundaries, structure and behavior. Simply put: Why do we have firms? The concept of transaction costs in itself is essentially a vehicle in which this theoretical approach uses to answer its main question.

There are two notable contributors to the literature on transaction costs. Ronald Coase and Oliver Williamson were both awarded the Nobel Memorial Prize in Economic Sciences for their ideas within this school of thought. This part of the literature review will first examine their work before moving on to other contributors and more practical applications.

Ronald Coase is often recognized as the founder of transaction cost theory with his seminal paper from 1937, “The Nature of the Firm”, where he sets out to explain why firms exist. Although he did not actually coin the term “transaction

cost", Coase observed that there are inconveniences to market transactions. These inconveniences represent costs which determine the boundaries of the firm. According to Coase, the cost of obtaining a good in the market is more than the price of the good itself. Costs related to searching for the good, finding necessary information, bargaining for price, making sure trade secrets are kept, and enforcing agreements are all attributable to external procurement. This was somewhat contradictory to traditional economic theory at the time, which suggested that markets were efficient, and that contracting out would therefore be the optimal choice given that rational suppliers were already operating at the margin. Even if the market was theoretically efficient, internal procurement could still be defended by the riddance of externalities such as the double marginalization problem. Coase's initial question could then be inverted to: Why isn't everything produced by one firm? His answer was twofold. First, there was "decreasing returns to the entrepreneur function" in the sense that the marginal cost of organizing transactions within the firm would rise at a certain point. Second, and partly related, was that the entrepreneur's ability to make the best use of factors of production would inevitably fail as the firm grew bigger. In other words, the balance between marginal costs of firm size (bureaucracy and complexity) and the costs of using the price mechanism determines the boundaries of the firm according to Coase.

Oliver Williamson became the natural successor to Coase. He developed a detailed theory on why firms exist by building on the concept of transaction costs. It was the ideas he presented in the early 1970s on economic governance that would later grant him the Nobel Prize in Economics (Nobel prize, 2017a). The book "Markets and Hierarchies" was published in 1975 and provided the theoretical foundation for much of Williamson's work. Like Coase, Williamson argues that organizing transactions within a "hierarchy" (a firm) is sometimes desirable, and sometimes not. His contribution lies in the explication of what factors that are determinative for the optimal organizational mode. Although subject to refinement over the years, the factors discussed in the 1975 book

include uncertainty, imperfect competition, bounded rationality and opportunism. These factors inhibit an efficient allocation of goods and services that is the why and wherefore of the market economy. In short, they incur transaction costs. According to Williamson, transactions can be more efficiently conducted within the hierarchy because of existing structures for monitoring, support and cooperation. Also, the parties will have little incentive to deceive each other if they work towards a common goal.

To comprehend the basic structures of Williamson's thinking, his article from 1981, in the American Journal of Sociology provides a useful basis. Here, Williamson argued that asset specificity is the most important driver of transaction costs. The notion is that a transaction involving specific assets puts both parts in a vulnerable position since transaction-specific assets are non-redeployable investments that are specialized and unique to a task. This creates relationships where the parties are tied in and face high costs of switching. In the article, Williamson also put forth what has become a well-known definition of transaction costs. He described it as something that "occurs when a good or service is transferred across a technologically separable interface." Although it might sound complicated at first, it essentially means that transaction costs appear in between different and separable stages of activities.

In 1985, Williamson published another seminal contribution to the field of transaction cost, with "The Economic Institutions of Capitalism". The book was a long-awaited sequel to "Markets and Hierarchies", and further developed his view on TCE, whilst extending its use to a range of economic institutions, including public policy. According to Williamson, an important source of transaction costs is limited human cognitive ability. The assumption of bounded rationality was originally coined by Herbert Simon, and reflects how humans are economic actors seeking to maximize their own utility. However, they often fail to do so because of cognitive limitations. To Williamson, this has pervasive implications for understanding how institutions work. The task of an economic organization is to

"organize transactions so as to economize on bounded rationality while simultaneously safeguarding them against the hazards of opportunism." Opportunism is the second principal behavioral assumption advanced by Williamson, and refers to "the incomplete or distorted disclosure of information, especially to calculated efforts to mislead, distort, disguise, obfuscate, or otherwise confuse." Essentially, Williamson was not trying to take the measure of human nature, but rather to explain its impact on the organization of transactions. These behavioral assumptions must be seen in relation with the drivers of transaction costs, which can be considered principal dimensions for organizational design. In the 1985 book, Williamson maintains the importance of asset specificity, but also includes uncertainty and frequency as such dimensions. These dimensions pull the optimal choice of organizational design in different directions. For example, a high degree of frequency will likely reduce the risk of parties acting opportunistic if there is a notion that transactions are going to occur on a regular basis in the future. Moreover, in the face of high uncertainty, the bounded rationality of humans makes the process of contracting ever more cumbersome.

Although Coase and Williamson are the most prominent contributors to the transaction cost approach, their ideas do not hold monopoly. Prior to Coase, the institutional economist John R. Commons had observed that beyond simple market exchange(s), the continuity of an exchange relationship was often important (Tadelis and Williamson, 2012). He also prompted a shift from the neoclassical approach of studying composite goods and services towards viewing the transaction as the basic unit of analysis, but did not follow through with suggesting principal dimensions for which transactions differ. Hicks (1935) was also premier in calling attention to the ubiquitous presence of transaction costs. In his own words:

The most obvious sort of friction and undoubtedly one of the most important, is the cost of transferring assets from one form to another. This is of exactly the same character as the cost of transfer which acts as a certain impediment to

change in all parts of the economic system; it doubtless comprises subjective elements as well as elements directly priced.

Hicks concludes that individuals might be periodically deterred from investing money in the presence of transaction costs, because it is not "worth the bother." (Hicks, 1935, p. 6).

The need for empirical research in the field has been addressed by several scholars. Among these were Simon (1991), who claimed that transaction costs are typically introduced into the analysis in a causal way, with little empirical support except the appeal to introspection and common sense. But the body of empirical literature is growing. And considering the novelty of the discipline, it is quite comprehensive. According to Allen (1999), most of the studies have been of the comparative static variety, attempting to test transaction cost hypotheses using various proxies for asset specificity, uncertainty, measurement costs, etc. in reduced form equations. Few studies have actually tried to measure the level of transaction costs. In a rare and ambitious effort to do just that, Wallis and North (1986) sought to measure the size of the transaction sector of the economy. They concluded that it accounted for a significant part, having grown from 25% to 40% from 1870 to 1970. In a similar vein, Masten, Meehan and Snyder (1991) attempted to measure transaction costs by studying naval shipyard contracts. By distinguishing between internal and external transaction costs, they found that overall organization costs amounted to 14% of total costs, and that incorrect contractual agreements could increase this number up to 70%.

As mentioned, definitions of transaction cost vary, but examples include the ex-ante costs of searching for information, negotiating an agreement, and safeguarding the agreement. Ex-post costs are related to evaluating the input, measuring the output, and monitoring and enforcement (Williamson, 1985). In modern-day financial services, transaction costs typically refer to expenses incurred when buying or selling a good or a service (Investopedia, 2017). This can

represent fees related to brokerage, underwriting, appraisal, or loan origination. The fact that they are expenses differentiates them from the transaction costs typically discussed in academic writing. But this categorization is not mutually exclusive, as an expense always will be a cost, but a cost is not necessarily an expense. The difference might be easier understood by considering Williamson's more recent transition towards the term "maladaptation costs". Maladaptation arises in the face of changing circumstances. As such, economic actors can be unwilling to change the contract, or lack the ability to fulfill needed requirements (Williamson, 1999). Maladaptation creates transaction costs because managers must disentangle from existing agreements, search out new partners, and negotiate new agreements (Crook et al., 2013). The more practical use of the transaction cost term in financial services can also be regarded in a different way; as production costs. According to Arrow (1969), the distinction between transaction costs and production costs is that the former can be varied by a change in the mode of resource allocation, while the latter depends only on the technology and tastes, and would be the same in all economic systems. In other words, transaction costs are related to friction and market failure, whereas production costs are the fixed and variable costs that go into producing a good or a service.

The interesting thing about the financial services industry is that it economizes on the same factors that cause transaction costs. Banks exist because many of the theoretical assumptions of neoclassical economics do not suffice. Since constructs like perfect rationality and full information does not really apply to the real world, it would be profoundly inefficient to use the market to match the supply of and demand for financial assets (Dow and Earl, 1982). Following the reasoning of Coase, banks thus have the same economic role as the firm in general; to internalize externalities. The difference between a bank and a traditional manufacturer is that the bank would not be there if transaction costs were zero. There is no added value from financial intermediation, per se. But given that real-world markets are highly frictional, there is value in streamlining the process. By centralizing the excess supply of capital, banks can create a new market by

lending this capital out to those with excess demand, which effectively makes them an internal capital market (Tasca et al., 2016).

In the process of issuing credit, one of the most important challenges for financial intermediaries is to deal with the problem of information asymmetries. The unbalanced informational relationship arises from the notion that borrowers have more information regarding their own ability and willingness to fulfill loan obligations than lenders, thus leaving the latter group at a disadvantage (Stiglitz, 1981). Financial intermediaries therefore take on the role as risk specialists and producers of information (Diamond, 1984).

George Akerlof (1970) found that information asymmetries can lead to problems of adverse selection, where lenders are unable to discriminate between borrowers with different degrees of credit risk. His classic example for explaining the theory involves the market for used cars. He labeled high-quality cars "peaches" and low-quality cars "lemons". The sellers know whether they hold a peach or a lemon. But if buyers can not distinguish between the quality of the cars, and the sellers can not signal this in a trustworthy way, the market will eventually flood with lemons. This is because the price in such a market will be a fixed one, representing the average between the intrinsic value of a peach and a lemon. In this situation, rational sellers will only sell if they hold lemons. The owners of peaches will either hold, or leave the market, forcing the average willingness to pay down since the average quality of cars decreases.

There are two prevailing options for getting around Akerlof's "lemons problem". The first one is signaling. If the sellers could find an objective way to communicate to the buyers that their car is in fact a peach (or a lemon), the information asymmetry would cease. Michael Spence explored this issue in the context of the job market. In his seminal paper from 1973, Spence examined education as a potentially credible way for job applicants to signal their skills to hiring managers. Similar to Akerlof's paper, he conceptualizes a distinction

between “good” employees and “bad” employees. A critical assumption is that employers are willing to pay a higher wage for good employees, given that the groups can be distinguished. This group will then have an incentive to invest in a signal, such as education. Another critical assumption is that the good-type employees will be able to obtain their credentials at a lower opportunity cost than the bad-type. Spence discovered that if the appropriate cost/benefit structure was put in place, good employees would be able to “buy” more education, and thereby signaling their superior skills. On the other hand, education is far from an ideal signal. Its true function might also be as a signal of ability to *pay* for education, adherence to traditional views, or willingness to comply with authority. Signaling is important in many aspects of business, where buyers can not properly assess the quality of a product or service at first sight. Branding, feedback-systems and shareholdings are examples of this.

Another approach to resolving information asymmetry is screening. This line of theory was pioneered by Joseph Stiglitz and involves how the underinformed part of the exchange relationship can induce the other party to reveal information. For example, a sales office in need of a new salesperson might offer low base salary and high commission rate to only attract the people who know they are good at selling. Rothschild and Stiglitz (1976) found that even a small amount of imperfect information could have a significant effect on competitive markets. Their study of the health insurance market showed that the high-risk individuals exerted a dissipative externality on the low-risk individuals, partly because the existence of a market equilibrium depended on perfect information. Stiglitz, Spence and Akerlof shared the Nobel Prize in economics in 2001 for their analyses of markets with asymmetric information (Nobelprize, 2001).

3.2 Disruptive innovation

Disruptive innovation theory has had significant impact on management practices and its nature has been subject to heavy debate among scholars. In this part we will review the relevant theory which will later be applied as a theoretical

framework to assess the extent to which online P2P lending can ameliorate small business funding in Norway. Will it develop as a complement to existing financial services or does the technology possess capabilities to potentially challenge the traditional way of financial intermediation?

Clayton M. Christensen coined the term "disruptive technology" in 1995, referring to new technologies that create new markets and value networks while displacing the old and dethroning established market leading firms, products and alliances. The concept quickly rose to prominence within the scholarly world of strategy, innovation and management in general. The Economist (2011) has characterized Christensen's theory as "one of the most influential modern business ideas". But as with popular ideas, their fundamental meaning can easily be eroded by excessive and uncritical use (Harvard Business Review, 2015).

Bower and Christensen (1995) distinguish between sustained and disruptive technologies. The former refers to maintaining a rate of improvement by giving customers something more or better in the attributes they already have. The authors exemplify their claim by pointing to disk drives where engineers replaced conventional ferrite heads and oxide disks in the 80s with new technologies that enabled information to be recorded more densely. More contemporary examples include the fifth blade in a razor or a clearer TV picture (Christensen, Raynor and McDonald, 2015). Disruptive technologies, on the other hand, introduce a very different package of attributes from the one mainstream customers historically value, and they often perform far worse along one or two dimensions that are particularly important to those customers (Bower and Christensen, 1995). Christensen's current definition of the concept reads as follows: "A process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors." (Christensen, 2017). Smaller companies with fewer resources can only successfully challenge established incumbent businesses over time. This tends to happen because the incumbents focus on improving the

products and services for their most demanding, and usually most profitable customers (Christensen, Raynor and McDonald, 2015). This allows entrants to gain a foothold in "overlooked" and often less profitable segments. As their technology improves, the entrants can gradually move upmarket and approach the performance mainstream customers require, while striving to preserve the advantages that drove their early success (better functionality and/or lower price). When mainstream customers start adopting the entrants' offerings on a large scale, disruption has occurred (Christensen, Raynor and McDonald, 2015). Christensen (2003) later renamed the concept as "disruptive innovation" to emphasize that it is the strategy or business model made possible by the technology that essentially creates the disruptive effect. This term will be applied from now on.

The contours of disruptive innovation theory might appear easy to comprehend, but the implications of its multiple facets are not always straightforward. For example, Uber is often celebrated as a disruptive innovator within the taxi business. But according to the theory, this is a misconception. Although Uber can pride themselves on lower prices, more convenient payment and a better balance between supply and demand, they are still not disruptors according to Christensen (Harvard Business Review, 2015). To explain why, we can look at two criteria. First, disruptive innovators originate in either low-end or new-market footholds (Christensen, Raynor and McDonald, 2015). In other words, they start by targeting the less profitable consumers, or they find a way to turn non-consumers into consumers. Second, disruptive innovations do not appeal to the mainstream customers until their quality catches up to certain standards. Uber started out by offering nearly the same services that traditional taxi companies do, to nearly the same customers. And few people would agree that their service was inferior to regular taxis, according to Christensen. The main takeaway from this section is perhaps that not all major breakthroughs are disruptive innovations. Similarly, disruptive innovations do not necessarily need to be major breakthroughs, if they meet the criteria discussed above.

Clayton Christensen is best known for his first book, The Innovator's Dilemma from 1997, where he demonstrates how incumbent firms can do everything "right" and still lose their market leadership to new, and often unexpected competitors. Why is it so? Christensen points out that the trajectories of the market need and technological improvement do not always correspond. There is only so much technological improvement a market can absorb at a time. But the nature of competition frequently causes incumbent firms to overshoot the performance requirements of their high-end customers by offering them more than they need or more than they are willing to pay for. This explains how inferior technologies can displace superior alternatives due to different functionality and/or lower price.

Christensen, Raynor and McDonald (2015) argue that the right terminology is far trivial when it comes to disruptive innovation theory. Applying the theory correctly is essential to realizing its benefits. Incumbents will respond differently to sustaining entrants and disruptive entrants. This makes Uber's performance even more impressive, as Christensen's seminal study of the disk drive industry reveals that only 6% of sustaining entrants managed to succeed. It may therefore be important to evaluate the disruptiveness of the different financial technologies to determine their appeal to small businesses. But a key tenet of the theory is that disruptive innovation cannot be determined ex ante. The markets for disruptive innovations are unsuitable for study as they are widely unknown (Christensen, 1997, p. 191). As a result, the traditional method of strategic planning falls short in this sense, and managers should rather focus on recognizing the uncertainties and facilitate learning and discovery. Instead of identifying and analyzing the market, they must allow for exploration. In a later book, Christensen and his co-authors accentuate the importance of looking for asymmetries of motivation (Christensen, Anthony and Roth, 2004, p. 38). Taking advantage of these asymmetries basically means flying beneath the radar and capitalizing on

opportunities that other actors are happy to ignore or walk away from (Christensen, and Raynor, 2003, p. 288).

3.3 Value networks

Michael Porter's (1985) value chain framework was long the most acknowledged model for representing and analyzing the logic of firm-level value creation. Porter broke down the firm into value activities of strategical importance in linear chains, and emphasized understanding how these activities impact value creation and cost as a source for firm competitive advantage.

In more recent years, scholars have argued that the linear logic is not capable of explaining all structures and forms of value creation (Christensen & Rosenbloom, 1995; Duncan & Moriarty, 1997). Because the value chain itself does not necessarily have a physical dimension and because some products and services have become dematerialised as industries have developed, the concept of value chain has become inadequate for describing some industries (Normann and Ramirez 1994; Campbell and Wilson 1996; Parolini 1999; Tapscott, Ticoll, and Lowy 2000). Stabell & Fjeldstad (1998) proposed to add two new models of firm-level value creation to Porter's original framework, called the value shop and the value network. In the value shop, value is created through activities and mobilization of resources to solve a distinct customer problem, typically describing professional service firms. In a value network, firms utilize a mediating technology (Thompson, 1967) to link clients or customers who are or wish to be interdependent. This type of value creation typically applies to services in so-called network industries (telephone companies, insurance companies, retail banks etc.). These firms act as intermediaries, providing services that support exchanges among the members in the focal network.

Elhamdi (2005) defines a value network as *"a set of collaborating partners, each responsible for a set of activities creating value"*. Applegate et al. (2003) argue that it is the combination of core competencies of firm level activities on the value

of network and not through a company's individual and unique activities that provides value creation in the value network. Peppard and Rylander (2006) emphasize that adopting a network model provides a different perspective more adapted to new organizations by considering qualitative as well as quantitative aspects of value creation, which is beneficial for quantifying intangible activities and analyzing value from different perspectives and for different actors.

Following Stabell & Fjeldstad (1998) description of a value network the bank customers are indirectly linked to other customers through a common pool of funds. The primary activities in any value network is network promotion and contract management, service provisioning and network infrastructure, and operation. For banks network promotion and contract management is the activities of related to recruiting new customers and selecting creditworthy clients to the banks focal network. Related activities are the management of the network through legally regulating contracts describing behaviour from and including initialization, termination, governing services provisioning and charging. Service provisioning, on the other hand, is the activities associated with establishing, maintaining and terminating asynchronous links between customers and billing for value received either from transfer of funds to deposits. While network infrastructure operation is the activities related to persevering and operating the physical and information infrastructure, operating branch offices, ATM's and similar.

4. Methodology

4.1 Research design

As research methods are normally associated with different varieties of research design (Bryman and Bell, 2015), we opted for a design framework that enables us to build quality research in the context of our research question. Conceptually, the purpose of our study is to explore a new phenomenon by elucidating what is happening (Robson, 2002, p. 59). That is, how the emerging online P2P lending

industry can impact credit financing of small businesses in Norway. For this purpose, we found the exploratory study to be a useful vehicle for clarifying our understanding of the problem (particularly related to the first sub-question), given its flexibility and adaptive nature (Saunders, Lewis and Thornhill, 2009, p.139-140). Our overall approach to this research is qualitative, and we have conducted in-depth interviews with experts in relevant fields to gather information.

4.2 Research strategy

Given the open-ended and exploratory nature of our research question we considered an inductive approach to be most appropriate (Bryman & Bell, 2015, p. 25; Saunders et al., 2009: p. 126). Our research objective is to build theory from empirically examining how financing of small businesses will be affected by online P2P lending. There are several research strategies suited to match an exploratory research design (Yin, 2003). We found the case study to best meet our research objective and correspondingly the most eligible strategy for answering our research question as we seek to empirically investigate a particular contemporary phenomenon within its real life context (Saunders et al. 2009, p. 145; Robson, 2002, p. 178).

4.3 Time horizon

Due to the short timeframe of the master thesis, a cross-sectional analysis is most evident. We seek to conducted semi structured interviews on several subsets of the financial industry in a given time period (Saunders et al. 2009, p. 154).

4.4 Sampling

Guided by our research question, we opted for a purposive sampling approach. It was in our interest to select interview objects that were particularly knowledgeable about our areas of inquiry, especially given the exploratory nature of this research. Our research question required us to gather information from multiple different stakeholders related to small business financing, and accordingly, we could not entrust probability sampling to grant us this diversity of perspectives. Instead, we started out with some general ideas of which particular

units that could be representative for their stakeholder category, and made contact with them to identify individuals that were able to, and interested in talking with us. From there, we used a snowball sampling technique to locate other relevant stakeholders within the same group, to attempt to speak with at least two members of the same category.

We ended up conducting six interviews. Ideally, we would have wanted more interviews with stakeholders from each group. But given the available time at hand we found it necessary to make a prioritization towards the core element of our research question - which was exploring the "solution" to the small businesses credit shortage. As a result, we conducted more interviews and research in this discipline.

4.5 Data collection

4.5.1 Primary data

Primary data was collected through semi-structured interviews with representatives from stakeholders in the financial industry. We followed a pre-planned interview guide since we had some ideas about the information we sought, but still wanted to allow for new ideas to be brought up, and to give the interviewees leeway in their reply. To avoid the interviewer effect, we exerted ourselves to conduct the interviews in line with Kvale's (1994) ten criteria of a successful interviewer. Each interview lasted approximately one hour.

There are several stakeholders involved in small business financing. Hence, we found it reasonable to conduct interviews with different parties of the financial ecosystem to form a picture of the current state of affairs. We started with an informal preliminary study in January where we held conversations with eight different small business owners. The feedback we received suggested that our initial hypothesis was onto something, and motivated us to pursue this issue in depth. We continued by examining how traditional financial institutions currently provide credit finance to small businesses. The former group was by and large

represented by banks. Next, we interviewed Innovation Norway, a state-owned organization whose endeavors encompasses loan provision to SMEs. It rarely finances projects in full, but provide support and guarantees, and its services can be seen as complementary to those of the banks'. Further, we interviewed the three online P2P lending companies that are currently present in the Norwegian market. We also conducted an interview with the Confederation of Norwegian Enterprises (NHO) to get the perspective of an interest group for small businesses.

4.5.2 Secondary data

Secondary sources include data collected and analyzed by others. According to Bryman and Bell (2015, p. 320-8) secondary data sources bear numerous advantages such as cost- and time efficiency, high-quality data and "pre-analyzed" material. Using secondary sources was particularly important for exploring the extent to which small businesses have access to credit. As we will elaborate on in that section, this is a highly perplexing question. For reasons related to access, difference in variables and development over time, this was not something we could sufficiently obtain ourselves. Instead, we made use of available research and cross-checked the sources with the four criteria put forward by Scott (1990): authenticity, credibility, representativeness and meaning, together with the extensive checklist for secondary sources provided by Saunders et al. (2009, p. 279). The sources used in this part were typically surveys and studies by industry organizations or government agencies (e.g. Norges Bank, Finance Norway, NHO, Virke etc.), academic articles, and articles from financial newspapers.

We also had to lean on secondary sources of information in our discussion of alternative small business financing. As some of our interview objects explained, the ongoing development in Norway is very much based on experiences from countries like the U.S. and the U.K. where the technologies and systems were pioneered. Accordingly, we found it relevant to include an account of the development in these countries to give context to the Norwegian situation. Information for this purpose was primarily found in academic journals and

renowned economic and scientific publications (e.g. The Economist, Financial Times, Forbes, etc.).

4.6 Assessment of findings

4.6.1 Reliability

Reliability is an important factor for considering the extent to which data collection techniques yield consistent findings (Saunders et al., 2009, p.156). Following Robson (2002), we have focused on four threats to reliability that could potentially influence findings in an interview setting. The first one is "subject or participant error", meaning that contextual differences around interviews can generate diverging answers from interview objects. To cope with this, we followed the same overall structure in each interview guide and scheduled all interviews around the same of the day. The second threat to reliability is "subject or participant bias". The interview objects generally held administrative/management positions and seemed to identify themselves highly with their respective organizations. This was perhaps evident when we conducted interviews at two different branches of the same bank. At one of the locations, we interviewed a credit analyst along with her supervising boss, which could have influenced the answers given. The third threat is "observer error", which we reduced by having the same person ask all questions. The last threat to reliability is "observer bias". Given our exploratory and open-ended approach to this research, we perceive our preconceptions and preferential biases to be low.

4.6.2 Validity

Validity relates to whether findings are what they appear to be (Saunders et al., 2009, p. 157). When it comes to case studies, validity is a recurring issue. With a sample of just one, a common discussion has centered around the generalizability of case study research (Bryman and Bell, 2015, p. 69). We will not go into detail on this discussion, but do assert that empirical generalizability is not the main priority of this study. We are conducting a single, revelatory, embedded case study of a unique phenomenon occurring in a particular context, at a particular

time. Thus, we can not claim that our results or conclusion is generalizable to other research populations or settings. Following the example of Kanter (1977), we want to develop the concepts of small business credit access and online P2P lending in our setting to build theoretical generalizability, and also to deepen our understanding of the complexity of the case (Bryman and Bell, 2015, p. 69). This calls for a well-reasoned choice of case. According to Stake (1995), this choice should first and foremost be based on the anticipation of the opportunity to learn. With regards to our literature review, and our arguments put forth in the introduction, we regard the this as a competent case to learn from.

4.7 Qualitative data analysis

Our method for analyzing the data collected is similar to the grounded theory approach. Strauss and Corbin (1998, p. 12) define grounded theory as: "theory that was derived from data, systematically gathered and analysed through the research method. In this method, data collection, analysis, and eventually theory stand in close relationship to each other". Since our goal was to develop theory based on an exploratory analysis of the potential for new ways in small business credit financing, grounded theory provided a meaningful way to analyze our data.

Once we had collected the data, we broke it down to discrete phenomena that were grouped and turned into categories. This iterative coding process was repeated until we reached a stage where there was no further point in coding the data, and a point where further collection of data to fit with our concepts or categories was no longer deemed necessary, as new data would not provide any new insight. We exerted ourselves to continuously compare our data collection and concepts, so that we did not lose congruence between the concepts and categories. Resultantly, this strategy of analysis eventually allowed us to present theory that we are confident is grounded in the data obtained.

4.8 Ethical considerations

Over the course of the data collection process, we have primarily been guided by Diener and Crandall's (1978) four ethical principles; risk of harm, informed consent, invasion of privacy and deception. In addition, we have considered ethical issues such as; anonymity, confidentiality, plagiarism and voluntary participation. To avoid causing any sort of harm to the interview objects was our main priority. Harm can occur either physical- or psychological and in form of embarrassment, harm to development, reputation or any other disadvantages (Saunders et al, 2009, pp. 160). To avoid harm to the interview object we decided to make statements anonymous so they could not be retraced to the person. Names were covered by title and the whereabouts of the location were only approximately described. Furthermore, when carrying out the interviews we made sure the the interview object were voluntarily involved and properly informed about the topic.

5. Findings

5.1 Small businesses in Norway

The size of a business can be classified according to various criteria such as annual revenue, sales, assets, but the most common measure is number of employees. What is considered small varies across countries. Whereas U.S. businesses with less than 500 employees can qualify for small business administration programs, Norwegian businesses are generally considered small if they have less than 10 employees (Ministry of Trade and Industry, 2012). This category counts for 93% of all Norwegian businesses (although some of these are holding companies). Furthermore, about half of the private sector workforce are employed, or employ themselves, in a small business. They contribute significantly to value creation as well, ranking above the Nordic neighbors in terms of value created per employee (Aftenposten, 2017). When it comes to innovation, small businesses are particularly important. Measuring innovation is difficult, but number of patents is a frequently used indicator, and studies have

shown that small businesses are granted more patents per employee on average compared to their larger peers (since this factor is negatively correlated with number of employees) (SSB, 2007). They also play a key part in the dynamic renewal process that advances productivity in the Norwegian economy. According to a report from Menon Business Economics (2009), 1500 small and medium-sized firms succumb each year, leading to new establishment of businesses that are more productive and grow faster.

5.1.1 Properties of small businesses

This thesis will primarily define small businesses as businesses with less than 10 employees, although some exceptions will be made due to the availability of data. These businesses are widely heterogeneous, ranging from fisheries and farmers to professional services and high-tech start-ups. All organizational forms are represented, but the most common are sole proprietorships and limited liability companies (SSB 2017). Despite structural differences, some features are shared across many of the businesses. According to a report by Evry (2016) most small businesses operate in the industry in which their owner holds profession. The owner is usually the founder as well, and frequently works long hours to make ends meet. Strong motivation for continuing the business and desire for autonomy are usually important reasons why the owners endure hard times. Further, the typical small business does not have a dedicated employee in charge of financial tasks, so this is often added to the workload of someone in the business. Seeking the advice of an external accountant is quite common.

5.1.2 Small business financing

Small businesses need funding for different reasons. They might need to invest in new machinery, vehicles, and electronic equipment that can reduce costs and/or improve productivity. Professional services will often need to invest in talent (human capital), which is their main production factor. Other examples of investments that may require funding are advertising, licenses, concessions, property costs and ERP-systems.

External financing is important because money is often tight in small businesses, and especially in new ones. The vicissitudes of profits makes retained earnings a less stable source of capital (Mills & McCarthy, 2014). Moreover, small businesses generally have less liquid assets than larger businesses, meaning that they have more difficulties pouncing on investments when the time is right. Cash flow is another concern for many small business owners. Defined by Investopedia (2017a) as the net amount of cash and cash-equivalents moving into and out of a business, it represents a measure of whether a company's liquid assets are increasing or decreasing. The cash flow ratio can represent a challenge to small businesses because their relatively low volume of sales and dependency on single customers causes an infrequent stream of cash coming in, which can make loan obligations hard to fulfill. Being unable to meet obligations such as due payments can ultimately lead to insolvency, even if a business is profitable. This is because the investment in working capital, needed in operations to support the growth in sales can absorb more cash than the net income plus depreciation (Dickie, 2006). Similarly, being unable to invest in opportunities as they present themselves can make businesses less competitive and lead to their demise in the long run.

Evidently, external financing is key for both survival and growth. There are two basic sources of external financing; equity and debt. Equity financing involves selling shares of the company to the public, venture capitalists or others that will provide capital for an ownership interest. It is only possible if the company is incorporated as a limited liability company. One of the advantages with equity financing is that the risk lies with the investors. They do not charge interest on their paid-in capital, but expect the company to grow and often anticipate dividends. What is more, investors are entitled to their share of the profit and voting rights in accordance with the Norwegian Public Limited Liability Companies Act. This type of financing is typically chosen by start-up companies, but can also apply to established businesses that want to grow or release capital.

Debt financing is the other alternative, and is the focus of this thesis. A recent report by Finance Norway (2017a) shows that this is the far most common source of capital for Norwegian businesses with 81%. 75% of this comes from banks and credit companies, 2% from state institutions and 4% from other private financial actors (see Figure 1 for an overview). Almost half of all small businesses use their local or regional bank for financing. According to Idar Kreutzer, CEO of Finance Norway, this is a feature of the geographic and size-related distribution of Norwegian businesses (Finance Norway, 2017a). Most of these entities are unable to raise capital through the bond market or from professional investors, which increases their dependence on local financing and makes collaboration between local banks and businesses vital for the growth and prosperity of Norway as a country.

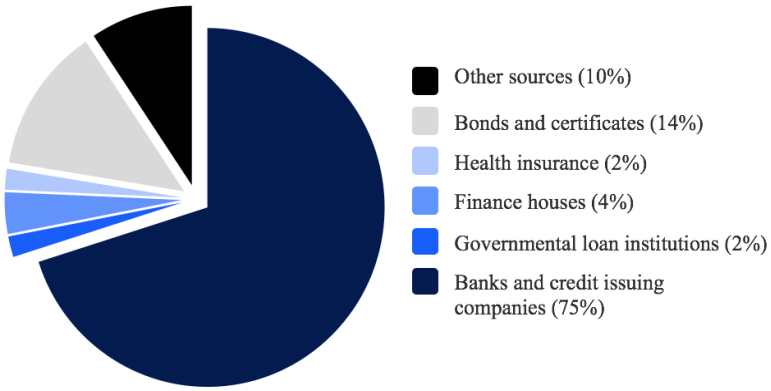

Figure 1: Sources of capital for Norwegian Businesses (Finans Norge, 2017a)

Conceptually, a loan entails a reallocation of assets between lender and borrower for a period of time. The interest rate is primarily influenced by the rate at which the lender raise capital, their margins and the perceived risk of default by the borrower. Most banks raise capital for lending through customer bank deposits, credit creation, or interbank money markets. NIBOR (Norwegian InterBank Offered Rate) is the collective term for Norwegian money market rates at different maturities (Finance Norway, 2017b), and thus represents the funding cost for banks alongside deposits, where the interest paid by the bank to the customers naturally denotes the cost. These costs are close to equal for the large banks. We

will return to the specifics around the costs of business loans, but for now we conclude that the price paid for a loan by a small business is, by and large, a function of the perceived risk by the bank and the loan's maturity.

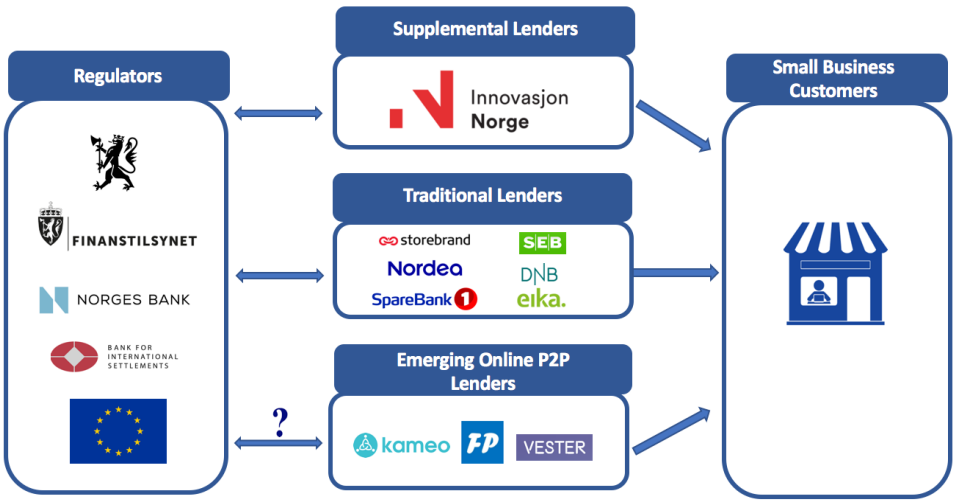

Figure 2: The state of small business lending; credit access and the emergence of online P2P lenders.

Many small businesses have both equity and debt in their balance sheet. But what makes a small business prefer credit over equity for a given project if both options are viable? A common rationale is to choose whichever option minimizes financial costs, but there are many more aspects to consider (Lederkilden, 2017). Whereas equity financing enhances liquidity, improves credit rating, and reduces the need for costly short-term credit, it entails giving away control of the company if the capital comes from external sources. Financing a project with credit leaves the small business owner with more room to act, despite inevitably putting a strain on liquidity. Moreover, according to the Modigliani-Miller Theorem (proposition II), the value of a levered firm is greater than an unlevered firm because interest paid on debt is tax-deductible (tax shield), while dividends on equity is not.

Another theoretical explanation lends itself from agency theory. In their seminal paper from 1976, Jensen and Meckling argue that agency costs represent costs incurred from asymmetric information or conflicts of interest between principals

and agents. It usually applies to the differing interests of shareholders (principals) and managers (agents) within an organization, but can be extended to situations where third party financers are involved as well. External financing tends to distort investment decisions. The paper by Jensen and Meckling is organized in two parts, inquiring into equity financing and debt financing, respectively. A fundamental assumption is that individuals are rational utility maximizers. For this reason, sole proprietors will always do what is in the best interest of the company. But if the owner sells of a share of the company to outside investors whilst keeping all management functions, this dynamic changes. Now the owner-manager has an incentive to spend more on perquisites than before, because these expenses are shared. This leads to lower cash flows, which inhibits taking on NPV projects, and ultimately reduces the value of the firm. The cost of this action by the owner-manager is known as the residual loss portion of agency costs. As a counter-measure, the outside equity holder must take on monitoring activities to restrict the freedom of the owner-manager. These costs represent the monitoring costs of agency costs. Further, since the owner-manager is rational, he or she will not spend excessively on perquisites as this might deter additional funding for future projects. There will be an incentive to somewhat align the needs and rights between the parties, which Jensen and Meckling refer to as the bonding cost portion of agency costs.

An incentive to choose debt funding is the ability to invest in profitable projects without having to share more than a fixed proportion of the wealth being created. According to Jensen and Meckling, lenders act in similar ways as rational investors. They will factor monitoring costs into the interest on the debt (e.g. through covenants). Bonding costs will also be pertinent for the same reason as with an equity investor. The major difference in agency costs between outside equity and debt is related to bankruptcy costs. These costs are factored into the price of debt, very much similar to the earlier discussion about risk being the cost-driver of bank loans. In the end, the optimal capital structure of a firm is a trade-off between agency costs of equity and debt.

The preponderance of debt funding of Norwegian businesses might suggest high agency costs of equity. Another plausible explanation is a lack of effective equity markets, particularly for small businesses. For equity to be a viable source of capital for small businesses there must be willing investors. And most investors hinge on thorough information and tradable shares with low transaction costs. We will not go into detail on this subject, but it is raised because it relates to the first sub-question which we will discuss in the following section.

5.1.3 Small business credit gap?

As mentioned, banks are by far the most important source of credit for small businesses. The traditional definition of a bank is a financial institution which main function is to accept deposits from the public and create credit (Bank of England). By distributing capital to good investment projects, the banks have a central role in promoting economic growth (Hetland and Mjøs, 2012). They also serve a purpose in lowering transaction costs that would otherwise encounter individuals and entities in need of financing, by bringing together lenders and borrowers. Although most banks offer a range of financial services (e.g. payment, money transfer, pension and insurance), the thesis will focus on lending activity. We are interested in the current state of small business lending and the recent developments. Do small businesses in Norway have sufficient access to credit? As we shall see, this is not a straightforward question.

The aftermath of the global financial crisis saw a tightening in the supply of credit by financial institutions. A number of regulatory frameworks, such as the Basel III were put in place to improve the capital adequacy of banks. In order to achieve a better capital adequacy, or even just to maintain the minimum capital adequacy ratio, capital-constrained banks began collecting outstanding loans or became reluctant to approve new lending (Wehinger, 2014). These austerity measures were felt by small businesses in Norway, where the banks have been increasingly dependent on international securities- and money markets for funding (SSB,

2009). Basel III is a global, voluntary regulatory framework on bank capital adequacy, stress testing, and market liquidity risk (BIS, 2017). Designed to ward off a new global financial crisis, one of its most important features is the capital requirement that call for banks to carry a minimum proportion of equity at all times. Norway were among the countries committing to this framework, and the capital requirements were phased in between 2013 and 2016 (while the liquidity requirements are to be effective from 2019) (Finance Norway, 2017a). In fact, Norway imposed stricter requirements than most EU countries. By studying the credit growth in the business sector, it seems the financial crisis had two negative effects. Hetland and Mjøs (2014) show that the overall change in credit to business was negative from 2008 to 2009. Norwegian businesses received approximately 50 billion NOK less in bank loans than the year before. This can be seen as the immediate impact of the crisis. The other effect came with the implementation of the capital requirements a couple of years later. According to Finance Norway (2017a), there has been a steady decline in credit to businesses since mid-2012. At the same time, growth in credit to households has remained relatively stable. The new capital requirements have obligated the banks to gather more than 180 billion NOK in equity, which has made credit less available. And with recent developments in the housing market and a low unemployment rate, the banks have made more profit by lending to private people.

The annual compound rates of growth in lending indicates that credit might have been harder to obtain over the last five years, but does not account for the size of the firms. However, several studies suggest that small businesses are typically hit harder in the wake of a credit crisis because they are more dependent on bank capital to fund their growth (e.g. Gertler and Gilchrist, 1994; Kroszner, Laeven and Klingebiel, 2007). The extent to which this is a problem is hard to determine. What is the appropriate level of available credit? In an efficient market, where actors are rational, and information asymmetry and transaction costs are absent, all projects with a positive net present value would receive funding (Hetland and Mjøs, 2012). In the real world, these factors (with special emphasis on

information asymmetry) tend to inhibit an optimal allocation of credit. The bank then serves an essential purpose in trying to bridge this gap by producing relevant information on the borrower's (Diamond, 1984). By assessing as much relevant information as possible and applying different credit analyses, the bank attempts to predict which businesses that are creditworthy and which that are not. This causes some issues. An important feature of all lending is that the lender holds a position with limited upside, and a potentially large downside if the borrower goes bust (Hetland and Mjøs, 2012). The bank does not have the same risk-reward incentive as the equity investor, and can not rely on the success of a particular project to cover the losses from other ones in the same way, and will therefore only tolerate a modest level of risk. Contrary to lenders, borrowers have lots to gain from successful credit financed projects, and little to lose, if they are not personally liable. In order to align interests, banks normally require businesses to have a certain amount of equity. Although this can prevent ruthless mismanagement of borrowed capital, it can also impede the funding of projects that would otherwise have been profitable if the borrower lacks the requested equity (Hetland and Mjøs, 2012).

If capital does not flow to the projects where it would be best put to use, it is a socioeconomic problem. But measuring just how problematic this is poses some challenges. First, there is a question of causality. There is no good way to observe supply (access to credit), nor demand (need for credit) directly, only actual loan amounts and terms and conditions (Hetland and Mjøs, 2012). If the growth in lending decreases, is it a result of reluctant banks or businesses in need of less credit? Second, businesses owners and managers do not think in socioeconomic terms. They tend to have strong faith in their own projects and will often apply for financing regardless of whether the project is objectively profitable or not. It is important to underline that excessively lenient credit standards are neither beneficial for businesses, nor the economy as a whole, as the financial crisis painstakingly proved. High levels of debt increases the risk of large-scale credit deficits which could lead banks and credit institutions to bankruptcy. Such an

event incurs major economic cost, either through governmental bail-out or a credit crunch if the financial institutions go under (NHO, 2015a). The challenge is for banks to resolve the lemons problem by separating the good projects from the bad ones. Not only does it call for accurate credit scoring processes by the banks, it also presents a methodological issue. Even if access to, and demand for credit could be adequately measured, one would have to find a proxy for the viability of the projects. This is likely to change over time, and be subject to economic ups and downs, as well as psychological factors.

Access to credit for small businesses in itself is not the crux of the matter. We are concerned with the extent to which the *right* businesses have access to credit for the *right* projects, but acknowledge the difficulties in measuring this. However, there are some worrying signs. In the following section, we will present data and statistics that suggest the presence of a potential gap in small business credit financing in Norway. We will also seek to address if the problem is structural or cyclical.

5.1.4 Studies

Norges Bank conducts a quarterly survey of bank lending. The survey provides information on changes in the demand for and supply of credit, and regarding changes in banks' loan terms and conditions. The nine largest Norwegian banks participate in the qualitative study, where they are asked to fill out a questionnaire following each quarter. Since late 2009, the banks have reported an average decline in demand for loans from non-financial enterprises, corresponding to the previously discussed effects of the financial crisis (Norges Bank, 2017). The survey also reveals a tightening of loan conditions since 2009. The use of fees has gone considerably up, and there has also been an increase in requirements for equity and collateral, which, ceteris paribus, has made loans harder to attain for most businesses. Unlike the demand for credit which showed a slight increase between 2009 and 2012, the tightening of credit standards has largely persevered since the crisis, which suggest that the banks are more restrictive.

The Confederation of Norwegian Enterprises (NHO) is the main representative organization for Norwegian employers, with more than 25 000 members (80% of which have less than 20 employees). In its quarterly publication "Economic overview", NHO survey its members on a range of factors related to the macroeconomic business environment (NHO, 2015a). One of these is access to credit from the perspective of the members. In 2015 there was a particular emphasis on this aspect. 21% of the members stated that the bank's' lending policy contributed to reduced access to credit in their industry, representing an increase of six percentage points from the previous quarter. Of these respondents, small businesses (<20 employees) were the most vulnerable. Figure 3 shows that they were twice as likely to anticipate liquidity problems, and almost three times as likely to postpone investments as the larger businesses. Unfortunately, comparing these statistics with previous and following years is difficult since the data is restricted to members, and only reproduced in the publication when topical. But a similar study by Virke, the leading representative organization within trade and service, paints a similar picture. In 2014, 12% of its members stated that access to loans/credit from banks and credit institutions had been reduced over the last six months (Virke, 2014). In 2016, the number had increased to more than 30% - the highest ever recorded (E24, 2016). The results of the survey triggered an urgent meeting held by the Ministry of Trade, Industry and Fisheries to discuss the state of the credit market, and small business lending in particular. Both Minister of Trade and Industry, Monica Mæland, and Minister of Fisheries, Per Sandberg had received indications from their respective domains that access to capital was increasingly becoming an impediment to the realization of new projects. Bedriftsforbundet, the largest confederation of Norwegian SMEs, also reported that many of its members were struggling. Yet, few businesses want to come forward and highlight the issue, as it could be seen as a red flag by employees, banks and customers, according to Bedriftsforbundet's CAO, Morten Berge

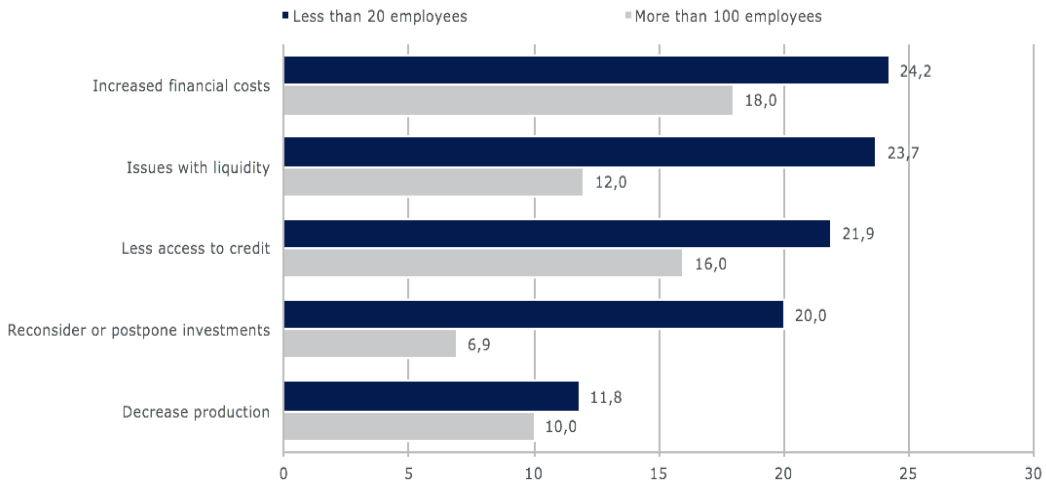

Figure 3: How the bank's lending policy impact businesses access to credit, measured by number of employees (NHO, 2015a)

Taken together, the available surveys and statistics show that it is more difficult for Norwegian businesses on average to get loans from credit institutions these days. At the same time, there is little evidence suggesting that businesses are less creditworthy. For example, the number of bankruptcies related to enterprises has remained relatively stable since 2009 (see figure 4). This leads us to believe that the lack of access to credit is a very real problem for many small businesses, and thus for the economy as a whole (for reasons explained earlier). From the reasoning up to this point, it appears that the problem largely stems from the financial crisis. In an economic downturn it is hardly surprising that credit dries up. Historical data reveals similar tendencies. Following the bank crisis in Norway between 1987 and 1992, a series of measures were taken to solidify the bank's. An unwarranted economic optimism in the preceding years had led to a credit expansion beyond prudence (Norges Bank, 2017). Subsequently, there were put in place new rules for capital adequacy and provision for future losses (SSB, 1999), which naturally prompted stricter credit standards. A similar but not as severe period came right after the turn of the millennium. Economic booms and busts generally follow a cyclical pattern. And since the cycles varies with respect to length and severity, the market for credit is never in a true equilibrium. It is easier to procure loans when times are good. But when banks have to tighten the credit

supply in downturns, it indicates that previous practices might have been too permissive. There is no doubt that the current access to credit for small businesses is related to cyclical barriers lingering from the financial crisis, as discussed. But we will also argue that there are structural mechanisms at play which serve to enhance the adverse effects of cyclical effects. These are underlying, long-term factors that are independent of the boom and bust cycles, and can help explain why small business financing seems to be increasingly difficult.

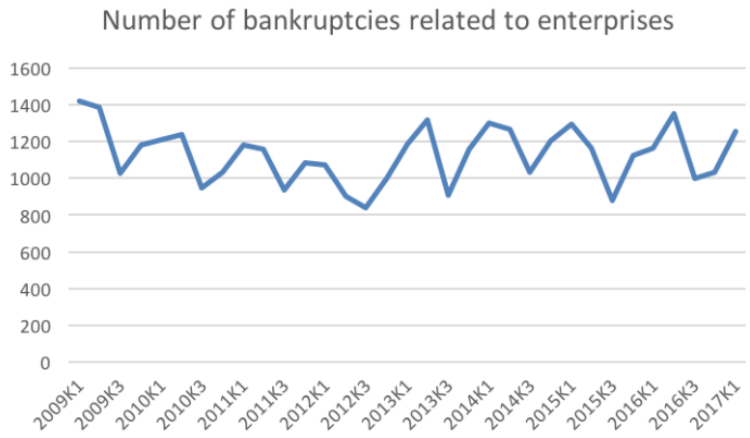

Figure 4: Number of bankruptcies related to enterprises (SSB, 2017)

The first long-term factor that counteracts small businesses' access to credit is the consolidation and closure of local banks. According to Virke, 72% of businesses with less than 10 employees rely on their local bank for financing. Personal contact, knowledge about the business, quick and accessible service, easier access to loans, and better terms and conditions are the most frequently listed reasons for choosing a local bank. Menon Economics (2013) report that small businesses have a 9% higher chance of getting a loan in municipalities with high shares of local banks. The size of these loans are on average 16% higher than in municipalities without a local bank. This corresponds with some of the information retrieved through our preliminary study, where borrowers expressed that personal knowledge about the business and its owner could compensate for unfavorable credit scores.

But the number of local banks in Norway is decreasing. In 2016 there were 953 bank offices (commercial- and savings banks), compared to 1457 in 2000 (Finance Norway, 2017c). The largest bank in Norway, DNB, announced last year that it was going to reduce its number of outlets by 50%. This is particularly disadvantageous for small businesses in peripheral regions. According to Menon Economics, businesses with less than 10 employees that receive loans from local banks in the peripheral regions have a higher bankruptcy rate, which indicates that local banks are more willing to take risk with the smallest businesses, and to a certain extent become the "venture capitalists of their local communities" (Menon, 2013). Generally, large banks use standardized quantitative criteria to assess loan applications from small firms, whereas small banks often favor qualitative criteria based on their loan officers' personal interactions with loan applicants (Mills and McCharty, 2014). This has to do with information asymmetry. Several studies have shown that small, local banks possess greater ability to overcome this issue compared to their larger peers (e.g. Berger and Udell, 2002). Large centralized banks are unable to learn and apply personalized knowledge about all their customers when assessing risk, and usually resort to a homogenous approach that inherently involves less risk. If branches are geographically dispersed, it is also common to exert explicit rules and underwriting guidelines to avoid distortions and to keep loan officers rowing in the same direction (Mills and McCharty, 2014).

The divergent approaches of the different types of banks can be rationalized with the help of literature as well. In this sense, standardizing procedures and limiting decisional latitude is a response to Coase's idea of rising internal transaction costs when firms get bigger, and a way of keeping control within the hierarchy. Williamson can also shed light on this topic. The local presence of small community banks will put them in a favorable position with respect to transaction costs. Their relationships with small businesses and their owners often extend beyond business loans (Evry, 2016). This frequency of interaction is likely to reduce the probability of opportunistic behavior by businesses, which we have

seen can be a genuine concern for banks following the earlier discussion about limited upside and large downside on credit. Another factor is asset specificity. When the community bank invests time and resources in order to appreciate the creditworthiness and solvency of a customer, that knowledge can be seen as a very specific asset given the heterogeneity of small businesses. According to Hetland and Mjøs (2012) the bank then becomes an "insider" compared to other sources of capital, and this can have diverging effects. Some scholars (e.g. Boot and Thakor, 2000; Petersen and Rajan, 1994) claim that this situation creates value for both lender and borrower in terms of increased trust and more flexible relations. Others (e.g. Sharpe, 1990) will argue that this creates a tie-in effect which favors the bank by giving it an "information monopoly". If other banks know about the relation between a small business and a local bank and observe that the business seeks credit elsewhere, they might assume that the business has been rejected by its "insider" and consequently has low creditworthiness.

Search costs represent another structural barrier for small business credit financing, and can be seen as a facet of transaction costs. As previously mentioned, most businesses with less than 10 employees do not have dedicated personnel in charge of financial tasks. Thus, the job of applying for a loan often falls to a person without experience and core competence in the area. As a result, the process can be time-consuming and highly inefficient. Without proper knowledge about finances, the marginal cost of searching for a loan might exceed the marginal benefit of obtaining that loan. And in some cases applicants must wait for weeks to receive notice from the banks (although the banks we have spoken with stressed that the process could be accelerated if the matter is urgent).

Transaction costs in the literal sense discussed in the theory section can also work against small businesses. According to Mills and McCharty (2014), the process of underwriting small business loans is often inherently inefficient. Their study revealed that processing a $50,000 loan costs nearly as much as processing a $1 million loan, but with less profit. Our research revealed a more ambiguous picture.

The interviewed bank only administer business loans below 1 million NOK through their office in Oslo, and all applications must be conducted online. This process is highly automated and rigorous, to ensure low transaction costs and equality of treatment. For higher loan amounts the local branches are more free to exercise discretion. Although it is likely that the cost of processing a small loan makes up a larger proportion of the loan sum compared to a large loan, the focal bank could not confirm this since their accounting procedures distributed such costs equally across loans, instead of activity based costing. Moreover, they reported that larger loans would need the approval of more officers, and that the margins of these loans were often lower than the small loans since the negotiating position of large firms gave them more favorable terms. This ultimately meant that it was not given that the loans with proportionally low transaction costs were the most profitable.

5.2 Traditional credit institutions: credit assessment of small businesses

This part of the thesis presents our findings on small business credit assessment in traditional credit institutions. We explored the credit assessment process from first contact to the final verdict. The first part findings from two traditional financial service providers will be presented. Then we will present findings from interviewing Innovation Norway, supplemental financial service provider. All findings are supplemented by secondary sources for a more comprehensive and detailed description.

5.2.1 The credit assessment process in banks

The first interview was conducted with the local manager and the head of business market at a branch office in a small town in the eastern part of Norway. The second interview was conducted at a regional office of the same bank in one of Norway's largest cities. Both interviews generated a similar account of the credit assessment process, but with some minor geographical differences. The main process will therefore be described collectively.

Establishing a customer relationship

Small businesses apply for credit in two ways; either through physical appearance at a branch office, or online through the bank's digital platform. Businesses with annual turnovers below three million NOK are automatically directed to apply via a national center located in Oslo. For these loans, the application process is highly standardized.

The duration of the process relies on documentation. If the applicant business is an existing customer of the bank, with previous credit history, the process is shorter. The purpose of documentation is to give the bank an overview of the business, funding needs, funding requirements and collateral. The deciding variables in determining a business' ability to fulfill loan obligations are loan amount, purpose of the loan, type of collateral, equity, financial result, previous payment remarks and number of employees. The bank we interviewed pledges to contact the applicant within 24 hours of the initial application has been filed (during workdays).

Credit assessment

Following the initial application, the bank conducts an in-depth credit assessment. Based on the collected information, we have classified the main findings into four categories; internal factors, external factors, financial factors and collateral factors. To analyze and structure the data, the bank relies on codified knowledge (internal manuals, systems and models) and tacit knowledge (competence and experienced of their employees).

I. Internal factors:

The bank first assesses the applicant's internal factors. In this phase the bank seek to evaluate the people behind the company and properties of the company itself. Management competency, ownership and organizational structure were highlighted as the most significant factors during the interviews. By evaluating management competency, the bank forms an impression of whether the applicant

has adequate experience from similar projects. A business plan is not a mandatory requirement for an existing customer, but is important for new customers in order to evaluate the desired progression and ambition of the investment. Red flags are indicated by weak turnover, account overdraft, payment remarks and lack of management competency.

II. External factors:

In the assessment of external factors, the bank evaluates customers, competitors, industry, and suppliers. It utilizes own models and internal industry reports to compare businesses within the same sector and to assess trends and historical development in the markets. For instance, negative cyclical fluctuations in the oil sector will make it more difficult for an oil company to receive financing for ambitious growth plans.

III. Financial factors:

Financial factors include assessment the liquidity of the applicant and the financial risk involved for the bank. Income statement, balance sheet, cash flow and budgets are all scrutinized. Financial key figures are calculated and arranged following their internal rating systems, based on the documentation and internal models. These are then compared on a local and national level. EBITDA and operating profits for measuring debt servicing are examples of key figures. Other figures include equity ratio and working capital. The balance sheet provides an overview of the financial structure and its composition. Key figures are inventory, goodwill, accounts receivable, accounts payable, fixed assets and cash. From the income statement, the level of costs and its change over time is of interest. Red flags are indicated by high short term debt (financing investments), unrealistic depreciation and a poor result.

IV. Collateral factors:

Collateral is a property or other asset that a borrower offers as a way for a lender to secure the loan (Investopedia, 2017b). The bank generally requires small

businesses to provide collateral equivalent to 100% of the loan sum. This is to minimize risk. As mentioned, small businesses succumb on a frequent basis and statistics show that 7 out of 10 go bankrupt within 10 years (NRK, 2015). However, the bank we interviewed admitted that personal relationship based on previous successful loan history could provide goodwill and thus compensate for a lack of collateral. This was particularly salient at the local office.

The bank can accept several categories of collateral; operating accessories and transportation, inventory and account receivables, real estate, and retained equity. However, it was emphasized that firms typically overestimate the value of their inventory as collateral. It is also difficult to appraise some of the assets of technology-driven firms, as they can of less tangible nature (e.g. apps, copyrights, patents, trademarks, R&D, etc). If a business is unable to provide firm assets as collateral, the owner must put up personal assets (typically houses or other property).

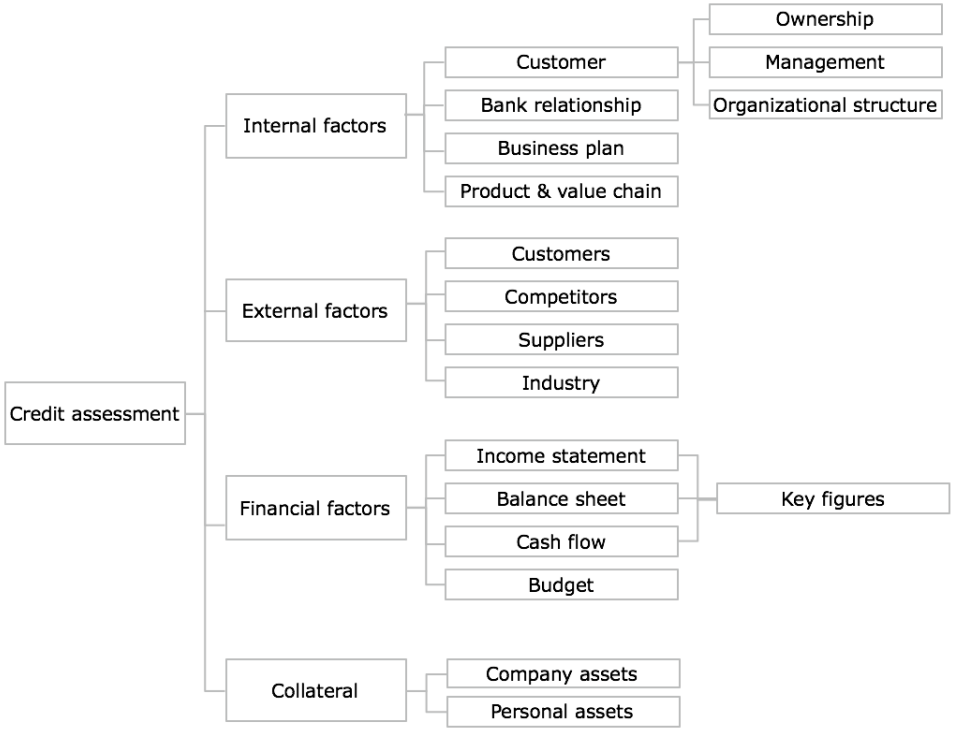

Figure 5: The credit assessment process of banks

Based on all the previously mentioned factors, businesses are classified on a risk scale of 1-10, where 1 indicates low-, 5 moderate-, and 10- high risk.

5.2.2 Cost of loans

To understand how banks stipulate their prime rate, an understanding of their main functions, financial sources and the cost it covers is required (Finance Norway, 2014).

I. Function:

By Norwegian law, banks are the only entities allowed to receive customer deposits (Finanstilsynet, 2017c). We have previously discussed the role of the bank as a financial intermediary which main function is to accept deposits and distribute credit. More specifically, their role is to engage in maturity transformation. Banks loan money from the public (by accepting deposits) at short term to finance loans that are normally longer term. In return for providing this service, the banks must factor in the cost of this liquidity provision in the difference between interest rates on deposits and long-term loans.

II. Financial sources and structure:

Banks finance their loans from three main sources; money markets, customer deposits and equity. Additionally, covered bonds with safety in mortgages have also become a significant source in recent years. Lower credit risk than market financing makes covered bonds an attractive instrument for both emitters and investors.

III. Financial costs:

The level of interest rate offered by the bank to its customers is a complex calculation. Among the factors mentioned above, customer deposits make up the largest source of financing. The second largest source is market funding. The costs for this source depends on both a reference rate, which normally is measured by the money market rate NIBOR or government securities with corresponding

maturity, and conditions related to the individual bank (rating, solidity, size etc.) The reference rate is determined by supply and demand in the market, and will depend on the level of the Norwegian Central Bank's key policy rate, expectation of development in this and other market conditions. The last source of funding consist of pure core capital and other subordinated capital. The latter consist of perpetual bonds and subordinated loans, which involve more risk than senior bonds.

5.2.3 Regulations

To operate as a bank in Norway, a financial institution concession is required from the Norwegian government or a similar concession issued by the European Economic Area (EEA). Additionally, a minimum of 5 million EUR is required as start capital, and has to proportionally match the planned enterprise (Finanstilsynet, 2017c). The most central regulation to conduct bank operations is listed below:

National laws:

- Finansforetaksloven : Joint legislation for all financial corporations. Legislate capital requirements and the Banks Guarantee Fund (Bankenes Sikringsfond, 2017; Finanstilsynet, 2016)
- Finansavtaleloven: Regulate the relationship between bank and customer (Finanstilsynet, 2016)

National regulations:

- Kapitalkravforskriften (Finanstilsynet, 2017):
    - Regulating capital requirements of financial institutions (Lovdata, 2017)
- Forskrift for beregning av ansvarlig kapital" (Finanstilsynet, 2017):
    - Statutory minimum requirements for subordinated capital and requirements for sound capital adequacy (Lovdata, 2017).

International regulations:

- CRR/CRD IV- forskriften
- The EU directives CRD IV and CRR for capital requirements was adapted and incorporated in Kapitalkravforskriften and finansforetaksloven (see above) (Lovdata, 2017c; Regjeringen, 2014b).
- Basel III: Global regulatory framework to strengthen the regulation, supervision and risk management of the bank sector (BIS, 2017). Regulate international capital requirements

5.2.4 Time

The timeframe of the credit assessment process varies. The bank estimated between 3-5 days on average, but acknowledged that it could take longer time on occasions. The main variables determining waiting time are documentation, risk classification and loan size. For example, loans above a certain threshold requires the involvement of a special board of managers and credit analysts. However, the bank did point out that the process could sometimes be expedited if a limited opportunity hinged on the loan approval and documentation was in place.

5.3 Supplementary credit providers: credit assessment in Innovation Norway

We interviewed the business manager at one of the branch offices of Innovation Norway (IN) in the eastern part of Norway. The organization's role is to compensate for imperfections in the markets, mainly by supporting small and medium-sized businesses, in order to promote growth and innovation in the districts. But it also provides services to various larger institutions pursuing growth (Innovation Norway, 2017). IN offers competency, network, and capital. Its financial services includes loans, guarantees and sureties. In accordance with our research question, we will focus on its role as a loan provider.

5.3.1 Low risk loans

Low risk loans are primarily supplements to bank loans and only covers a portion of the sum needed (maximum 50%). As the risk is divided between more parties, it can help businesses obtain more favorable conditions, and IN also serves as a

"stamp of approval", signaling to banks that the business in question is creditworthy. The average loan size for a small business is approximately 3 million NOK. IN offers good terms and conditions because their source of capital is primarily government securities that are not particularly sensitive to economic downturns (IN, 2017).

5.3.2 Innovation- and risk loans

These loans are not limited to a particular purpose, but are normally distributed to projects with higher risks than what traditional banks are willing to finance or development projects where the business lacks, or has limited collateral. The interest rates range from 4.7% (effective rate of 5%) and upwards.. IN only finances up to 50% of total capital requirements for these loans as well. The average loan size is approximately 2.5 million NOK, but can be as much as 10 million NOK if all conditions are satisfied. This type of loan usually helps companies start up, scale up, internationalize, or invest in real estate, fixed assets or equipment (IN, 2017).

5.3.3 Credit assessment

All loan applications have to be directed through IN's online platform. A case officer then evaluates the project based on the attached documentation. The credit assessment process is founded on three main pillars; societal-, sustainability- and economic factors. This is the main difference between IN and traditional banks, as the banks will only be concerned with the economic aspect. The degree of innovation is important for IN. Highly innovative projects are more likely to receive financing than less innovative projects, if all other factors are equal. The manager from IN stressed that the overall assessment of the business is the most decisive, but the organization does utilize models, rating systems and other internal systems for knowledge sharing in their decision making process. Ultimately, all applicants are assigned a letter that characterizes their perceived level of risk.

5.3.4 Cost of loans

IN allocate through the state budget. In 2016, the parliament of Norway, and County Council decided to grant 3.7 billion NOK (IN, 2017). Furthermore, the corporation finance their operations through loans, guarantees. IN is also have revenue from the business sector and other private actors (Lovdata, 2017). Although IN adds a margin to interest rates the same way banks do, it does not pay dividends to its owners, and aims at operating as a not-for-profit organization.

5.3.5 Regulations

Innovation Norway's is owned by the government (51%) and by the county counties (49%). The purpose is to be the government and the county counties instrument to realize value creating development throughout the country. The law of Innovation Norway was established as a special statute to legislate and separate IN from politics (Lovdata, 2017). Thus, they are not subject to regulations that traditional limited liability companies, other financial institutions and state owned-enterprises are.

5.3.6 Time

The loan application process in IN can be considered more bureaucratic and hence a bit slower than regular banks. In total the process take approximately 2-3 weeks if all documentation is in place. Loans exceeding 2 million NOK require the involvement of more parties and takes longer time on average. 10 million NOK is another threshold, and loans above 20 million NOK necessitates the involvement of an executive board. These types of loans can take more than two months to procure.

5.4 How can online P2P lending improve the current state of small business lending?

What can be done to mitigate the discrepancy between supply and demand in small business lending? Our research suggests that there are at least two ways of making credit more accessible to small businesses: Regulatory changes and technological innovation. As highlighted in the previous section of this paper,

small businesses are particularly dependent on their bank for capital. Thus, advocates of regulatory remedies argue that small business lending should be given special attention by legislators. One solution would be to increase the issuance of loans from public providers such as Innovation Norway. Another would be to alleviate some of the strict capital requirements imposed on banks specifically for small business loans, giving the banks incentives to prioritize this segment to a greater extent. During the course of this thesis, a proposal, which is popularly known as the "SME-discount", has been formally submitted by the government and is currently subject to approval by the Parliament of Norway. Given that the amendment passes, it will lower the bank's' cost of equity affiliated with these loans, possibly driving interest rates down 0,2-0,3 percentage points (Stortingsspørsmål, 2014).

Although regulatory change represents one way to help small businesses get more loans at more favorable conditions, we believe the underlying causes of the problem uncovered in our research indicates that technological innovation holds more promise, and has therefore been the focus of this thesis. Online P2P lending grew rapidly in the wake of the financial crisis. The infancy of the industry was characterized by technology-oriented start-ups seeking to disrupt the traditional lending industry through improved value configurations and lower transaction costs (Financial Times, 2016a). P2P actors trumpeted their ability to cut out banks as middlemen and claimed they could facilitate loans more efficiently, while at the same time giving investors (lenders) attractive interest rates. The industry originated from the U.K. and the U.S.; two countries that were hard-hit by the financial crisis. Now, more than a decade since its introduction, companies have suffered mixed fortunes. While some have gone public in billion-dollar IPOs like US-based Lending Club, many others have succumbed along the way. As the industry seems to slowly be coming of age, this section will address our second sub-question: How can online P2P lending improve the current state of small business lending? We will draw on evidence from abroad before examining the particular case of Norway and what our research revealed. To provide some more

context, we will start by giving an account of the technicalities involved in P2P-lending.

5.4.1 Peer-to-peer lending

Peer-to-peer refers to the relational dynamic at work in distributed networks. It is the interaction between two or more parties without the need for a central intermediary (European Credit Research Institute, 2016). The concept was popularized through the wave of media file sharing that transpired around the turn of the millennium. Services like Napster provided a set of central servers that linked people who had files with those who requested files through a network of peers, or "equals". Similarly, P2P lending is about connecting people that have money (and are looking to make a return) with people that want to borrow money. But unlike the more anarchic distributed application architecture that underpins P2P computer networks, P2P lending has a stronger element of centralization. This is mainly due to two factors. First, money can not be duplicated in the same way as files. And second, borrowing necessitates repayment, whereas file sharing does not come with formal requirements to seeding (the uploading of already downloaded content for others to download from). Therefore, one of the tasks of the P2P lender is to distribute the credit - or at least facilitate the distribution. How this is resolved varies by the firm. Online P2P lending platforms are essentially websites. They typically have a clean and intuitive interface, and make a clear distinction between navigation for lenders and borrowers. For businesses, online P2P lenders usually offer loans for 1-5 year terms. When applying for a loan, businesses must provide a detailed description of their prospective investment, in addition to relevant information about themselves. Some P2P platforms are organized in a way that allows borrowers to choose which specific business they want to finance, by browsing through descriptions and brief pitches. Others take on the task of dispersing the means themselves. Almost all actors ensure that borrowers spread their capital for diversifying purposes.

In a world without defaults, borrowers could be offered a rate of *x* percent on their loan. After the P2P company had charge the amount needed to operate their platform, lenders could then receive a return of *x-y* percent on their investment. But since not all loans get reimbursed, losses make up a considerable cost that has to be incorporated. Since the lion's share of P2P loans to this day are unsecured, the cost of default typically falls on the lenders/investors. They are the ones risking losing their money if a borrower files for bankruptcy. This prompts another important task for the P2P lender; to assess creditworthiness. Many P2P lenders boast advanced procedures for separating the good borrowers from the bad. They use big data and proprietary algorithms to determine which borrowers are most likely to repay their loans. The specific models and approaches varies from firm to firm, and is often held to be the "secret sauce" of success. As a consequence, we could not reveal any particular examples used in practice, but we found recurring features that clearly separate credit scoring in P2P lending from traditional banking. First, P2P lenders prefer the use of online available data to ensure a swift application process. Second, they embrace current and real-time data, rather than backward-looking credit accounts to assess risk. Third, they use big data to generate meaningful insight beyond conventional metrics such as historic cash flow ratios and equity. This typically means looking at *more* variables than banks do, and combining them to disclose certain patterns that characterizes good borrowers. An example of this is using transaction flows and logistics information to analyze the solvency of a firm and how it fluctuates, and comparing it to industry benchmarks. Another approach is to look for more imperceptible causations. For example, some American P2P lenders have found that online sellers that ship to California make better borrowers on average. And that businesses with active Facebook pages are less likely to default on their loans.

Online P2P lenders have relatively low default rates. UK actor Funding Circle, for example, has an average "bad debt rate" of 1,85% over the last six years according to its website. However, this rate is compounded across several investment classes, and might therefore not give an accurate representation of the

relationship between risk and reward. Also, self-reporting can increase the likelihood of companies altering the statistics in a favorable way for themselves. As Funding Circle specifies; the bad debt rate is calculated by taking the actual bad debt rate for each year of origination to date, and incorporating the estimated bad debt rates for years that have not yet fully matured. It includes the recoveries the company expects to make from each year of origination Moreover, the P2P lending industry has effectually only been operative during a global economic upturn. Critics claim that the actors' ability to assess creditworthiness can only be properly judged after enduring tougher times.

5.4.2 In the U.K.

The history of online P2P in finance can be traced back to the launch of Zopa in 2005 (ECRI, 2016). The UK-based company facilitates P2P loans for private individuals and has to this date lent more than £2.41 billion to domestic consumers according to their website. The loans range between £1.000-25.000 and are typically used to buy a car, consolidate debts, cover home improvements or weddings (NY Times, 2012). In 2010, Funding Circle launched and became the first significant P2P lender for small businesses (The Guardian, 2010). As of June 2017, the company had processed around £2.5 billion in business loans according to statistics from its own website. Ratesetter also launched in 2010. Initially focusing on personal loans, it has now expanded its offerings to business loans and property loans. At present, Zopa, Ratesetter and Funding Circle are the largest actors within the UK P2P lending space, with the latter controlling the majority share of the peer to business segment. There has also been actors with more "experimental" business models that have come and gone over the years. Quakle, an online P2P lender for "community-minded people" had to close down in 2011 after only one year in operation, due to its failed attempt at measuring individuals' creditworthiness by way of a group score (similar to feedback scores on Ebay) (The Guardian, 2014).

The UK P2P lending industry has been regulated by the Financial Conduct Authority (FCA) since 2014, but investments do not qualify for protection from the Financial Services Compensation Scheme (FSCS), which provides security up to £75,000 per bank, for each saver (Financial Times, 2014). However, the FCA demand that the companies implement arrangements to ensure the servicing of the loans even if the platform goes bust. As a result, many of the actors have established safeguard funds to cover potential losses.

Although some level of skepticism prevails, the UK has largely embraced the online P2P financing industry. In 2012, the UK government invested £20 million into British businesses via P2P platforms, and another £40 million two years later. In 2016, the Innovative Finance ISA was put in place. The scheme enables individual savers to invest in P2P lending through an investment savings account, which allows for the earning of tax free interest on P2P investments up to an annual threshold, effectively making it a more attractive investment. According to the CEO of Zopa, Jaidev Janardana, the success of P2P lending in the United Kingdom is the result of a positive regulatory environment and a competitive void left by unaccommodating and inefficient traditional banks. By the end of 2016, the market for online P2P lending had reached £7.3 billion, of which 60% was represented by business loans. According to a report by Altus Consulting, business volumes have grown 70% on average per annum since 2006. However, the industry volumes remain minuscule compared to that of traditional banks. Business loans facilitated through P2P lenders accounted for approximately 1 % of the total market in 2016, and 13% of the supply of new loans to small businesses (ECRI, 2016).

5.4.3 In the U.S.

Online P2P lending in the US started with the launch of Prosper in 2006. It was soon followed by a flock of other companies, including Lending Club. Like Prosper, Lending Club also originated from the San Francisco-area. It was introduced as one of the first applications of Facebook, attracting buzz and young

borrowers with scanty credit histories to mine (Forbes, 2010). It swiftly switched focus to more prime markets, and went on to become the largest P2P finance company in the world, with more than 1.5 million customers and $26 billion lent to businesses and individuals, according to its own website. Lending Club went public in December 2014. The offering was the largest tech IPO of 2014, and the stock ended the first trading day up 56 %, valuing the company at $8.5 billion (USA Today, 2014). Prosper is the main challenger for Lending Club in the US market, but engages only in personal loans. OnDeck Capital and Funding Circle represent its strongest competitors in the small businesses segment (The Market Mogul, 2017). OnDeck went public in 2014 and has an estimated market capitalization of around $1.8 billion, while Funding Circle managed to raise $150 million.

The US market for online P2P lending has evolved differently from the UK. In 2008, the Securities and Exchange Commission (SEC) called for offerings by P2P companies to be registered as securities (SEC, 2008). The onerous registration process forced many of the companies to temporarily suspend the issuance of new loans for several months (WSJ, 2009). It also caused some of the actors to shift away from the original P2P model and assimilate to traditional banking. Prosper amended its SEC filing to allow banks to sell previously funded loans on the Prosper platform. Both Lending Club and Prosper formed partnerships with a brokerage service to create a secondary market for their loans, providing liquidity to investors who had previously been tied in on deals for up to five years.

US online P2P lenders have become reliant on institutional money from professional investors and hedge funds to drive the supply side of their platform since cash from small investors has not been able to keep up with growth (Financial Times, 2016a). On the demand side, generating new loans is increasingly important considering up to 90 % of revenues stem from these compared to existing ones. Some argue that this development will have adverse effects on the quality of future loans. Securitization of loans through third-party

exchanges is also becoming a feature. Lending Club, for example, are bundling loans together and selling them to institutional investors like Goldman Sachs as "asset-backed securities" (CNBC, 2017). The concern is that the incentives for Lending Club and its peers to keep up credit quality will eventually wither - a scenario that is conceptually similar to that of the subprime mortgage crisis.

5.4.4 In China

The Chinese market for online P2P lending is the world's largest by most measures (The Economist, 2017). Unlike in the US, the industry's rapid growth in China has been driven by the supply of funds from retail investors, according to a report by ACCA in 2015. The report also presents research that indicates a much higher share of online P2P business lending in China compared to developed markets, where consumer lending dominates. The success is in large part owed to the country's considerable shadow economy, in which the new wave of lenders have managed to tap into. The financial system in China is dictated by large state-owned banks which generally prefer lending to state-run enterprises and local municipalities instead of small businesses (WSJ, 2015). According to China MSME Finance Report 2014 by Mintai Institute of Finance and Banking, almost 80% of SMEs were not served by the banks. As a result, *offline* peer to peer financing has a long tradition, with entrepreneurs obtaining credit from friends and family, collaborative lending circles, and off-balance entities without government involvement. In this sense, online P2P lending represents a more transparent and legally enforceable alternative to the grey-market lending that is deeply embedded in Chinese business culture (Financial Times, 2017a).

Although credible statistics are not in abundance, reports suggest the Chinese market for online P2P loans exceeded $100 billion in 2016, with more than 2400 operative platforms (Financial Times, 2017a). The largest actor is CreditEase, which facilitates online P2P lending through its subsidiary Yirendai. With 11 years in operation, it was also the first major platform to launch. Yirendai is listed on the New York Stock Exchange, and is currently valued at $1.6 billion.

A major problem for online P2P lending in China has been the pervasiveness of fraudulent attempts. In 2016, Ezubao was shut down after an alleged Ponzi-scheme. The lending site, which was one of the largest in China at the time, was said to have scammed nearly one million investors for approximately $7.2 billion (Financial Times, 2017b). This, and several other similar frauds, have forced Chinese regulators to crack down on the industry. A comprehensive framework for monitoring the sector was issued last year, followed by an enforcement campaign featuring inspection teams visiting platforms around the country (Financial Times, 2017b). One of the most important changes is the new requirement to use custodian banks for customer deposits. Another is the ban of "fund pools", which aggregate proceeds from the sale of new investment products into a single account instead of matching each investment with a specific loan.

In general, the Chinese government are positive to the emergence of online P2P lending as an alternative to traditional bank loans (Financial Times, 2017b). They recognize the need for an industry that targets the underserved and unbanked. Presumably, this is why the online P2P lending sector has been spared of the strict regulation traditional banks must comply with thus far. Imposing reserve requirements, loan-to-deposit ratios, anti-money laundering regulation and the likes on an industry in its infancy would most likely kill it off. But the influx of unscrupulous platforms and sites has called for some level of governance. And to prevent a development similar to that in the US, where online P2P lending is increasingly consolidating with banking, rules and incentives must be designed to sustain the long-term competitiveness of the industry.

5.4.5 In Norway

Online P2P lending has yet to catch on in Norway. At the moment, there are three companies attempting to establish themselves in the market Kameo, FundingPartner and Vester all target small businesses on the demand side, and individual investors on the supply side. They share a relatively similar vision; to

help small businesses that are struggling to get loans, and to provide private investors with good returns. Despite Kameo having issued its first loan, all three companies are very much in their infancy. The state of the market for online P2P lending in Norway is so far little known. This section will give an account of the only previous attempt at an online P2P business model in Norway, before presenting our research on the three companies mentioned above.

Trustbuddy:

For most Norwegians, the first encounter with online P2P lending came with TrustBuddy. The company was started by Jens Glasø in Kristiansand in 2009, but quickly moved to Sweden for regulatory reasons. TrustBuddy offered what is typically referred to as "payday loans" - unsecured, short-term loans to individuals in the range between 2.500 to 10.000 SEK (Dagens Næringsliv, 2014). The loans were free of fees and charges if paid back within 14 days. But if not, effective rates per annum could amass to more than 5.000 per cent (Hegnar, 2013). Despite not having concession to operate and market financial services in Norway, TrustBuddy began to target Norwegian customers via their website. By offering a cheaper alternative to expensive credit card debt on the demand side, and a "guaranteed" return of more than 12 % on the supply side, the P2P platform attracted many Norwegian customers.

TrustBuddy followed an aggressive expansion strategy. It established operations in multiple European countries, including Denmark, Finland, Poland, Spain, Germany, the UK and the US. In 2014, the company became the first publicly traded P2P lending platform in the world through its listing on the NASDAQ OMX First North in Stockholm. Later that year, it announced the acquisition of two European P2P companies. Prestiamoci from Italy and Geldvooreklaar from the Netherlands were strategically acquired to gain access to new geographic markets as well as P2B-segments.

In October 2015, TrustBuddy's operation came to a halt after new management had discovered serious misconduct (Financial Times, 2015). The wrongdoings included mismatching of loans between lenders and borrowers, and the use of new credit to cover up old defaults. According to the new management, the misconduct had likely been practiced since 2009. Subsequently, TrustBuddy was delisted from the stock exchange. It filed for bankruptcy shortly after. Rumors began circulating of a potential Ponzi-scheme. At its peak, TrustBuddy was valued at 723 million NOK (Hegnar, 2013) and reported to have more than 300.000 members.

The demise of TrustBuddy, along with its extensive media coverage was a major setback for the credibility of the P2P lending concept in the Nordics. Although the company never offered loans to Norwegian *businesses*, its unscrupulous use of the P2P business model, which resulted in thousands of lenders not getting their money back, is likely to have caused some distrust towards the industry.

Kameo:
Kameo was founded by Sebastian Harung from Norway in 2014. The original intention was to lease the technical operation of the platform from an external partner, but the company was forced to develop its own platform due to strict safety requirements. Through two rounds of equity investments from co-founders, board members and angel investors, Kameo raised around 20 million NOK to launch their service. Despite predominance of Norwegian ownership, the company located in Sweden on the basis of more competition and a more coherent regulatory framework. The plan, however, was to operate across the Nordics, and in 2016 Kameo received concession to engage in lending activity in Norway, Sweden and Denmark.

The first loans were issued in Sweden. By May 2017, Kameo had facilitated 20 loans, for more than 40 million SEK. At the same time, the company had also made its first loan to a Norwegian business. Vari Tre AS, a real estate developer,

was the first to secure a P2P business loan in Norway. The loan amount was 10 million NOK. Although Kameo would not reveal the specific rate paid by the borrower, effective interest rate per annum varies between 5 to 15 per cent according to their website. The CFO at Vari Tre AS could reveal that the loan seemed expensive initially, but carried some advantages compared to traditional bank loans. When it comes to real estate projects, most banks require a certain number of pre-sold units before they hand out loans. And pre-sales are contingent on a fixed price according to Norwegian law. Borrowing through P2P lending allows the developer to sell units through the auctions, which often yield a higher price. This type of project financing also allows developers to circumvent certain statutory warranties (Bustadoppføringslova). These advantages are part of the reason why Kameo specifically target real estate companies, as well as small businesses.

Kameo's business model follows an auction principle where lenders bid for portions of loans which borrowers have applied for. The company charges a fee of 2-4 % of the loaned amount, depending on maturity. To be eligible for borrowing, a business must fulfill certain requirements:

- Be registered as a limited liability company in Scandinavia.
- Have submitted at least one annual account.
- Updated financial information; no more than three months old.
- Positive equity.
- Be credit approved by UC, Bisnode or similar credit raters.

The rate can either be specified in advance by Kameo, or determined through a reverse auction where the lenders compete to offer the lowest rate. When the rate is set by Kameo, it conducts an additional credit rating, and decides on a rate that is "fair" with respect to the inherent risk of the loan. If prospective borrowers fulfill all criteria, their application will be presented to the investors (lenders) in a neat format that allows them to choose which project to fund. Once the entire loan amount has been bid for, the loan is paid out.

The company would not go into detail on how they specifically determine credit risk, but emphasized that they have credit analysts with long experience. If the loan amount exceeds a specified threshold, it needs approval from a dedicated credit committee consisting of accountants and real estate experts if needed. According to Harung, almost 90 percent of the credit applications are rejected at an early stage by the platform's credit model. When it comes to loan security, Kameo is flexible. The company facilitates both secured and unsecured loans, and the dedicated collateral will affect the price of loans.

FundingPartner:

FundingPartner was founded in 2016 by Geir Atle Bore. The idea was conceived by co-founder Tor Herman Smedsrud who previously worked with capital management in London. He observed the inadequacy of banks to provide capital for small businesses, and how the P2P companies were able to capitalize more and more of the SME-market. At the time, there was no equivalent industry in Norway, and the FundingPartner-team decided to set up shop. Through support from DNBs accelerator program, the company is now established in StartupLab in Oslo.

FundingPartner facilitated its first loan, with a face value of 2 million NOK, in 2017. More than 50 private investors contributed with an average of 40.000 NOK. The borrower was Changetech AS, a knowledge-intensive advisory company aimed at helping people change their habits and lifestyle. According to its financial statements, the company possess intangible assets of more than 5 million NOK (IP, apps, software etc.), but could not employ any of this as collateral for a bank loan. Consequently, the loan it obtained through FundingPartner was unsecured. Yet, more than the roughly 50 investors that were chosen "bid" for the loan, which indicates strong interest on the supply side. Although collateral is not a requirement, it is an option.

FundingPartner will continue with unsecured loans for the foreseeable future. Geir Atle Bore believes this segment holds more promise since borrowers with appropriate collateral in most cases will be able to get cheaper loans through traditional banks. He underlines that profitability is the most important variable, and the ability to assess this is central. FundingPartner does not provide loans to companies with less than two years in operation. In the credit assessment, the company looks at many of the same parameters as banks do (liquidity, cash flow etc.). But it also takes into consideration a number of other factors, both quantitative and qualitative. FundingPartner would not disclose how their model for credit assessment works in detail, but claims it utilizes big data and smart algorithms to determine the borrower's ability to pay. Social media is a potential data source for this model. Traditional banks have to prove for Finanstilsynet that a variable has had statistically significant explanatory power over the last five years in order to use it in their credit assessment. P2P lenders are more free to use available data, which gives them an advantage, says Bore. They also have a more hands-on approach in terms of understanding the borrower's' business models. Another advantage is processing time. According to Bore, FundingPartner are quicker and more flexible compared to the bureaucratic banks. In theory, the main limitation will be the time it takes for investor money to accumulate to the amount applied for.

One of the challenges for the US P2P industry has been lack of new capital from retail investors. Geir Atle Bore thinks the P2P concept might be prone to skepticism in Norway. Not only because of Trustbuddy, but because the investment type is unknown to the masses. Norwegians are generally quite risk-averse with their savings, and this type of investment which places itself somewhere between a savings account and the stock market might seem venturesome for many. However, the interest is there. Especially in a market where interest from bank deposits are low, and growth in housing prices has slowed down. Thus far, FundingPartner's website has only been a placeholder to show their existence, but has also worked as a minimum viable product to attract

investors. When their platform launch (which is anytime soon), investors will have the opportunity to browse through borrowers' applications, and choose which ones to fund. For diversifying purposes, the company will not allow anyone to put all their money in one company, and investors will be "forced" to choose a portfolio consisting of a minimum number of investments.

Vester:

Vester AS was incorporated in 2014 (Proff, 2017). The business idea was conceived in the aftermath of the financial crisis as founder David Andreas Baum predicted that the new capital requirements would lead to significant re-prioritizations in bank lending, potentially impairing small and local businesses the most. As a response, Baum wanted to launch a service with a different approach to lending. He had estimated that 80-90% of small business loans were collateralized by real estate (most commonly primary residences). In his view, this was not only a problem for small business owners, but the society as a whole given the chain of events a housing bubble could set of.

Vester seeks to address some of the structural challenges of operating a small business. A common example of such a challenge is the "valley of death curve", referring to a period in the nascent stages of a business' life cycle that occurs after receiving initial capital contributions, but before a steady stream of revenue is established (Investopedia, 2017c).

Similar to its Norwegian competitors, Vester is an online P2P lending platform that intermediates supply and demand of capital. In David Baum's view, what separates it from the likes of Kameo and FundingPartner is the social aspect. The company does not merely target investors looking for above average returns, it looks for people who want to support local businesses and job creation. Consequently, Vester will focus attention on "narratives" in its marketing, appealing more to the investors emotions than rationality. Baum also believes this approach will provide a "social glue of commitment". as the motivation for

repayment increases if the borrower knows that the financing comes from the local community. This model is inspired by Lending Circle, which Baum claims to have considerably fewer losses than banks in comparable segments.

Vester uses third party credit assessment agencies to complement their credit rating process. According to Baum, these agencies use roughly 700 different data points to provide a thorough assessment of a business' creditworthiness. In addition, Vester has its own models. It calculates the probability of default based on the whole maturity of the loan, and not only the first year which is common in the industry. Specific criteria for assessment were confidential at this point, and could not be disclosed in the interview. However, Baum mentioned the use of social media and rating sites as sources of information. In terms of collateral, Vester prefers company assets, such as inventories or receivables. Businesses are also able to provide personal collateral, but it is not encouraged.

At the time of writing (August 2017), Vester is in the final stages of establishment. It currently awaits the results of a concession application to Finanstilsynet, which is expected to be processed within a few weeks. Also, since the company is managing large registers of sensitive data, it awaits approval from Datatilsynet. Vester is expected to launch within the 4th quarter of 2017. It will do so with the support of Sparebank 1 SR-Bank, the largest savings bank in Norway, which recently acquired 34% of the company. Although Baum could not reveal the specific plans for the collaboration, there is a notion that Vester's services could be offered to loan applicants who do not meet the strict requirements of the regular bank.

Baums sees a great potential for the business model of online P2P lending in Norway. However, he emphasizes that the process will take time. Norwegians are generally careful and risk averse when it comes to "new things". Achieving high volumes will therefore take time. But eventually, Baum thinks the time to obtain a fully subscribed loan will be able to compete with the time of procurement in

traditional banks. In terms of competition in the online P2P lending industry, he thinks the winner will be those who can rapidly obtain a pole position in the market and achieve exponential growth. However, to succeed, the new actors must recognize that they offer something different from traditional banks, and compete on their own terms.

5.4.6 Regulation of online P2P lending

The financial services sector is among the most heavily regulated in Norway. Depending on the scope of their business, financial firms must obtain concession from Finanstilsynet to legally operate within banking, debt collection, insurance, auditing etc. The same goes for lending intermediaries, although the regulation has not been entirely clear on the subject of online P2P lending. Technically, P2P lenders do not own the assets they distribute. In its pure form, a P2P lending platform is nothing more than a marketplace that provides borrowers and lenders an opportunity to make exchanges. However, Norwegian law prohibits the lending of money from individuals to companies (with the exception of donations). Moreover, the P2P lenders we spoke with assume certain functions on behalf of their customers, such as credit assessment and debt collection. Although parts of these functions are sourced out to third-parties, the general consensus is that the online P2P lending industry must be subject to regulation. Not only to prevent mismanagement of customer investments (as the case of TrustBuddy made relevant), but to abide by the Money Laundering Act of 2003 (Hvitvaskingsloven). Kameo is one of the licensed online P2P lenders in Norway. The practical implications of its concession is the need for a partner bank. When lenders/investors subscribe for a loan, their money is transferred to a Kameo-account which is held by a partner bank. From there, the money is transferred to the borrower if all criteria are sufficiently met.

In the 2016-2017 government statement regarding the condition of the financial markets (Finansmarkedsmeldingen 2016-2017), the Ministry of Finance devoted a section the rapid development of financial technologies, including online P2P

lending (Regjeringen, 2017). Changes to financial intermediation outside the established systems raises the questions of how laws and regulations need to be adapted to secure consumer protection and the impact innovation in financial services will have on financial stability. On the demand side, the government's responsibility is to facilitate for new actors and business models that can provide a more diversified and vigorous offer of financial services to the public, and possibly reduce systematic risk in the financial markets. On the supply side, there is a responsibility to safeguard investors against deceitful investments with disproportionate relationship between risk and return.

Even though online P2P lending has experienced significant growth internationally, there are questions whether it can be deemed a stable source of financing (Regjeringen, 2017). Experience is limited and the business models are new and unproven, especially in economic downturns. Like other investments, online P2P lending includes several types of risk, including liquidity risk, credit risk and cyber risk associated with the operations of online platforms. As a result, Finanstilsynet was commissioned by the Norwegian Ministry of Finance to evaluate the current regulations applicable for this source of financing, and to see whether a separate legal framework is needed. From its evaluation, Finanstilsynet concluded that online P2P lending could be covered by regulations in the Financial Entities Act (Finansforetaksloven), either as "banking- and financial institutions" or "loan providers".

The Ministry of Finance will continue to follow the development of online P2P lending closely and evaluate the need for changes in the existing framework as more documentation and statistics from its developments emerges. The ministry is generally positive to the supplement of a new source of credit financing, and sees potential for the online P2P lending industry in Norway (Regjeringen, 2017). The difficulty lies in balancing the right amount of regulation. While the government must protect against the adversities mentioned above, too much regulation could quell the innovation. For guidance, officials have looked to the UK, where the

FCA has backed so-called “regulatory sandboxes”. The sandbox can be configured in a numerous ways, but is typically meant to allow new or established actors to test innovative products or services in a controlled environment, towards a limited number of customers without having to deal with all the compliance work that exists in the open market. This opens up for small-scale experiments to check the viability of a concept or a business model. Information and Communications Technology Norway (ICT Norway) was granted government funding in March 2017 for a project to develop such a sandbox for new and emerging financial technologies.

6. Discussion

How will the emergence of online P2P lending affect the state of small business lending in Norway? In section 5.1.4 and 5.2 we presented information regarding a potential small business credit gap, and the credit assessment process of traditional financial institutions, respectively. Significant evidence suggests that small businesses not only have less chances of procuring loans relative to their larger counterparts, but have seen these chances diminish in recent years. With reference to the economic importance of small businesses discussed in section 5.1, one of the key questions we seek to answer is whether online P2P lending can improve financial access for small businesses in Norway. Heretofore, we have devoted considerable space and attention to describe small business financing and online P2P lending separately. This section examines how the latter will affect the former. Predicting the future is not easy, but we draw on findings, literature, studies and developments abroad to try and provide meaningful insight to this case study within the boundaries our research question.

When determining how new technology will affect something, it is important to understand the strategic value of the technology. What is strategically different from the old ways of doing things? Online P2P lending is conceptually about accepting deposits and issuing loans - just as banks have done since their genesis in ancient Mesopotamia. And in terms of value configuration, both P2P lenders

and traditional banks are value networks. The main difference is related to transaction costs. With reference to section 3.1 of the theoretical part, it is the idea of Ronald Coase that firms will expand or contract at the margin, until the cost of the last transaction organized internally equals what that transaction would have cost using the price system (Munger, 2016). In other words, the level of transaction costs dictates the organization of the firm. But if entrepreneurs can somehow find a way to fend off factors like uncertainty, imperfect competition, bounded rationality and opportunism without becoming a cumbrous hierarchy, the literature leaves room for competitive advantage to be sustained. This is what online marketplace lenders strive for. In more aggregate terms, this is what the new "sharing economy" is all about. Using market mechanisms to facilitate exchanges of goods and services without owning more than a coordinating platform for searching, payment and assessment is the bread and butter of companies with this business model. Online P2P lending falls into this category. But the term "sharing economy" is not particularly accurate. Nor is it a new phenomenon. Similar to lending between individuals, direct exchanges between individuals have taken place in all kinds of markets for ages. People rent out goods and services for a given period of time in exchange for payment, and for that reason, a "rentership economy" might be a more accurate term.

The modern rentership economy is made possible by the substantial lowering of transaction costs resulting from recent technological advances. Herein lies the value proposition of companies like Airbnb, Uber, eBay, and the Norwegian digital marketplace Finn.no. Essentially, these companies are not selling products, but reductions in transaction costs. They provide value by making possible transactions that would not otherwise take place. Similarly, marketplace lenders bring together lenders and borrowers that would not otherwise find each other due to costs related to searching, acquiring information, trust and enforcement of agreements. But the dynamics of online P2P lending is slightly different from that of e.g. accommodation or transportation. First of all, money is almost a perfectly homogenous product. At least when it comes to domestic credit markets. Each

monetary unit is the same as every other unit, so price becomes the most important basis for competition. Second, the economic exchange of a loan spans a longer period of time than a holiday or a taxi ride. The exchange is not complete before the entire loan (plus fees and interest) is repaid, which can take up to five years. Third, and related, is the fact that risk of adverse fate is higher in P2P lending. It is more likely that an exchange between two peers will go wrong in this domain of the rentership economy than most others, due to the aspect of defaults. Although unfortunate circumstances can lead to failure of fulfilling the anticipated exchange involved in e.g. a short-term rent of an apartment, the mechanisms for preventing this kind of adversity is currently more developed (in the form of rating systems, payment schemes, insurance, etc.). All the above factors arguably make online P2P lending one of the more difficult endeavors of the rentership economy. Yet, given the size of the market, it is perhaps the most interesting.

Financial inclusion is frequently being leveraged as a marketing driver for the P2P lending industry. Part of Lending Club's stated mission is to "transform the banking system to make credit more affordable" according to its website. In a similar vein, FundingPartner expresses that: "Norwegian SMEs currently struggle to get loans (...)" and that it wants to "improve the businesses' access to attractive financing, which will enable them to grow and create jobs". But will the advent of online P2P lending really improve the access to credit for small businesses? The question leads us back to the discussion in section 5.1.3 regarding the difficulties of measuring access to credit. And in this particular case, we have less secondary data to rely on, given the novelty of the industry. We therefore resort to a conceptual discussion around the current outlook of the industry and view it in combination with the literature and comparable developments in other domains of the rentership economy.

One of the more surprising findings to us, was that traditional banks demand full securitization for *all* business loans. Even for successful businesses with good

track records and steady incomes. For small business owners, this often means putting up their houses as collateral, given the high rate of home ownership in Norway. Up until now, the only alternative to circumvent collateralization has been personal/unsecured loans. Some banks market these loans towards businesses, but they are essentially what is popularly called "forbrukslån" in Norwegian (consumption loans). Interest rates regularly exceed 15 % per annum, and the maximum loan amount is 500.000 NOK in most cases. In 2014, one of the leading Norwegian fintech-experts Christoffer Hernæs, wrote in a feature article that online P2P loans were fast becoming more than just alternatives to "forbrukslån" (E24, 2014). Our findings suggest that they are likely to pose good alternatives in the market for unsecured loans, now that some of the platforms are up and running. Kameo's rates range between 5-15 % for borrowers, and FundingPartner expressed a more flexible price range, with a preferred ceiling at 20%. The reverse auction principle will probably drive down interest rates for good borrowers. But perhaps more important is that P2P loans enable businesses to borrow more than 500.000 NOK without collateral. As we recall, FundingPartner's first loan amounted to 2 million NOK. In theory, there is no upper limit to what can be borrowed, as long as there are enough lenders to spread the risk. Achieving volume by offering lenders good investments is therefore very important for P2P platforms. Whether this volume comes from retail investors or institutional money remains to be seen.

It has been well-documented that the emergence of online P2P lending is largely fueled by a lack of access to capital for small businesses. Both abroad (e.g. Mills and McCharty, 2016) and domestically (as referenced in section 5.1.4). However, studies of whether online P2P lending has changed the game are in short supply. Even in the UK and the US, where online P2P loans for small businesses have been around for approximately 10 years. A report by the Cambridge Centre for Alternative Finance from 2016 provides some insight to how much the volume of P2P loans for small businesses has grown in recent years compared to traditional bank loans. But the variables underpinning bank loans are many, and hard to

isolate. It is inherently impossible to determine if the observed trend is a matter of growing the pie or slicing it differently. A study by the Federal Reserve Banks of New York, Atlanta, Boston, Cleveland, Philadelphia, Richmond and St. Louis in 2015 revealed that online lenders had higher approval rates than large banks, small banks and credit unions. But the study did not account for differences in applicants. Nor was it able to track individual applicants and register the outcome of their application across different types of lenders. This is another problem when trying to measure access to capital. Inherent in an analysis of online P2P lending based on transaction data is a potential sample selection bias. Lenders using the online platform might represent those with a high probability of default or lenders whose credit applications have been rejected at traditional banks (Berger and Gleisner, 2010).

Given the current lack of studies on the financial impact of P2P lending for small businesses (and in general), we must return to the literature for a further discussion of our research question. So far, transaction cost theory has helped explain why parts of the lending industry pivots towards disintermediation when technological advances enable lowering of transaction costs. But the implications of this shift for borrowers is still not clear. Whether credit comes from a traditional bank with a hierarchical structure, or directly from the market through a P2P platform is arguably not important in itself. What matters is the way this affects the supply of loans. Given the reasoning in section 3.1, that transaction costs and information asymmetry are the fundamental reasons why financial intermediaries exist, one should expect diminishing influence by banks if the level of these variables decreases. And considering the homogenous nature of credit as a product, financing should become cheaper and more attainable, ceteris paribus. However, there are limitations to online P2P lending that currently weigh down some of the benefits of lower transaction costs. These include higher cost of capital, direct exposure to default risk, little or no collateralization, and lack of secondary markets to ensure liquidity for investors. At the moment, our research suggests that small businesses eligible for loans in traditional banks are better off

financially by selecting this source of credit. As duly mentioned, comparing the interest rates paid on loans from banks versus P2P lenders is difficult, but tend to be higher in the latter case given the risk profile. Our research also suggests that the expediency and simplicity promised by online P2P lenders is of limited value so far. If required documentation is provided, traditional bank loans can be procured within a day or two in many cases. And the arduous, weeklong application processes frequently heralded by the online P2P lending industry are in fact few and far between.

As of now, the greatest value contributed by online P2P lending for small businesses is a market for unsecured business loans. For some businesses, this makes a big difference. For others, it is less important; either because they get better offers from traditional banks, or because their risk profiles are simply too high. But this can change as the market for P2P lending in Norway develops. To assess how, the industry will impact small business lending in the future we have included a discussion of online P2P lending as a disruptive innovation. Although no disruptive innovations are equal, there are certain characteristics about how they tend to evolve. We must stress that the purpose of this discussion is not merely to see how online P2P lending checks against Clayton Christensen's criteria for disruptive innovations. But we believe there is value in comparing this technology against how similar innovations have fared in the past in order to determine its potential in the market for small business lending.

Bower & Christensen (1995) distinguish between sustained innovations and disruptive innovations. The former implies minor improvements to an existing product within the most profitable segment of a current market. Disruptive innovation, on the other hand, involves radical changes to a technology, or the deployment of an existing technology in a new market. As discussed in section 3.2, these innovations tend to gain foothold in the overlooked, less profitable, and less demanding customer segments by offering more suitable functionality – often at a lower price. To what extent does this description fit online P2P lending?

What Christensen, Raynor and McDonald (2015) mean by "more-suitable functionality" is not to be confused with "better quality". It is rather the opposite; more suitable functionality often comes at the expense of quality. But what represents the quality of a loan? In a recent survey by Kommunal Landspensjonskasse (KLP, 2017), 71% of the respondents listed low interest rates as the most important criteria for choosing a bank to borrow from. This harmonizes with our discussion of money as a homogeneous product largely dictated by price. In this sense, the offerings of online P2P lenders can be considered inferior. Since they are not able to compete with banks for mainstream customers on price, they focus their attention on the fringe segments, by offering these customers a more suitable functionality. This functionality, as we discussed earlier, can be considered as the additional reduction in transaction costs that online P2P lenders provide. It is their accessibility, rapid turnaround, and more intuitive interface that has gained them foothold. Meanwhile, traditional brick and mortar banks can be said to have overshot the needs of a material number of customers. Not by making loans too cheap, but through various extra features that are beyond the strict necessities for financial intermediation. For example, additional advisory, 24-hour call centers, expensive real-estate, and excessive hedging effectively make loans more expensive than they need to be. Although some customers value these features, others are more than happy to just get cheap loans.

P2P lenders are considered as lending intermediaries ("låneformidlere") by Norwegian law. Although their activities are subject to oversight by Finanstilsynet, regulation differs from that of traditional banks since the P2P lenders do not own the assets they distribute. One of the implications of this is considerably lower capital requirements. As discussed in section 5.1.4, the strict capital requirements imposed on Norwegian banks constitute a significant internal cost, and is part of the reason why small business credit seems to have dried up in recent years. Online P2P lenders also have the edge when it comes to operating costs. Without physical branches, legacy IT structures, bureaucratic organizations

and underwriting services, they can operate at a fraction of the costs traditional banks face. Automated credit assessment is another factor. Although the predictive performance of this compared to the more labor-intensive assessment processes of traditional banks can not yet be fully determined, it is a less costly option. The reason why online P2P loans are still more expensive than bank loans is all to do with risk and reward. Online P2P lenders are not members of the Norwegian Banks' Guarantee Fund, which is a collaboration between Norwegian banks' that insures customers against losses of bank deposits of up to two million NOK. As previously mentioned, lenders on P2P platforms risk losing their money if a borrower defaults. Consequently, they will demand an interest rate to compensate for that risk. Liquidity issues will also drive up the price unless an efficient secondary market can be established. Comparing prices between traditional banks and P2P lenders for comparable credit risks is difficult so far in Norway since the overlap is quite small. The customers targeted by traditional banks are unlikely to yield high enough returns for the online P2P investors, while the customers targeted by online P2P lenders are likely to be deemed too risky by the banks. But it seems clear that online P2P lenders have an underlying cost advantage, which is important. Over time, this can be transformed into lower prices if the online P2P lenders move upmarket. As Christensen, Raynor and McDonald (2015) accentuate; disrupters tend to focus more on getting the business model right, rather than the product.

Disruptive innovations originate from low-end or new-market footholds, and small business credit is a prime example of the former. As discussed in section 5.1.3, small businesses are considered less profitable by traditional banks due to a higher relative cost of procurement and increased information asymmetry. In the past, small community banks have served an important role in overcoming the problems of asymmetric information. By investing time and effort to build dense relationships with borrowers, studies have shown that these banks have generally performed better at assessing borrowers' creditworthiness than their larger, centralized peers. As a consequence, they have been an important source of credit

for many small businesses. The consolidation of banks and closure of local branch offices is now slowly seeing this advantage dwindle. The data presented in section 5.3.1 suggests that larger banks compensate for their shortfall in credit assessment by being more restrictive, which evidently creates a market where small businesses are considered less attractive or even negligible. This is what online P2P lenders try to remedy. Where disruption comes from is important for how incumbents react. A competitor that directly targets the core customers of an incumbent is more likely to face head-on competition than one that "nibbles away at the periphery" – as Christensen and his co-authors put it.

The disruption theory framework is useful for saying something about the future trajectory of an innovation. As mentioned, we are not interested in settling if online P2P lending will be disruptive per se. But using the framework serves a purpose in trying to understand the viability of online P2P lending as a financial innovation, which ultimately will have an effect on credit access for small businesses. Although the most common application of the theory is to help myopic incumbent managers to discover challengers on a disruptive trajectory (and how to deal with them), there are also some commonalities amongst disruptive innovations and the way they impact markets. Often, they involve some sort of improvement in access to a product or service. Either in price terms, or through lowering transaction costs (or both). Airbnb has certainly made accommodation less expensive and more accessible to customers with little financial means. Uber is, in many cities, a cheaper and more efficient way of getting around than taxis (although Christensen disputes the disruptiveness of this innovation). Christensen presents a total of 75 cases where disruption has occurred in "The Innovator's Solution" (2003), and the majority share this same feature (e.g. Amazon, Canon photocopiers, community colleges, disk drives, Ford, and Salesforce).

So will online P2P lending be disruptive? It has some of the characteristics. Most notably the low-end foothold that has allowed the challengers into the market

while still sailing under the radar of incumbent banks because the small business credit segment is by and large unattractive for them. In terms of performance and functionality, this can also be said to fit the theory if we consider the former as the ability to provide the cheap loans and the latter to reflect reduction in transaction costs. However, this is a rather presumptive simplification that only takes into account the perspective of the borrowers. If we recall the literature presented in section 3.3, the value creation logic of both banks and P2P lenders is their provision of a networking service that links clients or customers who are or wish to be interdependent (Stabell and Fjeldstad, 1998). In other words, the dependency among customers is the main product delivered in a value network. Depositors are not bank suppliers, they are just as much bank customers as those borrowing money according to Stabell and Fjeldstad. For these customers, other criteria matter, such as trust and reputation, risk/reward ratio, liquidity of investments and so on. A frequently used argument by P2P lenders is that banks have overshot the needs of their depositors in terms of safety of deposits. "The cost of certainty" comes with a significant opportunity cost. Not just for depositors who receive sub-optimal returns, but ultimately for small businesses whose unpredictable nature does not match the standards for safety. P2P lenders argue that banks are trying to serve two masters and underperform at both since certainty is compromised by risk, and returns are curbed by certainty (Lewis, 2016).

The argument above adds to the disruptive claim of online P2P lending in our opinion. But despite signs of disruptive potential, this is no guarantee of success. Disruptive innovation is a process and the term refers to the evolution of a product or a service over time, so applying it at a fixed (and presumably early) point in time will only get us so far in exploring P2P lending and its future impact. As Christensen asserts himself: "the theory says very little about how to win in the foothold market, other than to play the odds and avoid head-on competition with better-resourced incumbents". Furthermore, transaction cost theory, while useful for explaining the re-emergence of the P2P concept in so many industries, does not provide enough detail on the competitive dynamics within a given industry.

To further assess the viability of online P2P lending and its implications, we draw on the literature on competitive advantage in mediating technologies, and specifically: how to compete in value networks.

Scale and composition can be drivers of both cost and value in value networks. P2P lenders must make sure to attract enough lenders to carry out the process of loan subscription swiftly and to facilitate an efficient auction between the lenders to drive down prices. At the same time, the portfolio of borrowers must provide diversification and variety in risk-interest options. Traditional banks must also ensure balance between depositors and borrowers. But their scale benefits can be extended through strategic alliances with other banks and the money market, meaning they are less exposed to the unbalance online P2P lenders might suffer with their business model. Moreover, banks can exploit these economies of scale by lowering their cost of funding and boosting their returns on lending by providing liquidity services on deposits and flexibility in loan contracts to a large pool of customers (ECRI, 2016).

Vertical scope refers to how a mediation exchange in a value network requires multiple levels of co-producing mediation activities (Stabell and Fjeldstad, 1998). Choice of scope depends on whether suitable lower-level mediation services covering the relevant customers are available. For traditional banks, this encompasses an array of different functions needed to deliver their products and services. Examples include cyber security, electronic payment clearance, ATM networks, compliance, underwriting and so on. Even though the business model of online P2P lenders is more focused, they also depend on lower-level mediation services (e.g. debt collection, IT operations and external credit information). Most importantly perhaps, is that they depend on traditional banks to deliver their value. As mentioned in section 5.4.6, regulation requires online P2P lenders to expedite investments through client accounts in traditional banks. Although the overall macro trend of financial services seems to be heading in the direction of

disintegration, there still appears to be value in controlling parts of the integrated process of the value network.

Learning is another potential value driver according Stabell and Fjeldstad (1998). Applied to lending, this relates to improvement of credit qualification activities. Being able to reduce information asymmetry and predict the risk of default better than traditional banks will not only be one of the key determinants for growth in the online P2P lending industry; it will improve small businesses' access to financing. On one hand, the current conditions look favorable for P2P lenders. With the introduction of PSD2 next year, they can access data on previously private customer cash flows to apply in their credit analyses. And unlike traditional banks, they are not restricted by regulation as to which variables can be used in the analyses. Together with the proliferation of digital data from accounting software, social media and review sites, there is a belief that P2P lenders can somehow utilize this information to make more accurate credit assessments than the banks at a lower cost. This could help resolve the "lemons-problem" described in section 3.1 of the theoretical framework. However, our research suggested that the documented effect of these new approaches to credit assessment is so far very limited. The three online P2P lenders we interviewed for this thesis claimed to have proprietary solutions for the assessment process, but unfortunately, none could disclose any details regarding specific parameters and variables in use due to confidentiality reasons.

Traditional banks also invest greatly in assessment of credit risk. But they are more content with a segmental division of risk, and settle for an average risk spread across many loans. To some extent, this means that any borrower must pay the interest rate applicable to the risk of the average borrower, or at least the average between two risk classifications. Put differently; the peaches subsidize the lemons' financing. In the end, credit assessment is about making predictions about the future, and pricing loans accordingly. If online P2P lenders can learn how to use technology to price loans relatively accurately, at an individual basis, and at a

low cost, it could prove beneficial for small businesses with low credit risk, who could be offered loans at rates closer to what they inherently "deserve". Conversely, small businesses with higher risk would have to pay more than they do today. However, given the lack of evidence in favor of these new approaches to credit assessment, our research leads us to believe that it is mainly "prime peaches" in search of either non-collateralized loans or more seamless online experiences that currently constitute the customers targeted by the P2P lenders. The riskier prospects are not likely to be any better off when it comes to access to credit.

From a literary point of view, developing new solutions for credit assessment can be seen as an attempt at solving an asymmetric information problem. Credit markets are recurring examples in the works of Akerlof, Spence and Stiglitz, and the assumption is that borrowers know more than the lenders about their own creditworthiness. While this may often be true for individual borrowers (since their income is usually fixed), it is not always the case for businesses. The determinants for repayment ability, such as profitability and cash flow are unknown measures for both lender and borrower. Although small business owners are likely to know more about the financial state of their business than the bank or online P2P lender, it is not certain that this information translates into good predictions regarding credit risk. As previously mentioned, small business owners typically invest heart and soul in their endeavors, and it is not unlikely that their indomitable optimism can compromise rational financial decisions. In other words; it is not given that strategies for signaling or screening will be effective in this case, since the party with more information does not necessarily know how to use it. As a result, we believe that traditional banks serve a different type of role that might be hard for online P2P lenders to emulate; namely to discipline the financial behavior of businesses. From our interviews, we learned that traditional banks often served as much-needed conservative counterweights to over-optimistic entrepreneurs.

7. Conclusion

The financial crises led to structural changes in the financial sector and in the provision of credit. Stricter capital requirements were imposed on the banks, resulting in tighter loan conditions, where businesses were required to put up more equity and collateral to get loans. As a result, Norwegian small businesses experienced a persistent shortage of access to credit. Small businesses were hit particularly hard due to their dependency on banks. Another reason is the consolidation of local banks, which have proved to be better at small business credit assessment, as well as being willing to take more risk in this segment.

Much has been said and written about the emergence of online P2P lending and its disruptive forces seeking to end the intermediation of banks. Although we would argue that the innovation holds some disruptive potential, we believe it will come up short against traditional banks on account of the competitive dynamics in a value network. There are strong reciprocal interdependencies across the activities conducted by a bank, which makes it difficult to isolate one particular service successfully. This is most salient when it comes to scale and composition of the network, and vertical scope. However, the future outlook of the online P2P lending industry very much depends on perspective. The companies we spoke with primarily viewed themselves as complements to the incumbent banks, rather than direct challengers. We will argue that this is a good thing for small businesses. According to disruption theory, a disruptive innovation will eventually overshoot the needs of the average customer. This indicates that small businesses might be better off if online P2P lending remains a complementary service, specializing in the diverse and challenging needs of small business financing. Incumbent banks also seem content with this situation. Collaborating with online P2P lenders can allow them to capture value by offering other products and services to customers that they would otherwise have to turn away, something which Vester and Sparebank 1 SR-Bank could prove an example of.

Despite some of the socioeconomic value communicated by the online P2P lenders, we found little evidence suggesting that their emergence will drastically increase the access to credit for small businesses in Norway. As previously mentioned, the main difference to date is that some of the new lenders are more flexible when it comes to collateralization of loans. But a relatively strict selection process seems to counterbalance this flexibility in many cases. However, this could change over time. Given the novelty of both the businesses and the business model in Norway, it is not surprising that the actors would want to avoid initial defaults. Until loan volumes reaches a critical mass, an insufficient number of trials could skew the perceived probability of default in an unfavorable direction, potentially imperilling the supply side of the platform.

In spite of the inconclusive effects of using proprietary technological solutions in credit assessment so far, this appears the most promising avenue for online P2P lenders. The P2P lenders have an advantage compared to banks in this aspect due to current regulation, their technical abilities, and lack of legacy infrastructure. The forthcoming era of big data and artificial intelligence means that we can not disregard the informational value these sources may provide in the future. And if the P2P lenders can utilize distributing technologies such as blockchain to circumvent the need for traditional banks, the concept might be a viable threat to banks. For now, we conclude that online P2P lending in Norway is a promising supplement in small business financing, primarily because of low internal costs, and low external transaction costs. Since access to information about variables that have proven to determine creditworthiness is generally quite good in Norway (financial statements, credible accounting, public registers etc.), we believe the disruptive potential of online P2P lending is probably greater in other geographic markets where information asymmetries are more prominent.

8. Limitations

Among the difficulties encountered in this thesis is the ability to quantify the shortage of access to credit for small businesses. Distinguishing between rejected, but creditworthy, and rejected, and not creditworthy businesses was impossible due to lack of data. Thus, we had to rely on our own preliminary study, backed up by reports from more resourceful sources. One of these were NHOs "Økonomibarometer", which presented us with another challenge in terms of different definitions of the size of a small business. Furthermore, we acknowledge the limitations in choosing a case study research method, as there might be case-specific elements in our case that limit broader transferability to other contexts. However, our research objective was not to create generalizability, but rather to explore how this particular phenomena will impact the Norwegian credit finance industry and the credit access of Norwegian small businesses at this point in time. We also encountered difficulties in collecting data and getting in contact with relevant people with expertise in the focal area. We attempted to schedule interviews with "fintech-experts" for their opinion on the subject without succeeding. Despite this limitation, we find the data collected from the sources we have accessed to be sufficient for the purpose of answering our research question. There were also limitations related to confidentiality. The novelty of online P2P lending in Norway means that information regarding potential competitive advantages is highly sensitive. Accordingly, we encourage further research on this phenomenon as the online P2P lending industry develops, and more documentation becomes available.

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