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Fintech and the Financing of Entrepreneurs: From Crowdfunding to Marketplace Lending

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September 2017

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Keywords: Banking, Crowdfunding, Entrepreneurship, Fintech, Peer-to-Peer Lending, Platforms, Regulation, Regtech, Regulatory Sandbox, Technology

JEL Classifications: G23, G24, G30, K22, L26, L51, O31

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1. Introduction

Bank lending to small and medium sized enterprises (SMEs) has changed dramatically since the time of the financial crisis of 2008. That shouldn't be too surprising. Banks' lending capacity shrank between 2008 and 2013 due to higher risk aversion at a time when economic growth had slowed. The sensitivity to external market shocks led to changes in the supply of short- and long-term financing to SME borrowers. In the Netherlands, for example, we observed a 6-8% year-on-year decline in bank loans to SMEs and the highest loan rejection rate in Europe (OECD 2013). SMEs continue to face numerous obstacles in borrowing funds because they are small, less diversified, and have weaker financial structures. Moreover, ample evidence suggests that smaller companies face greater perceived and actual constraints than larger firms. Collectively, they have been considered unfavorable borrowers due to their difficulty in providing high quality collateral or their relative opaqueness with respect to their creditworthiness (Boot, Thakor and Udell 1991; Ayadi and Gadi 2013).

In recent years, policymakers and researchers have increasingly begun to explore the impact of the recent financial crisis on the rationing of credit. The effect, in the case of SMEs, was on the reduction income reflected in their balance sheet and overall collateral levels. Not only did small businesses look less creditworthy, but they also

faced greater perceived and actual constraints than larger firms and that this would play a critical role in the narrowing of available finance options (European Central Bank 2015). Also, data on small business credit scores, such as PAYDEX, indicate that lending to small business is lower than before the financial crisis (Mills and McCarthy 2014). While bank loans remain of vital importance for small businesses, changes in lending standards have placed significant demands on banks focused in the SME, prompting a significant decline in small business credit. The literature suggests that regardless of the change in credit conditions in 2014, lending standards remained comparatively tight and interest rates high for SMEs in countries hard hit by the financial crisis (OECD 2016).

There are a number of specific, efficient strategies that have been developed and demonstrated to alleviate credit rationing. In general, these strategies involve three types of mechanisms. First it is clear that the presence of information asymmetries and principal/agent problems may induce sellers of financial service to offer products that, due to monitoring problems, leave potential borrowers without access to credit. Past studies show that banks' local network ties and relationships have reduced the uncertainties and mitigated some of the risks opportunism associated with bank lending

to SMEs. Moreover, this literature has emphasized how enabling environmental initiatives may have actually reduced information asymmetries by establishing effective monitoring techniques. Second, the use of collateral, gives the SME with a serious credit problem an incentive to repay the loan. Research suggests that if collateral is not available, a credit guarantee system that offsets the reduced reliability of nonaudited financial statements may improve access to credit as well as improve the loan terms for SMEs (Beck *et al* 2010). Despite the expense, some governments will invest in a loan guarantee program because they address the market imperfections that cause credit restrictions to SMEs and spur innovation in the SME sector. The presence of the guarantee can result in a lower rate paid for the loan.

However, as banks retreat from SME financing, strong online lending has made it easier for low-income businesses and small young firms to secure credit without government support (OECD 2015). This growth of alternative online lending has supplied new competition to traditional banks and venture capitalists, and is beginning to disrupt the traditional of business of lending in a number of ways — not only by bringing competition to the corporate market, creating efficiencies and competition that reduces on-line risk, but also making SMEs more profitable (Ahmed *et al* 2017). Another

important consequence of the new models of finance is the reduction of systemic risk and more diversified lending options. Established industry players are confronting the reality of alternative online platforms are improving the profitability of small business lending (Deutsche Bank 2016).

More specifically, the booming demand for Fintech – broadly defined as the use of new technology and innovation to compete in the marketplace of financial institutions and intermediaries – is the result of fast funding and online applications which has lowered costs for their clients. This, in turn, has helped these lenders in the United States, for example, to become an important provider of capital to low-income businesses and small young firms while helping to bridge the funding gap in the SME credit market (GAC 2015).

Fintech has disrupted or is disrupting the financial service sector in at least three ways. First, online platforms, which differ from traditional funding channels, allowing financial service providers to offer a wide range of new services that remove intermediaries and administrative layers to make transactions more effective and less prone to error. In this way, financial services are decentralized and made flatter.

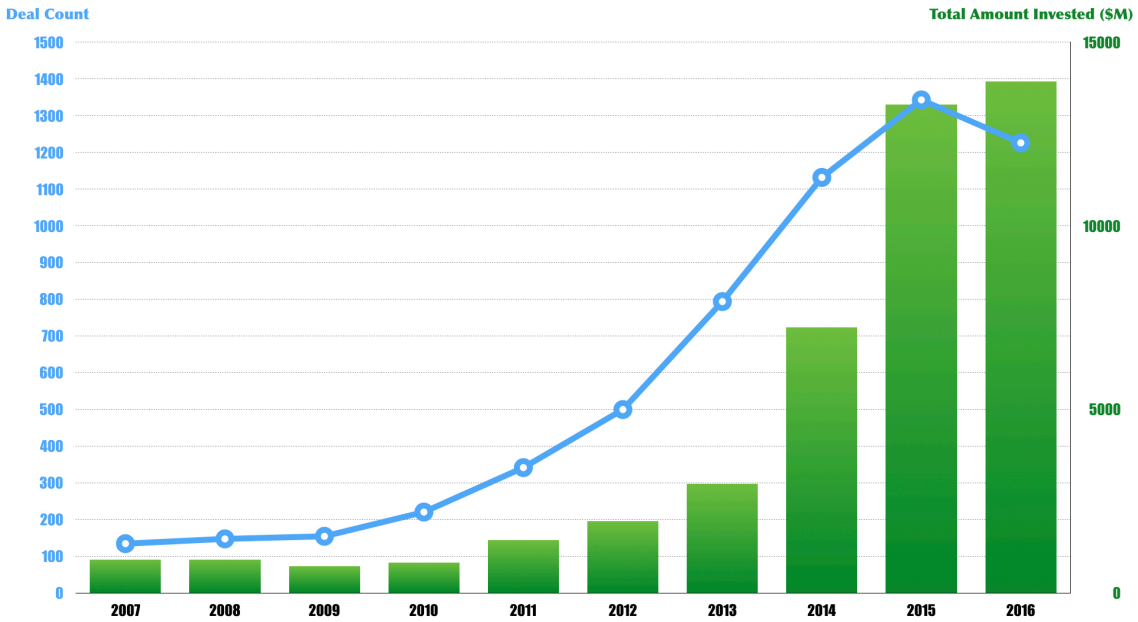
Most obviously, there is the growth of mobile banking that allows customers to perform a wide range of transactions online. Second, networked access to financial services facilitates quicker access to all manner of transactions from checking financial status, making payments, and withdrawing and transferring funds. Third, behind the scenes activities of financial institutions are similarly transformed. In part, this involves the use of Big Data to deliver a more efficient service, but it also allows firms to use technology to manage legal risk more effectively. Finally, in the absence of industry-wide standardization (ie, no capital requirements) it is clear that peer-to-peer ('P2P') platforms will enjoy lower operating and capital expenses compared to traditional banks.

To many observers, one of the most disturbing aspects of the 2008 financial crisis was the subsequent introduction of vast swaths of new banking regulation. The rapid introduction of regtech – which involves using new technologies to meet regulatory and compliance requirements - suggests that using Big Data analytics allows firms to accelerate the cumbersome and costly process of implanting new regulation. There are a number of areas of compliance and reporting where technology can have significant

benefits, such as risk data aggregation, modeling and real-time transactions monitoring. Machine learning, artificial intelligence, and biometrics have been particularly promising in tackling compliance challenges.

Fintech has also facilitated the emergence of start-ups that offer an alternative source of financial services. Fintech lenders, including equity crowdfunding, invoice and supply chain financing and marketplace lending, are beginning to challenge traditional business models in a number of ways — not only by bringing competition to the corporate market, creating efficiencies and competition that reduces on-line risk, but also making SMEs more profitable (WEF 2015). In particular, app-based companies are emerging everywhere. They challenge and disrupt incumbents, such as traditional banks, by supporting a wide range of financial services, namely marketplace lending platforms, equity crowdfunding platforms, insurance services, algorithm-driven robo-advisors offering smarter more personalized financial advice and blockchain-based crypto-currency and payment systems. This trend is borne out by the investment data. Since around 2010, more and more investment is being made into Fintech. And even though deal activity has slowed over the last year, there is little evidence indicating that Fintech is likely to permanently stall or collapse (See Figure 1).

Figure 1 Global “Venture Capital” Investments in Fintech Startups



Source: PitchBook

Millennials - defined as the demographic cohort that reached maturity around 2000 - are thought to be one of the primary drivers of Fintech innovation. To begin, Millennials are prompting changes in the need of firms to focus on the consumer. Three aspects of contemporary consumer expectations that seem pertinent in this context include: a state of the art consumer experience, speed and convenience (PWC 2016). The delivery of innovative Fintech solutions will require a degree of cooperation between multiple

partners, including Millennials, as stakeholders and investors, in maintaining a focus on the core task of innovating.

In this chapter, we examine how Fintech lenders target the SME segment, connecting companies and investors that want to lend or provide some form of equity capital or debt to startups. To gain a better understanding of the online alternatives to bank financing, we provide an overview of the different platforms and external financing providers such as crowdfunding, peer-to-peer and marketplace lenders. We also discuss the factors responsible for the expansion of these well-developed credit systems to SMEs and the ecosystem that supported the creation of a sector-wide secondary market.

The question that arises, however, is whether Fintech's low cost expansion of credit to SMEs and individuals, based on a more efficient credit assessment model, weaker underwriting standards and packaged loans to institutional investors, could persist in the long run, and eventually become more profitable than traditional banks (O'Sullivan 2017). A significant body of literature has already sought to explain these developments. On the one hand, new market mechanisms can facilitate the introduction of explicit barriers to entry and new systems that become oligopolies and other forms of

intellectual property protection where the governance and enforcement issues are quite difficult to enforce. On the other hand, through such well-designed mechanisms, such as a platform ecosystem, the business benefit would be large leading to low-cost trading systems that are open-access, transparent and facilitate economic growth. Recent studies show that the current regulatory approach to Fintech and its financial practices are blocked by significant political economy and coordination costs, and are unlikely to promote much structural change (Philippon 2016). In this chapter, we investigate the regulatory response to Fintech startups, distinguishing between two broad categories of response – reactive and proactive.

The plan of this chapter proceeds as follows. Section 2 provides a comprehensive overview of the crowdfunding platforms, analysing the advantages and disadvantages of the different portals and whether equity crowdfunding platforms will provide a competitive new funding channel for young companies and SMEs. Section 3 examines the features of the peers-to-peer and marketplace lending process, including the lenders, lending and credit process. Section 4 will then discuss the results of our empirical analysis of the regulatory determinants that have influenced the formation of Fintech startups in 12 countries. Section 5 concludes.

2. Crowdfunding

Crowdfunding is a method for raising finance in which startups can sell directly or indirectly shares or equity in a company to a group of investors through the Internet. Historically, crowdfunding has evolved from a way to finance creative projects, such as books, films and games, into a new type of entrepreneurial finance which has the potential to dramatically change the venture capital ecosystem. Crowdfunding makes it possible for early-stage start-up companies to raise 'venture capital' from a large group of individuals, sidestepping the traditional fundraising process that includes lengthy due diligence periods and tough negotiations over the pre-money valuation and contractual terms. The 'crowd' investors, who invest relatively small amounts through Internet-based platforms (crowdfunding websites) and/or through social networks - such as Facebook, Twitter and LinkedIn - need less contractual protection (the small investment amounts do not justify close involvement in the growth process of the startup companies).

As noted above, accessibility and speed are the key drivers behind the emergence and development of crowdfunding platforms. Another factor likely to influence the rise of crowdfunding platforms is that they can generate information about risks that can be

interpreted as effective signals of project quality and thus effect the probability of funding success (Ahlers *et al* 2015). Thus, in addition to providing access to information about credit scoring of potential borrowers, the platforms allow investors through real time notifications of lender bids on projects to diversify their portfolio of investments (Morse 2015).

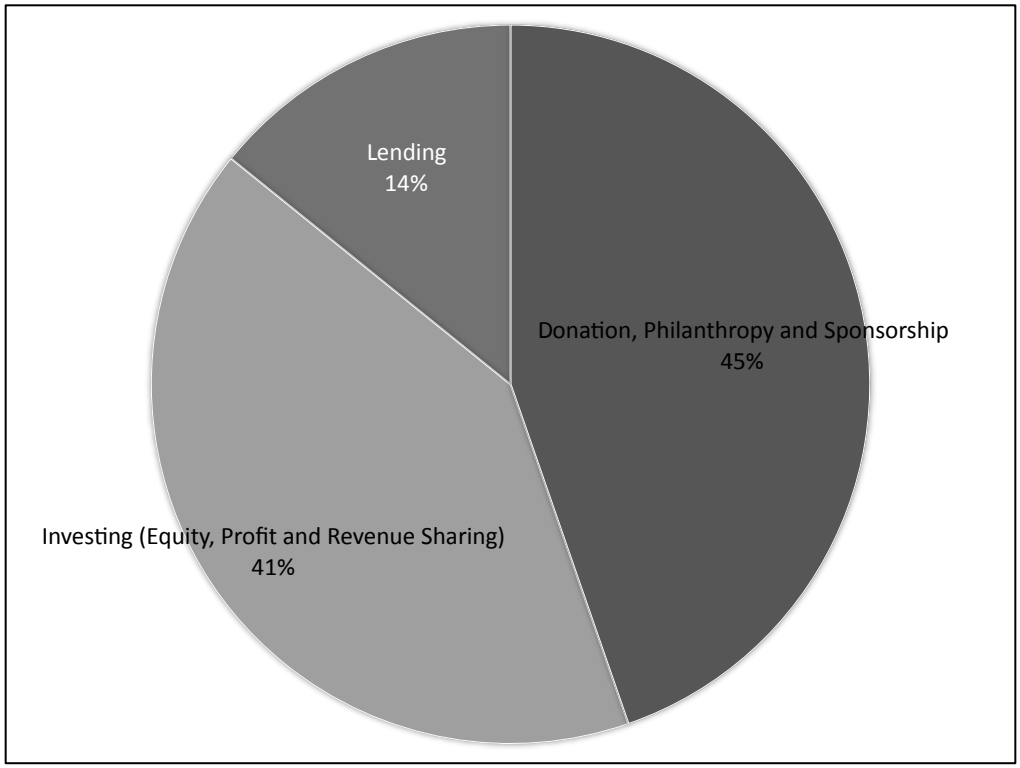
In their quest to answer these questions, many academics have examined crowdfunding from an economics perspective. Within economics, there have been several approaches to the study of crowdfunding, including the 'wisdom of the crowds' perspective. Management researchers have also begun to look at why investors are likely to enter a crowdfunding platform. Underlying this view, investors on equity crowdfunding platforms tend to be a dispersed group who invest small denominations in a startup, and have little incentive to do due diligence research before the investment and thereafter the investment will monitor managerial effort. Platforms can attract investors by offering their own due diligence and process a project before it is offered to the public or is likely to turn to co-investment with a business angle or VC firm.

While these mechanisms have been influential and helpful, there exists a wide array of mechanisms, each of which could be more or less significant in shaping the dynamics of

the business relationship. For example, the Australian platform ASSOB requires every startup to engage in a business relationship with a professional business adviser, who guides the company through the process and monitors the company after the offering. Note that the British platform, Crowdcube, discloses the largest investment in a project. Underlying this approach is the view that if the largest investment is highly proportional to the total amount, this signals to the market that there is a higher chance of monitoring and due diligence.

We can roughly distinguish between four categories of crowdfunding platforms: (1) donation-based crowdfunding; (2) reward-based crowdfunding; (3) lending-based crowdfunding; and (4) equity-based crowdfunding. If investors follow the donation-based crowdfunding model, they generally contribute to a charitable, creative or social project without the expectation of being compensated. The donation model stands in contrast to the reward-based model where the 'crowd' that decides to donate receives a reward, such as a finished product, perks or recognition in the credits of a movie, in return. The popularity of the latter approach is confirmed by the results that it is the second largest sector within European online alternative market (E&Y 2015).

Figure 1: Crowdfunding Platforms in Europe in 2015



Given the apparent benefits, startup companies and entrepreneurs typically use lending-based crowdfunding and equity-based crowdfunding to attract investments from the general public. Lending-based and equity-based crowdfunding are jointly called 'investment crowdfunding'. If the companies grow and prosper, the investors usually receive a financial return. For example, in the lending-based model, they will receive

their investment back plus interest (the rate of which is dependent on the risk level). Investors that contribute cash through equity-based crowdfunding platforms indirectly or directly become beneficial owners or shareholders of the startup company.

Equity-based crowdfunding increasingly attracts attention from startup companies, investors and the media. This is not surprising since recent research on equity crowdfunding platforms suggests that they, in the presence of information asymmetries, are likely to mitigate distance related costs, such as monitoring investments, in early stage financing (Agrawal *et al* 2015). That said, it is only to be expected that the number of equity-based crowdfunding platforms will increase further in the near future as we observe several regulatory initiatives that are intended to give a boost to equity crowdfunding (by allowing non-professional investors to participate in deals).

So far, we have been focusing on the growth of equity-based platforms. An important source of participation is the within group effects of funders and fundraisers on crowdfunding platforms. Faced with cross-group and within-group external effects, crowdfunding platforms need strategies to effectively mitigate coordination failures while minimizing the risks posed by asymmetric information as the number of potential

fundraisers on the platform increases (Belleflamme *et al* 2016). Scholars have sought to show that within the group of funders, it is likely that the external effects will be positive. Applied to the design of crowdfunding platforms, these studies show that the external effects are positive if a project has to reach their funding goal, reducing the risk that undercapitalized projects may be realized. For example, the 'All-Or-Nothing' (AON) or fixed funding model, which has been adopted by most platforms, allows the fundraiser to collect any funds received if they reached the specific goal by the end of the campaign period. In practice, a second model has emerged. The 'Keep-It-All' (KIA) model permits fundraisers to keep any of the money raised even if they raised only part of the threshold level. In the latter context, fundraisers are charged higher fees on the money that was raised in the unsuccessful campaign.

Current research on non-price strategies suggests that fundraisers may prefer the flexibility of the KIA model. To check this claim empirically, Cumming *et al* (2015) recently compared the AON versus KIA models based on the Indiegogo platform that offers firms the option to choose between the two models. In comparing the two different models, they analyse the company types that use a particular funding model as well as their disclosures and success. They find evidence that is consistent with the view

that AON fundraising campaigns have larger fundraising targets for their projects and tend also to be successful in realizing their capital goals. Moreover, they show that the KIA model is likely to be used by firms that can scale their business. Thus, the results in Cumming *et al'*s study indicate that flexible platforms are likely to be attractive to a number of firms, creating sustainable user growth, for example, of Indiegogo's fund.

Another factor likely to influence the dynamics of investor behavior is whether investors have a public profile. In fact, an informational advantage may occur when investors have chosen a public profile. This information in turn may lead to more bids as well as interest from other investors. Prior research points to numerous examples of investors with expertise, particularly venture capitalists and business angels, are likely to disclose this information and their investment decisions, particularly in first-come-first-served environments. Vismara (2016) found, using a sample of 111 equity offerings posted in 2014 on Crowdcube, information cascades among individual investors are crucial for the success of crowdfunding campaigns. For example, successful campaigns have a higher fraction of public investors, particularly in the first five days of the launch. Looking at the numbers, most investors prefer not to make their profile public. However, Vismara further showed, using a group of 200 public profile

investors in Crowdcube, that the public profile investor numbered more than 4.8 investments in the platform whereas the average made 2.7 investments. He then mapped the public profile investors to their level of entrepreneurial and project-specific expertise and found that 88% of the public profile investors had entrepreneurial and startup skills and 44% had experience in the funded project's industry. In combination with augmented data from Crunchbase, the results support the view that public profile investors are more likely to be sophisticated than other blind investors.

The importance of signalling to potential small investors in a startup is also likely to have implications for the success of proposed campaigns. In the context of hidden information, startup firms tend to employ a range of signals to induce investors to devote resources to the project. Some evidence from a recent study, Ahlers *et al* (2015), reveals that the signals that investors are more likely to rely on, as a proxy for project quality, include the number of board members, and board experience, measured in terms if a board member has a MBA. Yet external certification (patents and government grants) has no impact on the probability of attracting investors.

Despite its popularity and growth, equity crowdfunding poses several challenges. First, it requires some experience in making a pitch to smaller investors (Lewis 2013). Moreover, there are usually no one-to-one conversations with interested investors. All the relevant information should be made available upfront, which in turn could easily lead to confidentiality and transparency issues. Second, unlike business angels and venture capitalists, crowdfunding investors typically do not intensively monitor and support the business in the post-investment period. Current research suggests that, in order for the startup to succeed, risk investors must be willing to provide the entrepreneur with 'value-added' services. These services include identifying and evaluating business opportunities, including management, entry or growth strategies; negotiating further investments; tracking the portfolio firm and coaching the firm participants; providing technical and management assistance; and attracting additional capital. When assessing the potential of crowdfunding, the absence of real value-added services could become significant and may have the potential to retard growth.

The third challenge is that crowdfunding may lack connectivity to follow on investors, key stakeholders and other advisors. High potential growth companies, particularly in highly capital-intensive sectors (such as biotechnology and medical), must be able to

attract follow on funding from later stage investors. The connectedness between early stage investors and the venture capital community provides companies with improved access to external financing. Clearly, crowdfunding investors that typically follow a 'spray and pray' strategy (spreading small investments among as many firms as possible) when it comes to making investment decisions have fewer resources and/or incentives to assist portfolio companies in securing the next stage of finance. A related problem is that this strategy may be exacerbated by the fact the companies that pitch for crowdfunding investors are more likely to end up with a multitude of investors. As such, these circumstances not only enhance the free-rider problem among investors, but also add an additional 'negotiation challenge' to potential follow-on investor, as it is easier to negotiate the funding with only a few investors (Kolodny 2013).

If one adds to these challenges to the legislative and regulatory issues that surround crowdfunding, the jury is still out on whether this source of capital will have a significant impact on the new venture capital industry in the near future. The crowdfunding provisions of Title III of the JOBS Act that took effect on May 16, 2016 are not promising. The fact that these provisions require startup companies to have public accounting firms audit their financials will arguably have a deterrent effect on the

use of equity crowdfunding in the United States. High profile venture capitalists have already announced that they will most likely pass on “crowd-funded” startup companies (Mittal 2016).

We have seen that Regulation Crowdfunding (Reg CF) has provided some early evidence on the type of issuers that are using the new securities exemption created by the JOBS Act of 2012 and the quantified utilization during the period of May 16 to December 2016.

Saha and Parsont (2017) documented how during the first 100 days since implementation that a majority (72%) of companies were organized within five years and are technology firms. Moreover, as of October 10, 2016, 14 out of 33 companies succeeded in reaching their funding goals, the average capital raised was about $400,000 (and the median was approximately $266,000). Finally, the relationship between the level of prior capital raising and successful Reg CF issues seems to be significant. An analysis shows that 42 (49%) companies succeeded in earlier capital raising efforts, with a majority of the successful examples raised funds from accredited investors. The results suggest that while 49% of the firms have been successful in earlier funding rounds, Reg CF may not be ideal for initial fundraising campaigns.

Along similar lines, Abrams (2017) found that 141 companies had, as of November 12, 2016, started securities issues across 19 portals with 5 companies already having completed an issue under Reg CF, and collectively these companies had raised over $13.6 million in funds were raised. The typical successful equity issue has raised $90,000 from 120 investors with a minimum offering amount of $100,000 with 37 days to collect the rest. Startup firms represent the majority of firms pursuing issues, with the median issuer age of 10 months. From this perspective, the median issuer has 3 employees, assets of $26,000 and seeks to raise $70,000. Examination of the issues, 26 of the 50 closed issues were successful in meeting the minimum offering amount by their deadline. While investors appear to be sophisticated, they commonly invest in issues that make more information available to the SEC, have more assets, less long term debt and have higher Stratifund ratings. In addition, sophisticated investors tend to appear within one month of the issue and are located on average 900 miles from the firms seeking funds. In sum, the growing number of platforms and successful issues in a range of industries in the United States suggests that the market could play a key role in the fundraising activities of SMEs and young firms.

3. Peer to Peer or Marketplace Lending Model

Despite the attention given to crowdfunding over the last decade, we have seen the rapid development of peer-to-peer lending ('P2P'). More a hybrid of crowdfunding and marketplace lending, P2P is best understood as a form of debt-based crowd-funding.

When it comes to debt, the P2P transactional marketplaces take three forms. They may be organized as either: (1) balance sheet lenders that fund loans off their own balance sheet; (2) marketplace lending which is non-bank based internet lending; and (3) peer-to-peer lending focused on retail investors and borrowers. If lenders follow the balance sheet lending model, they are considered to be more diversified financial institutions that, in contrast to the marketplace or P2P model, retain some loans on their own balance sheet and are also less dependent financially on directly selling loans. The marketplace lending model, which stands in contrast to the Fintech balance sheet lending model, serves to connect borrowers to investors, which receiver a higher rate of return than being offered by traditional banks.

Furthermore, the P2P model, unlike a traditional bank, matches borrowers (by) who are seeking a loan with investors, who obtain revenue from a portion of the interest that

borrowers pay on the loan. Platforms operate by assisting in the collection, scoring and distribution the credit qualifications of potential borrowers, reporting real time bids on projects and supplying on-line servicing and monitoring of the loan (Morse 2015). Using this information, lenders are able to review the applications. Generally speaking, investors may choose to invest algorithmically, directly, or through a group. Unlike traditional banks, the P2P loan process involves the direct matching of lenders and borrowers via online auctions in which bid/ask is matched until loan fully funded, or matching by fixed rate and category. For the most part, platforms have adopted the all or nothing rule, which requires projects to meet their funding goal in order to be funded. Other bidding rules provide that lenders cannot underbid each other, but loan applicants can raise the offered interest rate during the bidding period.

There are a number of factors that explain the success of P2P lending platforms and their potential to be disruptive. On the one hand, platform based data tools can be used to lower transaction costs in matching financing requests and investment opportunities, leading to smaller loan amounts and the splitting of large loans (Feng *et al* 2015). On the other hand, P2P enables modern investors to have direct access to an asset class that was limited previously to large institutional investors, which may allow them to

diversify their portfolios and create enhanced risk-adjusted returns through the savings achieved by a lower-cost operating model.

As a result, the P2P model has experienced significant growth rates in the US and UK. Evidence indicates that P2P lending in the US reached $12 billion at the end of 2014 (Morgan Stanley Research 2015), with similar loan levels for the UK. Moreover, the P2P market is expected to be worth between $150 and $490 billion globally between 2016 and 2020, from $26.16 billion in 2015. In the UK, the volume of P2P consumer lending rose to €366 million in 2015 whereas business lending rose to €212 million for the same period (Cambridge/KPMG 2016). Unsurprisingly, commercial banks have not been shy about jumping into this sector once they witnessed the earlier success of the Fintech business model. In fact, large commercial banks pursuing this strategy have purchased new Fintech startups and created competitive platforms designed not only to improve the efficiency of their traditional financial products but to look for new market opportunities (Parker *et al* 2016).

Despite its popularity and growth of P2P lending posed several challenges. First, there are likely to be some agency costs involved with this new channel of funding. We can

expect, based on prior research, that borrowing history has a significant impact on the success rate of loans (Iyer *et al* 2009). Second, if lenders believe that there are adverse selection problems, this is likely to lead to high interest rates and low rates of success (Yum *et al* 2012). Third, a major concern for lending platforms with regard to any loans in arrears or default. A primary concern is that investors maintain a close watch on developments in marketplace lending, such as ensuring that the modelling of the assumed default rate is accurate, or that there is clear identification of the servicing cost (for the outsourced loans) for platforms. Finally, another factor likely to influence the efficiency of the online P2P markets is the high risk from borrowers that are unable to finance their projects to completion, leading to loans that are illiquid and cannot be withdrawn ahead of maturity.

4 Regulatory Determinants of Fintech Startups

This section considers the regulatory factors that are influencing Fintech startups. Several researchers have written about the influence of country level factors on Fintech. A primary factor that prior researchers have examined is the relationship between country level legal and cultural traits and their impact on platform formation

(Dushnitsky *et al* 2016). Second, as highlighted by Cumming and Schwienbacher (2016), the extent of venture capital deals in the Fintech sector can be seen as a function of the differential enforcement level of financial rules among startups and large financial institution. In addition to legal and cultural factors, researchers have also considered the primary economic and technical factors influencing the number of Fintech startups, including the presence of a well-developed capital market, ready availability of the latest technology, and people more likely to possess telephone subscriptions (Haddad and Hornuf 2016). The magnitude of the labor market is associated with the increase of new Fintech startup formations. While the degree of soundness of banks has a negative effect on the formation of startups, the variable VC financing has a significant effect on the number of new Fintech startups that provide payment services.

To be sure, prior work suggests that Fintech innovations will take place with or without changes in regulation. Thus, one possibility is that policymakers might wish to create incentives so that Fintech will lower the cost of services to end-users, encourage entry in highly concentrated markets so that regulators could ensure a level playing field. As noted above, another possibility is that the recent Fintech innovations are stifled due to

the strength of industry groups and labor that might want to curb incentives to Fintech firms and support existing subsidies and barriers to entry. We thus attempt to shed light on whether lawmakers respond to the ongoing development of Fintech firms or attempt to support the extant financial system and their own style of regulation.

In this section, we provide some preliminary evidence of 12 country-level regulatory responses to Fintech. In general, if we look around the world today we can distinguish between two broad categories of government response - reactive and proactive - each of which has a number of sub-categories.

Reactive. The first group includes countries in which nothing is being done. There is No Regulatory Talk or Action. The second group consists of countries in which there is partial or Fragmented Regulation of Fintech. Certain institutions, such as the Consumer Financial Protection Bureau (CFPB) in the United States, may offer certain safe harbor provisions for certain type of Fintech companies. Yet there appears little willingness to genuinely embrace the technology and its regulatory implications, nor is there any comprehensive plan as to how Fintech can or should be regulated.

Proactive. In such countries, there is a significant amount of regulatory attention paid to Fintech. Such attention can take the form of consultation papers, White Papers, or conferences. But action is limited and there is a risk that prioritizing Fintech can slide into an empty lip service aimed at projecting an image of regulatory action when, in reality, action is limited.

A second group of countries engage in what might be characterized as Regulatory Guidance. Regulators provide advice to Fintech startups and incumbents in order to help navigate them through the regulatory system. This does not necessarily entail changes in regulatory structure, but it does promote a collaborative dialogue between regulators, traditional service providers and Fintech companies.

A final group of countries have embraced the possibilities of Fintech by creating a so-called regulatory sandbox. We characterize this approach as Regulatory Experimentation. Regulators create a regulatory sandbox in which they facilitate and encourage a space to experiment. This allows the 'testing' of new technology-driven services, under the supervision of regulators. This ensures that meaningful data can be

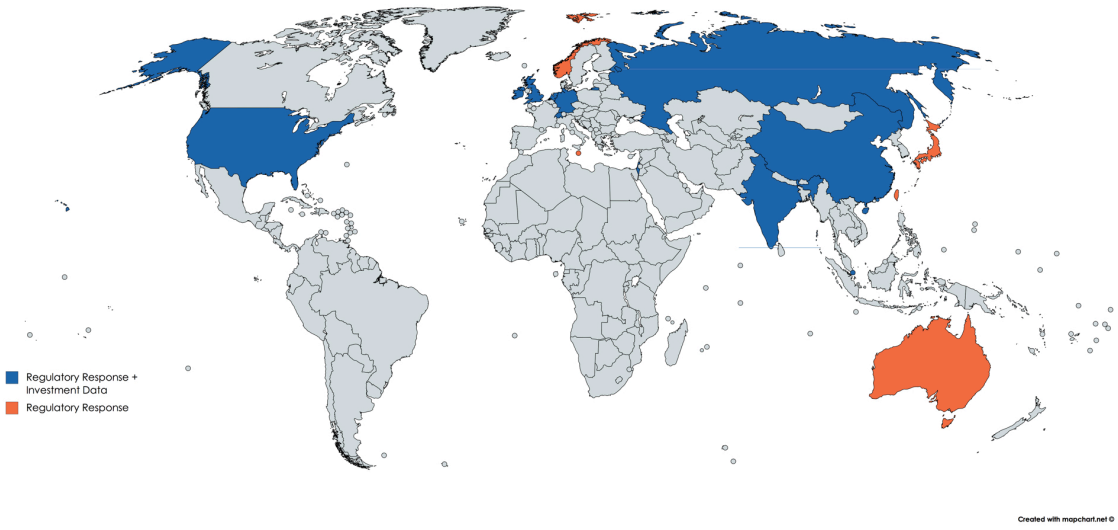
gathered for the evaluation of risk in a safe environment. Such data can then facilitate evidence-based regulatory reform.

A key point about this last approach is that it is collaborative and dialogical, in the sense that regulators, incumbents and new service providers are engaged in an on-going dialogue about the most effective means to gather relevant information and to identify the most appropriate regulatory model.

4. 1 Empirical Study of Regulatory Effects on Fintech Startups

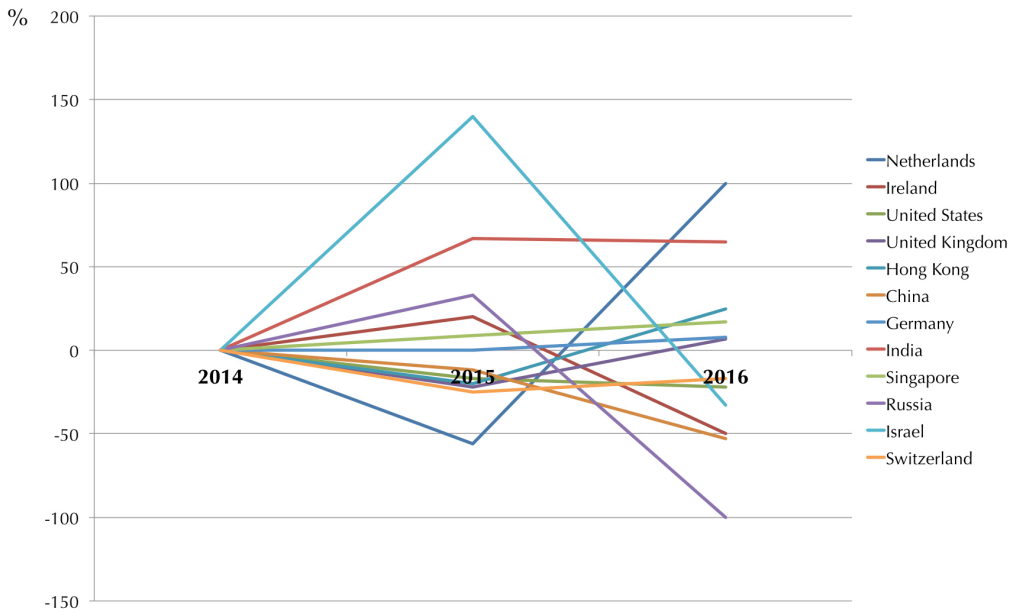
In order to better understand, the effects, risks and opportunities associated with these regulatory choices, we focus on the regulatory responses to Fintech in seventeen jurisdictions. In particular, we looked at first time venture capital investments in Fintech companies. The intention was to see whether there was a meaningful connection between levels of investment and regulatory choice.

Figure 3 Overview of Countries in Our Study



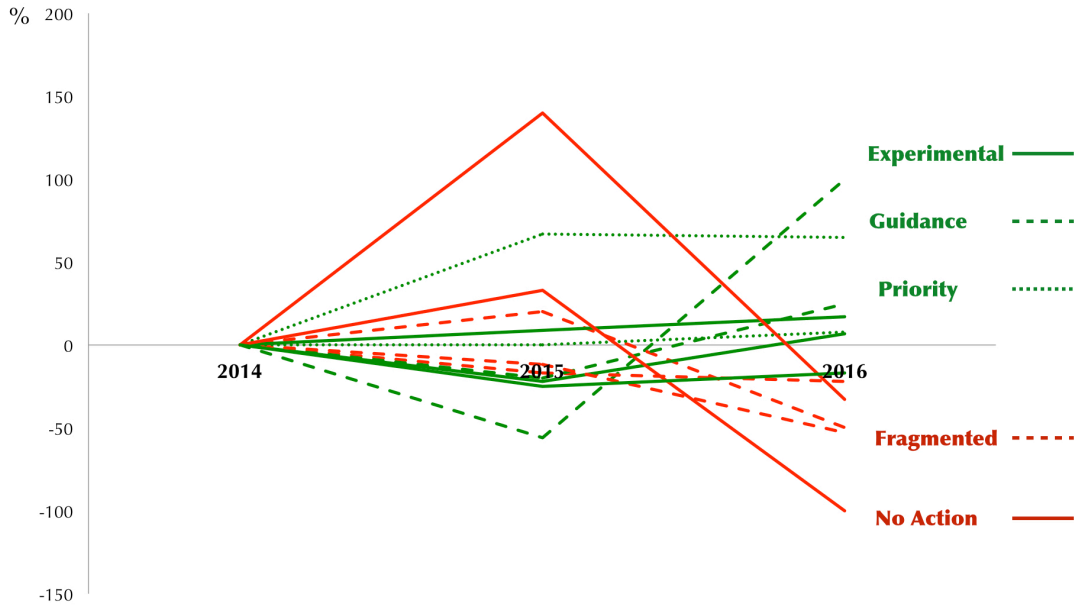
Five jurisdictions were cut due to a lack of reliable data. For instance, we were unable to find a sufficient number of companies receiving investment; or there were doubts about the veracity of the data and it was difficult to independently verify; or there was conflicting information. The twelve remaining jurisdictions were examined. When we look at the results of Year-on-Year percentage growth of first time venture capital backed companies, we get the following in Figure 4 (below).

Figure 4 Year on Year Percent Growth of First time Venture Capital Backed Fintech Companies (Country)



In many cases, this data confirms anecdotal evidence of a slow-down of interest in Fintech in 2015. From 2015-2016, the total Fintech funding declined approximately 50 percent, down to $25 billion from $47 billion in 2015 (KPMG 2017). But interestingly, in six of the twelve jurisdictions there was an increase in investment activity in 2016. The question this data raises is whether there are any signals as to a correlation between regulatory initiative and increased activity in the Fintech sector.

Figure 5 Percent Growth of First time Venture Capital Backed Fintech Companies (Regulatory Approach)



In contrast, in those countries with a more proactive response - particularly involving Regulatory Guidance or Regulatory Experimentation - there is evidence that this proactive approach makes the jurisdiction more attractive as a potential location for starting Fintech operations.

This suggests that the regulatory environment does affect the degree of investment and - perhaps as importantly - affects the willingness of companies to start operations in one jurisdiction, rather than another.

Regulation matters, but we have to realize that there are other components that make up an attractive ecosystem for Fintech. Consider Israel. A market known for its venture capital industry, a strong R&D focus and large multinationals that are open to Fintech. These ingredients play a crucial role in making Israel an attractive site for investing. But the evidence does suggest that collaborative regulation that facilitates experimentation is key.

For now, policy experimentation seems to be the way to go for regulators. It is, therefore, crucial that we track the effectiveness of regulatory sandboxes in 2017. After all, they are relatively new and we need to build a better understanding of their effectiveness in order to improve their design. To be sure, such knowledge will show whether other countries can follow this more proactive and experimental model and whether it might work also in other industries that have a tradition of being heavily regulated.

5. Conclusion

This chapter considered how alternative sources of business lending can help to fill the financing gap for SMEs and young firms. By canvassing the empirical literature on alternative finance, we evaluated the benefits and costs of the respective alternative lending models.

We initially examined crowdfunding, which is a new funding source that complements traditional forms of finance. In particular, we reviewed the efficiency benefits of the respective non-price strategies and considered whether the differences are likely to attract more investors. AON fundraising campaigns have larger fundraising targets for their projects and tended also to be successful in realizing their capital goals. In contrast, the KIA model is used by firms that can scale their business. In sum, flexible platforms are attractive to a number of firms, creating sustainable user growth. We also discussed whether an investor has a public profile and if it influences the dynamics of investor behaviour. An informational advantage is likely to occur when investors have chosen a public profile. This will likely lead to more bids as well as interest from other investors.

We then considered the P2P model, which matches borrowers who are seeking a loan with investors. In short, platforms operate by assisting in the collection, scoring and distribution of the credit qualifications of potential borrowers, reporting the real time bids on projects and providing the on-line servicing and monitoring of the loan. Using this information, lenders are able to review the loan applications. Generally speaking, investors may choose to invest algorithmically, directly, or through a group. Unlike traditional banks, the P2P loan process involves the direct matching of lenders and borrowers via online auctions in which bid/ask is matched until loan fully funded, or matching by fixed rate and category. For the most part, platforms have adopted the all or nothing rule, which requires projects to meet their funding goal in order to be funded. In terms of the factors which explain the success of P2P lending platforms, platform-based data tools can be used to lower transaction costs in matching financing requests. At the same time, P2P offers investors access to an alternative asset class that has been limited solely to large institutional investors, which also enables SMEs to obtain short-term credit at attractive rates and enabling investors to achieve higher benchmarked returns.

Finally, this chapter focused on the regulatory responses to Fintech in seventeen jurisdictions. We examined the first-time venture capital invests in Fintech companies to determine whether there is a meaningful connection between levels of investment and regulatory choice. The findings here have implications for how regulation is likely to play an important role in the development of the Fintech market.

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