



EUROPEAN MASTER IN LAW & ECONOMICS

The P2P Lending Industry vs. The Banking Industry: an Analysis of the Asymmetric Regulation within the Same Market

Lewiandy

Supervisor: Prof. Antoine Gentier

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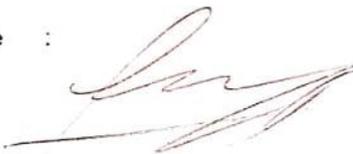
ABSTRACT

This paper analyses the theoretical regulation framework in the rise of competition in the lending market between the P2P lending industry and the banking industry. There are three different market segments that become the playing fields of the two industries. The first one is the market consisting consumers without any capabilities to access banks' lending service due to their lack of collateral or lending record. The second market consists of consumers with the ability to get small loans and this market was previously dominated by the *rural banks* and currently penetrated by the P2P Lending business, and the last market consists of big loans and remain dominated by the *urban banks*. This paper illustrates that each of this market requires different regulatory framework to deal with the different competition level between the two industries on each segment. At the end, *capture theory* is also applied to understand the reasonings behind the industries' regulation. *Capture* happens in both of the industry but results in different consequences. In the banking industry, the *regulatory capture* results in excessive behaviour constraint in the regulation, making the market to be sub-optimal, while the *capture* in the P2P Lending industry is an anomaly as it results in the benefit to the society.

I hereby declare and confirm that this thesis is entirely the result of my own work except where otherwise indicated. I acknowledge the supervision and guidance I have received from Antoine Gentier. This thesis is not used as part of any other examination and has not yet been published.

Name : *Lewiandy*

Date : *14 August 2019*

Signature : 

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1 Introduction

Banking industry has long been dominating the loan market in the world. Offering their specialization in dealing with adverse selection and moral hazard, banks have sustained their position for a long time. With their deposit-gathering mechanism from the depositors and distributing it to the lenders, their failure would pose a huge risk to the country's financial stability, justifying the heavy regulation in the industry. With the development of technology and information, P2P Lending rises as the new business model to oppose the banks. P2P lending model comes with a simpler and more efficient model, putting banks under the threat of disruption. This dynamic development rises a question on whether or not social welfare can be improved by imposing new regulations or modifying the current framework that create more sound competition field. This paper aims to address this question by analysing the P2P Lending and banking regulations respectively and eventually see the needed regulatory framework when two business are co-existing.

I start this paper by overviewing the comparison between traditional banking models along with the relationship between the two. P2P lending business, if conditioned well, could be highly beneficial for the society as it improves efficiency, competition in the loan market and the financial inclusion in the society. However, this benefits come with some economic risks: information failures for the lenders, bounded rationality of the investors, platform default risks and possible systemic risks in any case the business fail.

I identify three different markets in P2P Lending The first market is the financial inclusion segment, where consumers in this market are unable to access the loan from

the bank due to their lack of record or collateral requirement. In this market, I argue that regulation intervention should be limited to imposing informational disclosure regulation that allows investors to understand the risk of investment in the P2P Lending and the protection of property right and contract law institutions to deal with externality problem.

The second market consists of small lending market where the lenders have options to have their financing from banks and P2P Lending business. In this market, P2P lending business is facing off the *rural banks* by penetrating the previously bank-dominated loan market and now, because banks are under stricter regulation, banks' power in the market is weakened. Banks are under a too excessive constraint in risk-taking, exposing banks to heavier cost than the socially optimal and making them less competitive against the P2P lending industry. This excessive limit of behaviour regulation is constraining the inter-industry competition and uplifting the constraint to the optimal limitation would result in higher efficiency and allows consumers to have more option in the financial services market.

The third market is the high-loan market, which is dominated by the *urban banks* and remains untapped by the P2P lending industry. If, in the future, this market is also penetrated by the P2P industry, regulation might also help to make a higher trade-off of competition for financial stability because the risk of financial collapse in this market involved more deposit than the second market, making the failure in this market result in a more catastrophic consequence than the second.

The *capture theory* explains reasons of competition constraining regulations in the banking industry. These over-constraining regulations are resulted from the regulatory capture in the bank industry that cause the regulation to over-protect financial stability.

Now the competition is also involving P2P lending businesses, this *capture* is diminishing the banks' competitiveness in the small loan market. In the P2P lending market, *capture* still persists in the industry but under the current circumstance, the actors in the industry capture the regulation to also gain the consumers' confidence to put their money in this form of alternative finance.

In the end, I find that different market segment requires different regulation. For the first market, we need to approach this market in the more *laissez faire* way, letting it to self-regulate. The only regulatory concerns would be to deal with asymmetric information and the protection of property and contract law institutions. For the second market, deregulation in some behavioural limitation would be able to improve efficiency and promote competition that would in the end result more benefits to the society. For the third market, regulations would be more needed when the P2P lending has started to erode the banks' power in the market because the financial stability at stake is higher in this last market compared to the two previous markets.

2 Theoretical Framework

2.1 Peer-to-Peer Lending Business

The rapid growth of platforms business have reached an unprecedented level to the date. Prior to the internet boom, intermediary business had an irreplaceable role. The hotel providers, for example, were much more influential than it is now, where platform business like Airbnb has more markets than the top five hotels altogether (Wood, n.d.). The Reilliers find three main elements that drive platform business to be highly successful: (1) *the ease for joining for both sides of the market*, (2) *their ability to find and match the two sides*, and (3) *the easy and safe transaction* (Reillier & Reillier, 2017). However, the fast development in financial technology comes with both benefits

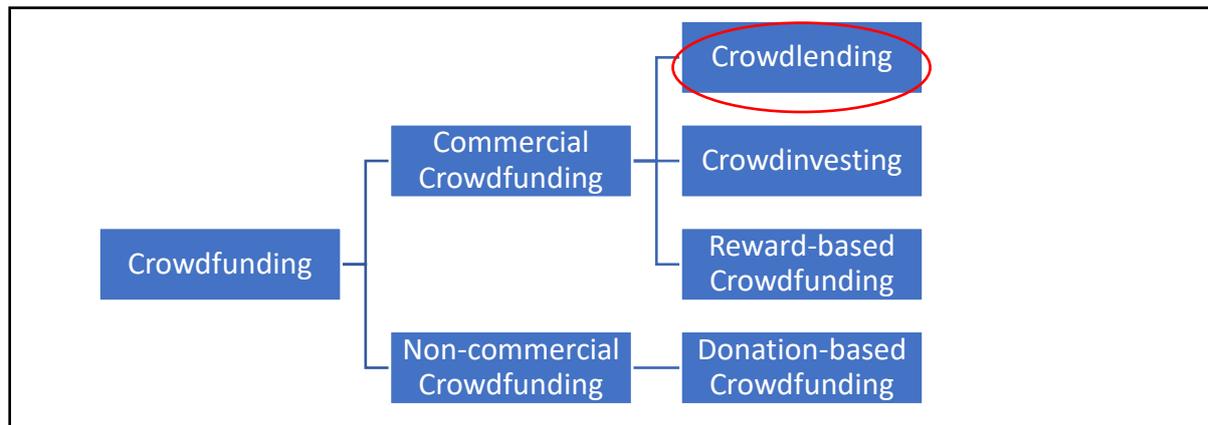
and risks. This section aims to overview the business model of P2P Platforms, its risk and benefits and the disruptive effect that possibly distort the existing market.

2.1.1 Nature of P2P Lending

The development of internet has allowed consumers to connect with each other by bypassing the role of middleman. This form of model is known as sharing economy. While it is not an easy task to have a clear definition of sharing economy due to its novelty (Frenken & Schor, 2017, p. 4) and variety depending on the sectors. Frenken (Frenken, Meelen, Arets, Glind, & de, 2015) defines sharing economy as “*consumers (or firms) granting each other temporary access to their under-utilized physical assets ("idle capacity"), possibly for money,*” Frenken, et. al have included the possibly of money to be the object of sharing economy, and this form of financial sharing economy is known as crowdfunding (Frenken, Meelen, Arets, Glind, & de, 2015).

P2P Lending is one form of financial technology product that is derived from crowdfunding. Jenik, Lyman and Nava defines crowdfunding as “*a mechanism of sourcing capital by soliciting to a pool of individuals or organizations through an online platform or mobile phone,*” (Jenik, Lyman, & Nava, 2017, pp. 1-2). Lenz classifies crowdfunding into two different models based on its return expectation: commercial and non-commercial (Lenz, 2016, pp. 1-3). Furthermore, he also classifies the commercial types consisting of three types of crowdfunding: the crowdlending or peer-to-peer lending, crowdfunding and reward-based crowdfunding (Lenz, 2016, pp. 1-3). The classification by Lenz can be found in the illustration below:

Figure 1: Crowdfunding classification



Source 1: (Lenz, 2016, p. 3)

2.1.2 P2P Lending Business Model

The traditional banking business model positions banks as the intermediary of finance by pooling money from supply side of the market through saving product scheme and distributing it to the demand of the market. This is not similar with the platform business model that utilizes the potential of information technology further. The basic concept of platform business in general is a decentralized platform that serves as the “connector” between ones with goods and services and those who need the goods and services owned by the former party. This being said, one crucial element differs this business model with the traditional banking model is the inexistence of an intermediary party as the buyer and seller will interact directly.

In the same fashion, P2P Lending Platform gains its competitive edge by offering a simpler business model because *it does not capture deposits, less-strict regulated, and do not maintain idle balance* (Serrano-Cinca, Gutiérrez-Nieto, & López-Palacios, 2015, pp. 18-19). They facilitate lenders to be able to interact to borrowers. The mutual benefits offered are: the lenders will have an investment opportunity as lending the

money through the platform will allow them to have higher return than lending it through banks, while the borrowers will have an easier access to capital through the platform with less complicated administration requirements compared to bank requirement. This comes with less administrative requirements with the higher risk of default as a trade-off.

2.1.3 Economic Benefit and Risk of P2P Lending

Innovation is economically desired as it enhances economic performance and social welfare that consequently promote economic growth in the long run (OECD, 2010, p. 11). However, innovation comes with its double-edge effect: benefit on the one side, and risk on the other side. This section will cover the theoretical risks and benefits of P2P Lending as a form of financial innovation.

2.1.3.1 Economic Benefits of P2P Lending

(i) Increased Competition

Incumbent banks argue that P2P Lending is a strong competitors of their current dominance in the market (Mead, 2015). This argument is intuitive as both Banks and P2P Lending are playing in the same sector and given the assumption that people are rational, consumers will opt for the less costly service provided by the P2P Lending. Theoretically, when there are more competitors social welfare is improving (Sjöström & Martin, 1996, pp. 25-27). Competition will drive the market players to reach efficiency in three classic senses: allocative, production and dynamic efficiency. However, research suggests that banks in general have not done any significant product innovation to face-off against the competition threat

of P2P Lending Platforms with its rapid growth (United Kingdom Competition Market Authority, 2016, pp. viii-xxi).

(ii) Increased Efficiency

Productive Efficiency:

The P2P Lending Platforms are a more cost efficient financial intermediary in the financial market. In terms of Investor's point of view, this efficiency is measured by the cost charged to them as the fee of their service. While it is hard to directly compare it to bank in terms of efficiency due to the different diversity of service provided by both institutions, a research by Oxera suggests that P2P Lending platforms are generally more efficient than asset management (Oxera, 2016). Another point of productive efficiency is the trivial cost of each investor and borrower in searching and administration cost. P2P Lending, through the internet identification, requires less time and energy cost from consumers of both sides of the market compared to the traditional banking system that heavily relies on the offline service. Another intuitive argument that would reduce the P2P business's lending cost is the inexistence of brick-and-mortar building for their daily operation (Alexander, 2017, pp. 1-3), on the contrary with traditional banks that spend some cost in the building renting or purchasing.

Allocative Efficiency:

In the allocative efficiency sense, the P2P Lending Platforms has two contributions that improve the information offered to the consumers. First, P2P lending has a superior advantage in processing the information despite the advantage of information size still remains with the traditional banks. A higher degree of

technology usage performed by P2P Lending taking into account not only the hard information, but also soft information, as performed by Lending Club in the USA (Jatigani & Catherine, 2017, p. 8). Some studies also confirm the effectiveness of using soft information to predict the possibility of credit default (Iyer R. , Khwaja, Luttmer, & Kelly, 2016, p. 1565). The usage of soft scores can be used to those with low or have no record of previous credit and possibly giving credits to whose applications are supposed to be rejected if only hard information is used. Second, in relation to the variability, the existence of P2P Business Lending allows investors to have a new option of investment, which will be available to investors with higher risk appetite.

(iii) Financial Inclusion and Economic Development

Jenik, Liman and Nava argue that the existence of P2P Lending increase the financial inclusion of a country in three ways: *(1) Improving the access to finance; (2) promoting the financial innovation of traditional finance institutions; and (3) providing a new asset class* (Jenik, Lyman, & Nava, 2017, pp. 1-2).

The existence of P2P Lending platforms also allows capital to be more accessible for the borrowers through the reduction of cost due to the ability of the platforms to run their business without the brick-and-mortar operations (Alexander, 2017, pp. 1-3). OECD recognizes the SMEs to be “*the primary source of net job creation in many countries*” (OECD, 2017, p. 20) and some research in developing countries like Nigeria (Bello, Jimir, & Ahmed, 2018, pp. 236-244) and Indonesia (Tambunan & Tulus, 2008, p. 16) confirm this framework, even though the direct effect might be different in every country. Hu, for example, finds that SMEs will

boost economic growth through different channels: high-income economies, SMEs will exploit more entrepreneurship while in the low-income economies, they will serve the job-creation function (Hu, 2010, pp. 2275-2280). Therefore, the financial inclusion improvement through easier access to finance is socially beneficial for the economic development.

On the second point, the growth of P2P industry will also push the traditional institutions to adopt the innovation as part of their business models. This form of adoption might be a form of complementary functions between the banks and P2P Lending industry.

On the last point, the growth of P2P Lending allows more access to financial products (Jenik, Lyman, & Nava, 2017, pp. 25-26). They base this argument on Gash and Grey findings that the financial access to the poor will facilitate growth (Gash & Grey, 2016). The more option they have, the less risk they bear.

2.1.3.2 Economic Failure Risks of the Growth of P2P Business Lending

Apart from all the benefits offered by the P2P Business Lending, it has its own drawbacks compared to the traditional banks. Käfer predicts that P2P lending will be more risky than traditional banking and he classifies P2P Lending to share similar characteristics with shadow banking (Käfer, 2016, pp. 3-13). P2P Lending will pose the following economic risks :

(i) Asymmetric Information

The problems with borrowing-lending agreement is that the asymmetric information between the parties, where the borrowers have more knowledge on

the possibility of default, making it difficult for lenders to determine the actual creditworthiness of the borrowers (Chaffee & Rapp, 2012, p. 505). Banks traditional model is liable for the risk, but under P2P lending mechanism, the borrowers will be the ultimate risk bearer. Collecting hard information to project credit rating and interest rate systems are the ways to deal with this problem. Firstly, unlike bank, P2P lending platforms are yet to have a long history of establishment that enables it to create a reliable credit system (Chaffee & Rapp, 2012, p. 506). Secondly, even with hard information, it is often not sufficient for the assessor to completely convey the information to the lenders, especially with first time borrowers with no lending records (Iyer R. , Khwaja, Luttmer, & Shue, 2009, pp. 22-25)

When it comes to this, the intermediary would rely more on alternative information beside the hard information, which is the soft information. Soft information includes non-financial data that would influence the creditworthiness of a borrower. In the traditional banking system, this soft information is processed by inviting the borrowers to one of the bank offices and proceed to the screening process to decide the worthiness of the person to receive the loan. In the P2P Lending mechanism, however, all information collection is undergone online.

Some researches like Pope and Sydnor (Pope & Sydnor, 2011, pp. 53-59), and Ravina (Ravina, 2008, pp. 1-5) confirm that some characteristics derived from soft information (like gender, age, race and appearance) do have an implication of the creditworthiness of the borrowers. Those with unfavourable characteristics are incentivized to conceal those information, given the fact that P2P platforms are

less capable in monitoring special characteristic information, consequently generate more unverified information and impose higher risk than bank models (Käfer, 2016, pp. 13-28). Some attempts have been made to deal with this problem by doing credit rating system. However, unlike the traditional banking system, the data gathered from P2P platform is not as reliable as the traditional banking data-gathering mechanism because the online data is not as accurate as the banking mechanism and this problem is further worsened by the non-collateral loaning system of P2P Lending (Chaffee & Rapp, 2012, p. 506).

(ii) Rational Ignorance of Investors

Inefficiency may occur when people behave not optimally as what socially desirable. People, on the other hand, think at the margin (Mankiw, 2012) and only do an activity when the benefit exceeds its cost (marginal costs equal to Marginal benefit). In this sense, given the theoretical concept that the risks of lending through P2P platforms are born by the lenders, the question addressed is now whether the cost of doing the screening personally exceeds the expected benefit. Kafer (Käfer, 2016) is sceptical about the potential benefit of this form of personal screening and will result in “*herding*” behaviour where investors are just following what the crowd is doing because of the high cost of the screening and expressed his fear of the risk financial crisis if this speculative investment from “*herding*” is undergone in a large scale (Käfer, 2016, pp. 13-28).

(iii) Platform Default

The different nature between P2P Lending and Bank have resulted in different consequences when the business collapse. As previously discussed, banking

works with deposit-taking nature that bears the risk of default and when this failure risk realizes and cause bank failures, it might end up with systemic risk. However, seeing the main function of P2P Platforms as a credit marketplace, it bears a different risk when the default happen. Even though the systemic risk born by P2P lending failures is not as calamitous, Kafer (Käfer, 2016, pp. 18-23) argues that the P2P Lending platforms are more prone to default due to two major concerns :

1. P2P Lending are not as burdened as bank in terms of capital requirement, making it more fragile to default than banking system. Verstein argues that this risk causes lenders to face more risk in addition to risk of payment failure (Verstein, 2011, pp. 457-466).
2. The increased risk has consequently make the industry to be more reliance on the reputational concern. When the risk of default realizes on a well-known platforms, it affects the whole P2P Lending industry (Magee, 2011, pp. 166-173). However, taking into account that P2P Lending is a new form of business, P2P Lending has very limited history to be measured by reputation only, compared to bank with a long history of establishment.

The empirical study also confirms this theoretical model. Kafer's analysis on the number of failure P2P Lending platforms are much higher than the number of banks that faced default (Käfer, 2016, pp. 18-23). In any case of default, lenders are also vulnerable as P2P lending are not performing very well in recovering the debt failure (Chaffee & Rapp, 2012, p. 506).

(iv) Potential of Systemic Risk

One of the core risk that the regulators need to prevent is the realization of systemic risk. Some research suggest that the current rate of growth without any regulation will affect financial stability in general (Jun & Yeo, 2018, p. 2). As

previously asserted that regulation is imposed to serve one of its purpose to strike the balance between innovation and risk in the new lending mechanism through the P2P Lending platforms. Jun and Yeo (Jun & Yeo, 2018, pp. 18-19) find that the P2P Lending growth is intercorrelated with banking actors behaviour in three ways: *“(i) the insolvency risk of individual banks increases when the FinTech platform competes with a bank in the market of low ratings compared to the insolvency risk in the benchmark case but (ii) compared to that in the benchmark case, the illiquidity risk of individual banks decreases when P2P platforms compete with banks; and thus (iii) the systemic risk of the banking sector triggered by individual bank’s defaults decreases compared to the systemic risk in the benchmark case,”*

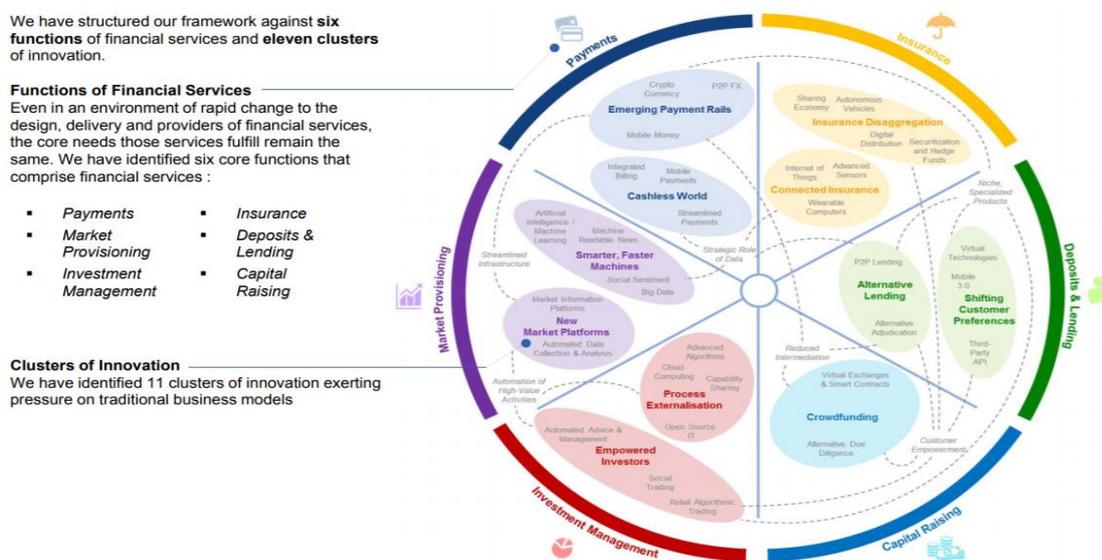
Banking system faces trade-off between competition and stability. Keeley finds that intense competition would incentivize the actors in the market to engage in a more risky behaviour (Keeley, 1990, pp. 1183-1200). When the competition between banks is getting fiercer, banks are incentivized to relax its screening system when deciding to give the loans, which result in less stability due to the increase risk of default (Carletti, 2007, p. 25). The fact that P2P Lending comes with less regulated cost would result in a behavioural change in the banking system since they are now not only facing a more intense competition among the banks but also against unregulated competitors, which means they could supply the loan with less production cost.

2.2 P2P Lending and Traditional Banks Relationship

2.2.1 Economic Justification of the Bank Industry

Dermine categorizes six main functions of banks: Underwriting and placement; portfolio management; payment mechanism; monitoring and information-related services, risk-sharing services; and advisory service (Dermine, 2016, pp. 18-19).

These functions are illustrated in the following ecosystem by the World Economic Forum:



Source 2: (World Economic Forum, 2015)

Under the theories of banking, banking exists as a solution to deal with high transaction costs two major economic problems in information: moral hazard and adverse selection. The existence of banking reduce the searching cost, negotiation cost, and enforcement cost of both the depositors and borrowers. As a traditional platform, banks create value to both sides by matching the two sides of the market and capture profit out of the generated value.

There is also asymmetric information problem between borrowers and lenders when the money lending transaction happened. First, the lenders do not have a perfect

information on how credible the borrower is to ensure his money returned back along with the interest and, second, the borrower is unable to keep on monitoring the borrowers to ensure that the borrowers do not take excessive risk as in this situation, the borrowers do not internalize the cost of the risk. The first problem is known as adverse selection problem, while the latter is moral hazard.

In the microeconomics point of view, banking has better capability in tackling the principle-agent problems occur as the result of the asymmetric information between the lenders and borrowers. Monitoring and information advantages have been the classic argument that encourage the core of banking existence (Diamond D. W., 1984, pp. 393-395).

There are three different reasonings that allow the banks to enjoy this advantage over individuals. First, bank has an expertise, economies of scale by avoiding the duplication effort (Diamond D. W., 1996, p. 64) and experience in the monitoring system. Viewing this matter in the Hayekian perspective, bank is a better decision maker in deciding whether to give the loan or not since they have more information since it will be cheaper for them to conduct the monitoring compared to individuals.

Second, Bank has an advantage to pool the risk of default by utilizing the law of the great number to predict the possibility of failure, similar to insurance method of assessment (Tinungki, 2018). Under normal circumstances, individual would be reluctant to lend his money due to the risk of being unpaid by the borrowers. However, since banking industry works as an intermediary that mediate a huge amount of transaction, banks have the capability to adjust the interest rate to the lenders in order to compensate the expected default, even in the condition where bank is unable to predict which individual will fail to pay back the funding.

Third, With the ability to pool risk, bank is a more least-cost risk avoider in lending agreement. When an individual is involved in a lending agreement with another individual, a default would be a significant loss to the lenders. However, a default under a bank mechanism would be very marginal compared to the loss suffered by individuals.

Banking services can be categorized into three categories: “*data processing, data analysis and unique balance sheet structure*” (Dermine, 2016, pp. 18-19). These three services are under a threat of each specialized company on each sector. The data processing service, including payment and international transfer services, has invited some companies with expertise on the field, like Alibaba with its Alipay to jump in to the market to compete with the banks.

2.2.2 Technology and Regulations disruptions toward Banks

Technology on the field of financial industry has given banks a hard time with the rise of new business models and competitors. Some writers argue that sharing economy platforms like P2P Lending pose serious threat to the existing traditional businesses, even though it is possible for the incumbent firms to offer more interesting offers to remain in the competition (Gansky, 2010). The question on whether the financial technology development is disruptive toward the banks remains unclear. Banking business is not new to be under the threats of innovations. The rise of telephone banking in 1980s and deregulation of capital market in 1990s invited a lot of predictions of the downfall of the traditional banking system (Dermine, 2016, p. 64). However, banks have retained its superiority up to this day. This section attempts to provide an overview of the impact of technology development to the incumbent banks. Banks are under threat of new technologies in some fields of their business:

1. Banks data processing service by providing method of payment is under a serious threat of the technology. This service allows consumers to reap a lot of convenience which serves as an entry barrier for competitors. However, the development technology have attracted new companies to compete in the market, not solely on the purpose of providing value through convenience, but also due to their ability to extract value by collecting transactional data by utilizing artificial intelligence and big data analysis (Deloitte, 2014, p. 9). European regulations, for example, also promote competition in the industry by increasing the cost for banks to exploit the entry barrier in this service (Deloitte, 2014).
2. With the development of technology, banks have a disadvantage in cost due to its cost to maintain branches throughout the world. Even though now banks are more exposed to digitalization proven by the development of digital service that eases customers, it does not simply equally mean that it will reduce branches and eventually reduce costs. There are two ways that causes complexity in branch offices reductions (Deloitte, 2014, p. 11). First, the banks consider digital service to be an addition instead of substitutive service (Deloitte, 2014, p. 11). This implies that the reduction of transactions in the branch offices would not be covered up with the transactions through the digital platforms. The second problem is that closing branch offices result in a trade-off between cost reduction and margin net income (Deloitte, 2014, p. 11). Closing a branch means reducing cost but on the other hand, a research from Deloitte suggests that banks are not capable of capturing transaction through online platforms as effective as it is managing branch transactions.

3. The rise of technology embraced by modern financial intermediary like P2P Lending, along with high regulatory cost imposed by government to the banking industries has put banks in a greater threat in the competition.

2.2.3 Model Comparison of the P2P Lending Business and the Banking industry

Comparing banks and the P2P lending model, the two models are different in some aspects (Havrylchuk, 2018):

Model Comparison

Bank, as a financial intermediary, plays an important role in dealing with two economic problems: transaction cost in the form of research cost and monitoring cost, adverse selection, and moral hazard. On the first problem, there are two things the banks do to deal with each of the transaction cost problem (Havrylchuk, 2018). First the banks deal with high searching cost by becoming a collective intermediary between the supply and demand side that reduces research cost for both side. To deal with the monitoring cost, banks serve as a facilitator in centralizing the monitoring cost of all the lenders, and therefore, saving cost of duplication if the lenders do it without bank (Diamond D. W., 1996, pp. 53-54).

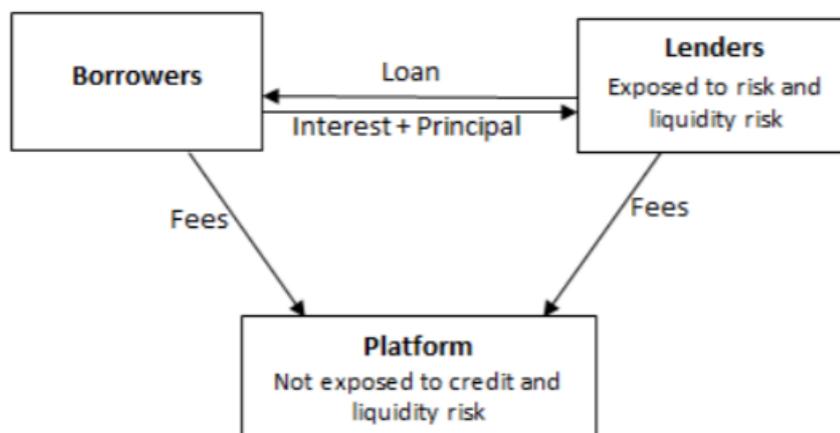
The second problems, moral hazard and adverse selections, are the result of information failure between the lenders and borrowers. Adverse selection problems happen due to the inability of lenders to have a perfect information of the borrowers' attributes, while moral hazard problem occurs from the inexistence of lender's power in controlling the borrower's behaviour toward the money (Lewis, 1992, pp. 203-228). Banks, as a better risk manager and observers, provide the service to deal with the problems of the lenders.

The questions posed in the rise of P2P Lending Platforms is how it differs from the traditional banking model. Despite the similarities of service outcome, i.e. the lenders acquire funding, P2P Lending Platforms and traditional banks serve different purposes. As previously discussed, traditional banks work as a financial intermediary that collect money from the supply side and distribute it to the demand side of the market, while the P2P Lending Platforms do its business by matching the supply side with the demand side of the market without pooling the fund. The following scheme would illustrate the difference between the two:



Source 2: OECD, *Regulatory Framework For The Loan-Based Crowdfunding Platforms*, 2018

Loan-based crowdfunding platform platform



Source 3: OECD, *Regulatory Framework For The Loan-Based Crowdfunding Platforms*, 2018

From the models above, OECD reports some differences in monitoring function, risk of default debt, liquidity transformation, and money creation (Havrylchuk, 2018).

Monitoring Functions

At the first place, the depositors are under their own incentive to monitor the money borrowers. However, in the bank business model, this role is delegated to the bank and, therefore, there is a shift of risk as well from the lenders to the bank (Diamond D. W., 1996, pp. 53-54). Unlike bank's model, platforms do not take over the monitoring role and, consequently, the risks remain with the lenders. In result, there will be information asymmetric problem not only between the lenders and borrowers, but also between the lenders and the platforms. Therefore, the lenders now need to spend extra monitoring cost. However, even though the theoretical concept would result that way, in practice, these platforms also set interest rate, credit score, maturity and lenders are mostly relying on these information, making it indifferent with banks in general (Havrylchuk, 2018).

Risk of Default Debt

Since the bank is burdened with the monitoring delegation and full authority to decide the borrowers, Bank holds the risk in case of default. The lenders are protected from this risk and would legally be able to withdraw their money back from the bank, as generally regulated by the law of most countries. On the other hand, since the business model of platforms is merely connecting lenders and borrowers, they apply “agency model” in doing their business (Navarett, Calzolari, & Pozzolo, 2017, p. 15). They will get fee based on the successful connections, along with the payment mechanism. Theoretically, the only risk on their stake is limited to their fee in case of payment failure. Even though some platforms are under obligations to provide credit grade profile for their customers, this does not shift the risk to them.

Information Usage

Related with the possible risk in the previous section, P2P Lending Platforms make a better use of technology presently as they do not rely on traditional database, but on big data and artificial intelligence, allowing them to access data not covered by bank. On the other hand, in determining the qualification of the borrowers, banks relies on “soft and relationship-based information”, and they have an economic of scale advantage of collecting data due to its long-history of establishment. (Navarett, Calzolari, & Pozzolo, 2017, p. 15).

Liquidity

Banks and P2P lending also differ in their liquidity of deposits. Unlike banks that could guarantee the deposits to be withdrawn anytime, P2P lending business does not guarantee the liquidity of the deposits, unless the debt is bought in the second market.

Money Creation

When a bank receives deposit and distribute it in the form of loan, banks create money. However, P2P lending business do not create money as they work merely as informational intermediary. Therefore, banks could create money by offering their services, while P2P lending do not.

From those thesis, we could conclude that P2P Lending and Banks have different function and service in nature. Banking works as an intermediary of the goods, which in this case is money, while P2P Lending merely works as marketplace or information intermediary for money distribution.

2.3 Economic Theory of Regulation

2.3.1 Theories of Regulations

2.3.1.1 Public Interest (Helping Hand) Theory

This theory believes that regulation is passed in order to correct the market failure problems originating from the market. Market problems like monopoly and externality causes markets to fail and government responded by imposing regulations in order to correct the failures. This theory justifies the price cap regulation on a market that consist of actors with market power or monopoly. However, Chicago school has heavily criticized this theory's approach as they argue that (i) the market can correct themselves without any government intervention, (ii) there are dispute mechanism available in failure condition and even if both fail, (ii) government's intervention is not justified because of the regulators are not as "benign" as the theory predicts and probably not even competent to pass a regulation to fix the market failure, if not worsening it (Shleifer, 2005, pp. 440-442).

Shleifer elaborate their arguments against this. The first argument goes that the competition will deal with the market failure problems. Competition will push the price to the efficient price because those actors that is unable to provide goods or services at the efficient price will lose market power and will be kicked out of the market (Shleifer, 2005). The second argument delivered against government intervention is that private force and negotiations will deal with the problems (Shleifer, 2005, pp. 440-442). On the first line of this arguments, Chicago economists argue based on Ellickson's thesis that people in the neighbourhood need to get along in the long term that works as a social control over individuals behaviour within the society (Ellickson, 1991). The second line relies on Coase theorem that despite the initial legal allocation, people will negotiate to reach efficiency in the society. The essence of the last argument lie on two factual elements that the governments are not competent in passing regulation, which serve as reasons on the failure of a lot of regulations, and these regulators are somehow "captured" by the actors in the industry itself (Shleifer, 2005). This "captured regulators" phenomenon is in line with the second theory economic theory of regulation that will be elaborated in the next point.

2.3.1.2 Capture Theory

Stigler formulate capture theory that sees the origin of regulation from a different perspective. Unlike the helping hand theory that sees regulators to be benevolent that pass regulations to correct market failure, capture theory embraces the incompetency and reliability of regulators toward the actors in the industry and see regulation to be a *grabbing hand* instead (Shleifer & Vishny, 1998). The theory is built under the model that reflects state to be the only supplier of a commodity under a monopoly, and the commodity aforementioned is the coercive power. This coercive power interests the actors in the industry to get the commodity in the form of favourable regulation that will

eventually result in *transfer of cash* (Stigler, 1971). His model predicts that consumers are less incentivized to do collective action and is, therefore, unable to take part in obtaining favourable regulation. There are four types of policies that interest the actors (Stigler, 1971):

a. Direct subsidy of money

The idea of direct subsidy is basically gaining money from the government. However this policy is not very favourable for the industry because the subsidy will be shared with the rivals. There is no any justification to concentrate the subsidy to some amount of beneficiary and in the long run, they will earn less and less money.

b. Control over entry of new rivals

Some economics literature discuss the limiting price, vertical integration, and similar policies are passed to retard the rate of entry in the industry. The general hypothesis proposed is that every industry or occupation that has enough political power to utilize the state will seek to control entry. An example of regulation in the financial industry would be like the interest limit in deposit will impede the small mutual fund companies, reducing the cost of large funds.

c. Policies on substitute complementary goods

In general, the industry promotes the more production of complementary goods and halts the substitution goods.

d. Price Fixing Policy

Price-control enforcement in a large industry would be hard, and therefore requires the public authority to jump in. Price control is essential to achieve higher rate of return.

When an industry is trying to capture the regulation, the society will reject the proposal because the regulation will reduce the consumers' surplus over the goods, unless the industry has the power to control the majority of the votes. He argues that the political market and economic market differs in two things: (1) The decision is made simultaneously or otherwise it will be extremely expensive; and (2) it involves all members of community, regardless of the interest (Stigler, 1971)

There are, however, some critics toward Stigler's capture theory. McChesney (McChesney, 1987, pp. 113-117) criticizes Stigler's approach to be limited in two ways: (1) the government is not a monolith system and it is not integrated to fit the model; and (2) There are other factors that explain the regulation apart from a sole rent-creation. Unlike views from Stigler that sees politicians as brokers that might connect the regulatory supply to the demand of the industry, he sees them as an independent actor that is pursuing an independent demand and responded by the private actors.

Despite the capture theory emphasizes the capability of the industry to "capture" the regulators, the legislatures also have the power to counter the industry's behaviour. The legislature can extract benefits not only by allowing the private industry to capture a regulation through a favourable regulation but also by threatening to put a burden on an industry to not forbearing themselves to impose cost on the industry (McChesney, 1987). The most observable political threat is the deregulation threat after it the regulation was captured by the previous legislature. The new legislature has no incentive to keep the regulation to benefit the incumbent firms unless they are also compensated. There are two ways the legislature could extract the rent (McChesney, 1987, pp. 113-117):

a. Legislative Threat to Reduce Prices

Consider an investment in brand and marketing that would make firms to have lower cost to guarantee the quality of the goods. This advantage might be destroyed by introducing minimum quality or information disclosure regulation. This would lower price and increase the elasticity of supply industry, nullifying the initial brand investment by the company.

b. Legislative Threat to Increase Prices

Imposing tax would be one of the possible method to increase the price. Rather than imposed with the regulation, the firms would be more willing to offer compensation instead.

Peltzman's theory of regulation sought to broaden the analysis of Stigler's capture theory. His major upgrade on capture theory lies on a new understanding toward the supply side of the market. He argues that on the supply side, the legislators will also maximize political support to safeguard their position. These supports are extracted in the form of money and net votes in the favour of the government (Peltzman, 1976) . If the legislators pass a regulation in favour of the producers, the consumers will be harmed and ultimately result in the vote reductions for the legislators from the consumer side. This explains why some regulations are in favour of the consumers despite their inability to negotiate (Peltzman, 1976).

Tirole's analysis of economic regulation also complements Stigler's capture theory. He begins his argument by seeing the fact that most industry is under market power like monopoly or oligopoly. The concentrated market results in two negative impact to the society: the unjustified increase in price and preventing new business to enter the market. Regulation is in essence difficult because of the unaligned incentive between the private monopolists and the public in general (Tirole, 2014). This causes two

issues in regulating the market: (1) Markets are dominated by a few firms that influence the price and quantity of the goods and (2) the authority has insufficient information about the cost, quality and service of the goods (Tirole, 2014).

Before his analysis stepped in, when market power exist, the government will pass regulations to cap the price to prevent exploitative abuse from the producers by increasing the price of the goods or services. Tirole argues that price-capping and collusion ban will incentivize the producers to reduce cost but they also allow producers to gain excessive profits (Tirole, 2014). His main frameworks deal with the asymmetric information between the regulators and the producers. He starts his framework by illustrating three agents in the game: the government, the authority, and the firm. The problem is that the authority and firm are incentivized to hide their superior information to the government, while the government needs that information in order to pass an efficient-enhancing regulation. He also argues that price-capping regulation might harm the welfare by giving higher incentive to have excessive profit beside the incentive to save cost.

It is rather hard for us to see Tirole's framework as a generally applicable structure in any industry. Borrowing the quote from presenter in his Noble awarding night:

“Once upon a time, we sought a magic sword that would cut through any stone. Then, one day a new blacksmith arrived. He forged many swords, each of them stronger and more flexible than any we had seen before, and he showed us which sword cut which sort of stone. Finally, on each sword, he engraved Voltaire's commandment: Un grand pouvoir impose une lourde responsabilité (With great power comes great responsibility),”

It sums up Tirole's framework on analysis that conclude that every industry requires different regulatory approach.

2.3.2 Types of Regulation

Chicago economists predict that the *laissez faire* market will deal with most of the failures itself. However, some behaviour, like public goods problem, require government intervention to change the economic incentive of the people in order to increase the welfare of society. The intervention are in the form of regulations. Enacting a regulation, unfortunately, not only comes with its benefit, but also with its cost. These costs might be in the forms of administrative cost, opportunity cost, and welfare losses to the artificial entry barriers created by the regulations. Therefore, if the government's priority is to boost the welfare in the society, imposing a regulation requires a correct economic justification, or otherwise, it will result in a counter-productive consequence.

Typically, regulations is made distinctive between social and economic regulations (Viscusi, Vernon, & Harrington, 2005). The usage of these regulations depend on the types of economic problems we wish to deal with in the society. Social regulation will be able to lessen asymmetric information and externalities problems, while economic regulation will cope with market structures problems from the result of concentrated market power. The government may opt to impose regulations from the least intervening to the most intervening, depending on the cost-benefit analysis undergone before passing the regulation.

Social Regulation

Social regulation aims to correct deal with economic problems like externalities, asymmetric information, public goods or other problems that leads to market failure (Ogus, 2004). Social regulations can be categorized into two different types (Ogus, 2004): command-and-control that includes information regulation, standards, and prior approvals; and Economic instruments that will alter the economic behaviour of people through extra charges or subsidies.

Information regulation is generally justified in order to tackle information deficiency problems of the consumers, while it is relatively cheaper for the society if the sellers provide the information. Sufficient information will drive people to make rational choices and maintain freedom of choices. Another justification to impose information regulation is the existence of externality that cause risk to the third party and this third party is the least cost avoider. Information regulation can be applied in the forms of *mandatory price; quantity; or quality disclosure*.

The second form of social regulation is standards. Standards are imposed when a simple information disclosure would be unable to address the market failure. Taking into account Hayekian knowledge problem in avoiding the damage, the information is available only to those close enough with the source of externality. Therefore, it is less costly to apply a standard *ex ante* than suffering from the damage even after disclosing the information as people might still fail to interpret the information rationally. This failure might be due to the complexity of information that requires specific expertise to process the information or due to bounded rationality of individuals in making decisions. Depending on the levels of intervention, there are three types of standards

available for the regulators to apply (Ogus, 2004): *target standards*, *performance standards*, and *specification standards*. Each of these standards functions differently according to the need of intervention. Applying standard, just like other forms of regulation, will create a trade-off between innovation and risk. The more heavily standardized the industry, the less innovative it is expected to be (Grabowski & Vernon, 1979).

The third form of social regulation is prior approval. Prior approval simply means that before any action is undergone, the actor is required to request for an approval from the authority. Prior approval will allow a better control over *ex-ante* screening to prevent a fatal result. However, this also means that prior approval will discourage competition in the market due to the increase of entry barrier. It is, therefore, justified to impose prior standard when there are two elements: there is a catastrophic consequences of failure and *ex-post* sanction is not deemed sufficient to be applied. Prior approval deals with externalities related with the quality of a product or service offered by producers when it will cost less than other regulation options. A very observable example of prior approval is professional license.

The last form of social sanction is economic instrument. The idea of economic instrument is to correct market failure by internalizing the externality imposed through an activity so that it will alter the actor's economic behaviour (Austin, 1999)

Economic Regulation

Economic regulation is distinguished into two different types depending on its function: *structural regulation*, applied to deal with market structure issue and *conduct*

regulation, to control the actors' behaviour in the market (Hertog J. d., 2003, pp. 7-8). The justification for entry limitation in the market is the natural monopoly argument, where it is more efficient if there is only one company operates to supply the demand (Parker, 2001). This limitation can be in the form of Public Ownership and Public Franchise. Both of the methods emphasizes a special license requirement for a specific industry. Another example economic regulation is price contro (Hertog J. d., 2003). Price control is economically justified under monopolistic market, where it can incentivize allocative efficiency for the customers and also cost efficiency through the need of innovation to reduce cost.

2.3.3 Theory of Deregulation

Deregulation comes from the idea that regulation has failed to serve its purpose. An example would be the "Tullock cost" imposed by the cost expensed by the actors to be on the right side of the regulation (Pero, 1989, pp. 176-178). Deregulation will relax the market by eliminating regulation cost, effect on cost curve and the pressure to the competition. Hertog (Hertog J. d., 2010, pp. 18-37) finds that deregulation would increase welfare by 7-9% and he also finds that there are two available public theory basis can be used to deregulate an industry: (1) the technology development or demand factor has lifted the market failure in the industry; and (2) a new more efficient alternative is now available to deal with the failure. While Chicago economics theory offers four different available justifications for deregulation: pressure group; higher profit in unregulated market; declining profit in the regulated market; and finally the increase of deadweight loss in the market with regulation (Hertog J. d., 2010). OECD finds that deregulation will generally result in positive effect and has generally shifted into promoting competition (Hoj, Toshiyasu, & Dirk, 1995, pp. 39-41).

3 Analysis

3.1 Market of Banking and P2P Lending

Bank business often argue that they are under the constraint of heavy regulation while their competitor, the P2P Lending business are not. This cause extra cost to the banking industry in spite of the fact that the market is shared between these two businesses. This section will analyse the regulation ecosystem between banking and P2P Lending industry in three different section. First, I will be analysing the market of P2P Lending and Banking industry to identify the competition between the two. Then, I will elaborate the forms of regulation to impose to P2P Lending in accordance to the market failure happened due to the P2P Lending business participation in the market and compare it with bank.

First of all, we need to identify the market of these industries. On the one side, some argue that P2P Lending and banking industry are battling in the same market, while others say that P2P lending does not disrupt bank due to different market as P2P lending will work as a complementary industry that increase financial inclusion for those without any access to banking's service due to insufficient record or capability to bank's assessment to receive the financing service. Buchak empirically tests that there is correlation between bank regulation and the P2P growth in the country aside from technology development. In heavily regulated bank industry, P2P grows in the higher rate compared to the P2P lending business where banking industry is less regulated (Buchak, Matvos, Piskorski, & Seru, 2017, pp. 3-8)

One of the most prominent market research I would use for this analysis is from Wolfe and Yoo that finds the correlation between banking with other intermediary, including P2P Lending. Their research suggests that P2P Lending could substitutes 26.7% of small commercial bank loan market (Wolfe & Yoo, 2018, pp. 2-10). However, huge commercial banks do not seem to be affected by the development of P2P Lending growth. This suggest that P2P Lending disrupts only small loans (*rural banks*), but not the bigger loans (*urban banks*) (Wolfe & Yoo, 2018).

P2P Lending will boost financial inclusion in case it provides lending to those who are unable to meet the heavy requirement from the banks. McKinsey research suggests that half of the world remain unbanked (Chaia, et al., 2009, pp. 4-8) , which means there is a lot of potential assets remain underused. At this point, I argue that there is no financial stability issue involved as long as there is information on risk to the lenders. However, when the threshold reaches some point where the small commercial banks need to compete with P2P Lending, it should be noted that banks behaviour will affect financial stability, while P2P lending will not due to bank's deposit-taking model.

To conclude, I argue that as long as the P2P Lending's market remains in the market uncovered by any banks, regulation needs to intervene only to cope with asymmetric information issue and consistently enhancing the property and contract law institutions to enable markets work efficiently. However, in the segment where P2P Lending works as a substitute of banks, regulations need to be more involved since the risk-taking behaviour of bank will pose threat to the financial stability, which serves as the core reason for banks' heavy regulation.

3.2 Regulations Intervention in the P2P Lending Business

Asymmetric Information

One of the biggest issues in the market is the asymmetric information, and this problem also occurred in the P2P market as well. First thing to note in this issue is that transparency increases liquidity and efficiency of the instrument (Faia & Paiella, 2018, pp. 32-33). The asymmetric information resulted from the development of P2P Lending is that the lenders have no information about the borrowers, either from the characteristic point of view or capability point of view. This resulted in uncertainty for the lenders when they are borrowing their money. This is even more exacerbated by some regulations that disallows the intermediary to share the data collected from the application to the lenders (in Indonesia, for example, the company is not allowed to share the data of the lenders to the borrowers in order to prevent abusive debt collection practice). Even if the information is provided, however, investors in general will be trapped in the *herding* behaviour due to their bounded rationality (Käfer, 2016). The question to be addressed here is what can regulation do to deal with this uncertainty that halts allocative efficiency between lenders and borrowers.

There are some possible alternative regulations to be imposed:

(i) Quality Disclosure

The first and least interventionist regulation approach can be imposed is to mandate the intermediary to disclose the information about the risk of borrowing the money to the lenders. However, this will also extra cost for the intermediary to collect and process the data of the borrowers to produce a specific credit risk rate to be displayed to the lenders. Therefore the remaining question is either the social cost of debt failure is higher than the *ex-ante* prevention by assessing all the incoming borrowers.

(ii) Standard

Another regulation type that can be used is imposing standards to the P2P Lending industry in running the financial intermediary business. There are three ways we can apply specification standard. standard in the business. By applying specification standard, it means that the government impose all the assessment methods, including how it should be displayed to the borrowers in checking the credit default rate. By imposing this, however, there is a drawback in innovation. Since the government now heavily intervene with the assessment method, the companies are not incentivized to innovate since the regulation does not open any opportunity for a new method that might be better for the society. On the other hand, the justification for the standardized method is that the financial stability is well-maintained since the information is now flowing in the minimum rate desired by the government to maintain the financial stability. However, this type of standard is not efficient to be applied, because there is no financial stability risk in P2P Lending industry since they do not pool the consumer's money. Taking that into account, regulation now will only impose extra cost for the industry and retard innovation, applying a heavy credit-rate information might not be beneficial to the society.

Overall, one of the difficulties in applying the standard is to find the efficient point of trade-off between the innovation, information asymmetry and the cost to the industry. Kirby and Worner find that systemic risk may only be posed if the growth in the P2P Lending is remaining at the same pace in the future (Kirby & Worner, 2014, pp. 33-46)

Externality

There are some externality that might occur in the development of P2P Lending. First, the fierce inter-competition between banking and P2P lending has driven banks to take higher risk that optimally desirable. Second, the lenders might be incentivized not to pay the money back to the lenders, given the fact that lenders are not allowed to have the data of the borrowers from the intermediary and high *ex-post* remedy cost (high legal action cost), the borrowers might suffer from the breach of agreement.

The first issue is the implication of the market sharing condition of the two business in the same market. Under this circumstances, the *laissez faire* condition will incentivize the bank to take more risk in order to compete with P2P Lending. However, it is not desirable for the society of the risk taken by the banking industry pose threat to financial stability and this risk is translated into cost and it is not desirable in the society if the expected cost imposed by taking sub-optimal risk is higher than expected benefit. This difference between the banks' incentive and society's incentive requires alignment through regulation.

To deal with this issue, command and control regulation approach might be imposed. The government could apply a ban on certain behaviour that will pose banks to higher risk of financial failure or preventing the P2P Lending to jump in the market that belongs to the market share of small banks in order to prevent competition between bank and P2P Lending. Imposing a ban on taking more risk for banks or barring P2P Lending to enter specific segment will involve a trade-off of competition for financial stability. However, we have to note that banking, in nature, is prevented from a too fierce competition to retain stability.

The second issue of externality is the opportunistic behaviour of the borrowers by not paying back the money to the lenders. Theoretically, this form of behaviour should be under the scope of breach of contract or fraud. Therefore, in order to deal with this issue, the government needs to enhance the property right and contract law enforcement instead of imposing the regulation. The inefficiency resulted from the opportunistic behaviour comes from state's failure in guaranteeing the basic frameworks that allows market to work efficiently: property right and contract law.

3.3 The Impact of Deregulating the Banking Industry on the Competition

Another possible regulation implication is to allow banks to compete on the same playing field with P2P Lending, or on the other words, deregulating banks. First of all, the reason of banking industry's heavy regulation is the risk of financial stability posed by its failure due to its deposit-gathering nature. A too relaxed regulation with "*government is not the solution, government is the problem*" mentality would recall the 2008 financial chaos.

The competition in this industry is purposely halted by the regulation because of the possible informational failure. Danisman elaborates some findings that the fierce competition will lead to inefficient outcome of the banking industry because of sub-optimal loan screening process that ultimately result in lower quality of bank's portfolio (Danisman, 2018, pp. 62-63). Subsequently, the regulation is an attempt to reduce the default rate of the banks.

Despite the justification for risk capping, Boyd and Nicolo find that the anti-competition regulation works in the opposite way as the halted competition will allow banks to gain

the market power to earn more profit from the lenders (H. Boyd & De Nicoló, 2003, p. 2). This profit is burdening the borrowers and, in the circumstances, borrower's risk of default is higher, posing interdependent risk to the banks themselves. Furthermore, they also find that the moral hazard issue is worsened in the condition. In another study, they find that financial stability is not solely correlated with the banking crisis probability, but depending more on the inflation rate (Boyd, De Nicoló, & Smith, 2004). The deregulation on bank's restriction will result in positive impact on the cost technology. (Deng, Casu, & Alessandra, 2014, pp. 100-128).

With the regulation now not driving the optimal trade-off between competition and financial stability in the industry, competition should therefore be embraced in the industry, including from the more efficient competitors, the P2P Lending business. As previously discussed, there are different segments of P2P Lending. First, is the segment where borrowers would not be awarded with loan even if they apply to the bank. If this segment is covered by P2P Lending, this will enhance financial inclusion and there will not be any competition between banking and P2P Lending. The second segment is the market where P2P Lending and small banks are competing. This market consists of borrowers that meet the criteria requested from banks. Under this market, P2P lending and banks are competing but, banks are burdened with more regulation cost. From the borrower's side, they will apply for loan from the less costly producers, which have lower administration burden (faster and easier) and lower interest rate.

The preferences of the borrowers will reflect the demand of the loan market for both banking and P2P lending. However, due to easiness and less regulatory cost, the P2P lending will be able to penetrate the market that was previously dominated by banks. Reducing the regulatory burden increase the competitiveness of the banks and will be

more dynamically efficient, while also push down the price of the price offered by P2P lending to the optimum price.

3.4 Regulations' role in the field of competition between the Banking Industry and P2P Lending Industry

I agree with Vives that regulation needs to provide a playing field between banks and the new technology-based financial intermediary that allows innovation to boost on the one hand, and financial stability to be maintained on the other hand (Vives, 2016). From the discussions above, the approach that we could use to realise this competition field is by regulating P2P lending and deregulating banks so that it serves as a balance-striker between innovation and stability.

The development of P2P lending cause some information failure and externalities in the market, which leads to inefficient outcome. The regulation needs to step in to fix the failure. However, under the competition perspective, P2P Lending entities and banks intersect differently in different segment. As previously identified, there are three main markets for P2P lending: (i) the segment uncovered by the banking due to smaller marginal cost compared to the benefit by penetrating the market; (ii) the small loan market where substitution effect persists between banking and P2P lending loan products; and (iii) the large loan to this date remain dominated by the banking industry and undisrupted by the development of P2P lending.

In the first market, P2P Lending is increasing financial inclusion and activates the market that previously was not tapped by the banking industry as it is found to be not profitable to be explored by banks (KPMG, 2018). This market is a “new” market that is historically underlying asset that is explorable by the rise of technology. Therefore,

the helping hands theory predicts that regulation will only be imposed to deal with the potential market failure while the burdening regulation will be the result of *regulatory capture* from the industry. Some market failure existing in this market is mainly revolving in information asymmetric and externality in the market. The information asymmetric could be controlled by passing a regulation that obliges P2P Lending to reveal the credit rating of the borrowers to the investors so that investors can take rational decision with sufficient information that would enhance allocative efficiency. The decision of regulation choice relies on the investor's profile in the respective country, depending on the cost of *ex-ante and ex-post* regulation. The capacity of the officials also become a factor of the choice of a regulation. Developing countries, with less capable manpower might better to opt for regulation while developed countries with stronger manpower would be more efficient in enforcing standards instead (Schäfer, 2006, pp. 113-134).

Externalities problem persists in the P2P Lending industry in this segment happens when borrowers are not paying back the money regardless their availability. The action of borrowers by breaching the contract caused negative externality in the form of unpaid investment. This problem is caused by the lack of property right and contract law protection. The catastrophic result of this failure can be found in the P2P Lending market in China that was rapidly growing until it collapsed in 2017 due to a lot of unpaid investment. However, we could see that the failure did not *per se* cause financial crises, implying the need of untying the regulation between P2P lending and banking industry in the field where the two industries are not competing.

The second market, however, would need more attention as it involves competition between the two industry. In the circumstance, however, P2P Lending might be more suited for competition while banks are not due higher regulatory burden and

operational cost from the brick-and-mortar business compared to P2P lending that offers their service fully through the internet. Relaxing the regulation on anti-competition for banking in this segment would allow bank to compete more freely against P2P lending. The development of P2P lending, along with the escalated competition in the industry, will allow efficiency to be fostered. From the consumer's side, lenders will have more option: those with more risk appetite might prefer P2P lending to banking because while those with more risk-averse nature would stay with banks. On the supply side, borrowers also have more option of funding alternative: P2P lending allows less administrative cost and relatively faster loan but comes with higher price tag, while banks will be administratively more costly but relatively cheaper. The deregulation in the competition field in the loan industry will conclusively allow more option for both sides of the consumers and result in more allocative efficiency in the market.

The third market is the *urban banking* market domination where the amount of loan is bigger than the other two and P2P lending has not been able to penetrate the market in this segment. The uncertainty of P2P lending development in the future rise a question of the need of regulation in this segment. If P2P lending business are able to penetrate this market, then the *urban banks* will need to be prepared to face these new competitors in the field. However, these *urban banks* would have more financial stability risk at stake due to the huge amount of depository gathered by these banks, resulting in different need of regulation as well.

3.5 Capture Theory Explanation

This last section would attempt to apply *capture theory* as the reasonings for the current banks regulation that hinders the competition between the banks and the P2P lending. The capture theory predicts that the reliance of regulators to the regulatees

due to their need of information, future job prospect and supports, the regulators are incentivized to pass a regulation that benefits the regulatees.

3.5.1 Regulatory capture in the Banking Industry

Stigler's capture theory predicts that regulation would be passed in favour of the industry due to the power owned by the industry to do lobby, and regulators reliance on the regulated industry. First, Banking associations are generally strong and is well-conditioned to lobby the government to capture the industry. Second, regulators are in close contacts with the industry players in doing their job. For example, before passing any new or modifying a regulation, need to consult the industry to gather sufficient information from the field-players. Third, the regulators are in general attracted to work for the industry in the future. These reasons would make banking industry prone to the *capture* from the industry. Finally, the specific nature of banking that requires specialized skill to verify the impartial regulation also increase the odd of *capture*.

Hardy applies Stigler's capture theory in the banking industry. He finds that the financial stability, that serves as the core reasoning for banking heavy regulation, is also aligned with the aim of the banking industry (Hardy, 2006, pp. 18-21). This is because of the failure of an institution would pose catastrophic consequences, which is very costly for every individual institutions. The *captured* regulation takes place in the forms of regulations that constrained competition and *excessive constraint on risky lending* justified by the financial stability risk (Hardy, 2006). While stability is also part of efficiency that is the ultimate aim of law and economics, excessive constraint is halting the optimal efficiency.

3.5.2 Regulatory capture in the P2P Lending industry

A condition needs to be fulfilled for regulatory capture to be successful under Stigler's thesis is the small numbers of supplier in the market, allowing the actors to coordinate in negotiating. Following the line, some countries with small numbers of P2P lending business, is more prone to the *capture*. Further featured with the novelty and complexity elements of P2P lending business, regulators are more reliance on the actors in the industry, adding extra points to the possibility of *capture*. Rogers and Clarke find that the P2P marketplace regulation in the United Kingdom is the result of this capture, indicated by the oligopoly indication by four firms that own 70% of the total market share (Rogers & Clarke, 2016, pp. 10-18). However, the *capture* to have a firm regulation process taking place in this industry in not a mere rent-seeking behaviour to capture more profit, but also to gain confidence in this new alternative finance alternative (Rogers & Clarke, 2016, pp. 10-18). This behaviour, fortunately, also brings positive impact to the society, challenging the classic *capture theory* that predicts the rent-seeking to be a wealth-destroying behaviour. The regulatory capture in the P2P lending industry is counter-intuitively beneficial for the society. These benefits come in three forms: (1) '*lubricating the flows of capital and trade*'; (2) '*linking savers to productive investments*'; and (3) '*crowdsourcing of interest rate decision making*' (Rogers & Clarke, 2016, pp. 10-18)

4 Conclusion

The Banking industry has long been dominating the loan market industry through their typical business model: gathering money from depositors and distributing it to the borrowers through the loan mechanism. Through this model, banking industry has become the way out from the classic moral hazard and adverse selection problems in lending agreement by offering more efficient monitoring and risk managing method.

This deposit-taking nature poses risk to financial stability that justifies the regulations to be involved by limiting the risk-taking behaviour of the industry. However, the development of technology and information have invited P2P Lending business model in the market.

In nature, P2P lending run their business in a less costly manner because they do not own a mortar-and-brick facility, they also do not bear the monitoring cost delegated from the depositors, and they do not bear any risk of default debt, which in the banking mechanism are shifted to the banks. Further exacerbated with regulations, the banking industry are under the disruptive threat of P2P lending. This paper analyses the regulatory framework of the two business models in providing a sound competition field between the two industries.

P2P lending industry, on the one hand, enhances allocative efficiency and productive efficiency due to the reduction of transaction cost, promote competition in the loan market, and also improve financial inclusion by exploring the markets uncovered by the banking loan. On the other hand, P2P lending rapid growth has been seen disruptive for the banking industry and some empirical study confirms that tighter banking regulations are correlated with the P2P lending development, implying the shared market between the two.

Taking only P2P lending into account in the market, the economic problems that will persists in the P2P lending markets are asymmetric information and externalities. Asymmetric information problem persists when the investors are unable to make a rational decision due to insufficient information or bounded rationality, while the two externalities problems are the more risk-taking behaviour created to the bank by the development of P2P lending business and the strategic behaviour of the borrowers to

not paying back the debt to the lenders. The asymmetric information problems can be dealt by either introducing the obligation for the platforms to assess the lenders and display the credit rating to the borrowers so that they are aware of the risk or by standardizing the threshold for the borrowers. The more efficient regulations would depend on investors' profile in the country. The enhancement of property right and contract law would be the remedy for the second externality. The strategic behaviour of not paying back is the result of ineffective and uncertain enforcement of property and contract law, while the externality related to the risk-taking behaviour of the banks should be dealt differently with respect to the market segment.

There are three P2P Lending Business segments of market identified: the first one consists of individuals with no access to banking loan due to lack of records or collateral; the second is the small commercial market loan, and the last is the big commercial market loan. For the first market, P2P Lending business' activity will be beneficial as this will improve the financial inclusion and therefore the only regulation the government need to pass is concerning information disclosure or standard to deal with asymmetric information and the enhancement of property and contract law institutions to avoid strategic behaviour of the players.

In the second market, however, there is a competition between *rural banks* and P2P lending. Since these banks are not competing on the same regulatory frameworks with P2P business, they incur more cost than P2P lending, making P2P lending are more free in the competition. The *regulatory capture* theory predicts the possibility of reducing the risk-taking limitation that would make banks more efficient and at the same time would make banks more competitive in the market invaded by the P2P lending business. Banks, despite the slower administration and higher requirement, provide a financial funding with lower interest compared to P2P lending now. The high

rate of P2P lending might also be pushed to the efficient point if banks are more competitive. These would eventually give consumers more choice and result in more allocative efficiency.

In the third market, however, *urban banks* are still dominating and it is still unknown if P2P lending business would be capable of exploring the market in the future. However, if P2P lending eventually reach this market, a regulatory framework that pays attention to the financial stability should be imposed as the banks in this segments are *urban banks* with higher deposit that if it collapses, the economic consequences would be more serious than the second segments.

The current over-regulation of banking and less-regulated P2P lending industries can be explained using the *capture theory*. In the last section, we find that banks regulations are captured by the industry in their need of constraining competition, shielded with financial stability justification, while P2P lending industry might also capture the regulation in order to gain consumers' confidence. However, P2P lending industry's capture is an anomaly where it is beneficial for the society, especially with regard of financial inclusion improvement.

To conclude, this paper illustrates that different regulations should be imposed according to the segment of market in order to reap the maximum benefits offered by P2P lending while also be cautious about the financial stability aspect.

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