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PEER TO PEER LENDING AND FINANCIAL INCLUSION IN BRAZIL: A CASE STUDY

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de Empresas de São Paulo of Fundação
Getulio Vargas, as a requirement to obtain the
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Knowledge Field: Finance

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Abstract

While pursuing the objective to investigate the potential for the P2P innovation to enhance financial inclusion in Brazil, the P2P industry and the current market environment were analyzed in order to highlight the factors that can facilitate this desired enhancement. There seems to be no doubt that there is substantial potential for the P2P industry worldwide and in Brazil but, beyond this, a considerable part of this industry could be providing financially inclusive products. The P2P industry in Brazil needs to recognize the potential for growing, not only the industry itself, but also the market for financially inclusive P2P products.

The first section of this thesis focuses on financial inclusion briefly in order to establish the frame of what is being addressed. Subsequently the P2P industry is analyzed globally, locally in Brazil and with regard to financial inclusion. The study is conducted through an interview with the founder of a P2P platform in Brazil and its data collection is used to build a case study which allowed for an analysis of the potential for financial inclusion of the P2P industry and the identification of important factors with regard to converting this potential into results.

Key words

Finance, peer-to-peer, P2P, lending, alternative lending, financial inclusion

Resumo

Ao perseguir o objetivo de investigar o potencial da inovação P2P para melhorar a inclusão financeira no Brasil, a indústria de P2P e atual ambiente de mercado foram analisados a fim de destacar os fatores que podem facilitar este desenvolvimento desejado. Parece não haver dúvida de que existe um potencial significativo para a indústria de P2P no mundo e no Brasil, mas, além disso, uma parte considerável desta indústria poderia ser o fornecimento de produtos financeiramente inclusivos. A indústria de P2P no Brasil precisa reconhecer o potencial de crescimento, não só a própria indústria, mas também o mercado de produtos P2P financeiramente inclusivo.

A primeira parte desta tese centra-se na inclusão financeira brevemente a fim de estabelecer o marco do que está sendo investigado. Posteriormente a indústria de P2P é analisado globalmente, localmente, no Brasil e com respeito à inclusão financeira. O estudo é realizado através duma entrevista com o fundador de uma plataforma de P2P no Brasil e a coleta de dados é usada para construir um estudo de caso que permitiu uma análise do potencial para a inclusão financeira da indústria de P2P e a identificação de fatores importantes para converter esse potencial em resultados.

Palavras chave

Finanças, peer-to-peer, P2P, empréstimos, empréstimos alternativos, inclusão financeira

Contents

| | |
|---|----|
| 1. Introduction..... | 12 |
| 2. Literature Review..... | 13 |
| 2.1 Financial Inclusion..... | 13 |
| 2.1.1 Financial Inclusion in Brazil..... | 14 |
| 2.2 The P2P Lending Industry..... | 15 |
| 2.2.1 China: An important P2P market that is not relevant to this study..... | 16 |
| 2.2.2 Defining P2P platforms..... | 16 |
| 2.2.4 Risks of P2P platforms..... | 24 |
| 2.2.5 Institutional investors in P2P and the securitization of P2P loans..... | 29 |
| 2.2.6 Regulation of the P2P Industry..... | 31 |
| 2.2.7 P2P platforms in Brazil..... | 34 |
| 2.3 P2P Lending and Financial Inclusion:..... | 35 |
| 2.3.1 Commercial P2P Platforms..... | 35 |
| 2.3.2 Affinity groups..... | 36 |
| 2.3.3 Indirect P2P Platforms..... | 37 |
| 3. Methodology..... | 44 |
| 4. Case Analysis..... | 47 |
| 4.1 Defining typology of P2P platforms..... | 47 |
| 4.2 Presentation of the case..... | 48 |
| 4.3 Analysis and Interpretation of Results..... | 52 |
| 5. Conclusion..... | 59 |
| References..... | 63 |
| Appendix..... | 77 |

List of Tables

| | |
|--|----|
| Table 1 – P2P Loan Issuance | 18 |
| Table 2 – P2P Regulation Overview..... | 34 |
| Table 3 – Kiva Key Statistics..... | 41 |
| Table 4 – Examples of Platform Typology..... | 48 |

List of Figures

| | |
|---|----|
| Figure 1 – Total P2P Loan Volume | 20 |
| Figure 2 – The P2P Platform | 21 |
| Figure 3 – US Credit Card Returns vs Unemployment | 26 |
| Figure 4 – Geru Borrower Profile..... | 49 |
| Figure 5 – Geru Loan Uses | 50 |

List of Abbreviations

| | |
|---------|---|
| CGAP: | The Consultative Group to Assist the Poor |
| DBRS: | Dominion Bond Rating System |
| FCA: | The Financial Conduct Authority |
| GAO: | The Governors Accountability Office |
| P2P: | Peer-to-peer |
| SEC: | The Securities and Exchange Commission |
| UN: | The United Nations |
| UNSGSA: | The United Nations Secretary-General's Special Advocate for Inclusive Finance for Development |

1. Introduction

“Unprecedented technological capabilities combined with unlimited human creativity have given us tremendous power to take on intractable problems like poverty, unemployment, disease, and environmental degradation. Our challenge is to translate this extraordinary potential into meaningful change.”

- Muhammad Yunus

“If something is important enough, even if the odds are against you, you should still do it.”

- Elon Musk

In the past microcredit has not only seen major interest from philanthropic and commercial institutions alike but also come under criticism due to several factors including lack of evidence of poverty alleviation, commercialization and high interest rates (Bateman, 2012). Examples like the 2007 IPO of Compartamos, which resulted in high gains for private investors have intensified these criticisms and raised questions about the moral obligations of microfinance institutions and investors (Ashta & Hudon, 2009).

Financial inclusion, despite the efforts over the past 30 years, has not only remained an important issue since the United Nations declaration of the International Year of Microfinance in 2005, but rather has developed into a recognized leitmotif of economic development (Hanning, 2013).

Worldwide close to a billion people still live under the poverty line and income inequality is a major problem for many countries, including Brazil where the poorest 10% only earn 1% of total income (World Bank, 2015).

Hence, it could be time to explore nascent technologies in order to find new, enhanced or alternative methods to tackle the issues of poverty and financial exclusion. In the past decade P2P lending has not only shown the potential for disrupting traditional finance but has been able to translate this into meaningful change, albeit mostly in the US, Europe and China. This research will try and find the potential this new technology has for increasing financial inclusion in the Brazilian market.

2. Literature Review

2.1 Financial Inclusion

Financial inclusion is defined as the provision of banking and financial services such as credit, savings, insurance, payments or others, at an affordable and reasonable cost. This goes especially for disadvantaged and individuals at the bottom of the pyramid (Dev, 2006). These financial services should be provided by healthy and professional financial institutions, which does not limit the providers to formal regulated financial institutions. Inclusive finance not only is focused on individuals but also small businesses that would otherwise not be able to access certain financial services (The United Nations Department of Economic and Social Affairs, 2016). It needs to be clarified that financial exclusion refers to the lack of access to said services without the specification that these services must be provided at a reasonable price (McKillop, Ward, & Wilson, 2007).

Hence, due to the existence of financial service providers by loan sharks and similar agents, the fact that an individual is not financially excluded does not imply that this person is financially included. In fact, the issue of lacking financial inclusion is still of major proportions, currently still around a third of the world population still struggle without basic financial services ([UNSGSA], 2015). Improvements such as the gaining of access to financial services by around 750 million people in 2011 (Demirguc-Kunt, Klapper, Singer, & Van Oudheusden, 2015) shows that with the right policies successes can be achieved. Nonetheless, there is still much work to be done.

Transaction costs and efficiency

Transaction costs are an important point that is key in increasing usage of the formal financial sector. Transaction costs are defined as the costs incurred when completing an economic exchange (Dahlman, 1979). With regard to providing financial services to individuals at the bottom of the pyramid these can manifest themselves as time taken to physically travel to and from a financial institution, time it takes the institution to gather sufficient information on the individual and time it takes the institution to manage the individuals account or profile (Sadana, et al., 2011). In most cases, these costs are so excessive that transactions are rendered not economically viable.

Thanks to modern technology, essentially all of a person's banking needs could theoretically be run online. This means that deposit, credit, savings, payments, credit cards (or similar), could all be offered through someone's computer or phone. Thus the interaction a person has with a brick and mortar bank branch can be limited to such an extent, that transaction costs are reduced immensely. Furthermore, a simple, easy to use application on someone's phone may be much less intimidating than going to a formal bank branch. If making a deposit in your account is as easy as topping up your phone, the experience is integrated into a process people already use and are familiar with.

2.1.1 Financial Inclusion in Brazil

Brazil is the global leader in branchless banking. Since 2002 an estimated 5.597 municipalities of 5.598 total have access to formal banking through at least one correspondent bank (Banco Central do Brasil, 2016). The extensive correspondent network stems from the 2003 legislation aimed at loosening regulation on correspondents so they can act as agents to open and operate simplified bank accounts which were capped at USD 500 maximum, charged no fees on the first 12 transactions, had no monthly fees and could only receive credit from micro lenders (The Consultative Group to Assist the Poor [CGAP], 2010).

Brazil fares relatively well compared to the global average in terms of individuals that have a bank account with 56% for Brazil versus 50% for the World (Côrtes Neri, 2013). This can be explained because monies from the state support program Bolsa Familia can be sent to simplified accounts. On the one hand this increased the number of accounts substantially but it is observed that they are not being used. The Bolsa Familia program is mainly given to individuals in rural areas, where 41% of the population receive it, and less so in urban areas. In Sao Paulo and Rio de Janeiro less than 10% of the population receive it ([CGAP], 2010). Currently, around 24% of families in Brazil receive funds from the Bolsa Familia program (Portal Brasil, 2015).

Credit has risen to 45% of GDP in Brazil but most of it is consumer collateralized, which means it is probably given in conjunction with the sale of a consumer good. Another large portion is payroll-consigned, often through Pastinhas which are agents of credit promoters. There were over 500.000 Pastinhas in 2011 working for 20.000 credit promoters ([CGAP], 2010).

Both the correspondent banking network and the Bolsa Familia program have been the pillars of the Financial Inclusion Strategic Project by the Central Bank since 2009. Nonetheless, this program has its limitations and it remains to be explored with what other methods financial inclusion can be promoted in Brazil.

2.2 The P2P Lending Industry

There are various definitions of peer to peer lending and there is no consensus on what functions and operations are part of P2P lending and which are part of other alternative finance areas such as marketplace lending or online balance sheet lending. Often various alternative lending elements are combined with P2P lending under the P2P lending umbrella. Many providers self-identify as P2P lenders even though they may not be seen as traditional P2P platforms, thus creating a wider use of the term than may have been initially intended (Aveni, et al., 2015). In practice, the most common definition of P2P lending is the provision of loans to individuals through online platforms without the use of traditional financial institutions (PricewaterhouseCoopers, 2015). Hence, this would almost engulf any lending activity in the alternative finance domain, where alternative finance is the provision of financial products and services without the use of traditional financial institutions.

Some authors describe P2P lending with a more narrow scope and require a pure P2P lending platform to be crowd-funded (Aveni, et al., 2015) whereas others define it as a “direct loan provision by lenders to consumers” (Moeninghoff & Wieandt, 2012) meaning the peers enter into direct contracts with each other through the platform.

The lack of regulation in this sector further complicates the clear outlining of the activities that fall under the P2P lending umbrella. In many jurisdictions the activities that would be seen as P2P lending are not permitted and thus workarounds must be found, some of which include the incorporation of traditional financial institutions (Maia & Lewgoy, 2015).

Essentially, the rise of P2P lending platforms in the last decade is the result of technological developments finding new, more efficient ways to meet the demand for financial services. This

development has outpaced regulation and traditional financial services and spread across the globe. These factors require P2P lending as an industry to cover a dynamic spectrum of business models, and thus we will include this variety of business models in order to explore the topic with breadth.

2.2.1 China: An important P2P market that is not relevant to this study

The P2P market in China is large and it is growing. Several estimations place it at several billion dollars (Morgan Stanley, 2015) and some consider it to be the largest in the world (Kynge, 2016). The truth of the matter is that the industry is opaque to say the least and accurate or even indicative estimations cannot be made at this point. The recent uncovering of a USD 7.6 billion Ponzi scheme at the Chinese P2P lender Ezubao highlight the un-transparent state of the industry (Reuters, 2016). What sets many of the P2P platforms in China apart is that the majority of providers are not focused on technology and efficient lending mechanisms but rather leverage established local distribution and retail networks to sell lending products loosely identified as P2P (Aveni, et al., 2015). In this sense there is often no clear departure from the traditional brick and mortar financial institution model. In other words, cost optimization is not a driver for P2P in China. The definition of what constitutes a P2P product is also the least restrictive in China which results in a wide variety of financial products to be identified as P2P that otherwise would be classified more as wealth management products (Aveni, et al., 2015). It is for these reasons that the Chinese P2P industry was included only in the literature review in order to conclusively exclude it from the study.

2.2.2 Defining P2P platforms

We will look at the innovation where loans are made between borrowers and lenders via an online platform or marketplace that bypasses the loan decision of a traditional financial institution. Loans can be made to individuals, businesses or pre-defined groups of people and the risk of default clearly lies with the lenders, outlining that the platform merely acts as an agent or intermediary. The P2P platforms will have some kind of lender requirements and screen potential borrowers accordingly. In most cases they will have a proprietary scoring mechanism which applies a score to each lender.

The functions of the P2P platform are therefore the management of loan applications and the subsequent credit evaluation, offering of loans to investors and management of loan repayment.

It is important to note that platforms will screen for eligibility of the application and then proceed with the calculation of a credit score based on traditional credit scores and data that is available online (big data).

Time-Line of the P2P industry

Since the first P2P platform Zopa was founded in February 2005 the industry has been growing at a staggering pace globally. Nonetheless, most of this growth has been recent as most of the initial difficulties of the industry are starting to be overcome. Furthermore, there are many economies into which P2P lending has not been able to foray and numerous that are still struggling to establish the first participants. One of the main problems faced by the industry was to get investors and borrowers to adapt a new form of lending in an online environment. Since wealth is more concentrated in the higher age groups, and these are less likely to adapt new technologies (Morris & Viswanath, 2000), building a substantial investor base could have been complicated. Borrowers also had to be convinced to adopt the new technology and this had to happen simultaneously to investor growth. Hence, the demand and supply side of the business had to be built up at the same time which can be far more challenging than when being able to focus efforts on one target. P2P is also different from other online innovations in that it does not involve a one-time interaction but rather requires both parties to enter into a medium to long term contractual relationship. Hence, the possibility to just “try it out” was not given in the same way as was with other new products. Furthermore, the financial industry was (and still is to some extent) dominated by traditional institutions which had been enjoying years of deregulation and concentration (Crotty, 2009) making it harder for new entrants to access the market.

After the onset of the financial crisis, caused by sub-prime credit, the traditional institutions were in difficult times including liquidity and profitability issues. This reduced the willingness of banks to lend, especially to SMEs and consumers. This created a situation where P2P lending was able to fill the void left by banks. Following the crisis came a period of low interest rates due to expansive monetary policy in an attempt to boost the economy. This gave the final impulse for the industry to take off as investors were entering into the industry in seek of higher yields as a wave of liquidity was pushing yields lower in other financial products (Morgan Stanley, 2015).

Shortly after Zopa was launched more platforms entered the market. In February 2006 Prosper opened the first US based platform followed by Lending Club in 2007. Initially these platforms enjoyed being able to operate in an unregulated environment but in 2008 the SEC required P2P platforms to register their offerings as securities under the securities act of 1933. This process was initially painful for the platforms causing some to temporarily shut down and Zopa to exit the US market (Kim, 2009). Both Prosper and Lending Club were able to secure SEC approval.

Non-profit platforms were also initiated with Kiva launching in October 2005 and Zidisha in 2009. Whereas Kiva operates an indirect P2P model, Zidisha was the first platform to link individuals directly across international borders. The indirect P2P model describe platforms that outsource the acquisition and management of borrowers to partner institutions (field partners) usually microfinance institutions that have better capabilities in the local communities they serve (Flannery, 2007)

Funding Circle became the first P2P platform to lend to SMEs after launching in 2010 in the UK. Shortly after, in October 2010, RateSetter launched operations also in the UK. RateSetter introduced the concept of a provision fund in order to offer investors some sort of protection from borrower default. According to the company, no lender has lost any money to date (The Provision Fund, 2016).

In 2011 the industry saw its first significant failure after Quakle investors sustained considerable losses of a near 100% default rate due to issues with the credit scoring mechanism of the platform (Dunn, 2011). This setback, however, was followed by a UK Government investment of GBP 20 million into British businesses through P2P platforms in an effort to increase lending to SMEs after the Government was unsatisfied with the levels of credit traditional institutions were providing the economy. Another GBP 40 million was injected in 2014 (Department for Business, Innovation & Skills, 2014).

Table 1 – P2P Loan Issuance

| P2P Platform | New loans Q3 2015 (USD millions) |
|--------------|----------------------------------|
| Lending Club | 2,235 |
| Propser | 1,100 |

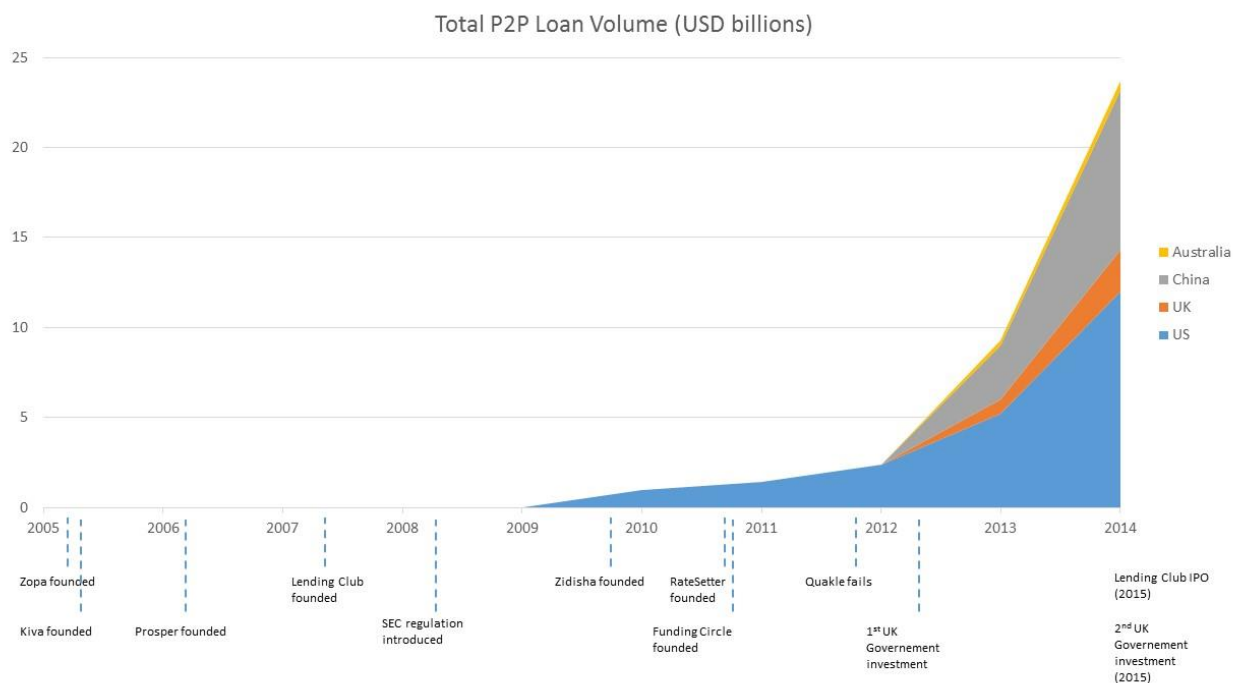
| | |
|----------------|-----|
| Zopa | 241 |
| RateSetter | 191 |
| Funding Circle | 221 |

Source: P2PFA, LendingClub, Prosper. Exchange rates as per 30.09.2015

The first ever P2P Platform to obtain capital from an IPO was Lending Club in December 2014 when it raised USD 870 million for a total valuation of USD 9 billion (Somerville, 2014).

Some argue that the industry is still nascent at only around 10 years, and that its size is not sustainable. Others venture growth predictions that dwarf its current size predicting the sector to grow to USD 1 trillion by 2025 (Alois J. , 2014).

Figure 1 – Total P2P Loan Volume



Source: Morgan Stanley

2.2.3 P2P Platform Functions

P2P platforms will build a base of investors that can be of different nature and sophistication.

The most prominent example of P2P investors are individuals but institutions and high net wealth investors are making up increasingly large portions of the investor base. These investors connect to the platform and allocate capital to it.

Borrowers, usually individuals but also SMEs, are able to create profiles and loan requests on the platform. These requests are screened for validity and fraud and after being cleared the platform continues its process by assigning a credit rating to the borrowers' profile.

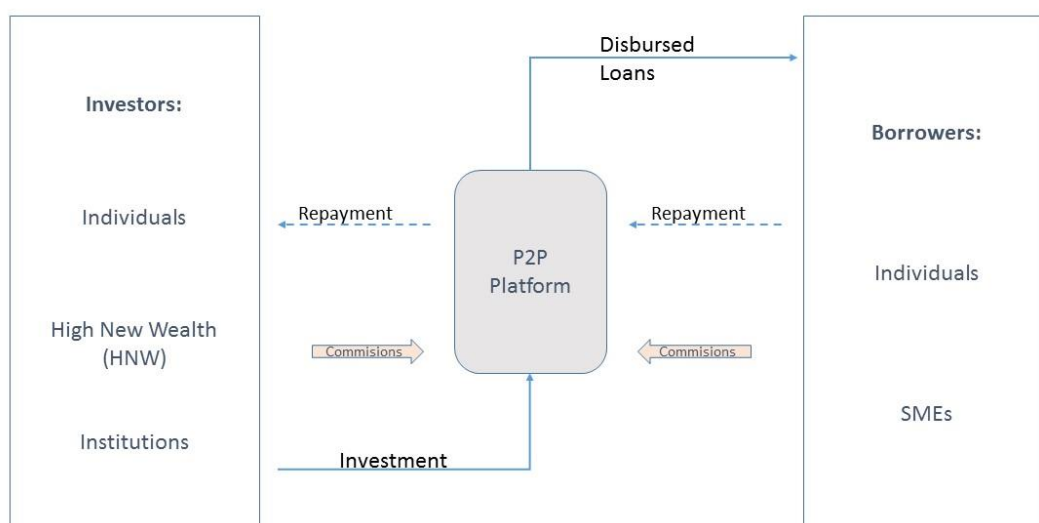
Loan requests are then matched to investors through the platform, a process which is traditionally handled by the investors themselves. It is key to note that the loans can be purchased in fractions of the entire principal, thus allowing various investors to hold one listed

loan. This allows even the smallest investors to spread risk over many different loans and borrowers.

The interest rate borrowers pay includes the fees paid to the platform, which usually comprise of a one-off fee and may include continuous management fees as well. The remainder net of the platforms fee is thus the interest the investor receives from the loan.

The platform manages the repayment of the loans to investors as well as any delinquencies (which are usually sold to collection agencies) until the loan reaches maturity. P2P platforms partner with banks and payment processors in order to guarantee a smooth functioning of these transactions.

Figure 2 – The P2P Platform



Source: Lending Club, Zopa, Prosper, Geru

P2P platforms interest rate structure

Commercial platforms finance themselves by charging a fee for the services they provide, this is one of the main differences to banks that earn the interest on the loan (but also bear the default

risk). Theoretically, the effect this has on the interest rate when comparing to a bank should be negligible, as the bank also provides a service which has a cost that needs to be covered.

This highlights why P2P platforms have a theoretical cost advantage over banks and why they could be able to offer lower interest rates. Banks collect funds from depositors to which they may or may not have to pay an interest. They then incur a series of expenses that will probably be higher due to the large infrastructure traditional banks maintain. What is paid to depositors, plus the cost structure then indicates the minimum interest charged to borrowers (not including borrower specific risk premiums). For P2P platforms it is argued that the cost structure is lower so that the interest paid to investors is higher than what is paid by banks to depositors, and the interest charged to borrowers is lower than that charged by banks. Through online technology costs savings are argued to be in areas like money flow management, client services, back office tasks and most importantly branch costs. Costs related to regulation are also lower as P2P platforms do not take deposits and are not regulated as traditional financial institutions. Lending Club claims that its cost structure is 270 basis points whereas for comparable banks it would be 695 (Aveni, et al., 2015).

Of course this is just a theoretical example, the actual return that investors will require will depend on the supply of capital to P2P platforms, just like the actual cost structure may vary from what Lending Club has claimed. Interest rates at Lending Club have been falling recently (Lending Club, 2016) whereas the overall interest rate environment in the US has not shown such a trend. This could indicate that demand from investors is increasing and putting downward pressure on returns and interest rates. The 2014 annual report of Lending Club also states a net loss of around USD 32 million, which could indicate that the cost structure advertised is not sufficiently covered and may be higher in reality.

Uses of borrowed funds

Depending on the type of platform uses of the funds varies. Commercial platforms tend to focus on prime borrowers in search of cheaper financing. Here the P2P platform uses its cost advantage to provide a financial service that usually a traditional institution would provide at a higher interest rate. Most clients use the funds to refinance existing debt including credit cards, bank overdraft and other personal loans. Depending on the platform, new personal loans (major

purchase, home improvement, medical) or small business loans will make up a large part of the remainder. At Lending Club for example 67.7% of loans are used to refinance existing loans with 27.3% of that (or 18.5% of the total) being for credit card refinancing (Statistics, 2016). Rate Setter claims that the most common loan disbursed are car loans without giving the exact percentage (Key statistics you should know, 2016). For the recently launched Brazilian player Geru 62.5% of loans are used for debt refinancing (Presentation to investors, 2015).

Borrower screening and proprietary credit models: the use of “big data”

P2P platforms have certain cost advantages over traditional financial institutions through the lean structure of an online-only presence. This presence comes with a caveat that is the lack of proprietary client historical data. Banks take deposits and offer various financial services to clients whose usage and history give indications of probability of loan repayment. Banks thus complement traditional credit scores with their own data collected on clients. P2P platforms have leveraged the emergence of online data in order to complement credit scores and build their own proprietary credit models. These vast new online data sources also called big data are collected by programs and fed into algorithms in order to create a credit score.

This data can include things like number of social network connections, reviews and ratings on Yelp, credit card sales volume and public records (Moldow, 2015). P2P platforms are able to very rapidly collect this data and the issuance of a credit score can often take only a few hours. Many P2P platforms claim that this technological advancement has created a method of scoring that allows them to more accurately assess riskiness of borrowers and thus lower the interest rates charged on loans. The more individuals apply for their loans, the greater their datasets become and the more accurate the algorithms can predict default probability is the theory set forth by the platforms.

This has the potential to benefit borrowers of two types; on the one hand, cheaper credit can be offered to individuals that already have access to traditional banks thus creating a more efficient credit market. We are observing this with the large commercial P2P platforms like Lending Club, Zopa, Rate Setter, Prosper and Funding Circle, and many others in the US, UK and other geographies. As can be seen by the uses of borrowed funds the majority is used to refinance

existing loans, thus indicating that loans from traditional financial institutions are in fact being substituted by loans from P2P platforms.

On the other hand, there exists the potential to use these algorithms and alternative sources of data to provide credit to individuals who are currently unable to access traditional bank lending and thus increase financial inclusion. The idea is that while a credit score may not be available for these clients, they do have a data footprint online and generate data patterns on their mobile devices. This data could essentially be collected by similar algorithms as are already being used by P2P platforms to supplement the traditional credit scores. If the accuracy of these algorithms is increased sufficiently, the traditional credit score may be substituted entirely with data that is available for a far larger client base. Clear cut examples of this are not available yet as the algorithms still merely compliment the traditional credit scores issued by scoring agencies.

2.2.4 Risks of P2P platforms

Investing in loan portfolios is not a new phenomenon, especially for institutions and sophisticated investors. Less prominent and liquid than the bond market, securitized loan portfolios and bank loan funds have still been playing a large role in finance for decades. P2P lending however, has opened an entirely new way of investing in the loan market, especially in consumer and SME loans.

P2P lending enables the investor to exert an incredible amount of control over the composition of his or her personal loan portfolio, essentially being able to hand-pick which borrowers are included and with what weighting. The individual investor can thus spread the risk over an incredibly high number of borrowers achieving much more diversification than if he were to lend to a peer without the platform (Herzenstein, Sonenshein, & Dholakia, 2011). In this sense, the P2P platform provides the investor with diversification for credit risk, where credit risk is “the risk of default on a debt that may arise from a borrower failing to make required payments” (Basel Committee on Banking Supervision, 2000).

One problem that remains is, while the investors can spread their risk across borrowers, attaching a risk value to these borrowers can be difficult due to lack of information. Investors thus use heuristics to arrive at efficient but sub-optimal decisions (Tversky & Kahneman, 1974). Individual investors are also found to resort to herding behavior, where loans that are already

seeing attention (are partially funded) fund faster than other loans (Lee & Lee, 2012). But like individual retail investors, sophisticated market participants also have access to the platform and may be able to implement more complicated financial models to try and select borrowers with a higher return-to-risk profile than the rating given by the platforms implies. In fact, this is already occurring extensively with numerous hedge funds having entered the domain (Evans, 2015). So where previously an investor in search of a fixed income opportunity may have looked at a professionally managed instrument like a fixed-income fund, high-yield ETF, bank loan fund or even trying to hand pick certain corporate bonds, they are now able to invest in consumer and SME loans as well, through the use of a P2P platform. When making this comparison the risks for the asset class become more apparent, bank loan funds were the worst performers in the fixed-income segment in 2008 with a performance of -29.7% (Morningstar, 2015). Hence, even professionally managed instruments can be subject to high volatility.

One key point to note is that the information asymmetry in P2P lending is far greater than when investing in traditional fixed-income assets (Bachmann, et al., 2011). Bank loan funds, for example, receive large amounts of historic financial data on the companies they consider buying a loan from and bonds are required to release financial information and risk factors of the business in the bond prospectus to potential investors (The Securities and Exchange Commission [SEC], 2005).

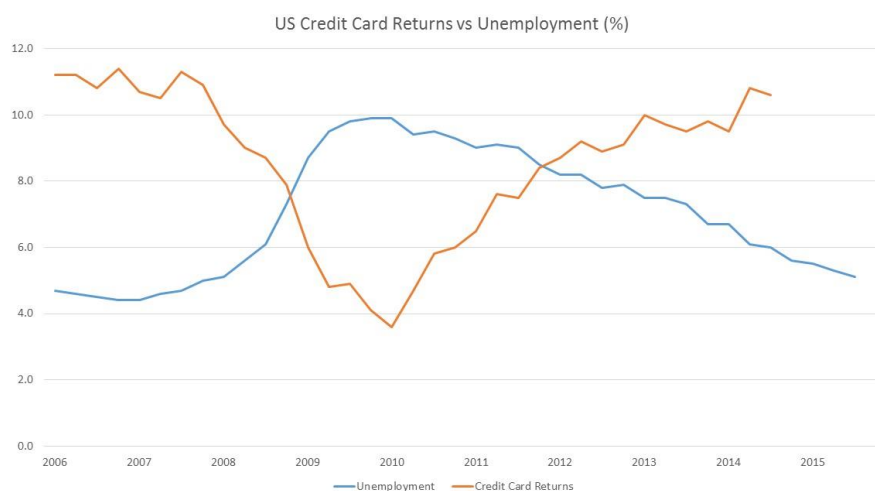
It is therefore quite clear that for professional and individual investors alike, P2P lending come with certain risks that may not be reflected in the marketing language of the platforms or the perception of investors. The most obvious risk being the systemic risk, which involves the collapse of the entire market, spanning even across asset classes (Kauffman, 2000). By definition, any asset type is subject to this risk.

There is however a more important risk that needs to be considered, especially in relation to the way the platforms present themselves. Default rates at four of the largest platforms are reportedly relatively low: Lending Club and Prosper are below 3% and Rate-Setter and Zopa below 1% (Robinson E. , 2015). Nonetheless, the earliest platforms date back only 10 years and not enough data has been collected to see how loan portfolios fare through different economic cycles. Data indicates that during the crisis of 2008, default rates for P2P loan portfolios spiked, but returns on the portfolios remained positive. When looking at data from Lending Club for example we

can note that while default rates reached around 15% and 12% in 2007 and 2008 respectively (Statistics, 2016), data sets at this time were still small (not statistically significant), the platforms algorithms were still being developed and one of the severest crisis occurred. Therefore, no predictions can be made about P2P lending performance and default rates in times of economic downturn.

A comparison that can be made however is to credit card debt as P2P lending is predominantly unsecured consumer credit and credit card debt is entirely unsecured consumer credit. Credit card returns stayed positive during the last financial crisis, albeit diminishing greatly, and a strong correlation to unemployment can be identified. This gives an indication that P2P lending may follow a similar path during a recession, where P2P lending returns may approach zero but remain positive as unemployment spikes.

Figure 3 – US Credit Card Returns vs Unemployment



Source: US Bureau of Labor Statistics, The Federal Reserve

Another minor risk to consider is the loss of privacy that people connected to the platform may experience. This goes for borrowers especially as they reveal a set of personal information that is accessible to the wider platform investor base. Although generally safe, if information is obtained by criminals individuals may be subject to cyber-attacks to facilitate identity theft (Bilge, Strufe, Balzarotti, & Kirda, 2009).

Risk minimization practices: Screening

The most obvious and widespread practice is one of the core services that the platforms provide. Screening applicants for fraud, suitability and assigning a credit score. This is done by all commercial platforms and usually quite rigorously so. Lending Club was screening out approximately 87% of applicants in 2010 (Tufano, Jackson, & Ryan). Platforms use the information applicants provide in addition to data available on the web to feed into proprietary algorithms that can determine fraudulent requests and unsuitable candidates. Through this mechanism the platforms not only protect investors from criminals but also filter out applicants that have high default probabilities. Essentially, most commercial platforms focus on the mid to high range of the credit-worthiness spectrum in order to avoid high default rates. For Lending Club and Prosper the FICO cut-off scores are 660 and 640 respectively, which is at the lower end of the fair credit spectrum and not yet really in the poor credit area which ranges from 300 – 649 (Detweiler, 2015).

Risk minimization practices: Secondary Markets

Another method of risk management that has gained considerable popularity is the secondary P2P loan market which allows investors to sell loans prior to maturity. A secondary market can achieve a more efficient allocation of risk as liquidity risk in the primary market is reduced (Arrow, 1964). Furthermore, it provides market data to an industry that still requires new information in order to increase functionality and efficiency. More importantly, the increased liquidity, and subsequent reduced liquidity risk, increase the attractiveness of the primary market and thus increase its liquidity as well causing the capital supply for P2P loans to grow which will cause the interest rates to decrease if borrower demand remains constant.

Both in the UK and the US all major platforms offer a secondary market in which loans can be traded prior to maturity. Each secondary functions slightly differently and matches the way loans are originated on each of the platforms respective primary market. The need for a secondary market is thus fulfilled but there are limitations which could still be overcome. The principal issue being that only regular performing loans can be traded in these markets, once a loan is non-performing it is barred from secondary trading. In more developed markets specialized distressed investors provide additional liquidity (Harner, 2008) that is currently not available in P2P

lending secondary markets. Secondary markets are provided by the platforms themselves and thus only loans originated on the platform can be traded in each secondary market. In the UK this limitation persists whereas in the US the brokerage firm Folio has created a secondary market that allows for trading of both Lending Club and Prosper loans.

Risk minimization practices: Provision Funds

RateSetter in the UK has pioneered a risk management solution called a provision fund. When setting up a provision fund the platform will typically charge a separate fee that is pooled in the fund, this fund is maintained separately from the platforms assets. In case of a loan default a claim is made to the fund to cover the investors' losses. Investors' losses are thus covered until the fund is depleted. It must be noted that the provision fund is a service provided by the platform and is not equal to a guarantee (like there is for deposits). Nonetheless, due to the provision fund no investors has ever lost money on the platform. According to RateSetter, considering the current loan portfolio and provision fund sizes, the default rate would have to increase to 3.6% for the fund to be depleted and the investor to start seeing reduced interest performance. At 13.7% default rate investors would collectively face zero returns on their investment and anything beyond that would reduce the principal amount of the combined investor base (The Provision Fund, 2016). Since the provision fund is supplied with a dedicated fee it can be said that investors accept a lower return on the loans they invest in, in exchange for lower default probability of their loan portfolio.

Risk minimization practices: Investment Caps

Platforms can also implement investment caps in order to protect retail investors from risks related to insufficient diversification. This can be done on two levels. In France for example regulators require P2P platforms to restrict retail investors from investing more than EUR 1.000 in any given loan (Diegel, 2014). This measure ensures diversification within the asset class, but disregards the relative size to the investors' total assets. It is therefore quite basic and with limited usefulness. Lending Club restricts investors from investing more than 10% of their total combined residential and vehicular assets (Investor Agreement, 2015). This measure ensures diversification on asset class level in relation to the investors' total assets. This measure is also of limited usefulness as on the one hand it renders P2P lending as an asset class more restrictive

than stocks or bonds for example. On the other hand it does not really consider an investors total assets. Furthermore, since home and vehicle are necessary assets and not investment assets, it may be more helpful to peg the P2P loan cap to investment assets like mutual fund holdings, brokerage accounts, secondary properties etc.

Risk minimization practices: Adequate levels of transparency

While these measures of risk mitigation are useful, platforms should also maintain a high level of transparency regarding their services and the risks involved in investing on the platforms. In the UK many platforms have been found not to do this with information on risks, returns and services provided often being insufficient (Financial Conduct Authority [FCA], 2015). An adequate level of transparency provides investors with the tools and information to make rational decisions regarding their investments and thus reduces risks. Any decisions made with this information available, be they rational or irrational, are therefore the full responsibility of the investor.

2.2.5 Institutional investors in P2P and the securitization of P2P loans

Institutional investors are pushing into P2P lending in a strong way. In 2014 60% of P2P loans were being purchased by institutional investors (Alloway & Massoudi, P2P lenders Install investor speed bumps, 2014). The attention the asset class has received from institutions has contributed to the boost in size it has seen over the past years. Institutional investors use their own models to try and classify loans riskiness more accurately and thus intend to achieve above average returns. On the other hand the ticket size of individual P2P loans is growing, the largest loan to date was made on LendInvest in 2014 where over GBP 4 million were raised in a single offering to fund a residential housing project in London (Moore & Sharman, 2014). This trend is only forming in those jurisdictions where there are no P2P lending caps in place, as is not the case in France for example where the cap on a single project is EUR 1 million (Diegel, 2014).

With these recent developments has come the securitization of P2P loans by bank and asset managers in order to service institutional demand efficiently (Price & Abou-Jaoude, 2014). On the one hand securitization allows institutional investors involved directly in making P2P loans to sell large positions of their portfolios efficiently, and on the other hand it allows institutions

that wish to participate in the market without originating their own loans to purchase P2P loan portfolios of their own. Securitization involves the creation of special purpose vehicles (SPVs) in order to bundle many individual loans into one larger, tradable security. The bank or asset manager that creates the securitized assets are legally separated from it and thus the counterparty risk of the issuer is eliminated after the transaction was completed correctly (Bavoso, 2013). Hence, the new owner of the securitized assets is only exposed to the risks of the assets itself.

The first securitization of P2P loans is still quite recent but it kicked off a trend across the industry. In October 2013 Eaglewood Capital was the first to securitize USD 53 million of Lending Club P2P loans (Eavis, 2013). Shortly after, in November 2013 Prosper became the second platform to have its loans securitized with Insikt securitizing USD 10 million of P2P loans (Dugan, 2013). Later that year, and considerably larger in size, Social Finance Inc. securitized USD 152 million in P2P student loans (SoFi, 2013). The Insikt securitization received an A-rating from credit rating agency DBRS becoming the first A-rated security of P2P loans. Even though securitization of P2P loans is a recent trend, rated P2P securities may be the latest development in this area as rating agencies on the one hand have limited reputational risk due to the lack of historical data in the asset class and on the other hand have the incentive to build their expertise and become leaders in the asset class (Hunt, 2009). In fact, in a more recent Social Finance securitization of USD 303 million from November 2014 more top-tier rating agencies rated the issue with S&P and Moody's both assigning an A and A2 rating respectively (Alois J. D., 2014).

Platforms have been reluctant to participate in the securitization process themselves, while they appreciate the positive effect it has on the size of the industry, platforms are more focused on core elements of their business in order to continue to grow their legitimacy and credibility. Securitization is handled by banks and asset managers that specialize in these kind of transactions and are thus contributing to the maturing of the asset class. Even though the asset class is in its initial development, securitization may be paving the way for further developments such as exchange trading and creation of derivatives (Price & Abou-Jaoude, 2014). As the industry grows, securitization will play a more important role, and as securitization innovations advance the industry is given more room to grow. This may create a situation under which the currently relatively small P2P loan market may develop into a large global asset class.

2.2.6 Regulation of the P2P Industry

Worldwide

New industries and technologies constantly pose challenges for regulators. The internet as a new technology itself is a source of constant debate around how to regulate its usage and which government entities should be charged with this task. There seems to be a significant trend of the regulators lagging behind the speed of the development of new technologies, applications and businesses (Smith, 2007). This is to be expected as regulators can merely react to new developments, which are impossible to foresee, but the speed and efficiency with which regulators react can have a meaningful impact on how the industry develops in any given jurisdiction.

When P2P lending, or any technology, first emerges in a country, there is no specific regulation for it. This means the industry will be regulated by existing laws, which will almost certainly result in a square peg in a round hole situation. Nonetheless, laws will apply and this can result in two likely outcomes. Either the industry will be given too much leeway and unregulated room to grow which may result in unexpected risk factors, or the industry will have little or no room for expansion and any potential benefits will only be limited.

In the case of P2P lending there are numerous examples of governments realizing the need for regulation and stepping in, in order to contain potential risks and ensuring an orderly growth of the industry. The most prominent one is that of the US where in 2008 the SEC required P2P platforms to register as sellers of securities with the commission, thus falling under the regulation of the securities act of 1933 (Alloway & Moore, 2012). The SEC also requires P2P platforms to compile a prospectus for their offerings and this information is accessible through the commissions Electronic Data-Gathering, Analysis and Retrieval System.

This was subsequently enhanced with the Dodd-Frank Act of 2010 in which the P2P regulatory issue was addressed by ordering the Government Accountability Office (GAO) to report on the ideal regulatory environment for the industry (Brill, 2010). The report was released in 2011 and found that the most viable options were to either maintain the current situation of regulation under the SEC, or to consolidate borrower and lender protections under a single federal regulator thus most likely expanding protective regulation. The report went on to state that as the industry

expands further, especially with the entry of more institutional capital, the need for further regulation would be likely (Government Accountability Office [GAO], 2011). Nonetheless, as stated in the GAO report, there is still unified federal regulation in place and individual state law can ban investors from using the platform. There exists a loophole to this, as Lending Club has demonstrated in 2014 when it moved from state to federal regulation through its IPO process. Lending Club subsequently commenced operating in 24 states it had been previously restricted in (Somerville, 2014).

It can be argued that while the 2008 SEC intervention was abrupt, it was initiated at a very early stage and provided a level of legitimacy that may have been beneficial to the industries development. There are however some that argue that P2P lending should not be regulated by the SEC as a P2P loan should not be considered a security and thus be exempt from securities regulation (Verstein, 2011). On the other hand, there are those that argue that regulation by the SEC alone is not sufficient and the industry should be regulated by a number of federal bodies as is the case with the traditional banking sector (Chaffee & Rapp, 2012).

In the UK, the pioneer country of P2P lending, platforms were subjected to FCA regulation in April 2014. Under the regulation the FCA established requirements mainly in the areas of information and transparency, as well as the preparation and implementation of contingency plans in case of platform bankruptcy (FCA, 2013). Platforms welcomed the regulation by the FCA as it enhanced the credibility of the platforms in a time where one of their main concerns was, and still is, building exactly this credibility and reputation in the market (Price & Abou-Jaoude, 2014). It can be argued that the extent of regulation in the UK was relatively light, even when comparing with the US, where this concern has also been voiced. It seems that the government is generally trying to support the industry as can also be implied by the fact that the government itself lent money through P2P platforms in order to increase consumer lending (Department for Business, Innovation & Skills, 2014).

When comparing the regulation in the P2P lending industry to that for traditional banking institutions, not only has there been little regulation for P2P lending, but regulation for banking has outpaced that of P2P lending even in recent years. This mismatch between the pace and severity of the two industries can contribute to further growth of the P2P industry, as traditional

banking is regulated even more relative to new industries like P2P lending (Moenninghoff & Wieandt, 2012).

Other notable regulatory efforts include those of France and Spain who have sought to protect investors by limiting the contributions an investor can make, so called investor caps. It is interesting to note that Spain does not distinguish between loan and equity P2P platforms as France or the UK do (Diegel, 2014).

It is with this view that the case can be made for the claim that existing and new regulation in the US and the UK & Europe have allowed the P2P industry to expand rapidly and the square peg in a round hole situation has worked out to the benefit of the P2P industry in those countries.

Brazil

Other countries have had regulations in place, prior to the emergence of P2P lending, that have inhibited the growth of the sector substantially. One example of this is Brazil where the first P2P platform Fairplace had to shut down in 2010 after a few months in operation since the Central Bank stated that the activity of connecting borrowers and lenders through an online platform constitutes financial intermediation, an activity that can only be exercised by regulated financial institutions (Maia & Lewgoy, 2015). In 2014 and 2015 several new P2P platforms emerged in Brazil and Fairplace has rebooted its operations as a new beta version of the platform. It seems that it has found a solution to the previous regulatory problem, but is still cautious on whether this will be accepted by the authorities. What this solution may be has not been made public by the platform or regulators.

The new platforms include Biva, Geru and Simplic that have launched operations as banking correspondents of existing banks. Hence, they pay a regulated bank a fee in order for them to handle the regulatory requirements. These legal constructs still act like P2P platforms in the sense that they are merely agents, utilize a similar algorithmic approach to credit scoring and screening as their US and European counterparts and that borrower risk remains entirely with the investor. Some of these platforms act as direct P2P platforms which refers to allowing potential investors to register, invest and hand-pick projects through the site. Others have chosen a passive investment approach, where the composition of each lenders portfolio is selected by the platform, either to be cautious or to expand operations more quickly. With those platforms the

investors do not have the option to hand-pick borrower profiles and investors are not yet retail investors but rather high net-wealth, professional or even institutional. Current platforms and potential entrepreneurs have stated that the current regulatory environment for the industry in Brazil is still largely a matter of interpretation and further developments are expected over the coming years that have the potential to shape the industry (C. Gerleve, personal communication, January 20th, 2016).

As the analyzed regulatory environments demonstrate, there is a constant need to monitor and revise the regulation of the P2P industry, and the speed and accuracy with which this is done will shape the industry and its development substantially.

Summary

In order to summarize and create an overview of some of the regulatory environments around the globe the following table can be considered.

Table 2 – P2P Regulation Overview

| Examples | No Specific P2P Regulation | P2P Regulation Legislated |
|--|-----------------------------------|---------------------------|
| Legislation Constructive to P2P Industry | China (albeit regulation planned) | USA, UK, France, Spain |
| Legislation Restrictive to P2P Industry | Brazil | |

Source: Literature Review, Crowdfund Insider

Looking at the table and considering the state of the P2P industry in China vs. USA and Europe it is indicated that the lack of specific regulation can result in an uncontrolled growth of the industry causing serious issues including multi-billion Ponzi scheme fraud (Reuters, 2016). The lack of regulation can also result in a restrictive environment for the industry as is the case in Brazil.

2.2.7 P2P platforms in Brazil

Direct P2P platforms: Fairplace and Biva

Fairplace is an direct P2P platform (meaning that lenders directly choose in which borrowers to invest) that initially commenced operations in 2010 as the first entrant into the Brazilian market,

5 years after the industry come into existence. This attempt to bring the new technology to the largest market in South America was frustrated by doubts of the legality of its operations from a regulatory standpoint. It has recently restarted its operations, bringing a new beta version online.

Biva is also an direct P2P platform that commenced operations roughly a year ago. Lender and borrowers can register on their website and actively invest in a variety of small business loans up to BRL 50.000. The platform has received extended media coverage and seems to be the most prominent example of the recent generation of platforms launched in Brazil. The platform has lent over BRL 2.000.000 to date with annual interest rates between 19.56% - 60.1% (R. Leite, personal communication, January 26th, 2016).

Passive investment P2P platforms: Simplic & Lendico

Local media coverage on these platforms has been sparser. They both seem to be implementing the passive investment P2P model and act as an agent between pooled investor monies and individual loan applicants.

Simplic is a local venture that applies the same banking correspondent model as the other players in the market have. Nonetheless, its interest rates seem to be substantially higher than those of its competitors, even than those observed at traditional financial institutions. Simplic states loans are quoted at a fixed annual interest of 429.47% for its personal loan product (Home, 2016), hence it does not apply different interest rates to different risk profiles of borrowers. In all, its business model displays substantial deviations from the other Brazilian platforms.

Lendico is a foreign company based in Berlin, Germany founded by the venture capital firm Rocket Internet in December 2013. In most countries it operates an direct P2P lending platform after the US and UK model. In Brazil it decided to offer P2P loans in the passive investment format, most likely due to the regulatory environment (there is otherwise no reason for the company to deviate from its prevalent business model).

2.3 P2P Lending and Financial Inclusion:

2.3.1 Commercial P2P Platforms

There are some that argue that P2P lending itself poses potential for financial inclusion as P2P platforms are not banks and thus the un- or under-banked have an opportunity to participate

(Komarova Loureiro & Gonzalez, 2015). On the other hand evidence of commercial P2P activity mitigating financial exclusion is scarce (Klafft, 2008). One obvious factor being that commercial platforms focus on prime borrowers and have established a minimum credit score.

There is however, the possibility that these platforms will improve and extend their potential borrower base, for example through developments in technology such as algorithms used to assess creditworthiness. Platforms would then be able to assign a risk to currently excluded individuals. There is strong evidence that lenders base their investment decisions, at least in part, on factors of physical appearance (Komarova Loureiro & Gonzalez, 2015), this could pose limitations to the potential for financial inclusion these developments bring. There is evidence of discrimination related to skin color on P2P platforms found in a study of profiles listed on prosper.com. According to the findings listings with blacks in the profile picture are 25 to 35 percent less likely to be fully funded even though the interest rates charged to blacks are higher. It is to be noted however that rates of return are also lower for loans made to blacks in spite of higher interest rates charged. This indicates that the funding issues could be traced back to discrimination based on statistics rather than racism (Pope & Sydnor, 2008). However this does indicate that other observable attributes like name or address of the borrower could lead the lender to make inferences on the socio-economic background of the borrower. This can be especially important for economies with a large racial socio-economic inequalities like the USA and Brazil.

2.3.2 Affinity groups

Certain types of endorsements have been shown to reduce non-payment in P2P loans (Lin, Prabhala, & Viswanathan, 2013). This gives a positive indication as to what can be achieved with endorsements, or in a broader sense, reasons for lenders to trust borrowers. Since friend groups are usually limited it can make sense to extend the group to a larger community which still maintains a connection among them. These groups, so called affinity groups, could be neighborhoods or members of a certain profession. Affinity groups are therefore a kind of self-help group, which have been argued to improve financial inclusion when access to formal banking is not given (Dev, 2006). Evidence shows that social capital can increase the chances of being funded (Greiner & Want, 2009) and thus formation of P2P platforms focused on affinity groups can provide potentially higher levels of funding than traditional commercial platforms.

On these platforms repeated interaction may allow borrowers to build and maintain their reputation, which will then allow them to increase the loan size and frequency. This can bridge the information asymmetry in these situations (Yum, Lee, & Chae, 2012).

2.3.3 Indirect P2P Platforms

As with P2P platforms in general, pinpointing an exact definition for the subcategory is challenging to say the least. Different visions as to what the platforms should achieve and diverse regulatory environments spring a variety of business models that could be considered indirect P2P platforms. In this analysis the focus will be on platforms that work with partner institutions and rely on them to manage the acquisition, management, disbursement and collection of the loan. Effectively adding one party to the process that provides core-business services (as opposed to a party that merely fulfills regulatory requirements). Thus the platform itself focuses more on the acquisition of investors and capital. This business model is predominantly used by platforms with a social aim, hence platforms that intend to promote financial inclusion, and it is for this reason that a more in-depth look at the category is warranted. The use of the so called local or field partners resolves issues of information asymmetry and management costs in such a way that it allows the platforms to provide loans to individuals who would not be able to access traditional financial institutions or even classic P2P platforms.

Types of indirect platforms

The first platform in this category was Kiva, founded in 2005, and discussed in more detail in the next section. Other notable platforms include MyC4, Babyloan, RangDe and MyELEN, while in total there are over 20 platforms world-wide that fit the indirect P2P description (Hassett, Bergeron, Kreger, & Looft, 2011). Key differences can be identified among the platforms and can be grouped into differentiation factors (Hassett, Bergeron, Kreger, & Looft, 2011):

1. Interest rates: Some platforms allow for investors to accrue interest on the disbursed loans, other do not. This differentiation depends mostly on whether the platform and the regulator see the loan investment as more of a donation or actual loan. An example for a platform with interest payments is MyC4, whereas loans on Kiva do not bear interest. Non-interest bearing loans make up over 90% of the total market (Hassett, Bergeron,

Kreger, & Looft, 2011), this is due to the fact that Kiva is by far the largest player in the category.

2. **Geography:** While some platforms have a global network of partners, others focus on specific geographies in order to most efficiently service that community. Some countries or regions require a high degree of specialization and regulatory know-how in order for platforms to successfully operate there. Lend for Peace for example operates exclusively in the Palestinian-Territories, a region that is itself very complex and which a focused platform may be better able to service. Wokai operates in China where regulatory requirements make foreign P2P investments impossible, due to this both the investor and borrower base are entirely national.
3. **Loan type:** Some platforms allow partners to post any kind of loan for investors to finance. Others restrict the offerings to certain loan types like educational loans on Janta or green energy loans on Energy in Common.
4. **Risk allocation:** intuitively one would assume the borrower default risk lies with P2P investor, and many indirect platforms operate this way. Most platforms operate this way. Through the introduction of a local partner the opportunity arises to shift that risk to this partner. This makes sense in some cases as the local partner is a financial agent itself and the investment from the platform can be seen as capital supplied to this financial agent, much like a normal bank, the local partner thus becomes responsible for repaying this capital as it is he who manages the individual loans. The risk for the investor thus becomes counterparty risk of the local partner as opposed to actual individual borrower risk. At Babyloan for example the local partner needs to guarantee repayment to the platform. This set-up can safeguard investors from local partners placing only the loans with the lowest repayment probability on the platform. Going one step further this may then incentivize the local partner to disburse credit to more and more risky clients as the downside risk lies with the investors on the platform. P2P platforms argue that adequate information management by P2P platforms and reputational risk for the local partners mitigates these risks (Hassett, Bergeron, Kreger, & Looft, 2011). One further risk factor is that of exchange rate fluctuations on global platforms. As most investors supply funds in USD or EUR and loans are disbursed in emerging market currencies risk for loss (or gain) is inevitable. This can again be looked at the same way as borrower default risk,

some platforms require investors to bear the risk and others the local partner. Some platforms however, choose a hybrid form. Kiva for example expects local partners to absorb fluctuations of 20% and then passes the risk on to investors.

Advantages and disadvantages of indirect platforms

When comparing the indirect P2P model to traditional P2P business models certain advantages and disadvantages can be identified. As already mentioned one draw-back is the exchange rate risk that arises with indirect platforms. This is because indirect platforms allow for cross boarder activity through the local partners, something that is not possible at standard direct P2P platforms. However, this is the risk that comes with one of the advantages of the category, the cross boarder flow of loans allows for investors from wealthier countries to extend loans to poorer borrowers without expected commercial returns on their investment.

The management of the local partners is the P2P platforms responsibility. This management is an additional service which is more complex than other P2P services, as it cannot really be standardized. This is why indirect platforms have higher cost structures (Burand, 2009). This issue is exacerbated by the non-profit nature of many of the platforms, that don't charge a fee to investors and often rely on external donations to cover operational costs.

Micro finance institutions are usually smaller local operations that have high operating costs and risky borrowers. Managing risk and risky environments is part of their everyday business. This is why the capital from indirect P2P platforms can be very helpful. On the other hand, if these injections fluctuate strongly as investor supply fluctuates, it can cause the MFI more issues on top of what it already needs to handle (Hassett, Bergeron, Kreger, & Looft, 2011). This of course, depends on each institution and whether or not investors contributions actually fluctuate (one thinkable scenario could be during economic recessions in the US and Europe).

The other side of the coin are the advantages that indirect platforms bring. The most obvious being low-cost funding available to MFIs. The contributions by investors essentially present interest free or interest-lite capital injections with low transaction costs with which the MFIs can work. This is a great advantage especially as many MFIs have no depositor base or need to manage many small deposits creating higher transaction costs. In this sense, indirect P2P

platforms provide funding that is in most cases even cheaper than that provided by development banks (M. Bormann, personal communication, December 18th, 2015).

The partnership with an indirect P2P platform can be prestigious for MFIs, as platforms usually work with institutions which they consider of a certain standard. This standard also needs to be maintained during the partnership with the platform and is monitored. Hence, funding provided by an indirect platform can bring the MFI into a situation of international recognition. Often this increased international exposure leads to further funding injection by other international organizations. This also leads to an increased focus on best practices. Platforms promote principles of best practices that seek to protect clients and conduct audits to ensure these principles are upheld. This provides the MFI with the experience of ensuring the adherence to these standards, something that is inherently good for the business and its reputation (Hassett, Bergeron, Kreger, & Looft, 2011).

As mentioned earlier, some platforms allow for certain risks to be transferred to the investors. This gives the partner MFIs more financial room to achieve its objectives of promoting financial inclusion. Not only does the risk shift provide the opportunity to reach more potential customers, it may also result in the development of new products. Developing new products is risky and requires a certain level of health of the MFI. If some risks can be shifted to P2P investors, than the MFI can take on other risks like product development.

Kiva: P2P platform for financial inclusion

Kiva is an online P2P platform for lending to BOP individuals, usually small entrepreneurs and students. Kiva lends to individuals in over 80 countries and has “crowd-funded” over 1 million loans with a total principal amount of over 500 million USD from over 1 million lenders worldwide (Waghorn, 2013).

Kiva collects the funds on behave of their “field partners” (Kiva, 2015), MFIs which compile the portfolios of borrowers (profiles) and then execute the actual lending activity. These profiles can be viewed by potential lenders who will then attribute a desired amount to the most deserving individuals. These funds are actually pooled by Kiva and forwarded to the MFI responsible for this portfolio of individuals. Kiva does not charge any transaction fees or interests since it is funded by donations, neither does their payment processor PayPal (Flannery, 2007), however the

MFIs do charge interest on the loans as they would do with loans not financed through Kiva. These interest rates are usually very high as is typical for MFIs due to the reasons previously discussed as higher transaction costs and higher default risk (MicroWorld, 2011).

Table 3 – Kiva Key Statistics

| | |
|--|---------------|
| Total amount lent through Kiva: | \$788,196,475 |
| Kiva Users who have funded a loan: | 1,360,688 |
| Borrowers funded through Kiva: | 1,821,309 |
| Number of loans made through Kiva: | 990,089 |
| Kiva Field Partners: | 303 |
| Countries where Kiva Field Partners are located: | 83 |
| Repayment rate: | 98.45% |
| Average loan size: | \$415.00 |

Source: <http://www.kiva.org/about/stats>

Although loans are managed by the MFIs, Kiva has some policies with which it tries to ensure the maximum gain for BOP individuals. One of these is the female focus of the loans financed through Kiva. As of 2012 over 80% of the loans were extended to Females as these usually suffer most from poverty as the scarce resources available are usually allocated to the male members of a household while the female members are the ones managing the actual household. As previously discussed, this is an issue as men often prioritize expenditures not useful to the household like alcohol (Jackson Lee, 2007).

Another area of focus for Kiva has been in loans to student in pursuit of higher education. Obtaining financing for education can prove especially difficult in developing countries. Nonetheless, it is an important financing need and higher education has been linked to the development of a country and reduction in absolute and relative poverty levels (Tilak, 2010).

Kiva is thus a crowd funding or peer-to-peer platform that collects capitalization for a network of MFIs. Due to its model of operation economic gains are collected at the MFI level but risk is carried by the lenders on Kiva. Although the MFIs raise funding for a portfolio of borrowers, individual profiles of these portfolios still need to be displayed on the Kiva platform. The lenders

on the platform then decide to which individual they want to allocate funds, and thus the individual and the portfolio of the MFI to which he belongs benefits from the capital injection. As we have seen, and may intuitively imagine, the process of choosing individuals for loans can be highly subjective, not only because the information available to a lender is minimal (Komarova Loureiro & Gonzalez, 2015) but also because the decision mechanism may contain identification bias where profiles with a personal affinity, interest or appeal receive the fund allocation as opposed to the most rational choice (Riggins & Weber, 2011). Rational choice in this context may mean lowest risk to reward profile or highest impact on poverty reduction.

Evidence from Kiva shows that there seem to be some general preferences of lenders that effect speed of funding indicating higher popularity for those profiles that are more rapidly funded. Loans to larger groups and women get funded faster as well as loans of smaller size. Furthermore, loans for business fund faster than loans for consumer spending, and within business, those with lower barriers to entry fund faster than ventures for businesses in sectors with higher barriers to entry. Loans for education and health-care objectives are also financed faster. This indicates that lenders on Kiva favor the most vulnerable individuals such as women, students and those with health problems, while still intending to maximize repayment probability as can be seen with the preference for business vs consumer loans, low barriers vs high barriers, groups vs individuals and women vs men (Ly & Mason, 2010).

MFIs may anticipate this behavior and adjust the portfolio of borrowers in order to maximize the capital received through the platform. Nonetheless, Kiva increases the total amount of capital available to the MFIs in its network, and it can be argued that while the allocation may be biased through the peer-to-peer element of the platform, the overall increase in capital available causes improved poverty reduction in itself (Riggins & Weber, 2011).

Zidisha, the non-profit, direct P2P alternative

Founded in 2009, this non-profit P2P platform is focused on financial inclusion but has developed a different business model than that of the indirect P2P platform, which pioneered the non-profit P2P space. At Zidisha the most notable difference is that lenders extend direct P2P loans to borrowers, much like its commercial big-brothers Lending Club, Prosper and Zopa. It therefore does not use field partners to manage the actual loan activities and does not only focus

on raising funds with lenders. It is however, also a non-profit platform and not regulated by the SEC. Zidisha's founder, Julia Kurnia, worked at a Kiva field partner before founding the platform. She states that technological advances enabled the implementation of the direct P2P model also for non-profit platforms (Alba, 2015). More specifically, the development of mobile payment systems like M-Pesa in Kenya and the increased penetration of the internet in developing countries paved the way for the model. In fact, although Zidisha now operates in various countries, Kenya still makes up for considerably more than half of disbursed loans (Zidisha, 2016). While the platform has been successful in developing a new business model for non-profit P2P lending, its reliance on mobile technology has limited the organization from expanding beyond the handful of markets in which it operates, whereas indirect platforms are able to operate in any market that has a viable field partner. Nonetheless, it can be expected that future developments will favor the continued growth of Zidisha, as the technologies on which it is based expand.

Zidisha does not charge interest on loans anymore. Initially, investors could set an interest rate for loans, but since this has been revoked, growth of the platform increased (Alba, 2015). Investors participate for purely philanthropic reasons, as they take on the borrower and exchange rate risks, but require no return on the investment. This, combined with the absence of field partners, makes loans from Zidisha much more attractive than those from indirect platforms. Borrowers only pay a one-time fee to cover transaction costs and, since 2015, an additional fee to contribute to a reserve fund that is aimed at covering delinquency losses.

Zidisha has had some difficulties with delinquencies and write-offs in the past, at least when comparing to indirect platforms like Kiva. Although delinquencies are declining (Kurnia, 2014) they are still higher than at Kiva. This is mainly because the use of field partners seems to have a mitigating effect on delinquencies. Due to asymmetric information, it would be expected that an active management of the loan portfolio, especially for low income borrowers, is more effective than letting investors decide based on the limited information they have. Since investors of the platform are not overly concerned with repayment of the loan, and recent success in reducing delinquency rates, Zidisha has been able to continuously grow and has funded over USD 4.7 million in loans, 42% of which solely in the past year (Zidisha, 2016).

3. Methodology

As part of the behavioral sciences, the qualitative research methodology tries to understand the patterns and reasons behind human behavior in a predefined context. The information obtained in such an exercise allows the researcher to understand developments and trends within the field of study without having to rely on quantitative data sources (Brusky & Fortuna, 2002).

When considering the aim of the research it becomes clear why the choice of the qualitative method was preferable. The aim was to identify the potential for financial inclusion the P2P industry presents in Brazil. As amply discussed, the industry is still in its initial stages of development in its markets of origin, the US and the UK. In Brazil, the market is considerably younger and can be considered nascent as it first appeared around 5 years ago and started to display signs of future potential as recent as 9-12 months ago. For such an industry, research work can be considered exploratory and data one can rely on for quantitative analysis is scarce or non-existent. Hence, just evaluating the potential of the industry itself can only be approximated qualitatively, let alone the potential for financial inclusion. Furthermore, the qualitative method brings certain advantages when the research is focused on a foreign, developing country. Cross-cultural understanding of the issues involved is more likely to be obtained as preconceptions are dispelled when using personal interviews, especially in Latin-American cultures that appreciate personal contacts (Welch & Piekkari, 2006).

Since our area of focus or interest contains behavioral events over which no control can be exerted through research, it is important to use a research method that allows for collection of data and arrival at generalized conclusions. This can be achieved by using the case study method of research, which not only allows for the fulfillment of the above-mentioned requirements, but also presents usefulness when dealing with contemporary industries (Yin, 2013). As our industry of interest has merely a very recent history, it can be considered as one of the most contemporary of phenomenon. Case study research also involves capturing the complexity of a single case while focusing both on the uniqueness and commonality of the collected data (Stake, 1995). These properties of the case study research therefore provide the best way of attempting to answer the research question given the current state of the industry, while establishing the basis for future extension of the research as more information becomes available.

Therefore, the study involved conducting an interview that explored the experience of the interviewee. The interview was conducted in order to be able to explore any topics that would arise beyond the predefined interview questionnaire. Essentially, the interview was to be a hybrid between covering a structured questionnaire and allowing for open ended discussion in order to capture any non-foreseen issues, concepts and ideas. The idea was to explore and document the experience of starting a P2P platform business in Brazil and the issues that come with such an endeavor, the current level of financial inclusion achieved, as well as the founders' vision on how to increase this in the future. Due to the limited number of potential businesses in this space, and subject to the willingness of the founders to be interviewed by a masters student, the case was based on an interview with the founder and CEO of Geru, Sandro Reiss conducted by Prof. Lauro Gonzalez and Julian Lilienthal. As is common with case study research, in order to answer the question of interest the case study was "given". The interview was recorded digitally and transcribed personally in order to guarantee maximum integrity of the collected data. Since the interview involved a Brazilian founder of a Brazilian company in Brazil, the intuitive choice of interview language would have been Portuguese. Not only to facilitate the flow of ideas without language barriers, but also as a show of respect, as in Latin-American countries neglecting the use of the local language can be seen as unprofessional (Welch & Piekkari, 2006). However, as all interview participants had extensive international professional and academic experience, this concern was not valid and could be omitted without any concerns or doubts.

The implemented methodology also poses considerable limitations. The most obvious and well discussed limitation is that results of qualitative research are not as comparable to other or future studies as is the case with quantitative research. However, it may provide the basis for a continuous elaboration on the topic until sufficient data is available for a quantitative study (Stake, 1995). Furthermore, the study is of exploratory nature, meaning the study builds on references that are related to various geographies and business models, but actual local, directly applicable reference material is scarce. However, this is also the objective of an exploration, to gain the first insights into a new topic of research. It is also fortunate, that although the study was conducted in Sao Paulo, it is applicable to the entire Brazilian context as the platform analyzed acts nationally through its online presence.

It must be highlighted that although the universe of companies in the P2P sector in Brazil is small, only one interview was conducted providing a seriously limited insight into the industry. This is especially true when considering that within the industry there are different business models and types of platforms and this study only contains an interview with one specific type of platform. Future studies need to, on the one hand, consider these limitations and, on the other, are advised to elaborate those areas of limitation. One possibility would be to increase the length of the study and aim to interview every platform in Brazil, something that is possible still due to the overseeable size of the industry at this stage. It would be of particular interest to include an international non-commercial platform that acts in Brazil through field partners in order to establish a comparison of the two platform models and to gain a greater insight into the industry in Brazil, especially with regard to the potential for financial inclusion.

4. Case Analysis

4.1 Defining typology of P2P platforms

During the literature review the information on the P2P industry needed to be classified into different types of P2P platforms or business models in order to be able to better understand how the industry works and may develop. It became clear that there were various types of business models around but no unifying terms to recognizably group the platforms. Hence, the terms used in this study are explained here as a novel typology and it is suggested that future studies maintain this typology (and elaborate it if necessary) in order to ensure that it is always clear which type of platform is meant.

Commercial and non-profit

This is nothing new and quite self-explanatory but it is still important to note that there are platforms that have as an aim to earn profit, hence commercial platforms and some that are not intended for profit, hence non-profit. All platforms fall in either of the categories even if a platform is just operated to cover costs (for which an example is difficult to find, even Kiva is donation funded) this would be considered a non-profit platform.

Direct versus passive-investment

This is the most important definition and applies mainly to commercial platforms. Direct platforms allow the lenders to personally choose or “hand-pick” the borrower profiles in which to invest in. These are therefore the most classical or typical P2P lending platforms since the connection between the two “peers” in the platform is direct. Passive-investment platforms are classified as those that handle the selection of investor profiles themselves and investors or lenders can merely choose a category like risk level or borrower type. The platforms essentially does the choosing of the borrowers and investors invest only indirectly. Geru falls under this passive-investment classification.

Indirect platforms

This classification is used by Hassett et. Al., 2011, and refers mainly to non-profit platforms. Since this classification was already established passive-investment platforms could not be called

indirect platforms although this sounds more intuitive. The main example for an indirect platform is Kiva where the platform outsources the selection of borrower profiles, hence it is neither done by the platform nor the lenders and therefore merits its own classification. This type of platform is most used for non-profit platforms since they need local partners expertise in order to be able to provide the service they desire. There are however non-profit examples of direct P2P platforms (Zidisha).

Table 4 – Examples of Platform Typology

| | | Financial orientation | |
|-----------------------------------|---------------------------|------------------------------|-------------------|
| | | Commercial | Non-Profit |
| Type of borrower selection | Direct | Lending Book, Prosper | Zidisha |
| | Passive-Investment | Geru | |
| | Indirect | | Kiva |

Source: Literature Review

4.2 Presentation of the case

Geru is one member of the newest generation of P2P platforms in Brazil. It launched operations in March 2015 under the leadership of co-founder and CEO Sandro Reiss, who previously worked in the public sector, media and private equity. Due to the regulatory environment in Brazil, Geru is registered as a banking correspondent for a regulated financial institution, in this case the Brazilian arm of the private bank Andbank. Hence, this specific business model, which is becoming popular in Brazil, can be seen as similar to indirect P2P platforms. However, it is not really an indirect platform as the services provided by the partner (the Bank) are merely back-office tasks. The important core business services that the field partners of indirect P2P platforms engage in, are managed entirely by Geru.

Geru is quite similar to the large US and European platforms, in the sense that its unique or main technology innovation is the use of a proprietary algorithm to supplement traditional credit

scores. Geru collects data from over 300 different sources, which it then feeds into its algorithm in order to determine the applicants' suitability and creditworthiness. Nonetheless, Geru also works with the traditional credit bureaus (Serasa & Boavista) and uses their credit score as one of the data sources. Other data sources include geo references which pinpoint the locations of an applicant's home, work and bank addresses in order to determine his or her suitability. According to Geru, the exact process of the proprietary model to evaluate fraud and delinquency risk and financial suitability of the applicant works as follows:

1. Applicant fills out form with personal data (identification, proof of address)
2. Geru searches a range of free sources on the internet and supplements this with some low cost data acquisition
3. After this initial run the applicant may be asked to provide additional data
4. Geru continues with collecting credit bureau data
5. The collected information is fed into Gerus proprietary statistical models
6. Risks are evaluated and quantified in Gerus proprietary credit rating

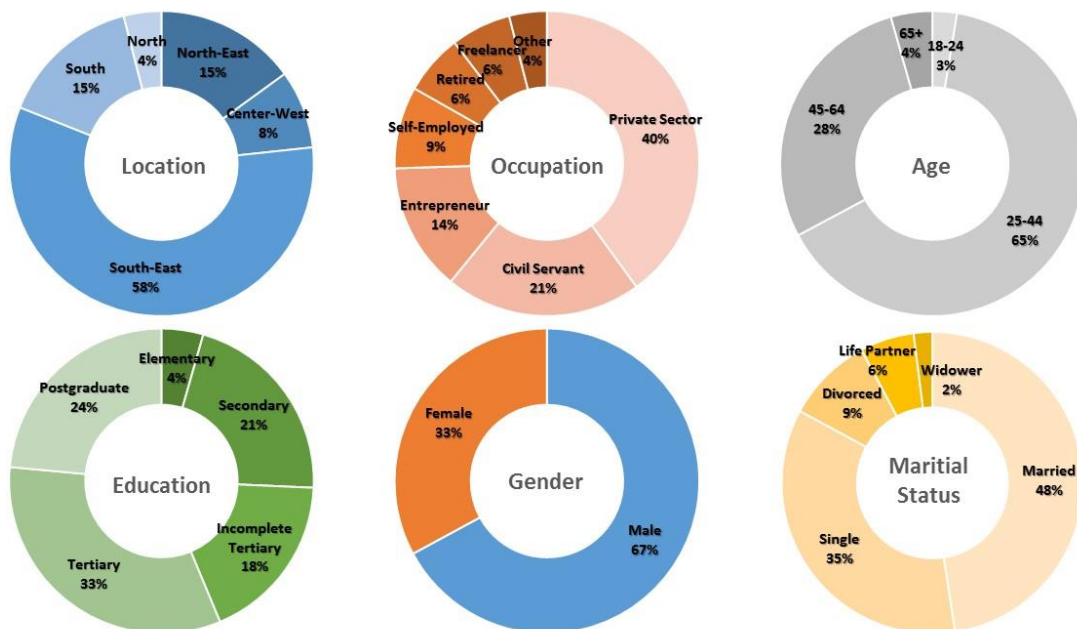
This process can take up to 10 days, a comparably narrow timeframe when compared to traditional financial institutions. The Geru rating is then used to determine the applicable interest rate, which is comprised of the base interest of 24.38% plus the risk premium that corresponds to the assigned rating. Interest rates thus range from 25% to 80%.

This maximum interest rate is lower than a range of consumer credit options from traditional financial institutions like credit card debt, which can exceed 360% p.a., or bank overdraft, which can exceed 230% p.a. (Yazbek, 2015). It is also lower than the average interest rate at more than half of the financial institutions indexed by the central bank (Almeida, 2015).

Loans on the platform range from BRL 2.000 to BRL 35.000 and the average ticket size is around BRL 12.000. Maturities range from 12 to 36 months with the average term being 27 months. Growth in the platform has been elevated, in the 9 months between March and December Geru acquired over 1.000 active customers (approved & disbursed loans) which corresponds to a total debt issuance of over BRL 13 million for the period.

The borrower profile of this customer base is as follows:

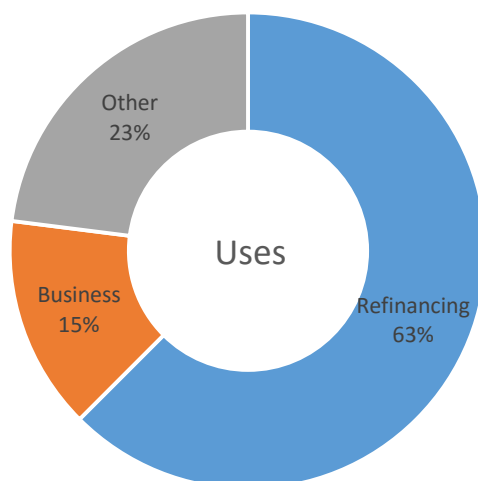
Figure 4 – Geru Borrower Profile



Source: Geru

As stated previously the borrowed funds are used primarily for refinancing of existing loans, which makes sense for a business propositions that advertises lower rates than traditional financing options while still seeking to maintain low delinquency rates (prime customers). Specifically, 62.5% of loans are used to refinance existing debt, primarily bank revolving, credit card and personal consumer loans. Business loans male up 14.5% of the total with receivables discount, revolving bank and personal loans (self-employed, freelancer) being the main subcategories. Other loan purposes stand at 23%.

Figure 5 – Geru Loan Uses



Source: Geru

Depending on the use of the loan average interest rates at Geru lie between 55% and 48%, considerably lower than the platform maximum of 80%. Geru, as is customary with commercial P2P platforms, charges a fee for its services. For borrowers there is a onetime fee of 5% when the loan approved and disbursed. For investors this fee is 1%. Fees are used to cover the expenses of the platform, which consist of marketing, administrative, loan management, platform costs and product development. The largest cost position is paid to a third party, the partner bank, for its services to comply with regulatory requirements.

The way Geru, and its competitors, is set up, is that the platform consists of two entities. One service company that handles loan applications and management, marketing, product development and all other essential, core-business services. Approved loans are then issued by the partner bank that transfers the debt obligations to Gerus securitization company. Payments are handled by the service company and used to service the loan portfolio of the securitization company, which in turn services the investors. Investors receive cash flows for bonds they bought from the securitization company. These bonds have a claim on the loan portfolio and are structured with differing seniorities to create a repayment waterfall. This allows investors to buy bonds of differing risk levels.

Although loans are classified according to riskiness, there are not yet enough loans of each risk level to bundle loans by risk level, which is why the bonds were structured in a senior to subordinated claim structure. It is because of the regulatory requirements that this structure was chosen, and it highlights why this business model is not considered an direct P2P platform, but rather a model where the platform selects borrowers and the investors then select the level of risk they which to assume.

At the moment the platforms investor base consists of an initial group as part of a private club deal. The group is comprised of a number of high net wealth individuals. However, Geru is planning on expanding this investor base, as it expands its operations. In the next phase of fundraising a larger group of qualified investors is targeted, and the round will lie somewhere in between a public and private offering. Qualified investors are in this case a predefined legal form of investor and thus certain requirements of sophistication need to be fulfilled. In subsequent phases Geru intends to reach a wider investor base by extending a public offer to accredited investors, under which loans are now bundled by Geru credit rating. Whereas the previous offers where separate and sequential in nature, the public offer will be continuous and investors can participate at their convenience. It is at this stage that Geru will have come as close to the US and EU business models as is possible under the current regulatory environment.

4.3 Analysis and Interpretation of Results

This section is dedicated to the presentation of the results and the corresponding analysis of the collected data, the case study. The analysis is based on the key concepts identified in the literature on P2P lending and financial inclusion and aims to establish the frame for answering the research question. As part of the case study the data is analyzed progressively from more general to more specific observations. In this sense data analysis commences informally during the conducting of the interview, is then continued in the process of transcription and later in the repeated skimming and reading of the interview in order to recognize themes (TESOL, 2016). The data is then thoroughly analyzed in order to identify relevant salient points (Yin, 2013).

One point that is worth mentioning is that the predefined group, in this case, start-ups in the P2P lending sector in Brazil, share the same regulatory environment, market forces and educational

background of employees and founders. Hence qualitative information obtained from a member of this group might give insights into the assumptions and beliefs of the group on the whole.

On entering the P2P industry

In order to ascertain expectations and beliefs no specific question was asked on the pre-defined questionnaire, but rather elements of the free flowing part of the conversation presented the most relevant insight. Gerus founder went into detail explaining the reasons for entering the P2P market in Brazil and this gives a clear outline of the expected potential of the sector thus establishing the technological frame.

After following the launch and subsequent closure of Fairplace, the first P2P platform in Brazil, Sandro Reiss became interested in the topic and started exploring ways to tackle the problem successfully. The reasoning for this is that he had observed the Brazilian credit market as not efficient in the traditional sense of the free market economy, hence there seemed to be opportunities to exploit this.

“...for me the Brazilian Credit Market is an anomaly. It is an anomaly that is created by -- concentrated banking – a lot of Government meddling with the offering of credit and the lack of incentives for the major banks to provide a better product.”

He identifies the potential not only in correcting market inefficiencies but also in a cultural shift in the way Brazilians perceive and use credit. Due to a concentrated credit industry, a history of high interest rates and general cultural factors he argues that Brazilians are not used to searching and comparing different offerings for the best available interest rate (or other loan attributes). He also argues that through the history of high interest rates a culture has developed in which individuals only take on debt in cases of absolute necessity. This contrasts starkly with developed economies where taking on debt is part of efficient and even prudent financial planning. He goes on to observe that the cultural aspect is has been changing in the recent past, which is corroborated by the recent surge in start-ups in the sector.

The market inefficiencies seem to be grave by what he explains in the interview. He explains that there are a series of measures taken by the government that diverge the market from what would be a free economy. He names the real estate credit market as the largest component of the total in Brazil which is the subject of direct and indirect subsidies from the government and thus interest

rates here are not what market rates would be. Another important sector in the credit market are auto loans which are indirectly subsidized through tax breaks which auto financing companies partly pass on to borrowers effectively lowering the interest rate below what a market rate would be.

“Then the banks securitize the portfolio after they’ve got the discounts, they securitize just the interest part but in the original transaction you have these incentives from the Government on the bottom line of the Automakers...”

Student loans are also partially part of the government’s effort to direct credit, where sometime the loan and sometimes the institution is subsidized. On the other side of the coin there are the private sector loans, but in a private sector that is partially dominated by public companies like EletroBras and PetroBras there interest rates of the private sector will on average also not reflect an efficient market equilibrium. Thus, when looking at the consumer credit and SME credit market, which is important for this research, a kind of crowding out effect can be observed under which demand is lower than at equilibrium and interest rates are higher. Since there is one part of the market that is under government direction and another that is not, when the central bank applies monetary policy measures, the government directed credit does not adjust and the remaining part of the credit market needs to move relatively more in order for the policy objective to be achieved.

“...when the Central bank has to tweak the reference interest rate in order to hold back inflation for instance, It needs to apply strength because it only moves about 25% to 30% of the market with that shift, the rest is just subsidized and stable...”

The concentrated banking system is another piece in the explanation of the inefficient credit market. Due to the low level of resulting competition, it can be assumed that interest rates offered from banks are higher than market equilibrium rates. Furthermore, banks in Brazil do not show aggressive marketing strategies, as is for example the case in many countries in Europe.

“They behave in an oligopolic fashion, banks do not make strong efforts to take out clients from the other bank.”

This gives an indication that banks are acting in an oligopolic fashion when compared to banks in other countries. Banks in Brazil, arguably, use their strong positions in the market to establish an interest rate environment that is higher than what would naturally occur, in perfect

competition. He further argues that banks are incentivized to use their balance sheet (deposits) to either lend to state guaranteed borrowers making an attractive risk free margin, or to try and push borrowers into overdraft and credit card debt because the risk reward structure built that way. Little space is left for normal consumer loans, and the ones that are available are very expensive. Essentially, he argues that risk is considerably lower than return and there is room for competition to enter the market to provide loans at lower interest rates. This is the reasoning for Geru to have been founded, to use the newly available technology of P2P lending and to apply it to an inefficient market.

On operational issues

Regarding the objective to understanding the way the technology certain questions were prepared in the interview questionnaire that were either answered directly or as part of the interview in which the participants talked more freely.

What is the target group of the platform?

The platform does not focus on one specific target group. Potentially, anyone can be a client and there is no effort from the side of the platform to exclude anyone based on a pre-formulated definition of a target group or ideal client. Nonetheless, there are certain requirements any client must fulfill in order to be considered for being approved for a loan. One of them is having a bank account and the other one is passing the pre-screening that is done by the platforms algorithm. The clients that receive a loan are, at the moment, only prime grade borrowers, for which the platform can offer lower rates relatively compared to prevailing credit options. According to Sandro Reiss this is due to the early stage of the technology development.

How is the interest rate determined? Using an auction system or an algorithm?

The borrower is classified and assigned a credit rating by the proprietary rating algorithm. This risk class then determines the interest rate assigned to a loan. This algorithm uses variables such as ratings from credit bureau and a vast amount of data available on the internet.

“We do classify the borrowers into 35 different grades. We developed a system with 35 ratings. Each rating gets a different interest rate.”

The intention is to achieve an extreme level of accuracy in the prediction of credit risk, at the moment, however, the technology is still in its initial stages, the so called data cycle. The idea is that with the number of clients' serviced, the amount of data that the platform has processed increases and the algorithm can become more accurate. Thus, the theory is that step by step more risky borrowers can be serviced. This type of data processing falls under the umbrella of big data. Hence, the potential for including individuals that are not banked by regular financial institutions is there but is not yet being harnessed.

What is your marketing strategy?

Marketing is mainly done through online advertising (Google) and social media (Facebook) which is supplemented by PR efforts in order to reach new customers without paying marketing costs. Again, essentially anyone could be reached by these mediums.

On the future development of the platform regarding feasibility of elaborating a financially inclusive product

In order to understand the vision for the future that Geru has there were questions prepared in the questionnaire as well as valuable information gathered as part of the conversation between participants.

How do you see your platform versus Kiva (a global p2p platform that connects lenders/donors to MFIs)?

Kiva can be seen as the benchmark for P2P in relation to financial inclusion. They have achieved a high level of success regarding the goals that they aim for. Nonetheless, this is the reason why they are essentially different to Geru. Geru is a for-profit commercial platform that would consider improved financial inclusion as a positive externality to its profit seeking business. Furthermore, the way that Kiva is set-up, is as more of a donation collecting platform as loans do not receive any interest payments. Another point is that Kiva partners with field partners (MFIs) that handle the core business operations, which involves a lot of work and thus is an expensive proposition. This kind of cost structure does not combine with the lean cost effective vision of the platform. Essentially, Kiva is not a competitor, but an alternative platform that achieves something Geru would be glad to achieve as well but is not focused on.

Can you imagine partnering with microcredit institutions to gain access to potential borrowers through their network?

This kind of partnership would be an option for Geru as part of a new product development in order to enter a new market segment. It would initially be considered an experiment by Geru due to the fact that data collection would have to be developed differently to the current model. It would also have to be based on technology in order to fit with the low cost structure of Geru's operations and vision. One example of a possibility would be the partnership with an institution that issues pre-paid credit cards for the unbanked in an effort to offer credit to those same unbanked. The data collection would be regarding the historic transactions made with the credit card. Loans would be disbursed onto the card just like payments would be debited directly.

Can you imagine a transaction where no bank account is needed? I.e. using phone credit for example?

At the moment this is not a viable option because apart from the payments infrastructure the bank account provides and that is needed by the platform, it also provides the algorithm with data points. The entire functionality of the platform is built around clients having a bank account. Nonetheless, as stated before, a partnership that provides this kind of payment infrastructure would be an option for a new product development of the future, albeit as an experimental exploration.

Can you imagine partnering with correspondent banking network to gain access to potential borrowers through their network?

This is something that Geru has had unpleasant experiences with in terms of scams. These correspondents would try to intermediate between the platform and the customer and charge a fee for that. Furthermore, correspondents are not as diligent as we are, as they do not take the risk, hence they are unsuitable partners for the platform. The vision of Geru is use the internet and new technologies to its advantage and place it at the core of its services.

“We are in this for profit. We see this as a business opportunity and there's a huge opportunity in the basis of the pyramid.”

In order to further understand the potential of the platform for financial inclusion Sandro Reiss gave a more detailed view on how future steps could be. He states that the main challenge in serving the bottom of the pyramid with the platform is lack of information. Tackling this market would involve collecting data from these individuals which could mean people in the field, and would defiantly mean developing new technology that takes time to create. In Gerus business plan there is a provision for creating a dedicated product for this market. But initialization of the program would not be in the next two years. In order to obtain sufficient data access to cell phones would be needed, in addition to social networks and anything else available. The fact is that the development of an algorithm that serves as a reliable credit model for this data has not been developed, not anywhere in the world. There are experiments that try and collect reliable data, but only time will tell how useful they are. Geru plans to attempt to create a new product focused on the bottom of the pyramid, which would involve the development of an app that collects data from the smart phone of the potential borrower. This research and development effort would most likely be financed externally and initially not part of the main operations of the platform.

Essentially, the future of including the bottom of the pyramid in these types of P2P platforms depends entirely of the further development of technology and the increased usage of the internet by an increasing number of Brazilians.

5. Conclusion

While pursuing the objective to investigate the potential for the P2P innovation to enhance financial inclusion in Brazil the P2P industry and the current market environment were analyzed in order to highlight the factors that can facilitate the desired enhancement. There seems to be no doubt that there is substantial potential for the P2P industry worldwide and in Brazil but beyond this a considerable part of this industry could be providing financially inclusive products. The P2P industry in Brazil needs to recognize the potential for growing, not only the industry itself, but also the market for financially inclusive P2P products. Nonetheless, P2P lending will not be a substitute for microcredit or other elements of microfinance, but can complement the existing efforts in order to reach more individuals with a higher frequency. The intention is that this exploration will kick-off research, developments and business plans that aim to increase the understanding around this industry in Brazil. Two main dimensions for approaches can be defined that can facilitate the reach of the industry within the scope of financial inclusion.

Geographical:

This dimension has two components, the local- and the international or global approach. The idea is that whereas it is intuitive to start locally and this can be very beneficial, evidence has shown that not only local platforms can increase financial inclusion in Brazil, but also international platforms can extend the offering of financially inclusive P2P loans and intensify the efforts of cross-border P2P lending. In fact, the global platforms for financial inclusion are far ahead of the local platforms and when thinking about approaching this issue both paths need to be considered.

Business objective:

This dimension ranges from commercial to social and is the continuum on which the platform is located in terms of what the main objective or vision it follows is. The most prevalent form is commercial where the platform focuses primarily on obtaining profits, in this case the potential for financial inclusion is purely in the form of positive externalities. This approach should not be underestimated for the economic potential in bottom of the pyramid markets has been demonstrated in many sectors including finance. Though market forces these platforms can become potentially very large and dedicate entire divisions to financially inclusive products. On

the other hand, platforms dedicated to the aim of disbursing financially inclusive loans tackle the issue head-on and have the advantage of being focused. These platforms will consistently try to achieve their objective and are not at risk of abandoning financially inclusive products in exchange for allocating capital to more profitable opportunities, should these arise.

Apart from these two dimensions, which form a matrix to classify any platform that has the potential for offering financially inclusive loans, six further important factors can be identified for converting the potential for financial inclusion the industry has into results.

1. **Technology.** The P2P industry itself is built on technology and the potential for financially inclusive P2P products is based on further development of this technology, especially when considering commercial platforms. Technology has reduced costs substantially and it is what allows P2P platforms to compete with traditional financial institutions that have superior borrower data and proprietary credit models. As this technological development has enabled commercial platforms to take market share in the prime loan market across the globe, further development of this technology in the form of algorithms and the use of big data can achieve an extension of this market into financially inclusive products. It contains the potential to reach where traditional financial institutions have not been able to get to due to cost constraints and antiquated business models. Likewise, technology can benefit socially focused platforms and augment global interconnectedness of borrowers and lenders.
2. **Regulation.** This is a key driver especially in Brazil. It may be the single strongest force to shape the industry after market forces and it offers great advantages to the government, as it can actively define the path the industry will take. In the Brazilian case, clearly, this is one of the weakest points and the reason why the industry has been so slow pick-up. The advantages of defining clear regulation with the aim to support and strengthen the industry can be seen in examples like the UK. This is of highest importance in the Brazilian market where regulation not only needs to give the industry room to breathe and clarity but also take the opportunity to increase the potential for financial inclusion. Measures such as mandatory product development budgets for P2P platforms of a certain size, can achieve extraordinary results if designed correctly.

3. Innovation. The industry has shown that this is core to its very nature. Nonetheless, this needs to be upheld and deepened and refocused with respect to the Brazilian context. Innovations that were developed in foreign markets now need to be adapted to local environments and market forces. This is of course tightly related to technology and regulation, which need to be developed separately, innovation will provide the necessary flexibility to ensure that positive developments are absorbed and restrictive ones adapted to. Specifically when thinking about financially inclusive P2P lending, where a non-homogenous client base are targeted in an under explored market, innovation will be key to success.
4. Transparency. This again is a concept that needs to be embraced by regulators and platforms alike. Both need to ensure that the industry upholds standards and is straightforward about the development of the industry. Where regulation has failed to address this elsewhere, platforms have collaborated to provide statistics and data on the industry as is the case in the UK. Ensuring the industry remains transparent will reassure investors, donors, employees and clients and strengthen the industry sufficiently to be able to tackle challenges like financially inclusive product development.
5. Performance indicators. Linked to transparency, these indicators need to be developed, monitored and published in order for the impact of the new industry and its new products to be measured. This will not only allow market participants to make informed decisions but also academics to research the industry and its impact further, far beyond this specific research which lacks such indicators and historical data analysis.
6. Vision. Finally, it is important to keep the vision and spirit of this recent industry. Its growth has been explosive and rooted in the idea to take things further and look beyond current solutions. This is key to maintaining the momentum of the industry and to strengthen the possibility to develop further products in the industry, especially financially inclusive products.

Limitations and recommendations

Finally it is important to mention once again the limitations this study has. On the one hand only one platform was represented through an interview and as discussed previously this seriously limits the level to which the industry as a whole can be represented and conclusions can be drawn. Furthermore, the platform that was interviewed does at this moment no offer a financially inclusive product and although there is the intention to do this, there still are considerable hurdles to be overcome to make this a reality. The need for further investigation into this topic is therefore especially highlighted. With the hope that this study has awakened the desire to investigate this subject further it is recommended that future studies go into more depth by gathering data from more sources in order to provide more meaningful results.

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Appendix

Questionnaire for Interview with Sandro Reiss of Geru

Operations based questions:

1. Why are you partnered with a bank?
2. How are the loans financed?
3. How do lenders decide which loans to invest in?
4. Which information are lenders given about borrowers?
5. What are the principal uses of the borrowed funds?
6. How is the transaction completed step by step?
7. What is the minimum investment/loan size?
8. What is the cost structure of the platform? What are the costs for one transaction/loan executed/not executed?
9. How does the platform earn money?
10. How is the interest rate determined? Auction system? Algorithm?
11. Is the platform 100% useable on a smartphone/tablet device? Normal phone? How many %?
12. What is your marketing strategy?
13. What is the target group of the platform?

Further questions:

14. How do you see your platform versus big players like Lending Book or Prosper? Do you think it is likely they will enter Brazil soon? What protects your platform from this competition?
15. How do you see your platform versus Kiva (a global p2p platform that connects lenders/donors to MFIs)?

16. Can you imagine partnering with microcredit institutions to gain access to potential borrowers through their network?
17. Same as previous question but using the correspondent banking network?
18. Can you imagine a transaction where no bank account is needed? I.e. using phone credit for example?
19. Can you imagine a “fund product” where a “fund manager” selects the basket of loans according to a strategy or risk profile and investors can opt into this basket or fund?
20. Same as previous question but this time the “fund manager” is a p2p lender who makes his basket composition public and other lenders can “follow him” in order to replicate his returns?