CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

Department of Economics

DIPLOMA THESIS

CRITICAL ASSESSMENT OF PEER-TO-PEER LENDING WITH PARTICULAR EMPHASIS ON THE DEVELOPMENT OF THE MARKET IN THE CZECH REPUBLIC

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DIPLOMA THESIS ASSIGNMENT

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Thesis title

Critical assessment of peer-to-peer lending with particular emphasis on the development of the market in the Czech Republic

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Objectives of thesis

The goal of the theoretical part of this thesis is to determine and explain what P2P lending is. This is achieved through conceptual analysis as well as overview of the historical development of the peer-to-peer lending sector. Further, the legal status of the platforms is considered. The goal of the practical part of this thesis is to evaluate based on the theoretical background the performance of these platforms, determine the risks for the investor, effective investment strategies as well assess possibilities for development on the Czech market.

Methodology

The literature review was carried out using the methods of synthesis, extraction, induction and deduction. On the basis of this, the theoretical part of this thesis was carried out, describing the main characteristics of peer-to-peer lending. Furthermore, using the data available from public loan books, independent statistics as well as platforms' statistics, the overall affairs of the industry were analysed.

The proposed extent of the thesis

60 – 80 pages

Keywords

Peer-to-peer lending, Annual Percentage Rate (APR), credit, bank, peer-to-peer platform, debtor, loan

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Electronic approval: 30. 11. 2017

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Prague on 30. 11. 2017

STATUTORY DECLARATION

I, the undersigned, hereby declare that the thesis Critical assessment of peer-to-peer lending with particular emphasis on the development of the market in the Czech Republic is a result of my personal work and the only sources I have used are listed in the references.

In Prague, November 25, 2017.

…..……………………….

Bc. Jan Motyčka

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Critical Assessment of Peer-To-Peer Lending With Particular Emphasis on the Development of the Market in the Czech Republic

ABSTRACT

The aim of this thesis is to map the development of peer-to-peer lending platforms in the world, with particular emphasis on the examination of possible future developments in the Czech market. Firstly it defines what peer-to-peer lending. It provides conceptual as well as historical background, highlighting the pioneer peer-to-peer platforms and the reaction of the governments to this emerging industry. The structure and as well the trends on the market are described. The thesis discussed the risk ratio and its impact on the interest rate of the loans and the process of the risk evaluation. It analyses peer-to-peer lending from both platform and investor perspective. The final chapter of this thesis then discusses possible developments on the Czech market, focusing on the key requirements of running peer-to-peer loan market – investors, borrowers and platforms.

Key words: peer-to-peer lending, Annual Percentage rate (APR), credit, peer-to-peer-platform, debtor, loan

Kritické zhodnocení Peer-to-peer půjček se zaměřením na český trh

ABSTRAKT

Cílem této práce je zmapovat vývoj pee-to-peer půjček ve světě, se zaměření na budoucí vývoj českého trhu. V první řadě tato práce definuje co jsou to peer-to-peer půjčky. Tato práce pojednává o tomto konceptu a historickém vývoji peer-to-peer půjček, s důrazem na první vnikající platform ve světě a reakce vládních činitelů na tento rychle se rozvíjející trh. Struktura and trendy objevující se v peer-to-peer půjčkách je zde též rozebrána. Tato práce rozebírá risk jeznotlivých žadatelů and jeho vliv na výši úrokové sazby jednotlivých půjček a take process hodnocení risku. Tato práce vyhodnocuje pee-to-peer půjčky jak z hlediska žadatele, tak I z hlediska investor. Závěrečná kapitola této práce pojednává o vývoji na českém trhu, se zaměřením na stežejní role- investor, žadatele a platform.

Klíčová slova: peer-to-peer půjčky, roční úroková sazba, půjčka, peer-to-peer platforma, dlůžník, půjčka

TABLE OF CONTENTS

TABLE OF FIGURES

1. INTRODUCTION

Peer-to-peer lending (often referred to as ‘P2P’) is a form of borrowing and lending (or investing) between individuals (or “peers”), whereby the traditional financial institutions are omitted. There is a direct relationship between the investor and the borrower, with not institution such as bank involved. Similar relations of people who directly lend and borrow from each other have existed for centuries, however, in the ages of rapid technological development and easy access to Internet across the globe, internet-based virtual markets are overtaking less efficient traditional forms of direct lending.

1.1. Objectives

The goal of the theoretical part of this thesis is to determine and explain what P2P lending is. This is achieved through conceptual analysis as well as overview of the historical development of the peer-to-peer lending sector. Further, the legal status of the platforms is considered. The goal of the practical part of this thesis is to evaluate based on the theoretical background the performance of these platforms, determine the risks for the investor, effective investment strategies as well assess possibilities for development on the Czech market.

1.2. Methodology

The literature review was carried out using the methods of synthesis, extraction, induction and deduction. On the basis of this, the theoretical part of this thesis was carried out, describing the main characteristics of peer-to-peer lending. Furthermore, using the data available from public loan books, independent statistics as well as platforms' statistics, the overall affairs of the industry were analysed.

Platforms or so-called systems such as Zopa, Funding Circle, Lending Club or Prosper replace the traditional intermediaries such as banks. These virtual markets are essentially Internet websites witch match lenders with borrowers across the world. A person can register either as a lender and borrower from the easy of their home. Upon registration, borrowers commonly set the amount of money they would like to borrow and the interest rate they would be willing to pay. This request then has to be approved by the administrators who and once approval is granted the investment or lending opportunity is visible to all subscribed lenders who can then choose to invest their assets to a particular project. Majority of peer-to-peer lending allow investors to subscribe as little as $10, often resulting in large pools of lenders ranging from dozens to thousands. Most recently, so-called "autopilot" management is becoming increasingly popular. Investors using such autopilot set criteria including how much money they would like to invest, preferred repayment period, characteristics of the borrow and interest rate and their money (i.e. their investment portfolio) is the allocated automatically based on the set criteria, spearing the investor from the need for the investor to specifically look for investment opportunities.

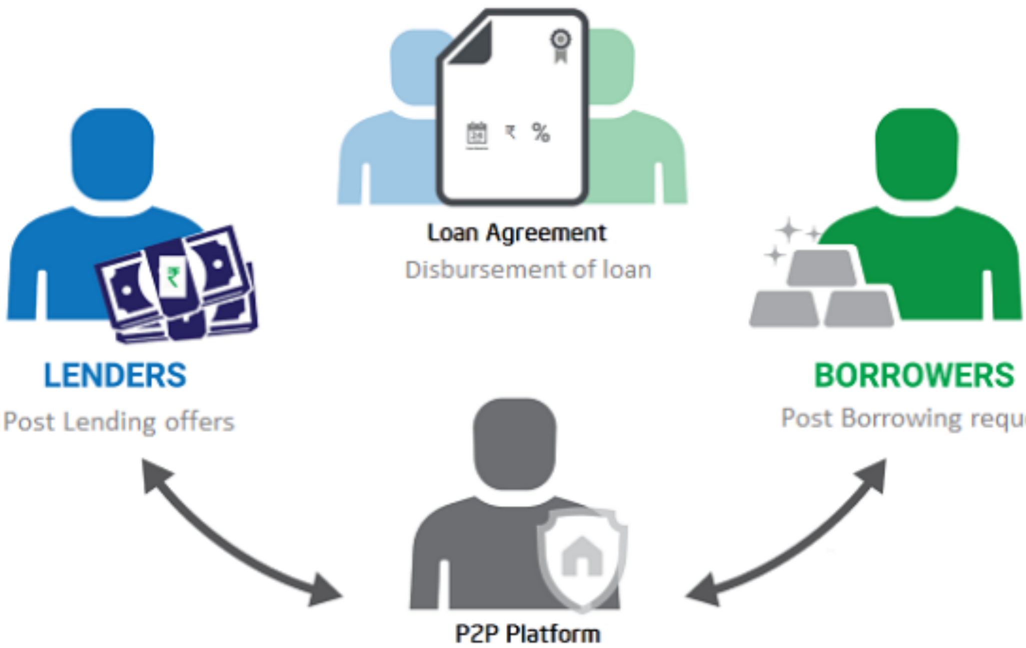


Figure 1: Overall P2P lending scheme

Figure 1 illustrates how peer-to-peer lending works in practice. Firstly, borrower fills in required information about himself. Typically, proof of identity, income and bank account are required. Once the request is approved and criteria set by the platform is, the request shows up to the investors. Once sufficient money is pooled to finance the requested loan, the money is transferred to the borrowers bank account. Zopa, one of the first platforms set up in 2005 in order to "directly bring together borrowers and savers, cutting out financial institutions from the lending process" (Werdigier, J, 2012) states on its website that once approved "the money will be with you 3 working days later" (ZOPA, 2017). A loan can thus often be arranged far more faster than a traditional bank loan.

The investment possibilities start at fairly low amounts, so even where relatively small sums of money are invested, it is nevertheless possible to diversify the portfolio. Interests rates vary from 1% to around 10% per year, based on the creditworthiness of the borrower. Similarly, the maturity dates differ, ranging from a month up to years. As the market expands, so the maturity date possibilities spread in both directions. An example provided on Zopa's website states that a typical loan of £7,500 over 5 years will commonly cost £175.40 per month at a representative 9.9% APR. The total cost of such a loan then adds up to £9,443.

Figure 2: World map of major platforms (Peerpower, 2017)

In the United Kingdom there are estimates of over 25 UK-based lending platforms. A total of over £900 millions worth of loans were facilitated in 2015 (Zhang *et al.,* 2015) with P2P lending accounting for an estimate of over 90 % of alternative finance market in the UK (Chishti, 2016). However, although most commonly in technological advanced countries, P2P platforms are a phenomenon which has spread to countries other than the ones it would be ordinarily expected. Such platforms may also be found in countries such as Chile, Brazil, Mexico or India.

2. CONCEPTUALIZING PEER-TO-PEER LENDING

Peer-to-peer loans are considered to be an alternative to banking. P2P platforms are often called as debt-based crowd funding or social lending. However, this is can be misleading. In certain scenarios, peer-to-peer lending would in fact fit micro-financing as a better description, given that the purpose of P2P is commonly derived from the idea of helping people.

2.1. Microfinance and the Social Aspect of Peer-to-Peer Lending

2.1.1. Microfinance and Social Investing

Microfinance, also commonly called 'microcredit', is a service targeting individuals who often live with the bare minimum and as such do not have access to standard banking services. Microfinance although present as a service in both developed and developing countries, has roots in personal initiative of Bangladeshi economist Muhammad Yunus, who lend his personal finance to micro-entrepreneurs providing them with sufficient credit to purchase raw materials for rice husking and bamboo weave, thereby breaking the circle of poverty (Chishti, 2016). The idea of fighting poverty by provision of loans to those who are viewed as "non-bankable" indeed lies as the core of microfinance and therefore the concept is commonly defined as "the provision of financial services to low-income clients including the poor and the self-employed" (Addae-Korankye, 2012). The idea of microfinance as a tool for poverty reduction has been widely supported by international institutions including to World Bank and the United Nations, according to which an estimate of 896 million people in developing countries live on $1.90 a day or less (Worldhunger, 2017).

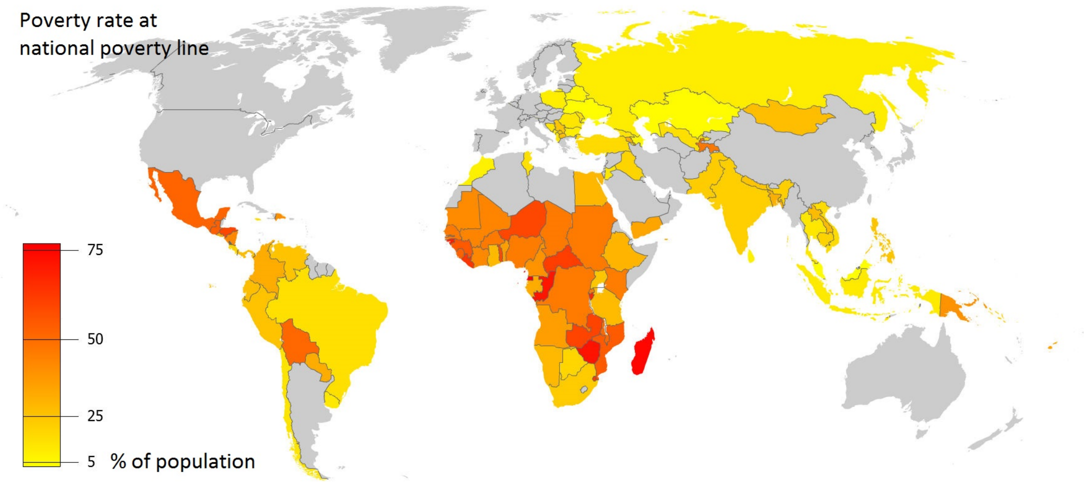


Figure 3: Poverty rate (World Bank, 2012)

Hence, it is clear that in developing countries there is a huge potential for these microfinance products. This is particularly so, given that world wide established banks are often not willing to invest in the banking sector of developing countries, particularly because of huge operating expenses coupled with rather small margins which rise from the fact that loans of often no more than $100 are required. This creates clear opportunity for companies issuing micro-transactions, for which not only the profit is important but also the social and economical impact on the local communities matters. All the meetings with clients are in person, as the technology is not as spread as in other countries. However, these transactions are increasingly more impacted by technological innovations spreading across the globe – for example in the form of internet portals which enable farmers to sell directly.

According to the World Bank, an estimate of around 160 million of clients use services of companies working with micro-transactions. The interest rate of these microtransaction consists from the operating costs, costs related to the acquisition of the capital, costs related to cover expenses in cases of default and personnel costs. In general we can say that the interest rate is higher the lower is the amount of the money borrowed.

2.1.2. The Social Aspect of Peer-to-Peer Lending

Although the social aspect in P2P loans is not as prevalent as is the case in microfinance, it is not completely absent. In fact, one of the primary benefits of P2P loans could be that also people with ‘high-risk profile’ or insufficient credit history are able to take up loans, despite banks refusing to provide them. Likewise, P2P often stands as a possible for refinancing your current loans or debts. Inevitably, a borrower involved in such a transaction will receive high (or higher) rate so that the risks connected to the loan are covered, however, this does not deny the benefit of the possibility for them to borrow the money.

In recent months there has been in fact a trend for P2P platforms to require a background or personal story for the reasons why person would like to borrow money, in order to appeal to the investors a little bit more. The Czech P2P lending platform serves as a primary example of this – each loan request there is supported by sometimes fairly lengthy statement from the borrower, saying why he needs the money. For example, one user would like to borrow 35,000 CZK stating that he would like to “invest in the health of his son” who requires a tooth implant which otherwise isn’t covered by medical insurance (Zonky, 2017), whereas a different user has requested to borrow 100,000 in order to pay for driving lessons and a car and thereby gain employment (Zonky, 2017) This helps the investor to see the reasons why the borrower is asking for the money and often sympathise with them. As a consequence, the back-story then results in these people being able to borrow the need money, despite the fact that traditionally bank loan would be refused to them straight away. As a consequence, P2P lending services are thus able to reach a wider audience of investors who would otherwise be hesitant to invest their money, and thereby also offer their services to a broader range of borrowers.

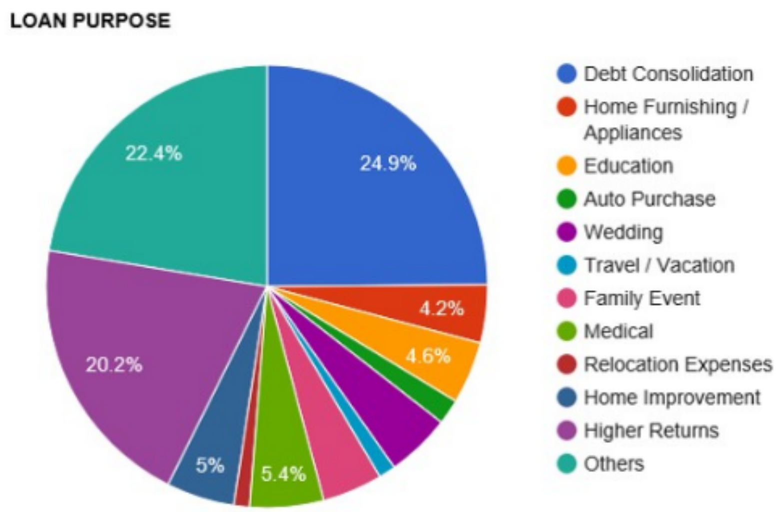


Figure 4: Reasons for a loan (Randomwalks, 2017)

Figure 4 provides an illustration of primary reasons why people had borrowed money through P2P websites. The data provided is obtained from the Lending Club Platform, a US based P2P lending company whose total loans issued between 2007 and mid-2015 amounted to staggering $11 billion (Investopedia, 2017). The data covers 70 % of the borrowers, i.e. ones who filled out the reasons for borrowing the money. Most commonly stated reasons was refinancing of current debts, helping the borrower to lower the interest rate or adjust the maturity date of their past loans. There is likely to be a direct correlation with the fact that the amount of loans from credit cards in the USA has grown following the financial crisis and significant decrease in the appetite of US banks to lend. As the value of real estate collapsed, families were no longer able to fund their spending through re-financing of their mortgages unlike previously when the properties were experiencing significant growth in price. As a consequence, people in need of finance had to resort to the use of credit cards with interests rates set commonly as high as 30 %. This is again where the social aspect of P2P lending comes into play, as the refinancing facilitated by the Lending Club resulted in the borrowers cutting their costs by up to 50 %.

2.2. Crowdfunding and Peer-to-Peer Lending

The term crowdfunding is often used interchangeably with P2P lending. However, there is in fact a difference between these two terms, which both pertain to alternative finance. Crowdfunding is commonly defined as "the practice of funding a project or venture by raising money from a large number of people who each contribute a relatively small amount, typically via the Internet" (Oxford English Dictionary, 2017). P2P lending can thus be explained as a sub-group of crowdfunding, i.e. debt-based crowdfunding.

Crowdfunding also involves dozens, hundreds or thousands of investor who decide to invest their money. Likewise, the money is invested through an online platform. Kickstarter.com is the biggest crowdfunding platform, founded in April 2009. So far over 14 million people have invested a total of $3.4 billion in its projects (Kickstarter, 2017) In the Czech Republic there are several smaller platforms, including startovac.cz, hithit.cz and penezozdroj.cz. The principle of these platforms is the same as in the case of P2P lending and the amount of investment that a single investor has to subscribe is usually sat fairly low and can almost be indefinite. Originating in the first online crowdfunded project in 1997 of rock ban Marillion whereby fans fledged to raise $60,000 to support the band's tour, crowdfunding has seen a major rise in the recent years. (Financial Conduct Authority, 2017). This is evidenced in Figure 5 below.

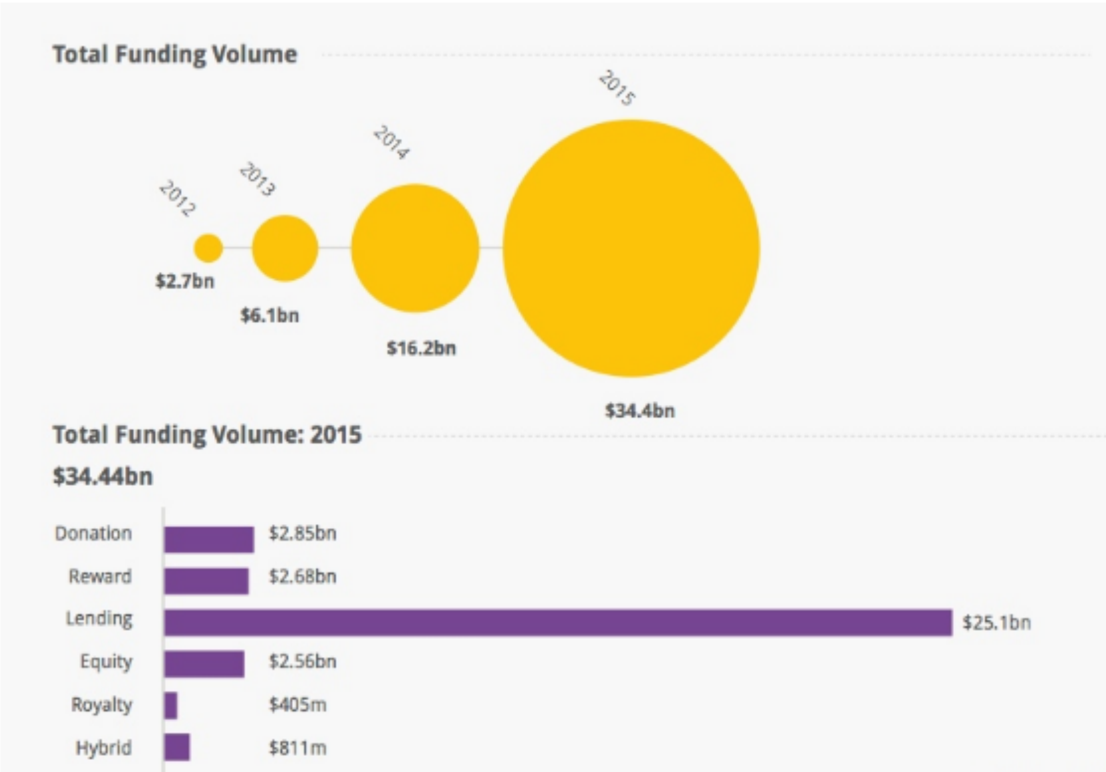


Figure 5: Total Funding (Crowdexpert, 2017)

Figure 5 shows us rough estimate, how much resources have been invested in p2p and crowdsourcing over the years and clearly displays the massive growth this industry is experiencing.

In the case of crowdfunding the investment units are not necessarily only loans – there is a range of crowdfunding options. Beside P2P lending (or debt-based crowdfunding), the three other main types of crowdfunding: reward-based crowdfunding, equity-based crowdfunding and donation-based crowdfunding.

2.2.1. Reward-based Crowdfunding

Reward-based crowdfunding (commonly also called non-equity crowdfunding) is the most common form of crowdfunding, supported by most of the crowdfunding platforms. Essentially companies which are seeking funds offer a reward or an incentive in return for the money pledged by the investors. This type of crowdfunding is used for a range of purposes, including software development, scientific research or inventions development. Most commonly, however, the projects financed involved some kind of creative work (e.g. promotion of books, CD recording, movies), community projects (e.g. establishment of a gym or school), traveling or sports events (e.g. sponsorship of a kids tournament). The purpose of such projects is commonly not only the profit of the owner of the idea but also some kind of added value to the community.

The rewards an incentives vary depending upon the sum of investment and the type of project. For instance in the case of funding CD recording the reward is commonly that you will receive the CD record. There are essentially two types of reward-based crowdfunding. Firstly 'keep-it-all' – this is where the company sets a fundraising target and keeps the entire amount regardless of whether or not the target is met. Secondly, 'all-or-nothing', where the company sets a goal and keeps nothing unless the goal is fully achieved. The second option usually this involves substantially larger capital goals and is much more likely to be successful.

2.2.2. Equity-based Crowdfunding

Equity crowdfunding, (also commonly known as crowd investing, investment crowdfunding or crowd equity) refers to raising equity finance through crowdfunding platforms. As such, equity crowdfunding often serves as an alternative to seeking business angles and venture capital finance, primarily for start-up or early stage and growth companies. In this type of crowdfunding investors therefore gets equity, i.e. shares or other forms of securities, in the company it invests in. Different equity platform have different legal structures – for instance certain platforms will enable the investors to have voting rights in the company and actively take part in the development of the company. This kind of investment is particularly of 'high-risk' given the common failure of start-up companies, however, the potential reward is high especially in cases of the companies having large-scale global success.

1.1. Donation-based Crowdfunding

A further type of crowdfunding is donation-based crowdfunding, which is essentially the 'modern' way of doing charity. It involves investing money commonly for the sake of helping in developing countries or in places hit by natural disasters such as flooding or earthquake. Unlike in previous types of crowdfunding, donation-based crowdfunding does not provide the investor or 'donor' with a financial incentive – rather it is a voluntary investment.

In the Czech Republic the most common way or type of crowdfunding is reward-based. In 2015 the biggest Czech online platform startovac.cz has helped to finance projects in total value of 19 million CZK, three times more than the previous year. In total 61% of proposed projects had been successfully financed.
Figure 6 below illustrates the percentage share of each type of crowdfunding worldwide, based on the total volume of invested assets.

Crowdexpert (2017) claims that by far the biggest share of crowdfunding take the P2P loans, which take over two thirds of the total amount of investments. This is likely because P2P loans fund not only companies (as in the case of equity-based crowdfunding) but also individual consumers. The remaining crowdfunding possibilities take each equal share on the rest of the investments.

The other possibilities to invest are investments into shared of a tradable company, which is easy investment, yet either risky or with a low return. Another option would be investments into bonds, which are issued by big companies and are safe option, but the return is neither as significant.

3. HISTORY OF PEER-TO-PEER LENDING

When seeking to trace back the history of peer-to-peer lending, the starting point has to be all the way back in the Ancient Mesopotamia. Even at that point people were providing loans to each other. One neighbour (or 'peer') was lending money or other good to the other peer. There was no middleman man involved. Such form of loans exists up until now, except that people do not really call them 'loans' never mind 'peer-to-peer loans'. In the 18^{th} and 19^{th} century, however, such 'direct' type of loans was the most common. Peer-to-peer loans in their present form have, however, been invented much later on – only in the last 15 years.

3.1. First Peer-to-peer Lending Platforms

The first successful online platform which provides P2P loans was the British Zopa. It's the first online P2P platform, the purpose of which is to provide the investor with a profit and in the same time to cover the market gap between bank loans and non-banking loans. The idea of Zopa stems from its co-owner Giles Andrews (Zopa, 2016). According to him, the starting point of the idea was the market with the bonds, where the investors could look up the information about the companies and could make a decision based on the information whether they want to invest into these bonds or not. This type of investment was not available on the retail market. Through the combination of the idea of eBay, the biggest online marketplace, coupled with the provision of information about retail borrowers as in the case of bonds, the first online marketplace for retail loans had been created. In the early days of this platform, the borrowers targeted were mostly self-employed people who work on irregular basis – and thus despite their satisfactory income because of their unsatisfactory credit rating and irregular earnings their access to classic products such as bank loans was complicated and limited.

The idea of ZOPA later inspired other entrepreneurs. In particular, in the United States an online P2P company called Prosper had been established following year in February 2006. This platform was very successful since its offset. It had over 100 thousands of subscribed members and through the sit loans in the total value of $20 million dollars had been funded during just its first year of the existence. Anyone could have asked for the loan, the risk assessment was left upon the investors who were provided with the potential borrowers' FICO score (i.e. American scoring model). The platform thus sought a huge surge for its services due to the loan climate of following years. In particular, the beginning of 2007, due to an increase in loan defaults among high-risk borrowers, the conditions to obtain a loan have been tightened. Borrowers with FICO score of less than 520 and those without any rating were unable to obtain any loan. Similarly, the fees for loan arrangement in case of high-risk borrowers had grown higher. In 2007 a new competitor to Proper therefore emerge, called the Lending Club. Existing initial first months only as a Facebook application, the platform success, as discussed previously, lead to its independence couple months later.

These platforms had filled a gap on the market and the investors were able to reach appealing interest comparing to the other investment possibilities that the market had been offering. On the other side the borrowers were able to lower their interest rates of their debts. This 'win-win' situation lies at the core of the platforms – the platform matches those with savings with those who want to borrow, "leaving out the bank and offering better rates all round" (The Guardian, 2014).

Further, interest rates are a further aspect likely playing role in the success of Zopa, Prosper, Club Lenders and of other platforms. The interest rates on the P2P loan market work opposite way as those in commercial banks. Loans with shorter maturity date generally have lower interest rates and a higher chance to be financed. Therefore, this is the direct opposite to bank loans, where the longer the loan goes for, the lower the interest rate is likely to be. Given the inherent high-risk nature of P2P lending, investors want their investment to be paid back in a shorter span of time, as they feel that the conditions of the borrower may change over time, resulting in an increased risk of default. A further factor is the liquidity of the cash the investors in P2P.

According to data provided p2p-banking.com (2017) we can see, in 2008 Lending Club was 10 times smaller than its earlier rival Prosper. A further remarkable fact is that the initial three platforms cover over 80% of global market. The reason why so is the fact that these platforms have been running for only about three years, since the

Zopa has been established and other companies have been just starting so the competition was not as as shattered.

3.2. Platform Development

Since early 2005 the P2P platform themselves have been undergoing a lot of development. During the initial years, all there was available were lists of borrowers, with investors having to go through one by one and decide themselves on the risk-profile of the borrower and their likelihood to repay the borrowed money. There were no internal scoring systems available, which would evaluate the borrowers and filter out the ones with high risk of default. As a consequence of ill judgement the number of defaults was very high, meaning that in the end investors were overall gaining almost no profit from their investment and in some cases even lost the money invested.

Common defaults, as evidenced by the number of defaults on loans facilitated through the Platform Prosper between 2006 and 2008, played significant role in pushing P2P providers to develop their platforms further. For instance, during 2006 and 2008 Prosper only made it possible to invest money in or obtain loans with the maturity date of three years. Prosper has issued approximately 28 936 loan, 18480 of which have been paid back and 10456 of which were either in default or partial-default. Consequently staggering 36% of issued loans have been defaulted on, amounting to $178,5 million. That is not to say that the investors however lost all their money – about 20% of the investors who have diversified their portfolio across 100 loans which had higher risk rating have in fact ended up with positive rate of return, as illustrated on Figure 6 below.

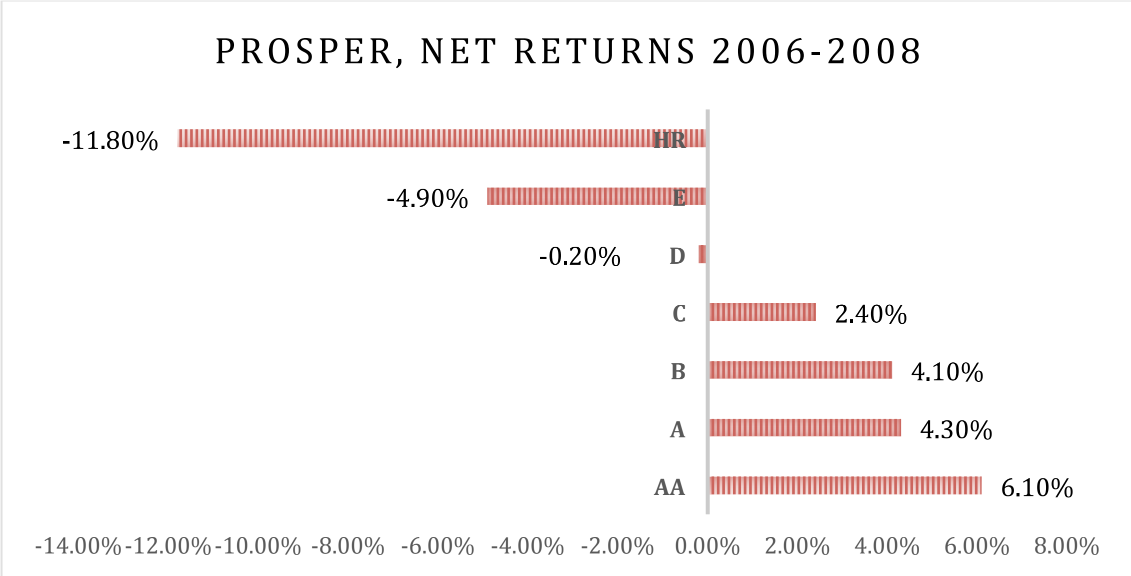


Figure 6: Prosper historical data or returns (2017)

As we can see from the graph the borrowers with highest creditworthiness were able to generate their investors a positive return. As we can see from the graph the relationship between creditworthiness and returns of the investment is quite linear. There is many reason why this is so, one of the reasons being the condition in which the American economy was at that time. In the years 2008 and 2009 the gross domestic product had dropped by 0.3 % as a consequence of the sub-prime mortgages crash escalating in global financial crisis. The less creditworthy borrowers have been further hit by the growth of unemployment as well. Further major reason was insufficient screening of borrowers – in the early stages of P2P lending even borrowers who already had significant debts and low incomes were shown to the investor. Virtually almost anyone could have asked for a loan, with the lenders (i.e. investors) not being provided with any guidance on risk scoring. Nowadays, virtually all platforms provide with some sort of risk indication, raking the borrowers creditworthiness internally. This is illustrated on Figure 9 below.

Figure 7: Example of an interest rate on Zonky.cz (Zonky, 2017)

As shown on Figure 7, the Czech platform Zonky for example gives the lenders the possibility to filter out borrowers based on their internal rating which stems from A** to D.

A further crucial aspect in influencing the gradual development of P2P platforms was government regulation. At the offset the industry was essentially completely unregulated. The growing amount of loans issued through these platforms reaching ten thousands of loans however did not go unnoticed by the authorities. In particular following the financial crisis of 2007 to 2008 the U.S. Securities and Exchange Commission (the 'SEC') stepped in, leading to a significant alterations to how platforms such as Prosper and Lending Club had been working so far. P2P platforms have been labelled as companies offering investment purchase, falling with the scope of investment category with stricter regulations. As a consequence, all the loans had to be registered. In simple terms, this ended the market place in the UK where the platform connected the borrower and the investor and was not itself involved in the transaction. Officially now it is the platform that lends the money, not the investors directly. The platform obtains the money from the investors who the receive Borrower Payment Dependent Notes, the pay-out of which is dependent on the debt repayments of the borrower. The loan re-payments are then transferred by the borrower to the platform and then from the accounts of the platforms to the accounts of investors.

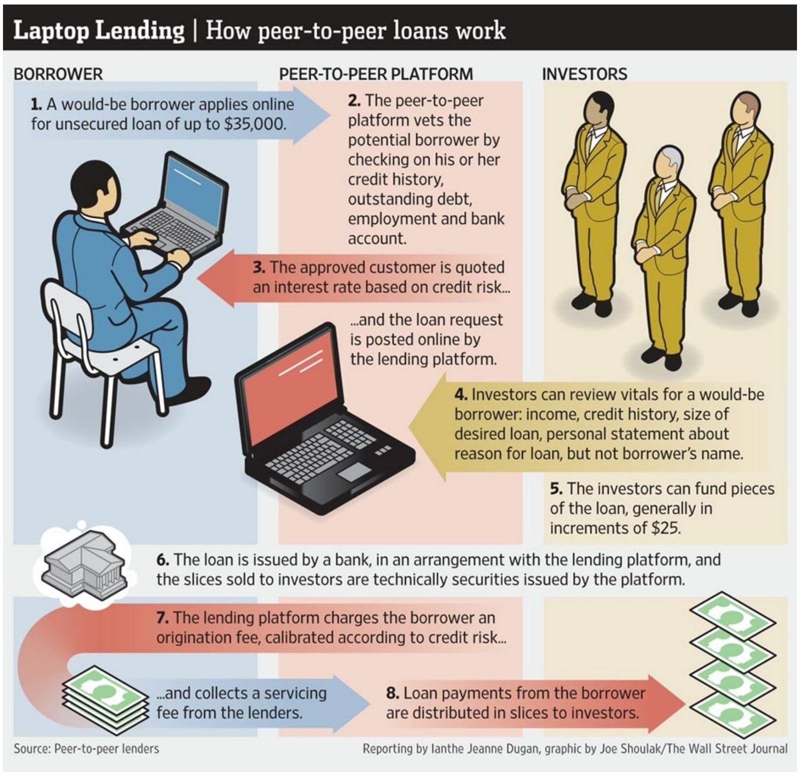


Figure 8: Explanation of how P2P lending works following SEC regulation
(P2PLendingexperiences.com, 2017)

Figure 8 provides the detail of how the lending platforms work following the stricter regulation of SEC. The outcome of how P2P lending works remains the same, only how the borrower gets the money is different. I.e. the borrowers get their money from a virtual bank, which is funded by the platform, which got the money from the investors, who gave the money to the platform and they decide in which the platform will invest their money. Platform then gives the investor a Borrower Prepayment Dependent Note, in same nominal value, where the agreed interest rate is paid. The payments are then made conditional on the re-payments by the debtor.

3.3. Involvement of Institutional Investors

The emergence of P2P platforms appears to be well timed. In 2005 and 2006, economies and loans grew at a rapid pace and investors were also not afraid to invest in the unknown opportunities that P2P loans undoubtedly were. During the first years, thanks to continuous improvement of platforms, investors gained confidence. It is also possible to say that the P2P sector benefited from the Financial Crisis. Above all, on the part of the applicants, as the primary shock to bank houses had led to a significant tightening of the conditions of the provision of bank loans. As a consequence, the borrowers had diverted from bank loans and utilized P2P servers instead. Undeniably, following the crisis, caution from the perspective of investors has grown, however, due to previous over-investment there has been no shortage of funding for new applicants.

Over the years, P2P platforms have not gone unnoticed by institutional investors including banks, hedge funds and other financial institutions. Given the ability to invest in high volume, institutional investors have the ability to negotiate more advantageous terms with the P2P platforms than their standard consumer investor. This is mainly about credit offerings before it appears on the bench to everyone else. In order for institutional investors to invest in large volumes, platforms are enabled through a data communication channel to create their own risk-rating algorithm for debtors and to automatically purchase loan shares instantly. An example of this is the British P2P lender called Lendable, which has signed a £300 million loan deal with investment and mortgage company Castle Trust (UK Government, 2017).

This development in P2P lending could lead to a reduction in the number of small consumer investors. Where an institutional lenders acquire preferential rights in P2P platforms and is able to satisfy all demand matching applicants' requested risk profiles then small investors could be left with high risk investment only. In turn, this could lead to the discouragement of consumer lenders to invest their assets through P2P platform and effectively eradicate the core of the P2P concept.

4. THE RISKS ASSOCIATED WITH PEER-TO-PEER LENDING

Given the that P2P lending and the alternative finance sector in general are in the relatively early stages of development, many risks that would have otherwise been eliminated by market principles of possible regulation have not been addressed. The following chapter will thus address the range of these risks. It can be assumed that in seeking to improve their service the platforms themselves will try to eliminate most of the risks. Risk mitigation increases the credibility of the P2P lending platforms and thereby increases the confidence of investors. However, in the event of a negative development of the platforms' management, regulators may step in. Majority of the risks described below are from the investors' point of view, as these are the most vulnerable entities in the transaction. Whilst platforms risks themselves do not face the same risk as default, high failure rates may nevertheless hamper its reputation, ultimately leading to their closure (Zhao *et al.,* 2017).

4.1. Debtor Risk

Default of the debtor, i.e. non-repayment of the loan in a timely manner or of the full amount borrowed, is the biggest risk for the P2P investors as well as indeed for any other ordinary lenders. The best possible mitigation of this risk primarily lies in adequate verification processes of potential applicants by the platform. The benchmarking criteria for the benchmarking loan are filled out by 85-90% of applicants. Applicants are screened for payment history and current debt records (e.g. NRKI, SOLUS) based on personal documents provided. They are also ranked based on earnings and expenses, either by virtue of account statements or confirmations from the employer. Expenditure is increased where prospective borrower has any outstanding current loan. Interest is then determined by and fixed by platform, based on the rating, or by auction investors themselves, who offer individual interest rate at specified intervals.

After the benchmark loan is published, the debtor's assessment is then carried out – by investors themselves who choose attractive loans for them. This second step does not apply if an investor chooses the so-called investment autopilot, or an automated portfolio manager where the assets are automatically invested without the choice of investor criteria, only on the basis of a choice of investment strategy. Where investor chooses to select loans manual, this leaves room for the investors' to create their own rating strategies. Some platform aid this by provision of extensive data on the progress of individual loans, coupled with available client data.

An indispensable part of reducing the unique risk of debtor default is diversification. This is commonly enforced on all platforms, which set maximum amount a single investor may pool towards a single loan, as well as by allowing the investors to invest small amounts as low as e.g. $5.

4.2. Information asymmetry

Information asymmetry, i.e. a situation where a counterparty has more important information and also a superiority over the other side, occurs in P2P lending in two stages.

In the first instance, a credit applicant may conceal or does not provide true information to the platform. The intention is obvious – information is hidden or disguised in order for the borrower to get a better interest rate or to get a loan that the debtor does not intend to repay. According to the Lending Club the debtors' incomes have not verified by 40% of the applicants, resulting in the platform in not listing their loan request. Around 10% of the applicants from whom the Lending Club sought to obtain a confirmation of their income withdrew their application following that request and the remaining 30% were simply unable to provide enough evidence to confirm their income.

Secondly, information asymmetry occurs or may occur in the circumstances where the platforms provide information about the prospective borrowers to the investors. There is an inherent conflict between the P2P platforms protecting personal data of the borrowers and providing sufficient data to the investor to allow them to make informed choices. Applicants' real identities are disguised under nicknames. Because the names of the borrowers are not provided this then results in the possibility for the P2P to display to investors a large amount of information including the age, sex, city, or district where the applicants reside. The sites may also provide whether the income is verified, the amount of income, the size of the debt repayment rate, the purpose, etc. However, inevitably the investor must trust that the platform displays undistorted and true data, as there is no way for the investor to in fact verify this information, leaving them in a vulnerable position.

4.3. Default of platforms

Most established P2P servers are expanding but some have already ceased their operations. Two networks in Denmark and the United Kingdom have closed down after too many investment losses were accumulated in investor portfolios through mismanagement of the platforms. Some networks in Spain, Italy and France were also forced to close down. When selecting a platform, the investor should thus importantly weight up the selection of the trusted server. Investors' assets should, in any case, be separated from the platform's accounts, so that no direct misuse of funds can occur. Complications would occur even where the platform has defaulted and then the individual instalments were recovered from the debtors. Inevitably, all depends on the contractual relationship between the platform and the investor to which investor who uses the services consents.

Sometimes there may be situations where there is no direct relationship between the debtor and the investor and the investor only takes credit risk and participates in the proceeds of the loan. In this case, the investor does not obtain a preferential right to satisfy the claim on the loan. If the direct relationship between the investor and the debtor arises, the solution is also problematic. You can hardly imagine getting paid individually if the investor has invested in thousands of loans with a maturity of several years. Even more complications may arise in the default of the debtor. The individual recovery of small claims by investors would be translate into high costs of court proceedings for each individual claim, defeating the claims actual value and making any prospects of investors recovering their investments unlikely.

4.4. Risk of changing credit conditions and fees

Because of the ways in which the terms of conditions of the platforms are drafted, the P2P operators commonly have the power to arbitrarily change their terms of consumer credit between itself and the debtor. The investor is only informed about the change and must accept the change. Fees are applied to the investor in every situation and this can significantly reduce their yield and shift the entire portfolio of loans to a loss or even deeper. Consequently, the investors face a risk in the form of a change in the fee structure of the platform, causing them unexpected revenue reductions.

In a hypothetical situation where the platform is in a long-term loss and therefore will resorts to increasing its fees paid by investors this may result in a damage its reputation and prevent its future development. However, investors with a portfolio already created and invested will simply have to reduce their revenues, as it can not be assumed that the secondary market, if any, can flexibly satisfy the investors' offer after this negative shock.

4.5. Risk associated with debt recovery

Recovery of unpaid principalities and accrued accessories is fully in the hands of the platform. The P2P platforms decide on further steps, extended maturities, or other changes in loan parameters. What is important is the wording in the investor-to-platform agreement, too much freedom of decision-making on the platform may reduce the amount of repayments made if the platform is not rewarded for recovery itself, leaving the investors with little power in their hands.

4.6. Risk of change in industry regulation

One of the reasons why P2P platforms were initially developed, as discussed earlier, was to avoid regulation and governmental surveillance. Therefore, any changes directly targeted at P2P platforms can have a major impact on its functioning its terms of lending. For example, following a regulatory change in the United States, the platforms had to convert all existing bond loans and could not get new loans for several months. Given the recent emergence of this industry, more regulation can be readily anticipated in the following years, leaving investors and platforms with uncertainty.

4.7. Lack of liquidity

The risk of insufficient liquidity is discussed in more detail in other parts of this diploma thesis. If there is a secondary market associated with a platform, it is possible to sell your stake in the loan to another investor before repaying the entire loan, so the investor is not limited by the fixed length of the loan and the liquidity is increasing. However, this can not be compared with the liquidity of quoted shares.

4.8. Systemic credit risk

The response of default credit to macroeconomic developments characterizes the systemic credit risk response in the credit sector to overall changes in the domestic and global economy. This reaction is influenced by several major variables that need to be taken into consideration when investing in P2P market. In principle, positive effect of GDP and employment growth on the financial condition of borrowers can be statistically demonstrated. Also the pension effect of the exchange rate change is insignificant. Depreciation means decreasing debtors' delinquency/default. An important factor is also the growth of market lending rates leading to increasing borrower budget burdens and hence increasing the likelihood of debtors' default.

4.9. Conflict of interest

Investors' and platforms' interests are partially different. There is a conflict of interest between the platforms' interest to maximize the volume of loans and the investors' interest to maximize their investments through re-paid loans. As a rule, the platforms' remuneration stems from the volume and amount of credits provided. The investors' remuneration on the other hand is measured by capital appreciation. It should be in the interest of a P2P platforms to first maximize investors' return and thereby also build on its reputation of success. However, in reality this has to balanced so that the applicants are interested in borrowing. In the second step, the reputation of the platform will grow to increase the volume of credit and the resulting income of the platform.

The conflict of interest in P2P lending is in many aspects similar to the conflict causing sub-prime mortgage crisis in the United States in 2008. Lenders were rewarded for providing credit, but the credit risk was sold to investors. This risk would be eliminated by a simple solution – linking the income of the platform to the profitability of investors. However, this would also increase the risk for the platform, and all investors would not invest rationally and their errors would also affect the profitability of the platform. Consequently, this is something unlikely to be accepted by the P2P platforms.

4.10. Risk of sensitive information leakage

The platform has access to sensitive personal information from investors and applicants. Due to the highly automated nature of platforms, these confidential information can become an attractive target of potential cyber attacks, computer viruses or other physical or electronic intrusions. Any incident involving a leakage of information may lead to a loss of confidence for both applicants and investors.

4.11. Risk of early repayment

As a general rule of majority P2P platforms and a way to incentivise borrowing, debtors are allowed to repay their obligations without any sanction. Borrowers are not bound by contractual penalties and investors are subject to calculated interest. The risk is fuelled more strongly where market interest rates fall, which makes other forms of borrowing and refinancing more attractive. If interest rates on the platform fall, the borrower can refinance almost without transaction costs, leaving the investor vulnerable. The offered rate is compared to the current rate and a charge in the form of a new credit fee. The platform itself can offer refinancing to its clients in the event of a reduction in rates, as it receives additional fee income, but at the expense of investors whose average return is reduced whilst the risk of the debtor's unchanged risk, leaving the investor with unduly burden.

5. REGULATION AND THE LEGAL ANCHOR OF PEER-TO-PEER LENDING

The initial period of the emergence of P2P loans is already over in a number of countries, having experienced over a decade of rapid development and market growth. Despite the gradual increase in the attention of governmental bodies and financial regulators, it may nevertheless be argued that the P2P loan market is subject to very little regulation and supervision, in particular in comparison with the traditional banking market.

It may be argued that regulation as in the case of banks and other institutional lenders is unnecessary, given that the platforms do not accepts deposits for which they bear full responsibility and which they re-invest. P2P investors invest in participations or bonds and as such bear the full risk of default themselves. However, given the exposure of investors to the risks discussed in the above chapter, regulation is not completely redundant.

5.1. United States of America

In the United States P2P platforms are subject to special rules addressing alternative forms of finance. The platforms are regulated at both federal and national level. Consequently, in certain states investors and borrowers are allowed to borrow, invest, or trade only on the secondary P2P loan market which is addressed in more detail in the subsequent chapter.

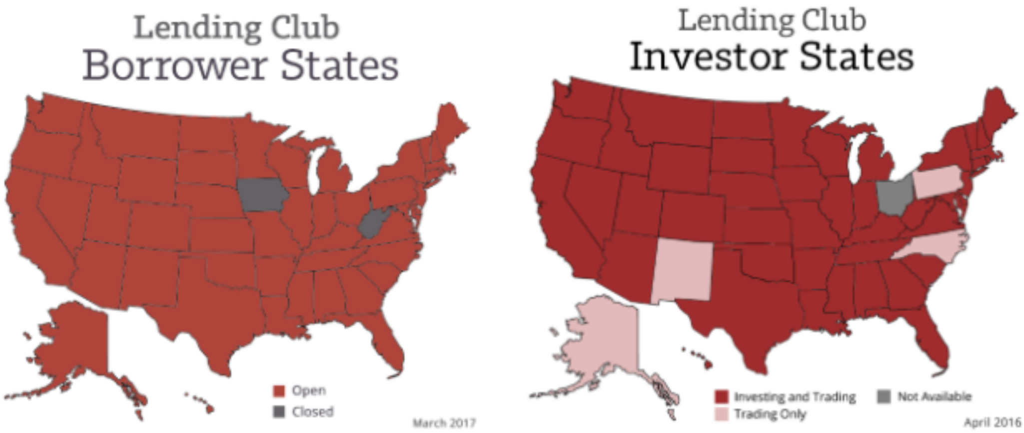


Figure 9: Lending Club’s main borrower and investor States (Lendingclubmemo.com, 2017)

Restrictions arise from states' concerns that investors might lose their capital in a risky investment in P2P loans. Likewise, concerns have been raised that these loans are essentially defined as securities but not part of any national stock exchange and its listing rules. Investors are sold bonds, the instalments of which depend on the debtor's instalments. Bonds are issued by virtual bank, which is fully supervised by FDIC30 and subject to individual state supervision.

As a rule, the platform uses only one bank that mediates the transactions for the entire United States. In each federal state, the server must be licensed to meet the criteria. In a simplified way, they have to record transactions, publish business information, ownership structure, top management, scrutinize investors, comply with advertising restrictions, etc. Non-residents of the United States of America are unable to borrow or invest in the Lending Club or Prosper platform – their reach is thus not extraterritorial.

This is in striking contrast with the situation in Europe, where generally speaking no legislation has been enacted to specifically target P2P loans and crowdfunding. At the European level expert group starting to deal with the issue of crowdfunding in terms of identifying weaknesses and managing sufficient platforms but rules have not been broadly implemented as in the case of the United States.

5.2. United Kingdom

Great Britain is the first country in the world where P2P platforms have established their own association. The Peer 2 Peer Financial Association (P2PFA) was established in 2011 as an association of P2P platforms to ensure industry standards, consumer protection, promotion of proposals, and commenting on sector-specific regulation. As of April 2016, it consisted of 8 platforms operating in the UK and acts on a voluntary basis.

Since April 2014, the industry has been regulated by the Financial Conduct Authority (the 'FCA'). Minimum capital requirements were, the requirements for client money protection must be met, and regular financial reports must be published. Nevertheless, concerns regarding the industry persist. The CEO of the FCA, Andrew Bailey, readily stated his concern over how P2P lending is marked to consumer investors. He raised the issue previously discussed, in particular that P2P sites are paid fees without taking on the risk of loans on a balance sheet. He noted that although some platforms have so-called reserve funds to pay out to investors in the event that borrowers default, there is "no guarantee in that fund". The thus FCA said in August 2016 that following calls for tougher regulation it would investigate the P2P sector. Tighter regulation of P2P lending in the UK regulation may thus may expected to follow in coming years.

5.3. Czech Republic

Special legislation for P2P platforms has so far not been enacted in the Czech Republic. Nevertheless, this sector is governed by several laws that generally apply.

P2P platforms do not fall within the entities listed in Act No. 21/1992 as banks, and are therefore not obliged to participate in the deposit insurance scheme of the Deposit Insurance Fund. Thus, in the event of the bankruptcy of the P2P platform, investors cannot claim compensation. However, the non-invested funds that the investor has in their customer accounts must be kept in a bank account. These deposits are treated as bank deposits and are covered by insurance in cases bankruptcy (Zakonyprolidi.cz, 2017).

In order to operate a P2P platform, the operator must further obtain a trade authorization. This is a coupled activity according to Act No. 455/1991. In most cases, registration as a ‘small-scale payment institution’ within the Czech National Bank is also required. The platform must complete a questionnaire, submit a business plan for the next 12 months, describe individual payment services it seeks to provide, and provide a way of deposit protection. Registration is made within 30 days where all requirements are met. The implementation of the registration is linked to the implementation of the system of measures against the legalization of proceeds from crime and the financing of terrorism, in line with European Union legislation. Registration is sufficient if the entity does not exceed the volume of transactions of €3 million within 12 months. Otherwise, the platform must apply to the CNB for authorization to operate as a ‘payment institution’. Then, the transaction limit is not set and payment services can also be provided cross-border within the European Economic Area (Portál veřejné správy, 2017).

All platforms mentioned in this thesis, which operate in the Czech Republic, have registration as small-scale payment institutions. It is likely that in some of the companies it will be necessary to re-register into a payment institution in the next few months, due to exceeding the threshold of €3 million over the last 12 months.

6. PARTICULAR FEATURES OF PEER-TO-PEER LOAN MARKETS

6.1. Secondary Peer-to-peer Loan Markets

Majority of established platforms have a secondary market for P2P loans. In the secondary market, investors who already have existing investments in a loan of a particular borrower for certain may offer (or in other words re-sell) their investment to other investors and thus waive future annuity payments at a given bid. This provides the investor who is tied in a loan with long maturity day with liquidity.

In the secondary market, it is only possible to place your entire exposure in one loan – you cannot cut it further. I.e. you cannot sub-divide the loan into several possible investments. As a rule, the investor chooses from his portfolio of loans that he does not want to hold a stake in and puts them in the bank. The treasury collects all the exposures offered and displays basic information regarding the borrower. A potential buyer sees the borrower's re-payment history so far and can better predict future developments and assess the risk profile of the borrower.

Loans are offered for sale (or 're-sale') for a limited period of time. During this time, until the sale of the loan, all received payments belong to the seller. If the payment arrives, the price of the offered loan is reduced by this amount. During the sale period, the amount of the aliquot interest yield is however not reassessed and the purchase thus becomes more advantageous for the buyer every day. Settlement usually takes place immediately, with certain platforms applying the D + 1 rule (day of settlement + 1 working day). Upon the sale, additional transaction costs arise for investors. The platform usually charges a commission for the deal. The fee is payable by the buyer, the seller (i.e. original investor) or both, with the practice varying widely across the platforms. The commission rate usually falls somewhere around ±0.2% of the current value of the debt sold.

In Europe individual loans are commonly re-sold and in the United States these already traded on the secondary market with the Borrower Payment Dependent Notes. In the United States, therefore and as a consequence of the regulation the platforms are a secondary bond market, the payments of which depend on payments from the debtor.

If the platform permits, loan fragments are sold at discount, premium or vapor. All three possibilities are commonly used in practice. The original credit rating of the borrower is not changed in the course of time to reflect their present financial situation, so discounting and bonuses are an appropriate tool for accommodating the borrower's state of affairs. Some platforms only allow the sale of loans with a higher rating or only those that are not in default. The first option is to sell the loan at a price corresponding to the original yield and to the maturity date.

Secondly, sale at a discount is a possibility where a single investor's loan is sold at a lower price than the sum of all future loan payments discounted at the interest rate agreed upon when the borrower's money is provided to the borrower. The buyer invests in a loan from which he should earn higher than the originally agreed interest at the expense of the original owner. Discount is typical for situations where the original investor needs to raise money as quickly as possible and is willing to give up part of the proceeds to make the deal fast. Furthermore, this may also be feasible in the event that the market interest rates have shifted upwards and the market price has to be reduced, or if there is a delay in the repayment and omission of certain payments by the debtor, and the timely and proper repayment of all future payments is therefore jeopardized. Some platforms with partial debtor defaults do not allow sellers to sell any loans on the secondary market and the current investor must keep them until the loan returns to the proper state (all late repayments are repaid and are now paid properly).

Thirdly, the premium is used where an investor wants to sell a loan at a higher price than the sum of all future loan payments discounted at the interest rate negotiated when the borrower pays the money. The buyer thus invests in a loan from which he should receive less than the interest initially agreed and to the benefit of the original owner. With premium sales, the original owner of the loan can get an extra return but finding an interested buyer may prove more difficult. Such a sale may happen if the market interest rates have shifted downwards and the price has to be adjusted to offset market interest rates. Another option is to reduce the debtor's risk and move it to a higher rating. This is rather a theoretical possibility, since from the investor's point of view we cannot assess the improvement of the debtor's situation, since we do not have access to this information. In practice, this is a situation where very low-rated borrower has paid installments on time and relatively little sum remains to be repaid – in such a scenario the investor can assumed that the debtors risk profile is perhaps not so risky.

Discounts and premiums in moving market interest rates play an important role in the longer term. The economic cycle and the absolute value of interest rates in the economy determine demand in the secondary market mainly through alternative investment opportunities. With the economic upturn and the associated nominal rate growth, there will also be a shift in the rate of return required by investors for individual rating grades. The whole situation can lead to the use of larger discounts on older loans funded at low nominal rates, so that the yield for buyers is at a competitive level with regard to alternatives. The opposite situation will occur when the economy contracts. There will be a fall in interest rates and in the secondary market, loans should be traded with a premium. However, the problem of economic downturn is the increase in delinquency on the part of debtors, as unemployment will rise and wage growth will stop. Loans do not need to be traded when the economy is contracted with a premium, a higher interest rate will compensate for the rise in the default rate or will still be trading at a discount, as general uncertainty will grow.

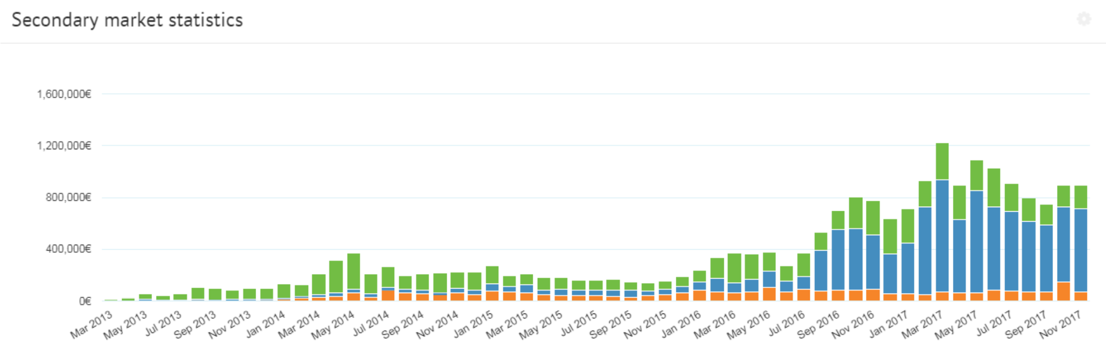


Figure 10: Bondora secondary market statistics (Bondora.com, 2017)

In Figure 10, we can monitor the development of the secondary market on the Pan-European Bondora platform. The secondary market was launched at the beginning of March 2013 and to date has witnessed dynamic development. Altogether, nearly 330,000 shares in the value of €6.5 million were traded, representing around 12% of the total nominal value of the loans granted over the period of the platform's operation. The most traded loans are those which during the course of their existence had problems with timely instalments payments. Some debts show more than 100 shares. From an analysis of Bondor's historical data, the following conclusions have been drawn. Firstly, Only 20% of investors' offers are traded as a result. The price of the offered loans ranges between -99% (maximum discount rate) and +40% (maximum premium limit) but in these extreme positions there is rarely a trade closure. The average premium for all bids is 2.43%. The average discount for traded deals is 1.41%, and for bids left and unused within 30 days in the market, the average premium was 4.53%. It is clear that price is an important factor for matching supply with demand. Over time, the premium drops and the discount declines.

The use of the premium on the offered loan shares is a strategy adopted by a number of investors. They are constantly offering their entire portfolio of loans on the secondary premium market in the hope that some of the loans will be sold, with them accruing an instant profit. The risk of early repayment of the debtor may be complete. On platforms, debtors are not penalized for past payments, and when buying a premium loan, an investor may get into a loss if the borrower pays the loan without penalty for early repayment.

6.2. P2P Investment Tools

An automatic investment is an option available to investors who seek to instantly invest certain sums without having to manage their portfolio personally. In the case of majority of these platforms, this is a free service available to the investor upon subscription to the platform whose money is then invested in accordance with selected criteria. Generally speaking the process of using automatic investment integrated in P2P platforms may be divided in into the following several stages.

6.2.1. Filters

In the early days of P2P lending investors had to manually go through all the loans available and pick and choose their investments. Nowadays, instead of manually crawling through the whole range of loans, the investor may set filters based on the specifics of individual requests. The criteria include the values of interest rate, borrowers rating, debt-to-income ratio, borrowers’ income, the maturity date and other data. The filter will then automatically list all requests that meet the criteria, saving the investor significant proportion of time. Consequently, the investor goes through only very small circle of exactly matching requests and manually invests.

6.2.2. Portfolio tool

Portfolio tool is a support tool for investors, which works in similar manner to filters. These tools are intended for investors who want to invest a larger sum of money in one-time loans in precisely specified credit applications but do not want to go through them manually. The investor chooses the total amount to invest and the maximum amount that can be allocated to one single investment at a time. It then filters current requests according to specified parameters and invests in bulk after manual approval without passing through individual requests.

6.2.3. Portfolio manager – investment autopilot

Portfolio manager or so-called 'investment autopilot' is a further option available to ease investors the process of using P2P platforms. Investor sets the parameters of loans to which he is willing to invest or chooses a predefined portfolio (conservative, balanced, dynamic). After deployment, the available funds are invested and after the repayments received, the portfolio is further automatically diversified by reinvestment according to the parameters. An investment autopilot, in which it is possible to set all available loan parameters, can lead to a premium income. An investor, after analyzing the historical data available, can trace certain tendencies and project them into portfolio manager settings. Investor has to only approve the autopilot with the remainder being done automatically. An example of this tool is showed on Figure 12 below.

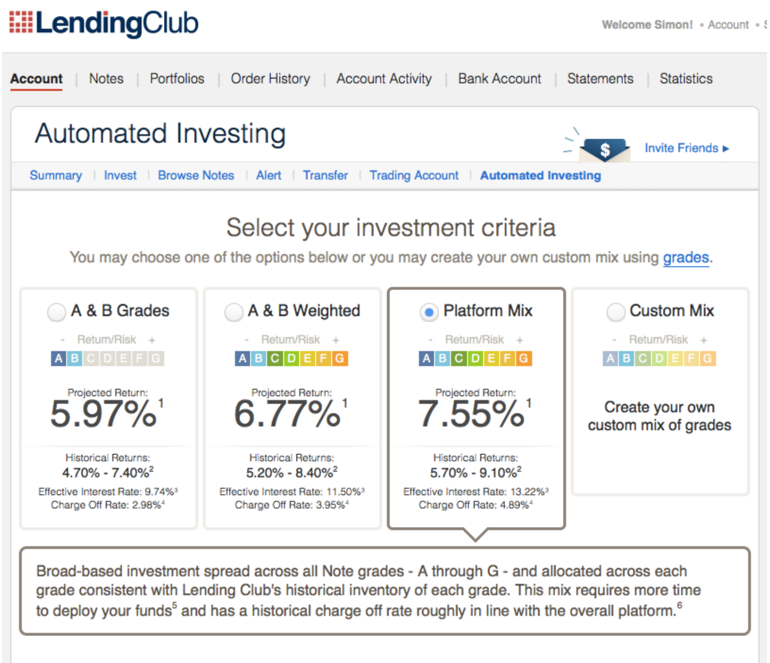


Figure 11 LendingClub Investment autopilot showcase (Lendingmemo, 2017)

6.2.4. Investment funds and managed accounts

Certain platforms further provide the possibility to invest in funds managed by the platforms. This option is by and large suitable for passive investors who aim to invest large volume of money.

Certain foreign platforms also enable connection to the platform system through the so-called API41. The investor can thereby create his own investment autopilot or use external servers specializing in investment in P2P loans through the API. With increasing competition, the chances of manual filtering are reduced by getting a poorly rated requests to obtain a lower risk loan than the rating. In the United States, requests are displayed in batches at the specified times and within seconds, those with the greatest potential are almost completely funded through the API channel. This high-frequency trading may, in the long run and if not regulated, eliminate small investors seeking to invest manually.

As soon as new applications are displayed, the investor's computer evaluates on the basis of the set scheme the opportunities that are likely to be inaccurate with their rating and the applicant would pay more interest than they would if the market was effective. In the meantime, these loans are financed and occupy a place in the investor's portfolio.

7. PEER-TO-PEER LOANS FROM THE PLATFORMS' PERSPECTIVE

The establishment of P2P platform may prove quite problematic and given the relatively early days of the industry development, significant capital investment is required to get the platform up and running before it becomes self-sufficient and generates income to its owners.

The consumer credit and alternative finance sector is a very competitive business area. On the one hand, there are banks with their product portfolio and, on the other hand, non-banking companies with a lower level of regulation. Both sides fight for the client, trying to obtain favourable interest rates, zero fees, early repayments and other features of their products. Everything is accompanied by massive advertising campaigns across all communication channels.

7.1. Revenue

The primary source of platform revenue are fees.

7.1.1. Transaction Fees

These fees form a reward for the platform for listing of the borrowing credit and making pushing their potential loan on to the market. This is the principal charge paid by the applicant. The amount of the fee is sometimes fixed across all loans. Other platforms have variable levels of fees which reflect the maturity date, interest rate, etc. Charges commonly set up in number of units, i.e. percentage, of the nominal amount of the loan. The platform further receives transaction fee where it operates a secondary P2P loan market.

7.1.2. Service Fees

Investors pay for each payment received from the loan repayment or from the balance of the investor account each month on the basis of the nominal value of the loans.

7.1.3. Entitlement Fees

When paying the due amount, the platform keeps charges for sending reminders, and often takes a commission on the amount paid out, these fees mainly apply to the European continent.

7.1.4. Fund Management Fee

Qualified investors, when using the passive investment option with a fund managed by an investment fund, pay a portfolio management fee of around 1% of the total value of portfolio.

7.1.5. Income from contact sales

Contacts to applicants who do not pass the scoring model are sold to other companies with more relaxed criteria. This is then further reflected in higher interest rates on those loans in which these companies specialize, which our outwith the scope of this thesis. In practice, if the applicant fails to obtain the loan (if he or she fails to pass through the scoring stage of platform or the loan is not being financed) then the applicant will likely be offered an alternative financing option from a different provides. This offsets the cost of the credit management platform, including the payment of debts to investors and the maintenance of investor accounts. These fees vary in low percentages.

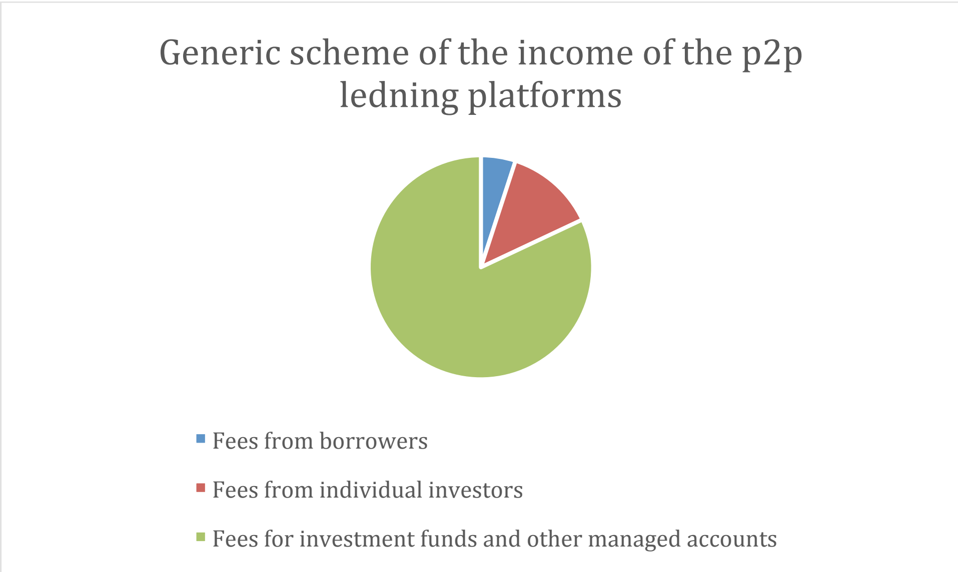


Figure 12: P2P platforms income (Lendingclub.com, 2017)

As can be seen in Figure 13, the majority of P2P platforms' revenues stem from transaction fees, which mainly include commissions for credit intermediation. Only about 10% of total income is a fee from the value of the investor portfolio. We can observe the strong dependence of platforms on mediation of new loans, this revenue accounts for around 90% of the total. With the decline in economic activity in the economy and the resulting cooling off of the pace of new lending, there could be a profound fall in revenue for the platform.

Compared to 2014, the two platforms monitored had roughly doubled the number of new loans. The current year reflects only mediation of new loans on the side of transaction fees, but the service fee is a fee from the total value of the outstanding debt - investor's investment. However, service charges are rising dynamically and increasing each year's share of the total income of the platform. The total income of the Lending Club in 2014 amounted to 429,943,000 USD and 229,903,000 USD for the Prosper platform.

7.2. Expenses

7.2.1. Sales and marketing costs

P2P loans are still something new in market perception and for many investors and applicants P2P lending is unknown. In fact, majority of population does not know about the broader term crowdfunding either. According to a research carried out United Kingdom Government Department for Business, Innovation and Skills in the UK where crowdfunding market is one of the largest it was known only by 27% in information/communications and 26% in business services. Those aware of crowdsourcing were most likely to have come across it through internet searches (21%), articles in the media (19%) and by word of mouth (17%). Therefore, the platform has to spend considerable money on the market for consumer credit and on the investment asset market.

7.2.2. Loan approval and administration

These costs consist mainly of the salaries of administrative staff approving new loans and communicating with clients.

7.2.3. Product development and platform development

P2P platforms stand on the Internet and work of web servers. Creating primary and secondary markets, automating processes, improving data accessibility for investors generate fixed costs, unrelated to the volume of transactions and burden the platforms.

7.2.4. *Other operating costs*

Other operating costs are related primarily to the fees of lawyers, accountants and other employees or external companies. These costs are of a similar nature to that of regular business activities.

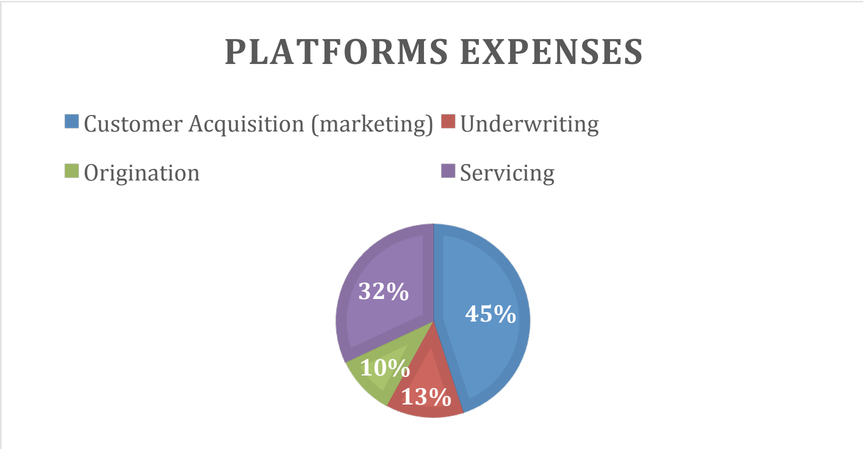


Figure 13: Platforms expenses (Seekingalpha.com, 2017)

As illustrated in Figure 14, the biggest cost item, almost 50%, for any platform is spending on marketing and acquiring new clients. The very aggressive marketing strategies commonly adopted by P2P providers aim to strengthen the brand and take the largest share in the consumer loan market. Overall, 8% and 18% of total costs are invested in the development of the platform. These expenses should help to improve the user experience and are thus an investment in already acquired clients. The approval and management of credit points show the platform's cost-effectiveness. When the platform grows, the cost of this item should grow at a slower pace, which is happening over time over both platforms, meaning economies of scale.

7.3. Profitability of the industry

Overall, some of the biggest players on the market – the Lending Club and Prosper – are not currently earning profits. They show long-term loss with occasional fluctuations in profits. This is mainly due to the aggressive strategy focused on market share growth. All sales above the necessary operating costs are invested in platform development and marketing. Only short trading history is available for the Czech companies. This is because Zonky and Benefi only have their second year of operating behind them. Only Bankerat has been on the market for nearly 6 years, and in recent years has earned a profit of millions of CZK, suggesting that the successful market players are likely to be profitable in the long-term.

8. INVESTORS' PERSPECTIVE ON PEER-TO-PEER LENDING

8.1. Investment strategy

The first and foremost aspect the investor which seeking to invest his or her funds should take a look at is whether there is sufficient diversification of his portfolio. That is not only from the point of view of the number of P2P loans, but also the homogeneity of applications and diversification over time. I.e. when investing in P2P loans, these should only form a part of all investors portfolio. Thus, other assets should be invested by the investor in alternative forms investment (such as for instance equity), based on his risk aversion and likely future needs. This is not to say that the investor should not invest a lot of assets into P2P lending. Rather, the investor should start investing with substantial amount of funds in order to diversify his P2P loans portfolio sufficiently right from the beginning. Or at least every month add more funds for the flow diversification.

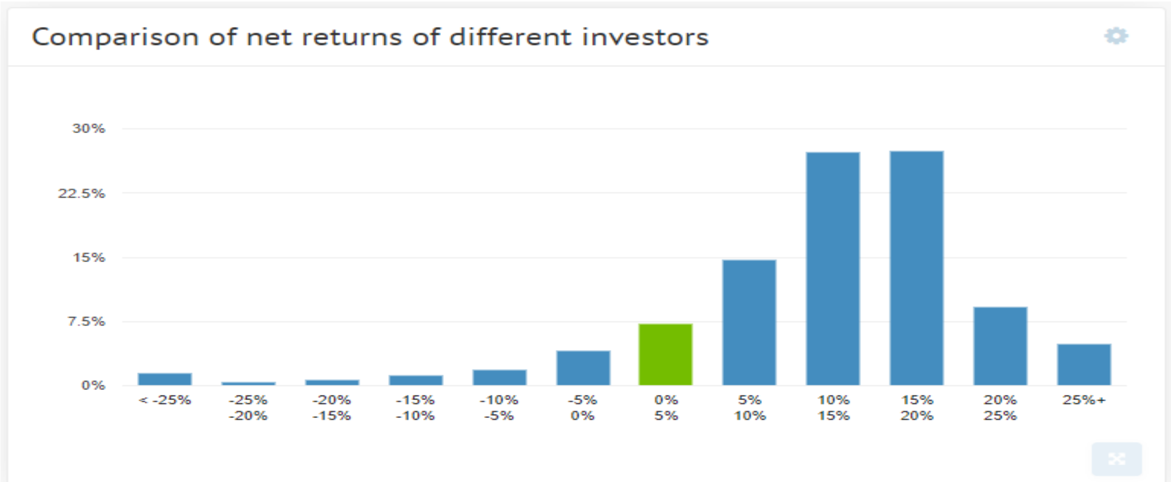


Figure 14: Comparison of net returns of different investors over the past 36 months – with no minimum portfolio investment (Bondora, 2017)

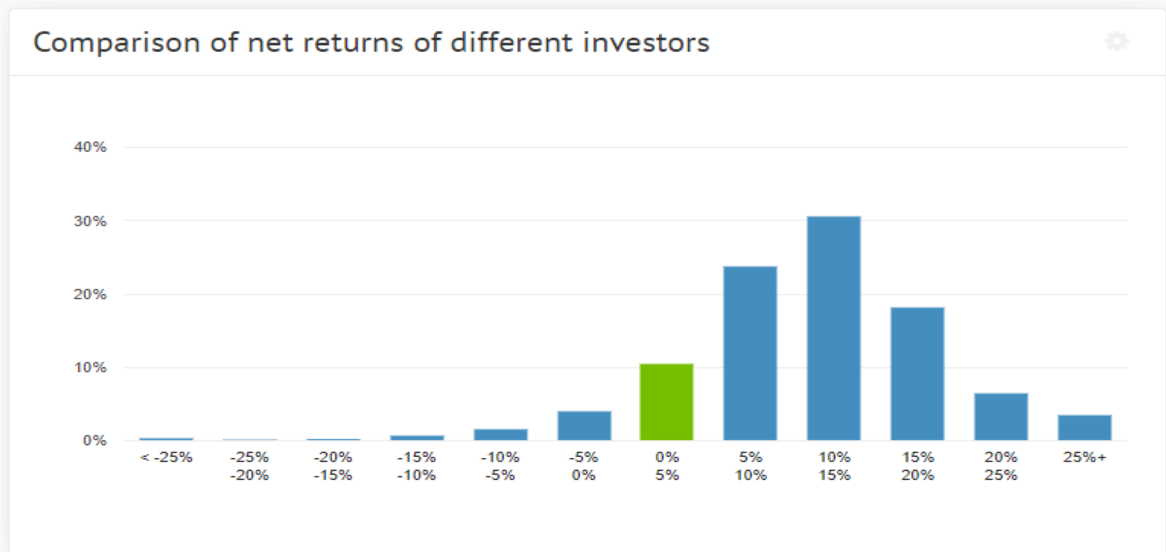


Figure 15: Comparison of net returns of different investors 10/2017, past 36 months, 1000€ minimal portfolio investment (Bondora.com, 2017)

On Figure 14 and Figure 15 above we can compare net returns since October 2016 over past 36 months. On Figure 14 there is no minimum value of the portfolio and the total sum of the investors who had 0% or negative return is 9.4%. On Figure 15 the investors with minimum €1000€ in total have been filtered out and the amount of investors who had 0% or negative return has dropped to 7%. If we took only the investors with total amount of €10000 or more invested, there is less than 3% of them ending up with no or negative return. In general we can say that with the higher amount of the investment, we can see high diversification, thus less risk losing the investment. There is about 88% of the investors in the 5-25% range of return on the investment.

Portfolio profitability

	Amount issued (€)	Interest paid (€)	Principal overdue (€)	Gross profit (€)
AA	2 018 584	210 518	6 767	203 750
A	4 315 950	816 618	75 219	741 399
B	13 161 904	2 415 292	400 176	2 015 115
C	20 074 954	4 385 718	806 393	3 579 324
D	19 901 142	4 779 530	1 316 630	3 462 900
E	15 926 542	3 734 438	1 336 348	2 398 087
F	11 255 987	2 880 447	998 758	1 881 689
HR	20 425 520	4 952 020	3 525 211	1 426 808
-	1 747 392	523 943	67 486	456 456
∑	108 827 975	24 698 524	8 532 988	16 165 528

Figure 16: Portfolio profitability statistics 2009-2017 (Bondora.com, 2017)

On Figure 16 we can see portfolio performance of Bondora company overview in absolute numbers per risk rating. Principal overdue is calculated by adding up all principal payments that loans have missed till date. No future assumptions for overdue payment and interest are made on payments that have not matured.

As seen above, it is therefore not only important to spread the assets among higher amount of the loans but also to not to spend much in one particular loan. General rule of most successful investors is spending at most 1% of your funds in one loan and also spreading your investments over time, instead of spending all your funds during one period.

A potential risk directly affecting the return of the loans is the financial health of the platform. The most common alternative reducing this is indirect investment, when the investor concludes a contract with a platform, not with the debtor. This however, inevitably exposes the investor to the risk of platforms' default. The only protection against this is then the choice of sufficiently decent platforms. Practical implementation is then further complicated by the fact that loans are provided with a maturity of 3.5 or even 7 years and it is practically impossible to predict the development of the company's business for a long time. I.e. given the relatively early days of the industry, it is difficult to know where P2P loan providers will stand in for example 5 years time. Everything is further complicated by the high volume of money going from platforms into advertising and system development, causing a loss to most platforms in the early stages of running. The solution is thus to carefully choose the platform and again to invest only a proportion of your financial assets into P2P platforms – commonly the advice is to invest a total maximum of somewhere around 10% of persons' total net assets. A prudent investor may also take up the opportunity to try invest across multiple platforms and diversify the credit portfolio across the market, however, this requires again substantial capital and time.

8.2. Liquidity

Liquidity may be of a concern for the investor, particularly where P2P loans have long maturity dates. In order to increase the liquidity of P2P portfolio, several general steps may be taken.

Firstly, the repayment or term time of the loan is known to the investor prior to them choosing to invest. Consequently, an investor cautious about liquidity of his or her assets can simply choose loans with short repayment periods. P2P platforms commonly offer loans with term time of several months or one to two years. This enables the investor to access the investment relatively soon following the investment. On the other hand, unlike with the traditional banking loans, longer maturity loans commonly attract higher interest rates than those with shorter term time.

Secondly, as previously discussed, in some countries secondary P2P lending markets have already emerged. These provide investors with immediate need to access their investments with such a possibility. The liquidity of the investors' portfolio may be increased where the liquid secondary market, as this opens the doors to the possibility to sell its share with the low transaction costs. Where investors invest in smaller number of units at a time, i.e. commonly only the minimum amount required by the platform, the sale of their share on the secondary market is likely to be easier than in the cases of the investors selling their stake at a high nominal value.

9. OPPORTUNITIES FOR THE DEVELOPMENT OF P2P LENDING ON THE CZECH MARKET

Currently, the P2P lending market in the Czech Republic is at the outset. There are limited possibilities for both borrowers and investors in terms of alternative finance. Several providers have already begun their activities, whilst majority however only have some features of P2P loans as known in the United States or United Kingdom.

For trouble-free operation of the entire P2P system, four basic conditions must be met. Firstly, the legal environment must enable the activity as such. It is also necessary to have an economic climate of investors willing to lend their funds and applicants who are willing to become indebted. There must be a trusted online server which acts as the intermediary – i.e. the online website which matches investors with lenders. As discussed in the above chapter, the legal environment creates the possibility for operation of such platform in the Czech Republic given the large non-regulation. Therefore, the other remaining key requirements for running of a P2P platform will be discussed.

9.1. Investors

Even where all other aspects of setting up a P2P lending platform are met, the purpose will be defeated if there are not enough investors willing to invest their assets. The investment climate of the Czech market is thus a key consideration. For these reasons, the current state of savings of Czech households and investment attitudes are now outlined.

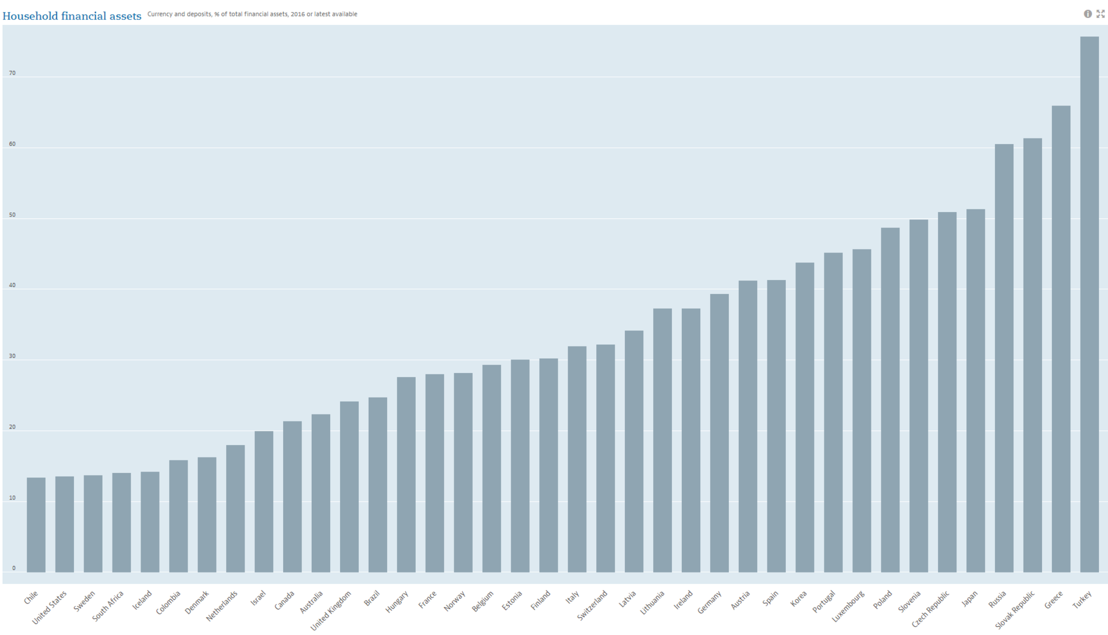


Figure 17: Households financial assets, currency and deposits, % of total financial assets (OECD, 2017)

The Czech Republic ranks among the developed countries globally, as well as among those with the highest ratio of deposits relative to the total financial assets of households. The value is almost 51% and is the fourth highest, just after Slovak Republic and Greece, as shown in Figure 17. These deposit, composed of balances on current accounts and term deposits, have high liquidity and low yield. For consumers, this is the simplest form of allocation of funds. The risk is low, as deposits up to €100,000 are covered by the Deposit Insurance Fund. Interest on these deposits is very low, on current accounts almost 0% per Annum. In savings accounts the value only several banks give 1% per Annum. These rates are a reflection of very low interest rates across the economy.

Deposits should be used primarily for transactional and cautionary motives. It seems that Czech households are risk-averse and do not want to invest unnecessary surpluses in more profitable assets. Other factors may be distorted in the past, in order to effectively protect the rights of external investors. Trust is needed for sufficient demand, especially after long-term investment instruments such as securities and pension funds that hold the assets for decades. Furthermore, low financial literacy, i.e. the inability to properly analyze market conditions and choose the right financial assets to allocate their savings plays a crucial point.

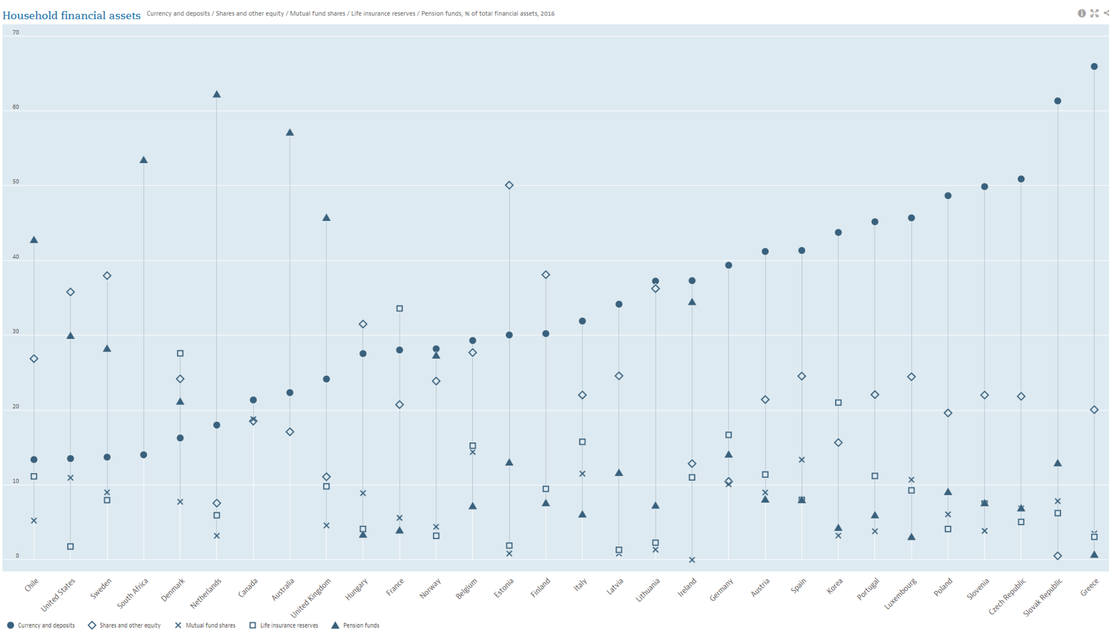


Figure 18: Households total financial assets composition (OECD, 2017)

In addition to 51% of the deposits, the household savings are also allocated to pension funds. Especially in the Czech Republic, the performance of pension funds is very low. Overall, 95% of all pension fund contributors save in transformed funds that guarantee a non-negative return each year (potential loss is to the detriment of the owners). This results in a very conservative, low-yield investment strategy. Only 5% of participants save in new participant funds that already offer an investment strategy option and there is no need for positive appreciation. But only 7% of these participants (i.e. 0.35% of all contributors) opt for a dynamic strategy that yields between 5-12% in 2014.

The share of investment in life assurance is relatively small (around 5.5%), yet for many households the main source of retirement age is outside the retirement age. The real investment performance of this instrument is often very low, sometimes in fact negative. There is also considerable information asymmetry (complex fee system, aggressive insurance vendors, unclear insurance conditions).

Non-equity securities increased their share especially in recent years (after 2011), when several state savings bonds were issued. Even in this case, the real investment return is only 1 to 2 % points above current account interest rates.

Tradable and non-tradable shares accounted for less than 22% of households' financial assets in 2014. Of these, 94% are unquoted shares and other equity in the hands of business owners owned by only a limited number of people and their owners do not have the free circulation of shares. Direct investment in listed companies accounts for only 1.17% of the total financial assets of households, 55% of which have sufficient liquidity to be exchanged for money at relatively low costs.

Investment funds (accounting for 5.5% of households' financial assets), thanks to a large number of small investors, can diversify their portfolios to minimize the unique risk. In addition, portfolios are managed by professionals and economies of scale are achieved. Households have access to assets that they would not have access to as individuals alone, such as real estate, foreign securities, financial derivatives, etc. The potential yield here is one of the highest in relation to the other instruments that have been so far mentioned.

Other financial assets of households consist of loans, financial derivatives and, above all, other receivables, consisting of commercial loans and advances for supplies of goods and services from business enterprises.

The overall composition of Czech households' financial assets is not ideal. Figure 18 demonstrates that deposit products are the key instrument for Czech households, as opposed to, for example, US and UK, which have a larger exposure to securities and collective investment funds (investment and pension funds). One of the reasons why these assets are preferable is that because the yet to transformed pension system is still dependent on on-going governmental funding, thereby creating resulting reliance of households on the State. It can be assumed that with the growth of household wealth, there will also be growth and demand for more luxurious financial assets that are undoubtedly shares and other forms of investment. If it is abstained from a narrow group of business owners (non-tradable shares), then only about 7% of households' financial assets are invested in more profitable and longer-term investment vehicles.

Let us suppose that the chart above contains a sample of the so-called middle class – it can be assumed that low-income households in the so-called working class have almost no financial assets and the richest households, i.e. the higher class, are mostly owners of companies. We are here to look for "loopholes" among the wealthiest members of society and others, since only business owners participate in the development of the economy, i.e. the growth of labour productivity, technological innovation, the growth of individual sectors or firms, and they achieve considerable income from capital. While the middle class invests its capital only in financial instruments that are liquid and low-risk, unfortunately, in the long run, it is hardly overcoming inflation, and almost zero real yields do not distribute the wealth of most Czech households.

As established above, the space for growth in investment in P2P loans on the part of investors is therefore significant. The potential return assuming these will likely match the current rates in the United Kingdom or the United States of America, would be attractive for the investors. Moreover, P2P loans could be for most investors a way of diversifying their loan portfolio sufficiently within the range 5-10% and realistically value investors' resources. The fate of P2P as regards this aspect of P2P loans therefore lies in the hands of the first platforms in the market and turns based on whether providers can gain the trust of surplus households and bring them a sufficient appreciation of the money.

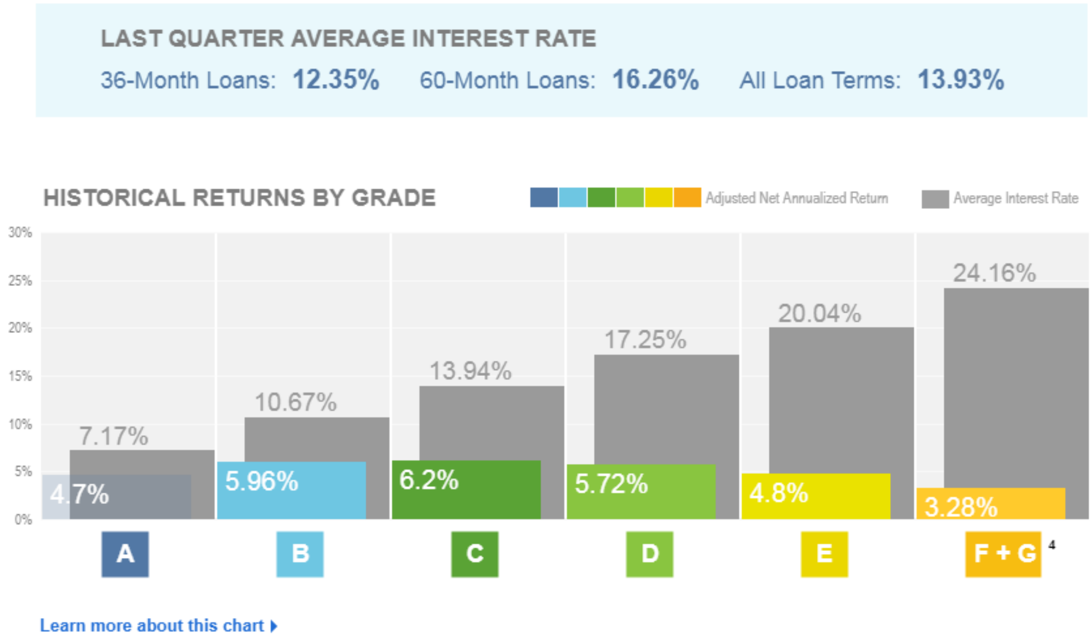


Figure 19: Interest rate based on rating by Lending Club 3Q2017 (Lendingclub.com, 2017)

Figure 19 provides the historical returns on loans in Lending Club by rating for loans that are older than 18 months. The figure clearly illustrates the spread between the average interest rate of the loan and that of P2P loan and that the final return on investment for the P2P investor increases. This spread marks the increasing rate of defaults.

For rating A, an average of 2.47% of the total amount to be repaid is not repaid. For ratings F and G this value is 20,88%. The default rate is suitably offset by a risk-adjusted interest rate surcharge, so the end-up yield for an investor is rising with increasing risk. The overall volatility of individual loan yields increases with the rating, and for investments in lower rating grades (E, F, G), more diversification is needed to minimize the unique risk. Furthermore, it can also be assumed that the change in the economic cycle occurs at this riskier end in a larger rate to default, so yield is more variable over time.

Sufficient liquidity, which could be a strong argument in the future for Czech households to enter the P2P loan market, is also achievable given the possibility to invest in the secondary loan market, which are implemented at most platforms abroad and will likely be launched in the Czech Republic in the near future. Investors can thus sell their portfolio in a relatively short time. The rate of transfer of loans to available funds is a function dependent on several variables.

One is the further considerations is the liquidity of the entire platform. In the case of a large number of investors with sufficient cash, it is likely that offers on the secondary market will be easier to monetize. Another parameter is the attractiveness of individual loans in the portfolio. Of course, loans that are always repaid in time, with only a few repayments to full repayment, are demanded among investors logically more frequently than low-rated loans, which often result in late repayment or loans with still long to go. The popular tool for accelerating the sale of loans is the possibility to adjust the amount of the loan at the secondary court for a discount.

Investors, however, may not only be the households. A large development abroad is also evident amongst institutional investors, businesses and the state, who are increasingly more involved in the P2P loan market. In fact, restrictions on institutional investors have to be applied abroad, as these could potentially take over the whole market for investment in P2P loans.

Among Czech households, P2P investment is thus a promising investment asset. It is a question of breaking down the prejudices and overcoming uncertainty from the unknown in most surplus Czech households and leading them to grow the P2P loan market to expand their portfolio of financial assets to this segment at the expense of, for example, deposit products.

9.2. Loan applicants

The development of the P2P loan market is dependant and affected by other participants in the credit market. Therefore, it is necessary to define the potential market and analyze its individual aspects in both the banking and non-banking sectors.

The exact quantification of the relevant market is complicated as a consequence of the operation of a group of non-bank consumer credit providers who are not members of the Czech Leasing and Financial Association of non-bank consumer credit providers. In addition, different methodology for measuring the volume of loans between the Czech National Bank and the CLFA is used. The Czech National Bank measures on the basis of the state (initial loan balances + new loans - repayments) whilst the CLFA reports only cover newly granted loans, data are reported only in circulation.

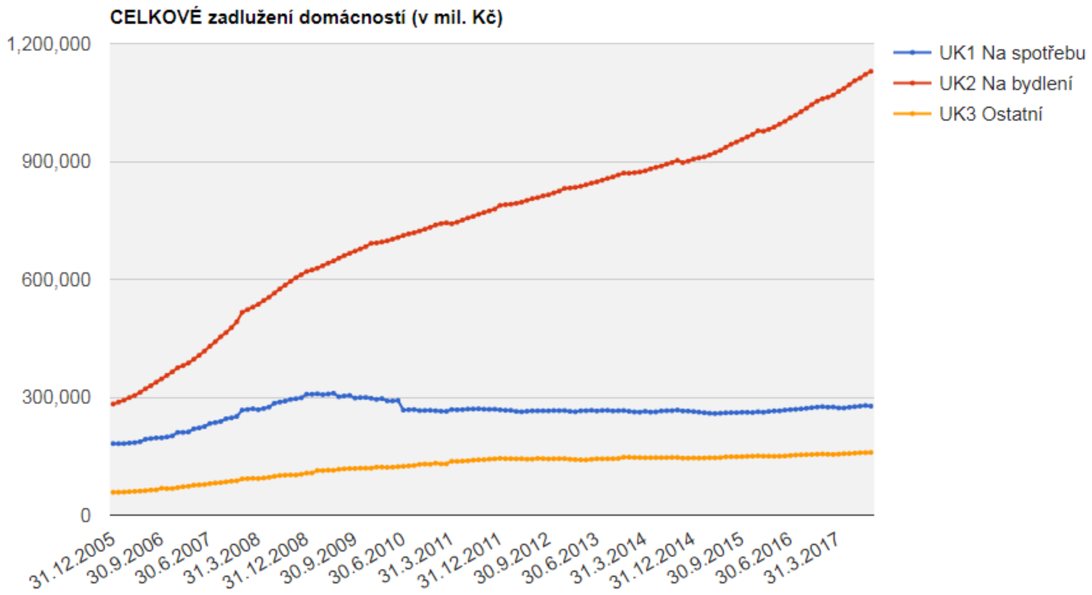


Figure 20: Total Indebtedness of the Czech households (CNB, 2017)

Figure 20 shows the size of the household loan market in the Czech Republic. Household loans consist of mortgage loans, building savings loans, and other loans to finance housing. This segment is often characterized by a lien on property, and long maturity dates (commonly in the range of decades) and relatively low interest rates set by the financial institutions providing money, given that the risk is reduced by the collateral (i.e. most commonly by standard securities on the property). Mortgage loans reach a minimum value of 200,000 CZK across the market. Financial institutions make full use of financial leverage, as they are mainly financed by deposits, which are a very cheap source for them. And so, even with low interest margins, if the default rate is small, they can achieve sufficient return on equity – this is something not available to P2P platforms. Another impediment to the growth of the P2P segment is the long maturity of the loans. The willingness of investors to invest their funds over a long period is lower due to low liquidity. The secondary market of loan may however increase the attractiveness of P2P, as it would then be probably possible to sell all parts of the loan to new investors during the duration of the loan.

The opportunity for P2P platforms can be seen in the housing loan segment for loans of below 200,000 CZK that are rather unusual for the banks and other institutions. Housing needs up to 200,000 CZK are mostly financed through consumer credit at real estate or building savings loans. The interest rate is higher than that of mortgage loans and also the maturity is in units of years. Another space that may be filled by the P2P platforms is to finance the purchase of real estate, in scenarios where the borrower is able to personally finance 80-90% of the loan or can obtain mortgage loan but does not have sufficient funds for the remainder of 10-20% of the property value. The remaining amount is currently routinely financed through consumer loans or bridging loans building savings. Other loans on the Czech market also include loans granted to self-employed persons for business purposes.

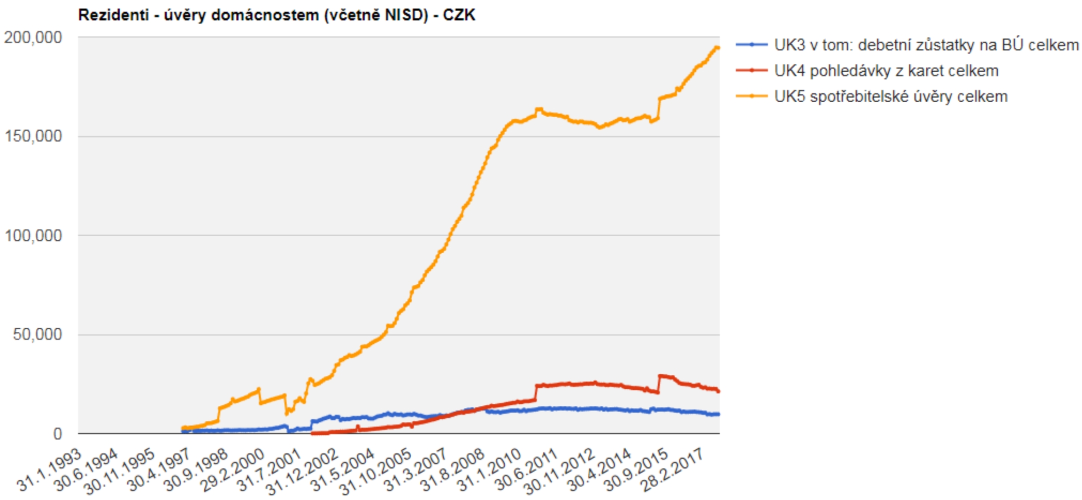


Figure 21: Loans issued by commerce bank 2/2017 (CNB, 2017)

Consumer loans provided by commercial banks account for more than CZK 210 billion. The average interest rate on consumer credit reached 13.44% per Annum. Consumer loans are, in this case, composed of dedicated consumer credit, which issued directly to buy selected asset. The interest rate is usually lower and maturity may be longer. For non-purpose consumer loans, the client obtains funds for use at his own discretion. The interest rate is often higher. In recent years the differences between the purposeful and non-purpose loans have, however, been almost wiped out in its entirety.

For credit cards, rates are approximately double the standard consumer credit. The only reason is the approved drawdown framework, as well interest-free period. If there is a repayment of the debt in this period, there is no charge interest or fees. When the interest-free period is exceeded, however, the interest rate fluctuates between 10-30% per annum and this is usually in fact the highest rate in the bank's list.

Debit balances on current accounts are the sum of the amounts of negative balances on the accounts. These consist of allowed and unauthorized balances. Allowed balance is so-called overdraft, part of which is a negotiated amount that can be overdrawn into a negative. Interest rates are relative to consumer credit and are in the range of 8-25% per Annum. Unauthorized balances are burdened by relatively large sums for sending reminders and are interest-bearing by a penalty rate.

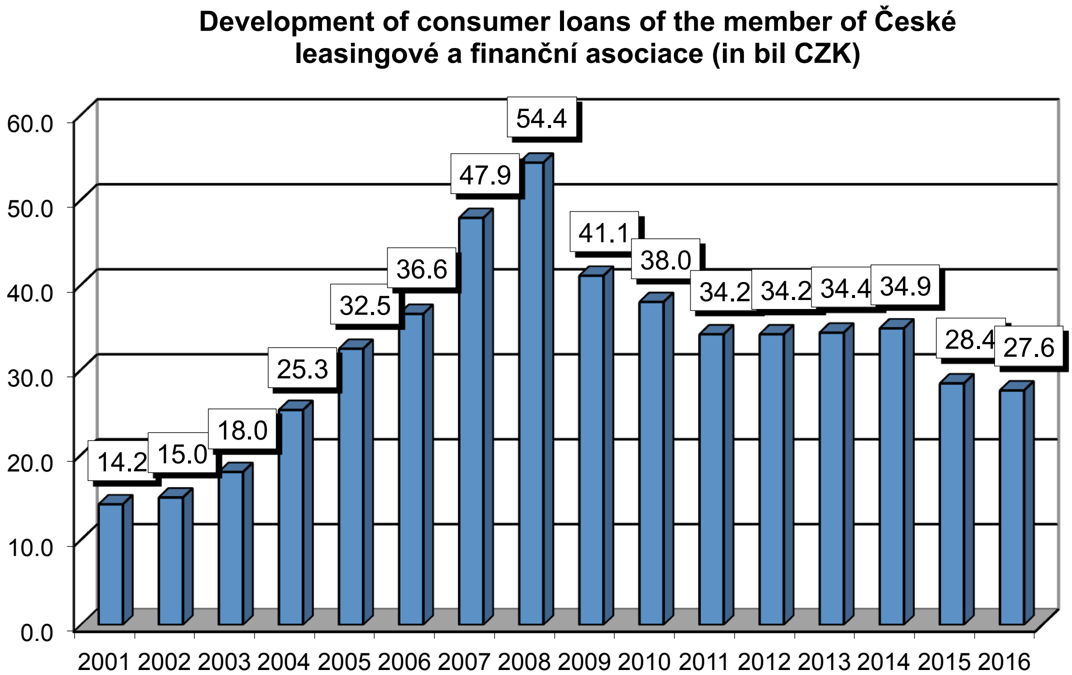


Figure 22: Development of consumer loans in the Czech Republic (CLFA, 2017)

Consumer loans are also provided outside banks by non-bank entities. Figure 23 shows the development of the total volume of loans granted. We can see dynamic growth of consumer credit up until the beginning of the financial crisis. In the following years, the sector has been dampened up to year-on-year declines. In the coming years slow growth is anticipated.

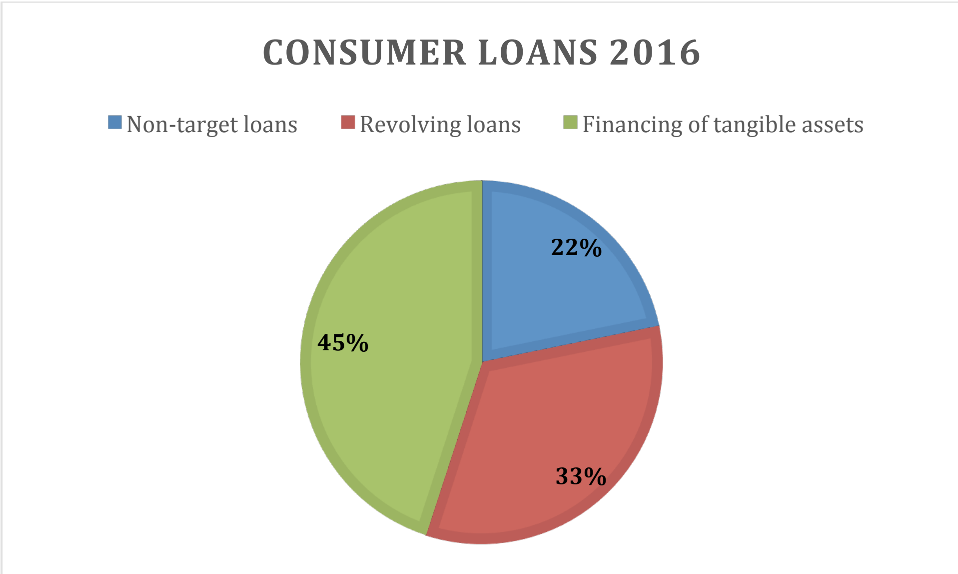


Figure 23 Composition of consumer loans in 2016 (CLFA, 20170

If we consider Figure 23 which provides relevant data for the entire non-banking sector with consumer loans, we can observe interesting tendencies in the non-bank sector of loans. Only 45% of the loans are purposeful, in most cases negotiated directly on the purchase of the goods. The merchant selling the goods concludes a contract with the debtor for the credit company. Credit the company is pre-given by the trader and competition in terms of the interest rate here disappears because the rate is clearly set. Most of these loans are to buy a car in a car dealership. More than a quarter are non-purpose loans. RPSN is comparable to that of the banking institutions. For short-term loans in the order of weeks, however, the APR is often several times higher. This is commonly disguised and as a consequence in the past, there has been a great deal of pressure on non-bank lenders for transparency conditions, simplification of tariffs etc.

The consumer loan segment, according to the above analysis, offers the greatest opportunity for development market of P2P loans. Interest rates are noticeably higher than for housing loans and thus providing space for potential investors investing equity without leverage effect.

Rationally acting borrower would seek a loan with the aim to spend as little money as possible in terms of costs. Not only the interest-related costs with the loan must be counted but also the time spent on finding the provider. However, in the case of the Czech consumer market the fear of the unknown is more significant. There is a strong influence of the media. A number of well-known debt providers can be regularly seen on the television, the Internet and other media resources and these commonly lead the market as they irrationally reduce the fear of unknown despite very high interest rates. The interest rate are commonly minor to certain irrational borrowers who go buy brand and not by the ‘deal’. Therefore, a successful P2P platform must be known in the company's a to act sufficiently solidly.

With the increasing financial literacy of the population, the efforts of borrowers to reduce their interest burden there is also a growth in refinancing of disadvantageous historical loans, payment cards and other loans. P2P loans could increase their market share easily, thanks to the low cost of the platform not having a branch network and operating only over the Internet. Furthermore, costs could be increased because the investors do not better investment opportunity in current macroeconomic conditions. Initially P2P loans should be used by more rationally acting loan applicants who can compare and appreciate lower credit costs for P2P platforms. With rising market share, P2P should then lend to those less rationally because as it becomes popular the fear of unknown is eliminated.

9.3. Platforms

Only a few sufficiently liquid platforms can be found on the Czech market, namely Zonky and Bankerat. All two are focused on households or financing of SMEs (the maximum loan amount available is CZK 600,000). Individual platforms vary with both core idea and implementation. Financial market development, industry regulation, competition and consumer behaviour are just several of the many factors that affect individual platforms in different countries of the world. However, a number of selected platforms will be looked at in order to provide a comparison to the current Czech market. The largest in the US are - Lending Club and the Prosper, the first p2p platforms in America as previously discussed. Further, there is the British Zopa, international a further systems from Estonia operating in several EU countries – Bondora and Benefi. Ultimately, however, because of the focus of this chapter on the Czech market, key consideration will be give to examination of the largest Czech P2P platform – Zonky.

9.3.1. Zopa

Zopa is operating on the consumer loan market in the UK, which is currently the most competitive market in terms of the number of P2P platforms. Number of platforms in the Great Britain has also led to the establishment of its own platform Union – for the protection of platforms and to defend their interests. The platform has low ratio of default with the average for the last four years less than 1%. But this also corresponds to a relatively low appreciation of investors' funds, which corresponds to 3.5 - 6.5% per Annum. In addition, the fund was set up to cover unexpected losses from 'bad' loans. To reduce risks and the use of the fund to cover losses, the investor must surrender the portion of the proceeds that are transferred to a non-profit organization from which it is drawn, if necessary. The amount of resources needed the coverage of losses is estimated based on historical default rates and the profile of new applications. Institutional investors play secondary role here, small investors are preferable. Only the remaining non-financed loans, especially risky one, are being offered to institutions.

Loans are provided very conservatively, and applicants are evaluated very carefully. Even the applicant with the lowest rating must have a minimum income at the British average income, must be at least of 20 years old and have a three-year credit rating history.

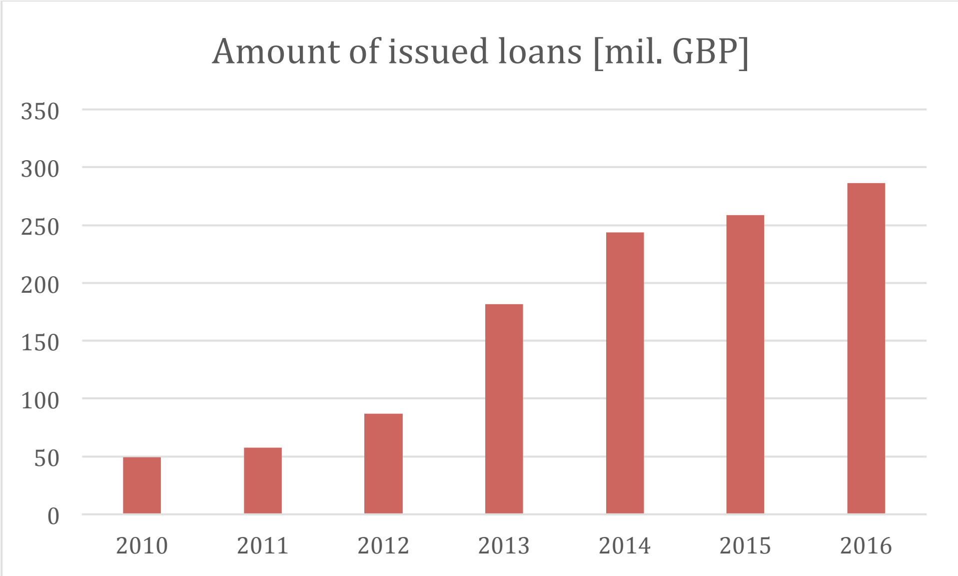


Figure 24: Amount of loans issued by Zopa (Zopa.com, 2017)

In Figure 24, we can see how the growth in lending has grown dynamically in years 2012-2014 slowed down in 2015 and continued with same trend in 2016. In the volume of newly provided loans, Zopa fights for the first place with other platforms, namely Ratesetter and Funding Circle.

9.3.2. Prosper

Prosper is the second largest P2P site in the world and is located in the United States. Just like other platforms in the US, it is subject to regulation that is different from that in Europe. There are two main channels for investors on the platform. The first is "NoteChannel" on which investors buy platforms issued bonds whose payment is tied to payments debtors. And the other is the "Whole Loan Channel" that allows accredited and institutional investors to finance the entire loan directly.

Even though the platform operates with loss, there are several strategic investors over the year entering the platform with the cash needed to keep up. We can expect to see their share appreciated in the future with the growth of the platform.

Compared to Zopa, Prosper has more relaxed conditions for the applicant. Just have a minimum FICO score of 640, have at least some income for the past year, a debt-to-income ratio of less than 50%, apply for a loan in the last 6 months to a maximum of seven times and not miss bankruptcy in the last 12 months.

9.3.3. Lending Club

Lending Club is the largest P2P platform in the world. Their shares are traded on New York Stock Exchange. The investors can invest starting at $ 25 in loans for three up to five years. The average rate for three-year loans is 10.73% p.a., for five-year 15.1% p.a. Investors can similarly like by Prosper invest in bonds, of which the payment depends on them borrower's payments on the entire loan. Investors can also invest in fund certificates managed by the Lending Club. The cash flow from the certificate then corresponds to the instalment of the instalment from underlying loans. The conditions for applicants are comparable to the Prosper platform.

LOAN PERFORMANCE DETAILS

ISSUE DATE START 2007 Q1 ISSUE DATE END 2016 Q1 UNITS Dollar amount

	TOTAL ISSUED	FULLY PAID	CURRENT	LATE	CHARGED OFF (NET)	PRINCIPAL PAYMENTS RECEIVED	INTEREST PAYMENTS RECEIVED	AVG. INTEREST RATE	ADJ. NET ANNUALIZED RETURN[1]
A	$2,481,932,450	$1,446,437,403	$323,305,544	$5,822,173	$52,600,636	**$2,099,925,350**	**$229,793,870**	7.17%	4.70%
B	$4,048,642,425	$2,213,469,108	$632,292,623	$24,054,244	$201,107,665	**$3,190,623,052**	**$589,774,375**	10.67%	5.96%
C	$4,129,791,100	$1,933,269,851	$746,109,195	$44,850,347	$371,126,994	**$2,967,095,465**	**$823,099,665**	13.94%	6.20%
D	$2,429,242,525	$1,060,178,235	$419,175,578	$35,702,033	$338,112,882	**$1,635,844,942**	**$604,932,355**	17.25%	5.72%
E	$1,444,368,900	$558,925,351	$266,922,434	$29,459,521	$271,658,656	**$876,179,639**	**$422,019,031**	20.04%	4.80%
FG	$635,686,475	$243,090,184	$94,260,992	$13,764,607	$162,340,298	**$365,277,837**	**$215,594,259**	24.16%	3.28%
All	$15,169,663,875	$7,455,370,132	$2,482,066,366	$153,652,925	$1,396,947,131	**$11,134,946,285**	**$2,885,213,554**	13.50%	5.56%

Figure 25: Loans overview by Lending Club (Lendingclub.com, 2017)

Lending club shares are not doing well at IPO. Since the initial subscription, they have lost two-thirds of their values. The problem of the platform is, despite the strong growth in sales, the equally strong growth in costs and therefore the continuing loss to owners.

9.3.4. Bondora

A European platform offering the opportunity to invest across Europe. For the most investors from different countries of Europe it is the most sophisticated server to invest in p2p loans. The whole platform provided loans for € 55 million.

Borrowers pay minimum interest 13.1%, maximum is not set, for credit in the worst rating, the minimum interest rate is 44% p. A. Investors from four countries in Europe (Estonia, Slovakia, Finland and Spain) can apply for this. Investors choose individual investments in the primary market, but this is only a small part, most are funded through the portfolio manager who invests according to the set strategy of the investors. Investors investing individually are thus left with only disadvantageous loans at a low rate rating. The minimum investment is five euros. Bondora has a very sophisticated secondary market, allowing sales with discount and premium or overdue debt.

Bondora has set relatively high fees. The borrower pays for the credit intermediation a one-time fee of 5.95% and a 2.6% per annum service fee.

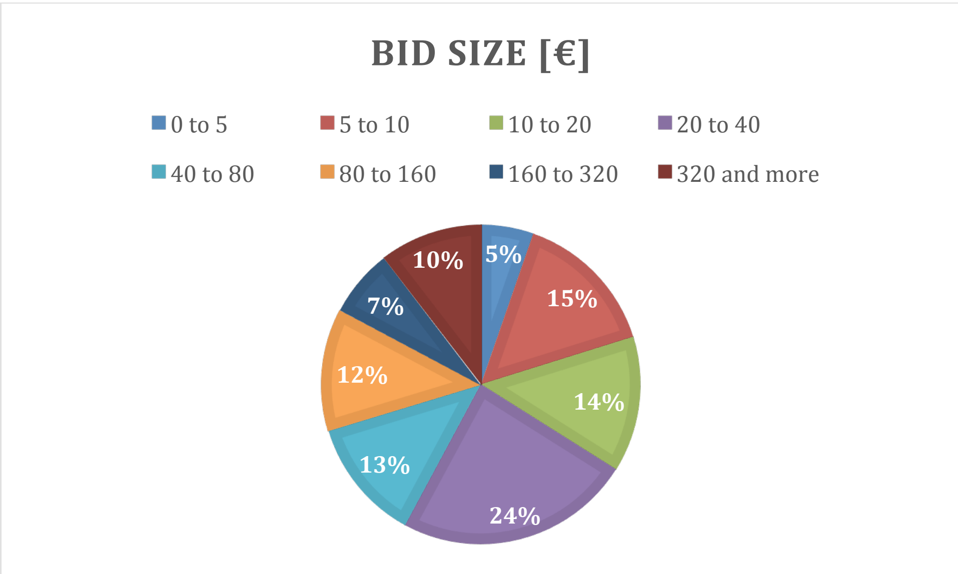


Figure 26: Bondora bid size (Bondora.com, 2017)

Figure 23 shows the distribution of investor investment sizes. The distribution appears to be uniform, but each item has almost twice the span of the previous one chart entry. For investments with a high nominal value, the investor must count the holding to due to the fact that the sale of the stake in the hundreds of euros is too much for a number of investors that the share does not bring a unique risk into the portfolio.

9.3.5. Benefi

The platform launched at the same time as Zonky has a different approach to p2p loans. Even though shows the lowest interest rate of 6% p. a. (APR 8.07%) on the bench, these loans practically they do not exist, the most common loans have an interest rate of around 20-35% per annum, here it can be debatable benefits in terms of the social aspect of P2P loans, as rates exceed the average bank rates from consumer credit and from credit cards. The platform targets applicants who would otherwise not get the loan. Alternatively, they want to refinance the existing credit, but they are in some parameters problematic, so they get the interest rate at tens of percent per year.

The investor does not pay any fees, but he receives 25% of the paid interest from the debtor. The investor is credited to the account as follows: amount = amortization + 0,75 * interest. When recovering Benefi accounts for 30% of the withdrawn amount

Initially, investors were allowed to determine the amount of interest they demand from the loan up to the maximum determined by the platform. Loan was not provided when 100% the required amount was collected, but when the set time has elapsed. Investment with the lowest required interest rates were ranked upwards, and all the bids that matched the required amount amounts were provided. Tenders that exceeded 100% and investors offered higher interest and investors have been credited back to the account. In practice, however, this system has not been successful, investors have not been able to evaluate sufficiently the risk and have been competing between each other for acquiring share and underestimate the risk of the debtor. In addition auction always lasted for 10-30 days, which discouraged a number of applicants finance earlier. For investors this meant a long fixation of money without appreciation and assurance that they will yield a return in the form of interest in the future.

The strategy set by Benefi has shown as ineffective and the company has been shut down on first of March 2017

9.3.6. Zonky

Zonky is one of several platforms operating on the Czech market but could be safely considered as the main one. Thanks to a strong investor the platform is promoted massively in the media, and the number of loans rises sharply. By the end of October 2017 it has provided 1902 million CZK worth of loans through the platform and in their loan market they focus also on personal stories and emotions. For now, the default rate is practically zero, but the platform is in operational for about 20 months, where most of the loans are issued for a longer peroid. Minimum investment in one the loan is 200 crowns, maximum 5000 crowns (Zotify, 2017)

The investor concludes a payment service agreement with the platform because Zonky is paying small-scale institutions, as well as a contract on participation in consumer credit. Money flows are then redistributed to investors according to their share of the total amount invested. There is not a direct relationship between the debtor and the investor, so the borrower's risk is further multiplied risk by defaults of the platform. The borrower concludes the contract only with the Zonky platform about the consumer credit.

The investor's fee is 1% per annum of the amount invested, the debtor's size is obtained amounts from investors are reduced by 2%, which flow to the platform. The debtor also pays charges at payment delays. With longer non-payment, the loan is repaid and enforced after the debtor as a whole. Zonky then charges 30% of the withdrawn amount at the expense of the investor's income. The Platform builds on investor emotions and publishes stories of applicants. Interest rates for debtors begin at 3.99% and are the lowest among p2p platforms in the Czech Republic (see Figure 27).

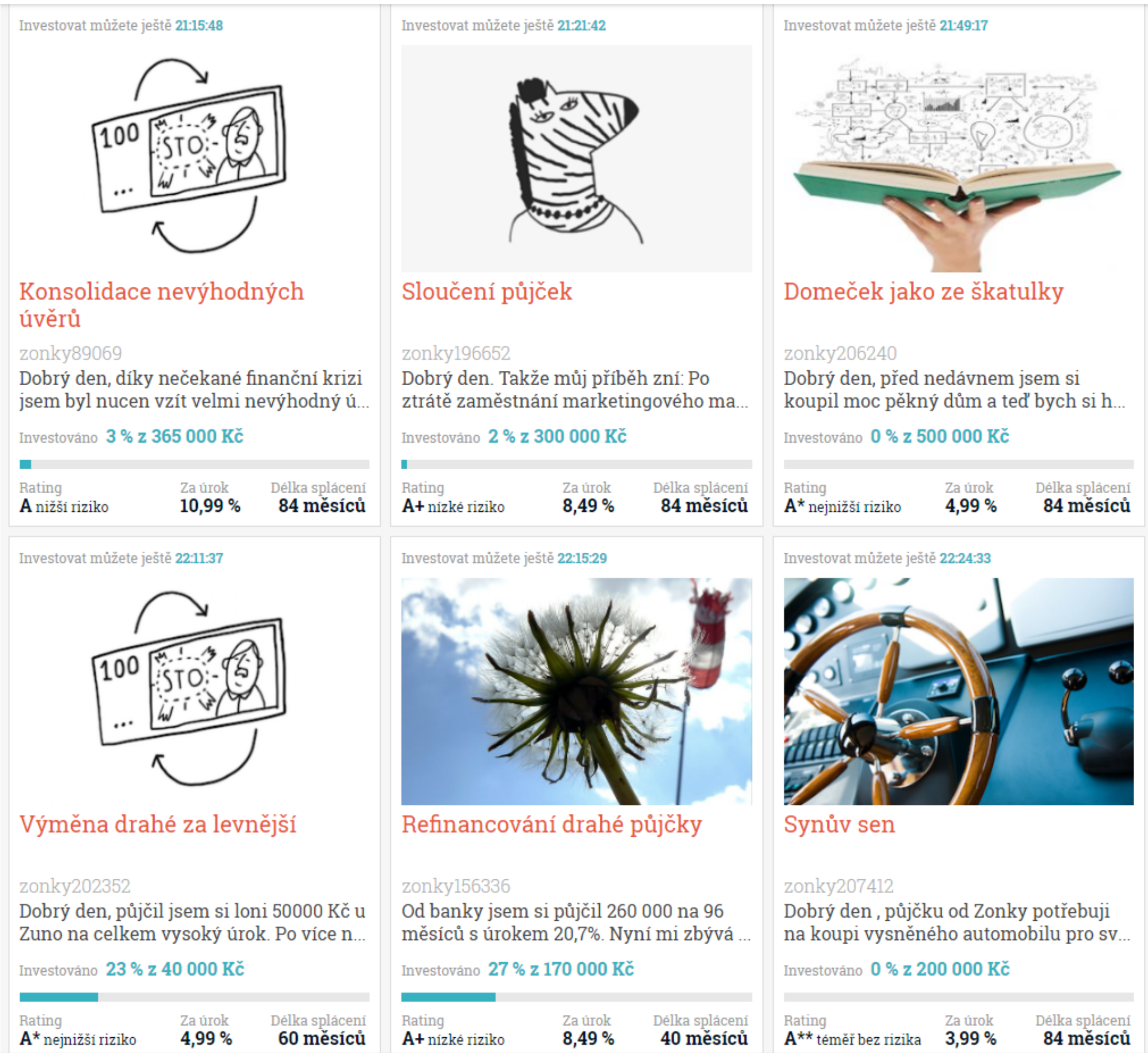


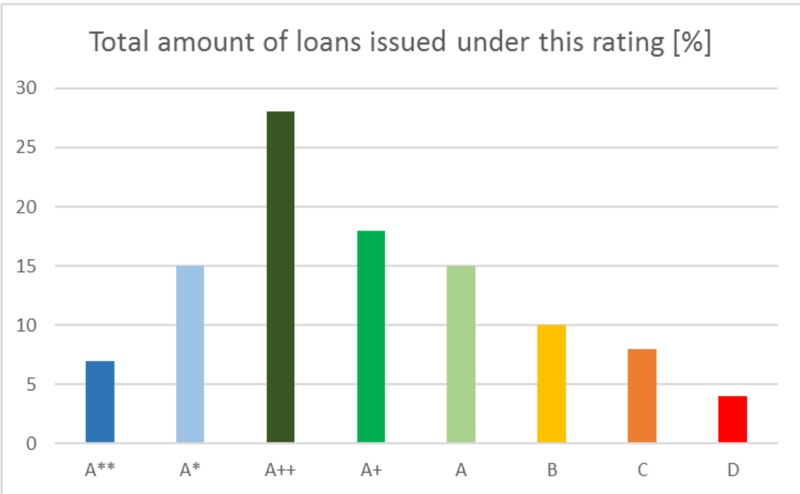
Figure 27: An example of how the Zonky Loan Market Place looks like (Zonky.cz, 2017)

When somebody wants to become an investor on Zonky platform, he has to fulfill several necessary steps. The first step is registration, where the investor has to fill his name, 2 IDs (i.e. driving license, ID), phone number, bank account number. After authorization using the mobile number provided the investor has to transfer money from his bank account to Zonky, which usually takes about 2-3 working days. After completing all these steps, the investor is ready to invest his funds on the loans market place. How the investment portfolio looks like is entirely upon the investor.

Risk rating	A**	A*	A++	A+	A	B	C	D
Interest rate [% p.a.]	3,99	4,99	5,99	8,49	10,99	13,49	15,49	19,99
Investment fee [%]	0,2	0,5	1	2,5	3	3,5	4	5
Total amount of loans issued under this rating [%]	7	15	28	18	15	10	8	4

Figure 28: Risk rating, Interest rate, Investment fee, Loans structure on Zonky.cz (Own construction based on data from Zonky.cz and Zotify.cz)

Figure 28 shows how the Risk rating influences the Interest rate of the loan. In general we can say that the higher the Risk, the higher the interest rate. Investment fee and the amount the investor has to pay to Zonky platform when his is investing in particular loan. The last line shows percentage distribution of the loans based on their rating.



A**	minimal risk
A*	very low risk
A++	low risk
A+	low risk
A	lower risk
B	medium risk
C	higher risk
D	risky

Figure 29: Distribution of issued loans based on the rating of creditor (Own construction based on data from Zotify.cz)

On Figure 29 we can see visual distribution of loans according to their risk rating. Loans with A** - A+ rating are less attractive and according to Zonky website the platform is lacking the amount of loans with higher rating, which have higher interest rate, therefore they are more attractive to the investors, even though they bring higher risk.

Zonky has quite complex evaluation system of the borrowers, which helps the platform to avoid people would be likely to default, which would potentially harm the platform and also the investors. First step is verification of the identity of the borrower, which has to be from two sources (passport, ID, driving license). Next step which is done by Zonky is the verification of the employer of the borrower and the work references from the employer, both negative and positive reviews are part of the evaluation, which creates the final rating.

Another step is the economic model of the borrower, where Zonky evaluates the implications, the loan is going to bring upon the borrower and whether it would be existentially possible for the borrower to repay the debt.

Zonky also checks the borrower in NRKI and BRKI (Bank/Non-bank register of client information) among other registers such as insolvency register, execution register and others. Combining all the information and double checks though credit and risk employees of Zonky, each client gets desired risk rating, which defines the conditions of his loan.

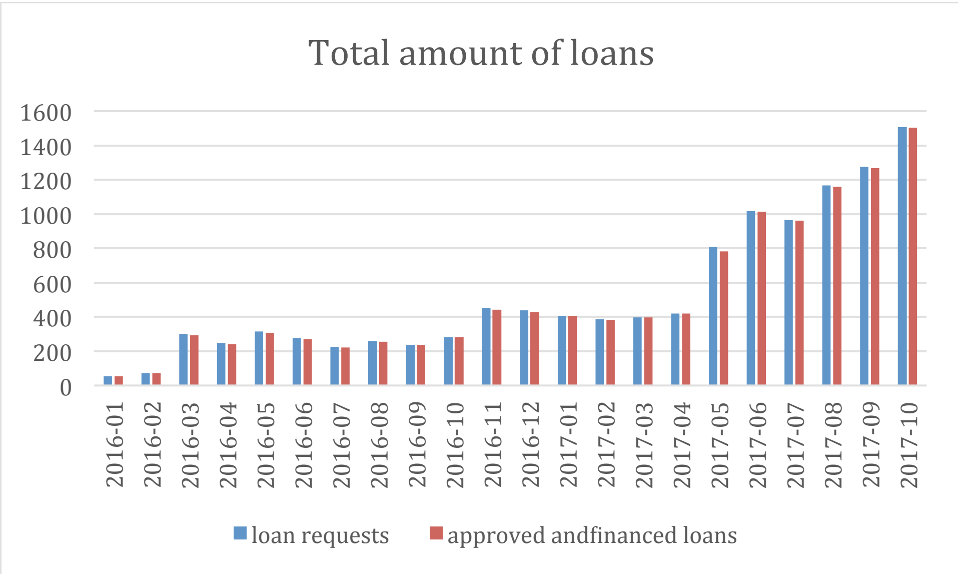


Figure 30: Total amount of loans that have been requested and total amount of loans that have been approved and financed over period January 2016 – October 2017 (Own construction based on data from Zotify.cz)

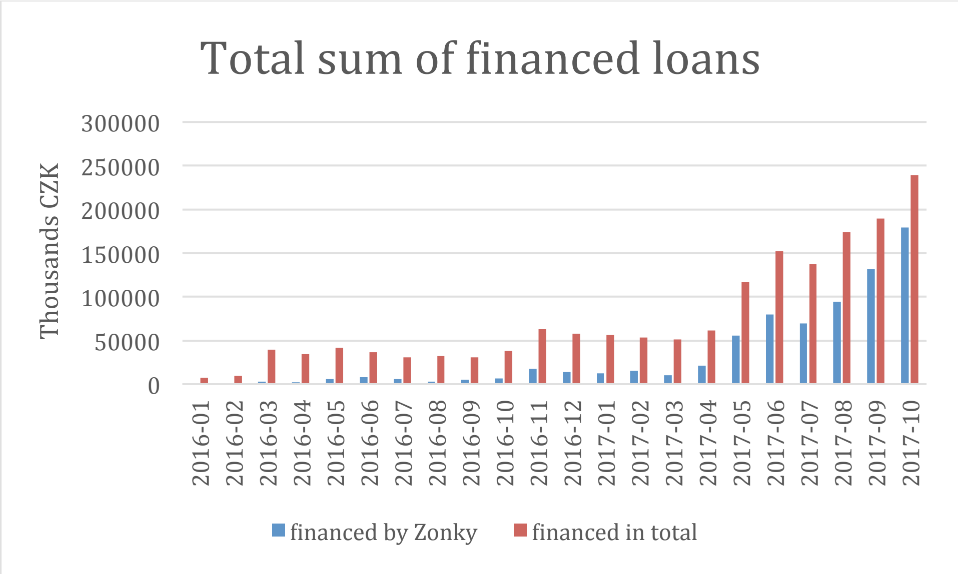


Figure 31: Total sum of financed loans in thousands of CZK (Own construction based on data from Zotify.cz)

Figure 31 describes how many loans has Zonky intermediated and Figure 32 shows what was the total sum of these loans in thousands of CZK. In 2016 Zonky had in total 3164 loan requests, where 3105 of these have been approved and are been repaid or have been already repaid. 25% of the requests have been denied by Zonky and 34 %have been canceled. Total sum of the loans was 421 640 000 CZK and Zonky has financed 16.76% of these loans (70 682 000 CZK) and the investors have funded 83,24% (350 958 000 CZK) of these loans.

So far as of October 2017, in 2017 Zonky had 9991 loan requests, which 9827 have been approved and financed, 7 denied, 56 have been canceled and 101 are pending. The total sum of these loans is 1 463 215 000, out of which the Zonky has financed 58,02% (848 895 200 CZK) and the investors have finance 41,98% (614 319 800).

Zonky s.r.o. is registered by Czech National Bank, the investor of Zonky is innovation fund

Home Credit Lab N.V., which belongs to PPF group. PPF Group is one of the strongest financial groups in the Czech Republic, which helps Zonky significantly. As we can see on Figure 38 Zonky has provided funds for 58,02% of financed loans in 2017, which has been done thanks to the funds from the group. We can assume Zonky is financing these loans in order to get bigger portfolio and also as an investment with a positive return in the future and also to attract the outer investors, who might be interested financing certain loans, but without the financial investment of Zonky, these loans wouldn't be issued.

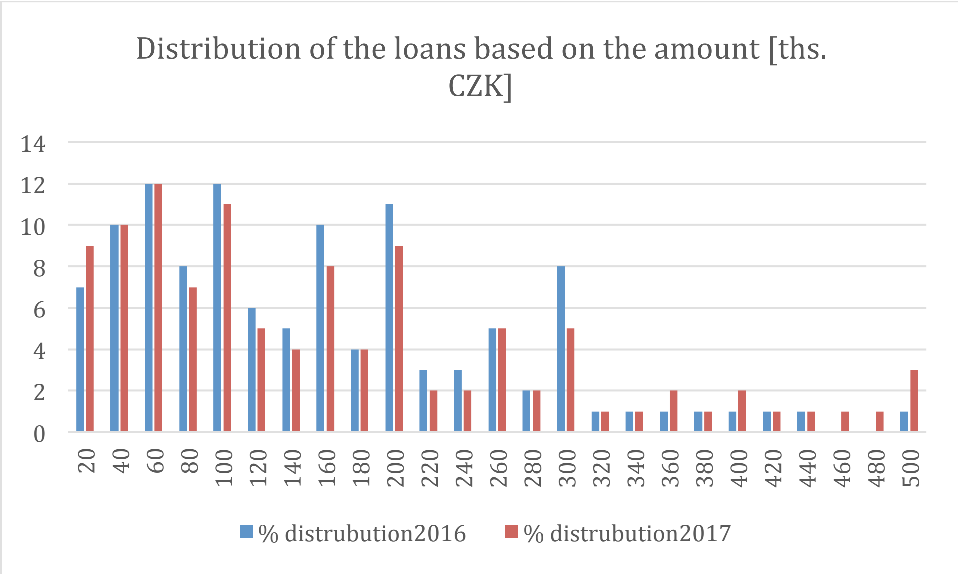


Figure 32: Distribution of the loans based on the borrowed amount (Own construction based on data from Zotify.cz)

Given the fact, that maximum loan the borrower can ask for is 500 000 CZK we can see, the borrowers rather borrow lesser amount. About 50% of all loans in 2016 and so far in 2017 were under 100 000 CZK. Which also corresponds with the idea of such platforms. They are providing financial aid to people who have stable income, but have gotten in a situation, where they have some extra expense and are not able to finance it themselves. Another reason and probably one of the most common is refinancing or already existing loans.

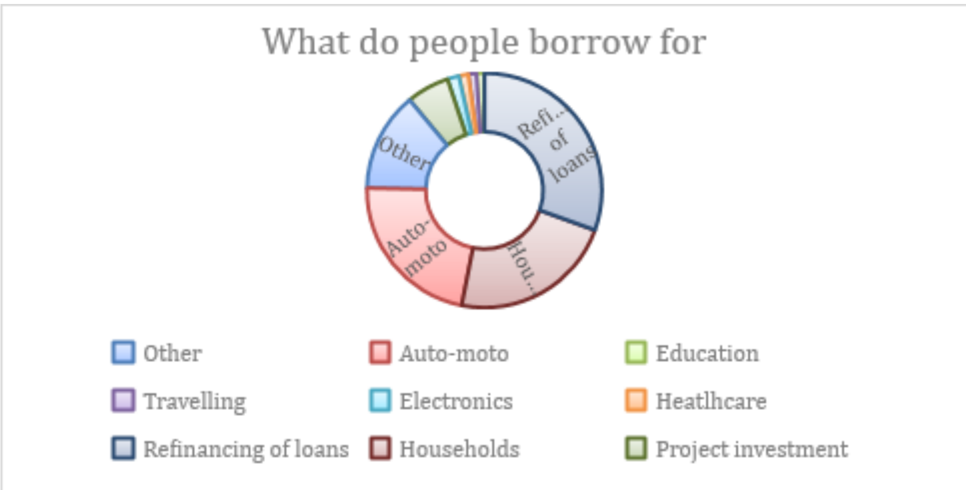


Figure 33: What do people borrow the money for (Own construction based on data from Zotify.cz

Figure 33 shows us what are the reason, why the people need loans. Three most common cases are automobile related issue, either they need money to buy a car or to repair the old one. Second reason why they need the loan is related to household, that could be related to repairs (i.e. broken washing machine, fridge) or need of a new one. Third and most common reason is the refinancing of existing loans with disadvantageous interest rate.

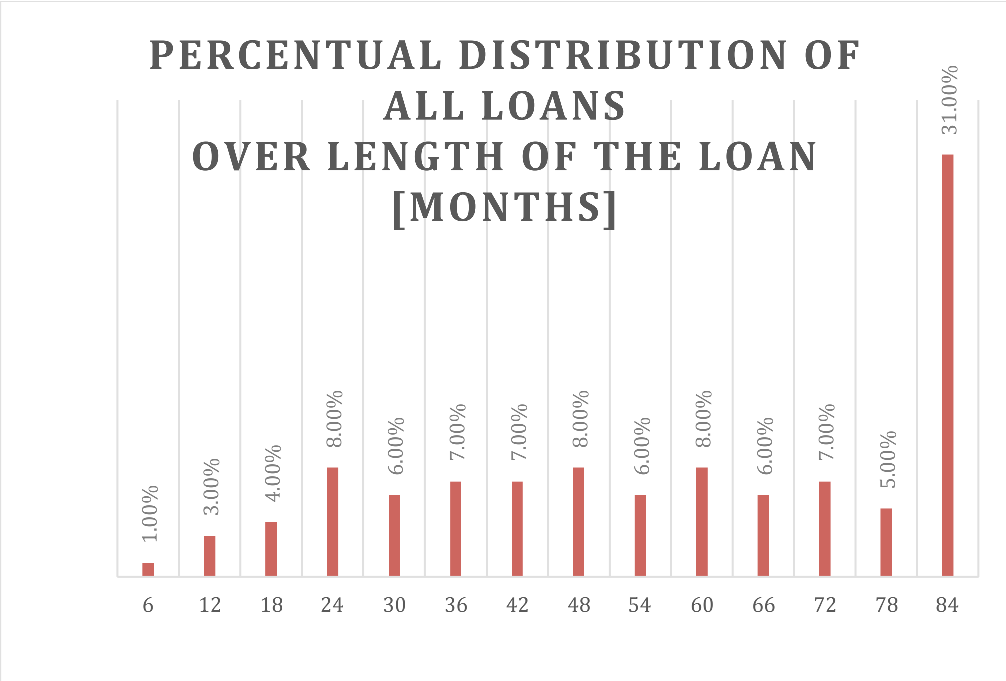


Figure 34: Distribution of the loans, based on their length (Own construction based on data from Zotify.cz)

As we can see over 30% of the borrowers use the maximum loan maturity possibility. In general, we can say the maturity date of the loans is rather longer than shorter, which is also caused by the rules set by the platform, where they allow the borrower decide the length of the loan and they don’t have fee for early repayment of the loan by the borrower.

10. CONCLUSION

The P2P lending sector is developing at a fast pace, with an increasing number of platforms being established in the countries all across the world. Most sophisticated systems so far have been established in the United Kingdom and the United States of America. where indeed P2P lending originates. In these countries there was an initial period when P2P loans were unknown to the general public and were at the edge of the regulators interest, however, the large volume of loans coupled with the post-crisis financial climate, led over the time to increased public consciousness about crowdfunding and P2P lending as well as regulatory changes. The continued growth of P2P platforms in the total volume of credit intermediation and increasing regulation have already resulted in the firm establishment of P2P platform operation and some of the latest developments include scoring models which are verified by historical data. Nevertheless, there is still lack of stabilization of the platforms management and the achievement of regular profitability. This is particularly clear given the lack of profits on part of the biggest players in the market – Lending Club and Prosper.

In a marking contrast, the P2P lending market in the Czech Republic as relatively novice as compared to the markets in the United Kingdom and the United States. Consequently, there is inevitable delay of approximately 5-7 years on the Czech market, however, major developments have happened in the recent years. Platforms, and in particular Zonky.cz are now increasingly recognized by general public, primarily due to aggressive marketing strategies analogous to those of US and British platforms. The government has not yet responded to the growing phenomenon by implementation of regulation, however, regardless of this some legislation still applies to P2P lending by default. Given the lack of major problems or issues surrounding P2P lending, no disputes have in fact appeared so far. Nevertheless, the failure of debtors to repay the loans poses a threat to the future of P2P platforms. Indeed, it can be safely concluded that the number of defaults will inevitably define the investment appetite of borrowers and overall success of P2P lending in the Czech Republic. With constant innovations and development of these platforms and the role model platforms already established abroad, it can be concluded that P2P lending will likely succeed in the Czech Republic. The already successful Zonky evidences this.

We can assume that in the future P2P platforms will likely face pressure from financial institutions who will seek to mitigate the risks for investors associated with P2P lending. As discussed in this thesis, these include information asymmetry, risks associated with debt recovery, systemic credit risk, conflict of interest on part of the platform or indeed sensitive information leakage. The regulation will likely increase across the globe, in the established Western markets as well as in the Czech Republic. Furthermore, it may be also concluded that financial conglomerates will also likely seek to obtain ownership control over platforms in order to avoid losing positions in this growing segment. This an especially likely scenario if the market situation continues with minimum returns on other assets, especially bonds. The return on investment between 5-10% per annum acts as a strong attraction.

It is rather likely that in the coming years we will witness the creation of a larger number of P2P lending platforms. These will be more specialized and may be affiliated with banks, investment trusts or funds. We can assume some banks will buy these platforms and will run them under their own portfolio. However, not all the platforms will be able to stay in operation and many may fail due to bad scoring or long-term losses. The reason for the creation of large amount platforms are relatively low entry costs, however, there are considerable high maintenance and expansion costs as discussed in Chapter 8. Furthermore, automatic investment will play a dominant role, whether via the web platform interface or API. Similarly, as investors will be increasingly tied up in loans with long maturity days, the roles of secondary P2P loan market will become more important in the future as well.

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