

Fintechs and their emergence in banking services in CESEE

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Over the last years, the development of financial technology in the banking sector got a new twist with the emergence of numerous small start-ups called fintechs. Some of the new technologies will probably make specific areas of the banking business more efficient, while others may have the potential to disrupt the traditional banking sector. This paper presents the outcome of a stocktaking exercise and shows that most of the new financial technologies are still being used on a small scale. Given that the CESEE region is usually omitted in discussions of fintechs, this paper aims at closing this gap by giving an idea of which activities exist in this region with regard to financial technology. Focusing on three business areas – (1) financial services, (2) payments and (3) financing – this study finds that the level of adoption of new technologies varies across the CESEE countries. Also, a handful of countries seem to have a more active fintech scene in some areas (e.g. peer-to-peer lending) than many of their Western neighbors.

JEL classification: G21, G23

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In the recent past, new financial services companies have received ample media coverage. Frequently referred to as fintechs, which is short for “financial technology,” such firms could change the banking world as we know it. The fintech scene is characterized by thousands of small start-ups but also well-established companies like Alibaba, Amazon and Google. The current dynamic in this field is reflected by venture capital investments in fintechs, which soared from USD 9 billion (2010) to USD 24.7 billion (2016) worldwide (KPMG, 2017). In the financial sector, these developments are expected to go hand in hand with enhanced efficiency as well as with a workforce reduction. Moreover, fintechs may foster financial inclusion, especially in emerging countries.

Traditional banks have already reacted to the rise of fintech by embarking on new digitalization projects. The European Commission (2017) defines fintechs as technology-enabled innovation in financial services, regardless of the nature or size of the provider of the service. A small body of research dealing with fintechs already exists in the U.S.A., the U.K. and China. There are hardly any pertinent studies focusing on Central, Eastern and Southeastern Europe (CESEE), however. Therefore, this paper is meant to fill this gap and to shed light on the CESEE region² with regard to fintechs. It is structured as follows: section 1 describes the current developments with regard to fintechs. Section 2 gives a more in-depth overview of different fintech business areas and their emergence in CESEE and section 3 concludes.

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² This study includes the following countries: the CESEE EU Member States (Bulgaria, the Czech Republic, Estonia, Croatia, Hungary, Lithuania, Latvia, Poland, Romania, Slovenia and Slovakia), the Western Balkan countries (Albania, Bosnia and Herzegovina and Serbia), Russia and Ukraine. However, data are not available for all the above-mentioned countries in all areas of this study.

1 Fintechs – current developments

Fintechs offer financial services which have to date usually been provided by traditional banks. In contrast to the latter, most fintechs do not hold a banking license. Yet, some fintechs which had risen to a critical size and started offering additional financial services had to be licensed as a bank/credit institution (e.g. Alibaba in China and N26 in Germany). Still, most fintechs are small start-ups that, by their own account, have a competitive advantage over traditional banks. After all, they offer new and unique innovative financial services, while at the same time being much more flexible in adapting to new market situations in comparison with big traditional banks. In fact, fintechs usually specialize in only one particular type of service and consider retail customers and/or small and medium-sized enterprises (SMEs) their main target groups. As the financial services on offer can be standardized, they may be provided at very low variable costs.

Unlike traditional banks, fintechs, which are usually not licensed as a bank, do not have to fulfill comprehensive regulatory requirements. However, this does not mean that these companies are not regulated at all.

One approach to fintech regulation is to use the existing regulatory framework and/or to amend it to capture fintech companies. For example, in the EU many fintechs fall under the Payment Services Directive (PSD 1 or Directive 2007/64/EU) and especially the new Payment Services Directive 2 (PSD 2 or Directive 2015/2366/EU), which was recently amended to integrate new business models (mainly fintechs). Still, the PSD 1 and PSD 2-based regulatory requirements for payment service institutions are far less comprehensive than the regulatory requirements for credit institutions laid down in the Capital Requirements Regulation (CRR or Regulation 575/2013/EU) and the Capital Requirements Directive (CRD or Directive 36/2013/EU) that are applicable in the EU. However, this also implies that credit institutions have more far-reaching competences than payment service institutions. The former are allowed to take deposits and perform term and risk transformations with deposits and other funds. In contrast, under PSD 1 and PSD 2 payment service institutions are not allowed to take deposits; they may grant loans to a very limited extent and have to immediately safeguard³ any funds they receive.

Following a different approach, some countries have introduced special regulatory requirements for fintechs (e.g. Switzerland and the U.K.) and/or regulatory sandboxes. The latter offer companies the possibility of experimenting on a limited scale with innovative financial services without having to comply with strict supervisory requirements. One may argue that in a sandbox environment companies as well as supervisors can learn how innovative financial services work. Usually, regulatory sandboxes are not limited to small start-ups only, but are also open to traditional big banks. The European Commission likewise considers the introduction of regulatory sandboxes. In its consultation paper on fintech, it poses the question whether regulatory sandboxes should be facilitated or created on an EU-wide basis (European Commission, 2017). Currently, supervisory sandboxes exist, for example, in the U.K., in Hong Kong, Singapore, Australia and Malaysia. How-

³ *Safeguarding means that payment institutions have to (1) immediately deposit the funds to a credit institution or (2) invest them in secure, liquid and low-risk assets. In the first option, the funds have to be secured by an insurance company; in the second option, the funds are insured by the credit institution, as they are part of a deposit insurance scheme (see Article 10 Directive (EU) 2015/2366).*

ever, when it comes to the details, each of these countries has its own interpretation of how a regulatory sandbox should work. To the author's knowledge, no CESEE country has yet introduced a supervisory sandbox for fintechs. Russia, by contrast, has seen the establishment of an Association for Financial Technology Development, which focuses in particular on the development of blockchain, i.e. the technology behind, for instance, bitcoin. Once fintech start-ups grow to a material size, they could pose a risk to financial stability. This may well call for stricter regulation.

One might assume that fintechs are mainly active in developed countries as fintech-related media coverage and research are concentrated on developed countries (e.g. the U.K. and U.S.A.). Yet, there are also remarkable developments in some emerging countries. As a case in point, China is the market with most peer-to-peer (P2P) lending platforms – namely around 2,300 as of February 2017, with a lending volume of CNY 2,000 billion according to wdzj.com.⁴ Kenya is a country where two-thirds of adults use their mobile phone to send and receive payments (Demirguc-Kunt et al., 2015). To this end, they employ services like M-Pesa⁵ that are provided by telecommunications companies. Consequently, this has sparked a lively discussion about whether fintechs could act as a catalyst promoting financial inclusion,⁶ above all in emerging countries.

Chart 1 illustrates the state of play of financial inclusion in terms of having a bank account, a debit card and a credit card in a number of advanced economies, CESEE economies and the two largest emerging market economies.⁷

One innovative feature of fintechs operating in payment services is that they very often offer payment services which do not require the ownership of a bank account. Instead, for many such services, it suffices to have a mobile phone, the ownership of which is already widespread in emerging countries (see also chart 4). Even though, according to Global Findex data, in most CESEE countries more than 60% have a bank account, bank account penetration is still much lower in many CESEE countries than in Western European countries (see chart 1). Ukraine, Bosnia and Herzegovina (around 50% have a bank account) as well as Albania (less than 40% have a bank account) exhibit the lowest levels. Chart 1 also shows that the ownership of a bank account does not necessarily result in the holding of a debit card. Moreover, credit cards are not popular in the CESEE region, where less than 40% own a credit card, and even less so in China, where only 20% have a credit card. Hence, the distribution and adoption of new innovative payment methods that do not depend on a bank account could boost financial inclusion significantly, albeit in one specific area only.

⁴ *Wdzj.com is a private company operating in China that collects data on China's P2P lending industry.*

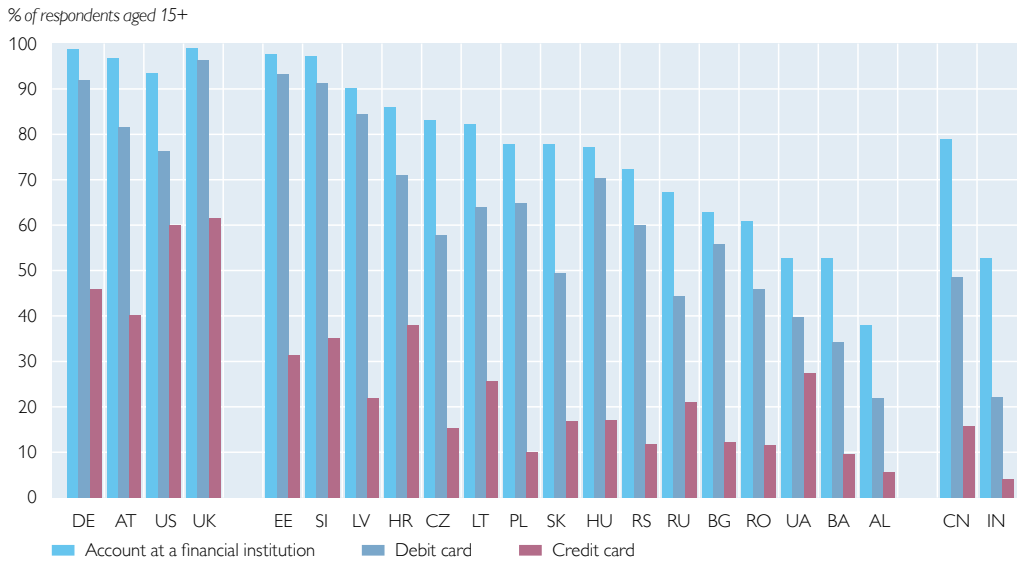
⁵ *M-Pesa is a service offered by Vodafone for transferring money with a mobile phone. It does not require a bank account, an Internet connection or a smartphone.*

⁶ *Financial inclusion is measured by the G-20 in three dimensions: (1) access to financial services, (2) usage of financial services and (3) the quality of the products and the service delivery (G-20, 2016). The indicators used in this study are mainly access and usage indicators.*

⁷ *The World Bank Global Findex database is used in this study, which is a comprehensive database on financial inclusion. Data stem from a survey carried out in partnership with Gallup World Poll. The database is based on interviews with about 150,000 nationally representative and randomly selected adults (aged 15 and over) in more than 140 countries (Demirguc-Kunt et al., 2015).*

Chart 1

Use of traditional banking products varies significantly across CESEE countries¹



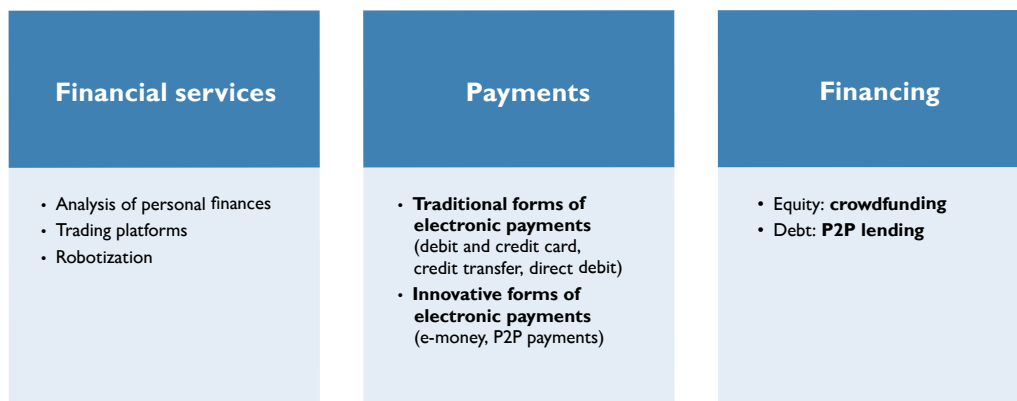
Source: Global Findex Database.

¹ Data as at 2014.

Business models of fintechs do not only rest on payment services, though. They are extensive, ranging from payment to financing as well as financial and investment advisory services. Moreover, fintechs explore new business areas on a continuous basis. For clarity, this paper centers merely on companies that offer banking services and excludes the following business areas: virtual currencies (e.g. bitcoin), blockchain (i.e. distributed ledger technology), foreign currency exchanges, companies that offer insurance products (insurtechs), fintechs which offer services related to regulatory requirements (regtechs) or corporations dealing with big data analysis and security (e.g. cyber security). Hence, in this study, fintech is broken down into three broad business areas: (1) financial services, (2) payments and (3) financing.

Chart 2

Fintech business areas



Source: Author's compilation.

All of these fintech offerings may trigger positive change like enhanced financial education or financial inclusion. The flip side is that some of these business models may pose a threat to financial stability if the start-ups reach a certain size and/or expose their customers to various risks they may not be fully aware of, e.g. risks related to cyber security.

2 Fintech business areas and their emergence in CESEE

This section explores opportunities and threats of different fintech business models and reports on fintech activities in financial services, payments and financing in the CESEE countries.

2.1 Financial services

Under financial services, we summarize businesses that offer Internet-based applications for (1) managing personal finances, (2) trading securities (trading platforms) and (3) automating financial services (robotization).

Fintechs providing tools that help individuals or companies manage their finances support customers for instance in managing their financial cash flows and in optimizing their spending structure. They also offer financial accounting solutions for SMEs, but also bigger companies. One example of this category is the app “Spdee,” developed by the Czech firm CLEEVIO, which connects the user’s mobile phone with the customer’s bank account and downloads transactions, sorting them into different categories. It helps the customer track their expenses by amount and by location. Moreover, users may define different wallets and share these with other people. Such analytical features are usually not offered by traditional banks, a number of which have, however, already introduced at least some analytical features – mostly in their online banking applications. Helping improve customers’ insights into their personal finances, income and expenses structure is likely to foster financial education.

Securities trading is traditionally associated with high ancillary expenses like transaction-based trading fees and relatively high deposit fees. For securities trading to be economically viable, large volumes are a prerequisite. Consequently, many people are excluded from securities trading. Yet, fintechs operating in this business area offer online trading platforms with very low or no deposit fees and very low transactions costs. Hence, lower trading volumes make economic sense, too. As a rule, the customer interacts solely with the trading platform via the Internet. Since these fintechs do not offer person-to-person or investment advisory services, their services cost less than those of traditional banks. On the one hand, online trading platforms lower the entry barriers for private customers and open new investment possibilities for them given the reduced transaction costs. On the other hand, not all private customers may be fully aware of the risk of suffering losses when investing in financial market securities. Moreover, money already transferred to the platform but not yet invested may not be covered by a deposit insurance scheme and may be lost should the platform become insolvent.

Finally, one large business area fintechs are active in is robotization. Services offered in this area are very often connected to the other two business areas discussed above. One example of a connection with personal finances is the automation of invoice payments, with a program automatically paying invoices on time. Another example is “SuperFaktura,” a Slovak program for automating the creation

of invoices. Robotization is also very popular when it comes to wealth management. So-called robo-advisors are programs that invest money automatically based on mathematical logarithms. These automated investments may be straightforward: e.g. the robo-advisor always makes deposits at the bank with the highest deposit rate up to the deposit insurance threshold amount. But they may also be much more complex. For instance, robo-advisors may base their portfolio investment strategy on several customer-related imputations and decide on the optimal investment strategy based on these imputations coupled with a mathematical algorithm. Therefore, robo-advisors have the potential to lower the search costs for personal customers, e.g. by finding the best rate and taking a decision on the best investment strategy. Furthermore, financial advice based on mathematical algorithms may be neutral compared with financial advice from humans. On the flip side, personal customers might not be fully aware of how their inputs translate into investment decisions by robo-advisors, which could lead to undesired investments (see also Philippon, 2016). Moreover, if large volumes are invested and investment decisions are based on the same mathematical algorithms, herding behavior could be amplified on financial markets. Last, but not least, customer service is being robotized. As a case in point, the Romanian lender Banca Transilvania has introduced “Livia” to communicate with customers on Facebook and Skype.

2.2 Payments

Fintechs providing innovative forms of electronic payments mostly do so via e-money, which is transferred via the Internet or via mobile phones. At the same time, some fintechs offer services (e.g. instant payments) that make “traditional” forms of electronic payments more efficient.

While the “traditional” forms of electronic payments (debit card, credit card, credit transfer and direct debit) are linked to a bank account, the more innovative solutions work without a bank account, but have another prerequisite: a mobile phone or Internet access. Only cash continues to be the payment method universally available without any technical prerequisites.

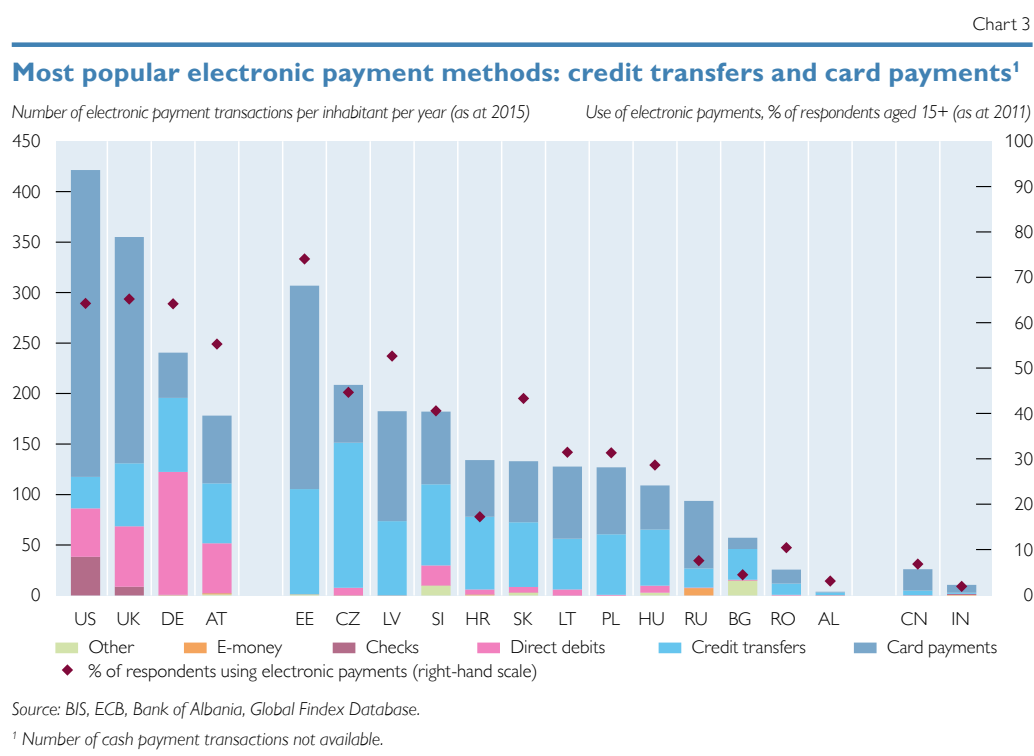
Companies offering innovative payment services have the potential for enhancing financial inclusion in many countries where bank accounts are not as common as in advanced economies. Moreover, many of these companies offer their services free of cost or at very low cost. Electronic payments may also help reduce corruption and the shadow economy because of their traceability (see Goel and Mehrotra, 2012). Yet some of these innovative payment methods may also be used for illegal purposes because of their anonymity.⁸

At least in the EU, the PSD 1 and the revised PSD 2 – the latter has to be transposed into national law by each Member State by January 13, 2018, at the latest – already regulate most fintech companies operating in the area of payment services. It is worth mentioning that innovative electronic payment services not linked to a bank account are offered not only by small fintech start-ups, but increasingly also by large well-established commercial banks. One example is the biggest bank in Croatia, Zagrebačka banka, which has been selected by EMEA

⁸ For virtual currencies, the EBA considers this a major risk (European Banking Authority, 2014), and the EU perceives this as a dominant feature of virtual currencies so that they have already been taken into account in the Anti-Money Laundering Directive (Directive (EU) 2015/849).

Finance as the most innovative bank in CESEE. Among other services, it offers m-buy, which is a mobile payment system in Croatia's biggest retail network (Deloitte, 2016).

Chart 3 illustrates the dominance of traditional, bank account-linked electronic payments and the still very limited use of the potential offered by fintech. The bars reflect the number of electronic transactions, broken down by payment method, per inhabitant and year (left-hand scale) and the diamonds indicate the share of the adult population that uses electronic payments (right-hand scale).



For the CESEE countries, the importance of electronic payments correlates positively with the possession of a bank account (as shown in chart 1). Electronic payments are most popular in Estonia, the Czech Republic, Latvia and Slovenia and least used in Albania, Romania and Bulgaria. Credit transfers and card payments (either by debit or by credit card) are the most common electronic payment methods, while checks are virtually nonexistent in Europe. At present, e-money is not used very widely. Looking to the right-hand scale of chart 3, we see that in most countries less than half of the respondents indicated that they have already made electronic payments. Estonian respondents are in the lead in this respect. According to the pattern evident in chart 3, the technology, while being in principle available in the CESEE countries, is only used by a small fraction of the population.

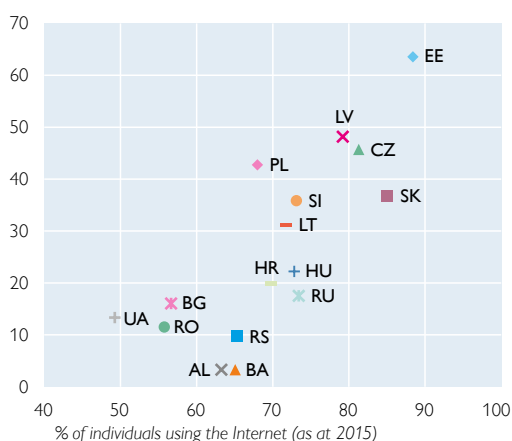
Chart 4 shows the relationship between the structural conditions and actual usage of the structures available for electronic payments. The left panel depicts Internet usage in general and usage of the Internet to pay bills. The right panel shows access to a mobile phone or the Internet at home and usage of an account to make transactions over a mobile phone.

Chart 4

Relationship between structural conditions and actual usage of electronic payments

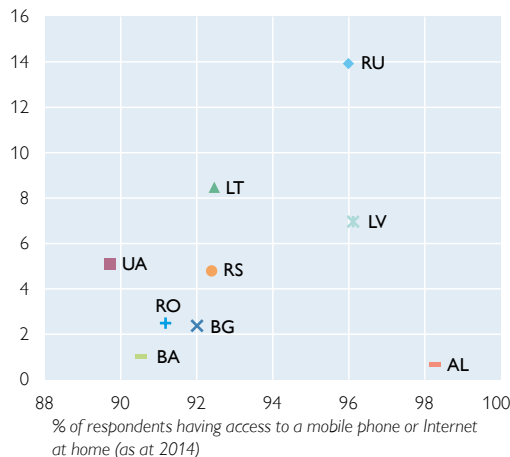
Countries with high Internet usage also have higher shares of Internet purchases

% of respondents using the Internet to pay for purchases (as at 2014)



Payments with mobile phones are still very often performed via an account at a bank/financial institution

% of respondents using an account to make transactions via a mobile phone (as at 2014)



Source: International Telecommunication Union, Global Findex Database.

The left panel shows clearly that the higher the share of Internet users in general, the higher the share of individuals using the Internet to pay bills or buy things. At the same time, mobile payments are not yet widespread. The data refer to mobile payments that are performed using an account at a bank or other financial institution. The Global Findex Database also gives us information on the usage of mobile phones to pay bills where no account is involved. Note, however, that the data stem from the year 2011 and that the fraction of respondents answering that they used their mobile phone to pay bills is below 3% in almost all CESEE countries. The only exception is Albania, where one-fifth of respondents answered in the affirmative. It is worth mentioning that M-Pesa has been active also in Albania (since 2015) and in Romania (since 2014).

To sum up, there is a group of countries in the CESEE region where electronic payments are widely used, namely Estonia, the Czech Republic, Latvia and Slovenia. Mobile payments are exceptionally popular in Albania. Notably, in many Southeastern European countries electronic payments play only a minor role.

2.3 Financing

Fintechs offer financing in the form of equity and/or debt to individuals and companies (mostly SMEs). Usually, financing is provided via a platform matching investors and lenders. In most cases, the fintech company does not lend/finance on its own and does not take on the risk of the loan or investment. Financing activities may be divided into equity/equity-like⁹ financing (crowdfunding) and debt financing (P2P lending). Such business models are also often referred to as marketplace lending because funds are provided by peers or the crowd and not by a single institution.

⁹ Equity-like means that some crowdfunding platforms offer participation via deeply subordinated debt or convertible instruments instead of genuine participation in equity.

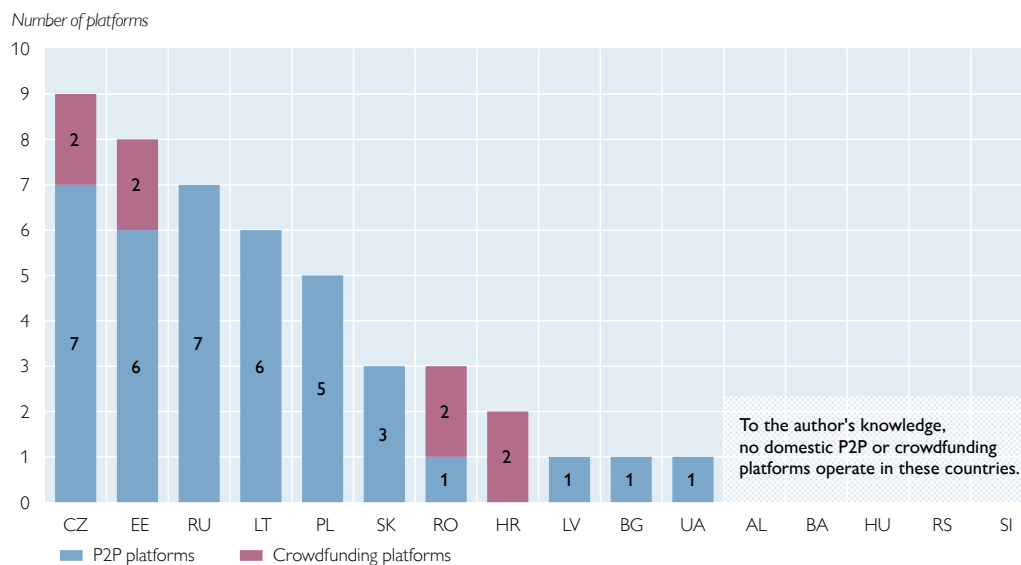
Crowdfunding can be broken down further into profit and nonprofit-oriented forms, as the money raised could either be (1) a donation or (2) an investment. In the latter case, the funding might involve interest payments. Repayment (and, if applicable, interest payments) may take the form of a payment in kind (e.g. bread when a bakery is financed). Profit-oriented crowdfunding platforms finance virtually only SMEs.

By contrast, the majority of P2P lending platforms tend to be specialized in consumer loans.

In the CESEE region, P2P lending is much more popular than crowdfunding (see chart 5). There is a group of countries – the Czech Republic, Estonia, Russia, Lithuania and Poland – where several (domestic) P2P lending platforms are active. Some of them also operate in more than one CESEE country (see the list in the annex for details). In addition to the number of platforms shown in chart 5, foreign platforms (crowdfunding and P2P lending) are active in several CESEE countries. Cases in point are Indiegogo and Kickstarter. No evidence for activities of any (domestic or foreign) platforms was found in Albania, Bosnia and Herzegovina, Hungary, Serbia and Slovenia.

Chart 5

Several funding platforms are already active in some CESEE countries¹



Source: Author's compilation.

¹ This chart only shows domestically established platforms that, to the author's knowledge, had active users at the time this study was compiled. Foreign platforms operating in some of the countries are excluded. For a list of all platforms, see the annex.

In the CESEE region, most P2P lending platforms intermediate their loans in local currency, but one platform extends loans in foreign currency, e.g. Swiss francs. According to our knowledge, investors in P2P lending platforms in this region could be natural and legal persons or specialized companies that establish trusts/funds and invest exclusively in loans provided via P2P lending platforms. On top of the variations already mentioned, the business model of P2P lending platforms may be very different (see also charts 1 to 3 in the box).

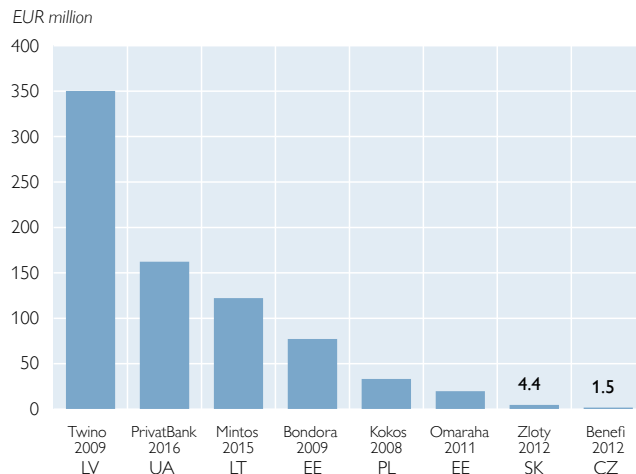
The Czech Republic, Estonia and Lithuania have already started to regulate P2P lending platforms. In the Czech Republic, they are supervised as small payment institutions and are hence restricted in terms of size (the average annual total amount of payment transactions must not exceed EUR 3 million per month) and geographic reach (they are only allowed to provide their services in the Czech Republic). In Estonia, the Creditors and Credit Intermediaries Act was introduced in March 2015. This act also covers activities of P2P lenders and makes it necessary for them to be licensed as credit intermediaries or creditors. Lithuania, in turn, considering P2P lenders to be public consumer lenders or intermediaries, has tightened regulatory requirements as of February 2016. Note, however, that new regulations were also introduced to regulate other nonbank lenders (e.g. payday lenders), which had mushroomed in the Czech Republic, Estonia and Lithuania. In Lithuania, for example, the lending volume of nonbank lenders well exceeds that of P2P lenders (EUR 225 million vs. EUR 4.6 million as of July 2016) (Lietuvos bankas, 2016)¹⁰.

Chart 6 compares the gross lending volume of P2P lending platforms since their start of business.

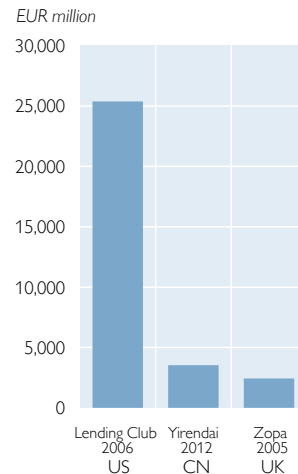
Chart 6

CESEE P2P lenders are still very small in comparison with international market leaders

CESEE P2P lending platforms



Leading international P2P lending platforms



Source: Company websites.

It does not come as a surprise that the absolute volumes of the biggest P2P lenders in CESEE countries are much smaller than those recorded by the leading platforms on a global level. However, three CESEE platforms have already achieved a lending volume of over EUR 100 million, namely Twino, PrivatBank and Mintos. The other platforms operating in CESEE pale in comparison with Twino, which boasts a lending volume of EUR 350 million. It is interesting to note that the companies Twino and Mintos work together with (several) loan originators. Also noteworthy is that PrivatBank, which was nationalized in December 2016, has stopped its P2P

¹⁰ Lietuvos bankas does not seem to consider the company Mintos to be a P2P lender.

lending activities. The National Bank of Ukraine has announced that it would stop PrivatBank's P2P lending activities and bring the P2P loans back onto the balance sheet of PrivatBank.

Comparing the lending volumes of P2P platforms with the amount of total outstanding loans in the respective countries does not make much sense for two reasons. First, P2P lenders usually only disclose the overall amount they have lent over the lifetime of a given platform and not the currently outstanding loan volume. Second, some P2P lenders are active in more than one country (unless restricted by regulatory requirements) and do not provide information on the lending volume in each country. One approach to get an idea of the relevance of P2P lending platforms in the consumer loan market is to compare the average yearly new consumer loan volumes since the establishment of the respective P2P lending platforms with the lending volumes indicated by the P2P platforms. This calculation results in a maximum amount as P2P lenders are also active in SME lending and some of them do business in more than one country. Accordingly, P2P lending platforms make up one-quarter of average new consumer loans in Latvia (Mintos) and Lithuania (Twino). These figures clearly have an upward bias given that these platforms, which are incorporated in a small country, are also active in several other larger markets (Mintos: e.g. in the Czech Republic and Poland; Twino: in the Czech Republic, Russia and Poland). In contrast, the lending volumes of Kokos, the biggest P2P lender in Poland, account for only 0.02% of average yearly new consumer loans. But also in smaller countries of the region (the Czech Republic and Slovakia), loans by P2P lenders¹¹ amount to no more than 0.01% of average yearly new consumer loans. Finally, we can compare these data with lending volumes in the United Kingdom. The U.K. has a P2P Finance Association, which publishes lending volumes for almost the entire P2P lending industry. In the U.K., P2P lenders provided GBP 3 billion in 2016, which equals 10% of new consumer loans extended in 2016. This figure, too, is biased upward as many U.K.-based P2P lenders likewise do business in other countries and extend also loans other than consumer loans.

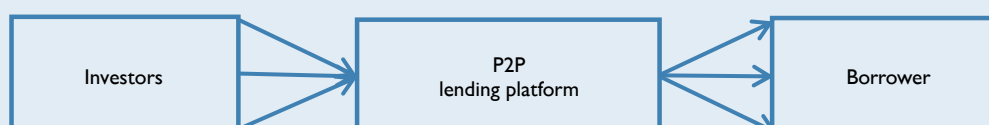
Box

Business models of P2P lending platforms in CESEE

Business models of P2P lending platforms may vary greatly. We identified the following three types in the CESEE countries, described in more detail in charts 1 to 4¹ below: (1) classical P2P lending, (2) P2P lending platform with one or more credit originators and P2P lending platforms as a subsidiary of a "traditional bank" and (3) crowdvouching.

Chart 1

Classical P2P lending business model



¹ Arrows in charts 1 to 3 indicate the direction of the cash flow. In chart 4, arrows may refer to the cash flow, guarantee or fee payments as indicated next to each arrow.

¹¹ As no comprehensive data on the whole P2P market are available in these countries, we calculated the figures using the P2P lending platforms Benefi for the Czech Republic and Zloty for Slovakia. Arrows in charts 7 to 9 indicate the direction of the cash flow. In chart 10, arrows may refer to the cash flow, guarantee or fee payments as indicated next to each arrow.

Investors (i.e. natural or legal persons) invest in loans to borrowers that have posted a request for a loan via the P2P lending platform. In this case, the role of the P2P lending platform only consists in bringing together investors and borrowers. The platform usually earns fees from the borrower and/or investor.

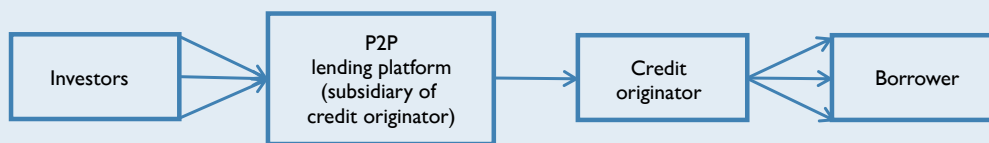
Many P2P lending platforms use business models which are variations of this “classical” P2P lending model, as is shown in charts 2 to 4.

The first variation of the “classical” P2P lending business model is that borrowers do not

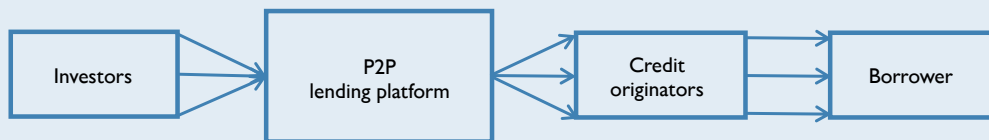
Chart 2

P2P lending platforms with one or many credit originators

P2P lending platform with one credit originator



P2P lending platform with many credit originators



on their own initiative request credit via the P2P lending platform, but rather a credit originator grants the loan. The P2P lending platform may work together with one credit originator that could also be the parent company, or with many credit originators that collaborate with the P2P lending platform on a contractual basis. This business model works as follows: The credit originator granting a loan also finances the loan, and the credit risk is first borne by the originator. In a second step, the P2P lending platform offers these loans on the Internet. Once an investor decides to invest in a loan, the said loan is transferred to the investor via a (partial) assignment. The transfer of loans to an investor could also be organized via securitization. In many cases, the risk of the loan is also transferred to the investor. Consequently, the loan is derecognized from the balance sheet of the credit originator. Finally, the cash proceedings of the sale of the loan are forwarded to the credit originator. Thus refunded, the credit originator may use the funds to grant new loans.

Chart 3

Traditional bank with P2P lending platform as subsidiary

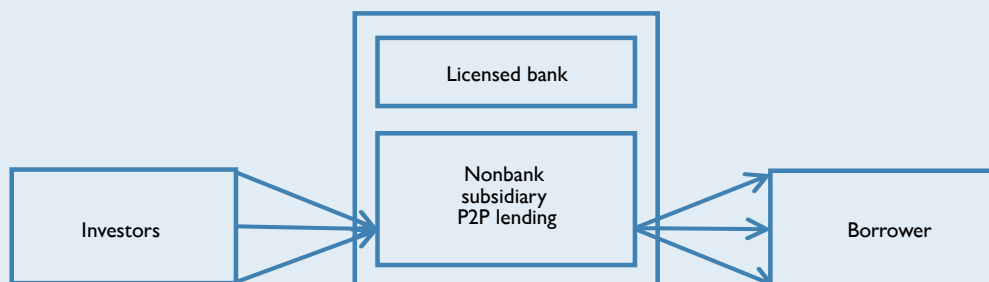
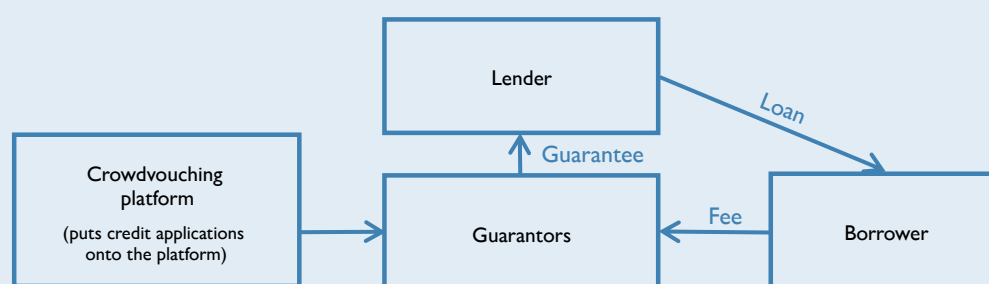


Chart 3 shows another variation of this business model where a licensed bank establishes a P2P lending subsidiary that is not a bank. This platform then acts like a “classical” P2P lending platform. The parent bank benefits from this in that it is able to grant loans and earn fees without permanently taking the risk of the loan on its own balance sheet, which eventually relieves regulatory capital pressure. However, this business model was observed only once in the CESEE region – at PrivatBank in Ukraine. With PrivatBank having been nationalized, the National Bank of Ukraine announced to stop P2P lending at PrivatBank.

Crowdvouching, the final variation of P2P lending, as illustrated in chart 4, does not involve

Chart 4

Crowdvouching



funding by peers. First, the crowdvouching platform puts the loan application on the platform website. Potential guarantors receive information (e.g. photo ID and credit history) from each loan applicant on their mobile phone app. With a mere swipe, they may then decide if they grant a guarantee to a particular applicant or not. For a loan application to be accepted by the crowdvouching platform, many positive decisions by potential guarantors are necessary. Upon acceptance of the application, the lender (which could also be a bank) grants the loan and transfers the agreed amount of funds to the borrower. The potential guarantors become actual guarantors for this loan and receive fees from the borrower. If the borrower defaults on the loan, the guarantee takes effect and the guarantors have to pay the open balance of the loan to the lender. This business model is offered by a Russian platform called Surety. The company is still in the start-up phase but already operates legal entities in Russia, Kazakhstan and the U.S.A.

P2P lending and crowdfunding can lead to positive effects but also involves a number of risks. On the positive side, P2P lending is likely to enhance access to finance for retail and SME customers, catering to an otherwise unattended segment of credit demand. A study on the German P2P lending market found that P2P lenders indeed serve a slice of the consumer credit market which is neglected by banks, namely high-risk and small-sized loans (de Roure et al., 2016). Hence, crowdfunding may increase access to equity financing for SMEs, providing more risk capital for SMEs, especially start-ups.

On the downside, there are also a number of risks associated with marketplace lenders. The main feature of P2P lending is that the risk of the credit is not borne by the platform itself, but by the investors. This is very different from the traditional banking business model where the bank takes deposits and performs risk and term transformations. In this case, the risk of the depositor is not directly dependent on the risk of the loan a bank grants to a borrower. On the other hand, when money is deposited at a bank, the depositor cannot influence in which assets (i.e. loans,

securities) the bank invests the money. This stands in contrast to P2P lending as well as crowdfunding: there the investor decides who or what project will be financed.

When it comes to P2P lending, the investor is not protected by a deposit insurance scheme. Quite the contrary, the investor usually bears the full credit risk and is subject to asymmetrical information because the lender is fully dependent on the information provided by the borrower and normally does not have the possibility of performing any additional due diligence. Moreover, investors will face undiversified credit risk if they do not actively reduce it by financing different loans with different risk profiles. As mentioned above, most P2P lenders grant unsecured consumer loans, which usually suffer from high default rates. Such losses will have to be borne by the investors, i.e. natural or legal persons. A study performed with data of Lending Club (the biggest P2P lending platform in the U.S.A.) shows that the higher interest rates charged on high-risk borrowers are not enough to compensate for the higher probability of default (Emekter et al., 2015). In addition, in most countries P2P lenders are not subject to any special regulatory requirements beyond the normal legal requirements for doing business.

When it comes to crowdfunding, investors are susceptible to special risks not yet mentioned above. Crowdfunding platforms enable investors to invest in SMEs, mostly start-ups. The participating interest takes the form of equity or equity-like investments with all the risk usually inherent in an equity investment for investors. However, it is safe to assume that investments in start-ups bear a higher risk of default than equity investments in well-established companies. Hence, it is of utmost importance with respect to crowdfunding that investors are aware of the high-risk nature of this type of investment and of the fact that they stand to lose their entire investment.

3 Summary and concluding remarks

In recent years, the development of financial technology in the banking sector got a new twist with the emergence of numerous small start-ups called fintechs. Chances are that some of these new technologies will make parts of the banking business more efficient, while fintech companies may have the potential to disrupt the traditional banking sector if they manage to grow to a certain size. Even though most of the new financial technologies are still being used only on a small scale, traditional banks have taken note of this development and have started to either cooperate with fintechs or create innovative financial products on their own.

Fintechs are usually specialized, i.e. they tend to offer only one financial product, e.g. payments. In contrast, traditional banks normally offer the full range of financial products – from payments to loans and financial advisory services. Moreover, fintechs mostly do not provide services that require a banking license. Regulators are, however, already paying attention to fintechs by introducing special legislation or regulatory sandboxes to better understand these new technologies.

This study only revolves around fintechs that are active in three business areas: (1) financial services (analysis of personal finances, trading platforms and robotization), (2) payments (traditional forms of electronic payments, i.e. debit and credit card, credit transfer and direct debits, and innovative forms of electronic payments, i.e. e-money, P2P payments) and (3) financing, i.e. crowdfunding and P2P lending, which is also called marketplace lending.

Financial services is a business area where many fintech start-ups are operating and where traditional banks have already started to cooperate with fintechs or to develop their own innovative financial services. For the CESEE region we find some activity in this area. However, not enough meaningful data are available to give a complete picture of this area.

With regard to payments, we differentiate between traditional and innovative payment methods. The main innovative feature of e-money (payments that are often effected via a mobile phone or the Internet) is that the customer does not necessarily need a bank account to make payments. With bank account penetration still low in some CESEE countries, the adoption of mobile phone payments or payment via the Internet might boost financial inclusion in the region. As a rule of thumb, traditional payment methods are available from traditional banks, whereas innovative payment methods are offered mostly by fintechs. There are, however, exceptions to this rule: in some CESEE countries (e.g. Croatia) traditional banks have incubated the most innovative forms of payment. Yet, data from the Global Findex Survey show that mobile payments are not yet widespread in the CESEE region or in other European countries.

The fintech business area of financing is quite vibrant in the CESEE region, with P2P lending being far more common than crowdfunding. In the Czech Republic, Estonia, Russia, Lithuania and Poland, a number of platforms are active. The business models of P2P lenders in the CESEE region may differ significantly from the “classical” P2P platforms. The share of loans granted by P2P lending platforms and companies financed via crowdfunding is still very small in comparison with the total consumer loan market. P2P lending may enhance access to finance for retail and SME customers, catering to an otherwise unattended segment of loan demand. On the other hand, P2P lending entails a number of risks. First, the total credit risk is borne by the investor and remains undiversified as long as the investor does not actively reduce it by financing different loans with different risk profiles. Moreover, the investor is subject to asymmetrical information because the lender is fully dependent on the information provided by the borrower and normally has to make do with the due diligence provided by the platform.

In light of this, especially P2P lending could pose significant risks to customers and to financial stability if it reaches critical mass. In some countries (namely the Czech Republic, Estonia and Lithuania), regulators have already started to introduce special regulatory requirements for these platforms (usually classified as “small payment service providers”). With regard to P2P lending, the following recommendations might be worth considering: enhancing transparency and reducing asymmetrical information between the borrower and the lender by requiring the disclosure of certain figures (e.g. lending volume or loans defaulted) and details with regard to the P2P lending platform (e.g. disclosure of how the ratings are calculated). Moreover, the most recent financial crisis has shown that structures where the originator/intermediary of a loan does not bear at least part of the credit risk lead to undesired moral hazard effects. Therefore, a requirement that the originator or P2P lending platform has to retain at least part of the credit risk would probably reduce this moral hazard effect.

To sum up, the topic of fintechs is currently being discussed around the globe, but to date little attention has been paid to the CESEE region. This paper is meant to close this gap by taking stock of fintech activities in CESEE. Adoption of new

technology is very heterogeneous across the CESEE countries. Interestingly, some of them seem to have a more active fintech scene in some areas (e.g. P2P lending) than many of their western neighbors.

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Annex

Table A1

Crowdfunding and P2P lending in CESEE countries

Name	Business model	Country	Also operating in	Website
KLEAR	P2P	BG		https://www.klearlending.com
Zonky	P2P	CZ		https://zonky.cz
Benefi	P2P	CZ		https://www.benefi.cz
Bankerat	P2P	CZ		https://www.bankerat.cz
Fin X	P2P	CZ		https://www.finx.cz
Loanis	P2P	CZ		http://www.loanis.cz
Pujcmefirme	P2B	CZ		https://www.pujcmefirme.cz
FinGOOD	P2B	CZ		http://www.fingood.cz
Hithit.com	Crowdfunding	CZ	SI	https://www.hithit.com/cs/home
Startovac.cz	Crowdfunding	CZ		https://www.startovac.cz
Bondora	P2P	EE		https://www.bondora.com
MoneyZen	P2P	EE		https://www.moneyzen.eu
EstateGuru	P2P	EE		https://estateguru.co
Monestro	P2P	EE		https://www.monestro.com
Hooandja.ee	Crowdfunding	EE		http://www.hooandja.ee
Fundwise.me	Crowdfunding	EE		https://fundwise.me
Vivendor	P2P	EE		https://www.vivendor.com
Omaraha	P2P	EE	SK	https://omaraha.ee
Croinvest	Crowdfunding	HR		http://croinvest.eu
Croenergy	Crowdfunding	HR		http://croenergy.eu
Mintos	P2P	LT	CZ, EE, PL, LV	https://www.mintos.com
Savy	P2P	LT		https://gosavy.com
FinBee	P2P	LT		https://www.finbee.lt/en/
Paskolu Klubas	P2P	LT		https://www.paskoluklubas.lt
Manu	P2P	LT		https://www.manu.lt
OK.lt	P2P	LT		https://ok.lt
Twino	P2P	LV	CZ, RU, PL	https://www.twino.eu
Kokos	P2P	PL		https://kokos.pl
Finansowo.pl	P2P	PL		https://www.finansowo.pl
Sekrata	P2P	PL		https://www.sekrata.pl
Zakramini	P2P	PL		https://zakramini.pl
Apple Credit	P2P	PL		https://applecredit.pl
FriendCredit	P2P	RO		http://www.friendcredit.ro/FriendsCredit
Sprijina	Crowdfunding	RO		https://www.sprijina.ro/
Crestem Idei	Crowdfunding	RO		http://crestemidei.ro
vdolg	P2P	RU		https://vdolg.ru
BezBanka	P2P	RU		https://bezbanka.ru
fingooroo	P2P	RU		https://fingooroo.ru
Loanberry	P2P	RU		https://www.loanberry.ru
Fundico	P2P	RU		http://www.fundico.ru
Blackmoon	P2P	RU		https://blackmoonfg.com
Surety	P2P	RU		https://surety.com/en
Plan B	P2P	SK		https://planb.sk
Zinc Euro	P2P	SK		https://www.zinceuro.sk/vsetko-o-zinc/
Zlty	P2P	SK	CZ	https://www.zltymelon.sk
PrivatBank	P2P	UA		https://privatbank.ua

Source: Author's compilation.

Note: No P2P lending platforms in AL, BA, HU, MK, RS, SI.