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Abbreviations

AIS	account information service
API	application programming interface
CENTROlink	Payment system created in Lithuania and operated by the Bank of Lithuania
ECB	European Central Bank
EU	European Union
FinTech companies	financial technology companies
GDPR	General Data Protection Regulation
PIS	payment initiation service
POS	Point of sale
PSD2	Second Payment Services Directive
PSP	payment service provider
SEPA	Single Euro Payments Area
UK	United Kingdom

The Review was prepared by the Market Infrastructure Department of the Banking Service of the Bank of Lithuania.

The Review is available in PDF format on the Bank of Lithuania website.

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SUMMARY

Regulatory and technology changes are bringing an end to the competition-limiting tying practice currently prevailing in the Lithuanian payments market. The practice of tying together various financial services with payment accounts, which is predominant among Lithuanian banks, limits the possibilities for consumers to choose the most acceptable PSP and often increases the payment service-related costs for them. In addition, some companies in Lithuania still apply restrictions to employees' when chosing in which bank to receive their wages. The practice of tying together various financial services with payment accounts has contributed to a large number of inactive accounts in domestic banks, which increases payment service-related costs for consumers. Having considered this, the tying practice has been subjected to legal restrictions – the laws of the Republic of Lithuania already limit tying a housing loan to a payment account, and a restriction on tying a deposit to a payment account will come into force on May 2019. In addition, the SEPA Regulation does not allow the payer (employer) to specify with which PSP the payee (employee) must hold a payment account, and the payer is liable for this. In the future, technological progress will enable abandoning the practice of tying financial services altogether, even without any regulatory changes.

Amendments to the Law on Payments adopted in 2018 are changing the rules to accessing a payment account: not only PSPs managing the account or account holders can legaly access it, but also third parties, i.e. licensed payment initiation and account information service providers. PSPs (payment institutions and e-money institutions holding a special license or banks) providing payment initiation and account information services can significantly improve the consumers' experience when shopping online and provide new services, however, at the same time, it increases the risk to data safety and of fraud. Therefore, appropriate preparation of the market participants and alertness of payment service consumers is needed. Amendments to the Law on Payments have also strengthened consumer protection in cases that are less frequent, but might come with severe consequences for them.

Providing access to a payment account for third parties is the beginning of Open Banking. Lithuanian financial institutions are preparing for this in order to comply with the requirements of EU legislation; however, in other countries banks are paying more attention to Open Banking. There, banks have been developing many APIs that will allow them to work more closely with third parties in creating new products and services.

The established Payments Council helps PSPs, representatives of companies and consumers as well as government institutions in cooperating together to address the most relevant payment-related issues. In 2018, the Payments Council has chosen to address three priority issues: 1) integration of instant payments in business and public administration processes, 2) opportunities for centralised Know Your Customer (KYC) solutions, and 3) opportunities for new authentication instruments and their compliance with anti-money laundering requirements. Aiming to address each issue, the Payments Council has set up a three task groups that examine the current market situation, best practices of other countries and develop proposals as well as recommendations for the Lithuanian payments market participants and state institutions.

The Lithuanian PSP market is actively preparing for the transition to instant payments. At the end of November 2017, the Bank of Lithuania, as well as 7 other countries, was among the first to introduce an instant payment infrastructure, which ensures instant payments between different PSPs, in its payment system CENTROlink. In promoting the emergence of instant payments in the market, major domestic banks signed a memorandum of understanding where they undertake to offer instant payment services to customers by November 2019.

In the payments market, an increasingly important role is being played by FinTech companies. Banks and other major technology companies as well as state and international institutions foster the development of innovative payment solutions by cooperating with Fintech companies. Globally, the FinTech sector is becoming increasingly mature, making more targeted investments and focusing on long-term sustainability. In the payments market, Asian region is the most innovative, but Europe has a favourable regulatory environment. Trends show that national and international institutions are laying the groundwork for new legal bases on a global level and it has become evident that FinTech is becoming a global phenomenon. Large technology companies are entering the FinTech market by making developments in a relatively new area of mobile commerce. In 2017, the number of FinTech companies in Lithuania grew rapidly; however, to catch up with global leaders, more attention should be paid to research and development as well as the creation of new technologies so as to raise venture capital.

In order to maximise the SEPA benefits to consumers, there should be no obstacles to opening and freely using a payment account with a PSP of any Member State. More and more Lithuanian residents are gradually opening payment accounts with PSPs of other EU countries and using them to make international and domestic payments. In addition, Lithuanian payment accounts are already recognised and accepted by international trading and payment platforms. Nevertheless, there are still market barriers that do not allow consumers to fully experience SEPA benefits. Some companies still restrict the employees' right to have their wages transferred into a desired account with a foreign PSP, on account that most banks apply different rates for the transfer of wages within the bank and to another bank. Opening an account in any other EU country could become a usual alternative to accounts in Lithuania, provided that electronic identification, KYC, and other regulatory requirements are further adjusted for cross-border use.

Lithuanian enterpises associate the greatest benefits of SEPA with more effective international payments and simpler conditions for changing a PSP. A survey of companies, conducted by the Bank of Lithuania, shows that two

thirds of companies have benefited from international transfers that are faster, cheaper, and are performed in the same manner as domestic transfers. About a third of companies have used the opportunity to reduce the number of bank accounts or technical interfaces, and less than a half of them now perform all of their operations through a single bank. However, most companies have not yet adopted any optimisation solutions and have not felt any increased competition. This is partially explained by the inertia of companies expressing itself in the use of established banking relationships, failure to take advantage of their negotiating power and dependence on additional (non-standardised) services. Against this backround, the Lithuanian market remains attractive to the innovative solutions of FinTech companies that fill in its efficiency gaps.

The utility and other bill payment collection services offered by banks in Lithuania have become more efficient, encouraging more banks to compete. The e-invoice service has been the most popular method for collecting payments online. Services aimed at collecting utility and other bill payments are important for companies as they allow them to automate the reconciliation of payments. Changes to utility and other bill payment collection practices were introduced in 2017. The technical specification approved by the Lithuanian Standards Board has made the process more effective and increased competition among banks when collecting utility and other bill payments via specialised forms through internet banking. The standardised payment specification is quite widely used, but overall, the collection of utility and other bill payments via specialised forms has decreased. The use of e-invoice payment service, which emerged in the market in 2016, has continued to grow. In 2017, the number of these payments picked up by almost a third, compared to payments via specialised forms through internet banking.

In 2017, the development of the non-cash payments market in Lithuania was driven by the increased use of payment cards, but Lithuanian residents are still not very active in using the PSP-provided payment services, compared to other EU countries. In 2017, card payments accounted for 55% of all the payments made via Lithuanian PSPs and their market share increased by 3 percentage points over the year, while the market share of credit transfers and other non-card payments declined. Compared to other EU countries, Lithuanian residents are not active users of payment services. In 2017, payment transactions via Lithuanian PSPs averaged 176 per capita. In 2016, the average of the EU was 233 payment transactions per capita. Cash payments in Lithuania are decreasing annually (although at a very low pace), but remain one of the largest in the EU.

1. IMPACT OF SERVICE TYING AND GROUPING ON PAYMENT SERVICE USERS

The tying of services is considered to be a business practice that limits competition. Tying is defined as selling of goods and services when the customer is forced to buy another product simultaneously, i.e. the sale of one good or service is conditioned on the purchase of another good or service. The latter is not necessary when purchasing the first one – the buyer could purchase it from other sellers. Such sales practices limit the customers' choice in the market of the latter good or service. The seller uses the power it possesses in one market on the market of a tied product. As a number of sources have pointed out, tying and its variations have a negative impact on competition.[1]

The practice of tying can be considered unlawful when applied by dominant market participants. Competition laws generally do not prevent an undertaking from enjoying a dominant position in the market, i.e. from holding a significant market share.[2] However, it is prohibited to abuse this position. One of the cases of abusive use of a dominant position is the imposing of additional obligations on another party upon the conclusion of a contract, where those obligations are not of direct relevance to the subject of the contract by their commercial nature or purpose.

The practice of tying services together with a payment account is widespread among Lithuanian banks. The prevailing practice among banks is that when making a non-cash deposit, the client is required to have a payment account with the bank. This is not a cause for concern when the depositor is the bank's customer already holding a payment account and using payment services; however, it becomes an obstacle for clients who not hold a payment account with that bank. To make cash deposit, a payment account is not required by any bank. However, as the number of bank branches, especially those that carry out cash operations, decreases, opportunities to make cash deposits are decreasing as well. When providing investment services, all banks require to open an account. Not only banks offer consumer or other credits, but when it is done by those that provide payment services, they always require opening an account.

The tying of financial services with a payment account limits the consumers' possibilities to choose the most acceptable payment service provider and can increase consumer costs for payment services. The consumer will have a harder time choosing a bank-provided financial service which is tied with a payment account, since a combination of two services must be assessed in order to choose the most acceptable bank. As a result, the consumer chooses a payment service provider that does not necessarily meet their needs to the fullest. The choice is made easier when a payment account is opened and administered free of charge. However, the consumer cannot be sure that in the course of using a financial service tied with the payment account the bank will not raise the payment account fees. In such case, the consumer would have to pay more, even though other payment services provided by that bank are not needed. Also, consumers have more payment accounts than are needed to meet their payment service-related needs.

The requirement of companies to employees with which bank they should hold an account with to receive wages limits their choices and leads to higher payment service costs. Some employers still require employees to open an account with a specific bank for receiving wages. According to a survey of residents[3], in 2017, 20% of all respondents holding an account indicated that their employer does not allow them to choose a desired bank or a credit union for receiving wages. As a result, an employee may need to use a bank offering services that are not necessarily satisfactory in terms of price, choice and quality. In addition, after taking up a job position with different employer, the employee may need to open an additional account with another bank offering services that are not necessary to him. The banks' tying together of services (e.g., it is required to hold an account with a bank when taking a housing loan[4]) would only aggravate such a situation.

If the employee does not agree with the employer's request to open an account with the specific bank, the latter must take into account the employee's wish; otherwise it would constitute a violation of the provisions of the EU regulation. The SEPA Regulation[5] does not allow the payer (employer) to indicate where the payee (employee) should hold an account. Therefore, if the employee does not agree with such request and informs the Bank of Lithuania about it, the employer may be subjected to sanctions provided for in the Law on Payments.

The tying practice has contributed to a large number of inactive accounts on the market and this in turn has increased consumer costs associated with payment services. The requirement to hold a payment account in a bank when there is a need for other services (deposit or loan), and the employer's requirement to hold a payment account in a particular bank did not concern the residents when accounts were opened and administered free of charge[6] or for a small fee. Coupled with other reasons (e.g. accounts are not closed after the owner's death, as the bank does not possess the

[1] See http://www.concurrences.com/en/glossary-of-competition-terms/Tying-or-tied-selling.
[2] The Law on Competition provides that, unless proved otherwise, an undertaking (except for retailers) with a market share of not less than 40% shall be considered to enjoy a dominant position within the relevant market, or each of a group of three or a smaller number of undertakings (except for retailers) with the largest shares of the relevant market, jointly holding 70% or more of the relevant market, shall be considered to enjoy a dominant position.
[3] The Survey was conducted on behalf of the Bank of Lithuania by the UAB Baltijos tyrimai public opinion and market research company in September 2017 (https://www.lb.lt/uploads/publications/docs/18756_cc21e59768d489efd1f5e5bbfad7a317.pdf).
[4] This requirement cannot be applied since 1 July 2017, when the Republic of Lithuania Law on Real Estate Related Credit entered into force.
[5] Regulation (EU) No 260/2012 of the European Parliament and of the Council of 14 March 2012 establishing technical and business requirements for credit transfers and direct debits in euro and amending Regulation (EC) No 924/2009.
[6] Most often, banks opened payment accounts and handled them free of charge for only those customers who received their wages in the account.

necessary information to do it), this led to the current situation in Lithuania where many dormant payment accounts remain open in banks. There were about 1.1 million dormant[7] accounts at the end of 2017. It accounts for a quarter of all payment accounts opened in banks. This phenomenon has become a problem at the end of 2016-beginning of 2017, when banks changed their pricing and started applying a monthly commission fee for account handling, crediting of funds and, for some banks, making credit transfers from the account. In order to protect consumers from potential negative consequences, the Bank of Lithuania adopted a position, setting out good practices for payment service providers, on how to deal with such dormant accounts in order to reduce their number and consumer costs.[8]

The laws of the Republic of Lithuania prohibit tying certain financial services with a payment account; for some of the services these restictions are already in force and soon will be applied for others. The provisions of the Law on Real Estate Related Credit[9] do not allow credit institutions to require a consumer to open a payment account when borrowing for a house purchase. If a payment account is necessary for the credit institution to administer a loan repayment, the consumer may demand a limited-use account that would be free of charge unless it is used for other payments. By the same principle, since 1 May 2019, credit institutions are prohibited from requiring consumers to open a payment account if they make a deposit. Credit institutions may open a limited-use payment account to the consumers if this is necessary due to the structure of their IT systems, but without charging a commission fee for it.

In the near future, technological progress will enable abandoning the practice of tying any financial services together with associated payment accounts without adopting any regulatory changes. Service providers often explain the tying of services by both technical constraints and the need for risk management. Nevertheless, the technological environment has had a significant impact on the financial sector and it has already formed a unique sector – FinTech. With the help of technologies, various business models, such as those for ensuring the provision of financial services through agents and technical intermediaries, allowing access to payment account information or initiating a payment on behalf of the account holder with his consent, etc., are being developed. Technological advances make it possible to provide financial services without resorting to tying them. Therefore, no other non-payment-related services should be tied with a payment account. Often, the requirement to have a payment account and to receive income through it is excused by the need to manage the risk (for example, this enables tracking the borrower's creditworthiness). However, this can also be done via account information service. These services and other technological solutions should be used in such a way as to make the flawed tying practice redundant. If the situation in this area remains unchanged in the long term, it would be useful to extend the prohibition to tying to other services provided by financial institutions (e.g. investment services) as well.

Box 1. Payments Council

Seeking to strengthen the collaboration among the payment service providers, users, regulators and the academia in the course of developing Lithuania's payments market, the Payments Council was established at the end of 2017. It was created drawing on the best practices of other countries, ensuring the representation of all stakeholders and enabling the independent setting of a work programme and position.

Based on the principle of balanced representation, the Payments Council consists of 10 members. Presently it joins together representatives from the Bank of Lithuania, the Ministry of Finance of the Republic of Lithuania, the Association of Lithuanian Banks, the Association of Lithuanian Payment and Electronic Money Institutions, FinTech Lithuania group, the Alliance of Lithuanian Consumer Organisations, the Council of Small and Medium-Sized Enterprises, the Association of Lithuanian Chambers of Commerce, Industry and Crafts and Vytautas Magnus University. Representatives of Mykolas Romeris University and Kaunas University of Technology participate as observers. The operational principles of the Council and structure thereof are to be reviewed at the end of 2019.

Members of the Payments Council freely choose issues to be analysed in it and prepare their work programmes. The Council aims to analyse directions for the development of Lithuania's payments market and their problematic aspects, monitor how payments policy measures are being implemented and how innovations emerging in the market being applied. The Payments Council may submit proposals to market participants and state institutions with regard to possible solutions for issues within the payments market, implementation of policy measures and developmental directions, formulate the common position of Lithuania and present it to relevant EU institutions.

In 2018, the Payments Council has chosen to address three priority issues. For each issue, the Payments Council has set up a task group from experts in the field representing different institutions. The first group analyses the opportunities for instant payments in the Lithuanian market and methods for their practical application, while it seeks to identify missing

[7] Dormant payment accounts are those in which no transactions were performed for more than a year.
[8] The position of the Bank of Lithuania regarding the behaviour of banks in relation to clients with dormant bank accounts of 18 December 2017 (http://www.lb.lt/uploads/documents/docs/18433_114282bbcbbc182c388cdafdece2bcea.doc).
[9] This law implements the Directive 2014/17/EU of the European Parliament and of the Council of 4 February 2014 on credit agreements for consumers relating to residential immovable property and amending Directives 2008/48/EC and 2013/36/EU and Regulation (EU) No 1093/2010.

standardisation elements. The second group examines how to optimize KYC data collection processes in financial institutions and improve user experience. The third group analyses opportunities for new authentication instruments and compliance with anti-money laundering requirements, conformity between regulatory and market needs. In these task groups, representatives of payment service providers, companies and residents, universities and regulators jointly analyse current situation in the market, assess the best practices of other countries and prepare their proposals and recommendations for the participants of the Lithuanian payments market and state institutions. The Council's position and recommendations on these issues will be made publicly available.

2. TECHNICAL SPECIFICATION OF UTILITY AND OTHER BILL PAYMENTS, E-INVOICES

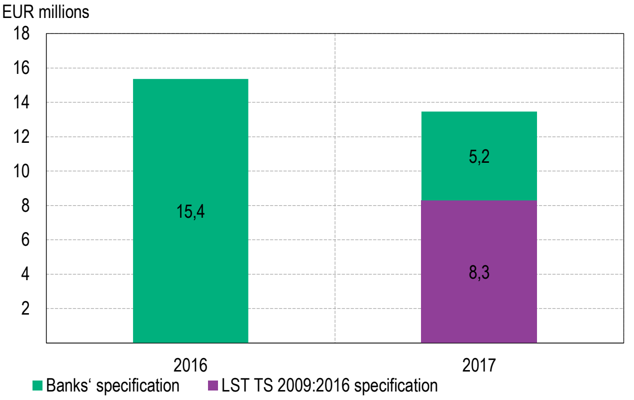
Companies favour utility and other bill payment collection service, as it provides the opportunity for automatic reconciliation of funds. Earlier, bill payments had been referred to as the collection of taxes, fees, fines and other payments to state and municipal budgets when the payers had to indicate the payment code in the payment order. Later, bill payments were expanded to include other regular payments (e.g. utility payments), when the payers have to fill out a specialised form for the payment to be executed. Companies collecting utility and other bill payments often receive a large number of payments; these can be automatically reconciled with the help of additional information provided together with the payment. Specialised forms that vary according to the needs of the payee may provide additional functions, such as setting the format for additional information, helping to identify false records, ensuring the provision of necessary data, etc. When the payers fill in a regular credit transfer form by themselves, the probability of errors increases, and for the payees, this means higher manual labour costs. In Lithuania, utility and other bill payment collection services are provided by banks (usually via internet banking) and other payment service providers (usually through kiosks or other client service offices).

The introduction of changes in utility and other bill payment collection practices in 2017 increased the efficiency of this process and encouraged competition between banks. Previously, companies (payees) did not have the opportunity to receive additional information collected through specialised forms via one channel, i.e. to see it in their account statement, as is usual when receiving other payments. Information files, which were being sent separately from funds, and intermediaries operating in the payment chain led to the inefficiency of this process. EU Regulation No 260/2012[10] establishing standards of credit transfers and direct debit services in the EU, prohibited such practices. Also, the banks providing utility and other bill payment collection services have implemented a technical specification approved by the Lithuanian Standards Board[11], which enabled companies to obtain all information, collected through specialised forms or simple credit transfers from all payment-collecting banks, including those from other EU states, in one format.[12] This provided additional negotiating power to companies in their negotiation for utility and other bill payment collection fees with banks. For example, driven by competition, as many as four banks to some recipients proposed to prepare forms free of charge. Nevertheless, the specifics of utility and other bill payment collection services, i.e. when forms are made by the payer's bank, but the service is most useful to the payee, who can hold an account in different bank, often makes companies to conclude contracts with several banks and this weakens their negotiating power. Companies aiming to optimise revenue collection, should also explore other alternatives, such as e-invoice services, self-service websites, or the new payment initiation service.

The standardised utility and other bill payment specification is used quite widely, but in general, the collection of payments through specialised forms has decreased. Smaller banks support only a standardised specification when offering utility and other bill payment collection services via specialised forms. At the same time, major banks offer additional technical specifications, set by them that do not allow transferring payments to another bank, if the payer's and payee's accounts are in different banks. Thus, companies using such specifications are forced to have accounts in those banks. In 2017, 6 out of 10 utility and other bill payments were made according to standardised payment specifications (see Chart 1). This share of transactions accounts for approximately 50% in total value (see Chart 2). Overall, utility and other bill payment collection in banks via specialised forms has decreased. Compared to 2016, the number of transactions and their value decreased by 12% and 19% respectively. Such decreases may be partly explained by the growing popularity of e-invoice services, competitive offers of other payment service providers (payment and e-money institutions), and the fact that not all companies have adapted to technical changes.

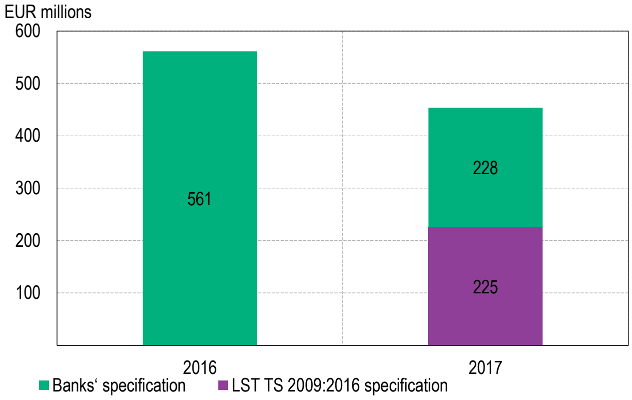
[10] Regulation (EU) No 260/2012 of the European Parliament and of the Council of 14 March 2012 establishing technical and business requirements for credit transfers and direct debits in euro and amending Regulation (EC) No 924/2009.
[11] LST TS 2009:2016.
[12] Although the banks in other countries do not use specialised forms prefered in Lithuania, the payer has the opportunity to fill out a simple credit transfer form according to the payee's instructions in such a way that the payee's systems would process such an order as any other payment.

Chart 1. Number of utility and other bill payments via specialised forms



Source: Bank of Lithuania.

Chart 2. Value of utility and other bill paymens via specialised forms

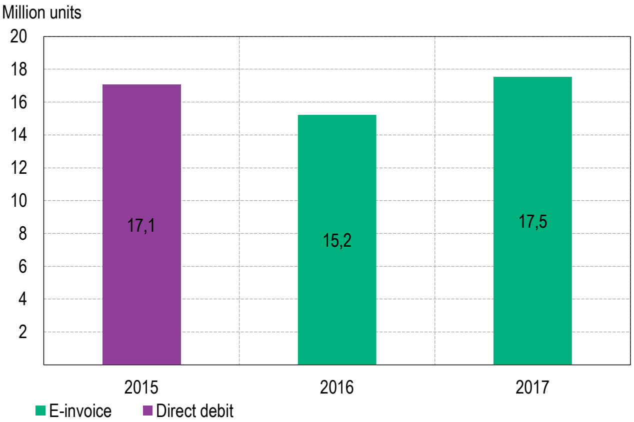


Source: Bank of Lithuania.

The e-invoice payment service, which was introduced in 2016, is gaining popularity. The e-invoice service enables the payee to submit an electronic invoice to the payer directly to their internet banking system, and the payer can pay it manually or select automatic payment. Almost 1 million residents[13] and about 36,000 legal entities have chosen this service. Also, almost all of them (95%) opted for automatic payment of e-invoices. Through banks, e-invoices are distributed by more than 320 legal entities. Thus, 17.5 million e-invoices were paid in 2017, a year-on-year increase of 15% (see Chart 3), with a total transaction value of €532 million, a year-on-year increase of 16% (see Chart 4). According to the number of transactions the e-invoice service has caught up to that of direct debit transactions used until 2015, but the total transaction value is still lower. The e-invoice service was created to replace the direct debit system specifically. Further development of this service depends on taking into account market needs and ensuring technical compliance with the European standards.

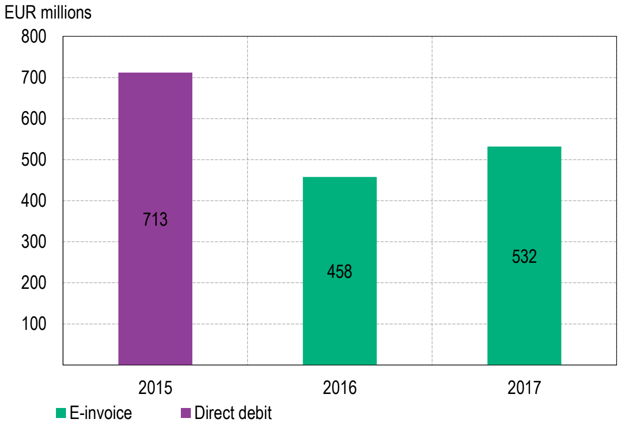
Even though the e-invoice service is completely technically adapted to distribute all e-invoices through one PSP, in practice, it is done extremely rarely. The e-invoice system has created technical conditions for companies to use a one-stop shop principle, i.e. to submit e-invoices to all the clients of Lithuanian PSPs by only using the services of one PSP. The main pricing obstacles to use one-stop shop principle were also removed: there are no barriers left to credit funds received from other PSP[14], most of PSPs charge the same fee for distribution of e-invoices to the payers in the same or different bank, and most PSPs do not differentiate charges to payers for the payment of e-invoice.[15] Nevertheless, only 4 out of every 100 e-invoices were distributed to a different bank in 2017 (in 2016, 6 out of 100), although even 132 companies have ordered such service. It is likely that the distribution of e-invoices is influenced by terms and conditions set out between the banks and those set out in the contracts between the banks and their clients. The opportunities of distributing e-invoices to other PSPs will be monitored further, and changes to the current practices will be recommended, should they be necessary.

Chart 3. Number of e-invoice and direct debit transactions



Source: Bank of Lithuania.

Chart 4. Value of e-invoice and direct debit transactions



Source: Bank of Lithuania.

[13] The number of bank clients. Individual residents account for less. This is also applicable to legal persons.

[14] The legislation prohibits the banks from applying different charges for crediting internal and interbank credit transfers in euro to the accounts, thus, banks have revoked crediting charges completely.

[15] If a payer (natural person) has chosen a payment services basket, the fees for internal and interbank transfers do not differ. Only Swedbank AB and Medicinos bankas UAB apply different fees for the automatic payment of e-invoices inside the bank and to other PSP to clients that have not chosen payment services baskets.

3. ASSESSMENT OF SEPA IMPACT ON BUSINESSES AND CONSUMERS

After the implementation of SEPA regulation, opportunities provided by a single EU market are accessible to all residents that are using or are planning to use the services of PSPs. Since 1 January 2016, participants of the Lithuanian payments market have been active participants in SEPA, where credit transfers and direct debit transactions are performed by following single rules without differentiating between domestic or international payments. This led to the changes in service conditions and technical features of widely-used domestic payments and less frequent international payments. New fields were added to credit transfer forms that reach the payee without being distorted and allows for simpler reconciliation of funds. In addition, in Lithuania, the earlier-available direct debit has been replaced with the e-invoice service, which has become even more popular, and has enabled users to have more choices to manage their funds. More and more Lithuanian residents have been opening payment accounts in other EU states each year. Having received their wages in them (such an opportunity is already provided by a significant number of Lithuanian companies), they not only use them for international transactions, but for domestic ones as well. Lithuanian payment accounts are already recognised and accepted by international trading and payment platforms.[16] SEPA has provided new opportunities, but it has not mandated changes in habits of those Lithuanian residents that do not use banking services at all or rarely use them. In 2017, about a half of Lithuanian residents over 18 made no domestic euro payments and only 1 out of 10 made or received at least one international transaction in euro over the last 12 months.[17]

New services usually have a fragmentation effect on the market, thus, new areas of activity are being included into SEPA standards. In November 2017, the EU introduced a new SEPA payment service – instant payments. Although the service itself has already been standardised at the interbank level, there are different ways of applying it at points of sale (e.g. QR code scanning, payments linked to the payee's phone number, or the use of NFC technology). Aiming for common solutions, the European Payments Council has formed a group of experts which will have to propose uniform guidelines on the use of instant payments at points of sale.[18] Furthermore, aiming for a uniform experience while initiating domestic and international instant payments, technical solutions that allow to initiate an instant payment only by using the payee's phone number throughout the EU are already being developed.[19] Consideration is also given to the standardisation of e-invoice services, which currently are often availabe only within the country (this also applies to Lithuania). Should this be implemented, it would be possible to receive e-invoices from Lithuanian companies to other EU banks as well.

For SEPA to meet the expectations of consumers, all obstacles to opening and freely using a payment account with any Member State's PSP, which stillremain, should be removed. At present, there are still cases when companies (sending or receiving payments) instruct residents where to open a payment account. Business customers' payment service packages usually include internal and interbank payments, and a salary payments service enables directing group bulk payments to recipients in other banks.[20] However, most banks still apply different fees for wage payments within the bank and to other banks.

The largest share of residents uses payment services in a conventional way and do not seriously consider the possibility to open a payment account in another EU state. This stems from both objective reasons (e.g. language barriers and lack of pricing information) and subjective reasons (e. g. the belief that opening an account abroad is very difficult, or the lack of awareness of the possibility to open an account remotely). One out of twenty (5%) Lithuanian residents surveyed[21] indicated that they considered opening a payment account with a foreign bank or an e-money institution during the last 12 months; less than a half of them (44%) eventualy opened it. The European Commission aims to make the opening of an account or the use of other financial services across the EU a common practice[22], but it still needs to coordinate the implementation of electronic identification, KYC and other regulatory requirements.

Lithuanian companies associate the greatest benefits of SEPA with more effective international payments and simpler conditions for changing a PSP. A survey conducted by the Bank of Lithuania[23] shows that two thirds of companies have benefited from international transfers that are faster, cheaper and are performed in the same manner as domestic transfers. As much as 44% of companies have been able to give their employees the freedom of receiving their wages to an account with any EU bank chosen by them. About one third of companies have used the opportunity to reduce the number of bank accounts or technical interfaces, of which less than a half now performs all operations through a single bank. However, most companies (approximately 51%) have not yet adopted any optimisation solutions. About 39% of

16 Amazon, PayPal and others.
17 20 January-4 February 2018, the Bank of Lithuania performed a representative survey of the Lithuanian residents. The survey results expressed the opinions of Lithuanian residents aged 18 and older.
18 See https://www.europeanpaymentscouncil.eu/document-library/mandate-ad-hoc-multi-stakeholder-group-mobile-initiated-sepa-credit-transfers.
19 See https://www.europeanpaymentscouncil.eu/news-insights/insight/changing-reality-payments-standardised-proxy-lookup-service.
20 Most banks still apply different fees for salary payments within the bank and to other banks.
21 On 20 January-4 February 2018, the Bank of Lithuania performed a representative survey of Lithuanian residents. The survey results convey the opinions of Lithuanian residents aged 18 and older.
22 Consumer Financial Services Action Plan: Better products and more choice for European consumers, the European Commission, 2017.
23 Commissioned by the Bank of Lithuania, the Survey was conducted in February 2018, and responses were received from 509 companies operating in Lithuania.

companies agreed that the standardisation of payment processes made the process of changing PSPs simpler and faster (17% did not agree). Although SEPA is aimed at increasing competition in the payments market, most companies (61%) did not notice the increased competition (expressing itself, for example, through the development of new payment services or lower service fees). This is partially explained by the inertia of companies (e.g. as regards the public procurement procedures) expressing itself in the use of established banking relationships, failure to take advantage of their negotiating power and dependence on additional (non-standardised) services (such as a bank's prioprietary specifications and Bank Link services). Against this backround, the Lithuanian market remains attractive to the innovative solutions of FinTech companies that are able to fill in its efficiency gaps.

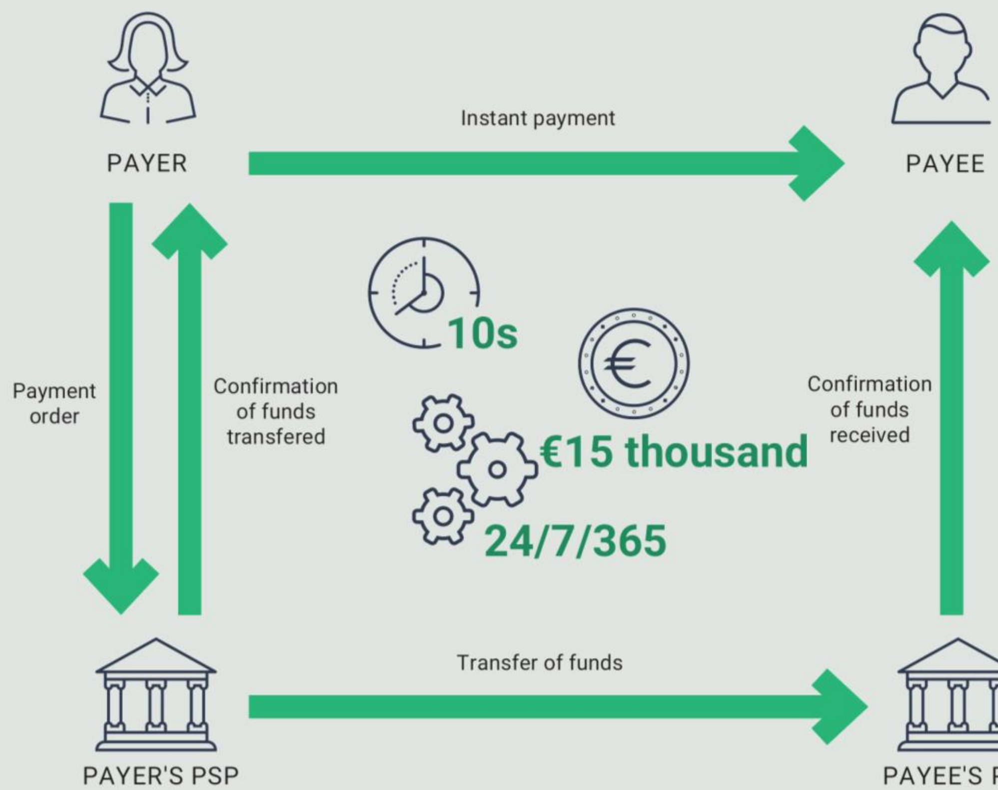
Box 2. Instant payments

Instant payments are payments made between payment accounts 24/7/365; and funds are credited to the payee's account within a few seconds after the initiation of the payment, allowing the payee to use them immediately. Such payments are performed both between accounts with the same PSP and between accounts with different PSPs. For instant payments, the European Payments Council has approved the SEPA Instant Credit Transfer Scheme (SCT Inst), which came into force in November 2017.

Due to their speed and convenience instant payments will eventually become a preferred form of payment for multi-purpose payments. For example, the experience of Scandinavian countries has shown that instant payments are especially convenient for transferring funds to other people, e.g. daily allowance to children, to a colleague or paying friends for dinner. They will also be easily adapted for purchasing goods or services from retailers, such as marketplaces, beauty salons, etc. Also, this should be another form of payment for the electronic commerce, where it is important for the merchant and the client to receive the payment and the service at once.

At the end of November 2017, the Bank of Lithuania, as well as 7 other countries, was among the first to introduce an instant payment infrastructure, which ensures instant payments between different PSPs, in its payment system CENTROlink. CENTROlink has direct link with pan-European instant payments system RT1, created by *EBA Clearing,* and provides interlinking with Eurosystem's system TARGET2 adapted for instant payment service TIPS (starts to be applied from November of 2018. However, PSP clients can only expect to receive instant payment services when their own PSP has prepared its internal systems and is connected to payment systems for processing such payments. Eventually, it will be available across SEPA, i.e. in 34 European countries.

Chart A. Instant payment process



Source: Bank of Lithuania.

The success of instant payments will depend on the willingness and readiness of all PSPs to offer this service to their clients. While connecting to interbank systems, the PSPs are able to choose whether to send and receive instant payments or just to receive them. The bank of Lithuania has signed a memorandum with the banks where they undertake to offer instant payment services to clients in Lithuania by November 2019. To add, the activities of the Payments Council (see Box 1) involve analysing the opportunities for and the application of instant payments.

4. STRONGER PROTECTION OF PAYMENT SERVICE USERS

In August 2018, the amendments to the Law on Payments implementing the PSD2 entered into force. The Law on Payments establishes the requirements for the provision of payment services, the rights of payment service users and guarantees their protection. These amendments to the Law on Payments further strengthen consumer protection when using payment services, especially in cases that are less frequent, but come with severe consequences for consumers. Information about the rights of payment service users in accordance with the Law on Payments and other legal acts regulating payment services is available at the website of the Bank of Lithuania and the websites of PSPs (if a PSP does not have a website, information is provided at the client service offices).

Conditions for payment service users in case of having provided incorrect payee's account number, the reservation of previously unspecified amount for a future payment, and closing a payment account have been improved. Frequent travellers are required to use payment cards for various reservations (hotels or car rentals) when the final payment amount is not known in advance. Upon entry into force of the Law on Payments, a payer's PSP can only reserve a specific amount approved by the payer, and, after receiving exact information about the transaction amount, the PSP must immediately remove the reservation. Furhtermore, if a payer were to indicate incorrect account number when initiating a payment and the money was transferred to another person, it would now be easier for the payer to recover the funds transferred to the wrong person. The Law on Payments obliges the payer's payment service provider to put every effort into tracking down the wrong payment and recovering the funds. The payee's PSP must cooperate and transfer the information available to it that is necessary for the recovery of funds to the payer's PSP. In the event of failing to recover the funds, the payer is provided with the relevant information available to his PSP so that legal remedies to recover the funds could be taken. Upon the entry into force of the Law on Payments, in case of closing a payment account, the PSP will have to submit to the payment service user a 3-year account statement free of charge. Usually, after closing a payment account, the client loses access to the account statement, unless they have taken care to save a copy in advance. An account statement can be useful in cases of suspected unauthorised transactions, as well as using newly emerging services, which are based on historical payment data (e.g. creditworthiness assessment).

New regulation will increase the protection of payment service users in case of other persons illegally using the payment instrument. The amount of loss incurred by the consumer due to the unauthorised use of the payment instrument is reduced to €50 (previously the user could have incurred a loss of €150), and in some cases, the payers will not suffer any losses, for example, in case of a lost contactless payment card or in other cases, when simplified authentication procedures are used by the PSP (e.g. one click of a button may be sufficient to initiate a low-value transfer or payment to trusted recipients specified by the payer). Payers should not suffer any losses for being unable to notice having lost their payment instrument. This is relevant when a payment can be initiated only by using stolen payment instrument data, and the payer still holds the instrument. Having learned about payment transactions executed without the user's consent, a PSP will have to repay the amount transferred via unauthorised payment transaction by the end of the next business day at the latest, unless there is reasonable doubt that the user has acted fraudulently or with gross negligence (e.g. revealed internet banking passwords to scamers).

The Law on Payments improves the opportunities of using electronic payment instruments for consumers whose funds in the accounts are subject to recovery. Lithuanian legal acts provide that, in certain cases, institutions making the recovery (bailiffs, the State Tax Inspectorate, the State Social Insurance Fund, etc.) must ensure that a certain amount is still left for consumers. For example, the recovery is not allowed from social benefits received, childcare benefits, etc. The PSP decides at its discretion (in the contracts) how funds protected from recovery should be used. It usually limits the opportunities of disposing these funds, for example, allowing only cash withdrawals at the PSP's client service office. These additional restrictions reduce the ability of users to access payment services to greater extent than it is specified in the orders for recovery. The Law on Payments has been amended aiming to reduce the restrictions imposed on consumers and to ensure that consumers can freely dispose of funds secured from recovery via electronic payment instruments. It stipulates that since 1 May 2019, PSPs must ensure the posibility for all consumers to freely use these funds at least via payment cards.

Box 3. Payment service packages

In 2017, credit institutions changed the pricing of payment services. Payment service packageshave replaced the previous pricing when a fee was charged for each service (e.g. transfers in euro, cash transactions, account handling). A payment service basket is a method for the pricing of payment services, where a number of payment services, including account handling, payment card, online transfers, cash withdrawal at ATMs, etc., are provided for a fixed monthly fee. Banks have not only offered a basic payment account service, the composition and maximum price of which is regulated, but also other payment service packages created at their own initiative.

The price of the service packages offered by banks, which can be chosen by any client, varies between €1 and €1.80. People who receive wages in the account of a chosen bank or actively use its services can get the same package at a lower price – from €0.60 to €1 per month. For young people and seniors, banks also offer special plans, which are less expensive than the standard ones, charging €0-0.70 for young people and €0.60-0.80 – for seniors, respectively. Individuals who need more services, such as to have a credit card or the ability to withdraw larger amounts of cash at ATMs, can choose other plans that are more suited to their needs; these, however, are usually more expensive.

According to a survey conducted by the Bank of Lithuania at the end of 2017, various payment service packages were chosen by about a half of bank clients (1.6 million). Of these, more than 70% used the cheaper payment service packages intended for those receiving wages, or for young people, or seniors; thus, the most necessary payment services did not cost more than €1 per month for the majority of those who have chosen payment service packages. According to the survey, those using this service, on average, paid a little over €10 per year.

For most of the clients, the services covered by payment service packages are sufficient for making all necessary payments and cash withdrawals, thus, they only pay the commission fee. In 2017, those that had a plan paid almost €9 on average for services exeeding the scope of the plan – for cash transactions at ATMs (exceeding the limit set for cash withdrawals at ATMs by a given basket or for using the ATM of another bank in Lithuania or abroad) and for additional payment cards. Only a small part of residents pay for cash withdrawals at ATMs after exceeding the amount of cash allowed by a given basket.

The survey of the Bank of Lithuania also showed that residents who had chosen payment service packages were more active in using payment services: they carried out more credit transfers, paid more e-invoices, and withdrew more cash. Residents who had not chosen them used payment services less freaquently, but paid more for payment services on average (more than €22 per year). The largest share of expenses (about a third) was for account handling, a little less (30%) for cash withdrawals at ATMs, and the remaining amount – for payment cards and transfers in euro.

The survey revealed that Lithuanian residents (those with payment service packages and those that did not choose them) pay a significant amount for cash transactions at ATMs and at bank branches. These expences account for up to one third of the total payment service expences to residents. They could make significant savings where they to make non-cash payments more often, thus avoiding the expenses related with cash withdrawals from the account.

Even though residents without payment service packages do not use payment services as often, however, in many cases they too would benefit from choosing a payment service basket. For example, individuals who have an account, a payment card, and execute at least one transfer, would pay less for payment services if they had a payment service basket, and individuals who receive their wages in the chosen bank's account, would get considerably more services for a fee that is just slightly higher than the fee for account handling.

5. ACCESS TO PAYMENT ACCOUNTS

The Law on Payments is changing the rules to accessing a payment account: not only PSPs servicing the account or account holders can legaly access it, but also third parties, i.e. licensed payment initiation and account information service providers. When using such services, payment account holders transfer their credentials (login data) to the account servicing PSP via PIS and AIS providers, therefore, it is essential for these third parties to access the payment accounts in a safe manner. For this purpose, the European Commission has set requirements for API, i.e. technical interface, which has to be developed by each account servicing PSP and via which PIS and AIS providers will access clients' accounts that will enter into force on September 2019. The prepared API have to ensure that the account can only be accessed by licensed PIS and AIS providers, which confirm their identity to the account servicing PSP, and that the credentials, payment orders and account information are safely transferred from one PSP to another. The Law on Payments determines what data and for what purpose can be transferred: PIS and AIS providers can only access such data that are needed to provide the respective services and the data related to the payment account. On the other hand, account servicing PSPs, cannot limit third parties' access to the data beyond those that the clients themselves can access when logging into the account directly.

The new PSPs can significantly improve the consumers' experience when shopping online and provide new services, but at the same time, it creates an additional risk that PIS and AIS providers can be exploited by scamers or the latter may pretend to be PIS or AIS provider. Thus, extra caution is required. Until the the API requirements set out by the European Commission come into force, PIS and AIS users will have to provide their credentials in the environment of PIS and AIS providers, and they, in turn, will transfer these credentials to the account servicing PSP, access the payment account, and perform actions specified by the client (initiate a payment or get account information). In Lithuania, aiming to minimise the risk, and in order for the account servicing PSP to know that the account is not being accessed by the account holder itself, PIS and AIS providers are required to identify themselves to the account servicing PSPs. Although the requirement to connect via the API has not yet entered into force, other requirements of the Law on Payments apply: PIS and AIS providers must be licenced for such activities, clearly inform the clients that they are using the services of an intermediary, only perform actions with the consent of the client, and not access more data than is necessary to provide the services. The payer can check the national registers of payment service providers whether the provider has an appropriate licence. Users also need to be cautious and not to use suspicious e-shops, and check in their browsers whether the website in which the payment is initiated belongs to that PIS provider (see the website certificate details by clicking on the lock icon).

Having logged in the clients' accounts, PIS and AIS providers can access their personal data, thus, it is important to ensure appropriate personal data protection when providing such services. Therefore, not only the provisions of the Law on Payments, but also the requirements of the GDPR are relevant. PIS and AIS providers must comply with the requirement of the GDPR when processing personal data acquired while delivering PIS and AIS services. The regulation provides that personal data can only be managed and processed if the user's consent is given; data management is necessary in order to fulfil the contract or legal obligation, as well as in other cases provided for in the regulation. Separate user consent for the processing of personal data is not required when delivering PIS or AIS services since the Law on Payments provides that personal data transfer is necessary for delivering PIS and AIS services. This means that it is sufficient to give consent to a PIS or AIS provider in order to use the service, and the account-handling PSP does not have to require additional consent from the client for the transfer of personal data to PIS and AIS providers. If a PIS or AIS provider offers additional services which are based on PIS and AIS services, but they are not regulated by the Law on Payments (e.g. the obtained payment account information is used to assess the creditworthiness of a person or if such assessment is carried out by yet another institution), the payer must give explicit consent to the processing of their personal data, as set out in the GDPR.

Box 4. Open Banking and APIs

Open banking is an emerging term in the area of financial services or financial technologies that refers to the use of the APIs to create new services for financial institutions. It provides more choices and financial transparency options for account holders ranging from Open Data to private data. The data exchange is performed in accordance with data protection standards and procedures. Private user data may only be transferred to third parties with the personal consent and approval of the user.[24]

The main advantages and opportunities of Open Banking are the following:

- more transparent, less complicated, and easier to compare banking services;
- the opportunity to review and manage all bank accounts in one place;
- innovative personal financial services;
- personal financial advice that will help to save.[25]

The study[26] conducted by PricewaterhouseCoopers, a global consulting company, assessed the impact of Open Banking on the economy of the United Kingdom. The results showed that Open Banking will generate about £2.3 billion in revenue by the end of 2018 and more than £7.2 billion by 2022. The survey also revealed that about 40% of domestic companies are willing to share their payment history with third parties, while 72% still place more trust in banks than in FinTech companies.

In Lithuania, financial institutions are preparing to implement the requirements of the PSD2. Although the deadline for the creation of a required API is not until 14 September 2019[27], most commercial banks are planning to be ready at least half a year earlier. Major market participants are planning to be ready even earlier and have placed their focus on it, for example, by developing sandbox through which third parties can access and test out the opportunities offered by Open Banking. The innovation centres organize Open Banking hackathons, in which financial technology companies and start ups compete in developing new Open Banking-based products and services.

Open Banking has rapidly been gaining more ground in other countries. In Singapore and Japan, commercial banks are actively developing new APIs. In the UK, the Open Banking regulation came into force at the beginning of the year. The UK Government requires 9 largest banks (based on the number of clients' current accounts) to open additional data, compared to the requirements of the PSD2. This is estimated[28] to create about 17,000 new jobs in the country. Following the example of the UK, the Australian Government is also preparing amendments to the laws on the implementation of Open Banking. Canada and other countries also have announced their plans to analyse the benefits of Open Banking. It is likely that in the coming years, more and more countries, including Lithuania, will seek to use the benefits of Open Banking. Having considered the initiatives of other countries, The Bank of Lithuania sees the benefits of Open Banking in promoting innovation and competitiveness in the financial sector and already this year is planning to launch a public consultation on the implementation of Open Banking in Lithuania.

[24] See https://www.seb.lt/open-banking
[25] See https://www.seb.lt/infobankas/verslui/atviroji-bankininkyste-ateities-bankai-jau-visai-netrukus.
[26] See https://www.thepaypers.com/e-invoicing-scf-e-procurement/uk-open-banking-sector-worth-gbp-7-2-bln-by-2022-pwc-study-shows/773802-24?utm_campaign=20180702-automatic-newsletter&utm_medium=email&utm_source=newsletter&utm_content=.
[27] See https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.069.01.0023.01.ENG&toc=OJ:L:2018:069:TOCBus.
[28] See http://www.paymentscardsandmobile.com/open-banking-can-contribute-1bn-uk-economy.

6. FINTECH IN THE FIELD OF PAYMENTS

Globally, the FinTech sector is becoming increasingly mature, making investments that are more targeted and focused on long-term sustainability. In 2017, global investment in the FinTech sector amounted to about $31 billion, and 30% of the funding were raised by payment companies.[29] PwC estimates that total global investment to FinTech sector will exceed $150 billion during the next 3-5 years.[30] More than two thirds of the world's major banks are planning to increase their investments in mobile technologies over the next 3 years, and a half of them will also increase investment in biometric technologies.[31] The banking sector has been increasingly chosing already-developed solutions and using them in existing business processes instead of developing its own payment or lending platforms. Therefore, FinTech solutions globally can be said to be already in the early stage of their mass adoption. The survey conducted by Ernst & Young shows that one out of three digitally active clients use two or more FinTech[32] services and even 50% of digitally active clients use FinTech money transfer and payment services.[33]

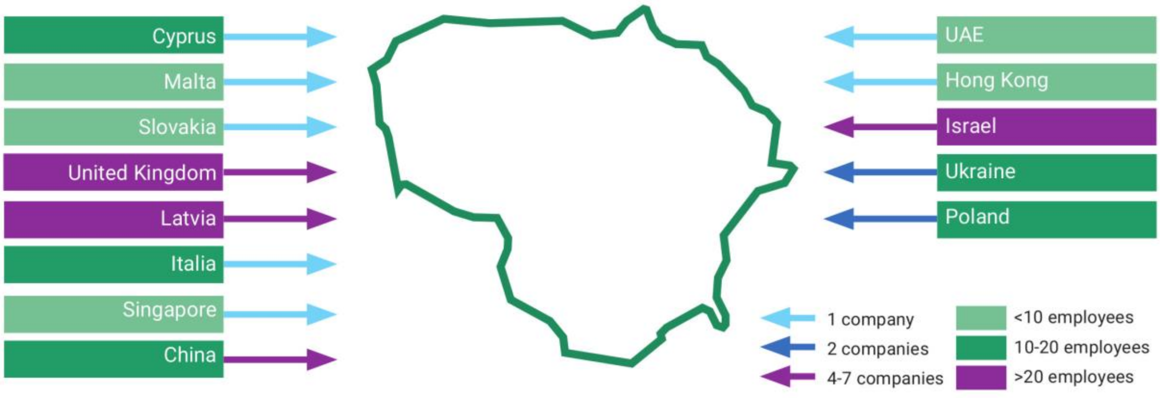
Asian countries are the most innovative in the payments market, while Europe has a favourable regulatory environment. The United States and the Asian region are the ones to attract the most investment in financial technologies, thus they are in the lead in this field. However, incumbent banks and merchants in the United States more often are choosing legacy systems, so when it comes to implementing innovation, they are falling a bit behind. Asian countries are those that adopt financial technologies at the most rapid pace. For example, China's and India's financial technology adoption rates stand at 69% and 52%, respectively.[34] This is because such technologies are more likely to be accepted by technically savvy developing populations, which are still lacking for financial services. For example, in China and India, a new type of interactive digital bank that does not have any client service offices is gaining popularity. The revolution in banking sector is now realised not only as digitisation but also as new business models based on artificial intelligence, blockchain, peer-to-peer financial servicing models; 'everyone is a bank' concept is spreading. Asia is leading the modernisation of payment infrastructure: in China, the value of mobile payments reached $5.5 trillion in 2016, which is 50 times more than in USA.[35] Europe remains one of the more mature FinTech markets; the strength of the region is attributed to its regulatory environment. The implementation of the PSD2[36] in Europe will encourage Open Banking and the emergence of new payment service providers, while the GDPR[37] will ensure better protection of consumer data. Such legal environment should increase the number of new FinTech companies in Europe in the coming years. In Europe, FinTech companies are already applying for banking licences, while the US and Australia consider introducing FinTech-oriented licences that are expected to boost investment in new financial technology companies.

In Lithuania, the number of FinTech companies grew by almost 43% in 2017, compared to 2016, and major companies, aiming to cooperate with the market new-comers, are opening innovation incubators; such initiatives are also supported by state instutions. Last year, the most popular activities of FinTech companies[38] involved payments, e-money issuance, and lending platforms. Out of 117 FinTech companies operating in Lithuania in 2017, 50% offered payment solutions directly to business and consumers.[39] Paysera, TransferGo, Blender and Moneta International are among the most successful Lithuanian FinTech companies, while Revolut, Transferwise and Instarem, etc. are among the most successful foreign ones operating in Lithuania. Although the number of FinTech companies operating in Lithuania is quite large, yet most of them are small businesses (even 66% of them employ no more than 10 employees) that do not hold a significant market share in terms of services. Fintech companies are more and more actively joining technology incubators. As start-ups develop payment solutions, incumbents' market accessibility, credibility and regulation are crucial for them, while the benefits of such companies for banks include dynamic ideas and the possibility of offering a wider range of products to the market, as well as increasing effectiveness. Banks and technology companies have opened innovation centres for FinTech companies that are aimed at attracting new start-ups and developing new technologies together with the more advanced companies. More than 50 innovation incubators are operating in Lithuania[40], and a large number of investment funds, which are expected to invest their funds next year, are currently opening up. Barclay's Rise Vilnius innovation centre already marks its second year; Luminor and Telia established Vilnius Tech Park at the end of 2016, while SEB bank also opened its innovation centre in 2018. The Bank of Lithuania is planning to establish a regulatory sandbox in 2018 and a

[29] See https://home.kpmg.com/content/dam/kpmg/us/pdf/2018/02/pof-4q17-report.pdf.
[30] See https://www.pwc.com/gx/en/industries/financial-services/fintech-survey/blurred-lines.html.
[31] See http://www.ey.com/Publication/vwLUAssets/ey-global-banking-outlook-2018/$File/ey-global-banking-outlook-2018.pdf.
[32] In the survey, digitally active clients were considered those who are active online. Fintech companies refers to newly established companies, expanding companies, and even non-financial companies that provide 17 Fintech-related services. Services attributed to Fintech sector are from the areas of money remittances and payments, financial planning, savings and investment, lending and insurance. Regular Fintech users are persons who have used two or more Fintech services in the last 6 months.
[33] See http://www.ey.com/Publication/vwLUAssets/ey-fintech-adoption-index-2017/$FILE/ey-fintech-adoption-index-2017.pdf.
[34] See http://www.ey.com/Publication/vwLUAssets/ey-fintech-adoption-index-2017/$FILE/ey-fintech-adoption-index-2017.pdf.
[35] See https://www.aciworldwide.com/-/media/files/collateral/trends/payments-innovation-jury-report.pdf.
[36] See https://eur-lex.europa.eu/legal-content/LT/TXT/?uri=CELEX:32007L0064.
[37] See https://eur-lex.europa.eu/legal-content/LT/TXT/?uri=CELEX:32016R0679.
[38] See https://www.vz.lt/rinkos/2018/01/29/pernai-lietuvoje-licencijuotos-32-fintech-imones.
[39] See https://investlithuania.com/wp-content/uploads/2018/02/Lithuanian-Fintech-Report-2017.pdf.
[40] See https://www.startuplithuania.com/ecosystem.

blockchain sandbox in 2019. The emergence of new technologies and innovations in the market is stimulated by research and development[41], however, this area has attracted less attention in Lithuania than in Europe, on average. Furthermore, Lithuanian companies only raised 18.9% of GDP in venture capital in 2017, while Latvia was in the lead together with the strongest innovator – Luxembourg (even 67% of GDP). Aiming to adopt new financial technologies in Lithuania more successfully, more investment should be allocated to research and development. This, in turn, would stimulate the absorbtion of new knowledge; while new businesses should allocate more funds to the implementation of innovations and encourage the development of new technologies by raising venture capital.

Chart 5. **Geography and size of Fintech companies having licences in Lithuania**



Source: Data of the survey the Bank of Lithuania, rekvizitai.lt, and Rise Vilnius as at the end of 2017.

An increasing number of corporations, technology, and e-commerce companies have moved to FinTech sector on a global scale, while mobile commerce is becoming the driving force of the market. The market of mobile wallets reached $594 billion in 2016 and is expected to reach $3,142.17 billion by 2022.[42] Global companies such as Samsung, Apple and Google, having integrated financial services into their activities, are developing mobile wallets for mobile payments. However, the title of the most popular mobile payments system went to Starbucks last year, an American coffee shop chain, which outpaced the above-named companies, even though ApplePay, GooglePay and SamsungPay apps are supported in various places, while Starbucks app – only in its coffee shops.[43] In this area, Lithuania has MoQ, a platform of mobile instant payments. It is the first project of three major telecommunication companies in Lithuania that will enable making payments using only QR code or NFC technologies. The concept of mobile commerce is gaining popularity on a global scale. Major corporations are linking payments to mobile devices and creating new business models. Facebook and Amazon are not only developing social networks or online shops: they are creating ecosystems with complex services, such as mobile payments via smart phones with the help of mobile apps that enable purchasing goods and services, communicating and making instant payments at the same time.[44] Companies such as Tencent and Alibaba, beyond their main businesses (social networking and e-commerce) are developing mobile commerce[45]; together, these corporations hold 90% of the Chinese payments market. Mobile commerce provides companies with the potential to scale up: having a wide geographical reach and a large client circle while cooperating with banks and payment card schemes, it is possible to have greater consumer engagement in the delivery of many services via one digital channel.

Recently, FinTech sector attracted considerable attention from international institutions, which are laying the groundwork for legislation on a global scale. In 2018, the European Commission published the FinTech Action Plan. The Financial Stability Committee in 2017 and Basel Committee in 2018 published reports[46] the main ideas of which are to promote innovative business models by way of clear and unified licensing guidelines, develop market cooperation platforms (sandboxes, innovation incubators[47]), promote collaboration between local regulators when ensuring cyber security and encouraging competitiveness. Such institutions have also underscored the importance of a global link between institutions

[41] In 2017, 23% of GDP were allocated for research and development of the public sector and only 7.5% for the business sector. Sweden, which is the sector's leader in Europe, allocated 49% and 65% respectively. The overall number of studies and publications is ten times smaller in Lithuania than in Denmark, which is in the lead. European Innovation Scoreboard 2018, EC.
[42] See https://www.zionmarketresearch.com/news/mobile-wallet-market.
[43] See http://fortune.com/2018/05/22/walmart-starbucks-mobile-pay-apple.
[44] Mobile commerce refers to commerce performed via mobile devices, using WiFi connections, biometrical authentication technologies, and instant payment online (while e-commerce refers online trading in goods and services with the help of a computer and a credit card).
[45] http://cebc.org.br/sites/default/files/mgi-chinas-digital-economy-a-leading-global-force_3.pdf
[46] See https://ec.europa.eu/info/publications/180308-action-plan-fintech_en; http://www.fsb.org/2017/06/financial-stability-implications-from-fintech/; https://www.bis.org/bcbs/publ/d431.htm.
[47] See https://www.bis.org/bcbs/publ/d431.pdf.

when setting new technological standards for blockchain and open banking. The United Kingdom has published the FinTech Sector Strategy[48] that includes creating platforms that would foster innovation and setting out FinTech standards. The European Commission has established a European Blockchain Partnership[49] in which representatives of countries, including Lithuania, participate in order to expand the application of this technology for public sector services. The Bank of Lithuania has signed an agreement with the Monetary Authority of Singapore on cooperation in FinTech area. Trends indicate that countries are laying the foundations for new global-scale legal bases, and that FinTech is no longer just a local phenomenon, it is becoming a global one as well.[50] For Lithuania, multilateral cooperation can provide good practices and speed up the adoption and legalisation of services as well as their accessibility for customers.

Distributed Ledger Technology can be advantageous in payment execution processes, however, it is still in testing phase. Distributed ledger technology, one of the most researched technologies based on blockchain and cryptography, can also be applied for payment platforms.[51] It is estimated that distributed ledger technology will reduce financial market costs by $15-20 billion annually by 2022.[52] The main advantages of this technology over the existing infrastructures are revealed during testing: payments are executed momentarily, international payments are carried out on the same day, and no need for intermediaries in currency exchange or securities trading processes.[53] In 2018, a breakthrough in adaptation of smart contracts (digitally encoded agreements) to financial services is expected. Moreover, blockchain technologies are expected to become more complex, interconnected and hybrid systems where privacy is combined with transparency. At first distributed ledger technology was used for creating virtual currencies, the value of which depends on consumer demand, thus resulting in high volatility. Even though various platforms that adapt virtual currencies for electronic payments are being developed, such business models are not regulated, they have limited points of sale and virtual currencies stored in e-wallets are not insured, therefore, they are more often used for speculation or investment purposes than for payments. Thus, while business is experimenting with distributed ledger technology, global institutions and banks are testing it to find real-life applications. So far, there has been no united decision towards improving the system's reliability reached, since there are questions regarding the unregulated environment and further development of the technology; thus, an important step on the part of the supervisory authorities and state institutions in providing a more concrete definition of technology will have to be taken in the future.

7. USE OF PAYMENT SERVICES IN LITHUANIA

In 2017, the number of payment transactions performed by companies and residents via Lithuanian PSPs[54] increased by a tenth, mainly due to the increased use of payment cards. In 2017, in Lithuania, 497.4 million payment transactions[55] were initiated via Lithuanian PSPs, amounting to €240 billion (see Table 1). Domestic transactions i.e. those executed between the payer and the payee the PSPs of which operate in Lithuania, accounted for 92% (94% in 2016), while cross-border transactions accounted for the other 8%. The number of payments made using payment cards issued by Lithuanian PSPs posted a double-digit increase, as in the previous year. In 2017, the number of card payments rose by 16.8% year on year. In 2017, card payments accounted for 55% of all payments made via Lithuanian PSPs (see Chart 6). Their market share expanded by 3 percentage points (the same as in 2016). Due to payment peculiarities that predetermine high-value transactions (e.g. settlements between companies), credit transfers dominated the market in terms of payments value, accounting for 97% of the value of total transactions.

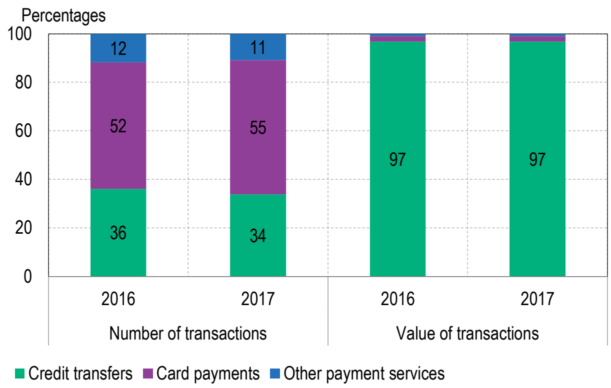
[48] See https://www.gov.uk/government/publications/fintech-sector-strategy.
[49] See https://ec.europa.eu/digital-single-market/en/news/european-countries-join-blockchain-partnership.
[50] See https://www.bis.org/bcbs/publ/d431.pdf.
[51] The usage is already tested by the National Bank of Canada; three Asian banks and the Monetary Authority of Singapore are working on the implementation of KYC blockchain; Australian Stock Exchange announced that it is planning to adopt blockchain technology for equity transactions.
[52] See http://www.paymentscardsandmobile.com/infographic-16-blockchain-disruptions.
[53] See https://www.bis.org/bcbs/publ/d431.pdf.
[54] The following institutions are considered as Lithuanian PSPs: Bank of Lithuania, banks established in Lithuania, foreign bank branches, central credit unions (CCU), credit unions, payment institutions established in Lithuania, branches of foreign payment institutions, e-money institutions established in Lithuania and branches of foreign e-money institutions.
[55] The review does not include payments made by Lithuanian residents using foreign payment service providers (Revolut, N26, PayPal, etc.).

Table 1. Payment services provided by Lithuanian PSPs in 2016–2017

Payment services	Number of transactions, million pcs.			Value of transactions, EUR millions		
	2016	2017	Change, %	2016	2017	Change, %
Total payments executed via Lithuanian PSPs	451	497.4	10.3	216,223	239,759	10.9
Credit transfers	162.7	168.4	3.5	209,331	231,914	10.8
Card payments	235.2	274.7	16.8	4,682	5,586	19.3
Other payment services	53	54.2	2.3	2,102	2,190	4.2

Source: Bank of Lithuania calculations.
Note: E-money payments and payments executed via foreign PSPs are not included.

Chart 6. Composition of payments via Lithuanian PSPs by number of transactions and their value in 2016–2017

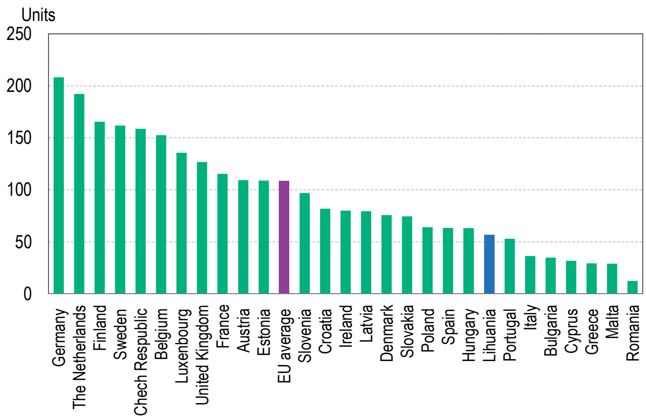


Source: Bank of Lithuania calculations.
Note: E-money payments and payments executed via foreign PSPs are not included.

The market share of credit transfers and other non-card payments shrank in 2017. The number of credit transfers executed via Lithuanian PSPs grew by 3.5% in 2017, while the number of other payment services, involving cash and non-cash remittances and payments via telecommunication, digital, or IT devices that are executed by mobile operators, picked up by 2.3%. A relatively slow growth in the number of transactions has led to a decrease in the market shares for these payment services. In 2017, credit transfers accounted for 34% (36% in 2016) of all transactions executed via Lithuanian PSPs, while other payment services – 11% (12% in 2016) (see Chart 6).

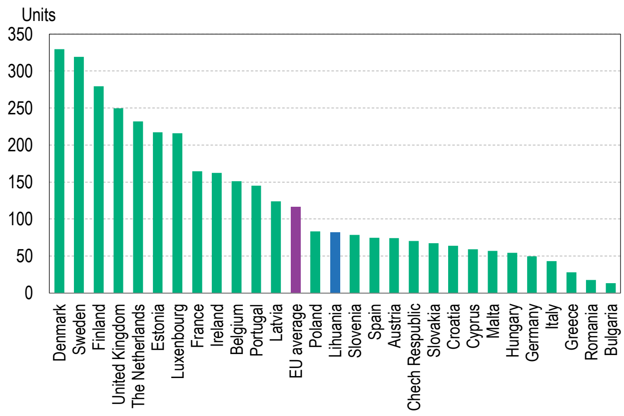
Compared to other EU countries, Lithuanian residents are not very active users of payment services provided by PSPs. In 2017, payment transactions executed via Lithuanian PSPs[56] averaged 176 per capita (157 in 2016), with 97 of them being card payments (82 in 2016). In 2016, the EU average of was 233 payment transactions per capita.[57] Compared to other EU countries Lithuanian residents rarely make credit transfers. In 2016, Lithuanian residents made 57 credit transfers per capita on average (see Chart 7). These transactions also include e-invoice payments received via internet banking. Most EU countries are using direct debit services instead of e-invoices. In the EU, credit transfers and direct debit transactions per capita amounted to 109 on average. The relatively small usage of credit transfers in Lithuania is partly explained by the Lithuanian residents' frequent use of money remittances and payments via telecommunication operators. The average Lithuanian resident executed about 19 such transactions in 2016. These services are usually intended for specific payments, e.g. utility and other bill payments in cash, payments for car parking, etc. The use of card payments and credit transfers in Lithuania was the lowest among the Baltic States.

Chart 7. Credit transfer and direct debit transactions per capita in 2016



Source: ECB database.

Chart 8. Card payment transactions per capita in 2016



Source: ECB database.

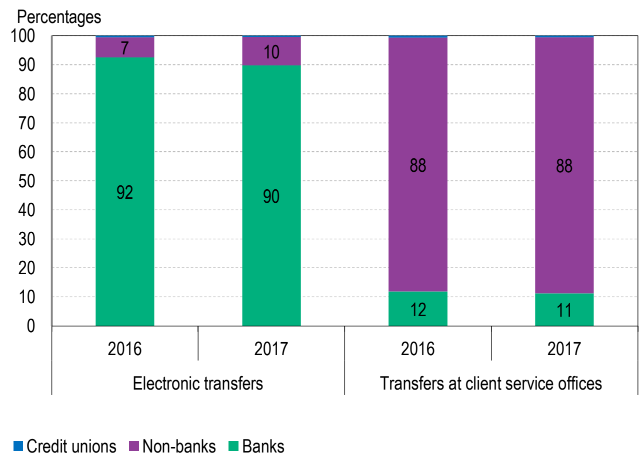
Banks hold a dominant position in the payments market. In the largest, card payments market, there is no serious competition for them so far. In 2017, bank clients performed 87.2% (86.9% in 2016) of total payment transactions made via Lithuanian PSPs; clients of payment and e-money institutions – 12.5% (12.7% in 2016), of credit unions – 0.3%, the same as in 2016. 90.1% (90.4% in 2016) of the total value of payments executed via Lithuanian PSPs were initiated in banks

[56] E-money payments are not included.
[57] E-money payments are not included.

(excluding the Bank of Lithuania). Within the market of non-card payments, which includes credit transfers, e-money transfers, money remittance and payments via telecommunication operators, bank customers performed 72% of transactions (73% in 2016), while customers of payment and e-money institutions – 28% (26% in 2016), and customers of credit unions performed about 0.5%, as in 2016. In 2017, as in the previous year, 99.8% of total payments, made using payment cards issued by Lithuanian PSPs, were conducted by payment cards issued by banks, while the rest were made by credit union cards. Also, banks performed 98% of card acquiring operations at points of sale. It is worth noting that Lithuanian residents are increasingly using the services of foreign PSPs (Revolut, N26 and others), but their services have been rarely used for conducting payments in Lithuania so far. For example, in 2017, 3% of cash withdrawals at ATMs were made by Lithuanian and foreign residents using payment cards issued by foreign PSPs (3% in 2016), while 6% (5% in 2016) of card payments at points of sale were performed using payment cards issued by foreign PSPs.

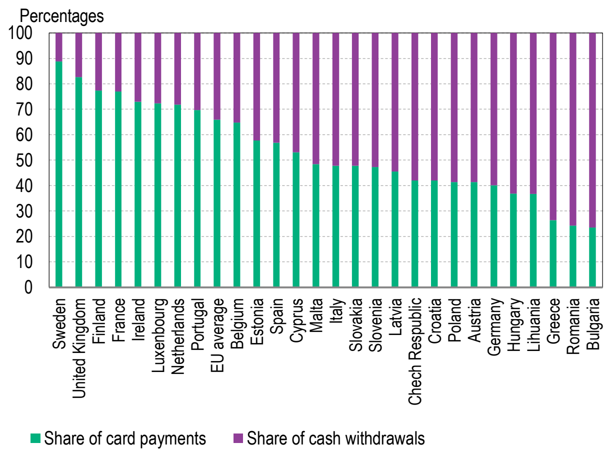
The market of transfers at client service offices does not tend to expand, so non-banks have been gradually moving to electronic payments. In 2017, 77% of transfers[58] in Lithuania were performed online (76% in 2016), while the rest were made at client service offices (these were money remittances and credit transfers initiated at bank branches). In 2017, electronic transfers accounted for 91% of the value of total transfers. In 2017, the number of electronic transfers inched up by 6%, while the number of transactions at client service offices shrank by 2% (in 2016 – by 0.3%). Banks continued to dominate the market of electronic transfers in 2017. Their customers performed 90% of all electronic transfers, however, the market share of non-banks (e-money and payment institutions) for electronic transfers slightly increased – from 7% in 2016 to 10% in 2017 (see Chart 9). Non-bank PSPs remained in a dominant position regarding transfers executed at client service offices, holding 88% of the market.

Chart 9. Market shares of PSPs in terms of money transfers in 2016-2017



Source: Bank of Lithuania calculations

Chart 10. The ratio of value spent on payments using a payment card to cash value withdrawn from the card in 2016



Sources: ECB database and Bank of Lithuania calculations.
*Denmark data is not included; the EU average is an estimate since the indicators of several countries are not published in full for confidentiality reasons.

The use of cash in Lithuania is decreasing annually, but remains one of the largest in the EU. One of the indicators for the prevalence of cash – an amount, indicating what part of payment card funds is used for payments at POS terminals or online (the other part is withdrawn in cash at ATMs). Over six years the share of card payments in Lithuania has increased from 22% (in 2011) to 40% (in 2017) – 3 percentage points on average annually. In 2017, it increased by 4 percentage points year on year. In Lithuania, compared to the the EU average (3 percentage points in 2017), the share of card payments is increasing at a similar pace. However, in EU countries, on average, 66% of funds in the payment cards were used for payments and not withdrawn in cash.

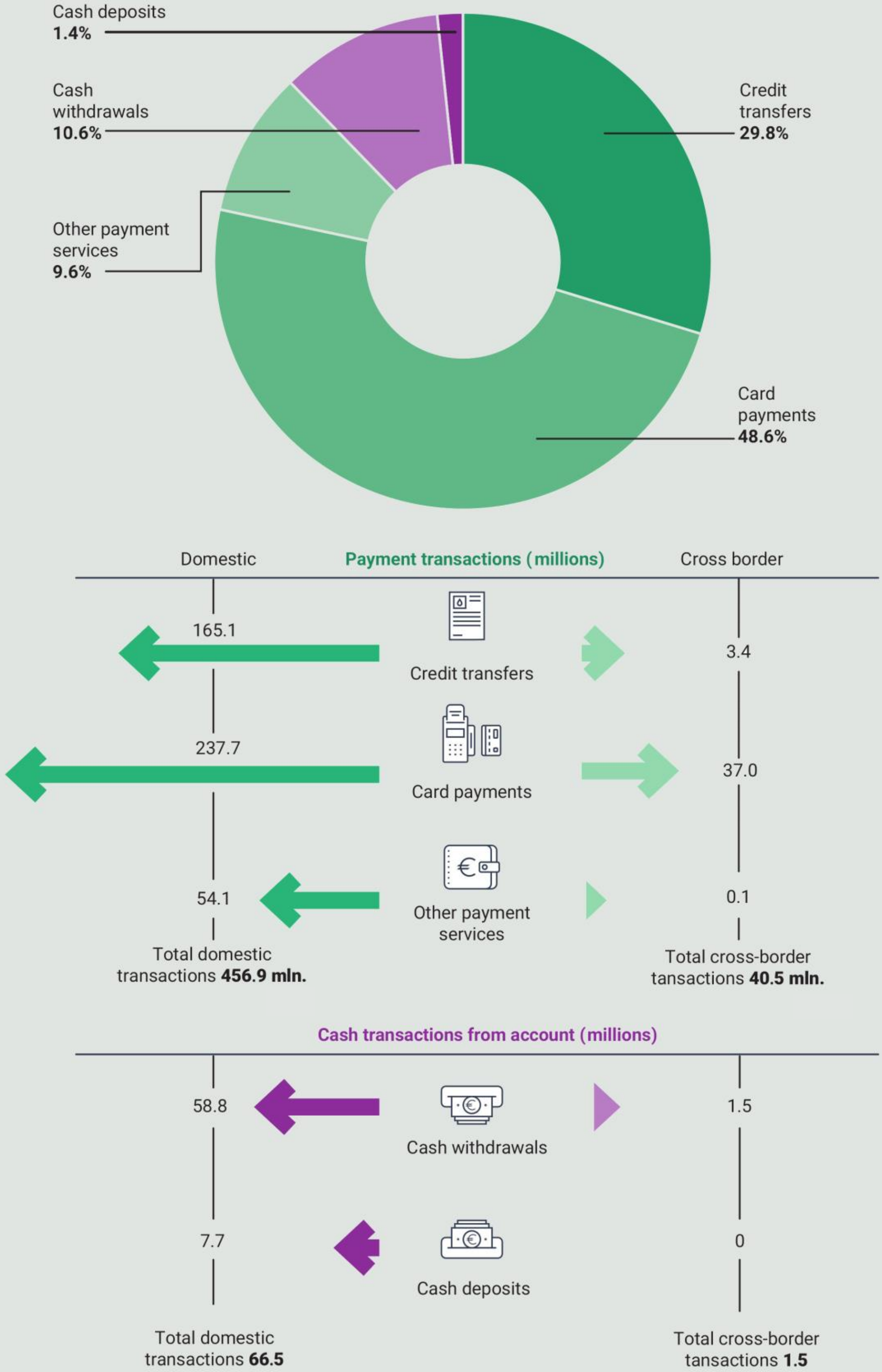
The high usage of cash in Lithuania is determined by several reasons: residents' habits, accepted payment instruments chosen by businesses, and shortage of payment services that can replace cash payments. The survey of residents has shown that 27%[59] of Lithuanian residents receive their revenue in cash, and 70% make cash withdrawals. To add, 51% of residents that have payment cards claim that using cash makes it easier to control their spending. According to the survey, about a third of the residents holding payment cards lack the opportunity to pay using them in marketplaces, fairs and beauty salons. So far, Lithuania lacks a convenient payment service that would allow immediate payments to other natural persons (e.g. instant payment services).

[58] The transfers include credit transfers, e-money transfers, money remittances, and payments via telecommunication operators.

[59] The survey was conducted on behalf of the Bank of Lithuania by UAB Baltijos tyrimai, a public opinion and market research company, in September 2017 (https://www.lb.lt/uploads/publications/docs/18756_cc21e59768d489efd1f5e5bbfad7a317.pdf).

Box 5. Structure of payment transactions and cash operations initiated via Lithuanian PSPs

Chart B. Payment transactions and cash transactions from account initiated by Lithuanian companies and residents via Lithuanian PSPs in 2017 (numbers and market shares)



Source: Bank of Lithuania calculations.

When using the services of Lithuanian PSPs, companies and residents initiate a payment transaction 9 out of 10 times and carry out a cash operation (withdraw cash from an account or deposit it) – 1 out of 10 times (see Chart B). In 2017, 497.4 million payment transactions (€239.8 billion in value) and 67.9 million cash operations (€15.4 billion in value) were performed via Lithuanian PSPs. Almost 5 out of 10 transactions via Lithuanian PSPs were card payments, 3 out of 10 transactions – credit transfers, 1 out of 10 – money remittance or a payment via a telecommunication operator, 1 out of 10 – a cash withdrawal, and only 1 out of 100 transactions was a cash deposit. In terms of value 91% of the total payment transactions and cash operations were transferred as credit transfers, 2% – using payment cards, 1% – using other payment services, 4% – withdrawn in cash, and 2% – deposited to an account. Companies and residents made 92% of domestic payment transactions, and 8% cross-border transactions. Cash operations were also most often performed in Lithuania, accounting for 98% of total cash operations.