

## RETAIL PAYMENTS IN ROMANIA IN THE CONTEXT OF DIGITALIZATION

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### Summary

*This research paper addresses the need to achieve functionality integration and mentions some further developments of instant payments in Romania that can be made in order to meet consumers' needs and expectations, in order to ensure higher penetration of online payment services nationwide. We conducted a descriptive research, using quantitative and qualitative analysis of secondary data to emphasize the existing limitations and benefits in adopting instant payments in Romania. The paper identifies existing barriers to adopting instant payments, the stakeholders involved in developing, adopting or promoting innovative payment services and their motivations, analyzing the national factors and opportunities that can lead to the complete implementation of instant payments, related to the involvement of the authorities, market structure, IT and telecommunications infrastructure, transaction speed, fees, complementary services. The study also highlights the need to ensure that innovation in the provision of financial services are backed by measures to address all relevant risks and to ensure that proper consumer protection is in place. The conclusions of this research could be used by authorities, in developing Romania's national digitalization strategy in the field of payments, by the banking sector and by FinTech companies, to promote fast and secure payment services through both public intervention and private initiative.*

**Keywords:** retail payments, instant payments, financial institutions, infrastructures, authorities

**JEL:** D12, E71, O18, O31, O33.

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**Introduction.** Along with the increase of internet usage globally, the premise for e-commerce was created, which offered a wider range of products and services to the consumer, in an easily accessible way. To ensure the safe and efficient functioning of e-commerce, a development of the traditional means of payment was also required and the digitalization of payments has changed the international financial landscape, from traditional forms of offering specific financial services, to a wider range of accessibility options for the consumers, integrated with the digital economy.

Technological progress has also led to new forms of digital currency in some countries already and it will likely shape the global financial system into a more interoperable one.

Digitization increases the efficiency and productivity of institutions that offer financial products and services, by reducing operational costs and enabling a wider variety of financial products and services for consumers, with the potential to personalize and adapt the offer to more types of consumers' needs, which increases their competitiveness in the market.

The digitization of payments also has the role of reducing the informal economy.

The digital transformation will change many sectors, including the financial sector, which will lead to innovation and speed, but will also contribute to higher risks, especially operational and cyber-risks.

**Literature review.** The National Strategy regarding the Digital Agenda for Romania was developed based on The Digital Agenda for Europe 2020 and it was the framework for developing the national digital economy during 2014-2020. It included objectives such as improving internet access and increasing internet usage within the country, promoting e-commerce, ensuring access to public services electronically, increasing the digital content and developing the IT&C infrastructure in education, culture and health, which are relevant for highlighting Romania's potential to adopt innovative technologies in many areas, including commerce, financial services and, specifically, payment services.

The Bank of International Settlements glossary defines a retail payment system as a system for transferring funds of relatively low-value for each payment, but managing large volumes of transactions (instructed by credit transfers, cheques, direct debits or card payments).

The European Union (EU) is working on consolidating the single payment area (SEPA/ Single Euro Payments Area), which enables European consumers to make cross-border payments that are charged as domestic payments, which has contributed to harmonizing the standards in payments for all EU member countries. The central banks in member states have interlinked their national payment systems and the ones in the Eurozone have established their regional payment system.

In 2019, the Eurosystem stated that its retail payments main goal was to develop pan-European payment solutions for Point of Interaction (in shops and online), which was further complemented in 2020 with the following goals: complete adoption of instant payments in Europe, improving cross-border payments into the EU but also outside of it, supporting innovation in the payments ecosystem while also ensuring the environmental sustainability of the payments and improving accessibility of financial services. While there were many improvements in providing more efficient payment services, some problems still need to be addressed: the fact that there is no card scheme (the UE is still dependent on the two external card providers, Visa and Mastercard), a common e-commerce payments solution was not developed and there is a slow uptake of instant payments in member countries.

Instant payments are electronic retail payments that are processed in real time, 24 hours a day, 365 days a year, which ensures that the funds are made available immediately, for the use of the recipient of the transfer, in a maximum of 10 seconds maximum, according to the SEPA - SCT Inst Rules.

Aproximately 60 countries worldwide have implemented instant payment systems, that allow the transfer of funds between bank accounts in a matter of seconds, which, when connected, will create a platform that makes cross-border payments faster, more transparent, less costly and easier to access. BIS Innovation Hub's NEXUS project is such a platform that intends to connect the instant payment systems from all countries that have it, through standardized payment messages, which will enable currency exchange between the financial institutions without having intermediate currency conversions, so that their cross-border payments will be made within 60 seconds and also cheaper.

Therefore, the Eurosystem's retail payments strategy to completele implement instant payments in all the European Union's member countries is of strategic importance.

The use of digital identity and e-identification enhancements, such as biometric authentication, is encouraged by the EU, to meet strict customer authentication and other regulatory requirements.

According to the Study on the payment attitudes of consumers in the euro area (SPACE) conducted by the European Central Bank in 2020, there is an increased interest of consumers in the immediate availability of money, which reflects a change in customer preferences and expectations. Instant payment processing is becoming the new standard for payments of any type, but especially for retail payments.

STFD - TRANSFOND SA is the system operator of the Romanian instant payment system. It is a private joint-stock company, owned by credit institutions and the National Bank of Romania. In 2019, it operationalized the Instant Payment Service, according to SEPA – SCT Inst Standards. A further development was the launch of the AliasPay service, in 2020, through which payers can make instant payments by using a mobile phone number to identify the beneficiary of the payment.

The ease of use ensures a higher rate of technology adoption, therefore it would be recommended that instant payment services be developed similar to payments at merchants using cards that have contactless technology, where a transaction can be approved in seconds. In our opinion, instant payment services must be implemented with a number of additional facilities, with a focus on developing mobile banking applications and offering solutions that guarantee the transfer of funds to the merchants instantly (whereas now, using cards, it can take days for them to receive the funds), and an example of such a solution is by scanning QR codes. Standardization and interoperability between the end-user applications for payment transactions has already been achieved, including the standardization of QR codes used in Europe.

**Research methodology.** We conducted a descriptive research, using quantitative and qualitative analysis of secondary data to emphasize the existing limitations and benefits in adopting instant payments in Romania.

**Main results.** The instant payment solution provided by TRANSFOND in Romania implemented through the SENT system is actually a partial solution, through which small value payments are processed from one account to another, 24/7 in a maximum of 10 seconds, according to European standards in the field. The system currently available can only be used for settlements between individuals and/or legal entities from one account to another by bank transfer, only if both the payer and the payee have accounts at one or more of the 8 banks that joined the system. It is not used for retail transactions at merchants.

Therefore, the platform offers the possibility of collecting funds in real time (within a few seconds of the initiation of the payment by the payer), both to individuals, internet banking and mobile banking users, as well as to legal entities, traditional traders, shops virtual, businesses from any kind of industry, as well as the authorities. The leap forward marked by the "account-to-account" payment in real time compared to the standard time of execution of payments to any type of beneficiary among those previously mentioned, i.e. a number of hours or days from the remittance of the payment order by the payer /buyer to his bank, is a considerable one and has the potential to boost performance both in the case of economic agents and in the case of the authorities that implement such a capacity to receive funds.

Although the launch of the instant payment project in Romania took place in 2019, there are only eight banks that participate in the instant payment system, out of a total of 32 banks that are part of the Romanian banking system, so the adoption rate is extremely low, without the imposal of participation by the national authority (National Bank of Romania). Therefore, although a system for makins some payments instantly exists, a small percentage of payments are actually made instantly, especially since not all the banks with a large market share of retail customers participate in this system at the moment.

The *barriers that may hinder the adoption of instant payments in Romania* are:

- *poverty of the population*: in Romania, in 2021, the level of poverty was still high (22,6%), according to the data published by the World Bank;

- *financial inclusion and financial education*: according to The Global Findex Database Report - Measuring Financial Inclusion and the Fintech Revolution published in 2021, only 58% of the adult population in Romania uses a bank account, compared to over 90% in European countries. Romania also scores last compared to the other EU member states regarding the level of financial education;

- *consumer behaviour related to payments method*: the Romanian consumers prefers cash for transactions (in 2020 the value of cash in circulation outside the banking system increased to 93.3 billions lei, which has been multiplied many times by using it as a means of payment in the economy, compared to the total value of card payments in a years which was only 340 billions lei);

- *potential of development of new financial services by financial institutions:* Romania is not an attractive country for the development of new payment solutions because the market is small and consumers prefer cash instead of electronic payments;

- *the national financial infrastructure:* even if Romania has a very large internet network, which can be used for the development of banking services for consumers, this advantage is hindered by the lack of investment from the banking community in this regard, especially considering the huge gap between the urban and the rural areas in terms of availability of financial institution branches and POS at merchants.

The degree of development of the digital economy in Romania and Romania's competitiveness in terms of digitization is measured by the Society's Digital Economy Indicator (DESI), which includes the following subcomponents: connectivity (existing internet connections of computers, telephones mobile phones and the price of internet connection); human capital (Internet skills and IT knowledge); use of internet services (internet usage rate, online activities, online transactions); integration of digital technologies (digitalization of private companies and e-commerce); digitized public services (e-government).

According to DESI, Romania ranks 25th among EU member countries and scores last place in terms of the digital skills subcomponent.

Another main weak point is the lower competitiveness of the private environment (digitalization of private companies and e-commerce), which impacts the use of cashless payments through the lack of provision of the necessary infrastructure (POS);

- *service availability:* instant payment services need to be implemented with a number of additional facilities, with a focus on developing mobile banking applications of these new payment solutions and providing instant payment solutions to merchants as well (POS transactions);

- *less motivation of merchants to adopt new payment solutions:* in Romania, the merchants are not very interested to invest in ensuring new payments solutions provided by financial institutions and some don't even use Points Of Sale (POS);

- *motivation of the authorities to adopt and promote new payment solutions:* the digitalization of the public institutions and of authorities is still in development, therefore the lack of digital innovation in this sector is a big obstacle in implementation and adoption of new payments solutions as well;

- *cyber risk:* the digital transformation has triggered a revolution in the financial sector, increasing the speed of the movement of funds through innovation worldwide, but has also generated new risks, general operational risks in general and especially cyber risks. The increased use of digital services and widespread reliance on technology are increasing financial market infrastructures vulnerability to cyberattacks, which can become a systemic risk for the global financial system in certain conditions. Cyberattacks is a cause of concern especially since the financial education and digital literacy of Romanians isn't high.

The possible motivations that the several types of actors in the payment market have in adopting instant payments or other payment solutions, which are a key element in the effort to overcome the obstacles above-mentioned are:

- *The motivation of payment service providers in the development of innovative services*

To survive the shift in consumer needs and expectation, payment service providers must innovate in order to retain their market share and increase customer satisfaction, by offering services designed specifically to meet their consumer needs.

In order for the instant payment solution to be implemented by the banks, they need to adapt the operating software, keep the available systems open and connected 24/7 and apply liquidity strategies combined with more restrictive requirements regarding guarantees, due to the need to ensure the funds necessary for instant settlement, including on weekends (which implies stricter liquidity requirements).

FinTech companies, inherently focused on innovation while offering a limited range of products and services, without the burden of bureaucracy and legacy equipments, could represent real competitors to the traditional banking system, especially when their new products bring benefits to consumers of financial services both in terms of ease of use and at more attractive costs. The previously described Revolut case is the best example of such a company.

The financial advantages that the development of new payment solutions bring to payment service providers by reducing the costs associated with some traditional payment services offered to consumers that use classic payment instruments, such as cash or checks, should not be neglected.

- *The motivation of merchants to adopt new payment solutions*

In the case of adopting instant payment services, the greatest advantage for merchants is represented by the immediate availability of funds, similar to cash. There is also the advantage of reducing the cost of cash management, especially for large merchants, who currently need manage a very high volume of cash.

For merchants, instant payments through mobile (phone) payment applications offer the advantage of receiving funds within seconds, which would offer the advantages of liquidity and speed of receiving the funds, similar to cash payments, unlike for card payments, where the money paid by their customers enters their account after a few days.

Some payment innovations can increase their customer base, if they offer loyalty programs or promotions for the customers if they use their new services and products.

- *The motivation of consumers to adopt new payment solutions*

Individual consumers, users of mobile banking or any other applications that offer the possibility of making instant payments may reach the stage where they no longer have to carry anything other than a simple mobile device (usually a smartphone, which they are carrying anyway) in order to purchase goods and services directly at the Points of Interaction with merchants and they have the

possibility simplify the payment for goods and services purchased online. As for remittances, these types of transfers will be done easily, quickly and safely by simply using mobile applications.

- *The authorities' motivation to adopt and promote new payment solutions*

Central and local authorities, through their own fiscal structures, can benefit from instantly receiving money into their budgets, with all the related benefits if a higher financial inclusion is achieved and the system reaches a wider range of population.

The reduction of the volume of cash managed by these authorities has benefits both from the perspective of reducing the cost of cash management and from the perspective of a better tracking of the circulation of funds in the economy, which eventually leads to a more efficient taxation.

The authorities have the possibility to offer incentives for the payment of fees and taxes for the case in which the collection of funds is done through instant payments.

Only with the participation of all actors or stakeholders involved in the payment processes and systems, tailoring the solution to society's needs, can the hindering factors of providing instant payments and other innovative payment solutions be addressed.

We analyzed the process of adoption of instant payments in several countries and assessed the *driving factors that may have an influence the adoption of instant payments*, taking international comparisons into consideration, which are:

- *involvement of the authorities*

The involvement of authorities can be important for the initial launch of instant payment systems. Central banks act as a system operator and regulator (Mexico, Hungary) or as a catalyst (Denmark, UK, Romania).

The active involvement of the authorities can have a positive effect on the implementation or development of instant payments. In several of the countries analyzed, authorities such as central banks and governments have played and continue to play an active role in promoting this type of payments, with the aim of reducing the use of cash and better monitoring the movement of capital.

The central bank can be a driver for instant payment systems by offering these services. This approach can be seen in the case of Mexico, Hungary and in the case of the ECB, where the central banks provide the market with the system of processing and settlement of these payment transactions and are the regulatory authority and monitor the market of instant payments.

In countries such as Denmark and Great Britain, the decision to launch instant payment services was made in response to political debates and the implementation of instant payment solutions was fast and efficient.

In Mexico, Hungary as well as in the UK, the influence of the authorities continued beyond the initial launch phase: in Mexico and Hungary with both operator and regulatory roles, while in the UK mainly as regulator.

However, the cases of Poland and Sweden show that the involvement of the authorities is not essential for the launch of instant payments. In these countries, instant payments were launched as private initiatives within the financial banking community.

In the EU member states it was either opted for the automatic adoption of the instant payment system by all the banks in the respective country (within a certain period of time after the launch of such a solution, with the adjustment of the liquidity requirements for the banks and the adaptation to the operational requirements following the adoption of this system, if necessary), either, as is the case in Romania, for optional participation.

In Romania, the central bank played a catalyst role in encouraging the banking community to adopt these new payment solutions and is also the authority for monitoring the instant payment processing system.

- *market structure*

The cooperation between payment service providers is an important supporting factor for the provision of instant payments, that allow a rapid adoption of new payments solutions. Involvement of all stakeholders is essential for the rapid adoption of instant payments.

The case of Sweden shows that it is essential to have a close collaboration between the stakeholders involved in payments in order to successfully implement a nation-wide project.

The lack of close collaboration makes the process of adopting a new strategy or innovative products exponentially more difficult, which can also be observed in Romania, where the pace of adapting to the new regulatory requirements is slow. We concluded that the interest in adopting instant payments solutions was very low, thus, two years after the launch of this service, only a number of four banks offered their customers the facility to make instant payments and the number of banks increased to eight in three years since the launch. Moreover, for now, there has been no developed of payment solution that allows instant payment to merchants.

In Romania, the central bank has a catalyst role, permanently supporting the banking community in this regard, without imposing a timeline of adoption.

Similar to the case of Romania, in Poland, although an instant payment solution has been implemented for several years, it has not yet been adopted by the entire banking community.

The analysis of the countries that have adopted instant payment solutions reveals that, in the absence of a national regulation that compels the participation of the entire banking community in such payment schemes, their complete adoption and implementation is very difficult. Thus, the involvement of the authorities is recommended, in order to increase the cooperation between payment service providers.

- *IT and telecommunications infrastructure*

The importance of the availability and accessibility of an infrastructure that supports the use of instant payments is essential for adopting new payments

solutions. The higher levels of internet use and, in particular, mobile internet use, may have contributed to the success of instant payments in countries such as Denmark, Sweden, UK and Singapore.

Northern-European countries have a very high level of internet usage and this has facilitated the successful implementation of instant payment solutions and mobile payments. According to the data published by Eurostat for 2021, more than three quarters of the population in those countries accessed the internet via a mobile device.

At the other extreme, in Mexico, due to the lack of access to such infrastructures, the implementation of instant payment solutions was more difficult and the population had limited access to the use of mobile banking applications for using banking services and to perform payments through mobile banking applications.

Based on the data published by Eurostat, we observed that Romania had an important increase in the availability and usage of the Internet at the national level, which we consider to be a solid basis for the national implementation of innovative payment services. Yet, although Romania has very good internet coverage but the banking financial infrastructure is limited or lacking, especially in rural areas, encouraging the massive use of cash by the population living there.

Even if Romania has a very large internet network, which can be used to develop banking services for consumers, such initiative is difficult to implement given the lack of investment from the banking community in this regard.

- *demographic and behavioural aspects*

In addition to the availability of such instant payments, another determining factor in their nationwide adoption is the consumer's payment behavior.

In the Northern-European countries, where the population's appetite for the use of cash was low, the speed of adoption of solutions of electronic and card payments was and is very high. However, education, the relatively small surface area of the countries and the degree of population concentration constituted a major advantage in the adoption of new technologies as well.

By contrast, in Great Britain, we concluded that the adoption of new payment solutions has been much slower as a result of the population's payment behavior which has been largely focused on the use of cash and cheques. But, with recent technological developments, card payments have surpassed cash payments and there was a permanent increase in instant payments.

In Mexico, Poland and Singapore, the shift to instant payments required a more substantial change in the behavior of payment service consumers, because when instant payment solutions were introduced (and to some extent even now) these countries had a predominant use of cash, to the detriment of using other payment instruments. In Mexico and Singapore, non-cash transactions were previously being made with the use of checks. In those countries the reliance on checks and cash was caused by both habits of the consumers and by the limited availability of payment services.

In conclusion, early adoption of new payment solutions depends on behavioural aspects. In countries that have modern payment systems with high numbers of card payments and credit transfers per capita, high usage of online banking and low cash usage, the new payment methods are adopted quickly by end users.

The existing payment and banking behaviour at the time of introduction of instant payments have an impact on the adoption of instant payments. The adoption rate is higher if the required behavioural shift is small, as is the case when a large share of the population has a bank account and makes frequent use of online banking and electronic means of payments. For Romanians, the required shift is not small.

- *transaction speed*

The difference in speed between instant payments and other available payment services may influence the adoption of instant payments. Adopting an instant payment solution is beneficial to national economies by increasing the speed of capital circulation.

Speed is especially relevant for person to person transactions (peer to peer) across borders (remittances), with an emphasis on the payments made outside the EU, and for the categories of payments usually made in cash, because for the other types of transfers in EU countries, the transfer of funds reach the person to which the payment is made on the same day or on the next day at the latest.

By analyzing cases of successful solutions such as mobile banking applications, we concluded that there is an increased interest of the consumers regarding the immediate availability of money. The case of Revolut is the most eloquent in this sense, which managed to gain a considerable number of users in Romania, of over 1 million customers, by the early facilitation of the availability of instant funds.

- *fees*

Higher fees limit the uptake of instant payments. Moreover, banks may face difficulties introducing fees for private customers once similar services are offered for free – for card transactions. We believe that zero costs for consumers are the future of instant payments.

An analysis regarding the degree of adoption of instant payment solutions is quite difficult to evaluate from the perspective of costs for the consumer, given that these fees are set individually by each payment service provider separately and differently, according to the categories of customers. In this analysis, the costs of card transactions must also be taken into account, given that these payment solutions are offered to consumers of financial services for free in most cases.

In countries where credit institutions have decided to charge relatively high fees for such payment services, adoption has been relatively slow.

In Mexico, through the intervention of the central bank, the fees charged by financial institutions for instant payment services was below the fee level charged for check processing services and credit transfer transactions that are not instant. This facilitated a rapid adoption of new payment solutions.

In the UK, payment service providers, given the maturity of banking services, offered zero cost to their customers. The Northern-European countries have adopted a similar solution regarding the costs of these services for their customers, in order to compete with card payments that have no cost. Thus, instant payment services were quickly implemented in these states.

In Romania, from the data published on the websites of financial institutions regarding the fees charged to consumers (from the retail category), we found that instant payment services have a commission equal to or higher than the commission requested for normal transfer payments. The cost to be paid by the Romanian consumer who wanted to make an instant payment in Romania was of 4 or 5 lei/instant payment transaction. This fee is quite high considering that no fee is charged for a card payment at merchants. The vast majority of banks in Romania offer account facilities with a debit card attached at no cost to their customers, the minimum condition to benefit from such facilities being represented by the transfer of the client's income, usually the wage, to the respective institution. In case both the payer's bank account and the payee's bank account are at banks that both adopted the instant payment solutions, the fee for instant payments is zero. The downside is that, at the moment, most banks are not participants to the instant payments scheme.

In conclusion, from the analysis of the country cases presented previously, we can conclude that when fees are higher, they limit the adoption of innovative payment solutions to the detriment of the use of cash, which involves increased costs for most actors from the chain of a payment transaction.

Any increase in consumer costs influences their behavior. The increased costs are pushing consumers to move payments outside of the traditional banking system, which impacts the potential for increased tax evasion.

- *complementary services*

The availability of services for instant payments at the POS support the quick adoption of instant payments.

Instant payment services need to be implemented with a number of additional facilities, with a focus on developing mobile banking applications to include these new payment solutions and offer instant payment solutions at merchant level as well.

Instant POS payment provided at the merchants have only been introduced in a few of the analyzed countries and these solutions have been implemented quite recently. It should be noted that, at the European level, there is no solution implemented/ developed for instant payments that would allow payment at merchants similar to payments with mobile phones or smart watches, which have banking applications installed.

In Sweden and Denmark, the implemented payment solutions allow payment at merchants using QR codes.

In order to generate higher volumes of instant payments, it is important that they are widely used and specifically meet all the needs of payment service consumers. For payment services, especially peer-to-peer type, which is the

complementary service most often used by individuals, statistics show a reduction in cash payments where such statistics are published.

For merchants, instant POS payments offer the advantage of receiving funds in seconds, rather than a guarantee of payment, as is currently the case with card payments. Such instant payments would bring the same certainty and liquidity that cash payments do today.

Special attention must be paid from the project phase of the new instant payment services so that, for consumers, the use of new payment solutions is as easy making card payments that have contactless technology at merchants (which ensures that the transaction is approved in a few seconds).

The maximum ten seconds needed to execute an instant payment is essential for situations where the speed of a payment and the payment method chosen by consumers is the key to reducing the queues created when paying at large merchants.

**Conclusions and recommendations.** This analysis shows that there are some strong supporting factors for the success of instant payments in Romania, such as internet and mobile phone usage combined with a widely spread internet connection nationwide, which can be leveraged. Instant payments have the potential to become widely used in Romania, but the extent of the adoption and the speed of transformation depends heavily on the development of the national financial infrastructure, high motivation of all actors involved by choosing solutions suited to their needs and by major advances in financial inclusion.

Innovation and consistent education of the population will create the foundation of full digitalization and Romania's sustainable development, while increasing financial inclusion in Romania must become a strategic objective for the authorities, for academia and the private sectors.

The national retail payments strategies have to meet each type of stakeholders' needs and expectations. In order to increase the usage of instant payment services among consumers, these must be designed to provide all the advantages of the traditional payment instruments: similar to cash costs for the consumer, ease of use, in conditions of maximum security and with immediate access to funds.

The adoption of instant payment solutions in Romania will lead to an increase in the speed of capital movement at national level, a considerable decrease in the resources needed for cash management, in line with the green economy and circular economy objectives; it will ensure a better supervision of the payments market, increased consumer confidence in the national currency, with positive implications for maintaining financial stability.

Innovation in the provision of financial services should always be accompanied by measures to address all relevant risks and to ensure that proper consumer protection is in place. Public authorities have an important role to play, working with the private sector to leverage opportunities and address challenges. As regulators, supervisors and overseers, public authorities seek to achieve the public policy goals of cross-border payment services safety and efficiency, through consistent implementation of international standards; however, they are faced with

challenges, especially related to cross-border access to information and international coordination in the regulation and supervision of the various entities in the cross-border payments ecosystem. Furthermore, because of the network externalities present in the payments market, European-wide and worldwide cooperation and coordination of the market players are vital.

Detailed analysis of the operational soundness of payment solutions (including to promote interoperability of payment systems), legal certainty and consistency (including issues related to legal enforceability in a cross-border context and avoiding jurisdictional conflicts) and whether additional regulation and oversight is needed (including to ensure meeting AML/CFT requirements and addressing financial stability risks) is required.

AML/CFT authorities may consider adopting mechanisms to enhance dialogue and cooperation with relevant private sector stakeholders, including regulated entities and digital identity service providers, to support key identity opportunities and risks and key measures mitigation. Mechanisms may include a regulatory sandbox approach to provide a supervised environment for testing how digital identification systems interact with national AML/CFT laws and regulations. Authorities can also develop mechanisms to promote collaboration across the financial sector to identify and address vulnerabilities in digital identification systems.

Central banks play a key role in fostering the safety and efficiency of payments on a domestic and cross-border level, their being even more important considering the accelerating digital innovation.

Cybersecurity, has evolved to touch every key structure within the payments infrastructure. Given the critical nature of payment systems for national economies and the efforts to interconnect national payment ecosystems that have been and continue to be made to increase the efficiency of cross-border payments, cyber risk is becoming increasingly important. Cybersecurity must be integrated into all the digital investments, especially in critical technologies such as artificial intelligence (AI), encryption and quantum computing, distributed ledger technology etc.

A secure cyberspace is the responsibility of both the state, through the competent authorities, and the private sector and civil society. Consolidation of partnerships between public administration authorities and the private environment (institutions and civil society), as well as those between states and international organizations is an essential point to reach in obtaining a global, open and safe cyber space.

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