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Are instant payments becoming the new normal?
A comparative study

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Abstract

As a result of technological advancements, instant delivery of digital services has become the norm in today's society. Yet, until recently, this trend did not extend to retail payment services, which normally took one or up to a few working days from the end user's perspective. Following Europe's recent launch of its own SEPA-wide instant payment platform, now is the time to ask the question: will instant payment services become "the new normal" and what would this new normal look like? This paper assesses the overall prospects of instant payments in the euro area. It identifies structural drivers and blockers to the adoption of instant payments based on the analysis of country cases where instant payments became operational in the last few years.

Keywords: Instant payments, payment system, money demand

JEL codes: E41, E42, E58

Executive summary

The speed of retail payments has gained increasing importance with the latest technological developments, yet today's retail payment services normally take one or up to a few working days from the end user's perspective. In some countries, this has been changing towards intra-day or even near-real-time payments. With the launch of SEPA Instant Credit Transfers in November 2017, now is the time to ask the question: will instant retail payment services become "the new normal" and what would this new normal look like? This paper identifies structural drivers and blockers to the adoption of instant payments through an analysis of the situation in countries where they have become operational in the last few years. On the basis of this analysis, the paper then provides an assessment of the prospects of instant retail payment services in the euro area.

This study shows that instant payments have the potential to become the new normal in the euro area. The degree and speed of transformation, however, are likely to differ for each country. Identified factors that support the adoption of instant payments are: the active support of authorities and governance structures, close cooperation between payment service providers in order to facilitate the reach of instant payments, and the current or announced availability of complementary services (e.g. mobile payment services) which increase the added value of instant payments.

The results reveal different adoption scenarios throughout the euro area due to country differences related to the degree of involvement of authorities and market participants, the characteristics of the payment infrastructure, financial inclusion and consumers' payment behaviour. It seems likely that mobile payment services using instant payments as the underlying payment instrument will be offered across the euro area, in some countries from the start and in others at a later stage. This may be combined in some countries with instant payments becoming the default for single transactions in online banking, while in others it may remain only an option for such payments. Further usage may come from corporate payments, depending on transaction limits and the availability of instant payments via corporate initiation channels, as well as from point-of-sale payments in countries where complementary services for this use are offered.

1 Introduction

Until recently, retail payment services normally took one or up to a few working days from the end user's perspective. The introduction of instant payments, which are cleared and/or settled within seconds on a 24/7 basis, offers the possibility of making funds immediately available to the payee.[1] Combined with the development of mobile payment services, this innovation provides the banking sector with a competitive technology in the race for retail payment markets which in some countries are dominated by cash, while in others cards have become the predominant payment instrument. With the rise of new payment technologies developed by both banks and non-bank payment service providers (PSPs), consumers and businesses now have a wide range of payment instruments to choose from.

Since the establishment of the Single Euro Payments Area (SEPA), the European payments ecosystem has undergone significant changes. A comprehensive package of legislation has been adopted with the purpose of promoting innovative, convenient and secure payment methods in the European Union (EU). This includes the revised Payment Services Directive (PSD2), the Payment Accounts Directive and all legislation forming part of the Digital Single Market strategy. To further support the development of an integrated, innovative and competitive market for euro retail payments in the EU, the Euro Retail Payments Board (ERPB) was established. This is a high-level body chaired by the ECB, bringing together the supply and demand side of the European payments industry. The ERPB took the initiative of inviting the European Payments Council to develop an instant payment scheme with SEPA reachability: the SEPA Instant Credit Transfer (SCT Inst) scheme. More recently, the ECB launched the TARGET Instant Payment Settlement (TIPS) service, which enables real-time settlement of instant payments in central bank money. TIPS, together with private market infrastructures, makes it possible for banks to offer their customers fund transfers which are settled within seconds, all year round and all across Europe.

Considering these developments, many have suggested that instant retail payment services will become “the new normal” (Dutch Payments Association, 2016; Vocalink, 2016a; EACHA, 2017; Palmers, 2017). Whether this will happen will determine the economies of scale of instant payments and the efficiency gain in the payment system as a whole. The migration to efficient retail payment instruments stimulates the overall economy and trade, ultimately benefiting consumers with lower prices and better services (Hasan et al., 2013). Moreover, retail payment transaction technology has proven to be positively associated with real economic aggregates (Scholnik et al., 2008). Therefore, the presence and diffusion of new payment technologies such as mobile and online payments may have a positive impact on economic growth and trade in a similar way as ATMs and point-of-sale (POS) terminals did when these became the main technologies for accessing funds and carrying out transactions, respectively. However, as stressed in the neo-institutionalist literature, the mere

[1] This paper uses the definition of instant payments provided by the Euro Retail Payments Board (2014) and the Committee on Payments and Market Infrastructures (2016).

existence of a socially superior technology is not a sufficient condition for its implementation (Giannini, 2011). Understanding institutional changes requires careful examination of structures of interest and the behaviour of the different individual actors involved in the investment, provision, consumption and regulation of the new technology.

The objective of this paper is to identify structural drivers and blockers to the implementation of instant payments through a comparative study of the developments in six countries where instant payments have been offered for several years. These are the United Kingdom (UK), Sweden, Denmark, Poland, Singapore and Mexico. For the purposes of this paper, the country cases have been selected based on the definition of instant payments – following the definition of real-time payments provided by the Committee on Payments and Market Infrastructures (CPMI) – and the availability of data, while considering a diverse set of payment behaviour among countries. Although the payment habits and characteristics of retail payment markets considered in this study may vary, we believe that this may also help encompass the heterogeneity in payment behaviour among Europeans, for instance including those who until recently used cash for more than 85% of POS payments, as was the case in some southern European countries according to an ECB study (Esselink and Hernandez, 2017).

To reach our objective and identify structural drivers and blockers to the implementation of instant payments, we test a set of hypotheses based on seven aspects identified in the literature as key drivers of the introduction of a new (payment) infrastructure. The first aspect we analyse is network effects. One of the success factors of a new (payment) technology is the number of initial users, as the latter will largely determine the relative cost of such technology. For this reason, it is likely that public authorities play a key role as a catalyst in addition to other roles they may play, such as regulator, operator or overseer (*Hypothesis 1; H1*). Second, the availability of fast and reliable mobile payment services using the instant payments platform allows the technology to be used regardless of the location of the payer, enabling both face-to-face and remote transactions. This makes instant payments a direct competitor to cash and payment services provided by non-banks to make low-value payments, e.g. person-to-person (P2P) transactions. Adoption of the technology is therefore likely to depend on the capacity of the sector to cooperate in order to provide a complementary mobile payment platform (*H7*). This cooperation itself is likely to depend on the concentration of the sector (*H2*). From the demand side, consumers evaluate instant payments in comparison with existing services (such as cash, cards, cheques, traditional credit transfers), both in terms of speed (*H5*) and convenience created by supporting infrastructures (*H3*). Adoption will depend on how this valorisation compares with the perceived costs for end users as compared to those of other payment services (*H6*). As stressed in the payments literature, consumers' characteristics and payment habits may also play a role in the adoption and usage of payment instruments (*H4*).

Overall, our study supports these hypotheses. Both the characteristics of the market for payment services and consumers' behavioural characteristics matter in determining the future of instant payments. The contribution of this paper is threefold.

First, it adds to the literature by presenting a comprehensive country case analysis shedding light on future prospects of instant payments in the euro area. Second, it contributes to the payments policy discussion by identifying drivers and blockers for the adoption of instant payments. Third, it provides an analysis of possible adoption scenarios.

The structure of this paper is as follows. Section 2 presents a literature review and the hypotheses. Section 3 examines the situation in countries where instant payments have become operational in recent years as well as the assessment of instant payments in the euro area based on the results of the country case analysis. Section 4 presents possible scenarios for the adoption of instant payments and Section 5 sets out the conclusions.

2 Instant payments and the market for payment services

2.1 Literature on instant payments

Since the beginning of the discussion on instant payments in Europe, one of the key arguments that have been made relates to the strategic importance for banks of offering them as part of the response to the disruptive changes happening in the payments industry. Capgemini and Royal Bank of Scotland (2015) have stressed that instant payments are more important as an enabler for banks to compete with non-bank PSPs to provide technologically advanced services than as simply providing a faster transfer service. Sharing this view on potential usage and business development for instant payments, Salmony (2017) reviews a wide range of potential industry applications and concludes that despite their high initial cost, instant payments are likely to bring significant value to customers. Leinonen (2017) and Ovum (2017) focus on the potential disruption in the payments industry that instant payments would introduce by removing barriers to entry and initial costs for both incumbents and challengers in the transactions market. In particular Ovum (2017) highlights the complementarity in Europe between the introduction of the pan-European instant payments scheme in November 2017 and the implementation of the PSD2 in early 2018, permitting third-party actors to initiate transactions.

Based on its first-hand industry experience as the provider of the UK instant payments platform, Vocalink (2016a) provides insights into the future of the service in SEPA by identifying the benefits of the service for users and the costs for the industry and providing an in-depth analysis of the different stages of future implementation. In a similar fashion, FIS (2017) analyses the structure of the costs for different industry actors through interviews with bank senior managers. Hayden and Hou (2015) examine the potential business applications of an instant payments platform, describing, amongst other things, a cross-bank mobile payment facility as an important development.

Central banks and market participants have also been triggered to examine the effects of instant payments on payment systems through comparative studies on the development of instant payments around the world. The 2016 report by the CPMI presents the experience of 18 of its member countries and finds that complementary technologies and infrastructures play a key role in the adoption of real-time payments by end users. Summers and Wells (2011) discuss the emergence of instant payments as a general-purpose means of payment in the United States, Mexico, South Africa, Switzerland and the UK. They describe the attributes of instant payments in comparison with other payment instruments and identify coordination in the joint governance of the system as a key barrier to innovation. Narodowy Bank Polski (2015) provides a comprehensive study of the operational challenges introduced by instant payments for the payment system as well as four case studies with a focus on the Polish system. In the same vein, PaymentNZ (2015) closely studies five countries and

concludes that the technology can take a wide variety of forms with respect to both its technical platform and end-user services.

2.2 Supply- and demand-side factors

The way consumers pay across countries does not depend only on the characteristics of the retail payment systems, pricing policies and regulation (Bolt and Tieman, 2006; Schuh and Stavins, 2010; Arango et al., 2017; Koulayev et al., 2016) but also on consumers' and merchants' characteristics, as well as their payment preferences and habits (Klee, 2008; van Kalckreuth et al., 2014; Bagnall et al., 2016; Hernandez et al., 2017). In this section, we first summarise the characteristics of the market for payment services with a focus on the potential role of instant payments. To do this, we first investigate the supply-side factors with inputs from the industrial organisation literature and then demand-side factors with inputs from the payments literature. As a result of this review and analysis, we derive seven working hypotheses.

2.2.1 Supply-side factors

The introduction of instant payments is part of a set of changes that have forced banks and non-banks to reconsider their business models and the ways they operate. Since the early announcement of instant payments, it has been argued that the main economic incentives for banks to bear their investment cost is to strengthen their competitive position against non-bank PSPs and to introduce cost efficiencies by replacing existing payment instruments that are more costly, e.g. cheques, while avoiding cannibalisation of card payments.

Offering instant payment services may not be self-evident for traditional banks as they already offer a wide range of payment services to their clients. However, a number of countries around the world have already started changing the legislation defining access to payment systems by non-banks and fintechs. This may mean that banks may lose sole control of settlement of transactions in payment systems as has been the case so far. Non-banks in the UK, Switzerland and Mexico have recently become eligible to participate in payment systems if they fulfil specific criteria. In the EU, the European Commission is currently discussing the possibility of reviewing the legislation defining participation in payment systems (European Commission, 2018). Under these conditions, the introduction of instant payments may be considered by banks to be part of their strategy to compete with non-banks in the retail payments market.

From the operational perspective, introducing instant payments is a challenging task for the industry as it requires immediately crediting the payment account of the recipient at any potential date and time. Participating PSPs must therefore be able to operate within seconds outside traditional business hours, which is likely to bring

about sizable investment costs as well as associated operational risks.[2] Incentives for PSPs to bear these costs are subject to three characteristics of the market for payment services. First, payment technologies feature network externalities as the incentive to join a recently launched platform will depend on the initial number of participants. This creates a chicken-egg type of coordination problem (Katz and Shapiro, 1992), where a better standard may fail to be implemented due to the lack of willingness for any market participant to be the first to invest. Second, as argued by Milne (2006), a shared payment infrastructure is a public good from the point of view of an individual bank, which may lead to under-provisioning. Finally, in the case of payment systems owned by an industry association or consortium, due to further complexity of decision-making, it may take a long time before a new technology is adopted, in the absence of a strong external incentive (Bech, Shimizu and Wong, 2017). For these reasons, the development of payment innovations requiring investment (both in the shared payment infrastructure and at the level of the individual firm) tends to be slow and arguably socially suboptimal. Central banks and other public institutions have therefore often played a catalyst role in the field. For instance, in Scandinavian countries, where central banks have encouraged innovation, the adoption of new technologies in payments has gone further than in other countries (Milne, 2006). The role played by central banks often goes beyond simply ensuring cooperation between the different actors to fostering the use of common standards, and is sometimes combined with an operational role in the system.

A second decision to be taken by PSPs regards the pricing model for their customers. Instant payments can potentially be very useful for end users in settings where transfers are urgent and not anticipated. The number of transactions meeting these conditions is likely to be small in volume but with a high value attached.[3] For this reason, PSPs may be tempted to ask high fees for the service in order to extract a high margin from these urgent transactions at the cost of excluding normal transactions from the market, analogous to the mechanism described in Laffont and Tirole (1999) with respect to the communication industry.

Furthermore, as extensively stressed by the literature (see Aghion and al., 2014 for a review), the competitive and regulatory landscape plays a very important role in determining the pace of innovation of a given sector in a non-trivial way. On the one hand, market fragmentation can increase the coordination issues which prevent initial investment in a shared infrastructure. On the other hand, in a highly concentrated market, PSPs may have an incentive not to introduce new technologies to avoid unnecessarily disrupting existing sources of profit. In this regard, the entry of outside competition from non-bank PSPs in the market for mobile payments (both in P2P and person-to-business) is a key development (Committee on Payment and Settlement Systems, 2012; Committee on Payments and Market Infrastructures, 2014).

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2 McKinsey (2015) documents a cost of between £150 million and £200 million to build and operate the UK Faster Payment instant payments platform for the first seven years plus up to £50 million per participating bank. Salmony (2016) reports that similar costs for a pan-European platform are estimated to be above €1 billion.

3 One may for instance consider the value of not having to pay charges for missing a payment deadline or the value extracted from securing an advantageous deal by settling the transaction on time.

In a world without instant payments, these players are able to provide fast transfers on their own balance sheet in a closed circuit, but once a customer requires the funds to be transferred to their bank account, the payment is settled through the customary interbank settlement system and subjected to normal delays. In other words, as long as balances held with non-banks are not considered sufficiently liquid to be kept there, these services do not have much of an edge compared to traditional credit transfers in terms of speed of payment. However, this can change as the size of the platform increases and network effects start kicking in. The benefits of becoming the standard with the ability to issue a very liquid asset are considerable,[4] leading to intense competition in countries such as China.[5] This intensifying pressure from new actors on the payment services industry is likely to push traditional PSPs (such as banks) to provide effective and convenient instant payments with adequate complementary services to their customers. Yet instant payments are a double-edged sword as they also strengthen non-banks by making the conversion from bank deposits into non-bank wallet balances almost seamless. Overall, competition between incumbent and new providers is likely to be a major driver for the adoption of instant payments as they are a central tool for both traditional PSPs and new entrants to be competitive in a market which is changing radically.

Table 1

Payment instruments in different payment situations

	P2P		P2B		B2B		B2P	
	F2F	Remote	F2F	Remote	F2F	Remote	F2F	Remote
Cash	√	-	√	-	√	-	√	-
Cheque	√	√	√	√	√	√	√	√
Card	-	-	√	√	-	√	-	-
Credit transfer	-	√	-	√	-	√	-	√
Direct debit	-	-	-	√	-	√	-	-
Instant payments	-	√	-	√	-	√	-	√
Mobile payment	√	√	√	√	√	√	√	√

Notes; The table provides a broad assessment of the suitability of the different payment instruments for different transaction purposes. With a check the payment instrument is considered to be suitable, while no checks means that it is not suitable (in general, although exceptions may exist; e.g. direct debit-based POS solutions do exist, notably in Germany). P2P refers to transactions between two end users; P2B to transactions from an end user to a company; B2B to transactions between companies and B2P to transactions from a company to an enduser. F2F stands for face-to-face transaction, while remote refers to distance transactions.

2.2.2 Demand-side factors

Consumers and businesses play a key role in the transformation of payments from paper to electronic channels. The migration to secure digital platforms is strongly determined by the choice of payment instrument agreed between these two actors. Most research on demand-side factors influencing the use of payment instruments

4 For instance, even at low adoption stages, the very successful online wallet application from a large retailer has been reported to have improved the cash management of the company considerably as users left millions of dollars in the form of wallet units inside the platform (Salmony, 2017).

5 In China, the competition is mainly between Alipay, the PSP branch of the online retail champion Alibaba which is in the best position to ensure merchant acceptance, and WeChat Pay, the PSP branch of the dominant social network WeChat which is in the best position to provide a P2P transfer platform (see Kapron and Meertens, 2017; Kajdi, 2017).

has focused on POS payments or P2P payments. However, payments between businesses have not traditionally been analysed in view of the limited payment options these had until recently for conducting their remote payments, e.g. credit transfers or cheques in the past. Although this will no longer be the case with the introduction of instant payments, in this section we explore the role of demand-side factors limited to the available evidence in the literature.

The use of a new payment technology such as instant payments is likely to depend on the modality of acceptance by merchants, the accessibility of internet and mobile devices across demographic groups as well as consumers' characteristics and attitudes towards available payment instruments. Moreover, the existence of strategies to encourage acceptance and usage among businesses and consumers will be key in order to steer payment behaviour.

Evidence from the euro area shows that there are stark country differences in terms of payment behaviour. The latest available data comparing cash and card usage at the POS based on 2016 data show that the use of electronic means of payments at the POS is highest in the Netherlands, Finland and Estonia, where card payments accounted for nearly half of all POS transactions (46% and above), while it was lowest (20% or below) in Austria, Slovenia and southern European countries.[6] Arango et al. (2018) explore these differences in payment behaviour and show that the relative cost of accessing payment services and the level of acceptance of payment instruments are key in explaining consumers' payment choices. They found that countries implementing strategies to increase card acceptance by merchants, while guaranteeing easy access to cash, leads to an increase in card usage by consumers as is the case in the Netherlands. Some examples of the strategies put in place to steer payment behaviour that they identified in their analysis were pricing strategies targeted at merchants to encourage the adoption of the payment card as well as to deter retailers from surcharging low-value card payments. Other strategies included marketing campaigns aimed at retailers and consumers in order to promote card usage.

The payments literature explaining consumers' payment choices at the POS traditionally features cash as the optimal choice of payment whenever consumers have enough cash on hand, as cash may be perceived as economical by both consumers and merchants (Baumol, 1952; Tobin, 1956; Eppen and Fama, 1969; Milbourne, 1983, Alvarez and Lippi, 2017). The literature also specifies a threshold of cash balances on hand below which consumers carry out a withdrawal in order to always ensure positive cash balances that allow spending. Recent empirical studies confirm these payment patterns in Austria, Germany and France among other developed economies, where cash is the first choice of payment for low-value transactions (Arango et al., 2018). In these countries, consumers' cash holdings are explained as a precautionary measure due to the uncertainty they face related to merchants' card acceptance. The uncertainty as to whether cards are accepted for a purchase may induce consumers to always hold some cash in order to avoid not being able to make a transaction, paying unexpected withdrawal fees (when using an ATM

6 Latest figures for the Netherlands show that card payments in 2018 accounted for 63% of all POS transactions (DNB, 2019).

outside the consumers' banking network)[7] or a possible surcharge for using cards.[8] Although card acceptance in the euro area is relatively high, the level of card acceptance varies widely by market sector. It is lowest in sectors frequently visited for consumers' daily purchases and where most payments are of low value; e.g. cafés and bars, street vendors and vending machines, which together account for almost 30% of all POS transactions (Esselink and Hernandez, 2017). This evidence shows that when developing payment strategies to promote the adoption of electronic means of payment, e.g. instant payments, it is important to address the specific payment requirements of each market sector.

The effect of consumers' characteristics on their payment behaviour has been extensively studied in the literature. The payments literature suggests that the use of payment instruments is strongly related to demographic characteristics such as age, education and income. Bagnall et al. (2016) compared payment behaviour in Germany, Austria and France, among other developed economies, confirming these payment patterns. Older consumers tend to use more cash, while younger ones are more likely to use new payment technologies. The latter sheds light on the potential role of payment habits and the potential adoption of instant payments among consumers in younger age groups. Moreover, cash usage seems to decline with the consumers' level of education and income. Although payment habits may be persistent, and the use of electronic means of payment may be lower among mature consumers, recent findings from Jonker et al. (2018) show that consumers in the older age cohorts, as well as those with a lower level of education, have changed their habits. The authors provide evidence of the possibility of increasing adoption of electronic means of payment among consumers who have traditionally preferred cash. They analyse the substitution of cash by cards in the Netherlands during a seven-year period and find that card usage among consumers aged 75 years and older increased from 15% in 2010 to 35% in 2016. Similarly, consumers with a lower level of education increased their card usage from 20% in 2010 to 36% in 2016.

The few studies that include not only POS payments but also remote payments such as credit transfers (see Silva, Ramalho and Vieira, 2016, for an overview) show the importance of socio-demographic factors in the use of cashless payment methods as well, including in particular a negative effect of age on the use of credit transfers in general and online banking payments in particular.

The literature also points to the effect of consumers' attitudes towards available payment instruments on their choice of payment instrument, such as payment preferences, perceived user-friendliness, speed, security and insight into expenses. Van der Cruijsen and Plooij (2017) find that electronic means of payment perceived as being safe and user-friendly are more likely to be adopted by consumers. The use of payment instruments as budgeting tools and the role they play during uncertain times (e.g. financial crisis) has been analysed. Hernandez, Jonker and Kosse (2017)

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7 In Germany, Austria, Canada and the United States, consumers may pay up to €5 when using an ATM outside their banking network (Arango et al., 2017).

8 According to the latest ECB study on consumers' payment behaviour, 14% of euro area consumers consider additional costs for the use of cards as a determining factor in their choice of payment (see Esselink and Hernandez, 2017). Note, however, that since the application of the PSD2, surcharging for consumer debit or credit cards is no longer allowed in the EU.

studied payment behaviour in the aftermath of the 2008 financial crisis in the Netherlands and found that low-earner consumers and those facing liquidity constraints prefer to use cash as a budgeting tool. They found evidence that such characteristics strongly affect consumers' payment behaviour at an aggregated level. In a similar case, findings by the British Retail Consortium (2012) and the UK Payments Council (2013) show that in the UK the use of cash increased between 2011 and 2012. In particular, evidence shows that during those years British households facing financial problems began to use cash more often whereas their total spending declined.

The potential of instant payments as a substitute for cash is due, to a large extent, to key features that until recently only cash offered in a single payment device: immediate access to funds by the payer (without having to plan a trip to an ATM), immediate transfer of funds to the payee and the possibility of being used as a budgeting tool allowing for an immediate overview of all expenses to better track and control expenses. Simply increasing the speed of processing credit transfers, however, may not be sufficient for large-scale adoption.

Schuh and Stavins (2016) find that while speed has value to consumers, the increase in the number of automated clearing house (ACH)-based payments as a result of faster processing of such payments would be very small in relation to the increase in speed. As pointed out in most studies on instant payments, including Salmony (2017) and Hayden and Hou (2015), the potential of the instant payments technology is vastly broadened when taken in combination with other complementary technologies, including mobile payment services. The combination of the two technologies imports the benefits of traditional banking instruments (safety and reach) to compete for the market in low-value payments with non-bank providers of payment technologies. Moreover, because mobile payments are digital transfers, they allow users (e.g. merchants and consumers) to easily deal with either small or large amounts without needing to allocate time or resources to handling cash. Recent evidence from the Netherlands shows the first signs of substitution of cash by electronic means of payment given the rise of mobile payments for P2P payments. Findings show that P2P smartphone payments tripled between 2016 and 2017, providing support for the potential role of mobile-based instant payments.

2.3 Drivers: adoption and usage of instant payments

Based on the literature, we have identified seven aspects that seem to act as key drivers of the introduction of a new payment infrastructure. Among these, we can distinguish between external factors and characteristics of the instant payment services themselves. External factors may influence the decision taken by supply-side actors to offer instant payment services (or not) and by the demand side to use such services (or not). For each of these seven hypotheses, we have formulated a hypothesis. The validity of these hypotheses is later discussed in the analysis of the different country cases.

The external factors considered are:

1. Involvement of authorities in instant payments

   H1: Active involvement of central banks or other public authorities has a positive effect on the development of instant payments and the participation of PSPs in instant payments.

2. Structure of the market for payment services

   H2: Fragmentation of the payment services sector works as a barrier to cooperation in the build-up of instant payments and complementary services, and thereby also to the reach of such services.

3. End-user access to telecommunications and payment infrastructures, with payment infrastructures here referring to technology used to initiate and accept transactions (e.g. point-of-sale terminals)

   H3: Access to payment and telecommunications infrastructures required to make instant payments will play a key role in determining its adoption by end users.

4. Consumers' characteristics and their payment preferences and habits

   H4: Consumers' characteristics and their payment preferences and habits will play a key role in the adoption of instant payments.

The characteristics of the instant payment services that we look into are:

5. Transfer speed (also in comparison to alternatives)

   H5: A larger difference in terms of transfer speed between instant payments and the legacy system positively affects the adoption of instant payments by end users.

6. Level of fees (also in comparison to alternatives)

   H6: The level of fees will impact the rate of adoption of instant payments.

7. Availability of complementary services

   H7: The availability of complementary services, such as mobile payments based on instant payments, has a positive effect on adoption and usage by end users.

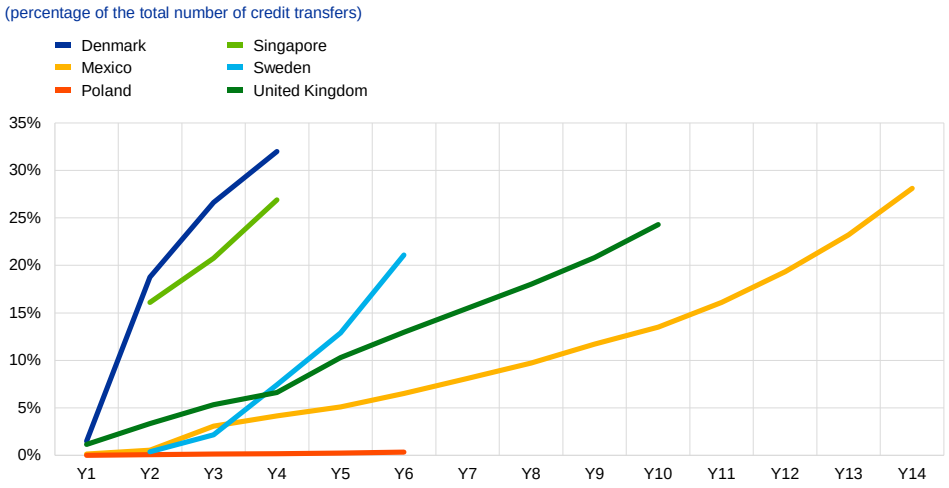
3 Country case analysis

3.1 Instant payments in Europe and around the world

Instant retail payment systems have been developed in many countries around the world and the number of such services is growing fast (FIS, 2017). For the purpose of this study, a number of instant payments in operation were selected according to a set of criteria. First, we selected those systems that are available 24/7 and generally process payments within seconds. From this set of countries, we have selected instant payments in the EU. Among these, due to data availability, we decided to focus on systems launched before 2015. Additionally, we have selected instant payments in operation from other parts of the world, for which sufficient information (including statistics) on instant payments and other payment instruments was available to allow for comparison between countries. This also implies that available data from every country studied should allow for a distinction between retail and large-value payments, even if both are processed within the same payment system. Chart 1 shows the evolution of instant payments in the countries analysed in this study. Table 2 presents an overview of characteristics of the instant retail payment systems in these countries.

Chart 1

Evolution of instant payments in the six country cases



Sources: ECB, CPMI, Banco de México, Faster Payments, UK Cards Association, PaymentsUK, Bankgirot, Monetary Authority of Singapore, Danmarks Nationalbank.
Notes: The data for the UK only refer to single immediate payments and the data for Mexico only refer to third-party payments. The data for Singapore refer to both credit transfers and direct debits.

Table 2

Overview: instant retail payment systems in operation in Europe and around the world (2017)

	Launch date	Speed	Maximum amount*	Transactions per capita	Type of transaction	IP as a market share of credit transfers	Fees
Mexico – SPEI	2004	Mobile and below MXN 80,000 (≈EUR 3,600): max. 15 seconds; higher value: max. 60 seconds	None	2.8 (third party to third party payments)**	Optional for online and mobile payments Default for government payments (payroll, pensions and payment for suppliers)	28%	Consumers and businesses generally pay fees
UK – Faster Payments	2008	Confirmation within 15 seconds, posting within 2 hours	GBP 250,000 (≈EUR 277,000)	16 (single immediate)***	Default for single transactions in online banking; e.g. payments for credit card bills, taxes, insurance claims, utility bills and supplier payments	24%	Free for consumers. Businesses generally pay fees
Poland – BlueCash, Express Elixir	2012	Seconds to max. 15 minutes	BlueCash: PLN 20,000 (≈EUR 4,700) Express Elixir: PLN 100,000 (≈EUR 23,300)	0.2 (both systems combined)	Default for mobile payments; optional for internet payments. Mainly used for invoices, bills and repaying loans	0.3%	Consumers and businesses pay fees
Sweden – Payments in Real Time	2012	1-2 seconds	None for the system. SEK 150,000 (≈EUR 14,500) for Swish	27	Mobile payments	21%	Free for consumers. Businesses pay fees
Singapore – FAST	2014	Max. 15 seconds	SGD 200,000 (≈EUR 128,000)	7	Default for mobile payments; optional for internet payments	27%	Generally free for consumers. Businesses pay fees
Denmark – Express Clearing	2014	1-10 seconds	DKK 500,000 (≈EUR 67,000)	30	Default for mobile payments; optional for internet payments	32%	Consumers: free for mobile payments; for online payments offered as the default by some banks and as an option (with a small fee) by others. Businesses pay fees

Source: Banco de México, Bank of England, Narodowy Bank Polski, Bankgirot, Monetary Authority of Singapore, Vocalink, CPMI, ECB and authors' own calculations based on these sources.
Notes: * Maximum amount set by local instant payments. Banks can set different maximum amounts for their clients.
** SPEI is also Mexico's RTGS system and processes a total of 15 types of payments (Banco de México, 2016a). Of these – besides the third party to third party payments – payroll payments can also be considered retail payments, but these are not processed instantly but rather credited by 08:30 on banking days (Committee on Payments and Market Infrastructures, 2016).
*** Faster Payments also processes standing orders and forward-dated payments, but these are not processed instantly (Faster Payments, 2017) and are therefore not considered instant payments for the purpose of our analysis.

3.1.1 Mexico

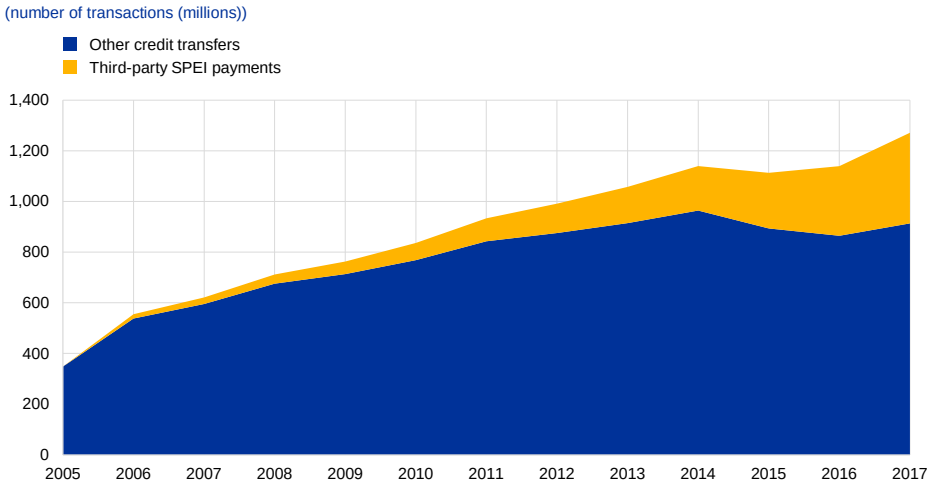
In Mexico, the central bank has been the driving force behind instant payments as both operator and regulator (Committee on Payments and Market Infrastructures, 2016). This has led to all banks participating in the system (Negrín et al., 2008), processing speeds increasing over the years, opening hours being extended, fees being reduced and mobile payments being offered as a complementary service (Committee on Payments and Market Infrastructures, 2016; Banco de México, 2016b).

The growth of instant payments through the Interbanking Electronic Payment System (Sistema de Pagos Electrónicos Interbancarios, SPEI) seems to have come mostly at the expense of cheques, the only non-cash payment instrument that is decreasing in usage. Cheque usage was already declining before the launch of SPEI but at a lower rate. In the last four years, the increase in third-party SPEI payments has been higher than the decrease in cheques, which shows that the growth of SPEI cannot be attributed solely to cheque replacement.

Until 2011, there was considerable growth in non-instant credit transfers as well. As explained by Negrín et al. (2008), some banks promoted these payments over SPEI to keep the float for a day. In recent years, however, the number of non-instant credit transfers has stabilised while the number of transfers in SPEI has continued to grow. According to Banco de México (2016a), payments from the Federal Treasury (including payrolls, pensions and payments to suppliers) have made an important contribution to the growth of SPEI (however, note that not all of these are processed instantly). The use of SPEI for government payments started in 2008, and by 2011 all federal government payroll and supplier payments were made via SPEI (Jacob and Wells, 2011).

Chart 2

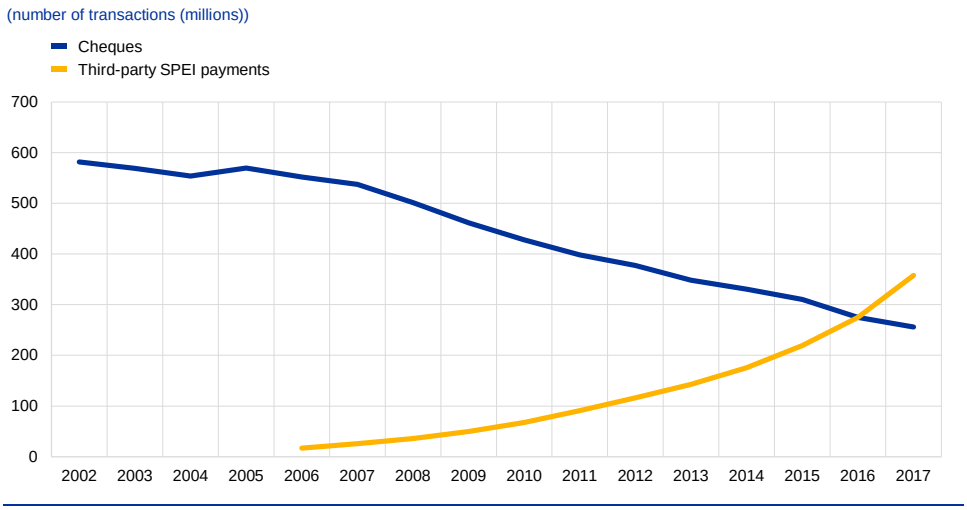
Evolution of credit transfers in Mexico



Sources: CPMI and Banco de México.

Chart 3

Evolution of cheques and instant payments in Mexico



Sources: CPMI and Banco de México.

3.1.2 United Kingdom

In the UK, the launch of instant payments was triggered by a political debate focusing on competition issues and reducing float (Cruickshank, 2000; Office of Fair Trading, 2003). However, the industry went beyond what authorities had asked for, by not just reducing processing times to same-day or next-day clearing but rather developing a real-time system, in order to accommodate future demand (Office of Fair Trading, 2005; Office of Fair Trading, 2007; Vocalink, 2009).

Faster Payments volumes were initially lower than expected (UK Payments Council, 2009; UK Payments Council, 2010), due to the fact that fewer banks than expected joined the service. This limited both the number of customers who could use the service as payers and the reachability of payees (Vocalink, 2009). In 2012 there was a large migration from Bacs direct credits to Faster Payments, due to a change in regulation (UK Payments Council, 2013): the implementation of the (first) Payment Service Directive (PSD) required transactions to be credited to the payee by the next business day. Since this in effect required all banks to be able to receive Faster Payments, this also solved the reachability issues (Vocalink, 2013). Nowadays, banks automatically redirect payments that may be executed as Faster Payments to this system, meaning that it has become the default way to process payments made via online banking (Duston, 2015, Vocalink, 2016a).

This shift to using Faster Payments as the default for online banking led to a large increase in single immediate payments in 2012-13 (Vocalink, 2013). Some examples of use cases are payments of credit card bills[9], tax payments, wage payments by employment agencies and payroll companies (based on employment status or hours

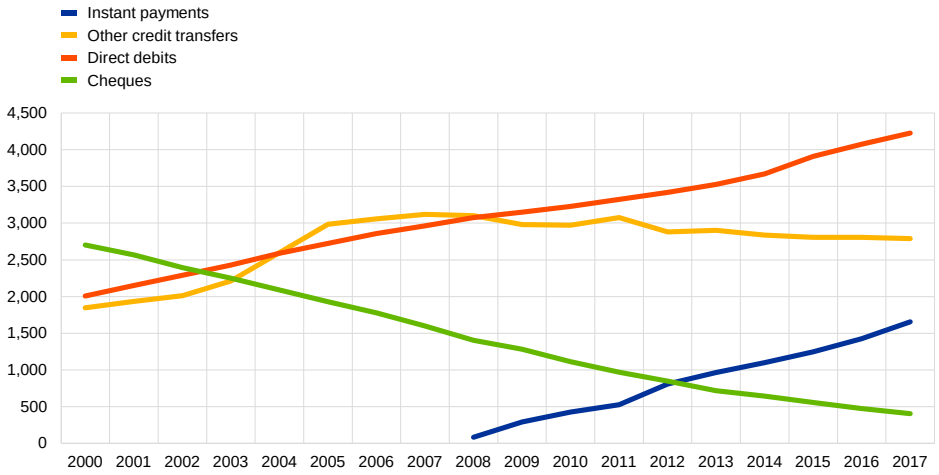
[9] A type of payment for which cheques have traditionally been used, among other options (Cheque and Credit Clearing Company, 2009).

worked), insurance claims (Greene et al., 2015), utility bills and supplier payments (Committee on Payments and Market Infrastructures, 2016).

Chart 4

Evolution of remote payment instruments in the UK

(number of transactions (millions))

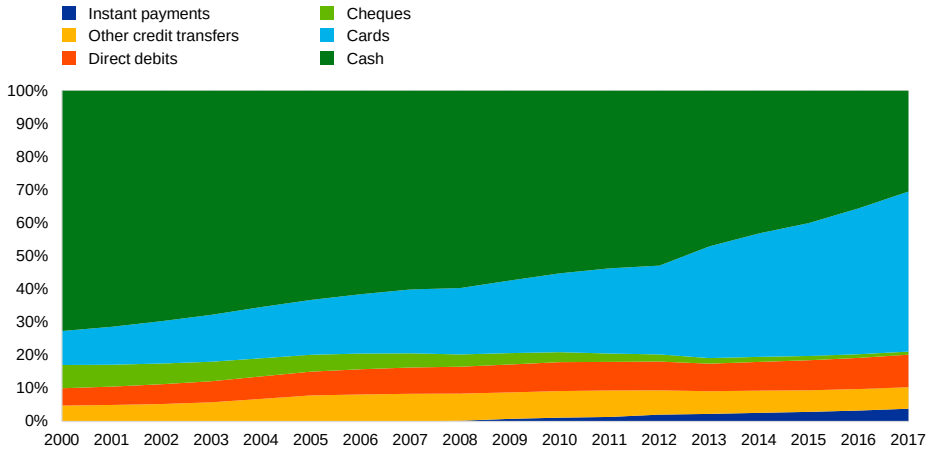


Sources: ECB, Faster Payments, UK Cards Association, PaymentsUK.

Chart 5

Evolution of payment instruments in the UK

(percentage of the total number of transactions)



Sources: ECB, Faster Payments, UK Cards Association, PaymentsUK.

The growth of instant payments was accompanied by a more or less equivalent decline in the use of cheques. This was mostly a continuation of an existing trend. Prior to the launch of Faster Payments, cheques were replaced by instruments such as traditional credit transfers and direct debits. Since about half of the instant payments volume seems to have come from the migration of traditional credit transfers, only half of the decline in cheque usage can be attributed to replacement by instant payments. The other half appears to have been replaced by direct debits. Replacement of cheques by direct debits is not so surprising if one takes into account the fact that, in the UK, regular household bills used to be paid mainly by cheque,

postal order or payment at a Post Office. Many companies issuing such bills have promoted the use of direct debits instead, by offering discounts and other incentives (Cheque and Credit Clearing Company, 2009). The combined share of cash and card payments was mostly stable at almost 80% of retail payments during most of the period in which Faster Payments has been operational. In the last four years, however, there has been a slight decline in this share, with the decrease in the number of cash payments now being larger than the increase in the number of card payments. This may indicate a – so far rather small-scale – substitution of cash payments by instant payments.

3.1.3 Poland

In Poland, instant payments were launched as the result of two different industry initiatives, one by established market participants and one by a newcomer. The underlying reasons for launching instant payments were perceived demand and competition between banks and non-banks (Narodowy Bank Polski, 2015, SWIFT, 2015).

Until now, usage of instant payments in Poland has been low. As of 2017, transfers in both instant payment systems combined only represented 0.32% of credit transfers. In response to a survey by Narodowy Bank Polski (2015), banks indicated that instant payments are mainly used for paying invoices or bills and repaying loans. Payers mainly opt for instant payments when the situation requires immediate booking on the payee's account, often in emergencies. In addition, P2P payments made through the mobile payment service BLIK are processed as instant payments. The use of this service has been steadily growing since its launch in 2015. However, P2P payments only represent a small part of the total transaction volume of BLIK (the other types of transactions, e-commerce, ATM and POS are not processed as instant payments) (Narodowy Bank Polski, 2019).

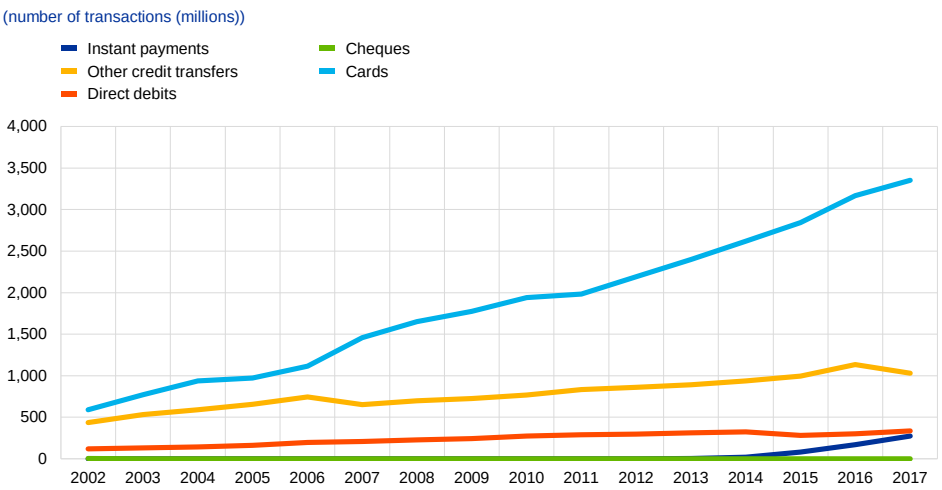
3.1.4 Sweden

In Sweden, instant payments were also launched as an industry initiative to meet perceived demand and to respond to competition from non-banks (SWIFT, 2015; Finastra, 2018). In contrast to the introduction of instant payments in Poland, major banks in Sweden worked together to develop the basic instant payments infrastructure and joined forces to offer a mobile payment service using instant payments as the underlying payment instrument: Swish (Duston, 2015).

At present, instant payments are limited to Swish in Sweden and are not available via online banking. Initially launched (and still primarily used) as a P2P service, Swish has supported payments to businesses since 2014 (Bankgirot, 2015) and e-commerce payments since 2017 (Getswish, 2017b).

Chart 6

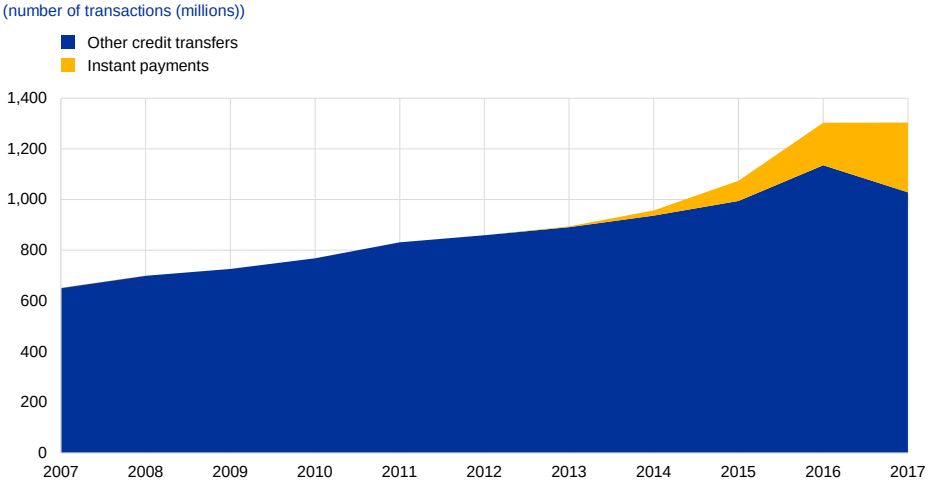
Evolution of payment instruments in Sweden



Sources: ECB, CPMI.

Chart 7

Evolution of credit transfers in Sweden



Sources: ECB, CPMI.

Despite the fact that instant payments are only available via the mobile channel, they now account for a substantial share of credit transfers. This reflects the popularity of Swish, which is now used by 66% of the population (Insight Intelligence, 2016). The rapid growth of payments via Swish has been accompanied by a decline in cash payments (Sveriges Riksbank 2018). For P2P payments, payments using Swish have now reportedly overtaken cash payments (FIS, 2016). This means that the growth in credit transfers is at least in part at the expense of cash. This assumption is supported by statistics indicating that the growth of instant payments seems to have contributed to an increase in the growth of credit transfers overall. Note, however, that until 2016 the number of other (non-instant) credit transfers continued to grow as well (this in contrast to the situation in the UK), so the availability of instant payments does not seem to be the only factor behind the growth in credit transfers. The statistics do not

point towards any large-scale substitution of other payment instruments. Card payments have shown strong growth both before and after the introduction of instant payments, while the number of direct debits has remained more or less stable and the use of cheques was already minimal when instant payments were introduced.

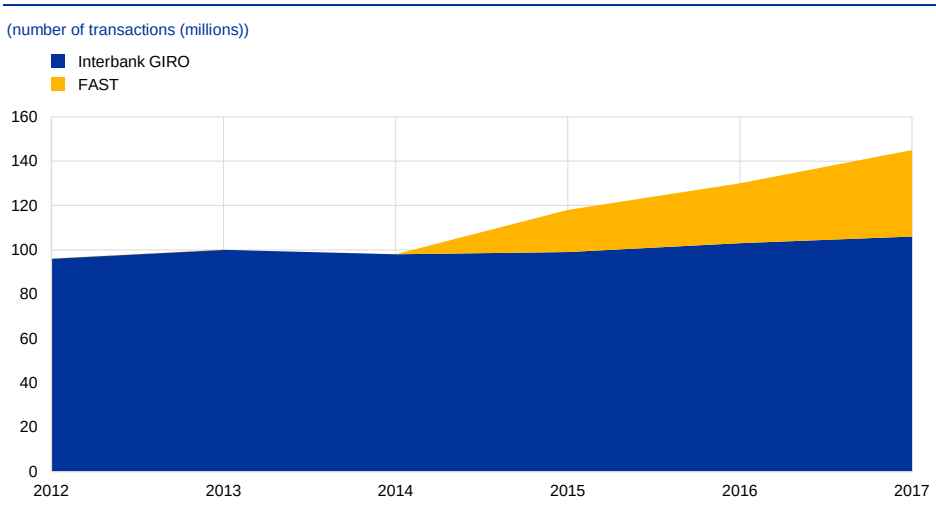
3.1.5 Singapore

In Singapore, instant payments (called Fast And Secure Transfers, FAST) were developed by the industry in line with the vision of the Monetary Authority of Singapore (Vocalink, 2017; see also Committee on Payments and Market Infrastructures, 2016), with competitive pressure from non-banks also playing a role (Tompkins and Olivares, 2016).

The uptake of instant payments – which in Singapore include both credit transfers and direct debits – has been rapid. In absolute terms, the increase in the number of FAST payments is higher than the decrease in the number of cheques. Although it is said that the FAST system is designed to eventually replace the older batch system entirely (Duston, 2015), for now there does not seem to be much replacement of non-instant payments (processed in the Interbank GIRO system), the number of which has remained more or less stable. As for use cases, in the first three years after the launch of FAST, corporate transactions in the system rose exponentially by more than 20 times (Asian Banking and Finance, 2017).

Chart 8

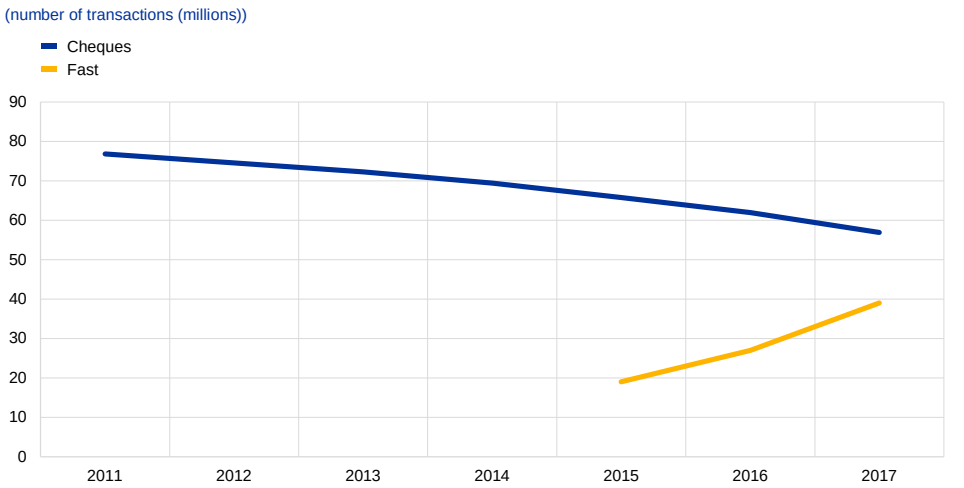
Evolution of credit transfers and direct debits in Singapore



Sources: CPMI, Monetary Authority of Singapore.

Chart 9

Evolution of cheques and instant payments in Singapore



Sources: CPMI, Monetary Authority of Singapore.

3.1.6 Denmark

Finally, in Denmark, the original trigger for the development of instant payments was a political debate focused on the fact that settlement times (at that time typically at least one day) were longer than in some other countries (Bakkegaard et al., 2011). In response to this, the industry decided to introduce not only intraday transfers but also instant payments (Bakkegaard et al., 2011, Working group on domestic payment transfers, 2012; Korsby and Toubro-Christensen, 2012). This decision was triggered by competition from mobile network operators in the area of mobile payments (Committee on Payments and Market Infrastructures, 2016; Duston, 2015).

When intraday transfers were introduced, the majority of credit transfers migrated to that system, while the remaining credit transfers that continued to be settled in the legacy system (Sumclearing) are now limited to inpayment forms[10] (Andresen and Jensen, 2014). When instant payments were introduced, there was a decline in the number of intraday transfers (see Chart 10). However, since then the number of intraday payments has stabilised. According to Andersen and Gladov (2015), the intraday system will remain relevant because it allows netting of in particular planned payments such as salaries, which make banks' liquidity management easier. The continued growth in instant payments despite the stabilisation of intraday payments suggests, according to Danmarks Nationalbank (2017a), that they are to some extent replacing cash payments. The decline in the number of P2P cash payments from almost 150 million in 2009 to about 40 million in 2016 (Danmarks Nationalbank, 2019) supports this. In a survey by Danmarks Nationalbank, respondents indicated that some of the characteristics they value in cash (ease of use, payments being settled immediately) also applied to mobile payments, which shows that from a consumer

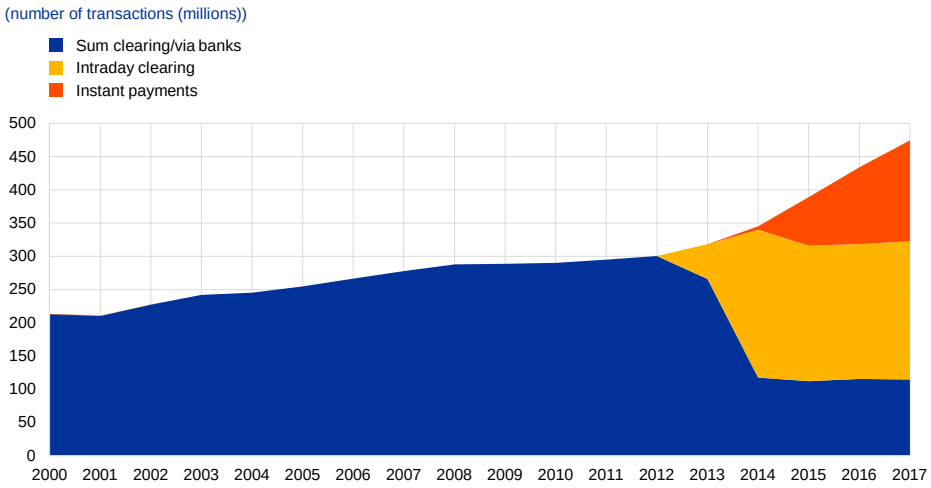
[10] Inpayment forms are pre-printed forms attached to paper invoices.

preference perspective they can indeed be a substitute for cash (Danmarks Nationalbank, 2019).

The migration of the mobile payment services MobilePay and Swipp (the latter no longer in operation) to instant payments clearly contributed to the quick uptake of instant payments in Denmark, and mobile payments continue to be an important part of the volume of instant payments. Although exact figures have not been published, it has been estimated that mobile payments account for the majority of instant payments in Denmark (Andersen and Gladov, 2015; Danmarks Nationalbank, 2017a). This reflects the apparent popularity of the service, which reached 4 million users in 2018 (MobilePay, 2019) and which has shown strong growth in the number of transactions, reaching almost 200 million transactions in 2018 (not all of which are instant payments as defined in this paper, some being based on cards instead) (Danmarks Nationalbank, 2019). In addition to mobile payments, instant payments are also offered by default in online banking by some PSPs, while others offer them as an option for a small fee (Ring, 2017)[11]. All of these factors combined have resulted in instant payments accounting for 32% of credit transfers, as of 2017.

Chart 10

Evolution of credit transfers in Denmark



Sources: ECB, Danmarks Nationalbank.

3.2 Substitution effects

In summary, in the six countries studied here, instant payments appear to have mainly replaced traditional credit transfers, with growth rates of the latter in many cases declining after the introduction of instant payments.

In those countries where cheques were regularly used, some cheque replacement also seems to have taken place. Since cheques were already on the decline in those countries, it can be assumed that many of these would, in the absence of instant

[11] Since data on the usage of instant payment services by clients of individual PSPs are not available, we cannot determine to what extent these different pricing models have affected usage.

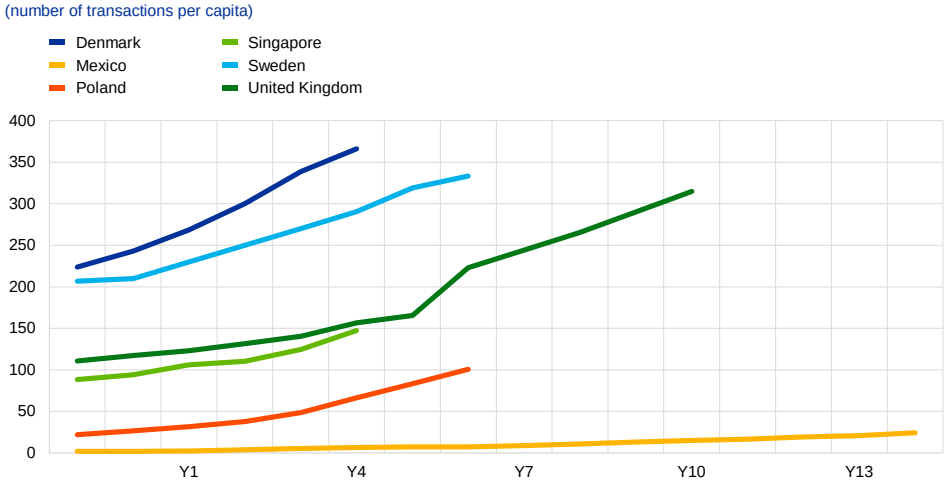
payments, have been replaced by other payment instruments. It seems plausible that a number of those cheques that would otherwise have been replaced by traditional credit transfers have been replaced by instant payments instead. However, in Mexico and Singapore the decline in cheque usage did accelerate after the launch of instant payments.

In addition, there are indications of possible replacement of cash transactions (mainly for P2P payments), in particular where mobile apps for P2P payments are widely available, as is the case for Sweden and Denmark. In these cases, the growth rates of all credit transfers (including instant and non-instant) increased after the introduction of instant payments, indicating that more than simply replacement of traditional credit transfers was taking place. The available figures for P2P cash transactions in Denmark also support this.

As for card payments, these showed a steady growth in all country cases (at varying rates). The introduction of instant payments does not seem to have affected those trends, indicating that there has been little (if any) substitution of card payments.

Chart 11

Evolution of credit transfers in Denmark



Sources: ECB, CPMI, INEGI.

3.3 Assessment of the driving factors

3.3.1 Involvement of authorities

The country cases provide support for the hypothesis that active involvement of authorities can have a positive effect on the development of instant payments. In a number of countries studied, authorities such as central banks, governments and parliaments have played and continue to play an active role in promoting instant payments.

The involvement of authorities appears to have been particularly influential in triggering the initial launch of several of the systems. This includes not only Mexico, where the central bank itself is the provider, but also Denmark and the UK where the decision to launch instant payments was taken in response to a political debate. To some extent, Singapore also falls into this category, since industry acted in line with the MAS's vision.

In Mexico as well as in the UK, the influence of authorities continued beyond the initial launch phase: in Mexico in both the roles of operator and regulator, in the UK mainly as regulator. This continued involvement led to increased reach in both cases and in Mexico also to faster settlement times, lower fees and the development of complementary services. In those cases, then, public authorities appear to have had a positive influence not just on the initial development but also on the subsequent adoption of instant payment services.

However, the cases of Poland and Sweden show that the involvement of authorities is not essential for the launch of instant payments. In both of these cases, instant payments were launched as industry initiatives. The case of Sweden shows that mass adoption by end users can likewise be achieved as a result of an industry initiative. In Poland, however, this mass adoption did not take place.

3.3.2 Market structure

Indications of the importance of cooperation in the payment services sector for the development of instant payments with wide reach can be found in a number of the country cases. A clear example is the case of Sweden, with a concentrated banking sector that moreover has a tradition of cooperation (Segendorf and Wretman, 2015; Committee on Payment and Settlement Systems, 2011). The cooperation between major banks on both the basic instant payment infrastructure and a mobile payment service using instant payments as the underlying payment instrument in this case allowed for rapid uptake by consumers (Duston, 2015). In Denmark, too, cooperation between banks has been noted as one of the factors contributing to the adoption of instant payments (Accenture, 2015).

However, instant payment systems have also been launched in countries where the sector is more fragmented and lacks a tradition of cooperation (Polasik and Piotrowsk, 2016), Poland being an example. In this case, however, reachability of banks via those systems remained limited. Narodowy Bank Polski (2015) has suggested that developing a common scheme and creating an interoperability link between the systems could help with this issue, but this has not happened so far. In the first years after the launch of instant payments in the UK, which has a moderately concentrated banking sector (Competition and Markets Authority, 2016) but considerably less so than Sweden or Denmark[12], there were similar issues with reach. As mentioned above, this was resolved via regulation.

[12] According to ECB statistics, the share of the five largest credit institutions in the total assets of the sector is 35% in the UK, as compared to 68% in Denmark, 56% in Sweden and 48% in Poland.

The country cases therefore indicate that in the absence of regulation making participation in instant payments mandatory, cooperation between PSPs is an important supporting factor for the provision of instant payments, as well as complementary services, that allow for a large majority of payment accounts to be reachable. The more fragmented the market for payment services, the more difficult it is to achieve such cooperation.

3.3.3 IT and telecommunications infrastructure

The importance of the availability and accessibility of an infrastructure that supports the use of instant payments is illustrated by the country cases. The higher levels of internet use and in particular mobile internet use may have contributed to the success of instant payments in Denmark, Sweden, the UK and Singapore. In the first two in particular, the high use of mobile payments based on instant payments would not have been possible without the widespread use of mobile internet: Eurostat reports that in 2016 more than three-quarters of individuals in these countries accessed the internet via a mobile device. At the other extreme, the lack of access to such infrastructure for significant parts of the population in Mexico has likely limited the possibility for those people to use instant payments. Statistics show that only 2.6% of the total number of mobile phone subscribers had access to mobile banking (Angel, 2016).

3.3.4 Behavioural aspects

As for the effects of behavioural aspects, the rapid uptake of instant payments in particular in the P2P area in Denmark and Sweden may be related to the fact that these countries have very modern payment systems with high numbers of card payments and credit transfers per capita, high usage of online banking and low cash usage (Danmarks Nationalbank, 2012; Danish Payments Council, 2014; Sveriges Riksbank, 2018). In both of these countries, new payment methods are adopted quickly by end users (Segendorf and Wretman, 2015; Danmarks Nationalbank, 2017b).

In the UK, instant payments were introduced a number of years earlier, at a time when, for example, the use of online banking was considerably lower than it is now, and the use of cash and cheques was higher. This may have been a contributing factor to the more gradual growth of instant payments in the UK. In more recent years, the UK retail payments market has been quite dynamic. Besides the introduction and growth of Faster Payments, contactless payments have been adopted so rapidly that PaymentsUK has brought forward its predicted date when debit cards will become the most frequently used payment method in the UK (overtaking cash) by three years, and mobile banking is now being used by four out of ten account holders (PaymentsUK, 2017). This changing environment may be contributing to the continued growth of Faster Payments.

In Mexico, Poland and Singapore, a shift to instant payments required a more substantial change in payment behaviour, since at the time of introduction (and to

some extent even now) these countries had lower usage of non-cash payments. In the case of Mexico and Singapore, the non-cash transactions that did take place were often in the form of cheques. In Poland, although the number of credit transfers per capita is not much lower than in the UK or Denmark, the total number of non-cash payments per capita is relatively low due to the low usage of direct debits and payment cards. At the point of sale, cash is still heavily used, although its use is declining (Narodowy Bank Polski, 2013; European Payments Council, 2016). In Singapore, the number of credit transfers per capita is low, in contrast with the relatively high usage of cards. There is still considerable usage of cheques, although in 2016 for the first time the number of cheque payments was lower than that of credit transfers (Committee on Payments and Market Infrastructures, 2017). Businesses in particular use cheques frequently, while consumers' cash usage is high (Menon, 2016). In a report commissioned by the Monetary Authority of Singapore, KMPG (2016) argues that this continuing reliance on cheques and cash is due to both entrenched behaviours and limited accessibility of efficient electronic payments. Acceptance of electronic payments by merchants is limited, according to this report, in part due to high fees for card payments. Finally, in Mexico, the use of non-cash payment instruments in general, and of credit transfers in particular, is low. Cheque usage – although decreasing – is still quite high, and at the POS as well as in the informal economy cash is heavily used (Jones, 2017). This informal economy is widespread: between 2013 and 2016, its contribution to GDP was between 27% and 29% (Angel, 2016). Studies have determined a correlation between informality and low financial inclusion. This has hindered the potential of instant payments, which itself limits the potential benefits of SPEI in the Mexican economy.

As for online banking, this is widely used in Singapore but less so in Poland and Mexico. This may have contributed to the adoption of instant payments in Singapore being faster than in the other two countries. In Mexico and to a lesser extent in Poland, an additional relevant factor is financial inclusion: as of 2017, in Poland 13% (down from 22% in 2014) of the adult population did not have a bank account; in Mexico, this share was 63% in 2017 (2014: 61%); in Singapore, by contrast, this share was only 2% in 2017 (2014: 4%) (World Bank, 2018).

The existing payment and banking behaviour at the time of introduction of instant payments may therefore have an impact on the uptake of instant payments. The adoption rate is likely to be 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.

3.3.5 Transaction speed

Although the processing speeds for instant payments in the countries studied are quite similar,[13] the speeds of legacy systems differ widely. Specifically, in Denmark, Poland

[13] Usually within seconds, although in Poland this differs between banks (Narodowy Bank Polski, 2015). In Mexico, this only applies to mobile payments and other low-value payments (other payments being processed within one minute, Committee on Payments and Market Infrastructures, 2016) and in the UK processing within seconds is not guaranteed (the maximum for single immediate payments is two hours, Faster Payments, 2017).

and Sweden same-day clearing is offered during business days (Tompkins and Olivares, 2016; Hayden and Hou, 2015; Danmarks Nationalbank, 2017a), while in the other three countries payments are credited 1-3 business days later (ABS, 2017a, 2017b; UK Finance, 2017; Committee on Payments and Market Infrastructures, 2011). Hayden and Hou (2015) suggest that the limited differentiation from the non-instant system in terms of speed may have negatively affected the uptake of instant payments in Poland. However, in the other two countries where same-day clearing is offered, Denmark and Sweden, the uptake was much higher, so a lower advantage in terms of speed is not necessarily a barrier to the adoption of instant payments. Note, however, that in Sweden despite earlier interest among banks in migrating more types of payments from the older batch system to the instant system, they later concluded that most payments did not need to be processed faster for the time being (Duston, 2015). Here, then, it seems that the relatively high processing speed of the legacy system has negatively influenced the number of channels via which instant payments are provided, and thereby indirectly the uptake by end users as well.

The difference in speed between instant payments and other available payment services may, therefore, influence the uptake of instant payments, but the evidence is inconclusive.

3.3.6 Fees

Although the available information about fees is incomplete, the country cases are consistent with our hypothesis. There are examples of both higher and lower or no fees, and the fee structure does seem to have had an influence on the uptake by end users. In Poland, for example, banks decided to charge relatively high fees, positioning instant payments as a premium service, and it has been argued that this has contributed to the low usage of the services (Narodowy Bank Polski, 2015). In Mexico, the central bank has in the past used moral suasion to move banks to reduce the fees for low-value payments, which initially were much higher than those for cheques and higher than those for non-instant credit transfers. This led to an agreement among the largest banks to set a cap of MXN 11 on fees for transactions under MXN 100,000 initiated online (Negrín et al., 2008). Banks are not allowed to charge for receiving SPEI payments (Banco de México, 2017). By contrast, in the UK banks do not typically charge consumers for making Faster Payments transactions, in line with a long-standing custom in the UK of consumers not paying transaction fees (Vocalink, 2009; Jacob and Wells, 2011). In Singapore, too, instant payments are typically free for private customers (Yahya, 2016), but high fees for small businesses compared to those for cheque payments have been noted as a barrier to FAST usage (Menon, 2016). In addition, in both Sweden and Denmark the popular mobile payment services using instant payments are free. In Sweden, many banks started charging transaction fees in 2014/2015, but later they stopped charging these fees again. In Denmark, plans to start charging for MobilePay were dropped (Danske Bank, 2014). In Singapore, Sweden and Denmark, business customers are charged for using instant payment services and in Denmark many banks charge their private customers transaction fees as well if they use instant payments via online payments. In April

2017, the prices for accepting MobilePay at the POS were reduced in an attempt to compete with card payments (see MobilePay, 2017b).

In sum, the country cases analysis shows that higher fees limit the uptake of instant payments. Moreover, the analysis shows that banks may face difficulties introducing fees for private customers once the service is initially offered for free.

3.3.7 Complementary services and other service characteristics

The experience in the country cases points towards a positive influence of the availability of complementary services as well as other conditions that expand the possible use cases for instant payments on the adoption of such payments by end users. In two of the countries studied, a complementary service for mobile P2P payments was offered from the start. In Sweden this was a new service, while in Denmark two existing services (one of which has since closed) were migrated to the instant system. The availability of such services appears to have supported the quick uptake of instant payments in these countries. In Sweden, as noted above, mobile payments are the only payments processed in the instant system, while in Denmark it has been estimated that mobile payments account for the majority of instant payments (Andersen and Gladov, 2015; Danmarks Nationalbank, 2017a). In all the other cases, mobile P2P payment services were launched at a later stage[14] and may now be contributing to the continued growth of instant payments. The current growth of instant payments, both in the countries where mobile services were available from the start and in cases such as the UK and Singapore where such services were launched later, does not seem to be at the expense of legacy systems for credit transfers. Rather, in these countries instant payments are contributing to an overall growth of credit transfers (while at the same time card payments are also still growing).

Services for instant payments at the POS have only been introduced in a few of the countries studied, and only quite recently. In Sweden, Swish payments can be initiated using QR codes (Getswish, 2017a) and in Denmark both a QR code-based method and one using the payment terminals also used for card payments are available (MobilePay, 2017c). No separate statistics on POS instant payments are available, so the extent to which the availability of these services has contributed to the growth of instant payments is unknown. In Sweden and the UK, e-commerce solutions based on instant payments are also available (Getswish, 2017b; Pay by Bank App, 2017), but there is limited evidence on the effects of these solutions on instant payments usage in view of their recent introduction in 2017.

As for other factors that expand the possible use cases for instant payments, the country cases show that transaction limits are an important one. This can be illustrated by the fact that in some countries these limits have been adjusted upwards over time in response to demand. In the UK, the limit was increased from £10,000 initially to £100,000 in the second year after the launch of Faster Payments (September 2010).

[14] This is notably the case in Poland, where banks do not have a history of cooperation. However, they did come together to develop the mobile payment solution BLIK, introduced in 2015 and functioning as an overlay service for Express Elixir, made available to 60% of bank customers at launch (Polasik and Piotrowski, 2016).

This was later increased to £250,000 in the fifth year of Faster Payments (November 2015), mainly to accommodate the demand from the corporate sector (Vocalink, 2015). In Singapore, the transaction limit was increased from $10,000 to $50,000 one year after the launch of FAST (Vocalink, 2016b) and to $200,000 in early 2018 (ABS, 2018). In both of these countries, there has also been growth in the use of payments by corporations, which are likely to benefit from higher transaction limits. By contrast, transaction amount limits have remained relatively low in Sweden (due to the fact that they are only available via Swish) and Poland (for the latter case, in particular for Bluecash). Sadłakowski (2017) argues that this may have contributed to the low adoption of instant payments in Poland.

The country cases show, therefore, that in order to generate higher volumes of instant payments it is important to provide instant payments under conditions that allow a wide variety of use cases, including the provision of complementary services that cater specifically to the needs associated with particular types of transactions. For P2P payment services, which are the most widely available complementary service, statistics already point to an effect on instant payment usage and possible substitution of other payment instruments (in particular cash). Similarly, the use of instant payments by corporations has already benefited from improved conditions in some countries. For other use cases, such as POS and e-commerce, it is still too early to see what the effect of instant payments-based services will be.

4 Scenarios for the adoption of instant payments

4.1 Ideal type scenarios

Table 3
Scenarios for the adoption of instant payments

Basic service / New solutions	Low adoption	High adoption
Low adoption	Scenario 1	Scenario 2
High adoption	Scenario 3	Scenario 4

4.1.1 Scenario 1

Scenario 1 is characterised by low adoption of both, similar to the situation so far in Poland whereas of 2017 instant payments represent only 0.3% of all credit transfers and the use of new solutions for mobile payments is only slowly increasing. This case illustrates underlying factors of such a low-adoption scenario: comparatively high fees and lack of reachability for the basic service, as well as a less developed telecommunications infrastructure (in particular the use of smartphones) and behavioural aspects such as the use of online banking and the popularity of cash payments. Mexico, in the earlier years, was somewhat similar. Although the share of instant payments within the total number of credit transfers increased more quickly than in Poland, in terms of transactions per capita the usage of instant payments remained low. This may be explained by factors such as financial inclusion and ICT infrastructure, as well as relatively high fees in the earlier years. The capping of these fees and the introduction of new mobile solutions based on instant payments likely contributed to the growth of instant payments in later years, which as of 2017 represent 23% of all credit transfers. Nevertheless, the number of instant payments per capita is still quite low, which can be explained by financial inclusion, ICT infrastructure and behavioural factors.

Generalising the analysis beyond these country cases, scenario 1 may arise where there is a lack of commitment to instant payments among the payments industry, leading to limited reach (if not all providers join the service) or limited usability (if they are not made available via all common initiation channels). This scenario may also arise where providers choose to offer instant payments as a premium service, charging comparatively high fees both for the basic service and for new solutions based on instant payments.

4.1.2 Scenario 2

Scenario 2 is characterised by high adoption of the basic service, but low adoption of new solutions. In its most extreme version, this would mean that all traditional credit transfers would be replaced by instant payments while no new solutions based on instant payments are used. None of the country cases represents this extreme version of scenario 2. The closest example of this scenario is the case of the UK, where instant payments are now the norm for credit transfers sent by consumers and also represent an increasing share of those initiated by businesses, adding up to a total of 37% of all credit transfers being processed in the instant payment system as of 2017, a share that is still growing.[15] New solutions, although available (mainly for P2P payments but more recently also for e-commerce) are only used on a fairly limited scale. In this case, the replacement of traditional credit transfers by instant payments was supported by an absence of fees for private customers as well as legal developments which led to all banks joining the Faster Payments system. Bank strategies also became increasingly supportive, resulting in instant payments being offered as the default option for single transactions in online banking, transaction amount limits steadily increasing and instant payments becoming available via corporate channels. The credit transfers remaining in the legacy system are mainly salary payments and business-to-business payments (Greene et al., 2015), of which at least the former is a use case for which the added value of instant processing may be lower.

Scenario 2, then, may arise where the industry does commit to processing credit transfers instantly by default (possibly as a result of the involvement of public authorities) but supporting factors for the adoption of new solutions are lacking, e.g. because no market-wide solution is offered, high fees are charged, the ICT infrastructure is not sufficiently developed or the population is less inclined to adopt new technologies.

4.1.3 Scenario 3

Scenario 3 could be described as the opposite of scenario 2: low adoption of basic instant payments services and high adoption of new solutions. The importance of the second factor is shown by the case of Sweden, where instant payments are only offered via new solutions. Since it is not possible to initiate an instant payment via more traditional channels such as online banking, there has not been widespread replacement of traditional credit transfers by instant payments. By contrast, adoption of a new solution for mobile P2P payments has been high, contributing to a substantial growth in the total number of credit transfers, 21% of which is represented by instant payments as of 2017. Specific characteristics of the country, such as the low use of cash and the high technology readiness likely supported this strong uptake of mobile P2P instant payments. The addition of services for e-commerce and the physical point-of-sale has, however, so far not yet had a similarly strong impact.

[15] Note, however, that only 24% of credit transfers are single immediate payments, which are the only payments that are really processed instantly.

From this, we can see that scenario 3 may arise where the industry chooses to offer instant payments mainly via new solutions. They are not made the default for credit transfers initiated via online banking but there is heavy promotion of a mobile application that uses instant payments as the underlying payment instrument, for instance. If this new solution is offered market-wide at attractive fees, the ICT infrastructure is sufficiently developed and the population is inclined towards new technologies, adoption rates could be high.

4.1.4 Scenario 4

Scenario 4 is characterised by high adoption of both basic instant payment services and new solutions based on instant payments. In its most extreme version, all traditional credit transfers would be replaced by instant payments while at the same time the total number of credit transfers would increase due to the adoption of new services. This extreme version is not represented in the country cases, but there is a less extreme version represented by Denmark. Instant payments are widely available via online banking with a relatively high transaction amount limit, which led to some replacement of traditional credit transfers. However, since these traditional credit transfers were already processed relatively fast (within a day) and some banks charge extra for instant payments, a substantial share of credit transfers has remained non-instant. Nevertheless, the adoption of instant payments has been relatively quick, representing 32% of all credit transfers as of 2017, due to the availability and widespread use of new solutions which were available from the start of instant payments. Instant payments in Singapore appear to be developing somewhat similarly, although the availability of new instant payments-based solutions was not as widespread at the launch of instant payments as they were in Denmark. In this case, the adoption of the basic service is facilitated by the fact that private customers typically do not pay transaction fees while additional growth is facilitated by the availability of new mobile solutions. These have been offered by some banks for some time, while a multibank solution was only launched in 2017 so the full effect of this service on instant payments use cannot yet be seen. As of 2017, instant payments already represent 27% of credit transfers in Singapore.

This shows that scenario 4 may arise where the industry commits to processing (at least) single, electronically initiated credit transfers instantly by default, market-wide end-user solutions are launched at attractive fees, and which are characterised by high financial inclusion, a well-developed ICT infrastructure and high technology readiness among the population.

4.2 Implications for the euro area

From the country studies, we can see that the adoption of basic instant payment services is facilitated by wide reach of the services, high (or no) transaction amount limits and the availability of instant payments for both private and business customers at attractive fees. Industry commitment and/or involvement of public authorities may support the provision of instant payment services in a way that supports high adoption,

in particular where such efforts result in a considerable share of credit transfers being processed instantly by default. Environmental factors may provide additional support, i.e. a high level of financial inclusion and a developed ICT infrastructure, in particular when it comes to the accessibility of online banking.

For the adoption of new solutions based on instant payments, the availability of common solutions to customers of all banks (again, at attractive fees) is an important supporting factor. A combination of industry commitment and/or involvement of public authorities may move providers to launch such common solutions. In addition, adoption is supported by an advanced ICT infrastructure including in particular widespread use of smartphones and high technology readiness of the population.

Considering these factors, the euro area appears to be in a relatively good position for instant payments to be adopted by end users for a considerable share of their payments. Some barriers to wide-scale adoption are, however, still present. Moreover, there are considerable differences between euro area countries in several of the underlying factors which may result in different scenarios materialising in different countries. To a considerable extent, which scenario or scenarios will materialise within the euro area will depend on future developments which are still unknown.

4.2.1 Adoption of the basic service

As for the adoption of the basic service, many of the facilitating factors are present in the euro area, but there are also some barriers that may hinder adoption to some extent.

Reach

Looking at the first key aspect, wide reach, an important facilitating factor is present in the form of the pan-European SCT Inst scheme. This common scheme supports interoperability between instant payment services of different PSPs. The existence of this scheme does not, however, guarantee full reach of instant payment services. There are two main reasons for this: 1) adherence to the scheme is not mandatory and 2) two PSPs that have adhered to the scheme will only be able to exchange transactions if they participate (directly or indirectly) in the same infrastructure (i.e. an ACH or TIPS). Although the scheme rules include the requirement to be reachable for all other scheme participants, in practice this is not yet always the case.

Wide reach at the European level is supported by public authorities. The SCT Inst scheme was developed in response to a call from the ERPB to develop a common scheme for instant retail payments. The Eurosystem strongly supported this initiative and continues to support the implementation of the scheme. The Eurosystem further supports instant payments by providing operational services for settlement of such payments, both to settle transactions cleared by ACHs[16] and to settle individual

[16] As of December 2018, 11 ACHs have declared their compliance with the SCT Inst scheme (European Payments Council, 2018b).

instant payments in its new TIPS service. The decision to launch TIPS was taken in order to facilitate pan-European reach. The European Commission, too, has expressed support for instant payments (Dombrovskis, 2019). There is, however, no regulation requiring any type of payments to be processed instantly at this point in time, nor is the participation of PSPs in instant payment systems mandatory. However, uptake by PSPs so far is progressing rather quickly, from nearly 600 PSPs at the start to over 2,000 a year later (European Payments Council, 2017; 2018a). Considering this, it appears that competitive forces may be sufficient to reach critical mass, although it should be noted that adherence rates vary widely between countries. While in some countries the majority of PSPs have already joined the scheme, in others only a small share has done so and in yet others no PSPs have joined so far.

These differences in reach between countries may be explained, at least in part, by differences in cooperation within national banking communities. The Spanish banking community, for example, worked together on the implementation of SCT Inst, resulting in a large share of the market joining the scheme from the start (Langa, 2018). Other communities that have cooperated on instant payments include the Belgian banks, which collectively launched their SCT Inst services in March 2019 (Febelfin, 2019) and the Dutch banks, which have agreed to process individual online and mobile payments via the instant payments infrastructure by default starting from Spring 2019 (Dutch Payments Association, 2019). The extent of such cooperation between PSPs may differ between countries, depending on factors such as the concentration in the sector and the tradition – or lack thereof – of cooperation. Such cooperation between banks may be affected by the concentration in the banking sector, which differs between euro countries: the shares of the five largest credit institutions in total assets vary from under 35% in Luxembourg, Germany and Austria to over 85% in Greece, Estonia and Lithuania according to ECB statistics. Where such cooperation proves difficult, further guidance from authorities could provide the necessary impetus. In addition, cooperation between banks may also be facilitated by national payments fora. In a number of euro countries, such fora explicitly support the development of instant payments, for example in Finland (Finnish Payments Council, 2017), France (Comité national des paiements scripturaux, 2017), Italy (Comitato Pagamenti Italia, 2017) and the Netherlands (De Nederlandsche Bank, 2015). Differences in cooperation and/or support from authorities and the public for the implementation of instant payments may lead to differences in the adoption rate as well.

Service availability and conditions

Adoption of basic instant payment services by end users in the euro area is further facilitated by the flexibility built into the scheme regarding transaction amount limits. Although the transaction amount limit set for SCT Inst at the European level is relatively low at €15,000, communities may agree on higher limits which would facilitate the use of instant payments for corporate payments. PSPs in some countries (e.g. Belgium, the Netherlands) have already agreed to higher (or no) transaction limits than required by the scheme. Such differences in the implementation of the scheme may lead to further differences in adoption rates of instant payments between countries. The extent to which instant payments are actually offered to various user

groups may also differ between countries and between individual PSPs, again leading to different adoption rates.

The fees PSPs will charge for instant payments to end users are also likely to differ both between banks and between countries. For example, it has been reported that Italian banks are currently charging fees ranging from a few cents to €3 for SCT Inst transactions, depending on factors such as the type of customer and the value of the payment (Maheshwari, 2018), while early adopters in Estonia, Latvia and the Netherlands announced that they would charge the same fees for instant payments as for regular credit transfers (SEB, 2017, ABN AMRO, 2017). Differences in fee levels will also have an impact on the adoption rate of instant payments per country. Finally, the attractiveness of instant payments compared to traditional credit transfers may be more limited in those countries where same-day processing is currently the norm and the added value in terms of speed is therefore lower.[17]

Environmental factors

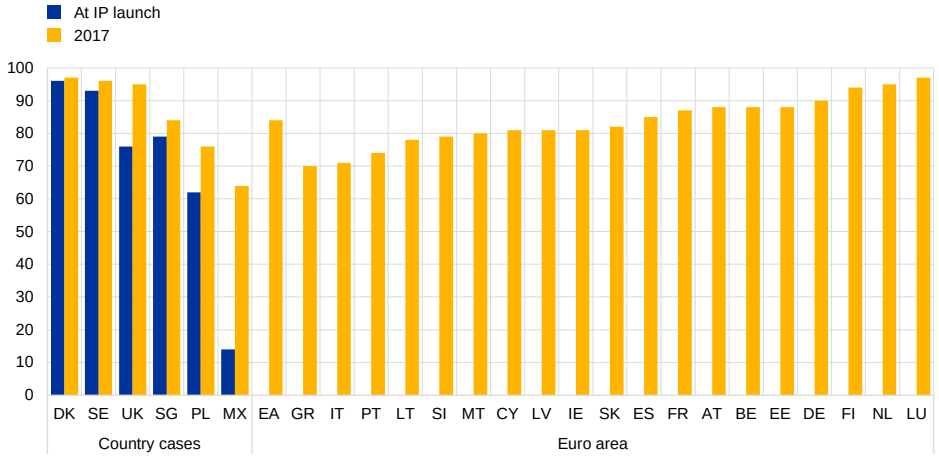
As for the environmental factors, financial inclusion is high in most euro countries, although in a few of them (e.g. Cyprus, Greece, Lithuania, Slovakia) the share of the adult population that did not have a bank account was, in 2017, over 10% (World Bank, 2018). This could be a barrier to the adoption of instant payments since these are bank account-based payments. The EU's Payment Accounts Directive is an effort to change this, by giving people the right to a basic payment account regardless of their financial situation. In addition, the ICT infrastructure needed to support the use of instant payments is already widely available in the euro area. A large majority of the population uses the internet and many of these people access the internet via mobile phones. Moreover, the EU's Digital Single Market strategy includes initiatives to improve internet access and connectivity, including wireless technology. This should improve the situation in those countries that are currently lagging behind.

[17] For example Finland, the Netherlands (Danmarks Nationalbank, 2012) and Belgium (CGI, 2016).

Chart 12

Use of internet by individuals

(within the last three months; percentage of individuals)

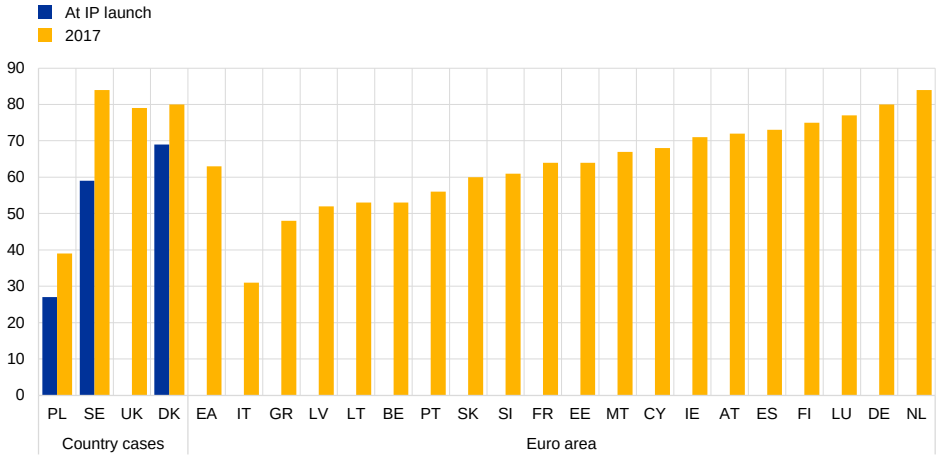


Sources: Eurostat, INEGI and IMDA.

Chart 13

Use of mobile phones to access the internet

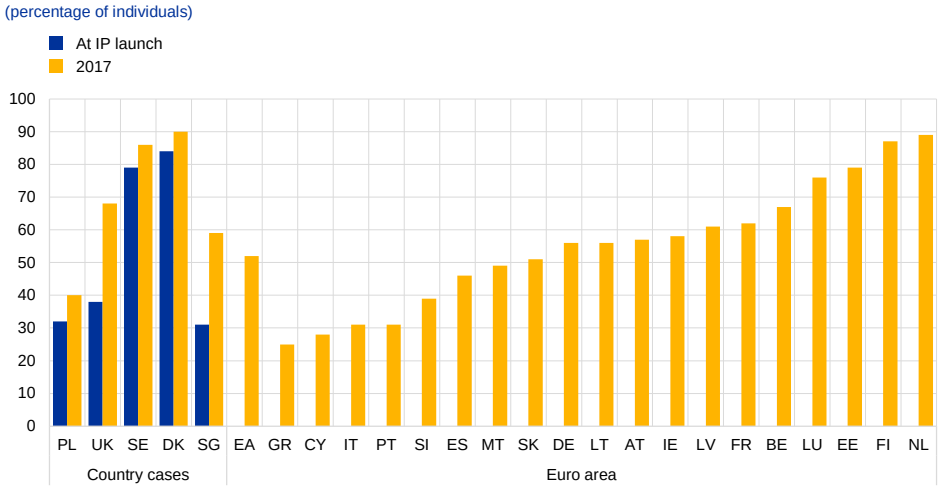
(percentage of individuals)



Source: Eurostat.

Chart 14

Use of online banking by individuals



Sources: Eurostat and IMDA.

In addition, evidence shows that when given the choice, a majority of euro area consumers (43%) say they prefer to pay by non-cash methods rather than in cash, while only 32% of them say they always prefer paying with cash.[18] This evidence indicates most euro area consumers are satisfied with electronic means of payment, which based on the analysis of country cases, seems to have been a supporting factor for the growth of instant payments. Payment behaviour does, however, differ between euro area countries. Although Martikainen et al. (2013) found that there had been convergence in the use of retail payment instruments within the EU over the period 1995-2011, they also noted that significant cross-country differences remained and that payment behaviour is slow to change. In line with this, as of 2016 there were still considerable differences between countries. According to a recent ECB report, cashless payments at the checkout are already the norm in euro area countries such as the Netherlands, Estonia and Finland, where they range from 41% to 55% of all POS payments (Esselink and Hernandez, 2017; DNB 2018). Nevertheless, as shown in this report, in most euro area countries, the use of cash remains persistent at the POS. The market share of cash reaches nearly 79% of all POS transactions, being highest (above 80%) in southern European countries, Austria and Slovenia. These figures shed light on consumers' payment behaviour, the level of card acceptance among merchants and what appears to be strong cash habits among the average euro area consumer.

It should therefore be expected that there will also be cross-country differences in the adoption of instant payments by end users, even if similar services are offered. In particular in those countries where internet and online banking use is lower, this may serve as a barrier to the uptake of instant payments. On the other hand, the availability of instant payments may make online banking more attractive for end users, resulting in more people choosing to do their banking operations online (in particular those people who do use the internet, just not for banking).

[18] The remaining 25% of consumers say that they do not have a clear preference between cash or non-cash payment methods.

4.2.2 Adoption of the new solutions based on instant payments

To what extent the supporting factors for the adoption of new solutions based on instant payments will be present in the euro area is largely unknown. In a few countries (e.g. Italy, Spain), mobile (mainly P2P) services that were already on the market before SCT Inst was operational announced plans to migrate to SCT Inst. This may facilitate a faster uptake of instant payments in these countries. There are initiatives in various other countries to introduce instant payments-based solutions, but it is too soon to say how widely available these will be.

One use case which could generate high volumes of instant payments is the POS case. There is the possibility of providing services leveraging existing infrastructure (such as terminals used for card payments), which is well developed in the euro area. According to the latest ECB study, the ownership of payment cards as well as consumers' preferences for non-cash payment instruments is high in the euro area (Esselink and Hernandez, 2017). Most of the adult population (93%) has access to a payment card and card acceptance is quite high at 72%. If PSPs were to make it possible to use the existing POS terminals and the existing cards for the initiation of instant payments, everyone with access to a card would be able to make instant payments at the POS. This potential scenario would imply the substitution of card payments by instant payment services initiated with a physical card or device.

For merchants, instant payments at the POS would provide the advantage of receiving the funds within seconds, rather than a guarantee as is currently the case with card payments. In other words, they would bring the same certainty and liquidity that cash payments do today. It should be noted, however, that in terms of speed at the POS, it would be difficult to compete with contactless card payments (with which a transaction is approved within a few seconds). The maximum ten seconds needed to execute an SCT Inst payment may be too long in payment situations where speed is of the essence,[19] for example in supermarkets where long queues would form if the payment process were slowed down. Nevertheless, for payment situations where a slightly lower speed at the POS is not detrimental, instant payments solutions could be an alternative for merchants and consumers. Note also that ten seconds is the maximum execution time for SCT Inst, and that communities of PSPs can agree on a lower time limit. PSPs in Belgium and the Netherlands have already done so, setting the maximum at five seconds. This could be an important factor determining the potential of SCT Inst-based POS solutions.

Although there is in principle little incentive for banks to introduce a product that would compete with their profitable card services, forward-looking banks or innovative non-bank PSPs may have an incentive to offer it instead. The PSD2 provisions allowing third parties to initiate payments may play an important role here, since these make it possible for a PSP to offer such a payment solution to customers of any bank that has joined the SCT Inst scheme. Consequently, this may cause banks to compete against fintechs in the retail payments area. Notably, in Spain there are plans to add a POS service using near-field communication to the already existing (P2P) mobile payment service Bizum (Claveria Garcia, 2017).

[19] Especially in countries where card payments are relatively fast, e.g. three to four seconds.

The potential substitution of card payments cannot, however, be determined based on the country studies, since SCT Inst-based POS solutions were not widely available in these countries in the time periods studied.

5 Conclusions

This paper assesses the overall prospects of instant retail payment services in the euro area. It identifies structural drivers and blockers to the adoption of instant payments based on the analysis of country cases where instant payments have already been operational for a number of years.

This analysis shows that there are some strong supporting factors for the success of instant payments in the euro area. The initial development of the service has had and continues to have the support of authorities and governance structures at the European level as well as at the national level, to varying degrees. This has resulted in a common scheme that all PSPs wishing to offer instant credit transfer services are expected to join. Such a common scheme supports reachability at the pan-European level, among those PSPs that choose to offer instant payment services. However, joining the scheme is optional, therefore reachability and the economies of scale of instant payments will depend on the number of PSPs that decide to join. In addition, due to the existence of different infrastructures to clear and/or settle transactions based on this scheme, there is still the risk of less than complete reachability. To ensure full reach, PSPs must choose an infrastructure, or combination of infrastructures, that enables them to reach all other PSPs that have joined the scheme.

In some countries, PSPs are actively cooperating on the launch of instant payments, for example by setting common launch dates. Such cooperation facilitates reach and clarity for end users. Moreover, in some countries, existing mobile payment service providers have already announced that they will use instant payments when they become available, thereby increasing the usability of instant payments. In other countries, such innovative solutions will only become available at a later date. The usability of instant payments will also depend on the use cases catered for by these new solutions (e.g. only P2P or POS/e-commerce as well). Furthermore, the speed of instant payments will differ because some countries may set a lower target than the maximum of ten seconds that applies at European level, which may affect their usability in particular at the POS. The number of potential use cases will also differ depending on whether the European-level maximum amount of €15,000 will apply or whether a higher maximum threshold is set at community level, as some countries have already done.

This may result in different adoption scenarios arising in euro area countries. In some countries, high adoption of the basic instant payment service is to be expected, since the vast majority of accounts are or will be reachable for instant payments and PSPs (plan to) offer instant payments as the default for single transactions in online banking. In other countries, where PSPs' strategy is, at this stage, to offer instant payments as an option for which they charge higher fees than those charged for traditional credit transfers, a lower adoption scenario for the basic service is expected. As for new solutions based on instant payments, higher adoption can be expected in those countries where such solutions are made widely available at an early stage, under

attractive conditions and for a range of use cases. Further differences in the uptake of instant payments may be caused by factors related to infrastructure, financial inclusion and payment behaviour, which vary across the euro area. In general, however, the vast majority of consumers in the euro area have a bank account and many already use online banking, thereby facilitating easy adoption of instant payments once offered.

In conclusion, instant payments have the potential to become widely used in the euro area, but the extent to which they will become the new normal and the speed of transformation are likely to differ across countries.

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Abbreviations

Countries

BE	Belgium	**IT**	Italy	**AT**	Austria
DE	Germany	**CY**	Cyprus	**PT**	Portugal
EE	Estonia	**LV**	Lativa	**SI**	Slovenia
IE	Ireland	**LT**	Lithuania	**SK**	Slovakia
GR	Greece	**LU**	Luxembourg	**FI**	Finland
ES	Spain	**MT**	Malta		
FR	France	**NL**	Netherlands		

In accordance with EU practice, the EU Member States are listed in this report using the alphabetical order of the country names in the national languages.

Others

ACH	automated clearing house	**POS**	point-of-sale
ATM	automated teller machine	**PSD**	Payment Services Directive
CPMI	Committee on Payments and Market Infrastructures	**PSD2**	revised Payment Service Directive
		PSP	payment service provider
DKK	Danish krone	**QR code**	quick response code
ERPB	Euro Retail Payments Board	**RTGS**	Real-time gross settlement
EU	European Union	**SCT Inst**	SEPA Instant Credit Transfer
EUR	euro	**SEK**	Swedish krona
FAST	Fast And Secure Transfers	**SEPA**	Single Euro Payments Area
GBP	Pound sterling	**SGD**	Singapore dollar
GDP	gross domestic product	**SPEI**	Sistema de Pagos Electrónicos Interbancarios
MXN	Mexican peso	**TIPS**	TARGET Instant Payment Settlement
NFC	near-field communication		
P2P	person-to-person		
PLN	Polish zloty		

Conventions used in the tables

“-” data do not exist/data are not applicable
“.” data are not yet available
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