



EUROPEAN CENTRAL BANK

EUROSYSTEM

Are Instant Retail Payments Becoming the New Normal?

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A Comparative Study

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Abstract

The speed of retail payments has gained increasing importance with the latest improvements in the integration and harmonisation of retail payment markets, payment innovations and advances in internet access. Yet, today's retail payment services normally take one or up to a few working days from the end users' perspective. As Europe is about to launch its own SEPA-wide instant payment platform, now is the right time to ask the question: will instant retail payment services become "the new normal" and what would this new normal look like? This paper assesses the overall prospects of instant retail payment services (instant retail payments) in the euro area. It identifies structural drivers and blockers to the adoption of instant retail payments based on the analysis of country cases where instant retail payments became operational in the last years.

Key words: Instant retail payments, payment system, money demand

JEL codes: E41, E42, E58

1 Introduction

Fifty years ago, the first ATM opened, providing 24/7 instant access to cash. Since then, innovations in information and communication technology and financial services have triggered an increasing number of public calls for payments from account to account that are as fast and easy as instant messages from the perspective of end-users. To answer these calls, 24/7 instant electronic payments are being introduced in more and more countries around the world.

Today's retail payment services normally take one or up to a few working days from the end users' perspective. In some countries this has been changing towards intra-day or even near-real-time payments. Combined with the development of mobile payment services, this innovation provides the banking sector a competitive technology in the race for retail payments markets which in some countries are dominated by cash, while in others cards have recently become the predominant instrument of payment. With the rise of new payment technologies developed by both banks and non-bank payment service providers, consumers and merchants nowadays have a wide range of instruments of payments to choose from.

As Europe is about to launch its own instant payment platform with SEPA-wide reachability, 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 retail 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 proved to be positively associated to 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 the GDP and trade in a similar way as ATMs and point-of-sale terminals did when these became the main technologies to access funds and carry out transactions, respectively.

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

The objective of this discussion paper is to identify structural drivers and blockers to the implementation of instant retail payments through a comparative study of the developments in six countries in Europe and beyond in which instant retail payments have already been operational for several years. The first aspect we analyse are network externalities. The value of a payment instrument depends on the agents' prospect of actual usage in transactions which itself depends on the number of agents using the instrument. . 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, availability of a mobile payment platform using the instant retail payments platform is allowing the technology to be used regardless of the location of the payer, allowing both face-to-face and remote transactions. This makes it 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 (*H5*). This cooperation itself is likely to depend on the concentration of the sector (*H2*). From the demand side, consumers evaluate instant retail payments in comparison to existing services, both in terms of speed (*H3*) and convenience created by supporting infrastructures (*H6*). As stressed in the payments literature, consumers' characteristics and payment habits may play a role in the adoption and usage of payments instruments (*H7*). Adoption will eventually depend on how this valorisation compares with the fees the industry is charging for the services (*H4*).

Overall, our study is supportive of these hypotheses. Both the local market structure of the payment services industry and the behavioural characteristics of the customers of these services matters in determining the future of instant retail payments. The contribution of this paper to the literature and policy discussions on instant retail payments is threefold. First, it presents a comprehensive country case analysis shedding light on future prospects of instant retail payments in the euro area. Second, this paper identifies drivers and blockers for the adoption of instant retail payments and 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 presents country cases where instant retail payments have become operational in recent years and the assessment of instant retail payments in the euro area based on the results of the country case analysis. Section 4 presents possible scenarios for the adoption of instant retail payments and Section 5 concludes.

2 Instant retail payments and the market for payment services

2.1 Literature on instant retail payments

A series of articles from academia, central banks and consultancy firms have also investigated the effects of the introduction of instant retail payments technology on the payment system.

As in our work, a few studies use experiences of instant retail payments introduction across different countries to understand their development. Committee on Payments and Market Infrastructures (2016) combines case studies and analysis of the market structure, reaching similar conclusions to this work in stressing the key role of complementary technologies and infrastructure. Summers and Wells (2011) discuss the emergence of instant retail payments as a general-purpose means of payment in the U.S., Mexico, South Africa, Switzerland, and the UK, describe the attributes of instant retail 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 retail payments for the payment system as well as four case studies with a focus on the Polish system. In the same vein, PaymentNZ (2015) studies closely five countries to conclude that the technology can take a wide variety of forms with respect to both its technical platform and end-user services.

Other studies focus on analysing the changes that instant retail payments is bringing or likely to bring in the quickly changing market for payment services. Based on their first-hand industry experience as the provider of the UK instant retail payments platform, Vocalink (2016a) provides insights into the future of the service in the SEPA zone by characterizing the benefits of the service for users, the costs for the industry and providing an in-depth analysis of the different stages of the future implementation. In a similar fashion, FIS (2016) analyse the structure of the costs for different industry actors through interviews of bank senior managers. Hayden and Hou (2015) examine the potential business applications of an instant retail payments platform, stressing, amongst others, a cross-bank mobile payment facility as an important development. Capgemini and Royal Bank of Scotland (2015) focus on the strategic importance for banks to offer an instant retail payments service as part of the response to the disruptive changes happening in the payments industry. In particular, they stress that instant retail payments is more important as an enabler for banks to compete with non-bank payment service providers (PSPs) to provide technologically advanced services rather than simply providing a faster transfer service. Sharing with this paper a focus on potential end-user usage and business development for instant retail payments, Salmony (2017) reviews a wide range of potential industry application to conclude that despite its high initial cost, instant retail payments is likely to bring significant value to customers. Leinonen (2017) and Ovum (2017) focus on the potential disruption in the payment industry that instant retail

payments would introduce by removing barrier to entry and initial costs for both incumbents and challengers in the different transactions market. In particular Ovum (2017) highlights the complementarity in Europe between the introduction of the instant retail payments pan-European platform in November 2017 and the implementation of the second Payment Services Directive (PSD2) in early 2018, permitting third-party actors to initiate transactions.

Our main addition with respect to this literature is to make use of insights from the literature on the payments market to structure our cross country investigation in order to extract some implications for the European experience to come. This paper is structured in the following way. Section 2 summarizes the characteristics of the market for payment services by demand and supply side factors. Section 3 presents country cases where instant retail payments have become operational in recent years. Section 4 presents the assessment of instant retail payments in the euro area based on the results of the country case analysis. Section 5 concludes.

2.2 Supply and demand side factors

The way consumers pay across countries does not only depend on the characteristics of the retail payment system, pricing policies and regulation (Bolt and Tieman, 2006; Schuh and Stavins, 2010; Arango et al., 2017; Koulayev et al., 2016) but also on consumers' characteristics, payment preferences and habits (Klee, 2008); van Kalckreuth et al., 2014); Bagnall et al., 2016; Hernandez et al., 2017). In this section, we first summarize the characteristics of the market for payment services with a focus on the potential role of instant retail payments. To do this, we first investigate the supply-side factors with inputs from the industrial organization 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

Introducing an IPRS technology is a challenging task for the industry as it requires immediately crediting the payment account of the recipient at any potential hour and date. Participating PSPs must therefore be able to operate within seconds outside business hours, which is likely to bring about sizable investment costs as well as associated operational risks for the industry¹. 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 utility of being part of the platform depends positively on the current 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

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

participant to be the first one 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 and it is therefore subject to the associated problem of under-provisioning. Finally, in the case of payment systems owned by an industry association or consortium, due to the complexity of decision-making further it may take a long time before a new technology is adopted, absent a strong external incentive (Bech, Shimizu and Wong, 2017). For these reasons, payment innovations that require investment (both in the shared payment infrastructure and at the level of the individual firm) tend to be slow and arguably socially suboptimal (Milne, 2006). 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 of the different actors to also fostering the use of common standards. Central banks are playing this role with respect to instant retail payments with varying degrees of involvement and sometimes combined with an operational role in the system.

If the sector manages to cooperate to build an efficient instant retail payments platform that works across operators, PSPs have to decide on a pricing model. Instant retail payments can potentially be very useful for end-users in settings where the 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 attached². 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 out of the market, analogous to the mechanism described in Laffont and Tirole (1999) with respect to the communication industry.

Furthermore, as stressed by a large 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 act as to increase the coordination issues which prevent initial investment in a shared structure. 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 payment (both in P2P and P2B) context is a key development (Committee on Payment and Settlement Systems, 2012; Committee on Payments and Market Infrastructures, 2014).

In a world without instant retail 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 its 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

² One may for instance think about 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

credit transfers in terms of speed of payment. However, this can change as the size of platform increases and network effects start kicking in. The benefits of becoming the standard with the ability to issue a very liquid asset are considerable³, leading to intense competition in countries such as China⁴. This intensifying pressure from new actors on the payment services industry is likely to push traditional payment service providers (such as banks) to provide effective and convenient instant retail payments with adequate complementary services to their customers. Yet, instant retail payments is a double edged sword as they also strengthen the 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 retail payments in its different forms as it is a central tool for both traditional PSPs and new entrants to be competitive in a market in radical transformation.

Table 1
Payment Instrument in Different Payment Situation

	P2P		P2B		B2B		B2P	
	F2F	Remote	F2F	Remote	F2F	Remote	F2F	Remote
Cash	√	-	√	-	√	-	√	-
Cheque	√	√	√	√	√	√	√	√
Card	-	-	√	√	-	√	-	-
Credit transfer	-	√	-	√	-	√	-	√
Direct debit	-	-	- ⁵	√	-	√	-	-
Instant retail payments	-	√	-	√	-	√	-	√
Mobile payment	√	√	√	√	√	√	√	√

Notes; the table provides a broad assessment of the suitability of the different payment instrument for different transaction purposes. With one check the mean of payment is considered as suitable and without as non-suitable. P2P refers to transactions between two end-users, P2B, to from an end-user and a company, B2B to between to company and B2P to from a company to an end user. F2F stands for face-to-face transaction while remote refers to distance transactions.

³ 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 unit inside the platform (Salmony, 2017).

⁴ 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 for providing a P2P transfer platform (see Kapron and Meertens, 2017; Kajdi, 2017).

⁵ In general, but note that direct debit based point-of-sale solutions do exist, notably in Germany.

2.2.2 Demand Side Factors

Consumers and businesses play a key role in the transformation of payments from paper to electronics. The migration to secure digital platforms will be defined by the choice of payment instrument agreed between these two actors. Most research on demand side factor has focused on payments between consumers and merchants, in which case this choice is made at the moment of a purchase.

The use of a new payment technology such as instant payment solutions 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 the acceptance and usage among merchants and consumers is key in order to steer payment behaviour.

Immediate access to funds is an essential feature introduced by instant retail payments which will likely have a strong impact in payment behaviour in the euro area. The payments literature explaining consumers' payment choices traditionally features cash as the optimal choice of payment whenever consumers hold enough cash on hand, as cash is 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., 2017). In these countries, consumers' cash holdings are explained as a precautionary measure due to the uncertainty they face related to merchants' card acceptance. This uncertainty whether cards are accepted for a purchase may force consumers to always hold a positive stock of cash in order to avoid not being able to make a transaction, pay unexpected withdrawal fees (when using an ATM outside the consumers' banking network)⁶ or avoid a possible surcharge for using cards⁷. Although card acceptance in the euro area is relatively high (72%) -as pointed out in a recent ECB study- the level of card acceptance varies widely per market sector. It is the lowest in sectors frequently visited for consumers' daily purchases and where most payments are of low value; e.g. cafes and bars, street vendors and vending machines, which together account for almost 30% of all POS transactions (Esselink and Hernandez, 2017).

The effect of consumers' characteristics on their payment behaviour has been extensively studied in the literature. Esselink and Hernandez (2017) compare the use of cash and non-cash instruments of payments in the euro area and find that although cash is widely used at the point-of-sale (POS) by euro area consumers,

⁶ In Germany, Austria, Canada and the US, consumers may withdrawal fees of up to €5 when using an ATM outside his/her banking network (Arango et al. 2017)

⁷ According to the last ECB study on consumers' payment behaviour, 14% of euro area consumers consider additional costs on the use of cards as a determinant factor on their choice of payment (see Esselink and Hernandez 2017).

there are large difference between countries. The use of cash at the POS is the lowest in Finland, Estonia and the Netherlands, where the share of cash payments lies below 54% of all POS transactions, while it is the highest (80% or higher) in Germany, Slovenia, Austria and in southern European countries. The payments literature suggests that the use of payment instruments is strongly related to demographic characteristics 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. The few studies that include not only point-of-sale 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 for the use of such 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. Note, however, that the majority of these studies focus on the US, where credit transfers are less widely used than they are in Europe.

The literature also points out at the effect of consumers' attitudes towards available instruments of payments on their choice of payment instrument, such as payment preferences, perceived user-friendliness, speed, security and insight into expenses. Van der Crujisen and Plooi (2017) find that electronic means of payments perceived as safe and user-friendly are more likely to be adopted by consumers. The use of instruments of payments as budgeting tool and the role they play during uncertain times (e.g. financial crisis) has been analysed. Hernandez, Jonker and Kosse (2017) 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 consumer 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 retail payments as a substitute for cash is due, in a large extent, to key features that so far only cash offered in a single payment device: immediate access to funds by the payer (without having to schedule a trip to an ATM), immediate transfer of funds to the payee and the possibility to be used as a budgeting tool which allows having an immediate overview of all expenses to better track and control expenses. Simply increasing the speed of processing of 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 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 retail payments, including Salmony (2017) and Hayden and Hou (2015), the

potential of the instant retail 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 for 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.

2.3 Working Hypotheses

Based on the literature we have identified seven aspects that seem to act as key drivers of the introduction of a new payment infrastructure.

In order to structure our comparative exercise, we organize our analysis around these aspects in the form of seven hypotheses. The validity of these hypotheses is later discussed in the analysis of the different country cases.

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

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

H3: A larger difference in terms of transfer speed between the instant retail payments and the legacy system positively affects the adoption of instant retail payments by end-users.

H4: The level of fees will impact the rate of adoption of instant retail payments.

H5: The availability of complementary services such as mobile payments based on instant retail payments has a positive effect on adoption and usage by end-users

H6: Access to payment and telecommunication infrastructures required to make instant retail payments will play a key role in determining its adoption by end-users.

H7: Consumers' characteristics and their payment preferences and habits play will play a key role in the adoption of instant retail payments.

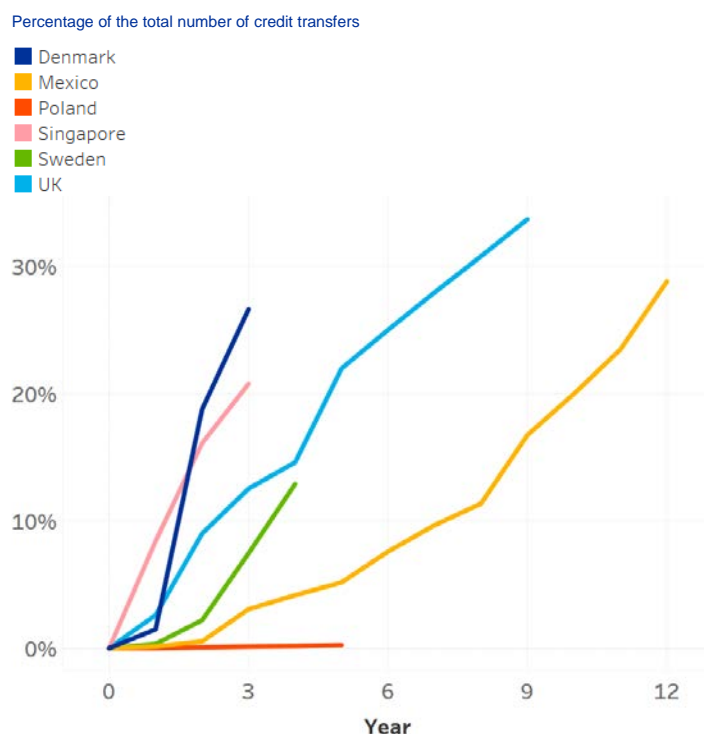
3 Country case analysis

3.1 Instant retail 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 selection of instant retail payments in operation was made according to two main criteria. First, we have selected instant retail payments in the European Union. Among these ones, due to data availability, it was decided to focus on systems launched before 2015. Second, we have selected instant retail payments in operation from other parts of the world for which sufficient information (including statistics) about IP 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. Chart 1 shows the evolution of instant retail payments use in the country cases analysed in this study. Table 1 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: UK only referring to Single Immediate payments, Mexico only to third party to third party payments.

Table 2

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

	Launch date	Speed	Maximum amount*	Transactions per capita (2016)	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	2.3 (third party to third party payments)**	Optional for online and mobile payments Default for government payments (payroll, pensions and payment for suppliers)	23%	Consumers and businesses generally pay fees
UK – Faster Payments	2008	Confirmation within 15 seconds, posting within 2 hours	250,000 GBP (≈ 280,000 EUR)	13 (single immediate)***	Default for single transactions in online banking; e.g. payments for credit card bills, taxes, insurance claims, utility bills and supplier payments	21%	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 23,600)	0.2 (both systems combined)	Default for mobile payments; optional for internet payments. Mainly used for invoices, bills and repaying loans	0.24%	Consumers and businesses pay fees
Sweden – Payments in Real Time	2012	1-2 seconds	None for the system. SEK 150,000 (≈EUR 15,600) for Swish	17	Mobile payments	13%	Free for consumers. Businesses pay fees
Singapore - FAST	2014	Max. 15 seconds	SGD 50,000 (≈EUR 31,200)	5	Default for mobile payments; optional for internet payments	14%	Generally free for consumers. Businesses pay fees
Denmark – Express Clearing	2014	1-10 seconds	DKK 500,000 (≈EUR 6,700)	20	Default for mobile payments; optional for internet payments	27%	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 retail payments. Banks can set different maximum amounts to 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 8:30 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 retail payments for the purpose of our analysis.

In the country cases, the growth of instant retail payments came at the expense of different payment instruments. In Mexico, the growth of instant retail payments through the Interbanking Electronic Payment System (SPEI) seems to have come mostly at the expense of cheques. Up until 2011 there was considerable growth of non-instant credit transfers as well. Negrín et al. (2008) explain the fact that the percentage of non-instant credit transfers had remained stable by noting that at the time some banks promoted these payments over SPEI to keep the float for a day. In recent years, however, the growth of credit transfers is all in SPEI, and the percentage (in the last few years, even the absolute number) of non-instant credit transfers is falling. 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

Number of transactions (millions)

- Credit transfers
- Of which: third-party SPEI payments

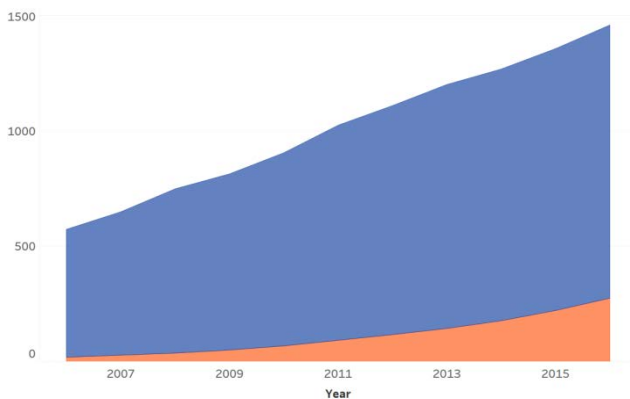
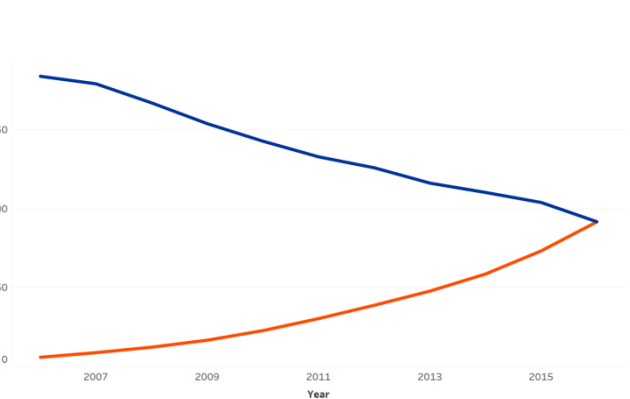


Chart 3
Evolution of cheques and instant retail payments in Mexico

Number of transactions (millions)

- Cheques
- Third-party SPEI payments



Sources: CPMI and Banco de México

In the UK, Faster Payments volumes were lower than expected in the early years (UK Payments Council, 2009; UK Payments Council 2010), due to the fact that fewer banks than expected joined the service, which not only limited the number of customers that could use the service as payers, but also 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), as was the implementation of the (first) Payment Service Directive (PSD) which 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 2012-2013 (Vocalink, 2013). Some examples of use cases are payments of credit card bills⁸, tax payments, wage payments by employment agencies and payroll companies (based on employment status or hours 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)

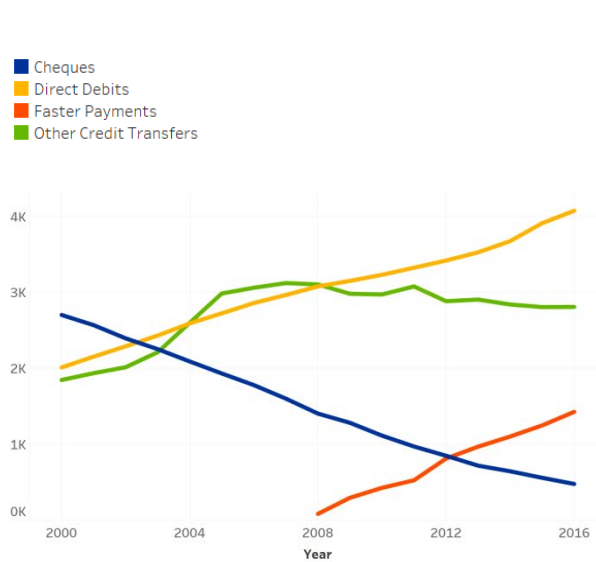
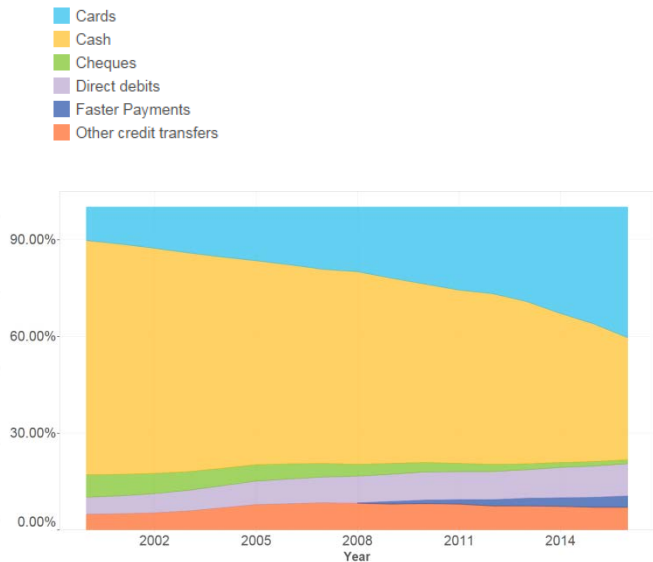


Chart 5
Evolution of Payment Instruments in the UK

Percentage of the total number of transactions



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

The growth of Faster 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 Faster 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 a replacement by Faster 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 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 three years

⁸ A type of payment for which cheques have traditionally been used, among other options (Cheque and Credit Clearing Company 2009).

however there has been a slight decline in this share, the decline 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 retail payments. Since about half of this shift took place in the last year this may be the start of a more substantial change.

In Poland, usage of instant retail payments in Poland is low. As of 2016, transfers in both instant payment systems combined only represented 0.24% of credit transfers. In response to a Narodowy Bank Polski (2015) survey, banks indicated that instant retail payments are mainly used for paying invoices or bills and repaying loans. Payers mainly opt for instant retail payments when the situation requires immediate booking on the payee’s account, often in emergencies. Since its launch in 2015 the usage of BLIK has been steadily growing. However, of the four services offered by BLIK (e-commerce, ATM, point-of-sale and P2P), the P2P service – which is the only one where transactions are processed as instant retail payments – has the lowest number of transactions (Narodowy Bank Polski, 2017).

In Sweden, instant retail payments are so far limited to the mobile payment service Swish. Initially launched (and still primarily used) as a person-to-person service, it now also supports payments to businesses (since 2014) (Bankgirot, 2015) and e-commerce payments (since 2017) (Getswish, 2017b).

Chart 6
Evolution of Payment Instruments in Sweden

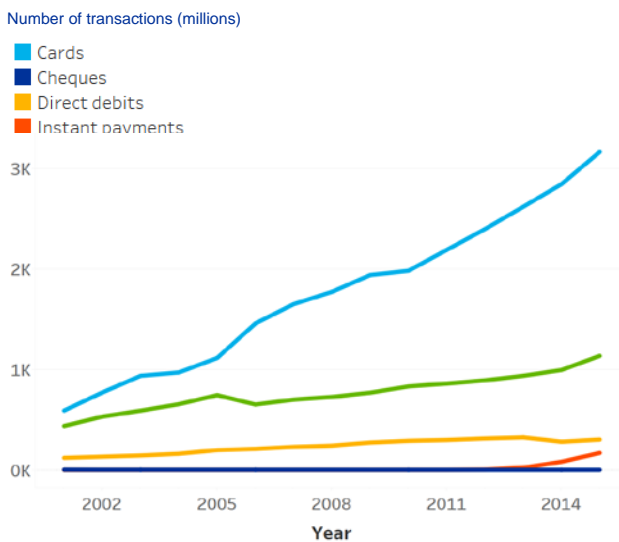
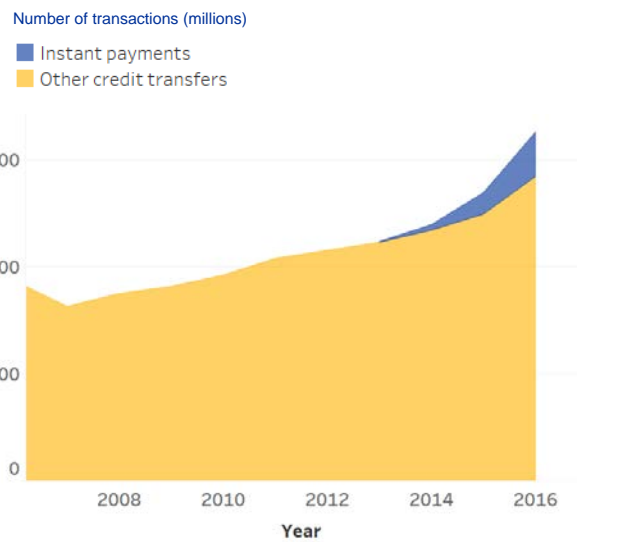


Chart 7
Evolution of credit transfers in Sweden



Sources: ECB, Bankgirot

Despite the fact that instant retail 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). Swish payments have by now reportedly overtaken cash for P2P 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 the statistics, which indicate that the growth of instant retail payments seems to have contributed to an increase in the

growth of credit transfers overall. Note however that especially in the last year the number of other (non-instant) credit transfers has also grown (this in contrast to the situation in the UK), so the availability of instant retail 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 retail payments, while the number of direct debits has remained more or less stable and the use of cheques was already minimal when instant retail payments were introduced.

In Singapore, the uptake of instant retail payments 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 GIRO payments, the number of which has remained more or less stable. As for use cases, in the three years since the launch of FAST, corporate transactions in the system have risen exponentially by more than 20 times (Asian Banking and Finance, 2017).

Chart 8
Evolution of credit transfers in Singapore

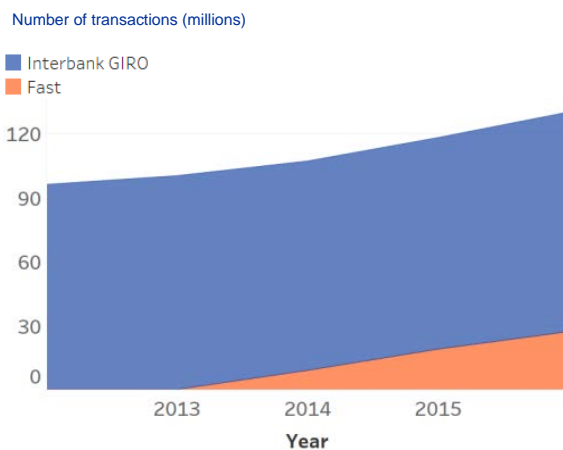
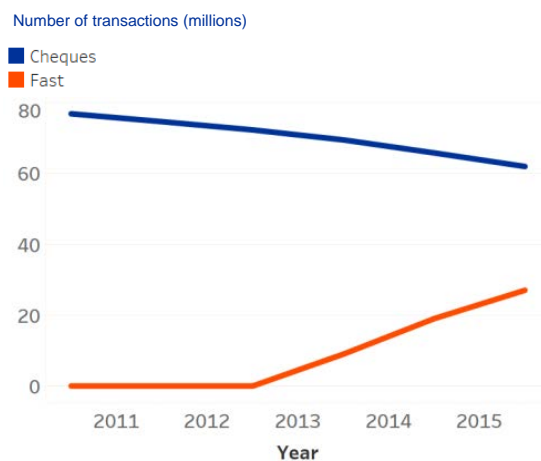


Chart 9
Evolution of cheques and instant retail payments in Singapore



Sources: CPMI, Monetary Authority of Singapore

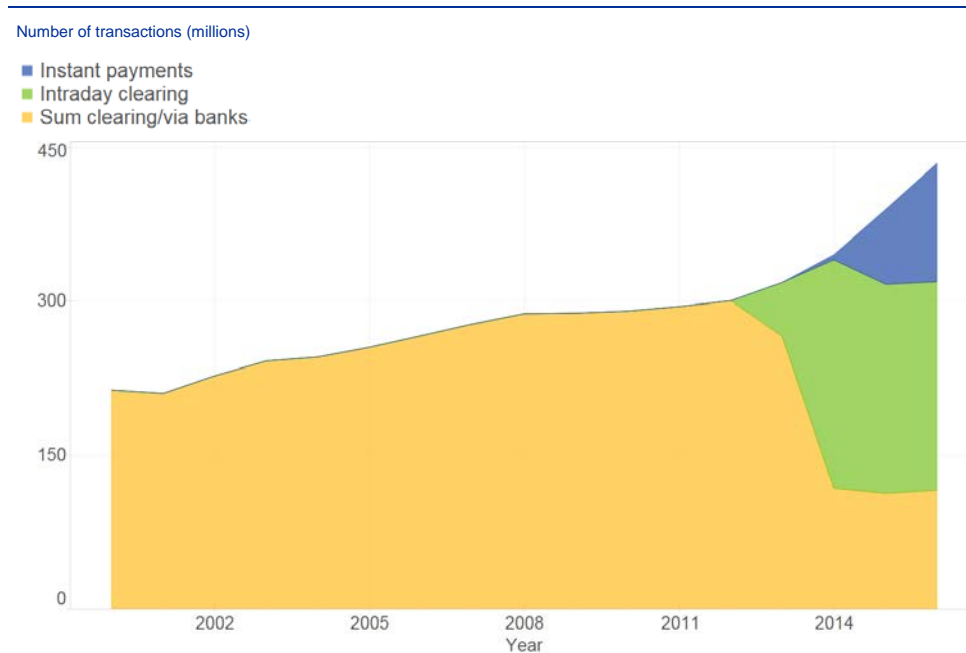
Finally, in Denmark, two new systems were introduced in recent years, intraday and instant credit transfers. When intraday transfers were introduced, the majority of credit transfers migrated to that system, credit transfers in the Sumclearing now being limited to inpayment forms⁹ (Andresen and Jensen 2014). When instant retail payments were introduced, there was a decline in the number of intraday transfers – see figure below. However, since then the number of intraday payments has stabilised, which according to Anderson and Gladov (2015), is because they make

⁹ Inpayment forms are pre-printed forms attached to paper invoices.

banks' liquidity management easier in the case of planned payments such as salaries. The continued growth of instant retail payments despite the stabilisation of intraday payments suggests, according to Danmarks Nationalbank (2017a), that they are to some extent replacing cash payments.

Chart 10

Evolution of credit transfers in Denmark



Sources: ECB, Danmarks Nationalbank

The migration of the mobile payment services MobilePay and Swipp (the latter no longer being operational) to instant retail payments clearly contributed to the quick uptake of instant retail payments in Denmark, and mobile payments continue to be an important part of the instant retail payments volume. Although exact figures have not been published, it has been estimated that mobile payments account for the majority of instant retail payments in Denmark (Andersen and Gladov, 2015; Danmarks Nationalbank, 2017a). That would mean that the number of mobile payments in Denmark is quite high, since instant retail payments account for 27% of credit transfers, as of 2016. Such high usage does reflect the apparent popularity of the service: according to MobilePay, 3.6 million people use the service regularly, and the app is installed on nine out of ten smartphones in Denmark (MobilePay, 2017a). In addition to mobile payments, instant retail 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).

In summary, in the six countries studied here, instant retail payments appear to have mainly replaced traditional credit transfers, cheques (in countries where these were regularly used) and cash (mainly for P2P payments), while cards and direct debits continued to follow their existing trends.

3.2 Drivers of the adoption of instant retail payments

3.2.1 Involvement of authorities

The country cases provide support for the hypothesis that active involvement from authorities has a positive effect on the development of instant retail 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. In Mexico, in particular, the central bank has been the driving force behind instant retail 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). In the United Kingdom as well as Denmark a political debate triggered the development of instant retail payments, in the UK focusing on competition issues and reducing float (Cruickshank, 2000; Office of Fair Trading, 2003), in Denmark 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). Moreover, in the UK the initial issues with reachability were solved via a change in regulation, which required all payment accounts to be able to at least receive Faster Payments (Vocalink, 2013). However, other cases such as Poland and Sweden show that instant payment systems can be developed as an industry initiative as well. In both of these countries perceived demand was the underlying, in particular also from non-banks (Narodowy Bank Polski, 2015; Duston, 2015; Swift, 2015; D+H, 2016). In addition, it should be noted that both in the UK and in Denmark the industry went beyond what authorities had asked for, by not just reducing processing times to same-day or next-day but rather developing a real-time system (Office of Fair Trading, 2005; Office of Fair Trading, 2007; Vocalink, 2009; Bakkegaard et al., 2011, Working group on domestic payment transfers, 2012; Korsby and Toubro-Christensen, 2012). These decisions were made to accommodate future demand, and in the case of Denmark in particular triggered by competition from mobile network operators in the area of mobile payments (Committee on Payments and Market Infrastructures, 2016; Duston, 2015). Also in the case of Singapore, where FAST was 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), competitive pressures from non-banks seem to have played a role (Tompkins and Olivares, 2016).

All in all the country cases provide some indication that involvement of authorities can support the initial development of instant payment systems and the participation of banks in such systems, but also show that it is possible for such systems to be developed as an industry initiative, although this does not always lead to a service with a wide reach.

3.2.2 Market structure

Indications of the importance of cooperation in the payment services sector for the development of instant retail 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 major banks there did not only cooperate in developing the basic instant retail payments infrastructure but also joined forces to offer a mobile payment service using instant retail payments as the underlying payment instrument, which allowed for a fast uptake by consumers (Duston, 2015). In the case of Denmark, too, cooperation between banks has been noted as one of the factors contributing to the adoption of instant retail payments (Accenture, 2015). However, instant payment systems were also developed in countries where the sector is more fragmented and lacks a tradition of cooperation (Polasik and Piotrowsk, 2016), Poland being a prime example. So the extent to which concentration supports the initial development of instant payment systems is not clear. However, there may be an effect on reach. Notably, in the case of Poland, although instant payment systems were launched the 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 so far not happened. In the first years after the launch of instant retail payments in the UK, which has a moderately concentrated banking sector (Competition and Markets Authority, 2016) but considerably less so than Sweden or Denmark¹⁰, there were similar issues with reach. As mentioned above, this was resolved via regulation.

The country cases therefore indicate that in the absence of regulation making participation in instant retail payments mandatory, cooperation between PSPs is an important supporting factor for the provision of instant retail 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 is, the more difficult it is to achieve such cooperation.

3.2.3 Transaction speed

The different adoption rates of instant retail payments by end-users may be explained, in part, by the fact that while the processing speeds for instant retail payments in the analysed countries are quite similar¹¹, the speeds of legacy systems differ widely. Specifically, in Denmark, Poland and Sweden same-day clearing is offered during business days (Tompkins and Olivares, 2016; Hayden and Hou, 2015,

¹⁰ 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.

¹¹ 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).

(Danmarks Nationalbank, 2017a), while in the other three countries payments are credit 1-3 business days later (ABS, 2017a; 2017b; UK Finance, 2017; Committee on Payments and Market Infrastructures, 2011). This means that the added value of instant retail payments in terms of speed is higher in some cases (those with slower legacy systems) than in others. This seems to have had an effect on the uptake of instant retail payments, in particular in the absence of complementary services. In the UK and Singapore, where the differences in speed between the instant and legacy systems are greater, the use of instant retail payments already took off before such complementary services were offered. In Poland, where the difference in speed is smaller, this was not the case. Hayden and Hou (2015) suggest that the limited differentiation from the non-instant system in terms of speed may indeed have negatively affected the uptake of instant retail payments. In the other two countries where same-day clearing is offered, Denmark and Sweden, the uptake was much higher, but in those two countries complementary services – in particular mobile payments – were offered from the start of instant retail payments. From those cases it seems that a more limited differentiation from other payment services in terms of speed can be overcome by offering complementary services (see 4.5, below). Note, however, that in Sweden despite earlier interest among banks 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 retail payments are provided, and thereby indirectly also the uptake by end-users.

The difference in speed between the instant retail payments and other available payment services does, therefore, seem to influence the uptake of instant retail payments. If this difference is larger, it is more likely that instant retail payments adoption by end-users will take off even in the absence of complementary services. If this difference in speed is smaller, complementary services may need to be offered for large-scale adoption by end-users to take place.

3.2.4 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 retail 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 also 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 typically do not 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 retail 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, both in Sweden and in Denmark the popular mobile payment services using instant retail 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 retail payments via online payments. The prices for accepting MobilePay at the point-of-sale have recently (1 April 2017) been 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 retail payments. Moreover, the analysis shows banks may face difficulties introducing fees for private customers once the service is initially offered for free.

3.2.5 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 retail payments on the adoption of such payments by end-users. In two of the countries studied, a complementary mobile payments service 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 retail 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 retail payments (Andersen and Gladov, 2015; Danmarks Nationalbank, 2017a). In all the other cases, mobile payment services were launched at a later stage¹² and may now be contributing to the continued growth of instant retail payments. Note also that both in the countries where complementary mobile services were available from the start and in cases such as the UK and Singapore where such services were launched later, the current growth of instant retail payments does not seem to be at the expense of legacy systems for credit transfers. Rather, in these countries instant retail payments are contributing to an overall growth of credit transfers (while at the same time card payments are also still growing).

Services for IPRS at the point-of-sale have only been introduced in a few of the countries studied, and only quite recently. In Sweden Swish payments can be

¹² Notably in the case of Poland, where banks do not have a history of cooperation, they did come together to develop the mobile payment solution BLIK (introduced in 2015 and functioning as an overlay service for Express Elixir), allowing it to be made available to 60% of bank customers at launch (Polasik and Piotrowski 2016).

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 retail payments are available, so the extent to which the availability of these services have contributed to the growth of instant retail payments is unknown. In Sweden and the UK, e-commerce solutions based on instant retail payments are also available (Getswish, 2017b; Pay by Bank App, 2017), but these were only introduced in 2017 so the effects of these solutions on instant retail payments usage cannot yet be observed.

As for other factors that expand the possible use cases for instant retail 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 GDP 10,000 initially to GDP 100,000 in September 2010 and then to GDP 250,000 in November 2015, mainly to accommodate the demand from the corporate sector (Vocalink, 2015). In Singapore transaction limit was increased from SGD 10,000 to SGD 50,000 in May 2015 (Vocalink, 2016b). 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.

The country cases show, therefore, that in order to generate higher volumes of instant retail payments it is important to provide instant retail 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.

3.2.6 Infrastructure

The important of the availability and accessibility of an infrastructure that supports the use of instant retail 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 retail payments in Denmark, Sweden, the UK and Singapore. In the first two in particular, the high use of mobile payments based on instant retail 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 retail payments. Statistics show that only 2.6% of the total number of mobile phone subscribers had access to mobile banking (Angel, 2016).

In the case of Mexico, one of the main barriers of the development of a cashless economy is the existence of a widespread informal economy. Between 2013 and 2016, the contribution of the informal economy 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 retail payments, which itself limits the potential benefits of SPEI in the Mexican economy.

3.2.7 Behavioural aspects

As for the effects of behavioural aspects, the fast uptake of instant retail 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, 2017). 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 retail 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 retail payments in the UK. In more recent years, the UK retail payments market in the UK 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 retail payments required a more substantial change in 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 that of the UK or Denmark, the total number of non-cash payments per capita is relatively low and due to the low usage of direct debits and 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, this 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, according to this report, limited due in part to high fees for card payments. Finally, in Mexico, 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 point-of-sale as well as in the informal economy (estimated at 27-29% of GDP) cash is heavily used (Jones, 2017).

As for online banking, this is widely used in Singapore but less so in the other two countries. This may have contributed to instant retail payments adoption in Singapore being faster than in Poland or Mexico. In Mexico and to a lesser extent in Poland an additional relevant factor is financial inclusion: in Poland as of 2014 22% of the population did not have a bank account; in Mexico, this share was 56% as of 2015.

The existing payment and banking behaviour at the time of introduction of instant retail payments may therefore have an impact on the uptake of instant retail payments. Where the required behavioural shift is small, because people already have a bank account, use online banking and frequently use electronic payments, the adoption rate is likely to be higher.

3.3 Forward-looking: will instant retail payments become the new norm in the euro area?

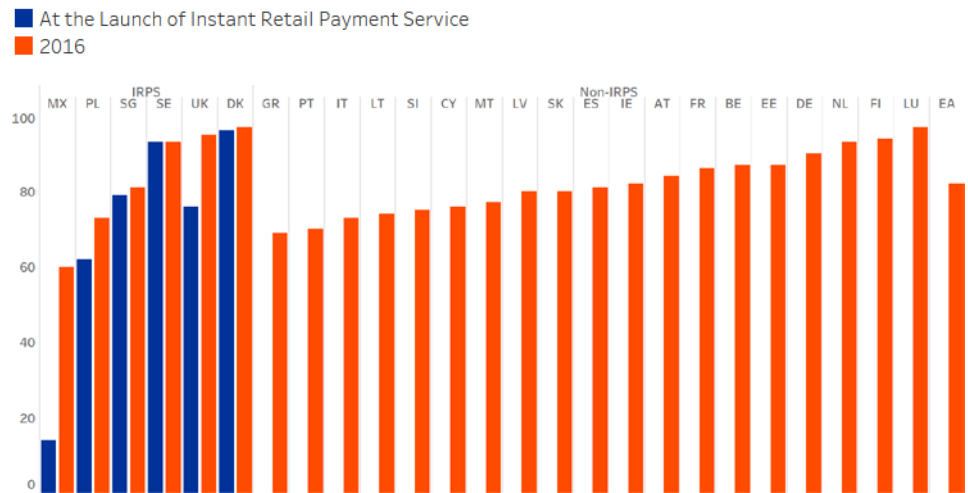
Considering the factors identified in the country case analysis, the euro area appears to be in a good position for instant retail payments to be adopted by end-users for a considerable share of their payments.

First, PSPs have cooperated to develop a common scheme for instant retail payments (the SEPA Instant Credit Transfer – SCT Inst – scheme) in response to a call from the Euro Retail Payments Board (ERPB) to develop such a scheme. The ERPB is a high-level body consisting of representatives of the supply and the demand side of the payments industry, chaired by the European Central Bank. The Eurosystem further supports instant retail payments by providing operational services for the clearing and settlement of such payments. This shows that there is also support from authorities for instant retail payments. Up to date, there is no regulation requiring any type of payments to be processed instantly, neither at the European nor at national level, nor is the participation of PSPs in instant payment systems mandatory. Such measures may not be necessary, since as in some of the country cases PSPs may be able to cooperate in offering instant retail payments, for example by agreeing on a common launch date or offering complementary services such as mobile payments. Moreover, considering the large number of PSPs that have already signed up (European Payments Council, 2017), competitive forces may also be sufficient for further PSPs to join.

Second, the characteristics of the scheme allow for a wide range of use cases. Although the maximum processing time for SCT Inst payments is 10 seconds, there is the possibility for communities to set a lower maximum, which may enable additional use cases where a higher speed is required, such as at the point-of-sale. As for transaction limits, although the limit set at the European level is relatively low at EUR 15,000, communities may agree on higher limits which would facilitate the use of instant retail payments for corporate payments.

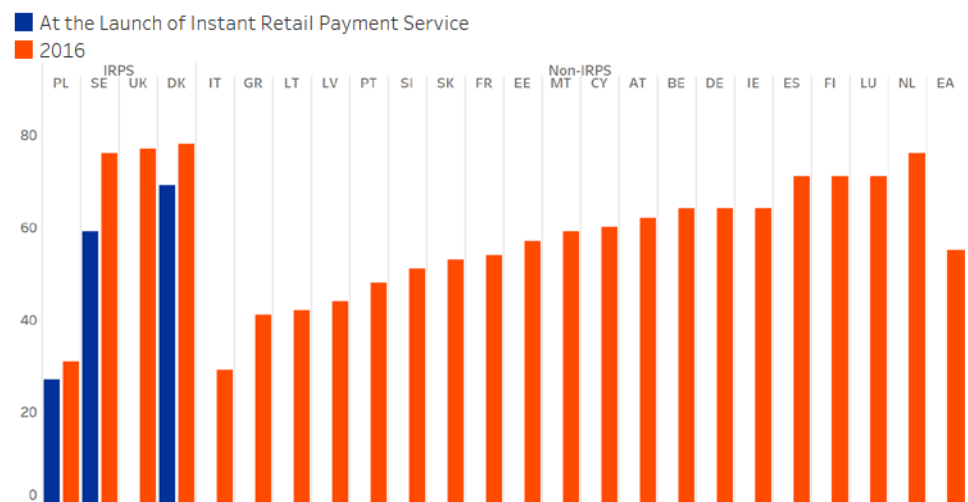
Third, the infrastructure needed to support the use of instant retail payments and complementary services is quite widely available already. A large majority of the population uses the internet and many of these people access the internet via mobile phones. Moreover, the EU's Digital Single Market strategy includes initiatives to improve internet access and connectivity, also including wireless technology. This should improve the situation in those countries that are currently lagging behind.

Chart 11 – Use of internet by individuals



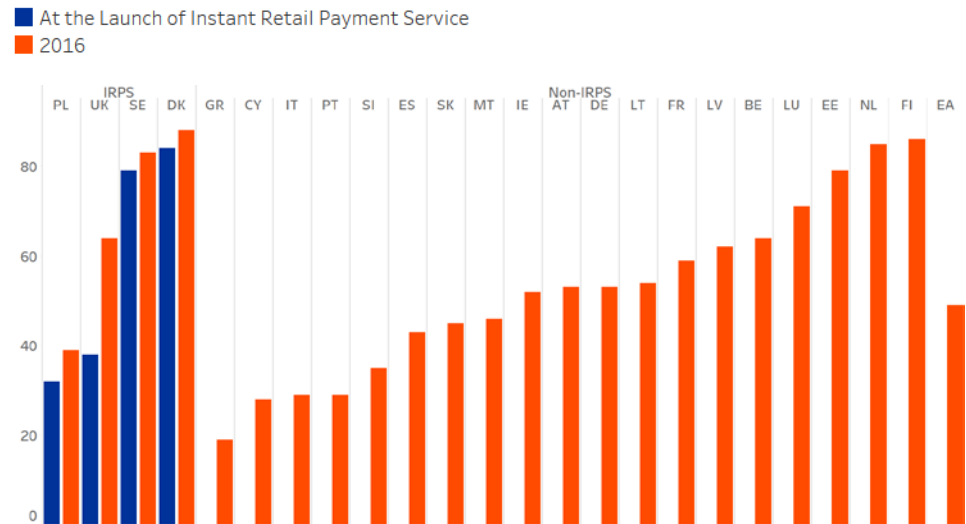
Sources: Eurostat and International Telecommunication Union.

Chart 12 – Use of mobile phones to access the internet



Source: Eurostat

Chart 13 – Use of online banking by individuals



Source: Eurostat

The payments infrastructure is also well developed with the number of payment cards and point-of-sale terminals per inhabitant being close to the corresponding figures for Denmark according to ECB statistics and card acceptance being quite high as noted above. 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, forthcoming). Most of the adult population (93%) have access to a payment card. In addition, evidence shows that when given the choice, a majority of euro area consumers (43%) say to prefer to pay by non-cash methods rather in cash, while only 32% of them say to always prefer paying with cash.¹³ This evidence indicates most euro area consumers are satisfied with electronic means of payments, which based on the analysis of country cases, seems to have been a supporting factor for the growth of instant retail payments. Moreover, financial inclusion is high in most euro countries, although in a few of them (e.g. Lithuania, Slovakia, Italy) the share of the population that did not have a bank account was, up to 2014, over 10% or even over 20% (World Bank, 2015). Although financial inclusion might have improved since 2014, this could still be a barrier for the adoption of instant retail 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.

These characteristics indicate that there is a good basis for instant retail payments in the euro area. The rate of adoption, however, is likely to differ between euro area countries, due to differences in several underlying factors.

¹³ The remaining 25% of consumers say not to have a clear preference between cash or non-cash payment methods.

First, there may be differences in the extent of cooperation between PSPs, depending on factors such as the concentration in the sector and the tradition – or lack thereof – of cooperation. At this point in time it is already known that some national banking communities will have common launch dates at the national level. The Belgian banks, for example, will offer instant retail payments from November 2018 and the Dutch banks from May 2019. In addition, there is already cooperation in complementary services as well, for example in Spain where the majority of banks are already offering a mobile payments service that will migrate to SCT Inst when it becomes available. 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 varying 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 retail payments, for example in Finland (Finnish Payments Council, 2017), France (Ministère de l'économie, de l'industrie et du numérique and Ministère des finances et des comptes publics, 2015), Italy (Comitato Pagamenti Italia, 2017) and the Netherlands (De Nederlandsche Bank, 2015; De Nederlandsche Bank, 2015).

Second, the conditions under which instant retail payments will be offered may differ between countries, as do the characteristics of other available payment instruments. PSPs in some countries (e.g. Belgium, the Netherlands) have already agreed to lower maximum processing times for instant retail payments than required at the European level (5 seconds in both the above-mentioned countries). Another reason why the added value in terms of speed may differ is that while SEPA Credit Transfers (non-instant) are credited to the payee by the next business day, they are often processed same-day on business days.¹⁴ The provision of complementary services may be needed to increase the attractiveness of instant retail payments in particular in those countries where same-day processing is currently the norm. In some countries (e.g. Italy, Spain) there are already currently existing mobile (mainly P2P) services that are planned to migrate to SCT Inst when it becomes available. This may facilitate a faster uptake of instant retail payments in these countries. The provision of point-of-sale services based on instant retail payments, in particular those leveraging the already existing infrastructure (such as terminals used for card payments), could further increase the use of instant retail payments. Notably, there are in Spain plans to add a point-of-sale services using near-field communication to the already existing (P2P) mobile payment service Bizum (Claveria Garcia, 2017). Similarly, in those countries where the PSP communities have agreed to higher (or no) transaction limits than required by the scheme, the number of potential use cases will be higher and thereby likely also the instant retail payments volumes. In addition, the fees PSPs will charge for instant retail payments and complementary services to various groups of end-users are currently not known, but are also likely to

¹⁴ For example Finland, the Netherlands (Danmarks Nationalbank, 2012) and Belgium (CGI, 2016).

differ both between banks and between countries. This will also have an impact on the adoption rate of instant retail payments per country.

Third, payment behaviour differs 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, in countries as the Finland, Estonia and the Netherlands cashless payments at the checkout are already the norm e.g. ranging from 46% to 55% of all POS payments (Esselink and Hernandez 2017). Nevertheless, as shown in this report, in most euro area countries, the use of cash remains to be persistent at the POS. The market share of cash reaches nearly 79% of all POS transactions, being the highest (above 80%) in southern European countries, Germany, Austria and Slovenia. These figures shed light on consumers' payment behaviour, the level of card acceptance among merchants and on 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 retail 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 retail payments. On the other hand, the availability of instant retail 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).

4 Scenarios for the adoption of instant retail payments

In terms of potential to become the new normal, we classify the different country experiences in 4 ideal type scenarios. The first scenario is where instant retail payments are offered as the default option for single transactions in online banking. This scenario is represented by the UK. There, as of 2016 34% of credit transfers were processed in the instant retail payments system, a share that is still growing (note, however, that only 21% of credit transfers are single immediate payments, which are the only payments that are really processed instantly). 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 is low.

The second scenario is where instant retail payments are limited to what is perhaps the most obvious use case: mobile payments. This scenario is represented by Sweden. Considering specific characteristics of the country, such as the low use of cash and the high technology readiness, it probably represents somewhat of an upper limit of what can be achieved with such a limited number of use cases being offered. In 2016 instant retail payments represented 13% of credit transfers. Here, too, the share of instant payment is still growing.

A third scenario is where instant retail payments are the default for mobile payments but only an option for online payments, possibly with an extra fee. This is illustrated by the case of Denmark, which shows that such a scenario can already yield a relatively high usage of instant retail payments: they accounted for 27% of credit transfers in 2016 (although it should be noted that some PSPs do offer instant as the default for mobile payments). However, although Denmark is the only case that has had this set-up from the start, instant retail payments are now also the default for instant retail payments in Mexico, Poland and Singapore. Despite this similarity, these cases show large differences both with Denmark and with each other. In Mexico, as of 2016 third-party to third-party SPEI payments represented 23% of credit transfers,¹⁵ but this is the result of a steady growth over a long period of time, and during most of this period mobile payments were not offered as a complementary service. Note also that the total annual number of credit transfers per capita there is much lower (10, as compared to 76 in Denmark), so while the shares of instant retail payments as a percentage of credit transfers are similar, in terms of transactions per capita the usage of instant retail payments differs widely between these two countries. This may be explained by factors such as financial inclusion and infrastructure. In Poland, the introduction of mobile payments as a complementary service has so far not led to strong growth in instant retail payments, which as of 2016 only represent 0.2% of credit transfers. Underlying factors may be still

¹⁵ Payroll payments, which are processed in SPEI but not instantly, represent (as of 2015) another 9.5% of credit transfers (data source from Banco de México 2016 and CPMI Red Book statistics).

remaining reachability issues as well as infrastructure (in particular the use of smartphones) and behavioural aspects such as the use of online banking and the popularity of cash payments. Finally, in Singapore while mobile payments have been offered as a complementary service by some banks for some time already a multibank solution has only been launched in 2017 so the effect of this service on instant retail payments use cannot yet be seen.

The final scenario is where instant retail payments are only offered as an option, either with or without an extra fee being applied. This was the initial situation in Mexico, the UK, Poland and Singapore. In this scenario the fee structure appears to be important: in the UK and Singapore where private users typically do not pay fees, the use of instant retail payments took off faster than in the other two countries. However, there are other factors that may also have contributed to this, such as financial inclusion, infrastructure and behavioural aspects.

Table 3

Scenarios for the adoption of instant retail payments

	Online	Mobile	Default	Option	Not offered
Offered			UK (current situation)	Denmark; current situation in Mexico, Poland, Singapore	Sweden
Not offered				Original situation in Mexico, UK, Singapore, Poland	

As for the euro area, the scenario where instant becomes the default may arise either due to future regulation or a decision by the industry. The latter seems more likely in countries with high concentration in the industry. As an example, the major banks in the Netherlands, where the banking market is highly concentrated, have already agreed to process individual online and mobile payments via the instant retail payments infrastructure (starting from May 2019). Based on the example of the UK we can expect that this may lead to a substantial share of credit transfers being processed instantly.

The scenario where instant is only used for mobile payments does not seem particularly likely in the euro area, since banks who wish to offer instant retail payments via the mobile channel will have to adhere to the SCT Inst scheme, which is a basic scheme that can be used via various channels. Therefore, the scenario where instant becomes the default for mobile payments and an option for online payments is more likely. Such a scenario may eventually arise in many euro countries, once mobile payments based on instant retail payments are offered,

whether this is from the start (as will be the case in Spain, for example) or at a later time. As we have seen in the country cases, the impact, in terms of shares and number of instant retail payments, will depend on a number of other factors. Use of instant retail payments can still be quite high in this scenario in countries with high use of mobile internet and a modern payments market, but may be much lower in countries where these conditions are not met. Another important factor to take into account here is the reach of the mobile payment service: the most widely used mobile payment services are also the ones with the broadest reach in terms of the share of banks that offer the service.

Finally, a scenario where instant is not the standard for online payments and there are also no complementary services available may arise in some countries in particular in the early stages. From the country cases, however, it seems likely that such complementary services will be developed if not at the start then later, so such countries will then move from this scenario to the previous one.

As mentioned earlier, the use of instant retail payments could be increased if they are offered in combination with the already existing infrastructure such as POS terminals and payment cards. Although evidence on the use of the existing card infrastructure for instant retail payments is limited, as has been pointed out before, there are some initiatives for solutions that do so, in particular using the existing POS terminals. In the euro area, such an initiative has been announced in Spain where there are plans to add point-of-sale services using NFC communication to the existing mobile payment service Bizum (Claveria Garcia, 2017). If such complementary services are offered, consumers who already use mobile payments could expand their use of instant retail payments to the point-of-sale. In addition, if PSPs make it possible to not only use the existing POS terminals but also the existing cards for the initiation of instant retail payments, the adoption of this service could be expanded to all the population who owns a payment card. Since the large majority of euro area consumers have access to a payment card (93%), card acceptance is relatively high in the euro area (72%) and the POS terminal network continues to grow each year, this potential scenario would imply the substitution of card payments by instant payment services initiated with a physical plastic card.

Although there is a clear lack of incentives 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. For merchants, instant retail payments at the point-of-sale 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 point-of-sale, it would be difficult to compete with contactless card payments (with which a transaction is approved within a few seconds). The maximum 10 seconds needed to execution an SCT Inst payments may be too long in payment situations where speed is of the essence, 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 point-of-sale is not detrimental, instant retail payments solutions could be an alternative for merchants and consumers. Note also that 10 seconds is the maximum execution time for SCT Inst, and that communities of PSPs can agree on a shorter maximum. This could be an important factor determining the potential of SCT Inst-based point-of-sale solutions.

5 Conclusions

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

This analysis shows that there are some strong supportive factors for the success of instant retail 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 extents. The vast majority of consumers have a bank account and many already use online banking, thereby facilitating easy adoption of instant retail payments once offered. In some countries banks are actively cooperating in the launch of instant retail payments, for example by setting common launch dates. Such cooperation facilitates reach and clarity for end-users. Moreover, in some countries existing mobile payment services providers have already announced that they will use instant retail payments when it becomes available, thereby increasing in this way the added value of instant retail payments. This added value will however differ between countries, not just because there may be differences in the availability of complementary services but also because there are differences in the processing speeds of (competing) legacy systems. Furthermore, the speed of instant retail payments itself will differ because some countries may set a lower target than the 10 seconds maximum that applies at European level. The number of potential use cases will also differ depending on whether the European-level maximum amount of EUR 15,000 will apply or whether a higher maximum threshold is set at national level. Further differences in the uptake of instant retail payments may be caused by factors related to infrastructure, financial inclusion and payment behaviour, which vary across the euro area.

This may result in different adoption scenarios arising in euro area countries. It seems likely that mobile payments using instant retail 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 use of instant retail payments for mobile payments may be combined in some countries with instant retail 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 the availability of IPRS via corporate initiation channels and transaction limits, as well as point-of-sale payments where complementary services for this use case are developed.

As a conclusion, instant retail payments have the potential to become the new normal in the euro area, but the extent to which this will be the case, as well as the speed of transformation, are likely to differ between countries.

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