

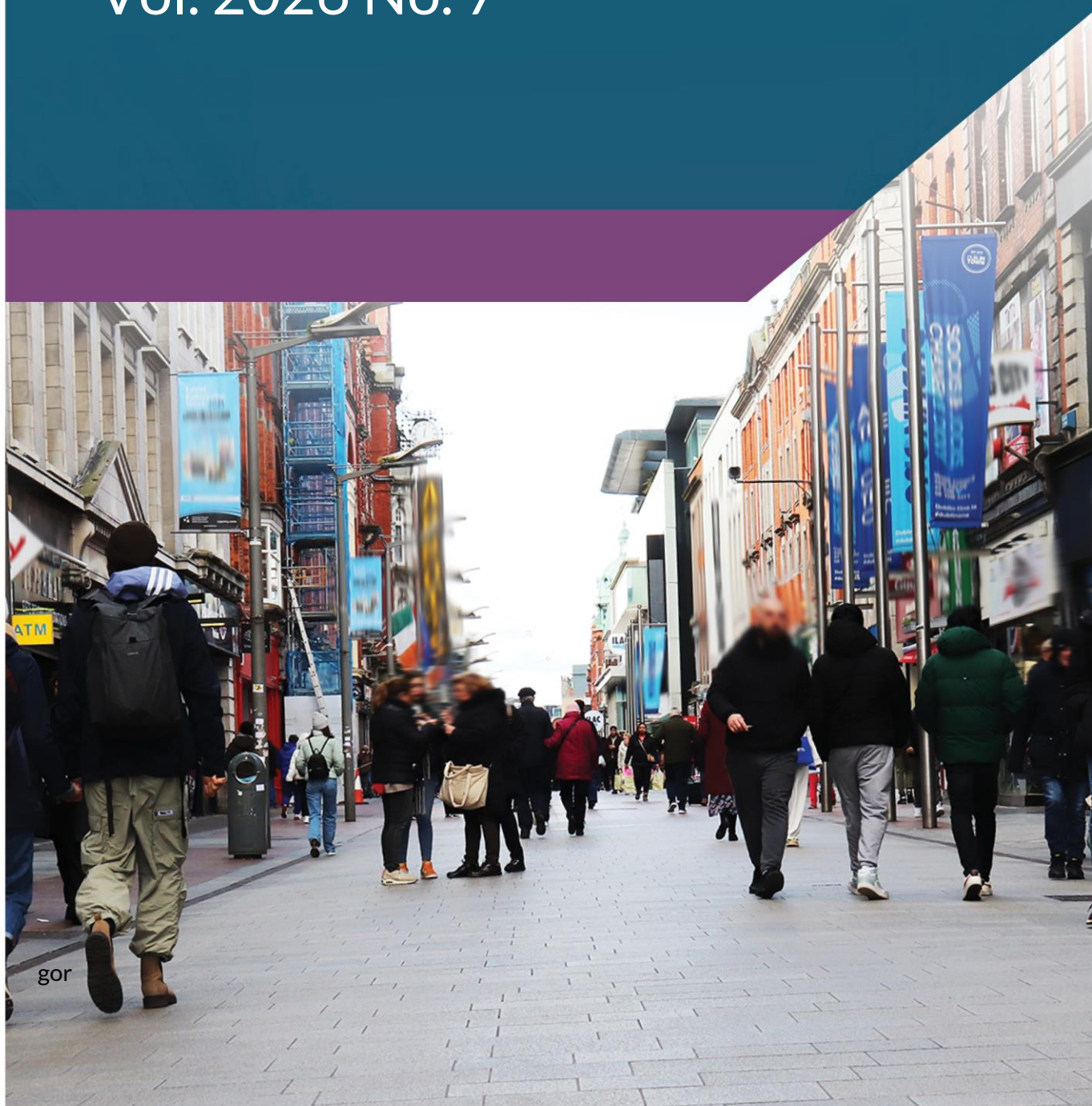


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The Economics of the Evolving Payments System: Implications for policymaking¹

Executive Summary

The way we pay for goods and services is changing rapidly, with potentially profound implications for the economy. This Article examines how innovations in payments—from contactless cards to digital banks and new developments like stablecoins and central bank digital currency—could reshape our payments system with macroeconomic implications.

Payment systems do more than facilitate transactions—they fundamentally shape economic activity. Faster, cheaper, more integrated payment systems can stimulate trade, build new markets, foster financial inclusion, facilitate innovation and improve business dynamism and liquidity management. More competition can also lower direct costs for consumers and businesses. Based on new evidence on the cost of retail payments in Ireland, payment processing costs are estimated to be approximately €1 billion annually, representing at least 1 per cent of underlying economic activity in the consumer-facing parts of the economy. The distribution of these costs is uneven. In comparison to larger businesses, small businesses face disproportionately higher transaction costs, ultimately passed through to the prices consumers pay.

Original Central Bank survey evidence reveals a shifting payments landscape. A clear generational divide exists, where nearly half of adults under 35 use mobile wallets as their primary payment method, compared to just 12 per cent of those over 50. One in five Irish adults

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still relies primarily on cash, although evidence suggests usage is declining more quickly than elsewhere in Europe.

Consumers value payment security above all else. Crucially, when asked what matters most when considering payment options, Irish households rank security, reliability, fraud protection, and trust as the most important features of payment instruments—more important than convenience or cost. Reported trust levels are notably lower for digital-only banks, when compared to traditional banks, although younger households report much higher trust levels in these new entrants.

Innovation in the payments system could fundamentally change the traditional banking model, although much depends on the strategic response of incumbents and policymakers. Three in five Irish adults now use digital-only banks, primarily for payments rather than savings, and usually alongside a traditional bank. This is a familiar pattern across Europe. If these patterns were to lead to a further "unbundling" of traditional banking services—where payments, deposits, and lending were historically provided together—bank funding could become more volatile and expensive, with knock-on effects for credit supply and monetary policy transmission. Stablecoins, if more widely adopted across the economy, may present another source of risk to bank deposits, while also having the potential to both lower government bond yields but pose greater risks to bond markets in periods of stress.

Central banks and regulators must respond to these rapid changes to ensure the payments system continues to serve the public interest. Central banks must modernise their infrastructure to ensure public money (cash and central bank reserves) remains the foundation of trust in the monetary system. Initiatives such as projects Pontes and Appia of the European Central Bank are steps in this direction. A cornerstone of the future system must be the presence of riskless central bank money as the settlement asset for the financial system.

In an era of rising geopolitical, operational and cybersecurity threats, the strategic autonomy and competitiveness of the European economy is a critical consideration. The digital euro can foster financial inclusion for the digital age in Europe, while providing choice, spurring price competition and providing an integrated,

European-native retail payment rail. From an operational resilience and crisis preparedness perspective, the digital euro's offline functionality, in addition to physical cash, will provide an important backstop against these rising risks.

The future system must avoid the risk of fragmentation. The payments system is a classic network, in which all participants benefit from the participation of others on identical terms. This is why integrated, interoperable payment rails are essential as new players and products emerge. Both central bank infrastructure and the design of financial regulation have a role to play in ensuring that all monies used for transactions in the economy can exchange at par seamlessly on a “no questions asked” basis in all eventualities. “Walled garden” payments systems will lead to coordination challenges, and increase costs, and their avoidance must be at the centre of policy action. One key underpinning factor in this is the financial soundness and resilience of all providers of money and payments services, whether inside or outside the banking sector. Developing a regulatory framework that unlocks innovation but also supports delivery of our safeguarding outcomes remains critical.

The Central Bank of Ireland will address the implications of these changes across the breadth of its mandate. The Central Bank's role is to ensure that as the payments landscape evolves, it continues to support monetary and financial stability and broad-based economic prosperity, while enabling the private sector to innovate and compete in ways that benefit consumers and the wider economy. These principles will underpin the Central Bank's domestic policy and research work, as well as its contributions to Eurosystem policymaking and financial regulation in Europe.

1. Introduction

Work on the future of payments, one of the three core functions of money, often starts by looking back.² The evolution of payments is deeply intertwined with trade, commerce, and technology.

Throughout history, payments systems and instruments have enabled markets, facilitated trade, spurred innovation and productivity, and driven financial inclusion—all core to macroeconomic growth and stability. In fact, the history of payments is fundamental to the history of economic activity. From barter systems and the use of precious metals, through the development of fiat systems driven by banking and credit, to electronic and digital payments, the means of payment has both responded to economic contexts and shaped economic outcomes.

As the payments system changes in the 2020s at seemingly unprecedented speed, policymakers must grapple with fundamental questions about how the system evolves. While cash remains an important payment option, contactless and online transactions are becoming ever more popular, reflecting the broader digitalisation of our economy and daily life. Related Central Bank research shows that ATM withdrawal value has fallen 7 per cent in the last two years, with the number of transactions falling 12 per cent, while mobile wallet payments become increasingly important in overall transactions (Gorše, 2026).

New entrants are emerging in all parts of the payment ecosystem and stages of the transaction chain. From consumer-facing payment terminals to e-commerce payment gateways, to digital banks offering deposit-taking and payment solutions in purely digital form, the system is changing rapidly. Systemic changes facilitating faster payments have included the introduction of interlinked fast-payment systems, account to account transfers, and standardisation to facilitate international transfers. Developments in distributed ledger technology (DLT) and on-chain means of exchange pose new opportunities and challenges, with the breadth of products and use-cases likely to grow further as regulatory clarity is attained. Interlinkages between the traditional financial system and on-chain

² Economists have traditionally identified the three core functions of money as serving as a medium of exchange (payments), a unit of account and a store of value.

finance are increasing, driven by institutional adoption and wholesale use cases.

These changes are touching all aspects of the Central Bank of Ireland's policy mandate. In its role both nationally and within the Eurosystem, the Central Bank acts as an issuer of money (cash and reserves); conducts monetary policy operations, acts as a payment systems operator and overseer (of systemic systems and payments instruments); is the authoriser, regulator and supervisor of banks and other participants; and plays a role as a catalyst, so that the payments ecosystem co-ordinates towards better public policy outcomes.

In this Article, we focus on the economic implications of the evolving payments system. Reflecting the Central Bank of Ireland's broad mandate, we consider four lenses: consumers, businesses accepting payments, the financial sector, and the broader macroeconomic impact. We then present original findings from Central Bank of Ireland surveys on households and businesses, followed by a discussion of impact channels within the macro-financial system. We conclude with a contribution to the ongoing policy debates of relevance to public authorities globally.

2. Payment innovation: macroeconomic implications

2.1 Consumers

The digital transformation in payments is visible in the methods of payment available for day-to-day use by consumers. While many traditional payment instruments such as cash, debit or credit cards remain prevalent, new options have rapidly scaled in recent years, including contactless cards, mobile wallets, card not present, QR-code-based solutions, account- to-account solutions and instant payment platforms (Tarlin, [2019](#)). In some jurisdictions, card and e-money providers are beginning to also offer stablecoin-related products. As a result, consumer engagement with the payment ecosystem has become increasingly varied and personalised, with many now expecting seamless, real-time, and secure payment experiences in both physical and online contexts. At the same time, digital innovation has blurred the boundaries between financial services and technology, with both fintech and better-known large technology companies having a significant presence within the payment ecosystem.

The research literature in this area has typically focussed on behavioural and demographic factors that shape consumers' adoption of various payment options. Survey data has played a particularly important role in understanding payments behaviours. Studies emphasise that consumers' adoption of new payment instruments is shaped by behavioural and contextual factors such as convenience, trust, access, and habit (Ching and Hayashi, [2010](#); Sahi et al., [2021](#)). While financial behaviour is not easy to change, it can shift in response to specific triggers.

From a financial behavioural perspective, both “pull” and “push” factors have been shown to shift payment behaviours. Convenience and speed have been shown to attract consumers to online forms of payment (Brown et al., [2022](#)). Financial incentives such as discounts for card use, rewards and subsidies have also been shown to shift preferences and behaviour (Arango et al., [2015](#); Cole et al., [2011](#); Stavins, [2018](#)). On the other hand, there is evidence from the US that bank branch closures can act as a “push” factor, moving consumers away from cash usage (Keil and Ongena, [2024](#)), while initial concerns around viral transmission during the pandemic were shown to push consumers away from cash transactions towards digital forms of payment (Seldal and Nyhus, [2022](#)).

Changing use of payments instruments can causally change consumer behaviour. Mostly documented in marketing research, the experience of paying can constitute a negative experience for many consumers, with some scholars referring to it as the “*pain of paying*” (Zellermayer, [1996](#)). Physicality of the payment instrument has been shown to be positively correlated with pain of paying (Soman, [2003](#); Prelec and Siemester, [2001](#)), while speed is negatively correlated (De Jonker, [2007](#)). Online forms of payment technology further reduce these frictions by enabling consumption-on-demand during web searching (Garcia-Schwarz et. al, [2004](#)). Commercial entities, particularly online retailers, have recognised the importance of frictionless transaction experiences in maximising consumer spending, exemplified by innovations such as one-click purchasing (Unal and Park, [2023](#)) and seamless in-app or in-game payment functionality. However, such reduced transaction friction may facilitate overspending (Broekhoff and van der Crujsen, [2024](#); Choe and Khan, [2021](#)), prompting regulatory authorities to raise warnings on consumer protection (CBI, [2025](#)).

Payment innovations also raise important questions of financial inclusion.

This strand of research highlights how payment innovations facilitate entry into the formal economy and/or into micro-entrepreneurship, often for previously-excluded cohorts.³ Digital payment methods can also facilitate inclusion among marginalised or demographic groups who may struggle to access physical locations for transactions. Against this, there is growing concern that overly-rapid digitalisation of the payments system at the expense of cash access would exclude vulnerable cohorts with low levels of digital financial literacy (Shy, [2021](#); Tischer et. al., [2019](#); Wang, [2019](#)). One key principle that should underpin any functioning monetary system is that a range of payment options must be available to all those in society, regardless of their circumstances (Cipollone, [2025](#)).

2.2 Merchants

The payments system is a critical piece of infrastructure upon which businesses are entirely reliant for the realisation of their revenues. The academic literature on the impact of the payments system on businesses is relatively sparse, when compared to the large literature summarised in the previous section on consumers. However, the impact of the payments system on merchants through cost, efficiency, and reliability channels is now a growing focus of the policy debate globally.

The cost of retail payments borne by merchants can reflect the market power of key players along the payment chain (see Box A), with costs likely to be passed on to consumers. In the presence of oligopolistic or monopolistic power, the cost of handling payments can be substantial, and particularly high for smaller businesses with less bargaining power. Furthermore, bundling of fees for payments handling and other add-on services (such as fraud detection) can make pricing more opaque. Payment innovation that increases competition along the payment chain and brings down transaction fees, is therefore likely to transfer surplus away from financial intermediaries and towards merchants and consumers.

³ See for instance Aurazo and Vega ([2021](#)), Aurazo et. al. ([2026](#)), Jack and Suri ([2016](#)), Sampaio and Ornelas ([2024](#)). For a description of the impact of certain firms on micro-entrepreneurship see *The Pay Off: How Changing the Way We Pay Changes Everything* (2021) by G. Leibbrandt and N. de Teran.

Aside from explicit transactions costs incurred, the efficiency of the payments system may influence the way in which firms manage their day-to-day liquidity needs. Recent frontier research in this area from Akcigit et al. ([2025](#)), for example, highlights the importance of credit card facilities for small businesses in the US in managing uncertain cash flows and payment delays. The speed of settlement itself can be a critical efficiency gain, as instant payments provide businesses – particularly Small and Medium-sized enterprises (SMEs) – with better transparency over their cash positions, support just-in-time operations, and enhance their ability to respond to customers' needs. Therefore, faster, more integrated payments reduce firms' need for precautionary cash holding, improving liquidity management, thus freeing up cash flow for other uses, such as investment.

The operational reliability of the payments system is another crucial feature reflecting its role as a key piece of economic infrastructure. The payments system shares many of the features of key public infrastructure but is crucially different in that both parts of the underlying infrastructure as well as consumer-facing services, are operated predominantly by private entities.⁴ The reliability and resilience of these systems is therefore crucial for businesses and the broader economy. Even short disruptions to payments services can be costly, especially in a setting where many consumers may no longer carry cash as a “back-up” solution. For instance, recent studies have documented severe payment disruptions caused by catastrophic, large-scale hurricanes in the US (Alvarez et al., [2026](#)), or the impact of unprecedented regional natural disasters, such as severe floods in Brazil, which have increased the adoption of instantaneous payment systems like Pix (Barros Jr et al., [2025](#)).

Consistent with reductions in transaction costs and frictions, connected payments systems have been shown to boost international trade. Recent research from the European Central Bank (ECB) (Ferrari Mineo et al, [2026](#)) convincingly shows that cross-border economic integration can be greatly enhanced through the interlinking of payments systems. They identify that when countries' payments systems become integrated, for example

⁴ Although ultimate settlement has traditionally relied upon public infrastructure through Real Time Gross Settlement (RTGS) systems, the “rails” along which payments travel from consumers' to merchants' accounts are provided by private firms in Europe.

through bilateral and multilateral arrangements to connect fast payment systems, trade volumes increase by 4 per cent. To put these magnitudes into perspective, this research suggests that payments system connections have an effect on bilateral trade that is half the size of a trade agreement and a quarter the size of membership of a common currency area – drivers of trade that have been understood for decades as being critical to prosperity. These findings are supported by similar research by Mariani et al. (2026) using South African customs data, showing a causal effect of interconnecting payments systems in other African economies on trade with South Africa was to increase bilateral trade by up to 30 per cent.

Payment innovation can also create the opportunity for new entrepreneurs and markets to emerge. Evolution in payments systems can themselves enable broader deployment of e-commerce opportunities across a wider set of customers and sellers. These reductions in transaction frictions are inherently connected to developments in e-commerce, where ease of search and ease of payment go hand-in-hand in facilitating exchange between agents not in geographic proximity. The introduction of low-cost payment terminals may also be reducing the fixed costs of entry, as well as the variable costs of operation for merchants operating at extremely small or local scale, consistent with rapid growth in new business formation in the post-pandemic period in both the US and Europe.

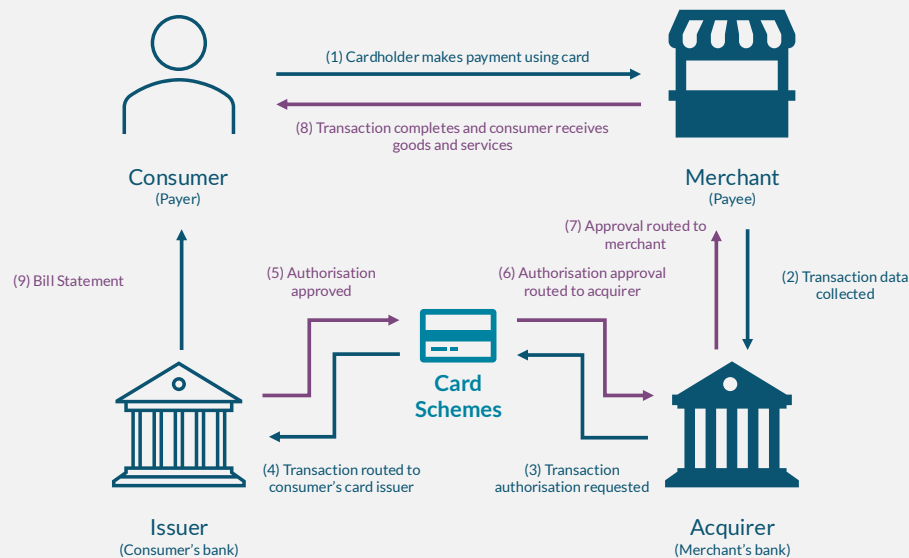
Box A: Typical digital retail payment flow

The payments ecosystem comprises a network of stakeholders each of whom bears a share of the costs associated with processing transactions. Payment processing costs, like other operating costs, are typically absorbed into the overall pricing of the product and, while not directly visible to consumers, contribute to the final retail price paid. A four-corner model, also known as a four-party scheme, is commonly used in many digital payment transactions – such as card payments, credit transfers, direct debits – though other models, such as three-party schemes, also exist depending on the payment type (Figure 1). The four-corner model provides a framework for processing digital transactions across multiple actors but given that all four parties in the model are private profit-seeking with varying degrees of market power, it introduces various fees (such as interchange fees between banks

for card-based payments, scheme fees charged by card networks and merchant services charges to acquirers) that impact the overall cost of a payment transaction.⁵ Payment service providers (including banks), and payment system operators (public and private), all bear specific costs associated with processing transactions, whether through infrastructure, compliance, service, or transaction fees.

Typical digital retail payment flow

Figure 1



Source: Gallagher (2026) and Central Bank of Ireland.

2.3 Financial sector

Banks have historically been at the core of the payments system, but new players are emerging in an evolving payments landscape. By creating money, providing liquidity through their deposits, providing credit card functionalities (Evans and Schmalensee, [2007](#)), and facilitating cross-border payments (Borchert et. al, [2026](#)), banks have long been at the core of the payments system (Parlour and Rajan, [2025](#)). As a major component of payment infrastructure, banks influence and are influenced by

⁵ Issuers issue payment instruments to customers seeking to purchase goods or services. This includes central banks (for cash), commercial banks or credit unions (for cards, cheques, credit transfers, and direct debits), and e-money institutions (for electronic money or pre-paid cards). Acquirers provide services to merchants by enabling them to accept different payment methods. These payment methods are comprised of different instruments, as well as different form factors (such as cash, plastic cards with chip and pin, virtual cards) and initiation channels (such as written payment orders, contactless 'tap-to-pay' using a plastic card or mobile phone, or digital payment orders in a mobile banking applications).

both structural characteristics of payment markets and more recently, by new entities.

The wider financial sector is being impacted through different channels. Innovations in payments offering increased efficiency, transparency and accessibility have the potential to reshape the financial system. Market structures are likely to evolve as a result with new entities and new business models emerging. Research on the link between payments and the wider financial sector has developed along two main dimensions: market functioning – how well payment markets operate in normal times – and financial stability concerns – which address the potential for destabilising developments to emerge in periods of stress.

Market functioning

The payment system exhibits strong economies of scale and network externalities that can lead to market concentration in parts of the ecosystem. Payment systems are characterised by a multisided network externality, where consumers' willingness to enter the system depends on the number of participants (Rochet and Tirole, [2003a](#)). Combined with high fixed costs (maintaining systems and terminals, customer screening, R&D, regulatory requirements), this situation creates conditions that can lead to market concentration in parts of the payments ecosystem (Rysman, [2009](#)). While such market structures can generate strong user experiences, they can also create economic welfare trade-offs when dominated by a small number of participants who can exercise high-mark up and erode consumer surplus (Harberger, [1954](#)).

Payment systems can create price distortions that private competition does not correct. Payment card networks are the canonical application of two-sided market theory, where platforms must simultaneously attract both merchants and cardholders (Armstrong, [2006](#); Rochet and Tirole, [2003b](#)). An inherent upward bias in costs persists even under competition between schemes (Guthrie and Wright, [2007](#); Wright, [2012](#)) and has proven to be robust to different situations such as merchant heterogeneity or nonlinear pricing (Bedre-Defolie and Calvano, [2013](#); Wang, [2024](#)). The distributional consequences of this market structure can be significant. In the US, recent research on interchange fees estimates that approximately 30 bn USD is transferred annually from cash and

debit card users to credit card users, equivalent to a regressive effective sales tax (Egan et al., [2026](#)). In that context, public intervention may be justified, whereby public entities would provide the payment rails, messaging and wider settlement infrastructure, upon which payment service providers can compete on quality and cost at national or international level (Claessens and Rice, [2026](#)), similar to rail and telecommunication networks in many jurisdictions. Other interventions can include direct regulation to cap interchange fees ([IFR](#)), as is the case in Europe.

The concentrated market structure underlying critical payment infrastructure in Europe also raises questions of operational resilience and service continuity. Any piece of key infrastructure reliant on a small group of dominant providers brings with it the risk of disruption in the event of operational issues affecting those providers. Evidence from cyberattack events shows that business continuity plans and network structure can contain disruptions: a multi-day attack on a critical third-party service provider disrupted only 0.3% of daily Fedwire value (Kotidis and Schreft, [2025](#)). Simulation evidence suggests shared-provider attacks affecting multiple banks simultaneously could generate substantially larger systemic disruptions (Eisenbach et al., [2020](#)).

Banks' traditional business model of bundling of payments with other services faces increasing pressure from technological change. Payment activity in transaction accounts provides valuable information when lenders try to determine the creditworthiness of potential borrowers, creating natural synergies between payments, deposit-taking, and lending (Black, [1975](#); Boot, [2000](#); Puri et al., [2017](#)). Similar complementarities between lending and money creation have been also investigated (Piazzesi and Schneider, [2022](#)). However, the emergence of non-bank financial intermediaries as key providers of loan finance (ESRB, [2025](#); FSB, [2025](#)) as well as new payment service providers offering more convenient and lower-cost transaction services (Philippon, [2019](#); Vives, [2019](#)), threatens to unbundle these traditionally integrated functions, which may reduce both the informational advantage and fee-generating capacity of incumbent banks, with broader macro-financial implications (Parlour and Rajan, 2025).

Innovation in payment processing can also have spillover effects on the quality and quantity of loans in the economy. Should fintech

firms compete with banks in payment services, banks may lose access to valuable transaction data, potentially leading to disintermediation in both payment services and the credit market (see Parlour, [2026](#), for a discussion of these mechanisms in the case of stablecoins). Evidence from China shows that Ant Financial's comparative advantage in the loan market rested on the data it had on vendors from processing their payments, while in the US, Square and PayPal began as payment processors and later entered lending to business clients (Hau et al., [2019](#)). Some research suggests that unbundling may be optimal, arguing that market power and too-big-to-fail distortions mean the system may benefit from a degree of bank disintermediation (Buchak et. al, [2018](#)). However, evidence from the US suggests that banks may be adapting to this unbundling of payment services by providing balance sheet capacity directly to non-bank entities and new entrants, achieving indirect exposure to areas where they previously lent directly (Acharya et al., [2024](#)). In the face of this evolving landscape, what ultimately sets banks apart over the medium to long term could be their capacity to create new deposit money through lending, something that non-bank competitors cannot replicate under current regulatory arrangements (Chiu, [2023](#)).

Credit supply and financial stability

Competition from new payment providers could shift banks' funding base away from stable retail deposits toward more volatile sources. If commercial banks lose retail deposits to competing providers, their liabilities may reorient toward more volatile and expensive wholesale deposits and funding. Alternatively, their balance sheets may simply shrink. A shift in the funding base involving a larger share of short-term wholesale deposits (for example from stablecoin issuers) or depositors becoming more sensitive in a more digitalised system, would require, at the margin, higher holdings of liquid assets in order to comply with liquidity regulations such as the Liquidity Coverage Ratio and Net Stable Funding Ratio. This would likely lead to overall higher funding costs.

The shift toward instant, 24/7 payment settlement can affect bank liquidity management, leading to higher demand for central bank reserves or other high-quality liquid assets. Instant settlement removes banks' ability to net intraday inflows against outflows,

which can raise precautionary liquidity demand (Afonso and Shin, [2011](#)). Evidence from Brazil's Pix system shows that higher instant-payment usage causally increases banks' liquid-asset holdings while simultaneously inducing a shift toward riskier loan portfolios, particularly for banks with weaker capital positions (Ding et al., [2024](#)).⁶

Recent novel developments such as the growth of stablecoins and decentralised finance (DeFi) pose new channels of systemic risk.

Stablecoins have grown primarily as on-chain payment instruments that offer faster settlement at lower costs outside the banking and traditional settlement system. Their "narrow banking" nature fundamentally differs from traditional bank deposit creation.⁷ While this limits stablecoins' capacity to expand the money supply, it does not eliminate run risk: even fully-reserved arrangements can face redemption pressures when holders lose confidence, particularly absent of deposit insurance and emergency liquidity access (Ahmed and Aldasoro, [2025](#); Gorton and Zhang, [2023](#)). Depending on the nature of backing assets, stablecoins, if adopted at broader scale, could also pose spillover risks to the banking system or to sovereign debt markets in times of stress.

2.4 Macroeconomic impact

Monetary policymakers must assess the potential for the digitalisation of money to alter the transmission of policy. Whether through digital deposits that become more programmable and responsive to interest rates, or fundamental changes to the maturity structure of balance sheets, the financial system of the future may not respond to monetary policy as it has in the past. Unremunerated stablecoin holders, for example, would hold an asset whose yield is unresponsive to monetary policy rates by design. A shift in bank funding towards less-stable sources could on the other hand make bank funding costs, and by extension bank credit supply, *more responsive* to policy action. The ultimate impact on the transmission of monetary policy through to macroeconomic aggregates depends on the complex interaction of these and other forces, including

⁶ Launched in November 2020 by the Central Bank of Brazil, [Pix](#) is an instant payment system that lets users transfer funds and pay for goods or services in seconds, 24 hours a day, directly through existing mobile banking apps with no transaction fees for individuals.

⁷ See Pennacchi ([2012](#)): a narrow bank is a financial institution that issues demandable liabilities and invests in assets that have little or no nominal interest rate and credit risk. In this case, stablecoins convert existing money-like assets rather than creating new credit.

changes in the ratio of short-term and long-term assets on bank balance sheets, and the overall impact on short-term asset demand, on government borrowing costs (see Box B).

Payment innovations can generate welfare gains through increased competition and reduced transaction costs. More efficient payment systems can also increase money velocity and thus boost economic activity. Each euro in circulation can be deployed more rapidly in a system where agents are better connected, clearing and settlement delays are minimised, short term liquidity and credit line needs are reduced, and transaction frictions are reduced by technology. New entrants can further drive innovation and reduce fees, with benefits potentially felt most strongly in cross-border payments. Indeed, cross-border payments have been historically marked by high fees and fragmented (Cerutti et al., [2025](#); Kpodar and Imam, [2024](#)). A more integrated European payment system could directly contribute to unifying the Single Market by lowering bilateral trade costs, particularly for cross-border transactions where fees typically exceed domestic levels (Ferrari Minesso et al., 2026). At a macroeconomic level, without pinning down any specific channel, suggestive evidence indicates that increased usage of digital payments is associated with higher GDP growth, though disentangling the causality of payment adoption from broader economic strength remains a challenge in the research literature (Aguilar et al., [2024](#); Khera et al., [2021](#)).

The geopolitical context is raising the stakes. The operational resilience and crisis-readiness of payments infrastructure is a topic of rapidly rising policy importance, increasingly now also given a backdrop of growing climate shocks, cyber risk and geopolitical tension. Indeed, this is a key motivation for the digital euro, where the changed geopolitical landscape has given further impetus to the project. Motivations for the digital euro, alongside key aspects such as choice, legal tender, and privacy, include the functionality that it can be operated offline, providing a robust backup to services that rely entirely on online connectivity. Another argument is that it would strengthen diversity in the payment infrastructure, introducing a public, European-wide payment rail which the private sector can build upon to provide innovative payments services to households and businesses (Cipollone, [2024](#)). The broader literature shows that CBDC can strengthen competition for deposits and

generate welfare gains (Chen and Filippin, [2025](#), [2026](#); Chiu et al., [2023](#); Niepelt, [2024](#); Paul et al., [2024](#)). Eurosystem analysis indicates that, the digital euro should have no material impact on financial stability or monetary policy transmission (Lambert et al., [2024](#)).

The onset of stablecoins creates new monetary policy and banking sector considerations and implies structural shifts in demand for safe assets. As most stablecoins are currently USD-denominated, widespread euro-area adoption could weaken the ECB's control over monetary conditions, although it is likely that these risks are more pronounced in emerging markets with greater currency volatility. Banks with greater USD wholesale funding exposure have already been shown to exhibit significantly weaker loan-supply responses to ECB rate changes while responding more to Fed shocks instead, indicating how such cross-border exposures can impact monetary sovereignty (Altavilla et al., [2026](#)). On the fiscal side, should euro-denominated stablecoins emerge and achieve widespread adoption, they could lower borrowing costs in the euro area, though this depends on the emergence of jointly-issued European debt to satiate safe asset demand and continued deepening of European financial markets (Ahmed and Aldasoro, [2026](#); Born et al., [2026](#)).⁸ More broadly, like other forms of financial innovation, stablecoin adoption in Europe could alter competitive conditions in the banking sector, with implications for funding costs, lending supply, and monetary policy transmission. A structured model-based framework for assessing these potential implications is presented in Box B.

Box B: Potential macro-financial transmission of stablecoins in the euro area: a model-based approach to assessment

Given the far-reaching implications of innovation in the payments system, it has naturally become an area of increased focus for research in the Central Bank. The aim is to understand the dynamics driving innovation and their implications, and to deepen understanding of the impact on the evolving digital ecosystem (Makhlouf, [2026](#)).

⁸ The reserve must be held in highly secure, liquid instruments like short-term government bonds, cash equivalents, or highly rated commercial paper. To guarantee immediate liquidity during a market run, Markets in Crypto Assets Regulation (MiCAR) dictates that a fixed percentage of the reserve must be held as cash deposits in authorized credit institutions. At least 30% of the reserve must be held as bank deposits but for significant stablecoins, a higher threshold of 60% held as bank deposits.

Stablecoins have drawn much attention in academic and policy debates owing to their potential to disrupt – positively or negatively – the monetary and financial system. Much of the debate thus far treats a stablecoin as an unremunerated wrapper for safe assets, typically dollar-denominated, and tied to cross-border payment use cases. However, as locally denominated stablecoins emerge, it is also necessary to consider domestic effects of euro-denominated stablecoins.

The effect of stablecoins on the economy will be multifaceted.

One can expect an effect on banks' deposit pricing and credit provision arising from increased competition from a new money-like asset. There may also be important implications for fiscal policy (depending on whether stablecoins are backed with bank deposits or government debt) and monetary policy (depending on how they affect interest-rate pass-through). Given the possible impacts on payment behaviour by households and firms, banks' funding and lending, and both monetary and fiscal policy, it is important to analyse these effects within a coherent model that accommodates these interactions. This work is ongoing at the Central Bank of Ireland, the results of which will be published in a forthcoming paper (Bidder and Filippin, 2026). The framework builds on recent work on digital money, bank intermediation and deposit competition, monetary transmission, and stablecoin backing and safe-asset demand (Altavilla et al., 2026; Burlon et al., 2024; Coste, 2024; Ferrari-Minesso and Siena, 2026; Paul et al., 2025).

In the model, macro-financial outcomes will be dictated by interactions between consumer adoption, banks' reactions, and their implications for credit supply, monetary and fiscal policy. In the model, households allocate funds to cash, bank deposits and stablecoins. As a form of digital money-like assets, stablecoins compete most directly with payment deposits in current accounts, though banks can also obtain funding through savings accounts. The framework can accommodate both unremunerated stablecoins and stablecoins whose interest rate (paid to the coinholder) is chosen by the issuer. The model focuses on how the economy behaves in normal times and does not include the risk of run dynamics, which has been an important area of focus of financial stability authorities in the context of stablecoins. The

framework allows stablecoin adoption to affect the economy through several interconnected channels:

- **Bank funding and intermediation.** Stablecoins compete with deposits in providing payment services and can therefore displace a source of bank funding, all else equal. Nevertheless, the resulting funding loss is not necessarily one-for-one. Stablecoin issuers may hold part of their backing in payment deposits, returning some of the funds to the banking system, albeit with a change in the composition of funding from retail to wholesale deposits. Banks can also retain funding through savings deposits and by adjusting the interest rate paid on their deposits in current accounts. Changes in bank funding conditions affect banks' capacity to intermediate credit, with implications for investment and economic activity.
- **Competition and the pricing of money.** Stablecoins provide households with an alternative digital payment instrument and can strengthen competitive pressure on banks. The model distinguishes households' willingness to substitute among forms of money in obtaining payment services from the degree of competition among providers within the banking and stablecoin sectors. The former governs substitution across monetary services while the latter also influences providers' pricing power. Together, these margins affect the rates offered on monetary instruments, providers' margins and the allocation of household liquid balances, with implications for the pass-through of monetary policy rates to the broader economy.
- **Monetary policy transmission.** The policy rate affects the return on bank assets and the rates offered on payment and savings deposits. Stablecoin adoption changes the competitive environment in which these deposit rates are set and can alter the composition of bank funding, affecting the transmission of monetary policy to the rest of the economy. The distinction between payment and savings deposits is important because the two products perform different functions and can reprice at different speeds. Firms' use of payment deposits to pre-fund part of the wage bill also provides a link between deposit rates, marginal costs, and inflation.
- **Safe-asset demand.** Stablecoin issuers back their liabilities with payment deposits and government bonds, and banks also hold

bonds on their balance sheets. In addition to their cashflows, bonds provide some settlement liquidity to banks and redemption liquidity to stablecoin issuers, although less directly than reserves or payment deposits. These services generate a convenience yield and make intermediary demand directly relevant to the bond-reserve spread and the government's funding cost. This channel is closely related to the funding channel, since a greater share of government bonds in stablecoin backing also implies that, all else equal, less stablecoin funding is returned to banks through issuer deposits.

Bringing these mechanisms together in a general equilibrium setting allows an analysis of how stablecoins can provide additional payment services, while also altering competitive conditions, bank funding, settlement and issuer operating costs, credit provision, monetary transmission, and the use of real resources in the financial system. Examples of the impact channels under study include:

On bank funding and payment services:

- In the 'normal-times' experiments examined so far, stablecoins displace some payment deposits, but the resulting decline in broad bank *funding* is considerably smaller than the decline in payment-deposit funding. Banks attract more savings deposits, while issuers recycle part of their backing into payment deposits at banks.
- Stablecoins replace only a small share of lost cash and payment-deposit balances in times of stress following financial shocks, although they replace a larger share of the associated payment services. This suggests that payment-service substitution and bank-funding substitution need not move one-for-one.
- Stablecoin offsetting of lost bank money creation depends critically on the backing-asset market enabling the expansion of stablecoins to meet demand. In the benchmark, issuers can obtain additional government bonds or acquire them from other holders, so safe-asset availability does not constrain issuance. Countercyclical government bond supply could strengthen this accommodation margin when bank balance sheets are impaired. Conversely, scarce or fiscally risky backing assets could substantially weaken it.

On monetary transmission and macroeconomic stability:

- Stablecoin entry appears to make bank deposit rates slightly more responsive to the policy rate, while output and inflation respond somewhat less to a given policy-rule innovation. This illustrates that pass-through to retail rates need not translate one-for-one into aggregate monetary transmission, because stablecoins also change household liquidity choices and bank funding. Stablecoin adoption may therefore alter the policy-rate adjustment required to attain a given stabilisation outcome, although the optimal-policy implications and consequences for private-rate variability remain to be studied.
- Across the experiments considered so far, none of which at this stage consider the potential destabilising dynamics of a run dynamics on stablecoins, output and bank-net-worth volatility fall but inflation volatility rises in the presence of stablecoins.

3. What do Irish households say? Survey evidence

Understanding how Irish households use payment instruments, and how these patterns compare to European peers, is essential for assessing the potential impact of payment system innovations on the Irish economy. Ireland's payment landscape, like our European counterparts, is becoming increasingly digital. Gorše (2026) explains that online spending now accounts for close to half of domestic card expenditures, contactless payments dominate at the POS terminals, and mobile wallets are increasingly replacing physical cards. However, attitudes to cash in Ireland suggest a future role for both physical and digital money: Irish consumers make greater use of digital technology than the euro area average while still placing high value *on retaining the option* to pay in cash. Given the country's relatively young population, Ireland may be at the forefront of the digital payments transformation in Europe in the coming decades.⁹

This section examines Irish payment behaviour and preferences through two complementary lenses: cross-country comparison and original domestic survey evidence. Using data from the [ECB Consumer Expectations Survey \(CES\)](#), Section 3.1 gives a broad

⁹ Irish median age of 38.8 years compares to the EU average of 44.4 years. Younger cohorts are proved to have a higher adoption rate of digital payment means (ECB, [2024](#)).

perspective on payment behaviour across member states, in particular, where Irish consumers sit relative to European counterparts in terms of cash usage trends and payment method preferences.¹⁰ Then turning to an original survey conducted by the Central Bank of Ireland in 2026, granular insights from a more comprehensive survey with larger sample size are presented in Section 3.2.¹¹ The data reveal Irish household payment choices across different transaction types, attitudes toward emerging payment technologies including digital banks and the digital euro, and the factors that drive payment method selection.

3.1 Payment preferences in European context

The ECB Consumer Expectations Survey provides harmonized data on payment behaviour across the euro area. The survey, conducted monthly across all euro area member states, includes questions on household finances, consumption intentions and since August 2022 payment method usage. Filippin and Pelli (2026) use the survey to highlight the awareness and intentions of Irish and European households around the digital euro, showing that even with low awareness levels people in Ireland rank fourth in the euro area for willingness to use a digital euro. They also report on the importance of trust for adoption. This relates strongly to trust in institutions including the ECB, the Central Bank of Ireland, commercial banks, and indeed the euro itself.

Irish consumers report reducing their use of cash at a faster pace than most European counterparts. To the question "*How often do you currently use cash instead of non-cash payment methods (e.g. mobile, card or contactless payments) for day-to-day purchases (e.g. in shops, restaurants) compared with 12 months ago?*" Irish respondents consistently report declining cash usage relative to the previous year (Figure 2). Over the period 2022 to 2025¹², there is an 11 percentage point differential between the share of Irish respondents indicating

¹⁰ This paper uses data from the ECB Consumer Expectations Survey. For detailed methodology, see [the ECB's initial overview and evaluation from December 2021](#), [the updated methodological guide from January 2026](#), and [the 2022 analysis of household spending patterns during the COVID-19 fiscal support episode](#).

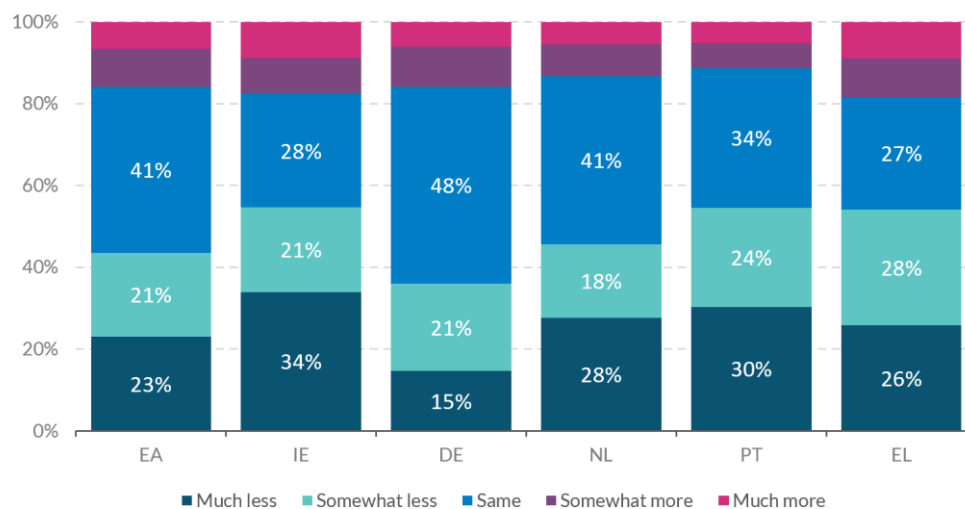
¹¹ The survey was conducted for the Central Bank by One Core between 24 April and 26 June 2026, including 2,002 Irish adults using online and face-to-face data collection methods, with a nationally representative sample. As part of the recommendations of the National Payments Strategy, the Central Bank was designated to establish a recurring 'consumer payment preferences and behaviour' survey covering all payment types. The findings of this survey will be published in 2027.

¹² CES waves 32, 44, 56, and 68 (August 2022–2025).

they use cash “somewhat less often” or “much less often” than twelve months prior, compared to the euro area as a whole. Only 9% of Irish respondents reported using cash more frequently, versus 7% euro-area wide. In these tendencies, Ireland is positioned among the more digitally-oriented payment cultures in Europe, though still behind Nordic countries where cash usage has declined even more dramatically over recent decades (Sveriges Riskbank, [2025](#)).

Irish respondents are more likely than others in Europe to report using cash much less or somewhat less than a year ago.

Figure 2: Use of cash – today compared with 12 months ago



Source: ECB Consumer Expectations Survey (waves used from 2022 to 2025). Question: “How often do you currently use cash instead of non-cash payment methods (e.g. mobile, card or contactless payments) for day-to-day purchases (e.g. in shops, restaurants) compared with 12 months ago?”

Significant cross-country variation persists in reported cash usage.

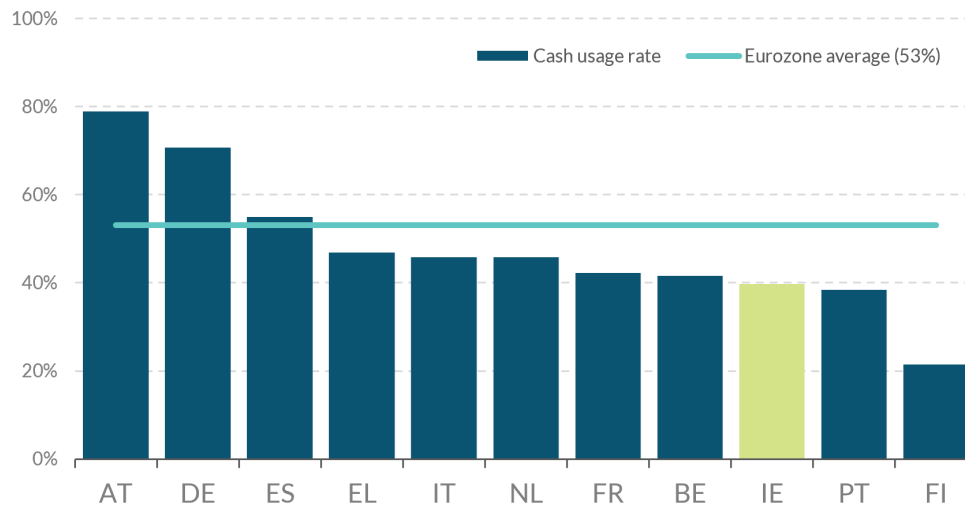
Using 2022 survey data, the share of Irish respondents reporting that they use cash for day-to-day transactions of small amounts is 13 percentage points below the euro area average (Figure 3).¹³ Ireland ranks ninth among eleven major euro area economies, above only Portugal and Finland. At the other extreme, Austria and Germany maintain substantially higher cash usage, with close to four-in-five respondents reporting using cash at least some of the time for such small value payments. The gap between Austria and Finland represents a 57 percentage point difference, indicating

¹³ Figure 3 shows percentage of respondents selecting “cash” from CES wave 32 (August 2022). Question: “Which of the following payment options do you use to pay for an amount of approximately €50 or less, for a day-to-day transaction (e.g. in shops, restaurants)?” Respondents can select more than one option when answering – these figures therefore do not represent estimates of the total share of transactions conducted in cash.

fundamentally different payment cultures across the monetary union.

Ireland has a lower cash usage rate than euro area average.

Figure 3: Cash usage rate in different European countries



Source: ECB Consumer Expectations Survey (2022 wave). Question: “Which of the following payment options do you use to pay for an amount of approximately €50 or less, for a day-to-day transaction (e.g. in shops, restaurants)?” Respondents could choose more than one response.

Differences in cash usage reflect multiple structural and behavioural factors beyond technology availability. First, socio-demographic characteristics such as age and education systematically influence payment preferences, as older persons tend to favour cash payments, while higher educational attainment correlates with card and digital payment adoption. Second, payment locations and transaction purposes vary across countries. Third, retailers’ acceptance of non-cash payment instruments varies substantially across countries, with some markets exhibiting near-universal card acceptance while others maintain significant cash-only establishments. These are highly correlated with the fees merchants pay to facilitate card payments (See Section 2.2). Finally, social conventions and cultural norms appear to matter: even at filling stations where cards are universally accepted and transaction values are similar across countries, substantial cross-country differences in payment method choice persist. These suggest cultural factors beyond the available infrastructure shaping payment behaviour, including the size of the informal economy (Aguilar et al., 2024).

3.2 Original survey evidence on Irish households

To better understand the preferences, awareness, and likely future adoption patterns of Irish households, the Central Bank surveyed a representative sample of Irish adults in early 2026.¹⁴ The survey covered 2,002 households, with respondents' age ranging from 18 to 90 years (median age: 46 years) and 49% identifying as male.¹⁵ It explored multiple dimensions of payment behaviour, including methods used for in-store purchases, online transactions, recurring bills, person-to-person transfers and payments to tradespeople. Additionally, the research examined attitudes towards emerging payment technologies, including those offered by digital banks and the proposed digital euro, as well as factors influencing payment method selection such as security, trust, reliability, and ease of use.

Cards are the most popular payment instrument, but there are clear distinctions across age groups in preferred payment options (Figure 4). Across the population, card payments are the most frequently used payment instrument in the month prior to the survey. However, close to half of those under the age of 35 report mobile wallets as their main instrument (such as Apple Pay and Google Pay).¹⁶ This compares to a third of 35-50 year-olds and 12 percent of older adults. A quarter of older adults (above 50 years of age) report cash as their most frequently used instrument, with the figure in the overall population suggesting cash remains the main payment choice for one-in-five Irish adults despite the increasing digitalisation of the economy.

For peer-to-peer payments, transfers between digital bank accounts are by far the dominant payment option used in Ireland today. Around one-in-eight adults use cash most regularly for making person-to-person payments; compared to just over one-in-five using transfers across bank accounts. By far the dominant form of transfer, however, is between digital bank accounts, the preferred option for 3-in-5 respondents. This trend indicates the potential for new payments options to “unbundle” and disrupt core traditional banking

¹⁴ This work was undertaken following recommendations arising from the National Payments Strategy.

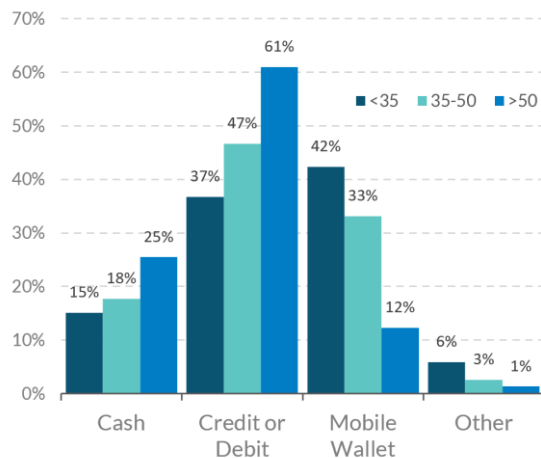
¹⁵ The sample was designed to be representative of the Irish adult population across key demographic dimensions including age, gender, location, and socioeconomic status.

¹⁶ For the purposes of this survey, mobile wallet payments are captured separately from traditional card payments, though mobile wallets are typically a digital representation of an underlying physical card.

services of payments with consequences for deposit-taking and lending services overtime. (Figure 5).

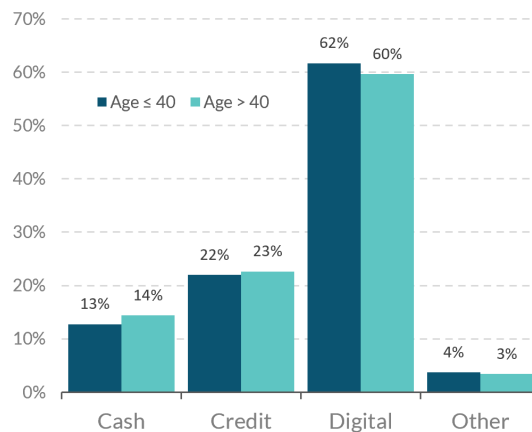
Cards are the most-frequently used payment instrument, while mobile wallets are most popular among *younger* respondents. For peer-to-peer payments, digital banks are the dominant form for all ages.

Figure 4: Most-frequently used payment Instrument by age groups



Source: Central Bank of Ireland survey data (One Core survey partner, 2026). Question: "What method of payment have you used most often in the past month when paying for day-to-day living expenses (e.g., supermarkets, restaurants, lunches)?"

Figure 5: Most frequently used methods for peer-to-peer payments, by age group



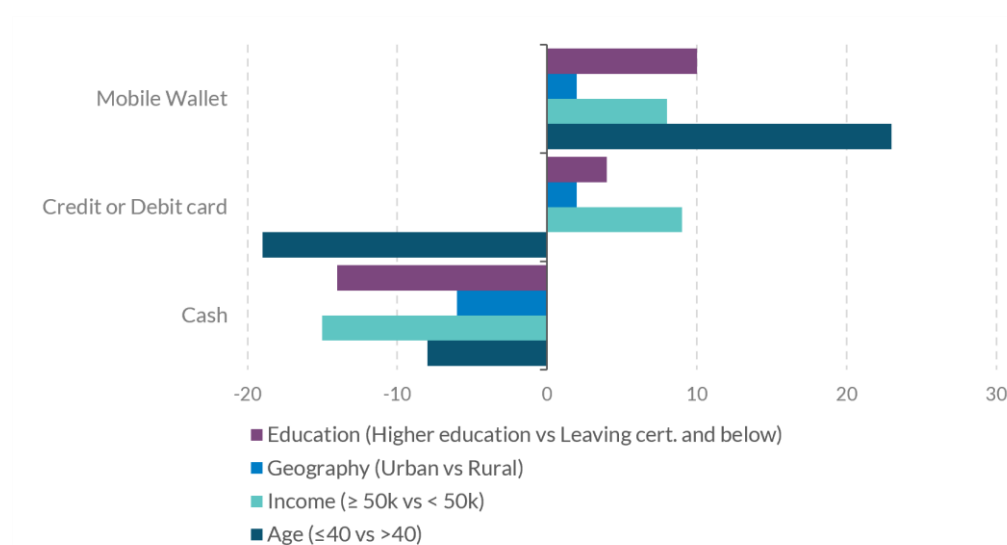
Source: Central Bank of Ireland survey data. Question: "What method of payments have you used most often in the past month when you have made a person-to-person payment where you pay or send money to family, friends or colleagues?". Note: "Credit" refers to credit transfer or instant payments (e.g. sending money from your account to another account, regardless of bank, via online banking). "Digital" refers to digital banks.

Different preferences are evident across socioeconomic groups

(Figure 6). A pattern emerges in the data, whereby the young, the more educated, the urban, and the higher income are more likely to use mobile wallets and less likely to use cash. They are also more likely to use cards, with the exception of the young, where mobile wallet usage dominates. While differences appear across each of the four demographic variables, the differences between young and old households are the most pronounced.

Mobile wallets are more likely to be used by the higher-educated, urban, higher income and young households.

Figure 6: Difference in pp of payment methods most used over the past month by sociodemographic group



Source: Authors' elaboration based on the Central Bank of Ireland survey data.

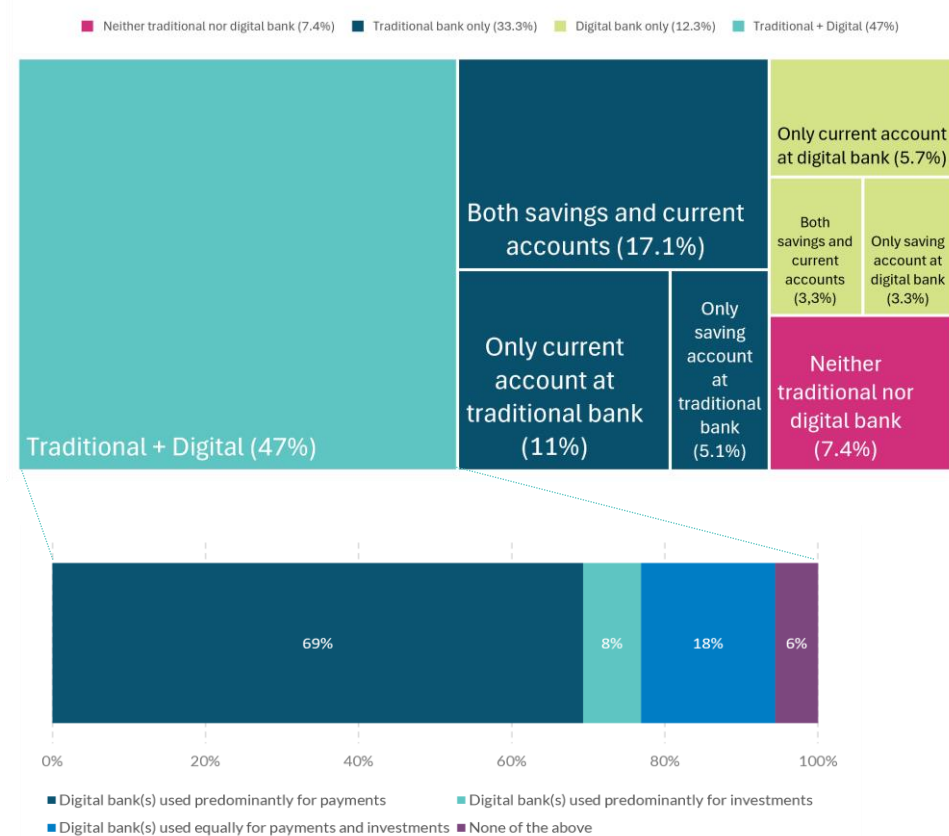
Question: "What method of payment have you used most often in the past month when paying for day-to-day living expenses (e.g., supermarkets, restaurants, lunches)?"

Note: "Urban" includes city and suburban area (i.e. a mixed-use or residential urban area not in a city).

Irish households are using a diverse combination of deposit and saving accounts across traditional and digital banks. Close to half of respondents report using both a traditional and a digital bank, while almost a third report only using a traditional bank. Within the group that use both digital and traditional banks, further survey questions show that the majority are using digital banks only for payments, although a significant minority report using the digital bank either mostly for investments or equally for payment and investment (Figure 7). It remains to be seen whether digital banks can widen their customer offerings building on the payments relationship that has now been well established. An important cohort from the perspective of financial inclusion are the 7 per cent reporting using neither type of financial institution. The tendency to bank only with a traditional bank is substantially higher among older respondents (Figure 8).

Half of respondents report having accounts at both types of bank, while a **third** continue to bank only with a traditional retail bank. Where households use digital and traditional banks, the former is mostly used for **payments**.

Figure 7: Breakdown of banking relationships with digital and traditional institutions

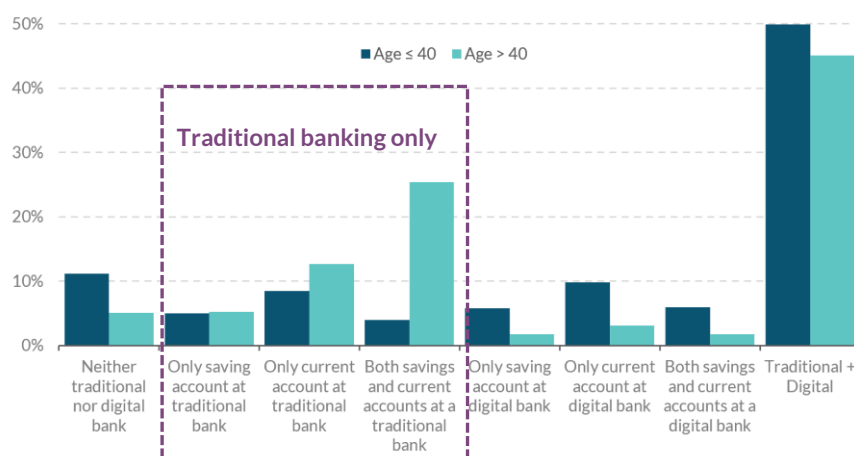


Source: Authors' elaboration based on the Central Bank of Ireland survey data.

Questions: (i) "Which, if any, of the following accounts and products do you currently have, either in your own name or jointly with someone else?"

The older cohort of respondents more often use traditional banking only while the younger cohort skew towards digital banks.

Figure 8: Breakdown of accounts and products by age cohorts



Source: Authors' elaboration based on the Central Bank of Ireland survey data.

Questions: (i) "Which, if any, of the following accounts and products do you currently have, either in your own name or jointly with someone else?" (ii) "Which of the following best describes how you bank?"

Box C: The Central Bank of Ireland's approach to combatting financial frauds and scams

Despite many benefits, one consequence of the growing adoption of digital consumer financial products is the rising risk of fraud.

The findings of Section 3 confirm the significance of these risks for consumers' adoption of payment instruments: issues of security, reliability, trust and fraud prevention rank highest among survey respondents, and are considered more important to consumers than speed, convenience or financial benefits.

According to the [OECD](#), financial scams and frauds are the top risk facing financial consumers around the world. Beyond the significant financial and emotional harm to consumers falling victim, financial scams and frauds also threaten to erode public trust and confidence in the financial system and undermine gains from expanding access to financial services.

In Ireland, as with many other jurisdictions, financial scam and fraud risk has increased substantially in recent years with rapid advances in technology and digitalisation. Recent CSO statistics indicate that the reported incidence of fraud over a twelve-month window has increased from 4 to 11 per cent between 2019 and 2025, and that fraud is now the most commonly-experienced form of personal crime in Ireland. [Central Bank Payment Fraud Statistics](#) show that, during 2025, Irish-resident Payment Service Providers recorded €179 million in fraudulent payments, an increase of approximately 27% on the previous year. The fraud rate has remained low and stable, corresponding to approximately 1 in 10,000 payment transactions. But, in light of the growth in payment volumes, the nominal value of fraudulent payments increased by approximately 27% on the previous year.

The actual incidence of fraud is likely much higher than that reported in official statistics. As evidenced by related research published by the Central Bank, the true scale of the problem is likely to be significantly under-reported (Us-Salam et al., [2026](#)). The research showed that 38% of fraud victims never reported their experience to their financial service provider or to a relevant authority, affecting their ability to recover their money. In its latest report on fraud threat, [Interpol states that](#): "With increased global criminal collaboration, fraud is no longer a peripheral threat, it is at

the centre of polycriminality, intersecting with organised crime, human trafficking and cybercrime.”

Combatting fraud will require a multi-agency, cross-border approach. As fraud is often a cross-border crime – and a whole-of-system issue involving not only financial services but other areas of the economy such as technology companies and utility providers – international and national cooperation between governments, law enforcement, regulatory bodies and the private sector is essential in combatting it. Additionally, as retrieval of stolen funds can be extremely challenging, preventative measures and awareness building are both critical to mitigate the risks.

Alongside other actors in the system, the Central Bank has a key role to play in addressing these issues and reducing fraud. This includes through supervision, requiring financial institutions to implement robust fraud detection and prevention controls and by guarding the regulatory perimeter against unauthorised providers of financial services, including financial frauds and scams. The Central Bank of Ireland was granted “Trusted Flagger” status by Coimisiún na Meán in April 2025. This accreditation strengthens our ability to protect consumers, and runs for an initial 3 year period. The Central Bank was the first entity to be granted Trusted Flagger status in Ireland, and the first in Europe to be appointed as a Trusted Flagger in respect of financial frauds and scams.

The Bank’s work on fraud can be broadly categorised under four headings:

- **Working with government, fellow regulatory bodies and law enforcement agencies** to combat financial crime and minimise the threat of frauds and scams, for example through membership of the National Cross-Sector Anti-Fraud Forum, established under the [National Payments Strategy](#) to drive a unified and proactive response to tackling fraud. The Bank receives and investigates reports of suspected instances of parties offering financial services/products without required authorisation – and publishes warning notices naming persons or firms who are providing financial services/products without authorisation.
- **Continuing to raise standards in the firms we regulate**, so they protect and support their customers, including when they fall victim to frauds and scams, for example through a strengthening

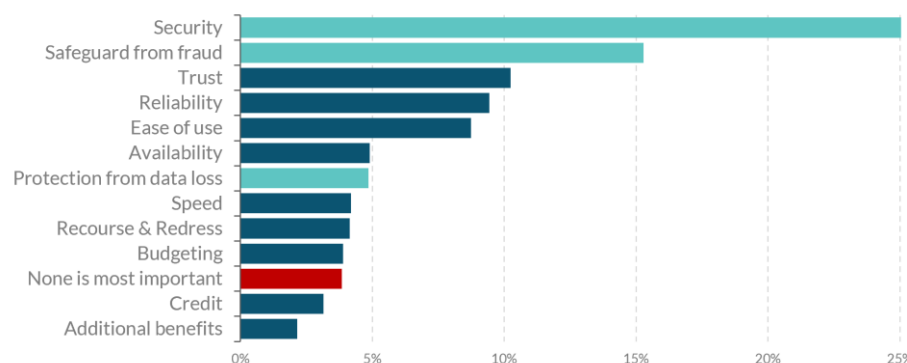
of the Consumer Protection Code to introduce enhanced fraud prevention and consumer protection obligations on firms.

- **Raising awareness of fraud risks and helping people recognise scams.** The Bank maintains registers of legitimate, authorised firms on our website where consumers can search for relevant details to make sure they are dealing with a bona fide firm. We also provide updates on new scam techniques and undertake public awareness campaigns, including promoting the SAFE test for consumers.
- **Supporting and helping to shape public policy, legislation and frameworks,** to keep pace with the policy implications of technology and the types of criminal behaviour to which consumers are exposed.

The most important features of payment instruments cited by survey respondents are security, fraud safeguards, trust, and reliability (Figure 9). By contrast, the ease of use, availability, and financial factors are less heavily cited. These findings suggest that, for new payment service providers to gain further foothold in payments and ultimately building their deposit-taking services, the trust of consumers in the resilience of their operations and safety of payment flows will be a crucial driver. Box C provides detail on recent developments in financial fraud in Ireland, and related Central Bank of Ireland policy priorities.

Security, fraud safeguards and trust in the delivery of payment are the most important factors Irish households cite when considering payment options.

Figure 9: Relative importance of different factors for households' payment preferences



Source: Authors' elaboration based on the Central Bank of Ireland survey data.

Questions: "When making a payment, which of the following factors are important to you?"

Note: Security relates to ensuring your money is safe and does not get lost, and that personal account details are kept secure. Additional benefits relate to reward schemes or loyalty programmes. Recourse and Redress relates to easily being able to raise a dispute or get a refund if something goes wrong. Trust relates to the trust that the payment will be made. Finally, reliability relates to ensuring the payment system works and money is transferred without problems.

Irish households report lower levels of trust in digital banks compared to traditional banks but a clear demographic divide emerges. Over half of households report some or high levels of trust in retail banks, compared to 34 per cent for digital banks. Younger respondents report having higher trust levels in all types of institution. However, particularly in the case of digital banks, the differences are notably large, with a 16 percentage point higher share of younger respondents reporting moderate to high trust levels (Figure 11). Given the importance of reliability, trust and security revealed in Figure 9, the evolution of these attitudes is likely to have great bearing on the future shape of the Irish monetary system.

More than half of adults report having trust in commercial banks, with this falling below 40 percent for digital banks. Relative trust levels are highest among younger adults for digital banks.

Figure 10: Relative trust in different institutions

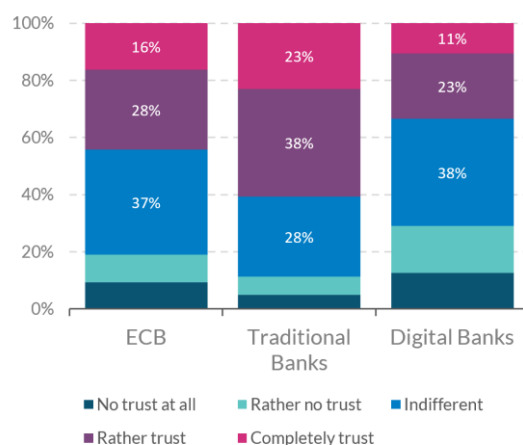
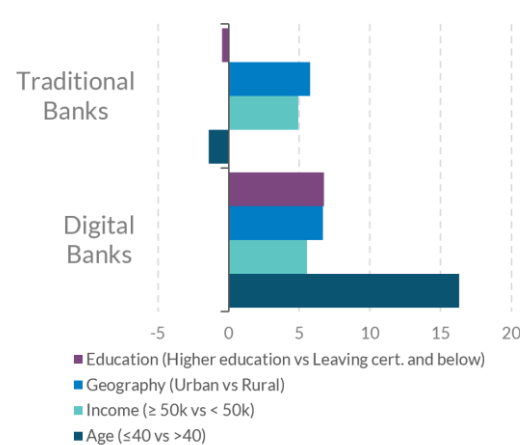


Figure 11: Difference in trust for digital and traditional banks by sociodemographic factors



Source: Authors' elaboration based on the Central Bank of Ireland survey data. Question: "On a scale of 1 to 5, 1 being 'No trust at all' and 5 'Complete trust', how much do you generally trust the following institutions".

4. The cost of payments in Ireland: the merchant perspective

The retail payments ecosystem comprises a network of stakeholders – including customers, merchants, payment service providers (PSP), payment system operators (public and private) and central banks – each of whom bears a share of the costs associated with processing transactions.¹⁷ PSPs (including issuers and acquirers) play a central role in payment intermediation, as it represents the core of their business model. While issuers bear some

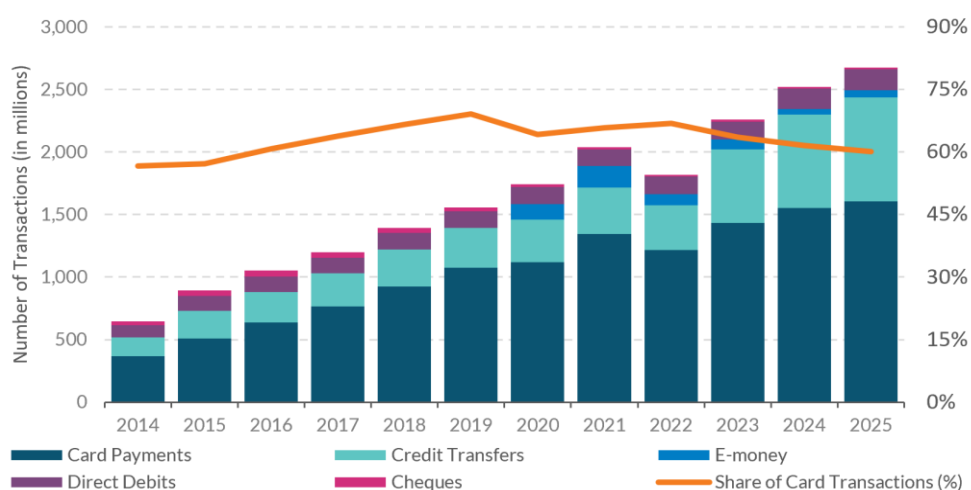
¹⁷ For a description of the Irish payments' ecosystem see Gallagher (2026).

of the highest costs of payment intermediation, they also earn income from it through different cost arrangements.¹⁸

From the merchant perspective, the primary cost component in retail digital payments is the merchant service charge (MSC). The MSC is paid by merchants to their acquiring PSP for processing card transactions. It consists of multiple fees, including the interchange fee, scheme fee, and acquirer fee.¹⁹ The provision of payment services is a valuable service which should not be expected to be provided at zero cost. Ensuring secure, efficient, and seamless transactions requires investment in technology, infrastructure, and compliance measures. Naturally, these costs are reflected in the fees charged within the payment ecosystem. As with all merchant costs, payment-related fees are ultimately passed on to customers, with the degree of pass-through depending on market conditions and market power.

Evolution in digital payment instruments in Ireland (2014-2025). **Card payments** represent **60%** of card total transactions in Ireland.

Figure 12: Evolution of number of transactions by payment instruments in Ireland



Source: Payments Statistics, Central Bank of Ireland.

During 2025, 2.7 billion domestic non-cash payments totalling €4.8 trillion were recorded in Ireland. A variety of payment instruments facilitate these transactions in the economy, including cards, credit

¹⁸ These cost arrangements reflect the instrument, form factor, initiation channel, authentication process, and intermediaries involved in the transaction.

¹⁹ In addition to processing transactions, schemes typically maintain a rulebook governing technical standardisation and dispute management. Acquiring services can include more than payment processing, extending to a broad range of support such as maintenance and upkeep of physical payment terminals or tills, and integrated software support for tipping, taxation, cashflow and supply chain management, transaction analysis, and anti-fraud provisions.

transfer, direct debits, and other emerging digital solutions, increasingly initiated through digital channels such as mobile apps, contactless NFC technology, QR codes, or application programming interfaces (APIs). Overall, card payments still dominate, accounting for 60% of all digital payment transactions in 2025 (Figure 12).

Previous international research suggests that, at a macroeconomic level, the cost of retail payments could range from 0.5 to 1.5 percent of countries' GDP. ECB research summarises research on the “social” and “private” costs of retail payments (Junius et al., [2022](#)) across nine European economies. Methodologies varied widely across the underlying studies, but the concept of costs typically includes both the resource costs incurred by payments system participants, as well as the fees charged to customers and merchants, while in some, the time needed to conclude the payment process or access services is also considered a cost.

Focussing solely on retailers' “private” costs for card payments, research from five European countries suggests their payment handling costs vary between €0.16 and €0.50 per transaction (Figure 13). There are many factors that can explain this range. Firstly, these studies were conducted at different points in time, with some now being more dated, while the costs are reported per *transaction* rather than per *euro transacted*, so are impacted by varying transaction sizes over countries and time. Secondly, there are several national factors that can influence variations in payment costs. For instance, the presence of regulatory fee caps can play a significant role in controlling transaction expenses. Additionally, the level of competition within the domestic market can have a substantial impact—particularly in countries where national payment systems or services are available, offering consumers and businesses more cost-effective alternatives to international providers. Of note, the costs borne by financial intermediaries are typically estimated to be similar to or slightly larger than those of merchants in these studies. Up to recently, no such estimates were available for Ireland.

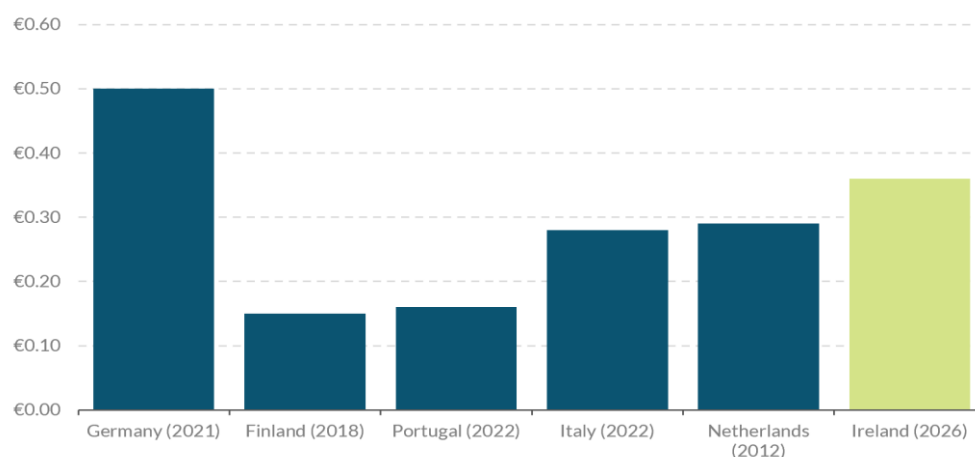
In response to the Government's 2024 [National Payments Strategy](#), the Central Bank conducted research on the comparative usage, efficiency, and costs of retail payment methods. The aim is to understand the challenges associated with the provision and acceptance/usage of various payment instruments. Greater

transparency around the individual components of payment-related costs to merchants could foster a deeper understanding of their role in shaping the efficiency of the retail payments ecosystem. Results from this research show that the cost per card transaction for Irish retailers is estimated to be €0.38, compared to the range of €0.16 and €0.50 per transaction in other countries where similar evidence exists, cited above (Figure 13).²⁰

Importantly, the research also highlights the heterogeneity in the cost of payments by firm size. Large firms (>250 employees) per transaction costs are considerably lower than per transaction costs for small firms, across all digital payment instruments (Figure 14).²¹ These patterns suggest important distributional consequences from the structure of the payments system, with payment fees potentially impacting lower-margin, more employment-intensive smaller businesses the most. The Competition and Consumer Protection Commission (2025) has indicated that weaker competitive intensity in the non-financial sector leads directly to higher costs, fewer consumer choices, less innovation and decreased economic dynamism in the Irish services sector.

Ireland is estimated to have a somewhat higher unit cost per card transaction than some other European countries, with the exception of Germany.

Figure 13: Unit cost per card transaction for merchants, cross country perspective



Source: Cost, Usage and Efficiency of Retail Payments Study (Central Bank of Ireland, forthcoming); CMSPI and Zephyre (2021); Sintonen and Takala (2022); Portugal (2022); Banca d'Italia (2022); and Jonker (2013).

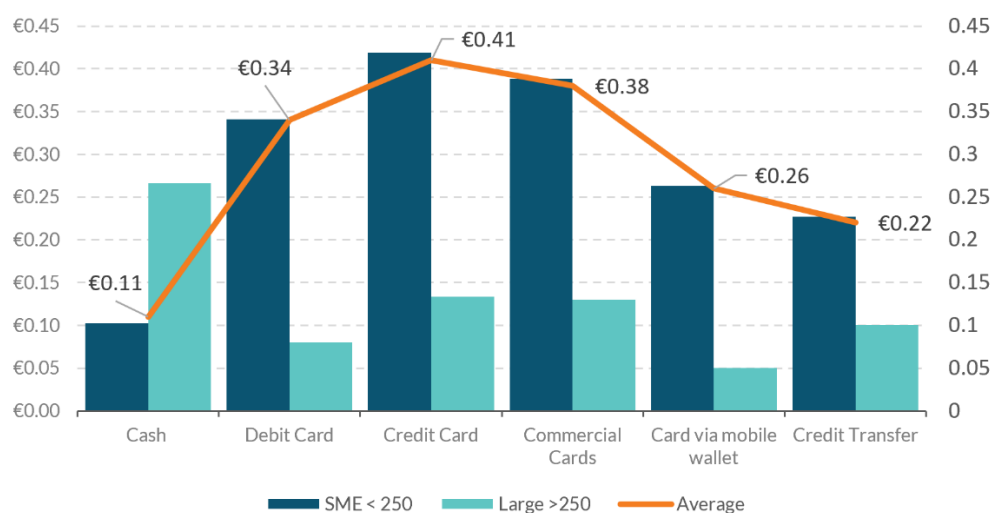
²⁰ Card costs are selected here for comparison, as data on their costs is more readily available, and they are the most widely accepted payment method in the domestic market.

²¹ While cash has a lower unit cost for small, rapid transactions, its total aggregate operational costs are significant due to its high physical volume and the heavy backend infrastructure required by larger retailers to count, secure, and settle it (ECB, 2012).

With new Central Bank of Ireland data, it is now possible to estimate the cost of handling payments for Irish merchants. In Table 13, the annual cost of taking payments to Irish merchants is estimated at approximately €1 billion euro, and a large proportion of this is to take card payments, with approximately 50 per cent of those also using a mobile wallet which add additional costs. These private merchant costs equate to 0.3 per cent of GNI* (close to estimates in other countries), or at least 1 per cent of underlying economic activity in the consumer-facing sectors of the economy.²²

Smaller merchants face higher unit cost per transaction than larger ones, except for cash.

Figure 14: Unit costs per transaction for small and large merchants by payment instrument



Source: Cost, Usage and Efficiency of Retail Payments Study (Central Bank of Ireland, forthcoming).

The estimated payment costs for merchant businesses are substantial when scaled against other business costs more prominent in public policy debates. While a normative assessment of the appropriate level of payment handling costs is beyond the scope of this work, one way to scale these costs is relative to other business costs, which take a much more prominent position in the public policy discourse. As an example, CSO data indicate that total energy bills of all Irish businesses (outside the electricity and transport sectors) were €5bn in 2021, before the 2022 energy price shock, and have risen to above €8bn since 2022; payment costs may

²² Gross Value Added data by NACE Rev 2 sector from CSO Table [CIRGDP04](#) were re-weighted based on the shares of consumer-facing sectors in the Central Bank merchant survey (dominated by hospitality, retail, and professional services), to construct an appropriate denominator against which to scale the estimated payment handling cost of €1bn.

therefore have equated to one fifth of the total energy bills of the Irish business economy in the pre-2022 era, falling to one eighth as energy prices rose following Russia's invasion of Ukraine.²³ At an international level, OECD data indicate that total corporate tax revenues are on average 4 per cent of GDP in member economies – scaled this way, at a quarter of a country's typical corporate tax take, the total estimated cost of handling payments in European economies of around 1 per cent of GDP is a far from negligible, yet much less discussed, cost of doing business (Junius et al, [2022](#)).

Table 13: Estimated merchants' cost of handling payments in Ireland

	Per transaction cost	Transaction volume	Cost to retailers
Cash	€0.11	1,244,412,033	€136,885,323.64
Card	€0.36	1,605,033,950	€577,812,222.00
Credit transfer	€0.22	831,776,423	€182,990,813.06
Direct Debit	€0.14	167,725,393	€23,481,555.02
			€921,169,913.72

Sources: Cost, Usage and Efficiency of Retail Payments Study (Central Bank of Ireland, forthcoming) for cost estimates in 2026; Payment Statistics (Central Bank of Ireland) for digital payment transaction volumes in 2026 (Note: Transaction volumes for card payments do not include non-resident payments in Ireland); ECB Economic Bulletin, Issue 6/2018 to estimate cash transaction volumes.

5. Implications for the wider macro-financial environment and policymaking

5.1 The two-tier monetary architecture

For centuries, the payment system has been structured around a **two-tier architecture**. Central banks issue public money (in the first tier) in the form of cash and reserves, which supports stability and trust in the monetary system. Commercial banks issue private money (in the second tier) in the form of deposits, which are widely used for retail payments, fully interoperable across banks, and can be converted into central bank money at par.²⁴ This framework has

²³ [Central Statistics Office, Business Energy Use 2023 Table 3B](#).

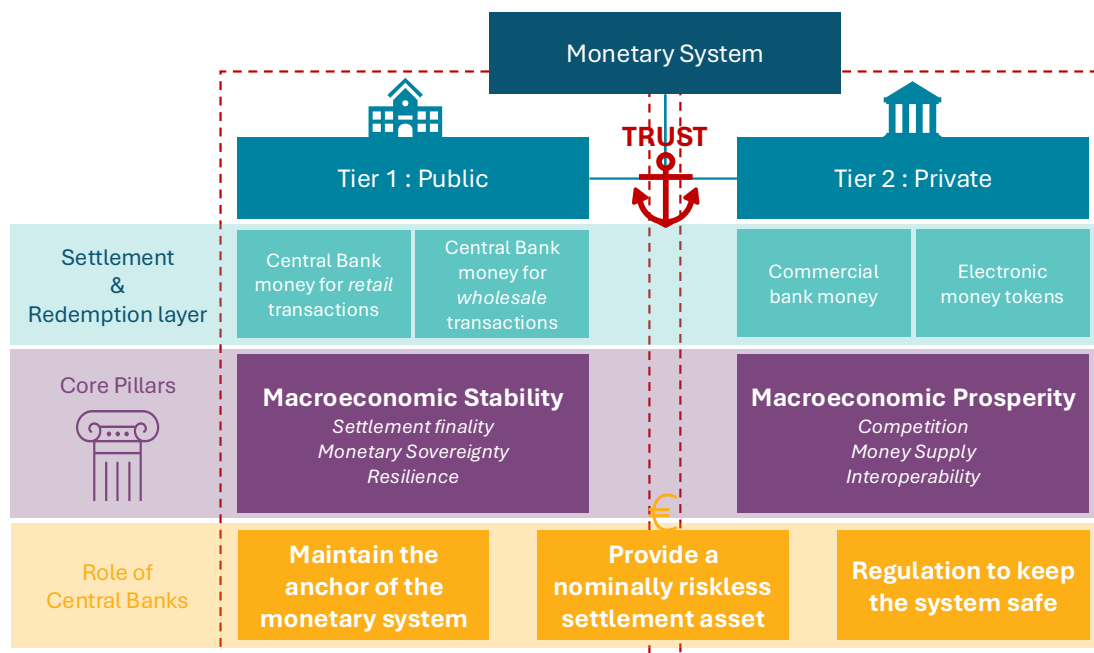
²⁴ See Makhoulouf ([2026](#)).

supported financial intermediation while relying on the central bank as the anchor of confidence (Figure 15).

Public and private money play mutually beneficial roles within the system. In the evolving payments landscape, new forms of public and private settlement assets are emerging, with the potential to affect the status quo. The challenge is to retain a balanced role for public and private money, each serving their distinctive roles. The monetary system of the future, therefore, need not be a departure from the existing pattern of complementary co-existence, but an expanded framework in which both established and new forms of payment instruments can settle, be redeemed, be interoperable and be trusted, amid new technology. In this way, the architecture of money may evolve, but its structural integrity and adherence to core underlying principles, should not.

The 2-tier monetary architecture and a taxonomy of the payments landscape

Figure 15



Source: Authors' illustration.

The anchoring role of public money

The state plays a critical role in establishing and maintaining the unit of account. Fundamentally, a shared unit of account enables all participants in an economy to "*speak the same language*" when it comes to pricing and valuing goods and services and facilitating economic transactions. Additionally, a widely accepted means of

payment *reduces transaction costs*, promoting trade and economic specialisation. Conversely, fragmentation or uncertainty around ultimate settlement can increase transaction costs, disrupt efficient market exchanges, and hinder economic coordination.

Public money is designated by governments as legal tender and issued by central banks. Public money exists in the form of cash and central bank reserves, the former visible and usable by the general public, the latter playing a crucial role in the wholesale financial system. There is some debate over the relative importance of these two forms of public money in anchoring the monetary system.

The critical role of public money in the form of central bank reserves in wholesale settlement is undisputed, ensuring that all private banks have a riskless money in which their interbank obligations can be settled. However, one view suggests that the anchoring role of public money does not require households to exchange deposits for cash on demand. In this argument, par is secured if the central bank converts reserves into cash with some participants and if banks trust each other to deliver reserves in settlement, so that interbank obligations clear at par and retail payments reference that par through commercial bank money (CPSS, [2003](#); Garratt and Shin, [2023](#)).

Others argue that public money, freely available to all citizens as cash, is also required to preserve trust in the entire monetary system, including as a form of “backstop” that provides a payment option that can complement commercial bank money. Literature suggests that, beyond the settlement role of public money in the form of reserves, a retail form of public money (cash and/or CBDC) may also be essential in giving agents the assurance that privately issued money is safe. The presence of retail public money can sustain confidence in commercial bank money for psychological as well as mechanical reasons; households value the option to convert into public money even if they seldom exercise it (Armelius et al., [2020](#)). Policymakers concerned that digital platforms and closed-loop systems could compromise the singleness of money argue that public money should remain present and freely available across the economy so that all private monies reference a common value (Brunnermeier and Landau, [2022](#); Lane [2025](#)).

It is difficult to imagine a stable monetary system underpinning economic prosperity in the absence of public money available to the public. Tier-1 public money enables the broad range public good objectives of the monetary system to be realised. Without public money playing an anchoring role, it is unlikely that a system of privately issued monies could deliver monetary sovereignty, systemic resilience, smooth market functioning, settlement finality and macroeconomic stability.

Innovation, growth and risk: the crucial role of privately provided monies

Privately issued monies are not legal tender, they are a liability of a private entity. The most common private monies are commercial bank deposits. They function effectively as a payment instrument from the end-users' perspective due to a broad tapestry of interventions (see Cecchetti et al., [2026](#)). These interventions, which give commercial banks a special privilege within the monetary system, include prudential regulation to ensure the financial and operational resilience of issuer banks; macroprudential policies to protect systemic financial stability; "lender of last resort" access to central bank balance sheets in times of liquidity stress; deposit guarantee schemes typically backed by national governments; and monetary policies to ensure the stable long-term value of money. These mechanisms remain in place to ensure and re-assure that deposits can be exchanged at par with public money or for goods and services, thus building on the foundations of Tier 1 public money. Without this broad public infrastructure, the payments system would risk destabilising disruptions arising because of breaks from par, creating coordination challenges and uncertainty that undermine the network externalities that are key to a successful money and payment system and, ultimately, economy.

Banks exercise the unique privilege within the economy of being able to create deposit money through lending. Through this privilege, banks are the primary provider of "*marginal euros*", responding to loan demand to create loans and corresponding deposits. Banks are therefore central to the promotion of long-term prosperity through their lending decisions, particularly in the euro area where capital market funding is less prevalent than in the US. However, this also brings with it a range of challenges and risks,

related to boom-bust cycles that can generate damaging crises that place an ongoing onus on the importance of micro- and macro-prudential regulation and supervision.

Because of banks' importance in shaping overall money supply, an impairment of their balance sheets can have damaging economic consequences in downturns and financial crises. During adverse shocks which impair bank balance sheets, banks' credit supply can retrench rapidly. During the Great Financial Crisis, banks' credit supply responses exacerbated the depth of the crisis and elongated the duration of the recovery in many economies. A core function of central banks is to counteract these pro-cyclical tendencies by deploying their toolkit such as interest rates, macroprudential policies, and if necessary, lender of last resort functions to provide liquidity to stabilise the banking system during crises.

Bank deposits currently represent 85 per cent of the money supply in the euro area (ECB, [2026](#)). The centrality of commercial banks in the money supply reflects their money-creating capacity and bolsters the rationale for robust regulation and supervision to secure the soundness and safety of these key money providers (BIS, [2026](#)).

Retail banking has evolved enormously in the last decade, in response to technological changes, shifting customer preferences, and the entry of digital-only competitors. As highlighted in last year's Financial Stability Review (CBI, [2025](#)), digitalisation has brought both opportunities and risks to the banking sector. The shift toward online and digital banking, including the entry of digital-only or "neobanks", as well as the digital transformation of incumbent banks, has the potential to fundamentally alter the value of banks' deposit franchises.

Banks' deposit-taking businesses may change fundamentally as customers move increasingly online. Digital banking enables customers to move funds instantaneously through mobile apps, eliminates the physical frictions that traditionally slowed deposit outflows, and increases depositors' sensitivity to interest rates (Koont et al., [2024](#)). This heightened rate sensitivity could compress interest margins and reduce the traditional deposit stickiness that has long provided banks with stable, low-cost funding. At the same time, the speed and ease of digital withdrawals can amplify stress dynamics. The March 2023 turmoil demonstrated how social media

and mobile banking can catalyse rapid deposit outflows at a pace unprecedented in the pre-digital era (Cookson et al., 2026). These structural changes have implications for banks' liquidity management and may need to be taken into account in liquidity stress testing and contingency funding plans. The potential for Agentic AI to be embedded in consumer financial management only enhances the potential risks of a more volatile funding base for banks in future.

Distributed ledger technology (DLT) has the potential to disrupt many aspects of finance – particularly in the areas of digital money and payments. These developments have created a payments landscape in which a broader set of assets can operate on platforms capable of executing transfers, enforcing conditions, and embedding rules. The potential for tokenised deposits and stablecoins to scale in both traditional and decentralised finance, and in both wholesale and retail use cases, is significant, and is partly reflected in Central Bank of Ireland research projects outlined in Box B. The rest of this chapter discusses the various aspects of financial policymaking that may need to adapt to respond to these changes.

5.2 Core principles to support monetary and financial stability

While new players, products and technologies will continue to emerge in the monetary and payments system, policymakers must focus on the underlying core principles that support monetary and financial stability – and, ultimately, trust in money. Public trust in money is at its highest when individuals and merchants can transact freely without consideration to the identity or balance sheet health of the underlying issuer of the money being used. Regardless of the technology facilitating the transaction or the nature of the issuer, this core principle must underpin the entire policy approach to supporting the payments system.

Solid foundations: The evolution of public money

Public money must continue to play an anchoring role, and will remain key to macroeconomic stability. By facilitating riskless settlement, enabling effective policy implementation, and addressing market failures, public money is at the heart of a sustainable and prosperous modern economy. Public money also plays a key role in ensuring that the monetary system is truly inclusive.

Public money needs to remain the ultimate settlement asset for wholesale transactions. Public money should provide a way to settle payments definitively and irrevocably. This means that once a transaction is completed, it is final and cannot be undone, with consumers and merchants having never to consider counterparty risk between payment system participants. Finality is critical for maintaining trust in the payment system, as it ensures that obligations are discharged with certainty. Therefore, the most important structural priority is to preserve central bank money in Tier 1 as the default *settlement* anchor in an increasingly digitised financial system. This settlement objective must keep pace with technological developments in the private sector. Looking ahead, as payment innovations gather pace, if central bank money cannot interface effectively with distributed ledger platforms, market participants may logically come to rely on private on-chain settlement assets that could exist uniquely in Tier 2. Timing is critical because, once a particular settlement instrument becomes embedded, network effects reinforce its dominance, making subsequent rebalancing towards Tier 1 of the system likely to become more difficult.

Monetary sovereignty must be maintained as payments become more globalised. Geopolitical tensions are heightening awareness of the importance of monetary sovereignty for Europe. The importance of monetary sovereignty, and the need to have open and interoperable payment rails to ensure the payment system can perform effectively and efficiency for the functioning of the economy is ever more pressing. Brunnermeier ([2026](#)) has argued that there are three types of sovereignties connected to digital money: monetary, digital and financial. In Brunnermeier's formulation, monetary sovereignty is maintained when a central bank can influence the macroeconomy through its own currency; digital sovereignty relates to cybersecurity risks and the ability to operate, systems that's enable the movement of money; and financial sovereignty is demonstrated by the ability of firms and households to access credit on domestically governed platforms.

The core payments infrastructure must be resilient to operational and technological disruptions. The payments ecosystem should be capable of withstanding both operational and technological threats, enabling a European payments system that supports Europe's

strategic autonomy. Both cash and the digital euro can play a crucial role in ensuring that citizens feel their privacy is being respected, while acting as the ultimate offline backstop in cases of system outages due to operational issues related to energy disruption, climate events or cyber threats. Beyond this, technological advancements such as artificial intelligence and quantum computing expose cyber resilience and payments security to further threats.

Innovative yet resilient: the future of private money

A monetary system that provides seamless payments, adequate liquidity and funding for productive investment, through good times and bad, is essential for long-term prosperity. Money must be flexible and adaptable to meet the changing needs of the economy. The system must be able to expand or contract the supply of money to support economic activity and financial stability, in evolving technological forms.

The future monetary system must be responsive to credit demand, capable of facilitating a sustainable supply of credit to the real economy. As new players offering payments and money services emerge, with differing balance sheet profiles, inside and outside the banking sector, it is crucial that the long-term financing needs of the real economy continue to be met. The European economy is currently facing multi-trillion-euro financing needs to ensure its long-term competitiveness in the global economy, as outlined by the [Draghi](#) and [Letta](#) reports. The unique ability of the banking sector to credit new deposit money through lending, expanding the aggregate money supply in response to credit demand, will remain an essential component of the monetary system, even in the presence of a broadening range of non-bank sources of finance.

Consumers and the wider economy are best served by a monetary system in which competition can spur innovation freely but safely. Competition in financial services can provide lower prices and fees, increase the quantity and variety of credit products, deliver better interest rates on savings, better user experiences, and the choice of faster and more reliable services. It is therefore critical that policymakers strike a balance between the freedom of the financial sector to innovate, enter, and introduce new products and services, and the underlying need for public trust in the system to be maintained. Public policy can foster innovation and competition in

the financial sector while remaining vigilant to trade-offs and risks. In order to scale, private solutions need digital rails that are interoperable, scalable and globally credible. Central banks and regulators can provide infrastructure and set the standards that can then serve as a foundation for the private sector to interface with customers, innovate, compete to win business and, ultimately, meet the evolving financial needs of households and firms. In this way, the private sector is supported by the anchor of public money.

The payments ecosystem must be truly interoperable to serve the economy. The global payment infrastructure remains fragmented, which brings costs when platforms cannot interoperate seamlessly (Duffie, [2026](#)). This fragmentation can create inefficiencies, increase costs, and complicate the user experience for consumers, businesses, and financial institutions. Payment systems often lack interoperability across providers, countries, or regions. New innovations could also be prone to operating in “walled gardens” further contributing to fragmentation. There is a role for public policy to address market failures which could persist as a structural feature without intervention and encourage interoperability. For the private sector, prioritising collaboration, interoperability, and innovation can create a more seamless, inclusive, and efficient global payments ecosystem. Not only would this reduce costs and inefficiencies, but it would also unlock new opportunities for global commerce, financial inclusion, and customer satisfaction.

5.3 Policy issues and recent developments

The digitalisation and tokenisation of payments touch on all aspects of monetary and financial policymaking. Authorities globally are responding rapidly to developments, introducing new regulatory frameworks for entities issuing or providing custody services for stablecoins and other on-chain assets, while debates are ongoing as to how monetary policy, financial stability, banking supervision and regulation, may need to evolve as the payments landscape shifts further. Many of these policy responses will dictate the shape of the future monetary system.

Central banks, regulators and governments must safeguard trust in money and ensure that the payment system operates in the best interest of the public. This requires providing consumers and businesses with a range of safe, efficient and interoperable payment

options that adhere to the core principles listed in Subsection 5.2. To frame the discussion moving forward, this policy discussion highlights recent developments and ongoing debates in three broad competencies of central banks and regulators: (i) monetary infrastructure and operations; (ii) regulating to ensure the safety and soundness of money issuers; (iii) fostering safe innovation.

Monetary infrastructure and operations

To maintain the anchoring role of public money, central banks must adapt monetary infrastructure in light of developments in the private sector. For wholesale settlement, the ECB is modernising its infrastructure to enable settlement in tokenised central bank money. The initiative follows a two-track approach: the first track “*Pontes*” provides a short-term offering to the market – including a pilot phase – and the second track “*Appia*” focuses on a potential long-term solution. *Pontes* will offer a Eurosystem DLT-based solution, linking DLT platforms and TARGET Services to settle transactions. The Eurosystem plans to launch a pilot for *Pontes* by the end of the third quarter of 2026. *Appia* focuses on an innovative and integrated ecosystem in Europe that also facilitates safe and efficient operations at the global level. As the only settlement asset that is perfectly liquid and credit-risk free (at least in nominal terms), settlement in central bank money will remain essential regardless of technological developments; the ECB’s initiatives aim to ensure that central bank money will remain at the core of the future monetary system.

The digital euro represents an ambitious step towards ensuring the inclusive availability of retail public money for the digital age. As retail payments become increasingly digital, a digital euro would ensure that central bank money remains universally accessible for Europeans’ everyday transactions, not just in physical form, but also digitally. Moreover, it would guarantee that citizens can pay in any circumstances, including offline, anywhere in the euro area. It will also provide a feasible outside option that can constrain market power that may persist, or emerge, among private digital payment offerings.

Regulating to ensure the safety and soundness of all money issuers

Payment innovation has introduced a set of new challenges for regulators and supervisors. *Inter alia* these relate to funding volatility, operational reliability, jurisdictional sovereignty and consumer protection issues such as fraud. Consequently, authorities on both sides of the Atlantic are designing emerging regulatory frameworks (around stablecoins), while existing frameworks may require adaptations (such as banking regulation).

The traditional banking model may itself be more volatile in the digital age, even absent any challenges from stablecoins. The March 2023 banking crisis in the US, exemplified by the rapid failure of Silicon Valley Bank (SVB), provides a case study, although it is uncertain at this juncture whether the average bank will ever face such rapid deposit outflows with such immense impact. Nevertheless, the widespread adoption of mobile-based banking apps and financial management tools, as well as potential 24/7 availability of transfers and settlement, mean that regulatory, financial stability and crisis resolution policies may need to adapt to consider scenarios where failure-inducing deposit outflows happen in minutes, rather than days or weeks, even in the core of the traditional banking system.

Stablecoins are also likely to be more volatile than deposits, even if issued by banks. In cases where banks themselves issue stablecoins, these are also likely to be more prone to redemption than deposits, by programmable design and 24/7 availability, with implications for funding costs and potentially the capacity to create credit. Prudential liquidity requirements for stablecoins may also alter bank behaviour in uncertain ways, depending on whether stablecoin adoption and issuance occurs primarily through existing banks, or outside the banking sector.

In addition to the complexity induced by the speed of transactions, the global reach of stablecoins creates challenges for financial regulation, typically designed and implemented within jurisdictional boundaries. Digital offerings, particularly stablecoins, differ fundamentally from existing payment forms, in that they are inherently global in nature. Their bearer nature allows them to be transferred almost instantly in the secondary market across globally

distributed blockchain networks and swapped for different stablecoins or other assets on globally accessible on-chain protocols. Further challengers relate to Know Your Customer (KYC)/ Anti-Money Laundering (AML) controls, which have not typically been embedded in the peer-to-peer flows by which stablecoins are transferred. Regulatory reach into on- and off-ramping providers and the issuers themselves is complicated by the ease with which stablecoins can be issued globally, regardless of home jurisdiction.

The digitalisation of the system places heightened importance on operational resilience of all money issuers, given the elevated risks of fraud, crime, system outages, and cyber-attacks. Policy actions have focussed on strengthening issuers' ability to prevent, withstand, respond to and recover from operational disruptions. Measures include the introduction of requirements for firms to identify critical business services and outsourcing arrangements, the supporting technology, set impact tolerances, conduct scenario and resilience testing, whilst maintaining robust business continuity and disaster recovery arrangements. The EU's Digital Operational Resilience Act (DORA) introduced harmonised requirements for ICT risk management, major incident reporting, and resilience testing for individual firms.

Those challenges increase the importance of the resilience-enhancing functions of regulation more broadly. Banking supervisors have become increasingly alert to the potential for shifts in balance sheet profile, and the risk of deposit outflows, that may emerge both from increased digital banking activity and wider adoption of new payment methods including stablecoins.²⁵ In crisis episodes, the importance of access to liquidity backstops for regulated providers of money – whether through direct or indirect access to central bank facilities – will remain paramount to the smooth functioning of the system. In rare cases where money issuers fail, their customers must be assured that institutions are resolvable, and that the core economic functionality of payments will continue seamlessly. These principles may need to be applied to a widening set of entities as the composition of participants in the payments and money landscape changes and broadens.

²⁵ See for example the [Single Supervisory Mechanism's \(SSM\) priorities for 2026-28](#)

In Europe, robust regulation is now in place to oversee the market for stablecoins. Regulation of new on-chain instruments is rapidly maturing, with relatively prescriptive and comprehensive frameworks– notably with MiCAR in Europe and the Guiding and Establishing National Innovation for US Stablecoins (GENIUS) Act in the US. MiCAR explicitly enshrines the financial resilience of regulated entities through a set of own-funds capital requirements, in the spirit of banking regulation. It also embeds, through its design, a degree of interconnectedness between stablecoins and commercial banks through a requirement that 30 percent of stablecoin issuer backing assets must be in the form of commercial bank deposits, with this rising to 60 per cent for “significant” issuers. This type of interconnection raised challenges in the US for USDC issuer Circle during the SVB crisis in 2023, highlighting that there can be unintended consequences of this requirement to back stablecoin reserves with bank deposits. This design also implies that in the event of a systemic run on a large stablecoin issuer, there would be a corresponding funding shock to client banks of the issuer (ESRB, [2025](#)).

The US approach involves less direct interconnection between banks and stablecoin issuers. By contrast, stablecoins regulated under the GENIUS act can be fully backed by high-quality liquid assets and do not require any backing assets in the form of deposits at commercial banks, while proposals in the UK also permit a broad range of liquid assets and reserves to back a stablecoin, with much smaller bank deposit requirements than MiCAR. On either side of the Atlantic, remuneration, or the payment of yield, is explicitly forbidden. In the US, however, there remains some uncertainty as to how certain “reward” structures may be treated, with the potential outcome of yield being paid in hidden ways that are less connected to monetary policy and money market rates than yield on banks’ term deposits.

The precise evolution of private money in the future remains uncertain, but with important macro-financial implications. A system where digital money is primarily issued through tokenised deposits of commercial banks is favoured by many. Arguments in favour of this approach include the established reputations, compliance and Know-Your-Customer functions, access to safety nets and full prudential and regulatory oversight of the commercial

banks that would be at the heart of a system of tokenised deposits (see for example Cecchetti and Schoenholz, [2025](#)). The Bank for International Settlement indicates a similar stance, as outlined at the 2026 Jackson Hole Symposium: “*tokenised deposits offer a more direct path to harness tokenisation while preserving the monetary system’s foundations ... (and) should carry the bulk of day-to-day payments and wholesale settlement, within prudential perimeters and with settlement in central bank money*” (Hernandez de Cos, [2026](#)). Alternatively, there are advocates for a strategy that takes the growth of stablecoins as a given, with policy seeking to ensure that euro-denominated coins can compete with dollar-denominated coins in the European system (Reichlin, [2026](#)) and reducing interconnectedness with the banking sector.

Regardless of the issuer, a safe and efficient monetary system requires interoperability across platforms. The risk of payments systems that are ring-fenced within “*walled gardens*”, with poor transactability to other platforms and infrastructures, is a core topic for monetary authorities in developing a future monetary system that works in the best interest of consumers and the wider economy. The risks of weak interoperability apply not only to stablecoins, but even potentially to tokenised deposits, and will require policy action in either case to eliminate the risks of harmful fragmentation, something that recent ECB infrastructure initiatives explicitly aim to address.

Macroprudential regulation may also need to adapt to the prospect of systemic stablecoin issuers being large enough to propagate stress through core bond markets. As macroprudential regulations and supervision increasingly focus on non-bank intermediaries, stablecoin issuers represent a new source of risk. Due to the nature of their backing assets, the two largest issuers now hold material quantities of US government bonds. Were this to expand further and broaden in scope to other jurisdictions, macroprudential authorities may need to grapple with the possibility that a stablecoin issuer, if under redemption stress, could engage in fire sales that cause cascades and amplification in the core of the financial system through the sale of sovereign bonds. Indeed, even at current scale, research confirms that stablecoin redemption events can have a direct effect on US short-term government bond yields, with stronger effects in times of stress (Ahmed and Aldosoro, [2026](#)). This

potential channel only bolsters the importance of intrusive regulation and supervision of large stablecoin issuers, to minimise the risk of such redemption shocks amplifying in sovereign markets.

Understanding and safely enabling monetary innovation

Central banks (and other public authorities) need to have a proactive and collaborative approach to engagement. This is important to develop an understanding of the capability of innovative payments solutions, while ensuring a robust, well-functioning payments system in line with public policy objectives.

With the combination of different settlement assets, institutions and infrastructures – trust, macroeconomic stability and economic growth can accompany innovation. The euro's advantage is that it is backed by credible institutions, a strong regulatory framework, and a large economy. The Eurosystem has recognised that the development of EU-governed, euro-denominated, properly-designed and regulated stablecoin initiatives (i.e., that comply with MiCAR and have also addressed AML/CFT issues) that are interoperable with other payment systems and other stablecoin arrangements are to be welcomed. However, the FSB's thematic peer review on crypto-assets, published in October 2025, revealed that the global regulatory framework and related implementation remain fragmented, coupled with inconsistent and insufficient cross-border cooperation and coordination. The Eurosystem has expressed concerns about the possibility of arbitrage and fragmentation arising from differences in regulatory frameworks around the world.

It is likely that these novel technologies may also suffer from traditional risks (and perhaps in less well understood forms). These include liquidity mismatch, excessive leverage, spillovers, asset quality issues, and operational fragilities. The unusually rapid pace of innovation in these areas, and the novelty of much of the technologies involved, means that as the payments system evolves so too must our understanding of risk and when and where to find it.

Novel technologies bring with them further uncertainties and risks that need to be considered carefully. Blockchain-based settlement is fundamentally different to solutions that preceded it. Uncertainties remain about the scalability of on-chain solutions, the energy-related costs, the reliance on concentrated sets of validators on the chain, and many other technological features. As on-chain digital assets

take a more central role in the core of the monetary system, authorities must gain more certainty as to the operational resilience and reliability of these technologies.

Conclusions for Ireland

Within the Irish economy and financial system, there is scope for responsible, safe innovation in the payments system to bring substantial economic gains. Ireland is a very open economy and home to a large, globalised financial and payments system. The country also has among the youngest, most highly educated, and digitally-active populations in Europe. Amid these conditions, there is potential for innovative payments products, services provided and adopted in Ireland, and for spillover benefits to occur within the Irish economy. Such developments are particularly important in light of the growing need for Europe to strengthen productivity growth, and for the European economy to have native, autonomous aspects to its payments system in the face of growing geopolitical fragmentation. The Central Bank of Ireland's policy priorities are to ensure that such innovation is conducted with the right safeguards in place. As a critical piece of infrastructure underlying our entire economy, the operational and financial resilience of the payments system cannot be compromised.

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