Deutsche Bank
Research

The Future of Payments: Series 2

Part I. Post Covid-19: What Executives Are Thinking and Doing

#PositiveImpact

Marion Laboure, Ph.D.
Research Analyst
+44-207-545-0679

Jim Reid
Strategist
+44-20-754-72943

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Summary on a Page

In January 2020, we released our consumer survey titled The Future of Payments (Part I, Part II, and Part III). Today, we release the results of our proprietary survey of more than two hundred executives (CFOs, treasurers) across Europe, and release our forecast of trends in cash management, digitalisation, mobile payments, cryptocurrencies, and blockchain.

Covid-19 disruption to business has reshuffled priorities for CFOs and treasurers. They must address how to: maintain access to liquidity /credit; implement back-up procedures; create visibility to total cash in global locations; determine cash requirements in the short and medium term; and assess current exposures.

Transforming business models is a key theme emerging from our survey of more than two hundred CFOs, with four discernible trends:

1. Traditional B2B businesses entering B2C and a growing interest in e-commerce. E-commerce has risen by 50% in Europe since March and we expect sustained online volume growth of more than 50% globally in 2021 and 2022. This will trigger the need for innovative collections solutions.
2. A move toward real-time treasuries. CFOs are willing to monitor and be notified about real-time account balances. They believe that instant payments, application programming interfaces (APIs), and open banking will be the technologies/services with the biggest impact on B2B payments over the next two or three years.
3. Usage of cash applications. Automated accounting and reconciliations systems, and e-invoicing technologies are expected to increase.
4. Centralisation of cash management. Treasurers are willing to rationalise bank accounts; between 20% and 50% of treasurers intend to implement virtual accounts this year.

Top challenges

- Fraud/security exposure related to payment activity
- Errors and time spent on manual payments
- Bank KYC/documentation or other compliance issues
- Obtaining timely access to all transactions occurring globally
- Keeping up with technology changes
- Inefficiencies created by legacy payment solutions

Sources of efficiency gains

- Cashflow forecasting
- Bank account management
- Invoice processing
- Payment initiation, receipts, and reconciliation
- Order processing purchases
- Management analysis
- Fraud/security management

Authors
Marion Laboure, Ph.D. | marion.laboure@db.com
Jim Reid | jim.reid@db.com

Our Favorite CFOs Quotes Selected From 200+ Interviews

Blockchain

"Blockchain is a very interesting technology but for now, I haven't seen yet any immediate nor very short-term application to treasury."

"We believe that blockchain will find applications for treasury and are ready to pilot and experiment on specific use cases."

Fraud / Cyber-security

"We are very aware of all the common benefits of virtual accounts; now, we actually see them as a powerful solution to fight fraud on bank accounts."

"Recent headlines show that no corporate can afford not to put cybersecurity at the very top of their priorities."

APIs

"APIs are great but banks need to align on a single format."

"Years ago, Swift was welcomed as the long awaited, bank-agnostic connectivity mode; the way APIs are deployed and offered should not constitute a step back nor add more complexity for treasury."

Real time

"We treasurers have the responsibility to follow the pace of regulatory changes and the entry of new players in the payment/treasury field."

"The pandemic has been a game changer in the way treasurers have approached real time."

"Never before had our very CEO been asking daily for the group's global cash position…"

Cash

"Petty cash is our nightmare."

"Cash is not in our corporate policy anymore; now, we still have resisting pockets of petty cash here and there, and are looking at any way to get rid of it, i.e., to find a suitable collection mode that would replace it."

RTP

"The challenge of RTP for us has been to integrate this new payment mode into our treasury processes."

"We see RTP as the most cost efficient way to support a marginal shift of part of our business towards B2C: If only we could afford to offer it as sole payment mean!"

"Everybody today has a bank account, so working on the right customer journey for RTP is critical so that it gets broadly adopted – This would enable us to save a lot of money!"

Virtual accounts

"Virtual accounts could enable us to extensively broaden the reach of our in-house bank."

Machine learning

"We believe that machine learning could further help prevent fraud when it comes to transactions."

Cheques

"Cheques – oh wait, and cash! – are our nightmare."

Automation

"Process and automation have become the gatekeepers of human errors and fraud."

Payment Gateway Providers

"As business is launching a market place, we treasurers are struggling to find a single, global payment gateway provider."

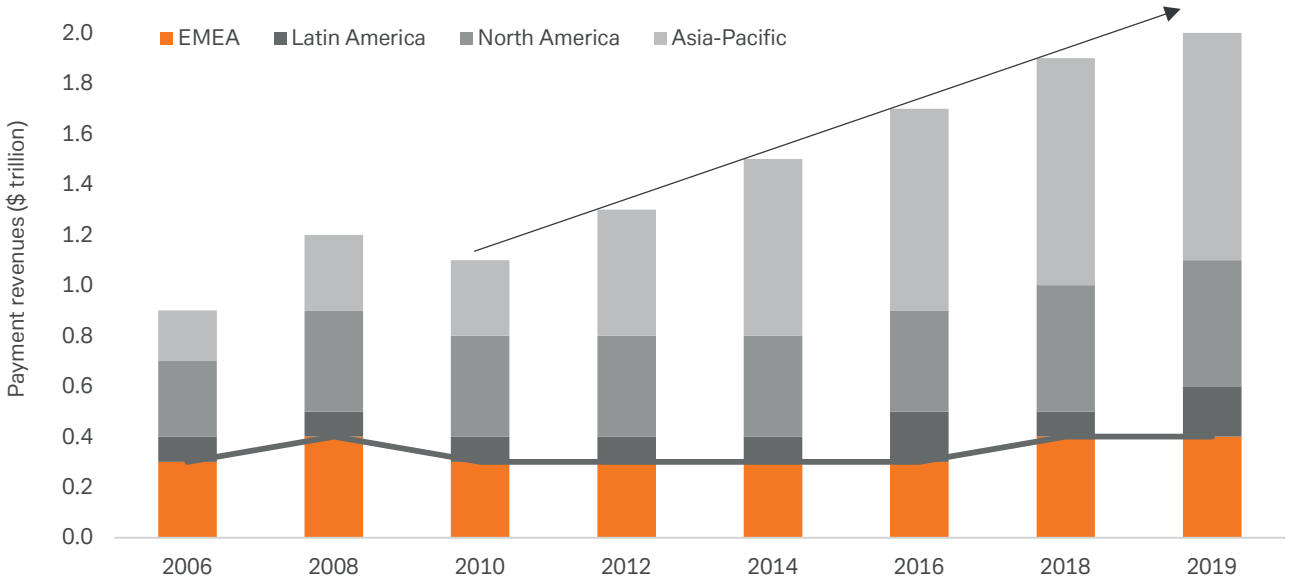
Fintechs

"We believe that banks, fintechs and all the players in the payment and treasury eco-system need to find the right partnerships in order to build a safe and extensive offering to corporates."

Introduction

The digital payment revolution is rooted in the 2008 global financial crisis. Growth in digital payments has been phenomenal. Global payments revenues have nearly doubled in the last ten years to almost $2 trillion. Unsurprisingly, the Asia-Pacific region, due to its market size and mass adoption of new technologies, represents nearly half of worldwide payments revenues. By comparison, the EMEA region "only" represents €0.4 trillion.

Global payments revenue ($ trillion)



Source: McKinsey Global Payments Map

In January 2020, we released our consumer survey titled The Future of Payments (Part I, Part II, and Part III). Today, we release the results of our proprietary survey of more than two hundred executives (CFOs, treasurers) across Europe, and release our forecast of trends in cash management, digitalisation, mobile payments, cryptocurrencies, and blockchain.

In this paper, we focus on European B2B companies and their payment needs. The satisfaction of current CFOs and treasurers is at a low of 50%, and B2B innovations and implementations are lagging the B2C efforts. We explore avenues to better use technology to reduce the complexity of B2B payments.

This paper will examine the past, present and future of the payments industry. The implications for customers and businesses are important, and the potential macro and geopolitical consequences are profound.

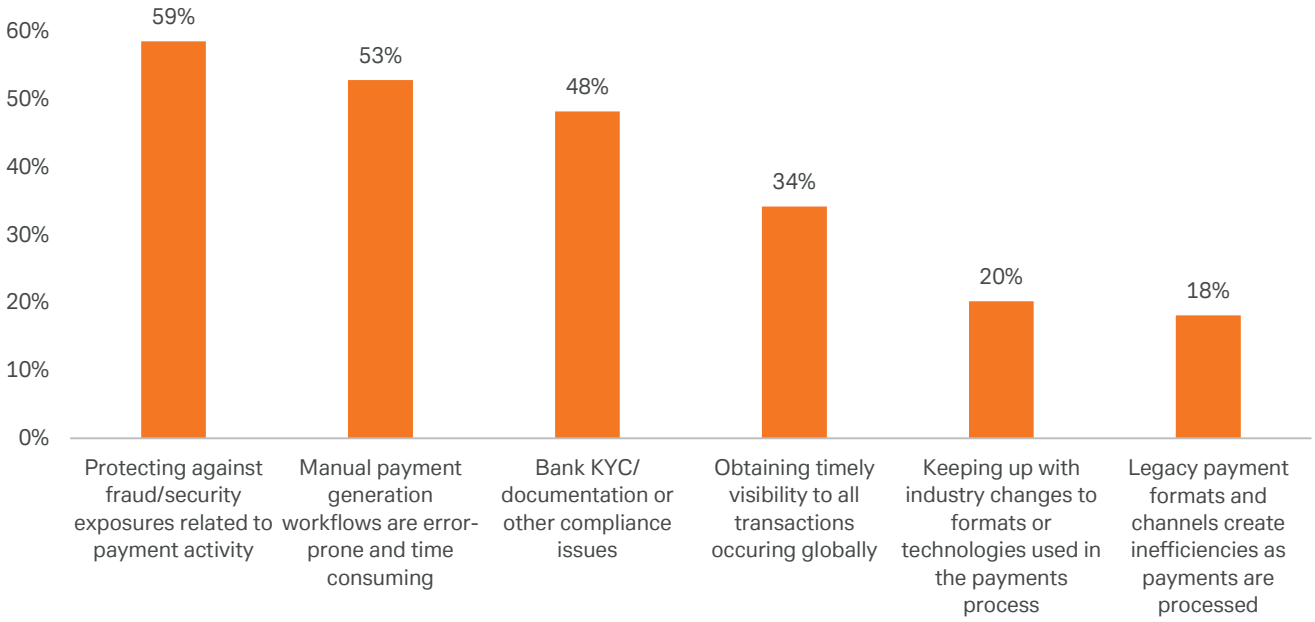
1. The Technology Agenda of CFOs and Treasurers

Technologies are available to help overcome the top challenges and inefficient processes faced by treasury departments regarding B2B payments.

In our survey, CFOs and treasurers reported the following top challenges:

- Protecting against fraud/security exposure related to payment activity. Globally, business email scams have resulted in losses of over $12.5 billion since 2013.[1] Global losses from all kinds of payment frauds have tripled to $32.39 billion in 2020 from $9.84 billion in 2011.[2] For example, EssilorLuxottica discovered a EUR 190 million fraud last year at its Thai plant.
- Reducing time spent on errors in current manual payments. In the UK on average, executives are misdirecting payments worth £3 million each year and a staggering £40 billion is paid late. Regarding cross-border B2B payments, 60% require some kind of manual intervention, each taking at least fifteen to twenty minutes.[3]
- Managing bank KYC/documentation or other compliance issues. Automation of KYC processes using artificial intelligence reduced over "6000 manual resources" (full-time positions) in a single organisation.[4]
- Obtaining timely access to all transactions occurring globally. Almost 54% of treasurers believe that one of the pressing issues in cross-border payments is to trace payments in the case of problems.[5]
- Keeping up with technology changes. According to Google, just during this pandemic, the number of phishing sites registered was 2.02 million (20% more than in full-year 2019).[6]
- Transitioning out of legacy payment solutions. Of the treasurers we surveyed, 51% encountered cheque forgery in 2018 with an actual loss rate of about 18%.[6]

Top challenges treasury departments currently face about B2B payments



Source: dbDIG Primary Research, Deutsche Bank

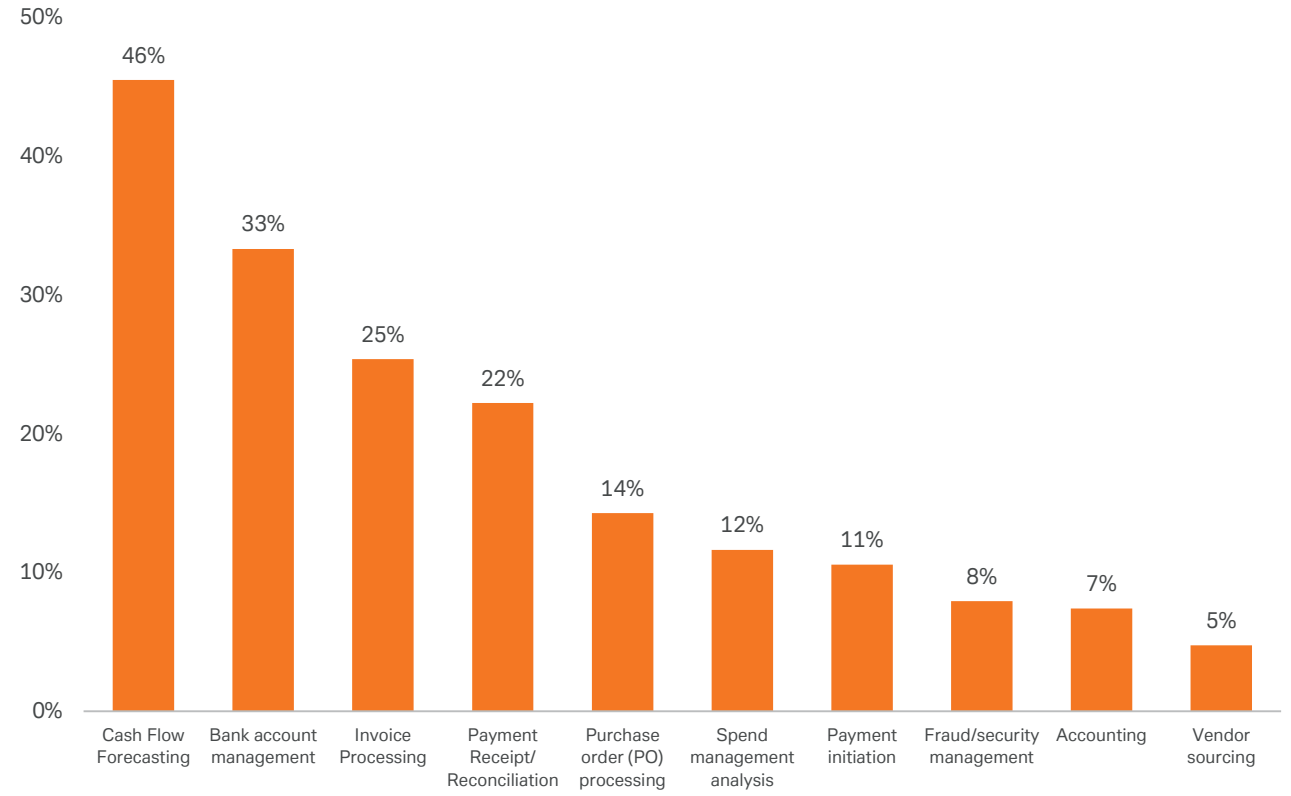
1 FBI Report: Global Business Email Compromise Losses Exceeded US$12 Billion in 2018
2 Global Payment Fraud Statistics, Trends & Forecasts (Source: www.merchantsavvy.co.uk)
3 Sir Jon Cunliffe, Cross-border payment systems have been neglected for too long
4 The true cost of KYC and how Authenteq lowers it (Source: www.authenteq.com)
5 The future of payments: a corporate treasury perspective, B2B Payments and Fintech Guide 2019; The complexity of B2B payments is holding back large organisations; Untapped Editorial Team, Solving the Problem of Late Payments: Automated Invoice Processing Is the Solution (Source: www.swift.com)
6 Simon Chandler, Google Registers Record Two Million Phishing Websites In 2020

The CFOs and treasurers we surveyed reported potential efficiency gains in the following sectors:

- Cashflow forecasting. While doing manual cashflow forecasting, firms generally make mistakes on small expenses, which ultimately adds up to large amounts, thereby rendering forecasts inaccurate.[7]
- Bank account management. Decentralised bank account management typically leads to uncontrolled inflation in the number of bank accounts, and powers that harm the overall control of treasury operations. Further, poor bank account management can open the door for fraudsters to open unofficial bank accounts. Meanwhile, bank guarantees also pose substantial financial risks as at times local management of big firms can request for local bank guarantees without proper central authorisation.[8]
- Invoice processing. Approving invoices and preparing payments manually can cost between $12 and $17 each.[9] Businesses spend on average thirty-nine hours per week chasing invoice exceptions, discrepancies, and errors. Traditionally invoice processing has been an internal function but now organisations are moving it to a managed service by outsourcing or are automating it in house to reduce human error.
- Payment receipts/reconciliation. Sometimes, manual processing of transactions may trigger errors (e.g. are forgotten). Consequently, it will never be added to the ledger. Such omissions can be difficult to detect. Also, manual reconciliation is prone to accidental errors, such as a debit being charged as a credit.[10]
- Purchase order processing. Treasurers waste 6,500 hours per year, on average, on inefficient payment practices (e.g. chasing purchase order numbers, processing paper invoices, and responding to supplier inquiries). These inefficiencies[11] cause "friction" in treasury/payment processes and supply chains.[12]
- Spend management analysis. Manual processing of expenses and/or vendor invoices is especially prone to human error. Paper receipts can easily get lost, and there could be a data entry error due to manual intervention. Among treasurers we surveyed, 81% admit to blindspots when it comes to tracking company travel, expenses, and invoices.[13] Many businesses use vendors or fintech software but face challenges in terms of nexting ERP systems. Implementation is costly for SMEs ranging from $10,000 to $ 500,000.[14]
- Payment initiation. Processing payments is time consuming and labour intensive. Invoices need to be received and entered into the system, then coded appropriately, then submitted for budget-holder approval, and finally entered into the ERP system for approval. Credit card details are a frequent focus of data breaches and a key risk for companies. Last year, British Airways was fined £183 million under the General Data Protection Regulation (GDPR) for a security incident exposing card numbers, expiry dates and Card Verification Value (CVV) codes.[15]
- Fraud/security management. Improper attention to fraud and security needs can lead to reputational and solvency issues.

7 Hilton-Baird, 9 reasons why your cash flow forecast is never accurate
8 Damien Chaminade, CFE, Poor bank account management yields fraud
9 Tim Wheatcroft, Why the Manual Invoice Processing Model Is Broken (And How to Fix It)
10 Jan Cahill, 5 Common Account Reconciliation Problems and How To Avoid Them
11 Increase in SCF programs have proved a solution to streamline P2P
12 John Simpson, Inefficient Purchase-to-Pay Processes Cost Businesses 6,500 Man-Hours Annually
13 Jillian Graff, What's Your Spend Management Costing You?
14 Chandler Hutchison, How Much Does an ERP implementation cost?
15 Leon Muis, Making the Case for Payment Initiation Services

Inefficient components of companies' financial operations



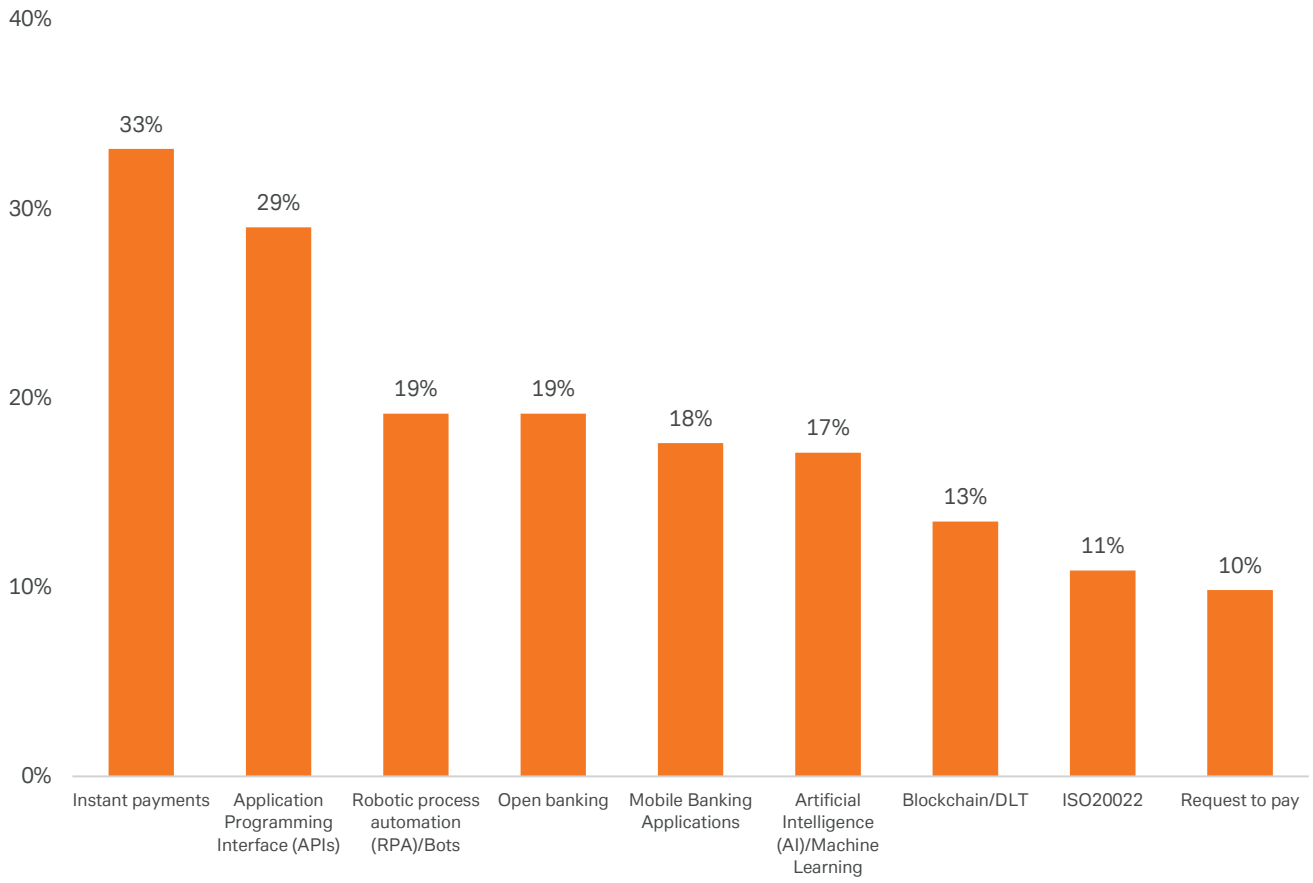
Source: dbDIG Primary Research, Deutsche Bank

CFOs identify four discernible trends in the transformation of business models:

1. Traditional B2B businesses entering B2C and a growing interest in e-commerce. E-commerce rose by 50% in Europe since March and we expect sustained online volume growth of more than 50% globally in 2021 and 2022. This will trigger needs for cutting edge collections solutions.
2. A move toward real-time treasury. Covid-19 has accelerated the delivery of bottom-up cash info to senior management, making real time the relevant factor. CFOs are willing to monitor real-time account balances and receive frequent notifications. They believe instant payments, application programming interfaces (APIs), and open banking will be the technologies and services with the biggest impact on B2B payments over the next two or three years.
3. Usage of cash applications. Automated accounting and reconciliations systems, and e-invoicing technologies are expected to increase. This is the opening to fintechs on top of banks' solutions in the PSD2 context. PSD3 to also come.
4. Centralisation of cash management. Centralisation spans from cash position visibility to cash concentration, at domestic/country level and at central/head office level. Centralisation of cash management goes with centralisation and alignment of processes, tools, and bank account openings. Treasurers are willing to rationalise bank accounts; between 20% and 50% of treasurers intend to implement virtual accounts this year.

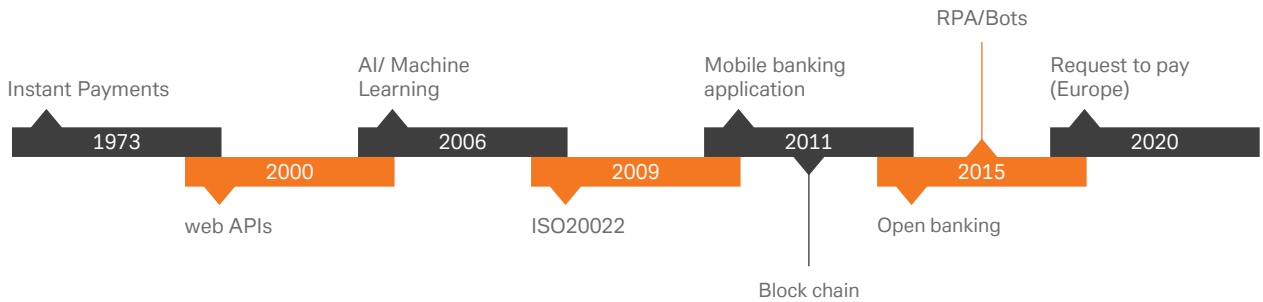
These four trends are reflected in the following figure. We surveyed European CFOs and treasurers and asked them which technologies and services they think will have the biggest impact on B2B payments over the next two or three years. Their ranking of technologies clearly aligns with their short-term priorities and their readiness for implementation.

Which of the following technologies/ services do you think will have the biggest impact on B2B payments over the next 2-3 years?



Source: dbDIG Primary Research, Deutsche Bank

Timeline of various technological advancements used in payments



Source: Deutsche Bank, Wikipedia, various websites

Next, we will look more closely at each of the trends outlined above.

Trend 1: Traditional B2B businesses are moving into the B2C market and there is a growing interest in e-commerce.

E-commerce has risen by 50% in Europe since March and we expect sustained online volume growth of more than 50% globally in 2021 and 2022. This will trigger the need for cutting edge collections solutions.

Even though business-to-business platforms have been around for two decades, online marketplaces have not yet made significant inroads to procurement departments. Concerns about scale, quality, reliability, rerouting and refunds have made leaders hesitant to change their longstanding reliance on dealing directly with suppliers.

There are four types of marketplaces:

- Product-focused marketplaces (e.g. Amazon Business and Alibaba): These focus on commodities, such as office surplus, but they can include maintenance, repair, and operation (MRO) providers.
- Time-and-materials marketplaces (e.g. SAP Fieldglass and Concur): These focus on freight services, travel services, IT and technology, temporary labour, and facilities management.
- Scope-of-work marketplaces (e.g. Globality and Field Engineer): These focus on marketing, telecoms, utilities, rent and real estate, insurance, and professional services (legal and consulting).
- Corporate-spinoff marketplaces (e.g. InnoCentive and Eli Lilly): These are captive platforms that large companies develop for their own supply networks.

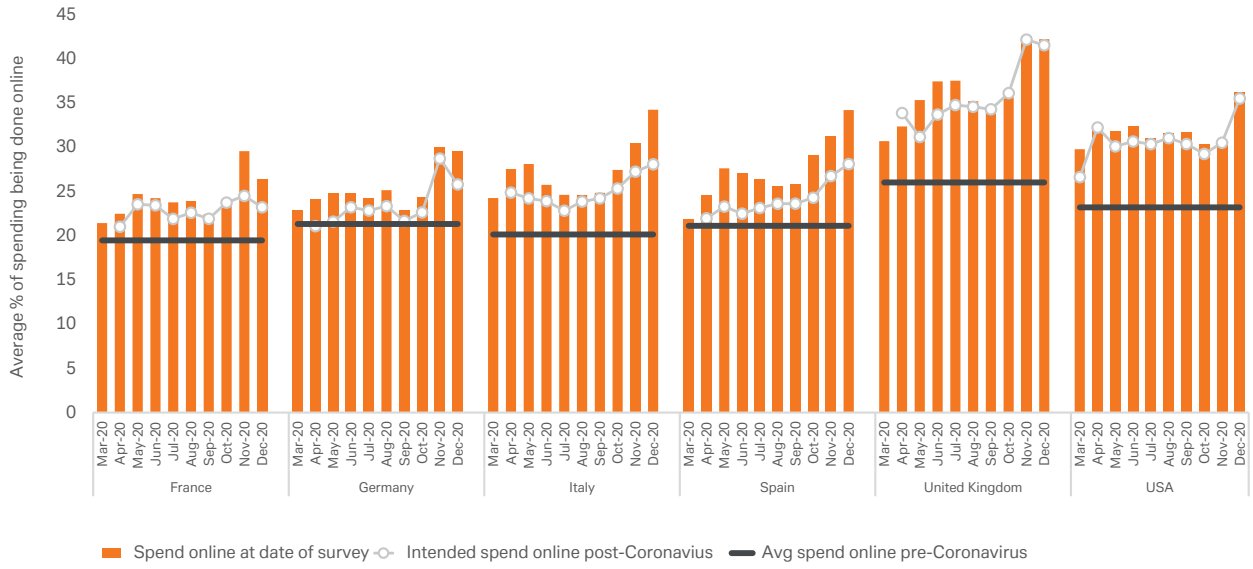
1.1 The rise of e-commerce

Among all B2B businesses, a third plan to sell online and another third are working on "some" implementation. Only 1% have not started to work on any e-commerce solution. The rise of e-commerce will continue to be fueled by traditional B2B business looking to disintermediate their wholesalers and to reach end consumers and customers directly. Selling directly to consumers accentuates the need for reconciliation and collection technologies that can handle large volumes of small payments (rather than larger B2B payments).

A notable phenomenon of the Covid-19 pandemic was the accelerated digitalisation of commerce, which implies future growth in the merchant payments market. That market appears to be large. For example, approximately 80% of small European retail businesses did not have any online shopping capabilities, and some did not even have a basic informative website.

According to our proprietary analysis in Western Europe (France, Spain, Italy, and Germany), consumers spent on average between 30% and 60% more on online retail at year-end 2020 compared to March. The biggest e-commerce sales are in the United Kingdom, with 42% of the population buying online, and in the US, where e-commerce rose to 36% in December.

Average percentage of spending being done online



Source: dbDIG Primary Research, Deutsche Bank

1.2 Data is the new gold: monetising data in a free payment world

In order to reach end customers, CFOs and treasurers have had to adjust and introduce new collection solutions, either payment solutions that are typically B2C, or ones among those that have emerged with evolving regulation incl PSD2 in Europe.

Most brands, retailers, and companies that sell directly to consumers have developed a mobile app, for a variety of reasons related to consumer engagement. 81% of the mobile device users generally search for the product or a service online while 26% of them search for the apps related to those specific products.[16] These mobile apps can include a loyalty card or a prepaid card that users can load with funds for spending at a physical store or online. This approach is popular with chain restaurants and coffee shops because users are confident that they will spend $15 to $25 each month. Businesses can also push in-app offers and promotions to maintain customers engaged, like flash sales for airline tickets or allowing users for extra air miles when they buy tickets through the airline specific app.

With all these new apps, data is easy to get but hard to analyse and monetise. Most CFOs and treasurers, rather, dream of having a large, solid partner who offers an easy-to-use plug-in data analytics solution. However, onboarding a fintech/start-up player is difficult and the relationship is not well balanced (with a lot to lose from the corporate side). Among corporations, 47% are struggling to analyse data and hope that fintech will offer new functionalities, and 38% believe that API development is crucial.

In the new direct-to-consumer era, data becomes part of the service and competitive advantage. Some companies have avidly used apps to track personal data (age, gender, address, weight, height, etc.) to provide better and more personalised advice. Some insurance corporations have directly partnered with credit card providers to provide enhanced insurance services in innovative ways.

Chinese citizens have particularly realised the importance of in-app payments. Of the Chinese people surveyed, 42% said that e-wallets are just a fad and that in-app payments will be more widely used in the future.

16 Ishan Gupta, 7 Reasons Why Your Business Needs a Mobile App

Companies that build apps or websites can take advantage of payment APIs from banks and vendors so that they can offer more options to consumers and seamlessly integrate apps with the means of payment. Some of these products, such as Appsflyer or Braze, can track user behaviour on a mobile device and offer targeted advertisements and discounts. Rewards and discounts can be managed through mobile apps, or through scannable mobile coupons, or via automated cash-back options.

Larger brands that have a strategic interest in selling direct to consumers must offer direct payments, to avoid relying on third parties. Mobile apps such as Apple Pay and Google Pay collect fees while gathering and analysing customer data. For this reason, companies often insource payment systems in a company app. Uber, Lyft, Starbucks, Tesco, and Walmart have made sure to safeguard customer relationships by offering loyalty programs, rewards, invitations, special discounts, and other benefits. As a result, we expect payment fees to soon approach zero—even as companies collect a record amount of data. Because data reveals customer patterns, it has become the new gold.

Factors explaining the importance of data and causing a pivot towards digitisation

Source: dbDIG Primary Research, Deutsche Bank

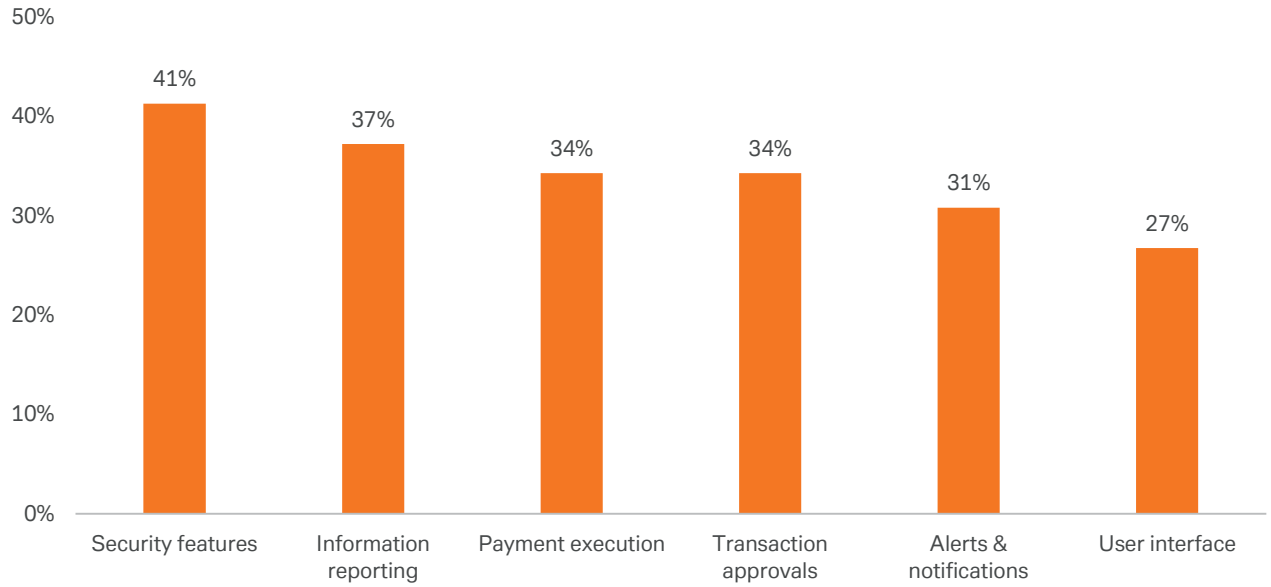
1.3 Mobile banking applications: coming soon

A fifth of CFOs and treasurers believe that mobile banking applications will have the biggest impact on B2B payments over the next two or three years.

However, only 7% and 9% of CFOs and treasurers (respectively) make and receive payments via a digital wallet. Overall, this represents 1% of current payments. That said, only a tenth think that digital wallets are just a fad; most CFOs and treasurers are convinced that usage of digital wallets will take off in the coming quarters.

Considering the existing technological and security capacities, mobile banking/electronic banking can take off without many new features. Some improvements are needed: two-fifths of executives believe that security and information reporting need to be improved and another third think that payment execution, transaction approvals, and alerts and notifications could be improved.

Features of B2B mobile applications/electronic banking in need of improvement



Source: dbDIG Primary Research, Deutsche Bank

Trend 2: the move toward real-time treasury

CFOs and treasurers are willing to monitor real-time account balances and receive frequent notifications. Amid Covid-19, top management need to be updated on their cash position 24/7 during the peak of the crisis, real time has become even more critical. They consider instant payments, application programming interfaces (APIs), and open banking the technologies and services with the biggest impact on B2B payments over the next two or three years.

2.1 Instant payments:[17] the beginning of a promising long road

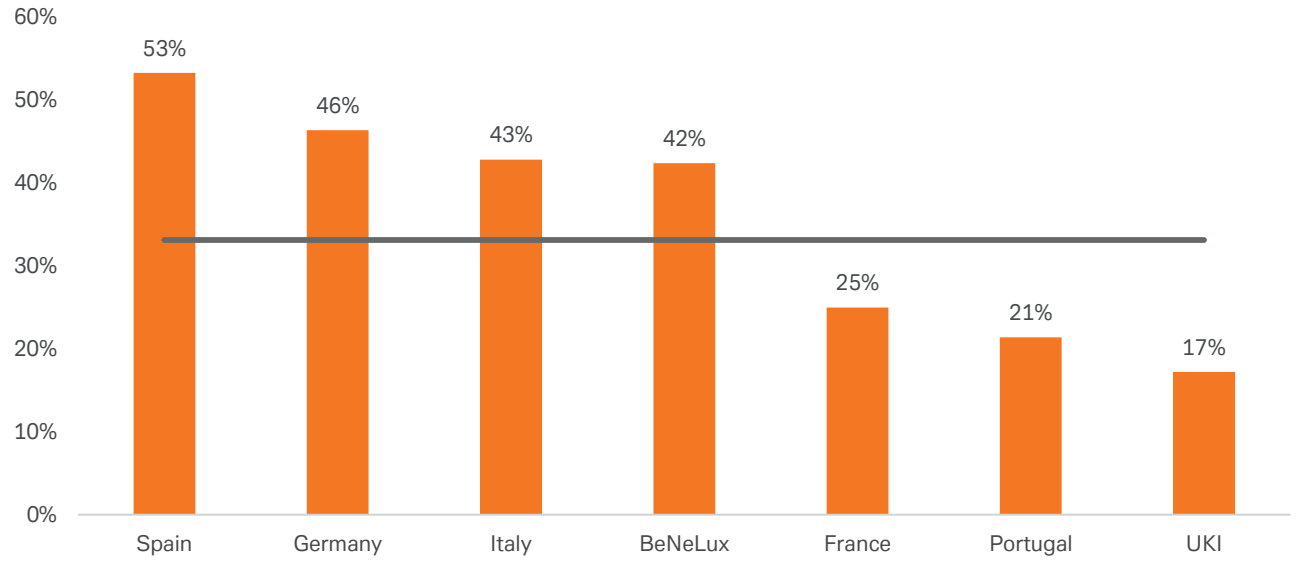
Instant payment technology can profoundly transform B2B treasury operations. This technology allows businesses to:

- Reduce working capital requirements, thereby freeing up cash for more beneficial deployment;
- Increase transparency on cash flows, which will help business to better tailor inventory volumes;
- Reduce counterparty credit risk significantly, thereby decreasing the need for risk profiling before onboarding new customers;
- Reduce complexity associated with traditional payment venues, such as cheques, cash, and letters of credit.

CFOs and treasurers surveyed think that instant payments will have the biggest impact, compared to other B2B payment technologies and services. This is especially true in Spain, Germany, Italy, and Benelux, where more than 40% of surveyed executives believe this. The UK is an exception because instant payments—known as the Faster Payments Service (FPS)—have been available since 2008. It is not surprising that few British CFOs and treasurers surveyed expect the technology to have a large impact over the next two or three years. Similarly, many countries are now adopting faster payments systems, which enable nearly instantaneous domestic electronic payments. The benefits of such an interface include: reducing the use of physical cash, which is labour intensive and subject to theft; and enabling faster circulation of cash, which supports domestic economic growth, particularly where working capital is scarce, such as SMEs. Hong Kong and Singapore have also developed such payment systems.

17 Instant payment is a method of exchanging money and processing payments, allowing for almost immediate transfer of money between bank accounts, instead of the more typical one to three business days.

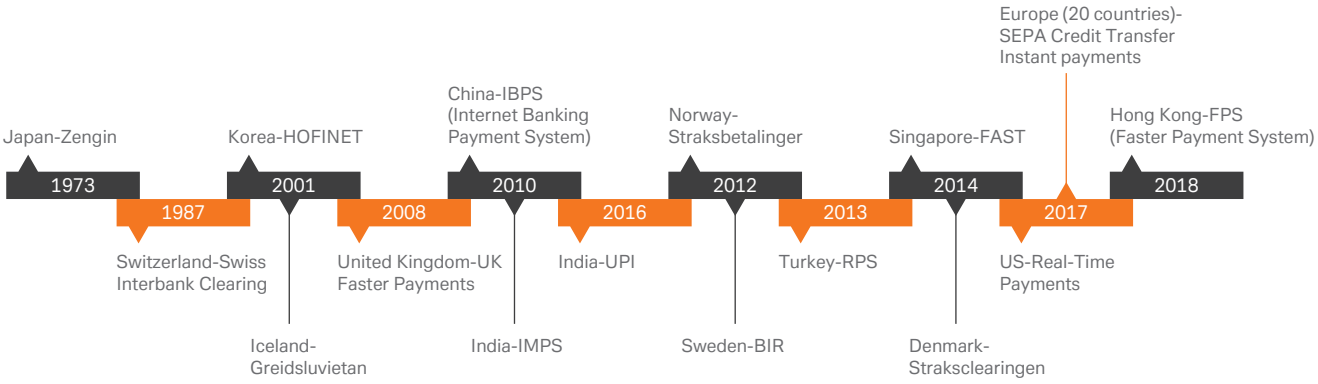
CFOs believe instant payments is the technology that will have the biggest impact on B2B payments over the next 2-3 years



Source: dbDIG Primary Research, Deutsche Bank

In the Eurozone, instant payments started to be used in 2017 and they should become mainstream by the end of 2021. A third of executives surveyed believe that instant payment technology will have the biggest impact on B2B payments over the next two or three years. Instant payment services are also taking off in major economies, such as in Australia, Japan, and the US; thus, we can expect instant payments to become the norm for domestic B2B and retail payments within two years.

Timeline of instant payments introduced in various countries



Source: Deutsche Bank, various websites

Instant cross-border payments for businesses are also on track to become mainstream in the medium term. One of the biggest developments for that will occur as major market infrastructures adopt a common messaging approach, called ISO 20022. Major markets include the Eurosystem, the Bank of England, the Clearing House and Federal Reserve in the US, Payments Canada, Japan, Singapore, Hong Kong, and Australia.

Europe is leading the way. The Eurosystem has set a date of November 2021 to migrate its RTGS system, TARGET2. This will simplify compliance requirements and will lead to faster and more efficient cross-border payments for businesses. SWIFT has also announced the migration of cross-border payments to ISO 20022 over a four-year period, beginning in November 2021. A standardised global approach will lower the implementation cost for the industry as a whole and, in turn, help even small businesses adopt these payment systems.

2.2 APIs: crucial for treasurers

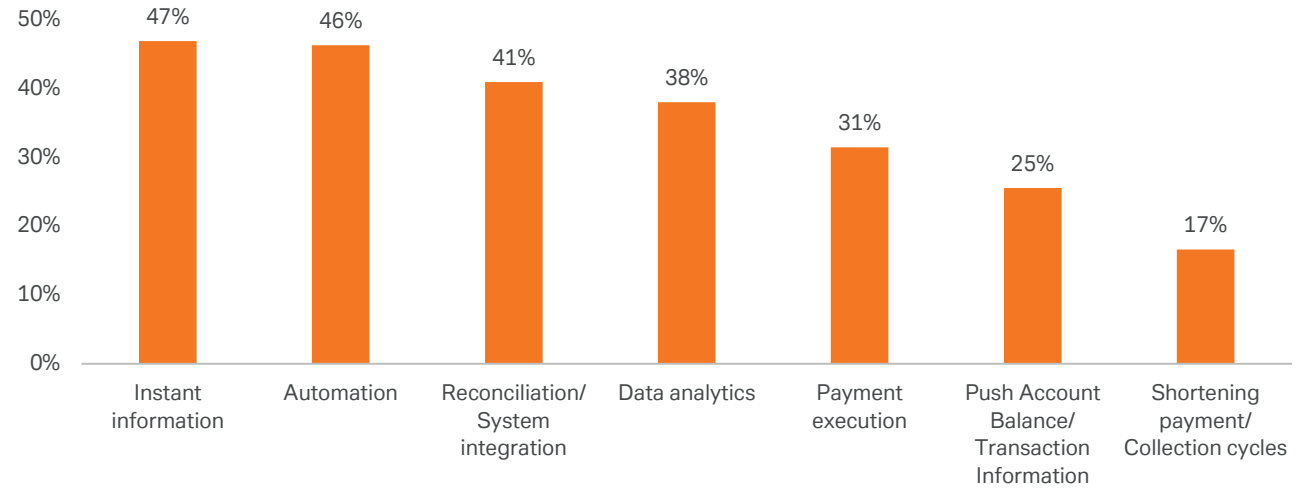
Slightly less than a third of CFOs and treasurers believe that the biggest impact on B2B payments will come from Application Programming Interfaces (APIs). APIs are a computing interface that define interactions between multiple software intermediaries and their developments can help to overcome the following challenges and inefficiencies.

- Optimising payments by reducing working capital requirements. Globally, companies could release more than $1 trillion[18] from balance sheets by optimally managing their working capital. APIs can play a role in optimising at least three functions.
  - Receivables: tracking and prioritising customers that pay on time while automating processes for invoicing and collections, thereby reducing disputes
  - Payables: reducing duplicate payments, rationalising supplier payment terms, and ensuring contract compliance by flagging payments as they reach their due dates
  - Inventory: increasing on-time orders with more thorough sales planning by using AI-based demand forecasting techniques and order-backlog analysis
- Managing cash sources. Identifying how available liquidity can be utilised more beneficially, such as when a meaningful early payment discount is offered by a supplier
- Increased adoption of APIs will help to develop more robust Artificial Intelligence programmes. Utilising business insights to better understand short-term cash-flow issues and long-term financial health. AI based API can be used to analyse customers' behaviour, which can help predict payment delays and optimise cash recovery. For example, the Google Prediction API provides access to cloud-based machine learning capabilities, including natural language processing, recommendation engine, pattern recognition, and prediction. Developers can use this API to build AI enabled applications capable of performing sentiment analysis, spam detection, document classification, purchase prediction, and more.

APIs can also include services such as logistics, customs, regulatory and tax filing; therefore, they potentially provide a one-stop shop for purchasing decisions, payments, trade finance, and business services. CFOs and treasurers believe that development of APIs is crucial for instant information (47%), automation (46%), reconciliation and system integration (41%), data analytics (38%), and payment execution (31%).

18 Trentmann and Minaya, CFOs Face a Tough Task: Freeing Cash Trapped on Their Balance Sheets

Which of the following areas do you think API development is crucial for?



Source: dbDIG Primary Research, Deutsche Bank

Trend 3: usage of cash applications

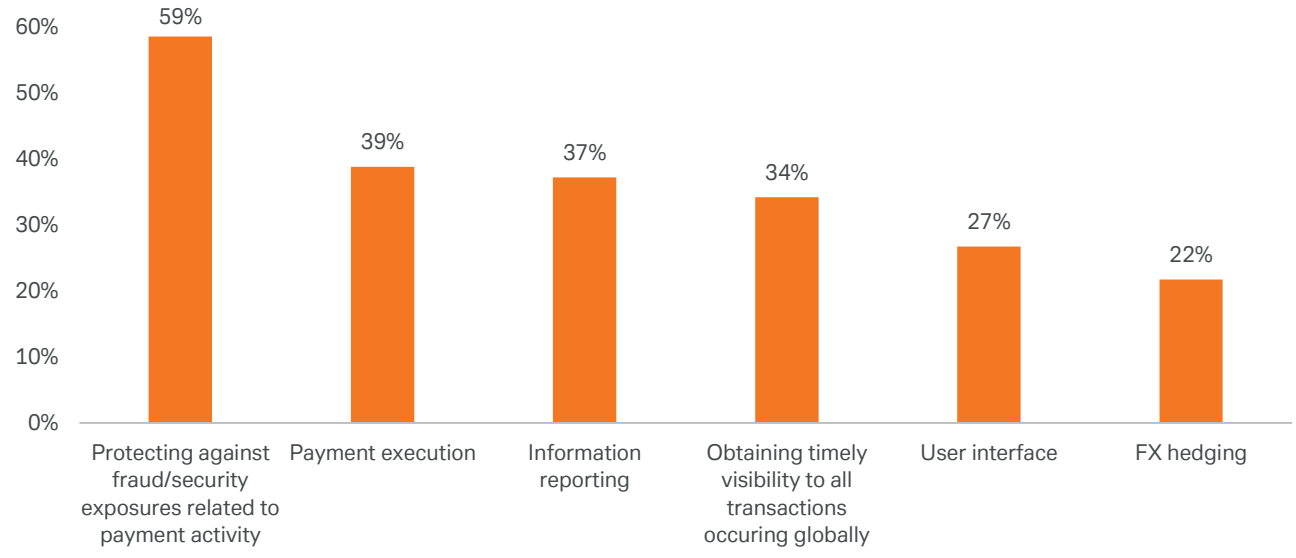
Cash applications include automated accounting, reconciliation, and e-invoicing.

Digitisation of B2B payments offers a remarkable opportunity for optimisation. The transition of payments from cheques (or cash) to wire transfers provides a far better tracking method. When trust is strong between supplier and consumer, then a direct debit arrangement is even better.

Indeed, digitising payments is the first step toward automation. Billing software is already widespread, but when combined with direct debit (or at least wire transfers), it allows companies to track and automate the entire back office. The software can automatically process direct debits, track on-time (or late) payments, automatically remind customers to pay, and confirm that payments were made.

Automation of back office payments processes has a triple advantage: it reduces costs; it reduces complexity and coordination, which also lowers costs; and it saves time, thereby helping staff to focus on managing working capital and investments.

Factors pushing businesses towards cash applications



Source: dbDIG Primary Research, Deutsche Bank

How government regulation is helping a pivot towards digital payments

Many governments globally are moving towards e-invoicing to track and ensure indirect taxes and customs regulations, which in turn, is helping companies with reliable audits and payments. E-invoicing is also making tax administration easier. In 2019, Italy became the first country in Europe to make e-invoicing mandatory for all B2B and B2C transactions. Soon after, countries such as Cyprus and Croatia implemented similar governmental projects. The harmonised environment for e- invoicing across the EU has also led to increasing supplier competitiveness. Further regulatory changes, such as PSD2, have enabled challenger banks like Fidor, N26, Revolut, and Starling to offer better digital services to business customers by way of quick digital onboarding with user-friendly customer interfaces, online/in-app commercial cards, and account management features. Various regulators have established "sandboxes" (isolated testing environments) to develop new disruptive technologies. This approach cultivates the accelerated innovation of cash and trade integration. Governments have also been active with initiatives that support the same goals, such as Singapore's Networked Trade Platform.

Trend 4: centralisation of cash management

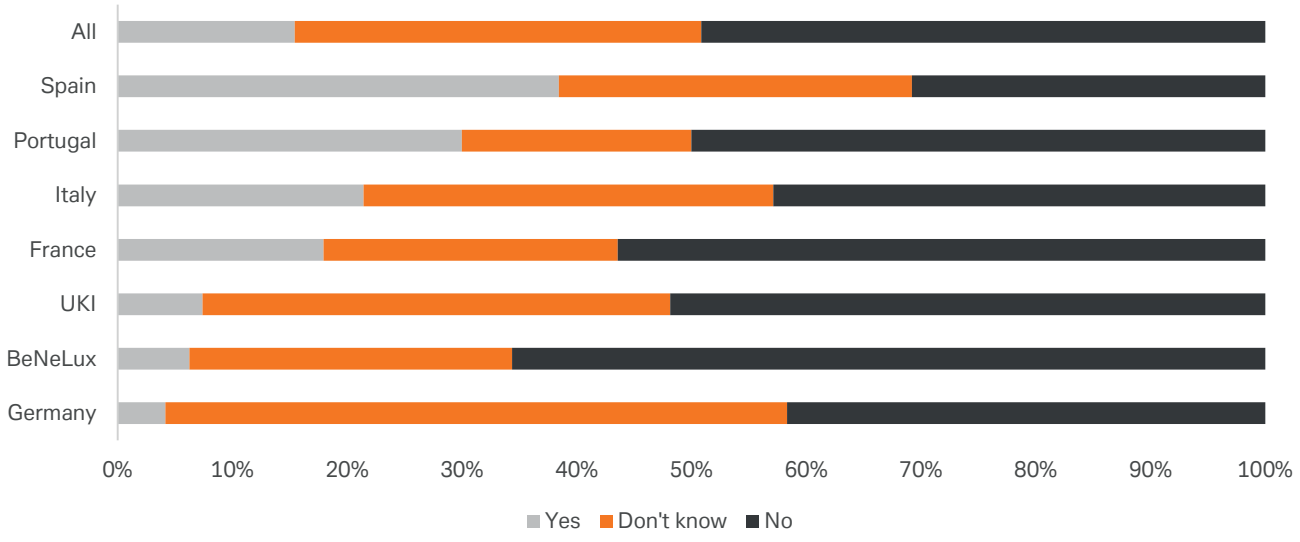
The centralisation of cash management involves treasurers who are willing to centralise their cash positions, which often goes with rationalising bank accounts. Between 20% and 50% of treasurers plan to implement virtual accounts in 2021.

4.1 Virtual accounts: growing up to reality

Virtual accounts, sometimes called "shadow accounts," are essentially non-physical accounts that can be used by treasurers to rationalise and reduce the existing number of bank accounts. This benefits short-term liquidity cash management as it results in consolidation and centralising corporate cash flows, diverting the money that is flowing from previous bank accounts to fewer bank accounts. Furthermore, it creates the opportunity to further centralise cash management activity such as account payable and receivable processing. To some extent, it could also help to reduce external fraud, harmonise internal controls thereby contributing to greater operational resilience.

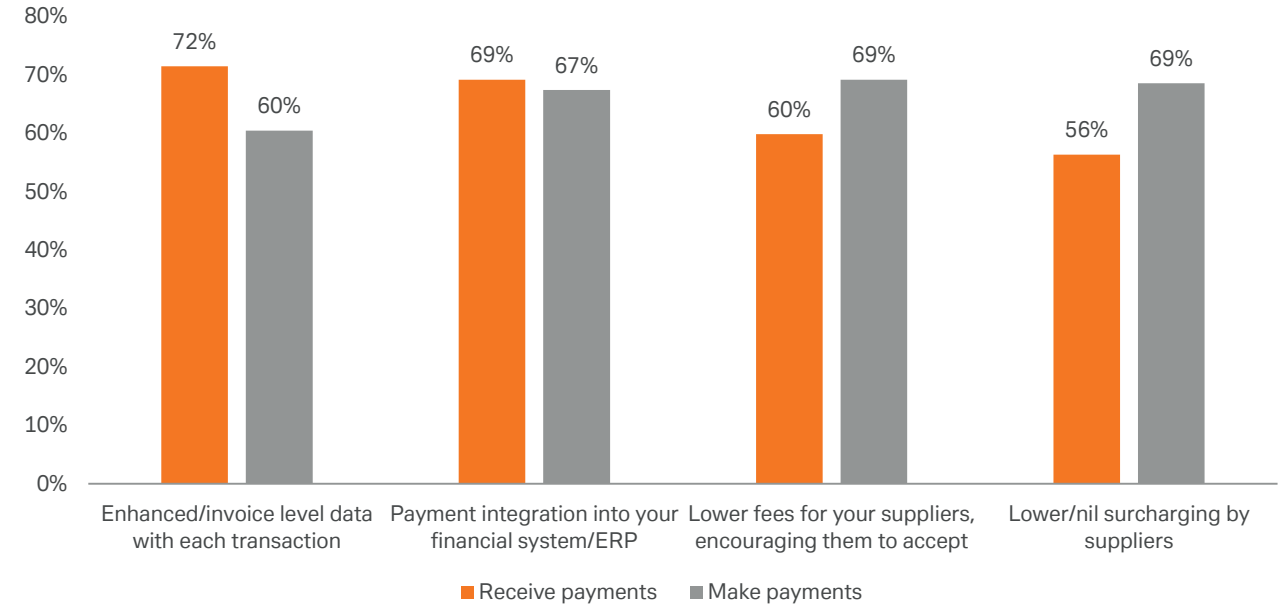
Half of treasurers believe that virtual account technology is a game changer for payments. Between 20% and 50% plan to implement virtual accounts. According to our survey, more than two thirds of executives interviewed believe that virtual accounts would: better integrate payments into financial systems and ERPs; enhance invoice level data with each transaction; reduce fees for suppliers.

Within the next six months, are you going to implement virtual accounts for your treasury activity?



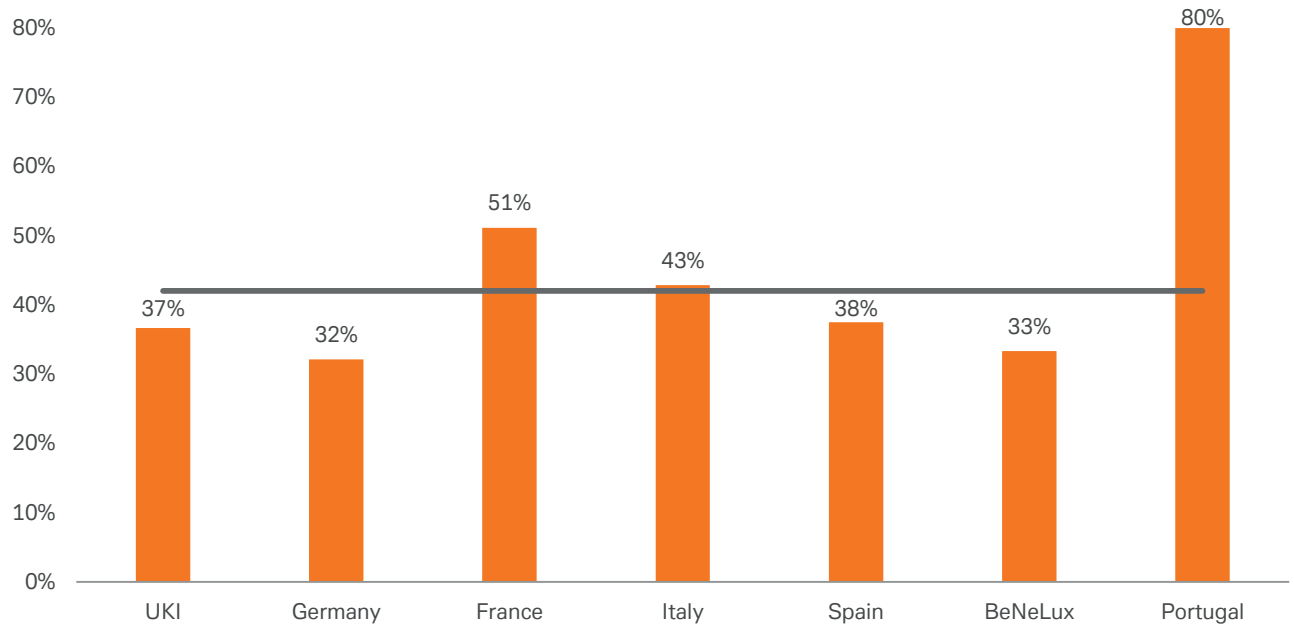
Source: dbDIG Primary Research, Deutsche Bank

Main factors that would encourage the use of virtual accounts



Source: dbDIG Primary Research, Deutsche Bank

Virtual account is a game changer



Source: dbDIG Primary Research, Deutsche Bank

4.2 Cryptocurrencies and blockchain: nothing on the horizon[19]

Treasurers are unlikely to adopt cryptocurrencies in the near future. In the next eighteen months, only 5% are likely to use or receive cryptocurrencies and approximately 80% are unlikely to use them. One of the main reasons cited for not adopting cryptocurrencies is the lack of regulation. However, central banks are making progress. The European Commission, for example, published a proposal in September and a public consultation is taking place now. In Q3 2021, the directive for markets in crypto assets is expected to take effect.

19 Corporate Bank Research: Blockchain and Corporates - Transparency is the New Marketing (Source: www.research.db.com)

Only 2% of CFOs and treasurers surveyed use the blockchain technology. Only 1% is planning to use it within six months, but 13% believe that the technology will have a big impact over the next two or three years.

Most treasurers have a wait-and-see approach when it comes to the blockchain technology. CFOs and treasurers are pragmatic people. They are currently focused on the longer-term impact of Covid-19 and most only focus on two or three priorities. And only 1% see blockchain technology as a solution right now. We expect motivation to use blockchain to remain flat or low during the next two or three years. One potential reason for treasurers' weak interest in blockchain could be that the technology is strongly associated with cryptocurrencies, especially bitcoin, and because cryptocurrencies lack regulation.

However, many recognise that blockchain technology can provide quick payment processing while offering transparent payment information, much like SWIFT gpi. Furthermore, blockchain trades can be programmed so that payments are executed the moment goods arrive, thus enabling faster processes with fewer manual steps, and helping businesses further optimise capital. Blockchain technology can also improve access and transparency to cross-border trade funding, thereby helping banks better understand the risks. With that knowledge, they can finance more trades. The transparency provided by blockchain will also protect banks from fraudulent payments because banks will know exactly when all the requirements have been met to clear payments. These are just a few benefits of blockchain technology, which is still in a nascent stage of development. Blockchain could gain tremendous attention over the next five or ten years.

2. Cash and Cheque: Two Species in Extinction

The cheque has been around in one form or another since Roman times. Paper money was implemented in Europe in the seventeenth century during a "price revolution" when large amounts of gold and silver entered Europe (mostly brought by the Spanish from Latin America). With the influx of precious metals, banks handed out payable receipts to the bearers of documented resources.

By the first half of the nineteenth century, many towns in the UK and the US had established local banks, each issuing local banknotes. Before national currencies and efficient clearing houses emerged, banknotes were only redeemable at face value by the issuing banks.

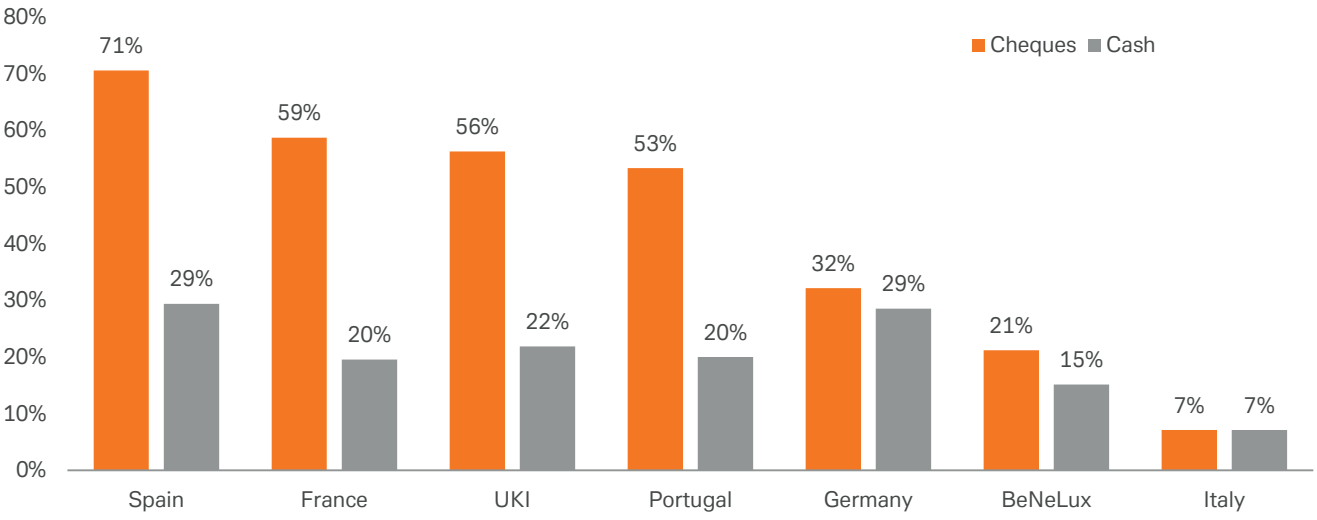
Paper currency, specifically the US dollar, only came to worldwide prominence after World War I. It has since played a major role in shaping global history. Inadvertently, paper currency, especially large notes, has also facilitated illegal transactions, underground economies, and money laundering.

Some business insist on paying with cheques because signing them gives the CFO/owner a sense of control. First, CFOs know which funds are flowing out of the business, and the paper trail left by cheques assists with record keeping. However, 43% of treasurers we surveyed still use cheques for different reasons. Surprisingly, 40% say inertia—status quo—is the main reason, and 30% use cheques to pay a trade supplier.

Despite advancements in digital payments, nearly half of all global business transactions—$58 trillion in 2016—are still done on paper.[20]

There are good reasons to think cash and cheques will disappear in the medium term, at least for corporate use. Both means of payment are losing momentum to dematerialised payments. During the last six months, only a fifth of companies used cash, and only two-fifths used cheques.

B2B companies that use cash and cheque as methods of payments



Source: dbDIG Primary Research, Deutsche Bank

20 Oxford Economics, Euromonitor International, Kaiser Associates, McKinsey Payment Data, Mastercard

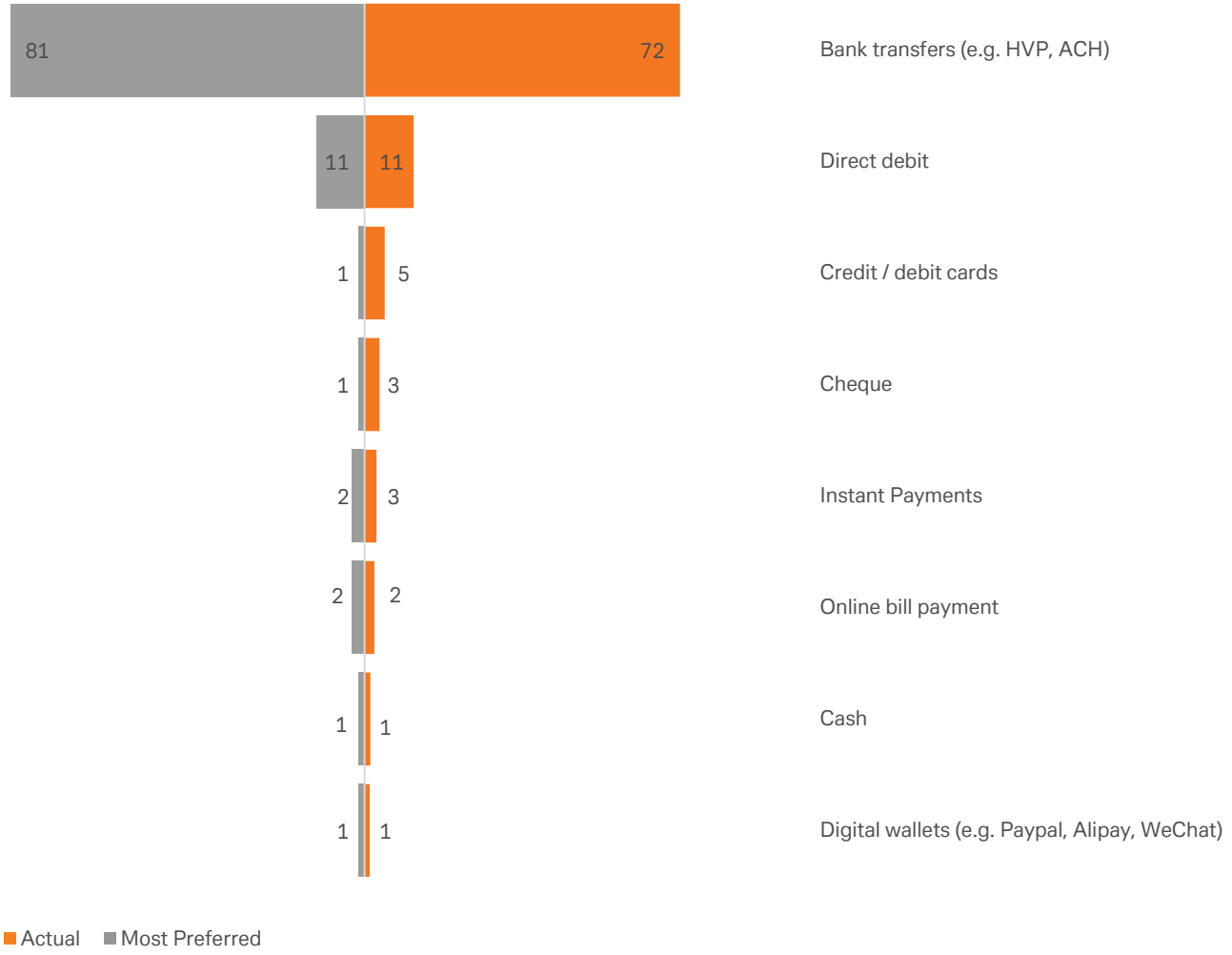
All CFOs believe that cheques will disappear in the medium term. There are good reasons to stop using them.

- First, 60% of treasurers consider fraud as a top challenge. Indeed, in 2019, the annual value of cheque fraud losses in the UK (e.g. counterfeit, forged, and fraudulently altered cheques) reached £53.6 million.
- Second, 70% consider manual processes a top challenge.
- Third, another 70% think that managing all the bank accounts is a top challenge.
- Fourth and foremost, cheques increase the time required for cash collection.

Late payments, collection, and recovery are now major business problems. In fact, payment times have increased by 10% over the last decade, and the average time for payments is now nearly seventy days. One reason for this long average delay relates to business clients who deliberately extend payment terms to maximise their working capital.

The primary cause for long delays is inefficient internal processes and methods for tracking receivables. This factor is frequently overlooked and requires businesses to gather and manage all the data, including that which is required to make timely payments and track deliveries. Other reasons include failed payments, wasted admin time, the high risk of cashflow problems, awkward conversations with customers when chasing payments, and potential data security issues.

Actual vs. preferred methods payment methods for financial transactions

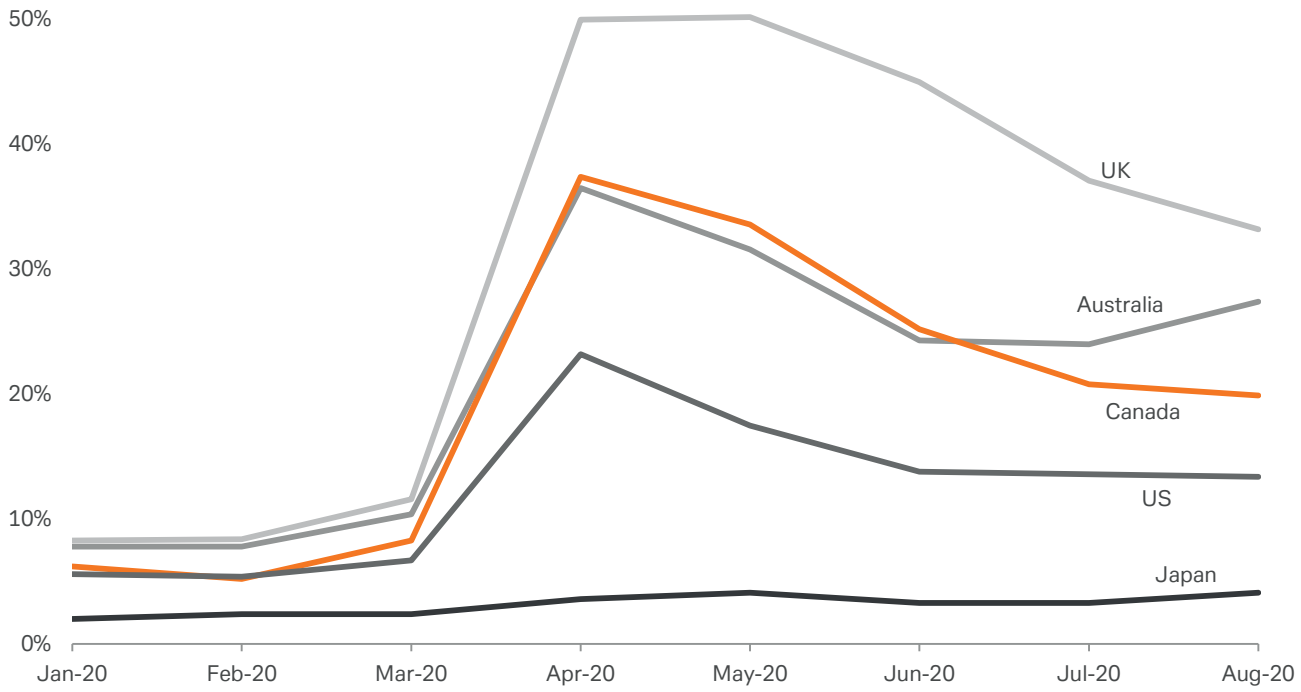


Source: dbDIG Primary Research, Deutsche Bank. Note: we looked at both for receivable and account payable and the picture looks similar.

3. The Dematerialisation of Payments

The Covid-19 pandemic has hastened the decline of cash payments by about four or five years. In the UK, the number of sellers using digital payments jumped in six months from 8% in February to 50% in April 2020. By August 2020, the number of businesses with digital-only payment systems had stabilised at about 33%. This shows a remarkable overall increase in the adoption rate of digital payments.

Share of cashless businesses

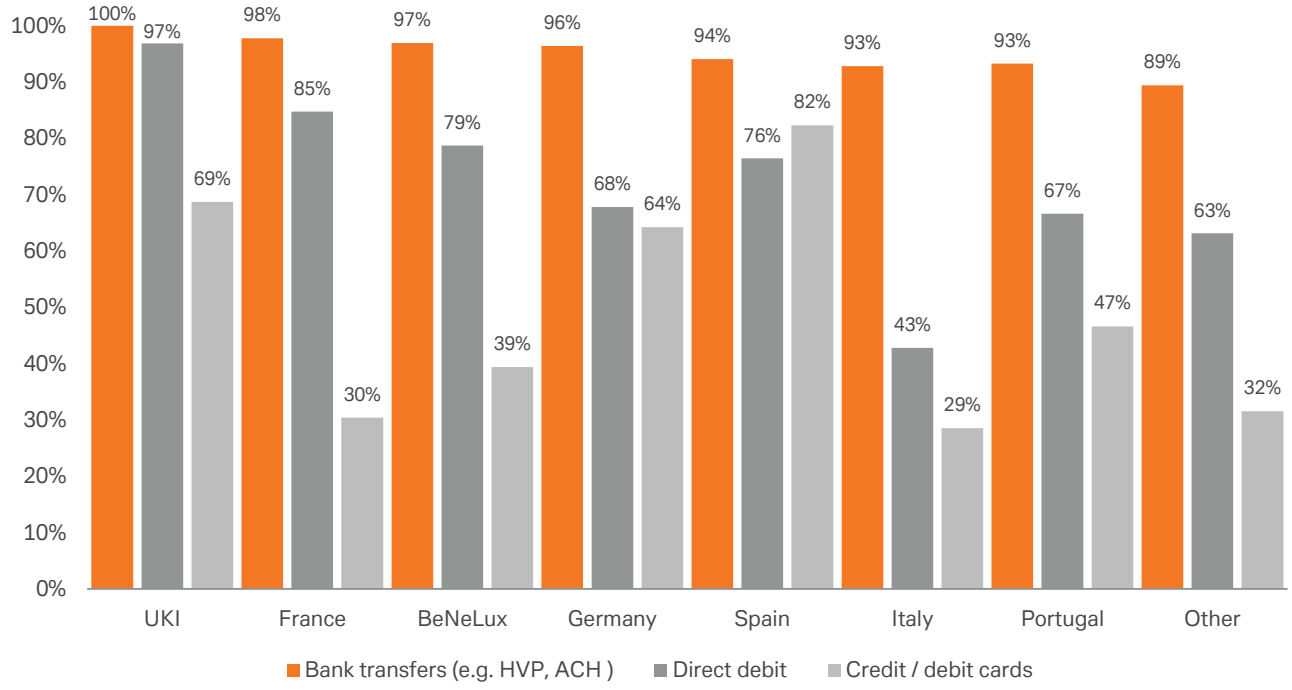


Source: Square

Dematerialisation is underway, with the widespread use of bank transfers, direct debits, instant payments, and online bills.

This push toward a cashless society is further fueled by the following innovations: instant payments, API integration, artificial intelligence, and automation. Cut-off times will vanish as operations are carried out twenty-four hours a day, every day of the year.

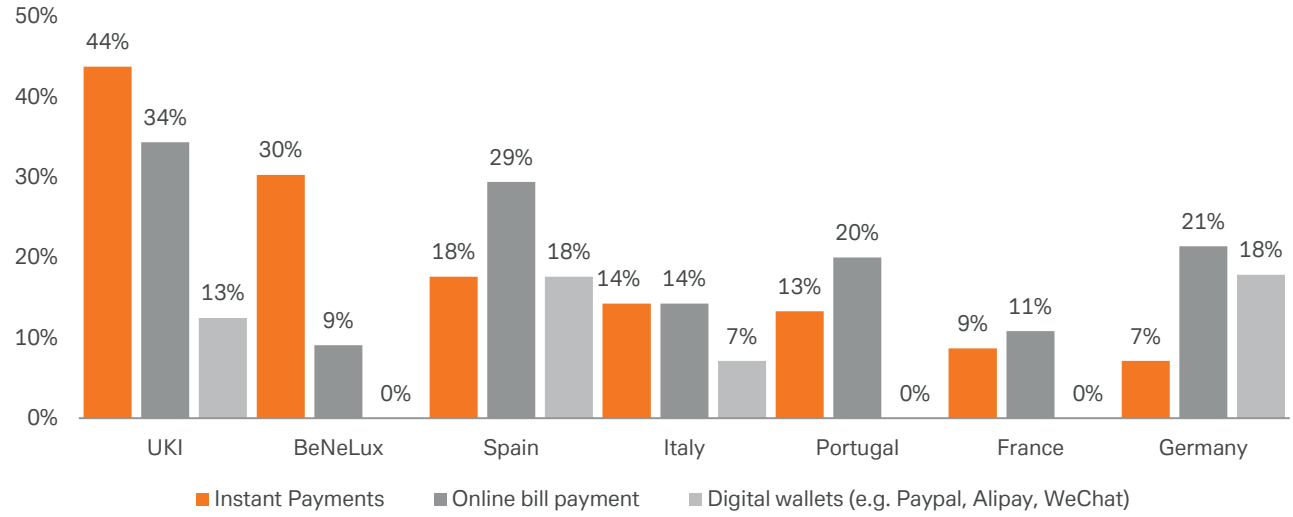
‘Established’ digital payment methods



Source: dbDIG Primary Research, Deutsche Bank

There is also a very clear move to real-time solutions. According to our survey, most companies have used same-day ACH and SWIFT gpi. Most of the rest are planning to make this move within the next six months. This shift is a response to the top-three challenges related to paying vendors: (i) timely approval of invoices and payment details to meet standard payment terms; (ii) managing and updating vendor bank account details in an efficient and organised manner; (iii) bank and KYC documentation or other compliance issues that cause significant delays and confusion.

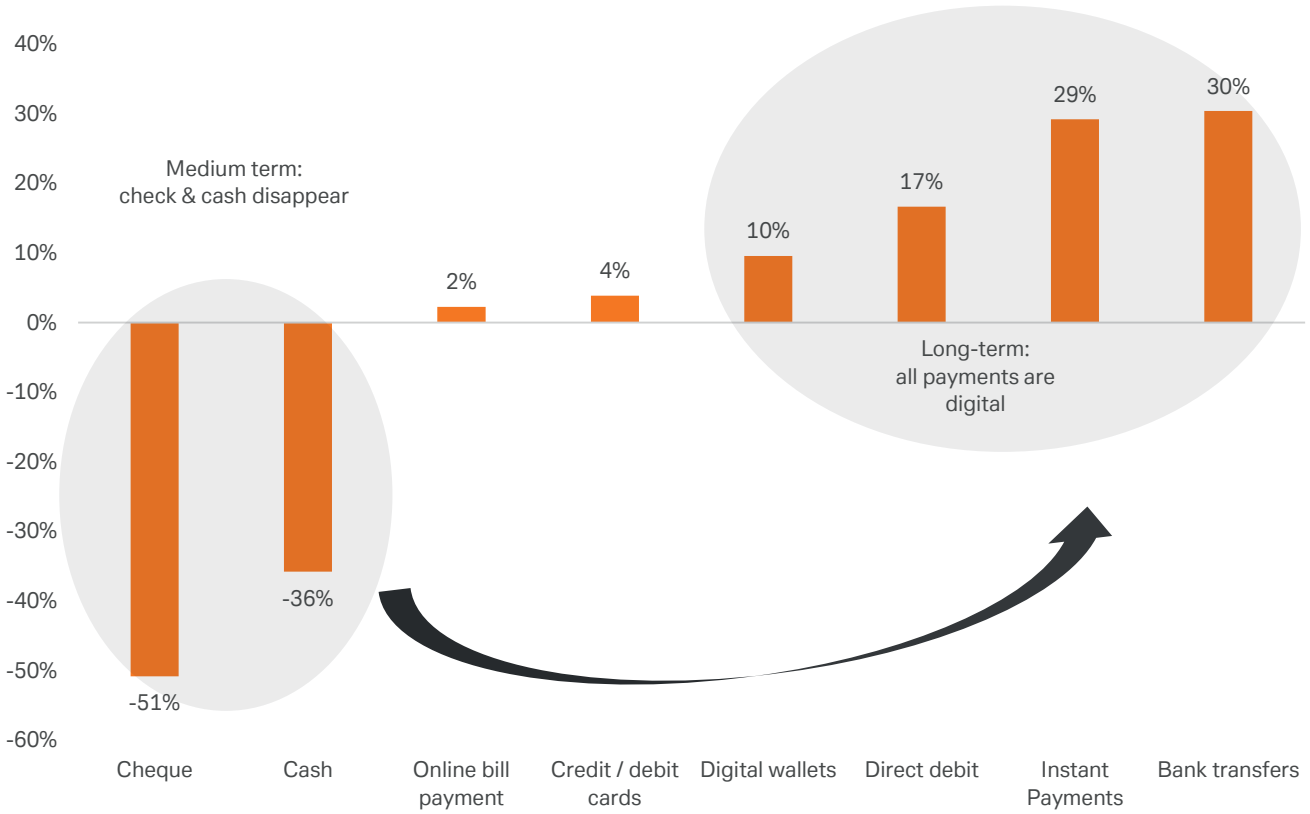
‘Emerging’ payments solutions



Source: dbDIG Primary Research, Deutsche Bank

Looking ahead, most payments will become digital. Bank transfers and instant payments will become the norm while payments via cheque and cash will continue to decline.

In the next twelve months, which of the following payments methods do you plan to use more?



Source: dbDIG Primary Research, Deutsche Bank

Appendix

Selected data from dbDIG survey of over 200 corporates (further data available upon request).

Demographics of B2B companies that use the following methods of payments

		NET: Physical payments Cash & Cheques	Cheques	Cash	NET: All Non-physical channels	NET: 'Established' digital payment methods	Bank transfers (e.g. HVP, ACH)	Direct debit	Credit / debit cards	Net: 'Emerging' payments solutions	Instant Payments	Online bill payment	Digital wallets (e.g. Paypal, Alipay, WeChat)	Base Sizes
Overall	Overall	49%	43%	21%	99%	98%	96%	76%	48%	38%	21%	21%	7%	204
Type of role	Cash management	50%	44%	20%	100%	100%	94%	83%	44%	31%	17%	20%	4%	54
	Other	53%	43%	25%	100%	100%	100%	88%	63%	53%	28%	28%	8%	40
	Treasurer	48%	42%	21%	97%	95%	95%	70%	45%	35%	20%	18%	8%	106
Country	UKI	59%	56%	22%	100%	100%	100%	97%	69%	63%	44%	34%	13%	32
	Germany	50%	32%	29%	100%	100%	96%	68%	64%	39%	7%	21%	18%	28
	France	61%	59%	20%	100%	100%	98%	85%	30%	15%	9%	11%	0%	46
	Italy	7%	7%	7%	93%	93%	93%	43%	29%	36%	14%	14%	7%	14
	Spain	71%	71%	29%	94%	94%	94%	76%	82%	41%	18%	29%	18%	17
	BeNeLux	27%	21%	15%	100%	100%	97%	79%	39%	33%	30%	9%	0%	33
	Portugal	60%	53%	20%	93%	93%	93%	67%	47%	33%	13%	20%	0%	15
	Other	42%	26%	26%	100%	89%	89%	63%	32%	58%	32%	37%	5%	19
Sector	Agriculture, forestry & fishing	60%	0%	60%	100%	100%	100%	80%	40%	60%	20%	40%	20%	5
	Manufacturing	51%	22%	43%	100%	98%	98%	73%	43%	32%	17%	21%	3%	63
	Construction	47%	20%	40%	100%	100%	100%	73%	67%	47%	20%	13%	13%	15
	Mining	100%	0%	100%	50%	50%	50%	50%	50%	50%	0%	50%	0%	2
	Wholesale & retail trade	39%	21%	36%	100%	96%	93%	75%	46%	43%	29%	11%	7%	28
	Transportation & storage	56%	17%	44%	94%	94%	83%	67%	56%	33%	17%	22%	0%	18
	Accommodation, food & hospitality services	43%	29%	29%	100%	100%	100%	100%	86%	57%	0%	43%	29%	7
	Information & communication services	64%	27%	55%	100%	100%	100%	91%	64%	55%	36%	55%	18%	11
	Financial & insurance services	60%	60%	50%	100%	100%	100%	90%	70%	50%	10%	50%	0%	10
	Real estate	25%	0%	25%	100%	100%	100%	100%	50%	50%	25%	25%	0%	4
	Professional/ scientific services	50%	0%	50%	100%	100%	100%	100%	100%	100%	100%	0%	0%	2
	Administrative/ support services	50%	0%	50%	100%	100%	100%	100%	50%	50%	50%	50%	0%	2
	Public administration & defence	50%	0%	50%	100%	100%	100%	100%	100%	100%	50%	50%	0%	2
	Education, human health & social work	67%	22%	56%	100%	100%	100%	89%	78%	67%	33%	44%	22%	9
	Oil, gas & energy	47%	29%	35%	100%	100%	100%	65%	41%	29%	6%	12%	12%	17
	Other services or activities	57%	17%	52%	98%	98%	96%	83%	46%	46%	22%	24%	11%	46
Geographical coverage	Only operates internationally	38%	25%	25%	100%	100%	100%	88%	38%	13%	13%	0%	0%	8
	Operates mainly internationally	46%	17%	42%	97%	95%	94%	68%	48%	40%	26%	25%	6%	65
	Even split	51%	21%	45%	100%	99%	98%	78%	47%	37%	19%	20%	9%	94
	Mainly operates domestically	46%	19%	42%	100%	100%	96%	88%	54%	42%	19%	23%	0%	26
	Only operates domestically	63%	38%	38%	100%	100%	100%	88%	50%	38%	13%	13%	25%	8
	Don't know	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	0%	0%	2

Which of the following technologies/ services do you think will have the biggest impact on B2B payments over the next 2-3 years?

	UKI	Germany	France	Italy	Spain	BeNeLux	Portugal	Other	All
Instant payments	17%	46%	25%	43%	53%	42%	21%	25%	33%
Application Programming Interface (APIs)	28%	29%	41%	7%	7%	24%	36%	44%	29%
Robotic process automation (RPA)/Bots	24%	7%	7%	29%	27%	27%	21%	31%	19%
Open banking	24%	18%	18%	29%	13%	12%	21%	25%	19%
Mobile Banking Applications	17%	4%	23%	21%	13%	24%	21%	13%	18%
Artificial Intelligence (AI)/Machine Learning	17%	21%	27%	7%	13%	6%	7%	25%	17%
Blockchain/DLT	10%	11%	11%	7%	20%	21%	7%	19%	13%
ISO20022	14%	14%	14%	14%	0%	3%	14%	13%	11%
Request to pay	10%	21%	2%	7%	13%	15%	7%	0%	10%
None of these	14%	0%	9%	0%	13%	3%	7%	0%	6%
Base	29	28	44	14	15	33	14	16	193

Please select the top challenges your treasure department currently faces with regard to B2B payments

	UKI	Germany	France	Italy	Spain	BeNeLux	Portugal	Other	All
Protecting against fraud/security exposures related to payment activity	57%	46%	74%	64%	69%	36%	86%	50%	59%
Manual payment generation workflows are error-prone and time consuming	43%	32%	64%	64%	63%	52%	50%	63%	53%
Bank KYC/ documentation or other compliance issues	40%	71%	48%	36%	50%	52%	36%	38%	48%
Obtaining timely visibility to all transactions occuring globally	43%	36%	43%	43%	31%	15%	21%	38%	34%
Keeping up with industry changes to formats or technologies used in the payments process	10%	21%	19%	14%	31%	15%	29%	38%	20%
Legacy payment formats and channels create inefficiencies as payments are processed	20%	21%	10%	7%	13%	27%	36%	13%	18%
Other	3%	0%	2%	14%	0%	12%	0%	6%	5%
Base	30	28	42	14	16	33	14	16	193

Which, if any, of the following do you think are inefficient components of your company's financial operations?

	UKI	Germany	France	Italy	Spain	BeNeLux	Portugal	Other	All
Cash Flow Forecasting	48%	44%	48%	50%	40%	42%	38%	50%	46%
Bank account management	34%	22%	38%	36%	13%	39%	46%	31%	33%
Invoice Processing	34%	7%	19%	21%	20%	36%	38%	31%	25%
Payment Receipt/ Reconciliation	24%	7%	12%	29%	33%	18%	46%	44%	22%
Purchase order (PO) processing	14%	0%	19%	14%	7%	15%	31%	19%	14%
Spend management analysis	3%	19%	10%	14%	27%	3%	15%	19%	12%
Payment initiation	7%	11%	21%	7%	0%	0%	15%	19%	11%
Fraud/security management	10%	0%	2%	14%	20%	6%	23%	6%	8%
Accounting	3%	7%	5%	14%	0%	9%	0%	25%	7%
Vendor sourcing	3%	0%	5%	0%	7%	3%	0%	25%	5%
Unsure	21%	30%	14%	14%	13%	12%	0%	6%	15%
Base	29	27	42	14	15	33	13	16	189

From the list below, please select your most preferred bank access method?

	UKI	Germany	France	Italy	Spain	BeNeLux	Portugal	Other	All
Single bank portal providing access to multiple services from one bank with single sign-on	45%	0%	21%	14%	13%	33%	8%	19%	22%
Single bank portal providing multi-bank access	21%	26%	12%	43%	27%	21%	8%	25%	21%
Via SWIFT solution or other Allwork	10%	19%	30%	14%	20%	15%	38%	19%	21%
Third party aggregator or treasury workstation	10%	41%	14%	21%	13%	3%	38%	13%	17%
Host 2 Host connection	7%	7%	14%	7%	20%	12%	8%	13%	11%
Multiple portals for different services from one bank	3%	4%	7%	0%	7%	3%	0%	6%	4%
API	0%	4%	0%	0%	0%	6%	0%	6%	2%
None of these	3%	0%	2%	0%	0%	6%	0%	0%	2%
Base	29	27	43	14	15	33	13	16	190

What are the main reasons you pay via cheque?

	UKI	Germany	France	Italy	Spain	BeNeLux	Portugal	Other	All
Do not use checks as payment method	41%	56%	35%	54%	33%	73%	42%	69%	50%
Inertia - status quo	24%	22%	28%	31%	40%	15%	42%	6%	24%
To pay a trade supplier	21%	15%	23%	8%	13%	9%	8%	25%	16%
Paper cheques provide the business with the ability to control the payments made	3%	0%	14%	0%	7%	0%	0%	0%	4%
Gives the owner a sense of control. Signing cheques personally means you know what funds are flowing out of the business	7%	7%	5%	0%	0%	0%	8%	0%	4%
Paper trail left by the check allows to maintain record keeping	3%	0%	2%	0%	0%	3%	0%	6%	2%
There are no variable fees; cheaper (vs. cards)	0%	0%	5%	0%	7%	3%	0%	0%	2%
Added security for mailed payments	0%	0%	0%	8%	0%	0%	0%	0%	1%
Base	29	27	43	13	15	33	12	16	188

The Future of Payments: Series 1

January 2020

Part I. Cash: the Dinosaur Will Survive...For Now

Part II. Moving to Digital Wallets and the Extinction of Plastic Cards

Part III. Digital Currencies: the Ultimate Hard Power Tool

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