A new payments paradigm

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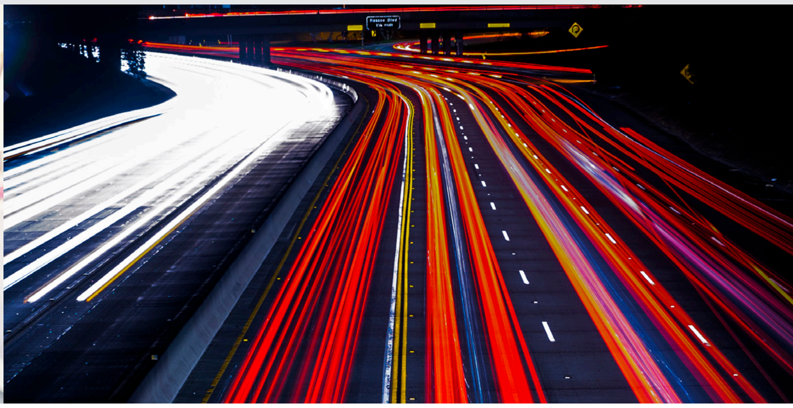
HSBC

Introduction

As the financial landscape evolves, corporate treasurers find themselves at the forefront of navigating emerging payments. In today's digital-first age, efficiency, security and transparency are paramount considerations in managing corporate finances. As such, it is incumbent on corporate treasurers to keep abreast of developments in this space.

This insights article will look at emerging payment trends and how they apply to corporate treasuries, as well as the challenges or opportunities that may present themselves. We will explore how new settlement systems are being developed to support new central bank digital currencies (CBDC) and how new technologies, such as blockchain and distributed ledger technology (DLT), are being used in a banking and corporate treasury context. We will also cover the continued rise of mobile and digital payment methods, including the emerging risks and security considerations that treasurers should make themselves aware of. Finally, we'll leave you with takeaways on how corporate treasurers prepare themselves for the future.



Emerging payment trends and technologies

Corporate treasurers are presented with a range of emerging payment technologies:

Real-time payments: Real-time payments represent a paradigm shift in transaction processing, offering instantaneous settlement and 24/7 availability. This trend is revolutionising liquidity management and cash-flow forecasting for corporate treasurers, enabling faster access to funds and optimising working capital. With real-time payments gaining traction globally, treasurers must adapt their systems and processes to leverage this technology effectively.

Digital wallets: The rise of digital wallets is another significant trend reshaping payment dynamics. These virtual repositories for payment credentials facilitate convenient and secure transactions across multiple channels. For corporate treasurers, integrating digital wallets into their payment strategies can streamline collections, enhance customer experience and mitigate fraud risks. Embracing wallet technology empowers treasurers to cater to evolving consumer preferences while driving operational efficiencies.

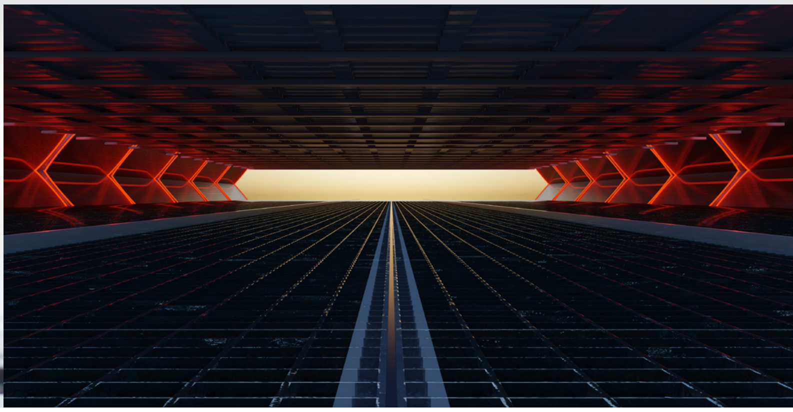
Cryptocurrencies: Cryptocurrencies have garnered considerable attention in recent years. The decentralised nature of cryptocurrencies offers potential — but still unproven — benefits such as lower transaction costs, faster cross-border payments and enhanced financial inclusion. However, volatility, regulatory uncertainties and security concerns pose risks that treasurers must carefully evaluate before incorporating anything relating to cryptocurrencies into their treasury operations. The technology itself is still unproven as a reliable mass payment rail, and the currencies themselves are not generally accepted by financial institutions. Many banks and other financial institutions do not facilitate or support payment transactions involving cryptocurrencies. It remains to be seen whether cryptocurrencies can be seen as a viable option for corporate payments.

Stablecoins: Stablecoins have emerged as a somewhat hybrid solution, combining the potential benefits of cryptocurrencies with perceived stability pegged to fiat currencies or other assets. These digital assets could, in future, offer a middle ground for corporate treasurers seeking to harness the potential advantages of blockchain and DLT technology while minimising volatility. Stablecoins could hold promise for facilitating international transactions, optimising liquidity management and simplifying cross-border settlements, albeit with regulatory scrutiny and risk management considerations. However, high-profile collapses of stablecoins in 2022 and 2023 have led to a perceived reduction in confidence. At this point, stablecoins remain in the same camp as cryptocurrencies and are generally not accepted by banks for payments.

Central bank digital currencies (CBDCs): CBDCs represent a significant evolution in monetary policy and payment systems. This currency is issued and regulated by central banks, offering a digital form of sovereign currency, which could enhance financial inclusion, reduce transaction costs and help combat illicit activities. For corporate treasurers, CBDCs introduce opportunities to streamline payment processes, improve liquidity management and enhance visibility into financial transactions. This is contingent on regulatory frameworks and interoperability standards.

Blockchain and DLT: Blockchain underpins many emerging payment innovations, offering immutable, transparent and decentralised transaction networks. By leveraging blockchain, corporate treasurers can enhance security, reduce reconciliation efforts and streamline cross-border payments. Smart contracts, powered by blockchain, automate payment processes, enforce contractual agreements and enable real-time settlement, revolutionising treasury operations and risk management practices. HSBC is working extensively with blockchain technology to provide client-facing solutions, utilising mechanisms to link blockchains to existing fiat payment rails.

Biometric security technology: Corporate treasurers should monitor developments in biometric authentication, artificial intelligence (AI) and machine learning, which are reshaping payment security and fraud prevention strategies. Authentication methods such as fingerprint scanning and facial recognition, enhance transaction security while improving the user experience. Meanwhile, AI and machine learning algorithms analyse vast datasets to detect anomalies, predict fraudulent activities and enhance decision-making in treasury operations.



Exploring CBDCs and blockchain-based payment settlement solutions

CBDCs are a new form of money issued by a central bank as a digital expression of the country's fiat currency. They aim to harness the benefits of digitalisation while maintaining the stability and security of the national currency. As companies adopt emerging digital technology to reach new domestic and international customers, expand their reach among suppliers and bolster supply chain resilience, these digital currencies offer an opportunity to bring together the participants in a company's ecosystems and facilitate the transactional exchange of value.

Since early 2020, the G20 has emphasised the importance of improving cross-border payments and the need for governments to work together to make them faster, less costly, more transparent and more inclusive[1]. The use of CBDCs is a potential means to achieve these objectives. The financial sector is also exploring ways to facilitate financial transactions and payment settlement that leverage emerging digital channels and the use of CBDCs. Some of these methods are summarised below.

Tokenised deposits

A tokenised deposit refers to the process of digitalising and representing commercial bank demands as tokens on a blockchain. These tokens are created to represent the underlying value of the deposit and are issued to the depositor.[2] Tokenised deposits leverage blockchain technology to enhance the efficiency, security, and flexibility of traditional banking services, providing a bridge between the digital and financial worlds.

[1]G20 Roadmap for Enhancing Cross-border Payments: Consolidated progress report for 2023 - Financial Stability Board (fsb.org)

[2]Tokenized Deposits: Unlocking New Possibilities in Finance | by Ashutosh Dubey | Coinmonks | Medium

[3]Regulated Liability Network: UK Discovery Phase | Policy and Guidance | UK Finance

Case study

Through a pilot project at HSBC, the tokenisation of deposits has proven to enhance Ant Group's corporate treasury management with improved turnaround time, cost efficiency and enhanced visibility. This offers potential real-life applications across cross-border payments, liquidity management and FX settlements between their intragroup entities. The success of this project paves the way for future research on how the use of distributed ledger technology and tokenisation can drive further efficiency, streamlining financial transaction settlement.

Regulatory liability networks (RLNs)

The RLN concept is a regulated financial market infrastructure that would operate a shared ledger that records, transfers and settles regulated liabilities of central banks, including tokenised deposits and regulated non-banks[3]. Additionally, RLNs envision a new financial market infrastructure that would operate a shared ledger for all forms of regulated digital money and provide a platform for innovation. This could enable the use of tokenised deposits and programmable payments, among other new functionalities. These would all deliver a range of benefits to retail customers, businesses and the wider global economy.

UK Finance and a subset of its members and interested parties came together with HSBC to explore the RLN concept in a discovery phase to investigate the optimum use cases for a RLN proof-of-concept. This proof-of-concept builds the foundational RLN platform, capabilities and functionality so it can be applied to both retail and wholesale use cases. The study focused on three use cases: consumer domestic payments in the UK, wholesale business-to-business cross-border payments, and securities settlement.

After the conclusion of the discovery phase, the RLN project will move to an experimentation phase, which will concentrate on the three initial use cases in further detail. These use cases will examine how RLN can facilitate different forms of money, including tokenised regulated money and assets, as well as CBDCs, like the digital pound in the UK.

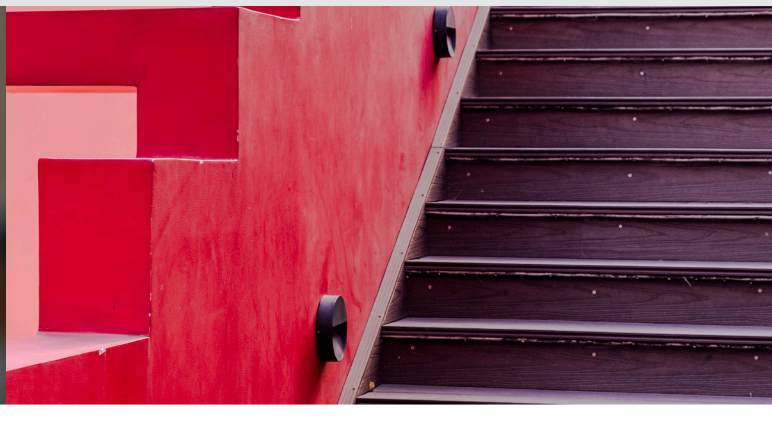
In July 2023, the Federal Reserve's New York Innovation Center (NYIC) and 10 financial institutions including HSBC shared the results of a proof-of-concept for a RLN. The trial successfully tested commercial bank deposit tokens and a wholesale central bank digital currency (wCBDC) on shared DLT infrastructure[4].

The aim of the NYIC's RLN proof-of-concept is to explore how this new infrastructure can deliver a range of benefits and functionality, many of which are use-case agnostic. It also assessed the technical and commercial feasibility of a RLN and informed the global discussions on the future of digital money.

"In treasury and payments, there has been more advanced exploration around DLT than AI in recent years. But with recent developments in AI, this technology will quickly catch up and ultimately these two technologies will become a joined force driving fundamental change in treasury and the broader financial system."

Kelvin Li
Head of Global Fund Platform,
Ant Group – International BG

[4] New York Fed, Citi, Wells Fargo, HSBC, others complete digital currency trial - Ledger Insights - blockchain for enterprise



CBDC settlement

Many countries have active CBDC pilot projects at various stages. But the development of a uniform model that caters to every jurisdiction is more challenging and has yet to be achieved[5]. Both the G20 mandate on cross-border payments and the global growth trend of digital payments are a catalyst for governments to work together on their CBDC initiatives.

What does this mean for corporate treasury?

As companies adopt digital technology to support their business models, the exploration of tokenised deposits, RLNs and CBDC settlement enables payments to travel with the respective business transaction over a digital channel, providing for greater efficiency, higher velocity of payment flows and reduced settlement risk. These attributes will bring corporate treasury greater value and efficiency in executing payments as these distributed ledger platforms move from pilot to full production.

Case study

An example of this collaboration is Project mBridge, a collaboration between the Bank for International Settlements' (BIS) Innovation Hub Hong Kong Centre, the Hong Kong Monetary Authority, the Bank of Thailand, the Digital Currency Institute of the People's Bank of China, and the Central Bank of the United Arab Emirates[6]. The mBridge project team developed a new blockchain – the mBridge Ledger. It was custom-built by central banks for central banks, to serve as a specialised and flexible platform to implement multicurrency cross-border payments in CBDCs.

HSBC branches in Hong Kong, Thailand and the United Arab Emirates were among the 20 commercial bank branches[7] to pilot the mBridge platform, which advances multi-CBDC experimentation by settling real value directly on the platform and on behalf of corporate customers. The G20 has a stated priority of enhancing cross-border payments and the success of the pilot furthers this ambition. It allows cross-border payments to be immediate, low cost, universally accessible and settled in a secure settlement medium. These are all attributes that will bring corporates greater efficiency in executing cross-border payments as this type of blockchain settlement moves from pilot to full production.

Benefits and Solutions

- **Reduced steps:** Project mBridge significantly reduces the number of steps in cross-border payments by enabling direct, bilateral connectivity between local banks.
- **Interoperability:** The platform ensures interoperability with participants' domestic payment systems.
- **Policy integration:** Project mBridge integrates policy, regulatory compliance and privacy mechanisms effectively.

Project mBridge strives to connect economies through a multi-CBDC platform, enhancing cross-border payment efficiency while safeguarding currency sovereignty and stability.

[5] Global payments trends: Considerations for corporate treasurers (hsbc.com)

[6] Project mBridge: experimenting with a multi-CBDC platform for cross-border payments (bis.org)

[7] Connecting economies through CBDC (bis.org) (page 15)

Opportunities and challenges in leveraging blockchain and DLT in today's treasury

By leveraging blockchain-enabled innovations such as CBDCs and tokenised deposits, commercial institutions may bring efficiencies to existing payments and settlement use cases or innovate new use cases in a tokenised economy. Tokenised monies can potentially improve settlement speed and finality –two pain points plaguing cross-border payments. DLT networks will also facilitate a more direct, secure and efficient exchange of information between banks. The shared ledger also allows better transparency for all parties participating in the payment process.

Programmability enabled by smart contracts adds further possibilities to payment innovation. Smart contracts are digital contracts stored on a blockchain that are automatically executed when predetermined terms and conditions are met. This can embed features including escrow, post-dated payments, conditional payments and automated sweeps, among others. To realise these potential benefits for cross-border payments, HSBC is working closely with central banks and the industry to overcome key challenges.

On a technical level, although it has the potential to enhance resilience and availability, the distributed and potentially decentralised nature of a blockchain could have a negative impact on aspects such as performance, privacy and security. On an operational level, interoperability will be key to unlocking and scaling blockchain-enabled cross-border payments.

The industry needs to agree on technical standards and operating models. The BIS discussed several interoperability models, ranging from a common shared ledger to interlinking solutions to orchestrate the payment process across different blockchains, as well as a hybrid model combining both concepts. Finally, the diverse and heterogeneous regulatory and legal environments across different jurisdictions may throttle the scalability and adoption of blockchain-based cross-border payments. Coordination between governments and central banks to harmonise regulation and legal frameworks will be key to achieving the anticipated benefits.

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These developments are truly revolutionary. One of the key elements is that we are all on a learning journey to understand the new payments forms, the technologies supporting them, and the opportunities and challenges they present to treasury management. At the same time, it is imperative for businesses and corporate treasury teams to keep abreast of the latest developments so they can stay ahead of the game and reap the benefits."

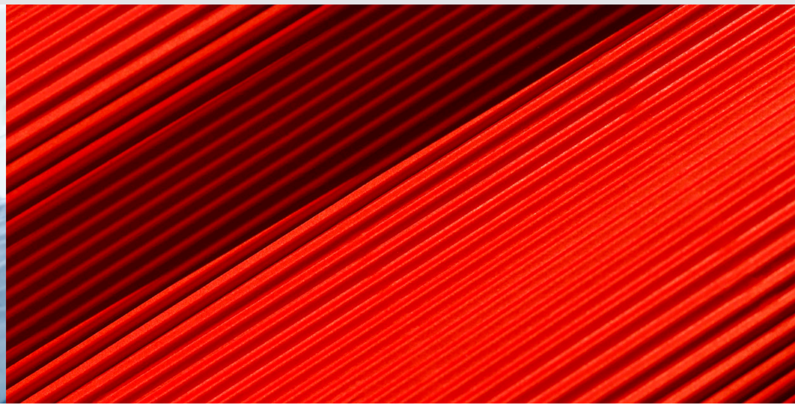
Lewis Sun
Global Head of Domestic and Emerging Payments,
Global Payments Solutions HSBC

Case study

In Singapore, HSBC launched an initiative that **digitalises manual workflows** in the **real estate** sector, both within the industry and HSBC. The solution leverages **HSBC's proprietary** Digital Settlement Utility to enable real estate ecosystem participants to access information, view real-time updates, automate routine tasks and interact on a **single platform**. Importantly, the solution facilitates digital processing of conditional payments via **Smart Contracts**.

Why is it important?

- It is HSBC's first commercial use-case using our blockchain payment tool (HDSU)
- The solution is a **co-creation** with a **client** and a **fintech company** to support the complex workflows of the real estate ecosystem.
- It comes at an opportune time as the Singapore market is moving towards the full retirement of cheques as a payment instrument.



The wider adoption of cashless and mobile transactions

The financial landscape is witnessing a significant shift towards cashless, digital and mobile-based payment transactions. Prompted both by technological advances and the Covid-19 pandemic, this transformation is reshaping the way businesses conduct their financial operations, presenting both challenges and opportunities for corporate treasurers.

There are several potential implications for corporate treasurers to consider:

Enhanced efficiency: Cashless transactions can streamline financial processes, reducing the administrative burden, cost and risk associated with handling physical cash. Corporate treasurers can leverage digital platforms to automate payment workflows, optimise cash-flow management and minimise manual errors.

Risk management: While cashless transactions offer convenience, they also introduce new risk factors, such as cybersecurity threats and fraud. Corporate treasurers must prioritise robust cybersecurity measures, implement fraud detection mechanisms and stay updated on risks and emerging attack vectors to safeguard their organisation's financial assets.

Strategic partnerships: Embracing cashless payment solutions requires collaboration with banking institutions, fintech companies and payment processors. Corporate treasurers can benefit by cultivating strategic partnerships to access innovative payment technologies, negotiate favourable terms, and leverage value-added services to enhance the organisation's competitive advantage.

Technology integration: Corporate treasurers may need to invest in advanced financial management systems that are capable of seamlessly integrating with digital payment platforms. By leveraging technologies such as application programming interfaces and cloud-based solutions, treasurers can centralise data management, gain real-time visibility into financial transactions and facilitate agile decision-making.

Talent development: As the financial landscape evolves, corporate treasury must develop a skilled workforce equipped with expertise in financial technology, data analytics and risk management. Investing in continuous training programs and recruiting talent with digital fluency will empower treasurers to harness the full potential of cashless transactions.

Data-driven insights: Cashless transactions generate huge amounts of data that can provide valuable insights into consumer behaviour, spending patterns and market trends. Corporate treasurers can further benefit by leveraging data analytics tools to extract actionable intelligence, optimise cash allocation strategies and drive informed decision-making to support the organisation's growth objectives. Read more on this topic in our article on Data-led treasury.

Customer experience enhancement: By offering diverse payment options tailored to customer preferences, corporate treasurers can enhance the overall customer experience and foster brand loyalty. Leveraging digital wallets, contactless payments and subscription-based models can attract tech-savvy consumers and drive revenue growth through increased transaction volumes.

Capital allocation efficiency: Digital payment platforms enable corporate treasurers to optimise working capital management, accelerate cash conversion cycles, improve forecasting and ultimately deploy surplus funds towards strategic investments. By leveraging cashless transactions, treasurers can unlock liquidity, reduce financing costs and allocate capital more efficiently to support the organisation's strategic growth goals.

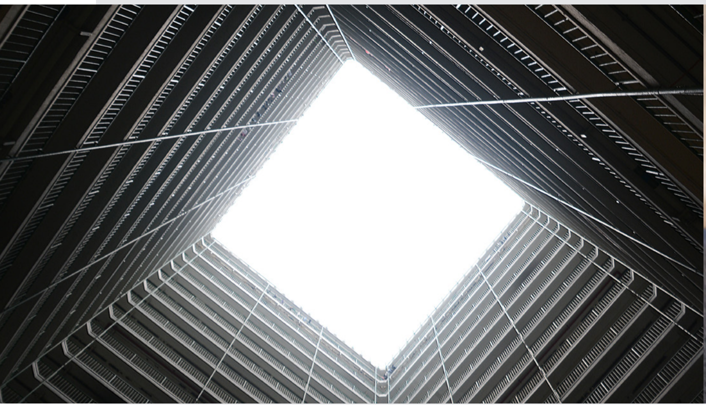
Cyber risks relating to payments and AI-driven fraud mitigation

As the financial landscape evolves, new and emerging forms of money, transactions and payment types present corporate treasurers with unique cybersecurity and fraud risks that they should address proactively. By implementing robust security measures, conducting comprehensive risk assessments, educating stakeholders and fostering collaboration, treasurers can navigate the evolving financial landscape and mitigate the risks associated with new and emerging forms of money and transactions effectively.

Stablecoin platforms and cryptocurrency exchanges are potentially susceptible to cyber-attacks, including hacking incidents, malware infiltration, and denial-of-service attacks. At the same time, cryptocurrency scams, such as initial coin offering fraud, pump-and-dump schemes and fraudulent investment schemes could pose significant risks to corporate treasurers. Treasurers need to fully understand the risks of such forms of digital money and ensure they have risk mitigants in place and established protocols in the event of attacks.

Mobile wallet fraud may involve account takeover, SIM swapping attacks and unauthorised transactions initiated through compromised devices or credentials. Moreover, QR code-based payment systems may be susceptible to tampering, spoofing and interception of QR codes, leading to unauthorised transactions or data leakage.

Corporate treasurers should adopt multi-factor authentication and encryption protocols and have tested mitigation plans in place. These measures should be linked directly to the types of emerging payment type that they are using. Finally, regular risk assessments should be conducted to identify vulnerabilities and mitigate potential cybersecurity and fraud risks associated with specific payment types. Read more on this topic in our article on Building a resilient treasury.



Preparing for a new world of payments

To navigate the emerging payment trends discussed effectively and leverage the benefits of technology to support growth, corporate treasurers should proactively prepare themselves and their organisations.

With the increasing preference for digital transactions, corporate treasurers should understand the various digital payment types available, from mobile and contactless payments to peer-to-peer transfers, as well as their implications for financial operations. By understanding the strengths and limitations of each payment type, treasurers can make informed decisions about which solutions best meet their organisation's needs.

The growing popularity of digital currencies, including CBDCs, cryptocurrencies and stablecoins, presents both potential opportunities and challenges for corporate treasurers. Treasurers should educate themselves about the unique features of digital currencies, cryptographic security, and instant settlement. They should also assess the potential risks associated with volatility, regulatory uncertainty, and compliance requirements, which means conforming to prescribed norms and practices to maintain integrity and mitigate risks in the context of digital payments. When considering the adoption of digital currencies for payments and treasury management, a careful understanding is required to assess the value these new forms of currency will bring to their organisation.

Blockchain and DLT have gained attention in recent years for their potential to revolutionise payment processing by providing transparency, immutability and enhanced security. Corporate treasurers could look to explore how blockchain and DLT solutions can optimise their payment workflows, reduce transaction costs and mitigate risks such as fraud and errors. This may involve collaborating with banking and technology partners to pilot blockchain-based payment initiatives, integrating blockchain into existing systems, or participating in industry consortiums focused on blockchain and DLT adoption. There is still a great deal of work to be done globally in this space.

As digital payments become more prevalent, corporate treasurers should prioritise security and compliance measures to protect their organisations from fraud and cyber-attacks. This includes implementing robust authentication protocols, encryption techniques and monitoring systems to detect suspicious activity. Treasurers should also stay informed about regulatory developments related to digital payments, such as anti-money laundering regulations and data privacy laws as they apply to their own organisations and industries.

Corporate treasurers are navigating a dynamic landscape of emerging payment technology trends, each offering unique opportunities and challenges. By staying informed, adaptable and strategically aligned with organisational objectives, treasurers can harness these trends to position their organisations for success in an increasingly digital financial ecosystem.

Authors

Kevin McKeever, Head of Treasury Solutions Group, North America, Global Payments Solutions, HSBC

Kevin McKeever is the North America Head of Treasury Solutions Group for Global Payments Solutions at HSBC. Kevin is based in New York and has over 35 years of banking experience covering relationship management and cash management across sectors in the USA and Europe. In this current role, he provides consultancy to global corporates on domestic and international payments solutions, as well as training and advisory on current market trends across global liquidity and cash management.

Kevin holds a MBA from the University of Warwick in the U.K., and is a Certified Treasury Professional under the Association for Financial Professionals (AFP).

Ian Pettigrew, Director, Treasury Solutions Group, Global Payments Solutions, HSBC Bank Middle East Limited

Ian is currently a Director in Treasury Solutions Group for Global Payments Solutions at HSBC, based in Dubai. In this role, Ian works with corporate and commercial clients both regionally and globally to support their Treasury Transformation goals. Ian has 20 years of experience in Digital Banking, Product Management and Financial Services Innovation. Prior to this role Ian was the Middle East, North Africa and Turkiye Regional Head of Innovation for GPS at HSBC.

Lewis Sun, Managing Director, Head of Domestic and Emerging Payments, Global Payments Solutions, HSBC

Lewis Sun is Head of Domestic and Emerging Payments for Global Payments Solutions at HSBC. He was appointed in May 2022 after various roles in China and Hong Kong since joining the bank in 2002. He was appointed to lead the South China cash management business in 2008, then became Head of Sales for Global Payments Solutions (GPS) in China in 2010, providing cash management solutions and advice to corporates across mainland China. He was appointed Head of GPS, HSBC China in February 2015, then Regional Head of Product for GPS in Hong Kong in 2017. He has played an instrumental role in driving digital transformation and innovation to support evolving client needs.

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