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IUKFP

India - UK Financial Partnership

Harnessing the power of FinTech and data

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Contents

Foreword **3**

Introduction **4**

Background **5**

Executive summary of recommendations **7**

Part 1: United Kingdom **9**

- Kalifa Review Recommendation: Launch international FinTech and build alignment with developing markets 9
- Kalifa Review Recommendation: Secure access to global talent 11
- Kalifa Review Recommendation: Implement a coalition on digital ID 12
- Kalifa Review Recommendation: Improve the listing environment 13

Part 2: India **15**

- Leveraging the India Stack 15
- Inter-operability and bank switching 17
- Central bank digital currency 18
- Cross-border trade, SME financing and financial technology 22
- Enhance the FinTech ecosystem with cybersecurity and data protection 23

Next steps **25**

Acknowledgements **26**

- Special thanks 26
- FinTech working group members 26

Foreword

The Finance Minister of India and the UK Chancellor of the Exchequer launched the India-UK Financial Partnership (IUKFP) in 2014 to deepen financial services links between the two countries. At the 10th India-UK Economic and Financial Dialogue in October 2020, the two governments strengthened and renewed the mandate of the Partnership as IUKFP 2.0, the leading forum for financial services cooperation between India and the UK. Since its establishment in 2014, the Partnership has created a strong network for discussion and interchange of ideas across the UK and India. From 2014 to 2017, the Partnership played a pivotal role in deepening bilateral relations, supporting policy development and generating commercial opportunities.

During its term, IUKFP 1.0 published nine policy papers addressing the development of India's corporate bond market, pensions, insolvency regulations, infrastructure funding, reinsurance, financial inclusion, stewardship code, green finance and internationalisation of the Indian rupee. IUKFP 2.0 is supported by distinguished leaders from across the Indian and UK financial and related professional services industries, as well as representatives from both governments and regulators in the UK and India. It is assisted by the joint secretariat provided by Kotak Mahindra Bank in India and TheCityUK in the UK.

With the support of the Ministry of Finance and HM Treasury, IUKFP 2.0 has identified new work-streams with the objective of making recommendations aligned with the policy priorities of the two governments. To this end, the IUKFP identified FinTech and data as a key opportunity for UK-India cooperation; both countries have thriving FinTech ecosystems and are pioneering different areas of digitisation of the banking system. Domain experts and practitioners from the IUKFP's member organisations in India and the UK worked in sub-groups and made significant contributions to this paper.

We are extremely grateful to all the contributors for providing their valuable expertise, insights and time to the work of the Partnership. The IUKFP and the practitioners that contributed to this paper look forward to having further discussions on the recommendations made in this paper with policymakers in India and the UK.

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Introduction

India and the UK are both leaders in FinTech innovation. Their FinTech environments are already closely linked with much of the technology development and operations for UK financial services coming from India, and UK FinTechs entering the Indian FinTech market. The UK's expertise in areas such as open banking and the introduction and development of the regulatory sandbox are seeding new global ideas. India has created an immense digital infrastructure and become a world leader in financial inclusion with the Aadhaar programme. This innovation in domestic markets can build opportunity for unique collaboration in FinTech between the UK and India as the world continues to embrace digitisation post-pandemic.

The IUKFP has the mandate to explore the areas in which the FinTech and data corridor between both countries can be enhanced and accelerated. The IUKFP aims to bring together expertise, and to recognise and articulate the areas where there is scope for partnership. This report aligns our efforts with the existing policy development already underway between the UK FinTech and Indian ecosystems. The suggestions of this group are practitioner-led and come directly from the working group which has focused on areas that have the most potential to create impact. We would like to offer our sincere thanks to everyone in the working group for their efforts to bring this together.

From the UK side, the goal has been to suggest recommendations in line with the Kalifa Review through an India lens. This strengthens the broader push to take up these recommendations as part of a wider initiative. Their input across the group has been wide ranging and include macro issues such as talent development and specific considerations such as digital ID.

From the India side, we consider how India's extraordinary digital financial and data infrastructure can be utilised to stimulate the growth of FinTech and partnerships between India and the UK. More specifically, we articulate and discuss areas that leverage India's existing digital infrastructure. The areas of household and retail finance, digital open banking, central bank digital currencies, and FinTech supporting the development of SMEs in cross-border trade are in focus. How can initiatives in these areas be improved, tweaked for more impact, and used to create avenues for global use and for the betterment of the UK and India financial services corridor?

The path ahead is filled with plans for engagement with existing structures, collaboration with relevant regulators, and drawing on the considerable expertise of the contributors. As the UK and India seek to better utilise the existing digital ecosystem that has been created, we want to ensure there are practical suggestions of the synergies and how both countries can partner for mutual benefit. We hope this will result in concrete outcomes, and more broadly, continue the discussion between UK and India in the exciting area of FinTech.

Background

The UK is a leading hub for financial services with a well-established, thriving ecosystem for innovation in finance and technology. India is a leading hub for information technology, and a rapidly expanding user of FinTech services. The UK FinTech sector makes up a large fraction of the global market, and India, currently the third largest in the world, is rapidly making strides towards becoming a FinTech hotbed, both in terms of growth and in terms of creating meaningful improvements to the economic lives of households and firms. The recommendations from the IUKFP working group focus on how India can contribute to the UK's ecosystem, and the UK to India's financial inclusion and growth agenda. The recommendations are organised into two parts. Part 1 focuses on the UK and the recent Kalifa Review of UK FinTech, and how India can be a leading partner in paving the way for the review's recommendations to be implemented. Part 2 focuses on India and how its leading digital infrastructure can be leveraged further to strengthen its FinTech ecosystem and contribute to its financial inclusion agenda.

Note from Ron Kalifa

In February 2021 I published a review of UK FinTech.[1] The review sets out a strategy and delivery model for us to continue to assert this leadership. It combines recommendations to support FinTech start-ups and scale-ups to access the capital, skills and regional and international expansion opportunities they need to succeed, together with important measures to ensure the industry remains underpinned by world-leading policy and regulation.

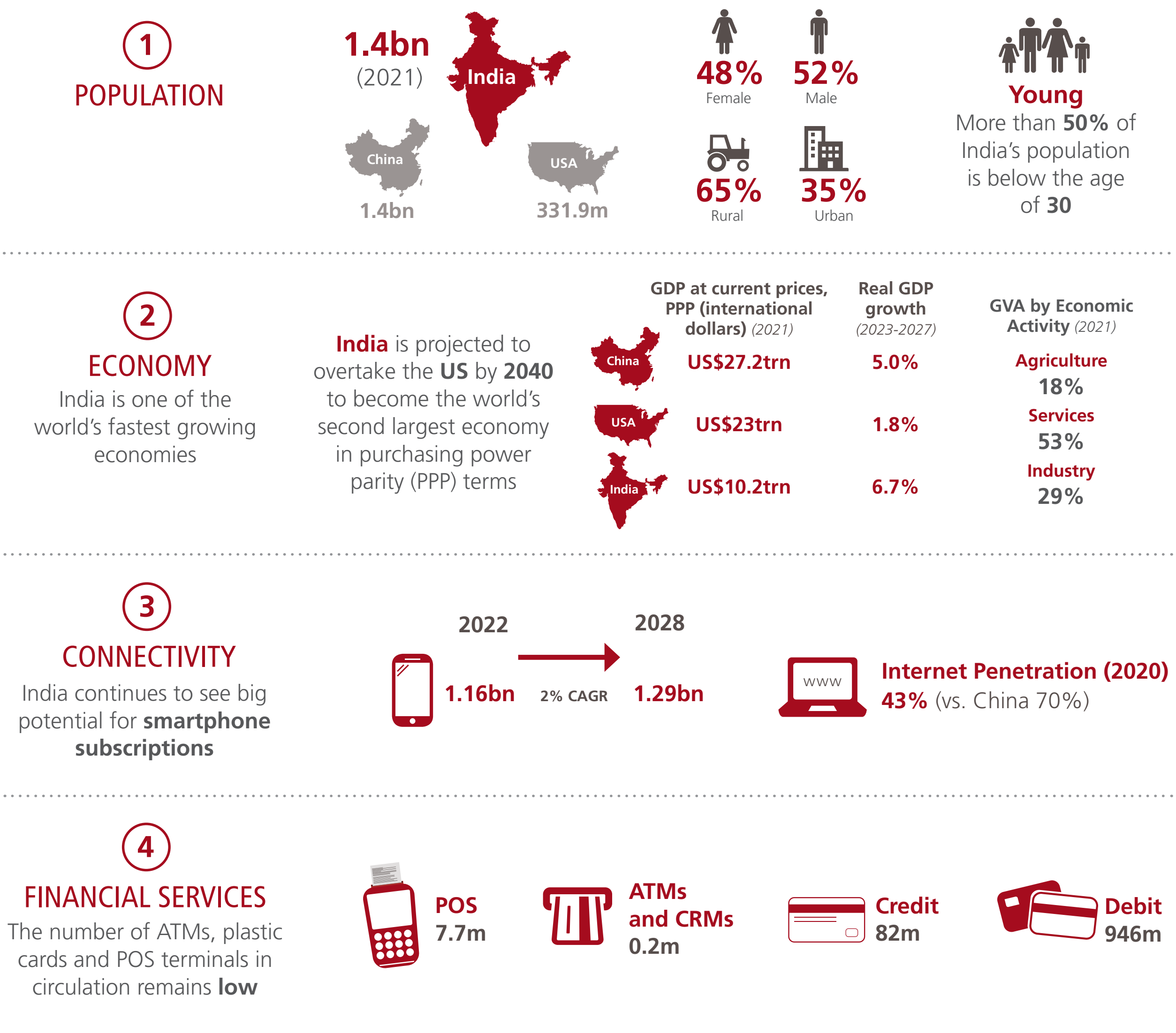
India, too, has a strong and well-established FinTech centre – the third largest in the world, with one of the highest expected returns on investment. India's FinTech industry is estimated to be worth $160bn by 2025. Its size and potential, bolstered by high levels of government support, make India not just one of the most promising FinTech markets, but also a natural partner for the UK.

The IUKFP has provided expert analysis into the review's recommendations, outlining the opportunities for collaborating with India in their implementation.

I would like to thank the co-chairs, Sherry Madera and Professor Tarun Ramadorai, for ably leading the discussions and driving this agenda forward and to members of the group for their valuable inputs into the IUKFP report.

[1] UK Government, 'The Kalifa Review of UK FinTech', (February 2021), available at: https://www.gov.uk/government/publications/the-kalifa-review-of-uk-fintech

Figure 1: India country profile



Source: 1) Population data: World Bank, Census India. 2) Economy: IMF. 3) Connectivity: Ericsson Mobility Report: India Market Overview – November 2022, World Bank. 4) Financial Services: Reserve Bank of India, Bankwise ATM/POS/Card statistics – January 2023 data

Executive summary of recommendations

No.	RECOMMENDATION	SUB-RECOMMENDATION	TARGET
UK			
1.	Launch international FinTech and build alignment with developing markets	• Implement 'International FinTech Credential Portfolio' scheme, using India as pilot • Learn from India Stack – Open API platforms • International FinTech Portal using India as pilot	• HM Government • Financial Conduct Authority (FCA) • Open Banking Implementation Entity (OBIE) • Financial Data and Technology Association (FDATA) • UK Finance • Department for Science, Innovation and Technology (DSIT) • Department for Business and Trade (DBT) • Information Commissioner's Office (ICO)
2.	Secure access to global talent	• Survey UK FinTechs on the talent needs that cannot be accessed domestically • Articulate and target the key clusters of FinTech expertise in India • Scale up and target migration and mobility partnership with a FinTech lens	• Innovate Finance (IF) • DBT
3.	Implement a coalition on digital ID assembling various stakeholders	• Implement a coalition on digital ID using Indian expertise. Ensure formal collaboration with digital identity strategy board and Innovate Finance • Hold a workshop with the Unique Identification Authority of India (UIDAI) and National Payments Corporation of India (NPCI) to learn from Aadhaar	• HM Treasury • DSIT • DBT • ICO • Unique Identification Authority of India (UIDAI) • National Payments Corporation of India (NPCI)
4.	Improve the listing environment through free-float reduction, dual class shares and relaxation of pre-emption rights	• Establish the linkages and settlement solutions that will enable Indian equity shares to be settled on Crest (EUI) • Promote benefits of Indian Overseas Equity Shares Listings Policy • Poll Indian FinTechs to understand key concerns for raising capital overseas (Singapore vs USA)	• HMT • Euroclear • DBT • London Stock Exchange Group (LSEG) • National Association of Software and Service Companies (NASSCOM) • Internet & Mobile Association of India (IAMAI)

No.	RECOMMENDATION	SUB-RECOMMENDATION	TARGET
India			
5.	Leveraging the India Stack	• Enable new firms, domestic and international, to leverage the account aggregator framework. The regulatory sandbox may prioritise innovation along this dimension • Enable new firms, domestic and international, to contribute to the building of the National Health Stack. The regulatory sandbox may prioritise innovation along this dimension • Implement a common set of standards for regulated entities to address cybersecurity concerns associated with open banking • Take India Stack global, with the UK as a priority partner	• Reserve Bank of India (RBI) • Ministry of Finance • Insurance Regulatory and Development Authority of India (IRDAI) • Indian Computer Emergency Response Team (CERT-In) • NPCI
6.	Inter-operability and bank switching	• Introduce seamless bank switching services in India and account portability, learn from UK current-account switching framework • Explore usage of the Unique Customer Identification Code to create a centralised database to harmonise bank account details across banks, both domestic and international operating in India. UK banks in India as a pilot • Utilise joint membership of the Financial Action Task Force (FATF) to adopt global standards for electronic Know Your Customer (eKYC) and AML checks • UK-India recognition of digital KYC for non-resident Indians	• RBI • MoF • Prime Minister's Office (PMO) • Financial Intelligence Unit of India (FIU)
7.	Central bank digital currency (CBDC)	• Mapping CBDC to the India Stack • Jointly explore a two-tiered CBDC system and study its macro-finance implications through the creation of an expert India-UK task force • Inter-operability between existing mobile wallets and payments services • Joint research on bilateral wholesale CBDC between the UK and India	• RBI • NPCI • MoF • Bank of England • Financial Stability Board (FSB) Cross-border Payments Roadmap
8.	Cross-border trade, SME financing, and financial technology	• Build a common India-UK platform to enable trade, procurement, and financing for SMEs, using existing financial architecture • Agree principles including IP/data protection, resolution mechanisms, compliance with data/privacy rules • Learn lessons from the Singapore/Philippines collaboration through an applicability study for the UK and India	• Ministry of Micro, Small and Medium Enterprises (MSME) Ministry • MoF • Small Industries Development Bank of India (SIDBI) • Credit Rating Agencies
9.	Enhance the FinTech ecosystem with cybersecurity and data protection	• Establish cybersecurity and information sharing mechanisms for specialist firms from India and the UK to learn and develop bilaterally • Ally India and UK data-sharing regimes to share best practices and areas of further cooperation • Monitor developing international regimes on cybersecurity to create alliances at the regulatory and financial sector levels, encourage FSP adoption	• UK's National Cyber Security Centre (NCSC) • Indian Computer Emergency Response Team (CERT-In) • Cyber and Information Security Division (C&IS) • DBT • Ministry of Electronics and Information Technology of India (MEITY) • IUKFP members

Part 1: United Kingdom

KALIFA REVIEW RECOMMENDATION: LAUNCH INTERNATIONAL FINTECH & BUILD ALIGNMENT WITH DEVELOPING MARKETS

IUKFP Response: India should be a priority partner

The UK requires international collaboration in terms of investment and talent to continue the growth of its FinTech ecosystem. Growth markets across the world are vying for the innovation that UK FinTechs can provide. India should be a priority market for UK firms in view of the market opportunity and the existing relationship between the UK and India financial services sectors, as well as the link between the countries' respective technology companies.

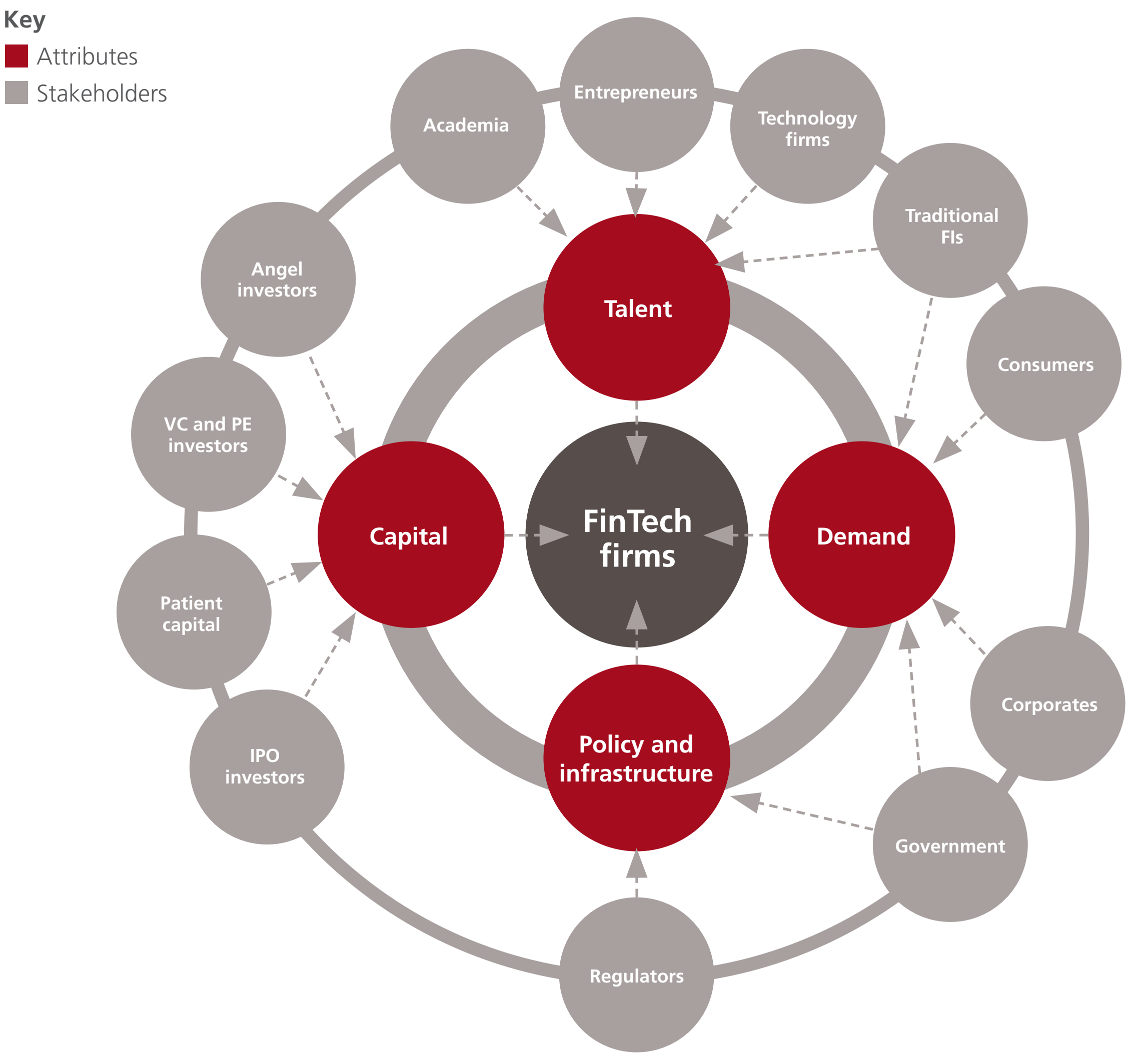
Why India?

India is a rapidly emerging hub for FinTech firms, which is being accelerated through its 'leapfrog' infrastructure initiatives. From about £210m investments in 2016, it has rapidly grown to £3bn, with over 2,000 FinTechs. The market has witnessed a high level of adoption and awareness from consumers and is blessed with an enabling policy environment that seeks to use FinTech to achieve the broader economic welfare agenda of the Indian government. The present ecosystem has a strong market in payments (c.20% of FinTechs), lending (c.17%), WealthTech (c.15%) and personal financial management (c.8%). Naturally, these sectors present an opportunity for potential collaboration, and other areas of FinTech present growth opportunities. In addition to the growth potential, the UK and Indian financial sectors are deeply inter-connected, with over 250,000 operations and technology individuals in India working directly for the UK financial services sector.

The recommendations below seek to strengthen this relationship by making India the priority partner for the UK in building an alignment with developing markets.

RECOMMENDATION	TARGET AUTHORITY	POTENTIAL IMPACT
Implement 'International FinTech Credential Portfolio' scheme, using India as pilot.	HMG	Providing UK FinTechs increased credibility via which to penetrate the Indian market. Boosting their visibility, showcasing their track record and enabling them to faster grow in the Indian market.
Learn from India Stack – Open API platforms.	FCA, HMT, OBIE, FDATA, UK Finance	Improve policy development and better understand the successful ways in which India has utilised its technology stack. Position India as a thought leader in digital infrastructure. Leverage Indian firms and their expertise in rapidly rolling out such infrastructure in the UK.
Launch International FinTech Portal, using India as pilot.	DSIT, ICO, DBT	Raising awareness of the UK as a destination for international expansion and providing a suite of services and contacts to support FinTechs in doing so. Helping to accelerate the journey for international FinTechs into the UK.

Figure 2: The FinTech Ecosystem



(Reproduced with the permission of report authors: EY, 'UK FinTech: Moving mountains and moving mainstream', commissioned by the City of London Corporation and Innovate Finance)

KALIFA REVIEW RECOMMENDATION: SECURE ACCESS TO GLOBAL TALENT

IUKFP Response: Articulate talent requirements of the UK FinTech ecosystem and raise awareness of Indian expertise and new routes for transfer to the UK

The UK government has committed to taking forward the Kalifa Review's recommendation of a new FinTech Scale-up Stream and agreed a Migration and Mobility Partnership with India in May 2021. Both enhance access to Indian talent and support scale-up growth in FinTechs.

What do UK FinTechs need?

Over the last four years, UK FinTech scale-ups have increased their demand for more:

- Finance specific talent (35%)
- Data analysts (25%)
- Engineers (18%).

Technology, data and business skills were the most sought-after skills by UK FinTech scale-ups, according to last year's listed job adverts.

How can India help?

India is one of the fastest-growing FinTech markets in the world and is the global leader for FinTech adoption. It is host to over 2,000 FinTech firms already, with most firms set up in the last five years alone. The combined capitalisation has been estimated to be worth $160bn by 2025. This offers deep pools of specialised talent, and opportunities for collaborating with UK FinTechs.

India ranks highly in terms of business and technology skills. The opportunity for India to establish itself as a global talent hub for emerging technologies cannot be downplayed, with the workforce itself projected to increase by 27% to 600 million by the end of 2022.

The case for India's workforce and talent in deepening the FinTech sector in the UK forms the basis of our recommendations below.

RECOMMENDATION	TARGET AUTHORITY	POTENTIAL IMPACT
Survey UK FinTechs on the talent needs that cannot be accessed domestically.	IF	Understanding of talent needs for the UK FinTech ecosystem. Better informed decisions about which Indian clusters can be better matched and targeted for recruitment.
Articulate and target the key clusters of FinTech expertise in India.	IF, DBT	Better awareness of Indian FinTech ecosystem and clusters of talent to match the gaps in the UK.
Scale up and target migration and mobility partnership with a FinTech lens.	DBT, IF	UK FinTechs able to meet the talent needs that cannot be fulfilled domestically. Utilisation of existing mobility schemes for key growing sector.

KALIFA REVIEW RECOMMENDATION: IMPLEMENT A COALITION ON DIGITAL ID, ASSEMBLING VARIOUS STAKEHOLDERS

IUKFP Response: Ensure collaboration with Indian firms and authorities to learn from Indian Aadhaar system

The UK and India approaches to digital ID are different, in that the Aadhaar system is wholly government issued, whereas the UK Government sets the parameters to enable a private-sector led Government ID market to flourish. Nonetheless, there are likely to be lessons learnt from the Indian experience that may benefit the UK Government as it refines its Trust Framework.

What is Aadhaar?

The Aadhaar number is a 12-digit random number issued by the UIDAI to residents of India. Any individual, irrespective of age and gender, who is a resident of India may voluntarily enrol to obtain an Aadhaar number. A person willing to enrol must provide minimal demographic and biometric information during the enrolment process which is free of cost. Aadhaar is a strategic policy tool for social and financial inclusion, public sector delivery reforms, managing fiscal budgets, increasing convenience and promoting hassle-free people-centric governance.

It is the largest biometrics-based ID system in the world with almost 99% of Indian citizens having an Aadhaar number. It is widely used to provide bank account access and direct benefit transfers as well as processing micropayments.

What is the National Payments Corporation of India International?

The National Payments Corporation of India has created a wholly owned subsidiary, the NPCI International Payments Limited (NIPL). NIPL seeks to deploy RuPay (a domestic card scheme) and UPI (mobile payment solution) outside of India.

NIPL is building acceptance network for RuPay and UPI which will help Indian travellers pay with their domestic payment channels overseas. NIPL can offer other countries technological assistance in building a domestic card scheme of their own. There have already been such partnerships with organisations in the US, Japan and China.

What will HM Government be seeking?

The UK Government recognises that digital ID can be used to improve financial inclusion and therefore the trust framework will set rules which facilitate digital ID services to be as inclusive as possible.

The levelling-up agenda seeks to minimise regional inequalities in the UK and to increase financial inclusion.

RECOMMENDATION	TARGET AUTHORITY	POTENTIAL IMPACT
Implement a coalition on digital ID using Indian expertise. Ensure formal collaboration with digital identity strategy board and Innovate Finance.	HMT, DSIT, ICO	UK to learn from India's national ID scheme. Coalition to include Indian membership to showcase best practice to ensure successful creation, usage and coverage of UK framework. India positioned as a sector expert and links between UK and Indian FinTech communities strengthened through formal collaboration.
Hold a workshop with the Unique Identification Authority of India (UIDAI) and National Payments Corporation of India (NPCI) to learn from Aadhaar.	DSIT, ICO, HMT, UIDAI, NPCI	UK to learn from India's national ID scheme, specific examples focused on financial inclusion and last mile delivery to be explored with the UK context. Sharing of specific examples for the levelling-up agenda to help ensure implementation is better informed.

KALIFA REVIEW RECOMMENDATION: IMPROVE THE LISTING ENVIRONMENT THROUGH FREE FLOAT REDUCTION, DUAL CLASS SHARES AND RELAXATION OF PRE-EMPTION RIGHTS

IUKFP Response: Develop the listings pipeline and adapt narrative of the UK being a complementary source of capital for Indian FinTechs

What is the current situation?

In the last ten years, Indian FinTechs have attracted almost $10bn in equity capital with digital payments and lending being the key sectors. The existing digital infrastructure of India has been paramount for this growth, specifically the Unified Payments Interface (UPI). The number of digital payments account for almost one third of retail transactions. There is huge growth, expertise in the growing FinTech clusters and international ambition.

India has in a short space of time developed a very strong tech IPO pipeline with top Indian FinTechs (PayTM and Policy Bazaar) going public with their domestic IPOs. Indian FinTechs that have an overseas incorporation, in jurisdictions such as Singapore, retain the ability to list overseas.

How can the UK help?

The UK can be an attractive complementary source of capital, particularly when compared with the US and EU. For those firms looking for exposure to more international investment, more than 40% of technology investment from institutional investors comes from outside the UK.

UK IPO aspirants can benefit from more streamlined regulatory and compliance processes as well as lower underwriting fees when compared to markets such as the US. The UK IPO process, which involves early and comprehensive pre-deal engagement with investors, leads to more accurate pricing resulting in the absence of excessive IPO 'Pops' and much lower first-day churn.

Improving the listings environment further by implementing recommendations from the Kalifa and Lord Hill reviews would provide Indian FinTechs with a solid base to attract further capital and a second market for development.

RECOMMENDATION	TARGET AUTHORITY	POTENTIAL IMPACT
Establish the linkages and settlement solutions that will enable Indian equity shares to be settled on Crest (EUI).	HMT, Euroclear	The UK becomes more attractive for Indian FinTech firms that are considering raising growth capital overseas.
Promote benefits of Indian Overseas Equity Shares Listings Policy.	HMT, LSEG	Higher proportion of Indian FinTechs listing in the UK vs other overseas options.
Poll Indian FinTechs to understand key concerns for raising capital overseas (Singapore vs USA).	DBT, NASSCOM, IAMAI	Better understanding of the considerations of Indian FinTechs looking at international expansion and raising capital overseas.

Revolut enters India

Revolut, the UK's fastest-growing technology company, in 2021 entered the Indian market with a multi-million-pound investment and the appointment of Paroma Chatterjee as India CEO.

With remittances to India standing at $89bn in 2021/22 and remittances from India at $12.7bn, the Indian market presents a significant opportunity for FinTechs to help this channel to grow. Creating jobs in India, adding to the financial inclusion ecosystem and helping improve capital flows between the two countries makes the market entry mutually beneficial for India, the UK and Revolut.

Within 12 months of entry into India, Revolut created 300 new jobs in India and 60 new jobs in the UK, and plans to create hundreds more. The Revolut India subsidiary will also serve as an operations and engineering hub for Revolut's global business, reflecting the skills and talent available in the Indian market. Access to talent is a crucial focus for FinTechs as they scale across markets and launch new products.

There have been several key components that have supported and accelerated Revolut access to the Indian market.

1. Working with the Department for International Trade on the ground in India, Revolut engaged with key decision-makers as they looked to expand and seek regulatory authorisation. A network of introductions by HMG allowed for quicker access to decision makers within the regulatory authorities.

2. Finding the right local talent has been paramount to the expansion. Being able to draw on experienced and knowledgeable skills in India has enabled faster growth, not just in India, but also for the UK HQ.

3. Being plugged in to existing HMG and UK initiatives such as the IUKFP and the proposed FinTech Credential Portfolio helps to establish a foundation of credibility that supports the dialogue with Indian regulators and government stakeholders.

Revolut have utilised the support available from HMG and the innate suitability between markets to expand into India. Ensuring that further UK FinTech Ecosystem recommendations such as the Kalifa Review consider the international aspirations of UK FinTechs is paramount. **Revolut is proof of existing demand for UK FinTechs seeking to expand into India and to further create partnerships between the UK and India communities.**

Part 2: India

In this section of the report, we draw and build on expert committees set up by Indian regulatory agencies and the Ministry of Finance such as Garg Committee on Fin-Tech related Issues in India, Nilekani Committee on Deepening Digital Payments in India, Ramadorai Committee on Household Finance, Mor Committee on Comprehensive Financial Services for Small Businesses and Low Income Households, and the Sen Committee on FinTech and Digital Banking.

LEVERAGING THE INDIA STACK

The India Stack is a set of APIs that allows government, businesses, start-ups, and developers to utilise a common digital infrastructure. It is, in essence, the combination of the NPCI's projects for digital payments, and Aadhaar's identity and authentication engine via APIs.

The India Stack is accessible using a simple mobile phone interface, and it has allowed millions of Indians to leapfrog into the FinTech era. India's government has led the creation of this tech stack, from identity verification to digital payment and other services, which makes India's FinTech infrastructure a pioneering platform.

Aadhaar authentication The UIDAI was set up in 2009 and is responsible for Aadhaar, which is a verifiable 12-digit identification number issued by UIDAI to Indian residents.	• Approximately 55 billion Aadhaar authentications have been conducted to date, with the most recent 12 monthly-average numbering 1 billion. • 9.3 billion eKYC authorisations have been conducted to date, with the most recent 12-monthly average numbering 86 million. • An estimated 200 million eSignatures have been authenticated over the past 24 months.
Aadhaar-enabled payment system (AEPS) The AEPS is based on Aadhaar Authentication. This, combined with the RBI's Business Correspondent (BusCorr) model, has enabled the delivery of banking services in remote areas with minimal physical infrastructure, helping to solve the 'last mile' delivery problem.	• The total value of transactions through AEPS was Rs255bn in December 2022, up from Rs180bn in May 2020. The most recent 12 monthly average on the system amounts to Rs279bn.
Unified Payments Interface (UPI) The UPI is a real-time payment system that permits money transfers between bank accounts. Any UPI client app may be used to access the system, and multiple bank accounts may be linked to a single app. Money can be sent or requested using a QR code, a mobile number, a virtual payment address or UPI ID, or an Aadhaar plus account number with an IFSC code.	• The total value of transactions flowing through UPI has more than doubled from Rs8.3trn in December 2021 to Rs12.8trn in December 2022 • The most recent 12 monthly average transactions volume is Rs3.9trn.
Digital Locker (DigiLocker) Targeted at the idea of paperless governance, the DigiLocker is a platform for the issuance, electronic storage, and verification of documents and certificates in a purely digital way.	• There are more than 150 million registered users on DigiLocker, who have uploaded 5.6 billion authenticated issued documents as of March 2023. There are over 2,300 issuer organisations on the platform. • There were more than 15 million life insurance and 32 million health insurance policies on DigiLocker as of 2021.

The India Stack has significantly simplified identity verification and streamlined payments in India. The next two important categories of financial transactions to be migrated to this platform are credit and insurance. Small businesses and individuals have had limited access to credit and insurance often arising from difficulties of identity verification and the lack of historical data. With Aadhaar authentication, the DigiLocker, and digital payments, small businesses and individuals can be more easily identity-verified and have easy access to rich data footprints. This in turn paves the way for easy access to loans and insurance. Keeping in mind DEPA (the Data Empowerment and Protection Architecture), in which data privacy issues must be considered, we highlight three key recommendations below.

Indian firms have developed enormous expertise in rolling out low-cost, high-functionality FinTech products that can work with ease under challenging conditions. The partnership between the UK and India can support initiatives to take this expertise global.

RECOMMENDATION	TARGET AUTHORITY	POTENTIAL IMPACT
Enable new firms, domestic and international, to leverage the account aggregator framework, built on the shoulders of the India Stack. The regulatory sandbox may prioritise innovation along this dimension. India-UK pilot to be explored.	RBI, MoF	The consensual sharing of financial information related to individual's income, historical payments and assets can unlock value for consumers, formalise credit markets, and deepen the FinTech sector.
Enable new firms, domestic and international, to contribute to the building of the National Health Stack, and leveraging the informational role of this entity through the India Stack. The regulatory sandbox may prioritise innovation along this dimension. India-UK pilot to be explored.	IRDAI, MoF	Combining the National Health Stack with the AA framework can unlock value in the insurance industry and rapidly allow InsurTech to grow and contribute to the financial inclusion agenda.
Implement a common set of standards for regulated entities to address cybersecurity concerns associated with Open Banking. India-UK test case to be explored.	RBI, CERT-In	Common standards can engender greater willingness for regulated entities to join forces, thus reducing the fear of a weak link that can result in cyber attacks.
Take India Stack global, with the UK as a priority partner.	RBI, NPCI, MoF	The 21st century Indian financial architecture is a template for many emerging markets with sizeable unbanked populations, as well as for disadvantaged populations in advanced economies. It also dovetails well with the levelling up agenda of the current UK government and can help provide a fillip to lower income regions in the UK. NPCI International and Indian FinTech firms can leverage their expertise on this platform to move into markets and market segments that face similar challenges to those faced in India.

INTER-OPERABILITY AND BANK SWITCHING

Seamless bank account switching was explored by the RBI in 2017, when banks were urged to work towards Account Number portability, with the underlying intent of far-reaching steps towards enhancing competition and improving customer service. The possibility of such proposals was pegged to technological advances in Indian financial markets such as enhanced payments systems (e.g. UPI), Aadhaar, eKYC and other such developments.

Challenges and opportunities

The proposal to enable portability was opposed and ultimately put on the back burner, on account of multiple concerns, including:

Volume of bank accounts in India	Portability, given the large volume of bank accounts in India, requires enormous ability to scale technology to higher levels than has been done to date.
Core banking systems	Core banking systems are not standardised across the banking sector. Each bank has its own system of dealing with accounts, which can pose additional hurdles in setting up an account switching service.
Account details	Presently banks follow multiple formats for account numbers. For example, there are different digits in different account number systems adopted by different banks. Additionally, each bank has its own IFSC codes, and a format for login details which are unique to specific entities. Without a centralised system of retaining and harmonising account details, it may be challenging to allow portability.
KYC	Concerns have been raised on KYC requirements, in terms of the process that will be required to be adopted by any new onboarding entity, and the extent of reliance that needs to be placed on the off-boarding entity. India and the UK have common interests to further the ability of financial service companies to provide seamless services (including switching services) to non-resident Indians (NRIs) in both countries, and to reduce restrictions on Indian bank account opening for NRIs who wish to remit or receive monies to or from India.

RECOMMENDATION	TARGET AUTHORITY	POTENTIAL IMPACT
Introduce seamless bank switching services in India and account portability – learn from UK current account switching service framework.	RBI, MoF	Generate competition and improve services for retail consumers of financial services.
Explore usage of the Unique Customer Identification Code to create a centralised database to harmonise bank account details across banks, both domestic and international operating in India. UK banks in India as a pilot.	RBI, MoF	Creating this public infrastructure is likely to reduce transaction costs for utilising AA frameworks, bank switch infrastructure, and importantly allow for consumers to have improved services.
Utilise joint membership of the Financial Action Task Force (FATF) to adopt global standards for eKYC and AML checks.	MoF	International harmonisation is likely to allow for global competition to improve performance and boost productivity in India. Similarly, Indian firms will then be able to achieve economies of scale in their operations, thus making them competitive globally.
UK-India recognition of digital KYC for non-resident Indians.	MoF, PMO, RBI, FIU	NRIs have been an important part of India's global footprint. Recognising their digital KYC certification in UK and India can further cement their investments and deepen the India-UK bond.

UK firms have developed the technical know-how and functioning infrastructure to build on the UK's Open Banking framework, and in connecting FinTech with other areas such as consumer retail and healthcare.

The partnership between the UK and India can also act as a bridge to move financial inclusion in India forward by tapping into this expertise.

CENTRAL BANK DIGITAL CURRENCY

Since 2017, there has been a growing worldwide interest in alternate money mechanisms such as cryptocurrencies and the use of digital wallets. These digital payment mechanisms offer transformative potential to simplify payments and operate independently of financial intermediaries.

The Bank of England is actively researching issues related to CBDCs. It has played an important role in international discussions as well as working with the Committee on Payments and Market Infrastructure.

This digital shift is challenging the core role of central banks, which have traditionally had the responsibility of controlling the production and distribution of money.

Central banks have embarked on investigating CBDC as a concept and its implications for public policy. They would act as legal tender and constitute central bank liabilities in digital form. The idea is that such electronic currency can be converted or exchanged on a par with similarly denominated cash and traditional banking deposits.

The Government of India announced in the 2022 Union Budget, presented in February, plans to introduce a digital rupee as legal tender, whilst levying a tax of 30% on capital gains on cryptocurrencies that are not the digital rupee. In November 2022, India launched a pilot for a digital rupee for wholesale use, followed by the launch of a pilot for a retail digital rupee in December.

BENEFITS

Avoid systematic risk: Existing systems of digital payments are owned by a host of private companies with players such as Phone Pay (44%), Google Pay (controlling 35% of the market share in UPI), and Paytm, which controls around 50% of the P2M (payment-to-merchant) market. There are vulnerabilities and systematic risk embedded in this market share to issues such as fraud or corporate insolvency.

Financial inclusion: A well-designed CBDC framework could help to deepen financial inclusion and enhance financial stability by furthering to goals of a resilient and secure payment system. Many of the unbanked lack identifying documentation, making it difficult to implement traditional KYC (or eKYC) and AML processes. This has the negative result of excluding such citizens from formal banking systems. As smartphone and internet connection penetration grow, any citizen, even in the absence of having a bank account, could use CBDC to send and receive money.

Efficient payment system: The current model for cross-border payments relies upon central banks operating payment infrastructure such as RTGS or SWIFT, which obliges commercial banks to settle transactions. However, there are limitations imposed by this need, such as time lags associated with cross-jurisdictional payments, during which counterparties to transactions are exposed to each other's credit and settlement risk. Using CBDCs could help to overcome such challenges by permitting transactions to be conducted over all 24-hours, permitting anonymity where needed, and helping to manage and mitigate counterparty credit risk.

Reporting and data transmission to regulators: Depending on the scheme of distribution that is followed, CBDCs could provide greater ease of real-time data tracking to central banks. While privacy concerns need to be considered seriously in this space, this has potential benefits including a) improving policy transmission mechanisms, and b) permitting easy access by regulators to transaction histories.

Figure 3: Developments in Central Bank Digital Currency (CBDC) Globally

119 countries / currency unions tracked

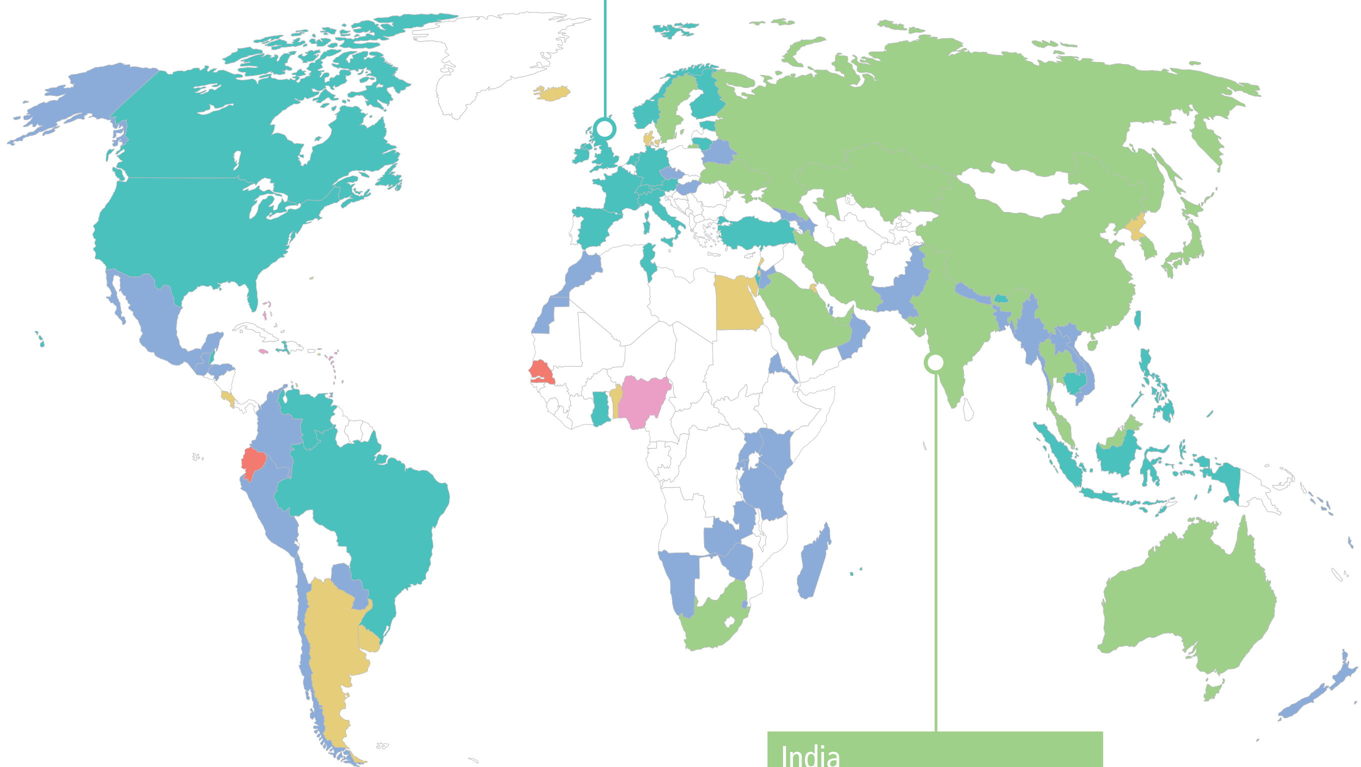
Source: Atlantic Council, 'Central Bank Digital Currency Tracker'

Status

- 11 Launched
- 8 Pilot
- 32 Development
- 39 Research
- 15 Inactive
- 2 Cancelled

UK

CBDC status: 'In development'
In February 2023, the Bank of England and HM Treasury released a consultation paper outlining the case for a digital pound.



India

CBDC status: 'Pilot'
In November 2022, the RBI launched a wholesale CBDC pilot programme in partnership with nine national banks.

CHALLENGES

Disintermediation risk: Retail CBDC could result in substantial bank disintermediation risk, where CBDC accounts 'crowd out' bank deposits, leading to reduced bank funding. As a result, banks could see reductions in total lending activity – which is a concern given the important screening and monitoring role that financial intermediaries have in the financial system.

Capital account convertibility: With respect to issuance of CBDC, the currency regulator, i.e. the Reserve Bank of India, may be required to address multiple challenges. These include among others, monitoring compliance with regulations pertaining to the convertibility of the Indian rupee, and alignment with other laws in the country (such as Payment and Settlement Systems, AML/CFT laws, and securities laws).

Depending on the system of distribution adopted by the central bank, the above definition could be extended in scope to include synthetic CBDCs, where central banks could engage with private sector payment service providers to issue liabilities against funds held at the central bank. International development of frameworks for cross-border CBDCs will be a critical part of the work on CBDCs moving forward.

Mitigating challenges from CBDC

Mitigating strategy: A two-tiered system of intermediation, instrument design, and monitoring

- Disintermediation: Synthetic CBDC (SCBDC) or two-tiered CBDC (approach taken by China).
  - In both these models, the central bank continues to act as a regulator and supervisor, while commercial banks or other third parties serve as user-facing intermediaries, managing accounts, customer service, design, distribution etc.
  - The key distinguishing feature of the CBDC two-tier model is that the central bank oversees currency issuance and transaction settlement.
  - In contrast, the SCBDC model entails private companies issuing digital coins, which serve as domestic units of account, fully backed by central bank reserves. The central bank licenses these operators and supervises them. In addition, legal structures ensure that user funds, held as central bank reserves, are isolated from any potential bankruptcy of SCBDC operators.
- Instrument design: Two vital design features for a CBDC would be whether CBDC is: (i) interest bearing or non-interest bearing and (ii) token-based (i.e. cash-like) or account-based (i.e. deposit-like).
  - A CBDC may be a blend of cash and deposits i.e. completely secure with some anonymity (unsupervised until there is some suspicion).
  - In order to limit the attractiveness of CBDCs in comparison with bank deposits, and to reduce risk of disintermediation, one might introduce non-interest-bearing CBDCs, or limits on conversion rates/amounts converted into CBDCs; or limits on the maximum amount users can hold in CBDC accounts.
- Better regulatory compliance: One potential benefit of a CBDC is that it can enable the RBI to better monitor compliance with extant laws, arising from transparent digital information trails and real-time monitoring of limits enforced by law. However, any privacy concerns would need to be considered very carefully.

CBDC is a new idea that both UK and Indian regulators are evaluating for use in their jurisdictions. The IUKFP can provide expertise to help unlock the potential of this innovation, and to measure and manage any risks arising to the domestic economy, including thoughtful design, and integration with other regulatory prerogatives such as capital account convertibility, or limiting contingent liabilities to the state exchequer.

RECOMMENDATION	TARGET AUTHORITY	POTENTIAL IMPACT
Mapping CBDC to the India Stack.	RBI, MoF, UIDAI	Digital finance trails will be transparent and identifiable, thus enabling regulators to perform their duties. Citizens' primary requirements for digital currencies include reliability and resilience. This requires clear accountability on account management, identity verification, and other safeguards. Unlock seamless digital finance with minimal transaction costs at both retail and wholesale level.
Jointly explore a two-tiered CBDC system and study its macro-finance implications through the creation of an expert India-UK task force.	RBI, FSB Cross-border Payments Roadmap	In such a system, intermediaries are responsible for managing individual accounts and customer relationships. Since all bank accounts are subject to mandatory eKYC and Aadhaar linkage, this could allow for easy biometric identification of users, which could help to secure the system. However, the Indian and UK central banks should study the macro-finance and financial stability implications of such a structure before coming to a decision.
Inter-operability between existing mobile wallets and payments services.	RBI, NPCI, MoF	Large-scale adoption of CBDCs would require further investments in the inter-operability of existing channels such as UPI, e-wallets, and bank accounts to unlock value to its full potential.
Joint research on bilateral wholesale CBDC between the UK and India.	RBI, BOE, FSB Cross-border Payments Roadmap	Improved system of cross-border payments between UK and India.

CROSS-BORDER TRADE, SME FINANCING AND FINANCIAL TECHNOLOGY

The total number of MSMEs in India is estimated to be 63 million. The majority are micro enterprises, with a higher number in rural areas than urban parts of the country. Approximately 40% of India's workforce are employed by MSMEs, second only to the agricultural sector.

MSMEs contribute almost a quarter of the service sector GDP and 6% of the manufacturing sector GDP. With almost 40% of total exports and 16% of bank lending they are a key part of the private sector in India.

Enabling these firms to leverage cross-border trade, procurement and financing could have a significant impact on the growth of the sector. Improved efficiencies, access to new supply chains and better competitiveness are all benefits to MSMEs. FinTechs have an opportunity to support by building and distributing customised financial products.

In November 2021, the Monetary Authority of Singapore (MAS) and Central Bank of Philippines (Bangko Sentral ng Pilipinas) announced a cross-border collaboration which facilitates new initiatives including a joint regulatory sandbox to test cross-border retail payment linkages. Similarly, MAS has also been exploring a trade SWITCH platform to help MSMEs connect globally, and access embedded services built around this core proposition.

KEY FACTORS FOR CROSS-BORDER TRADE	
Intellectual property and data protection.	All applicable national laws on intellectual property rights and data protection and security must be respected.
Dispute resolution mechanisms.	Establishing legal and other dispute-resolution mechanisms for firms from partner countries to resolve issues online.
Delineating consumer data and privacy jurisdiction.	Cross-border mechanisms will be needed to ensure compliance with consumer data and privacy laws in all partner countries.
Cross-border payments.	Cross-border payments are critical for cross-border commerce. Currently, such transactions involve multiple intermediaries and layers of fees.

RECOMMENDATION	TARGET AUTHORITY	POTENTIAL IMPACT
Build a common India-UK platform to enable trade, procurement, and financing for SMEs, using existing financial architecture.	MSME Ministry, MoF, RBI, SIDBI, and Credit Rating Agencies.	Unlock credit flow, improve competitiveness in provision of credit for SMEs in India through better cashflow discovery.
Agree principles including IP/data protection, resolution mechanisms, compliance with data/privacy rules.	MSME Ministry, MoF, SIDBI, and Credit Rating Agencies.	A well designed and governed platform is likely to be more sustainable in the long-run, and would help to provide sustained interactions with SMEs.
Learn lessons from the Singapore-Philippines collaboration through an applicability study for the UK and India.	SIDBI	The UK as a priority partner with a pilot setup in light of the UK-India Vision 2030 outline is likely to boost trade and financial flows.

ENHANCE THE FINTECH ECOSYSTEM WITH CYBERSECURITY AND DATA PROTECTION

The rapidly-growing FinTech space described in this paper creates new data by the second, shares it with partners under applicable laws, and also defends itself constantly against an ever-increasing volume of cyber attacks. Financial services firms already spend three times the amount that non-financial firms spend on cybersecurity. Further, cybersecurity is a key element of confidence in any effective global data-sharing regime which addresses privacy and data protection.

As partners desiring to grow in FinTech reach and investment, India and the UK both recognise the increasing need for enhanced cybersecurity measures to protect the space, as well as the creation of protected data-sharing partnerships to attract investment into the sector. Moreover, a robust cybersecurity and data-sharing environment is also required to deliver the impact from other recommendations in this paper.

The global FinTech ecosystem is composed of a set of roughly 200 large financial institutions and a very long, expanding tail of small and new enterprises, of which there are 2,000 in India alone. Common standards and alliances which allow the efficient defence and growth of this space are needed. While India and the UK cannot individually drive global standards, the IUKFP believes it would be beneficial for the two countries to ally with one another on the drafting and adoption of developing regimes. Such a harmonised approach could apply both at the regulatory and the institutional level.

For example, the Financial Services Sector Cybersecurity Profile (FSP) seeks to give financial institutions a simple framework to rely on by consolidating 2,300+ regulations into 277 diagnostic statements. The IUKFP urges wider adoption by UK and Indian institutions.

- The adoption of FSP has been slow in the UK and Asia Pacific, given that local market regulations continue to exist, which differ in approach, from a single unified global standard. In particular, regulators in the Asia Pacific region continue to prefer their local methodologies to understand cyber risk.
- Nevertheless, the adoption of FSP continues to grow in the Americas given the need to harmonise a global standard, which is efficient and consistent in the management of cyber risk.
- The NIST (National Institute of Standards and Technology) Cybersecurity framework containing the elements of "Identify, Protect, Detect, Respond, and Recover", continues to be the gold standard across all industries, and is one such input as part of FSP adoption.

Similarly, an enhanced dialogue between the Indian C&IS Division and the NCSC would allow for improved preparedness, information sharing (e.g. Aadhar/National ID security) and alliances.

KEY FACTORS FOR ENHANCING THE VALUE AND SECURITY OF THE FINTECH ECOYSTEM	
Data protection and privacy.	All applicable national laws and international standards on data protection and security must be respected.
Cybersecurity partnerships.	Strengthen the FinTech ecosystem to enhance security, value and opportunities for cross-border investment.
Cross-border data flows.	Cross-border data flows allow enhanced value-creation between and within international financial institutions. A truly useful FinTech ecosystem requires a secure and borderless framework to approach data flows.

RECOMMENDATION	TARGET AUTHORITY	POTENTIAL IMPACT
Establish cybersecurity and information sharing mechanisms for specialist firms from India and the UK to learn and develop bilaterally.	IUKFP members, NCSC, C&IS, CERT-In	Greater confidence, preparedness and investor attraction for FinTech in both countries.
Ally India and UK data-sharing regimes to share best practices and areas of further cooperation.	DBT, MEITY, IUKFP members, CERT-In	Jointly drive desired outcomes in emerging global data regimes.
Monitor developing international regimes on cybersecurity to create alliances at the regulatory and financial sector levels, encourage FSP adoption.	NCSC, C&IS, IUKFP members	Introduce efficiency, greater dialogue and engagement into UK-India financial sector cyber-security processes.

Next steps

The IUKFP FinTech Working Group presents these recommendations to improve UK-India FinTech collaboration in line with the existing UK policy development framework and focused on India's digital infrastructure. The next steps are for the recommendations to be discussed by the broader UK-India Joint FinTech Working Group led by HM Treasury and the Ministry of Finance which includes key regulators such as the FCA, BOE, SEBI and RBI.

The outcome of these deep-dives with regulators will be to assess feasibility and to develop implementation policy proposals based on the recommendations provided. The IUKFP remains an invested community that is on hand to support future government-to-government dialogue focused on FinTech and data.

The IUKFP is keen to support the movement of this important and exciting agenda going forward.

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Annex: List of acronyms

Acronym	Meaning
BOE	Bank of England
C&IS	Cyber and Information Security Division
CERT-In	Indian Computer Emergency Response Team
CRAs	Credit Rating Agencies
DBT	Department for Business and Trade
DSIT	Department for Science, Innovation and Technology
FCA	Financial Conduct Authority
FIU	Financial Intelligence Unit of India
HMG	His Majesty's Government
HMT	His Majesty's Treasury
IAMAI	Internet & Mobile Association of India
IF	Innovate Finance
IRDAI	Insurance Regulatory and Development Authority of India
IUKFP	India-UK Financial Partnership
LSEG	London Stock Exchange Group
MEITY	Ministry of Electronics and Information Technology of India
MoF	Ministry of Finance
MSME	Ministry of Micro, Small and Medium Enterprises
NASSCOM	National Association of Software and Service Companies
NCSC	UK's National Cyber Security Centre
NPCI	National Payments Corporation of India
PMO	Prime Minister's Office
RBI	Reserve Bank of India
SIDBI	Small Industries Development Bank of India
UIDAI	Unique Identification Authority of India

TheCityUK

TheCityUK is the industry-led body representing UK-based financial and related professional services. We champion and support the success of the ecosystem, and thereby our members, promoting policies in the UK and internationally that drive competitiveness, support job creation and ensure long-term economic growth. The industry contributes 12% of the UK's total economic output and employs nearly 2.5 million people, with two thirds of these jobs outside London. It is the UK's largest net exporting industry and generates a trade surplus exceeding that of all other net exporting industries combined. It is also the largest taxpayer, and makes a real difference to people in their daily lives, helping them save for the future, buy a home, invest in a business and protect and manage risk.

kotak
Kotak Mahindra Bank

Kotak Mahindra Group, established in 1985 by Uday Kotak, is one of India's leading financial services conglomerates. In February 2003, Kotak Mahindra Finance Ltd. (KMFL), the Group's flagship company, received a banking licence from the Reserve Bank of India (RBI). With this, KMFL became the first non-banking finance company in India to be converted into a bank – Kotak Mahindra Bank Limited (KMBL). From 2003 onwards, Kotak Bank has built a network of 1,700+ branches and 2,609+ ATMs across India. Kotak Bank provides the full suite of banking services to its customers encompassing Treasury, Corporate Banking and Retail Banking. Every year we are adding strong footprints through physical branches and digital innovations to make banking easy and convenient for our growing base of 30.7 million+ active customers.

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