CHAPTER 28

Infrastructures for Financial Inclusion in South Asia

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1 Introduction

Are you who you say you are? The infrastructures for financial inclusion exist primarily to answer this one question. Identification is a prerequisite for inclusion into a financial system that grants credit and processes transactions that are essential for day-to-day activities. But identification is complex; financial inclusion would certainly not be a global challenge if it could be done easily. The evidence for this is that, despite the growing power of finance and the agility of digital technology, over one billion individuals, mostly from the poorest households, remain disconnected from their own national financial systems (World Bank, 2021).

Advances in digital technology have made it easier for many individuals to access the financial system to make payments, to borrow, and to lend. The scale of these transactions has meant that many large financial institutions have gained immense influence and global power since the late 1990s. Nevertheless, financial access has been elusive for the most marginalized individuals. The Global Findex Database offers compelling statistics to highlight this point (World Bank, 2021). The four largest developing economies with unbanked individuals are: China (224 million), India (191 million), Pakistan (99 million), and Indonesia (97 million). In each of these countries, over half of the unbanked are women. And globally, about one-third of the unbanked are young people; between the ages of fifteen and twenty-four.

Financial inclusion has thus not been pervasive enough to close the gap in access to banking services between what the World Bank categorizes as high-income and low-income countries (Demirguc-Kunt, 2018). Data from the Global Findex Database shows that, on average, in high-income countries 90% of individuals have bank accounts, relative to under 30% in low-income countries (Demirguc-Kunt, 2018).

And even when and where financial access is available, its ostensible benefits have been challenged (see Duvendack et al., 2011). Critical scholars have repeatedly highlighted how new digital strategies and technologies, commonly known as fintech, have strengthened the role of global finance

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in poor countries. These perspectives build on earlier critiques of strategies such as microcredit and microfinance, which note how these practices are counterproductive and reproduce inequalities (e.g., Roy, 2010; Soederberg, 2014; Mader, 2015).

A more recent set of studies explores the phenomenon of 'digital financialization', which shows how the monetization of data widens inequalities because the most marginalized groups are compelled to relinquish the most privacy to access the financial system (Jain and Gabor, 2020). These concerns have become more meaningful as fintech infrastructures in many countries have become foundational to governance – specifically, e-governance – through the provision of digital identity. As examples from India and Pakistan – of Aadhaar and NADRA (National Database and Registration Authority) respectively – illustrate, financial access has become one part of a narrative that also includes digital welfare. For these two countries, the melding of financial access and digital welfare entailed the absorption of policies from global development discourses, particularly to assemble collaborations between private and public organizations to expand into what has been described as the 'informal economy'; an undocumented space which is regularly problematized by development practitioners for low tax contributions, weak productivity, limited access to finance, and social protections (see Alter Chen, 2005).

As I show later in this chapter, perhaps the most striking aspect about efforts to incorporate this informal economy into the financial mainstream has been an emphasis on payment systems. These have expanded as new financial infrastructures, seeking to advance financial inclusion, have driven a shift from traditional over-the-counter methods to transactions that are digital, mobile phone-based, and biometrically verified. These have resulted in a system designed not just for the poor and unbanked, but also the non-poor, who have access to the mainstream banking system. This reflects an emergent consensus driven by the specific features of the financial infrastructure, including actors, objects, and processes (see also Swartz, this volume).

My focus is on how new payments systems serve as infrastructures for financial inclusion on the condition that they are backed by digital identification technologies. I show how these infrastructures for financial inclusion are a product of global and local shifts in development strategies. I use examples from India and Pakistan to show how these infrastructures have their roots in the KYC or know-your-customer requirement that policymakers sought to address through biometric databases. Thus, a core argument of this chapter is that tools initially intended to enhance financial access eventually became foundational to the broader issue of social policy, which in developing countries is increasingly organized through the concept of a digital welfare state (see Alston, 2019). As such, I observe how the repurposing of technology has consequences that are often unplanned, highlighting a tension between chance outcomes and the purported linearity of techno-determinism.

The remainder of the chapter is organized as follows: Section 2 is a discussion on the international context of KYC requirements, showing how digital financial infrastructures see these obligations as the core challenge for financial access. Section 3 offers the specific local contexts of biometric databases in India and Pakistan respectively. Section 4 examines how initiatives to use biometric data to overcome KYC requirements have tended to rely on partnerships between multilateral agencies, governments, private financial institutions, and philanthropic foundations. Section 5 notes how the infrastructures for financial inclusion have elicited state support as exemplified by the respective instances of active support from the central banks in India and Pakistan. Section 6 concludes.

2 KYC: An International Agenda

The financial inclusion movement has repeatedly highlighted how KYC requirements are an impediment to financial access because poor people often lack identification documents (for an overview see Jafri, 2023). This problem underpins the case for such

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individuals to be given a digital identity as part of various development strategies.

As such, one of the key promises of fintech has been that digital identification will enhance development interventions. Fintech firms are increasingly collaborating with financial institutions, development organizations, platform technology companies, and philanthropic foundations to enhance access to the financial system through digital identity databases. Not only has a business model of data mining and data monetizing proven immensely successful but, as Gabor and Brooks (2017) observe, development practice has been shaped by behaviouralism based on big-data analysis and accumulation.

Digital identification has thus become central to digital financial transactions. Most of these transactions are what is known as G2P or government-to-person payments. The digitization of these transactions is a key facet of e-governance and underpins what has been describe as a digital welfare state, characterized by the increasing uptake of digital data and technologies in welfare design, partnerships, administrative processes, and service provision (Alston, 2019; Van Zoonen, 2020). The World Bank is a vocal supporter of this approach, which is seen as a comprehensive strategy to improve financial inclusion, women's economic empowerment, and government fiscal savings (World Bank, 2023). Aside from forming the infrastructure for governance and welfare in poor countries, digital financial transactions are a favoured strategy of the World Bank and its affiliated institutions (e.g., CGAP, 2023; ID4D, 2023) because they are cost-effective, growth friendly, business friendly, and inclusive.

There is also an important narrative around how digital transactions restrict corruption, terror finance, human and drug trafficking, and tax avoidance and evasion (see Campbell-Verduyn, Rodima-Taylor, and Hütten, 2021). This has become persuasive since the turn of the century, immediately prior to which, in the 1980s, growing concerns about money laundering and the war on drugs – and eventually also nuclear proliferation – created the impetus for what became guidelines to address AML/CFT, that is, anti-money laundering and countering the financing of terrorism (Amicelle, 2017)

These guidelines are centred on KYC processes to establish a customer's identity and identify risk factors for fraud and other financial crimes. The origins of KYC are in the USA Patriot Act, officially known as the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act 2001. This legislation was enacted by President George W. Bush on 26 October 2001, shortly after the attacks in New York on 11 September. A quick and forceful response to the terrorist events, this legislation had – and continues to have – a profound impact on financial institutions worldwide.

The main components of KYC emerge from the AML rules of the Patriot Act. These include the customer identification programme (CIP), customer due diligence (CDD), and enhanced due diligence (EDD). The Act mandated the implementation of CIPs for new customers in specific financial institutions. Additionally, it specified EDD requirements for correspondent banking and private banking customers, particularly those who were non-US individuals. These measures expanded on existing AML legislation in the United States and imposed new obligations regarding CDD procedures for private banking and correspondent bank accounts involving non-US individuals. The Patriot Act thus encompassed various special measures, promoted cooperative AML efforts, prohibited unlicensed money transmitters, and established significant extraterritorial powers. These requirements significantly impacted the landscape of AML and CFT, both domestically and internationally (see FinCen, 2023).

A related event is the October 2001 meeting of the G10 central banks and other supervisory authorities on terror financing, where it was noted that – to prevent abuse of the financial system – it was necessary to develop and implement effective KYC and CDD procedures (Bantekas, 2003). These events also underlie the transformation of the organization known as FATF or the Financial Action

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Task Force on Money Laundering. Formed in 1989 by the G7 with the goal to combat money laundering from drugs crimes, until 2002 this was simply an intergovernmental body entrusted with the development and promotion of relevant domestic and international policies. However, at an extraordinary plenary held in late 2002, it broadened its mandate to encompass terrorist financing. More recently, FATF has formally acknowledged that financial exclusion is a money-laundering and terrorist-financing risk: this is detailed in its open ended mandate (FATF, 2013).

The FATF mandates that every nation implements effective CDD procedures, which involve authenticating the identity of individuals engaged in financial transactions. In its 'Recommendation 10' on CDD, the FATF provides a set of guidelines that encompass various obligations, such as 'identifying the customer and validating their identity through trustworthy, unbiased source documents, data, or information' (FATF, 2013).

Because FATF rules necessitate the use of considerable documentation and rigid procedures to verify the identity of clients, they limit financial access. World Bank data shows that tedious documentation requirements are the reason – reported by 17% of adults – for not having a formal bank account (see Allen et al., 2012). To address this, banking regulators in some countries have sought to offer simplified accounts. These 'no-frills' accounts are suited to FATF guidelines because they limit transaction frequency and quantities; they thus allow the issuing bank to take a risk-based or 'proportional' approach to KYC, which assumes that the risk from low-value transactions is inconsistent with the need for onerous documentation (FATF, 2013).

FATF guidelines thus have a tyrannical influence on financial infrastructure. Infrastructural actors, particularly banks and financial institutions in the Global South, have little choice but to comply with this international regime. The geopolitical salience of this, especially Western-centric conceptualizations of identity documentation, is explained by de Goede and Westermeier (this volume).[1]

3 The Global Project for Digital Identity: Features and Critiques

The demands of the FATF constrain financial inclusion and the response from global institutions has caused the infrastructural gaze of finance to rest on identity verification. As a result, the agenda for digital financial access is now a globalized one, and a product of initiatives guided by two respective institutions: Consultative Group to Assist the Poor (CGAP) and Identification for Development (ID4D).[2] Both these institutions are led by the World Bank, using a partnership model that involves philanthropic and development organizations. This model is based on a consensus drawn from three assumptions about the benefits of financial inclusion: (1) financial inclusion initiatives are a part of the commercial and retail banking system; (2) financial inclusion advances social policy, specifically through digital welfare; and (3) financial inclusion counters money laundering and terror finance. An overarching theme is that the lack of digital identification impedes not only financial inclusion but development more broadly.

The CGAP and the ID4D initiative have an overlapping history. CGAP was launched in the 1990s as 'a multi-donor effort to broaden and deepen the success of the work done by pioneer institutions' in microfinance (CGAP, 1998). Eventually, as the financial access agenda expanded, the CGAP established itself as the leading think tank for knowledge, particularly 'best practice' on financial inclusion; Roy (2010) and Mader (2015) offer critical commentaries on this process.

This success of the CGAP drove the creation of another World Bank project: the ID4D initiative, which frames digital identification technologies as having transformative potential for poor countries. This initiative acknowledges that individuals who lack birth registration and official forms of identification are typically the most vulnerable people in the poorest countries (ID4D, 2023). The World Bank's access to global knowledge and expertise, financial

instruments, and private sector networks are salient features of an approach which seeks to establish digital identification systems for the delivery of basic services to the poor.

At the core of this strategy is the ID4D Multi-Donor Trust Fund, which was established in 2016 and is supported by several organizations including the Bill & Melinda Gates Foundation, Omidyar Network, and the Australian Government (ID4D, 2020). Digital identification technology has thus gained a reputation as the leading edge of technology for development and builds on earlier narratives around the transformative potential of access and connectivity. These perspectives are fuelled by copious examples of development interventions based on digital technology.

3.1 Consensus on e-Governance

Perhaps the best-known example of digital approaches to development is that of 'e-governance' to automate day-to-day government activities (see Dattani, 2020). Walsham (2017) observes how the use of ICTs in development, since the mid-2000s, is now in a 'proliferation' phase, spurred by an explosion in mobile phone usage. As Heeks (2010) notes, contemporary strategies for development and poverty reduction are engrossed with mobile phones and particularly their role in supporting collaborations with private businesses.

The SDGs or Sustainable Development Goals of 2030 capture this fixation. For instance, not only are mobile phones described as 'enablers' for all seventeen SDGs, they are also seen as central to the delivery of these goals (WEF, 2018). This has provided the rationale for a stream of financial technologies or fintech that combine profitability with social goals – a double bottom line – and are funded by both the public and the private sectors. The push for digital financial access comes from three multilateral agendas for global development: these include information and communications technology for development, financing for development, and, more recently, the ID4D initiative.

Across these agendas there is consensus on three points: (1) that information and communications technology are key tools for financial access and therefore development; (2) that development initiatives need private sector funding; and (3) that this is encapsulated in the United Nations (UN) SDGs for 2030, particularly Goal 16.9: 'to provide legal identity for all, including birth registration' (UN, 2020). Because identification is 'also a key enabler of many other SDG goals and targets' including financial and economic inclusion, this particular target has attracted the support of international organizations such as the World Bank, corporate donors, and large philanthropic foundations (see World Bank, 2020).

Essentially, the purpose of a digital identity is simply to formalize the individualization of access to computer networks (see Kiennert, Bouzefrane, and Thoniel, 2015). But as instances grow of digital financial transactions replacing those based on physical cash, the scope for the use – and misuse and abuse – of digital identity has multiplied. In critical studies of finance in the Global North, these tendencies are revealed in practices such as algorithmic credit scoring; these have been shown to drive financial exclusion but also financial subjectivity (e.g., Leyshon and Thrift, 1999; Kear, 2013). More recent work on digital transformation in the Anglosphere and in European countries draws attention to how platforms and financial infrastructures produce – and are also produced by – new collaborations and competitions between the financial and tech industries (Langley and Leyshon, 2020; Westermeier, 2020).

4 Digital Identity Projects

Scholars of the Global South have expressed heavy scepticism about the intrusive nature of digital financial inclusion and the practice of alternative data capture to expand financial markets (Aitken, 2017; Gabor and Brooks, 2017; Bernards, 2019). These concerns are amplified as these practices have become centred on digital data, including

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biometrics and locational data. By relying on the hardware and software of personal mobile phones, fintech is utilized through 'platforms'. Platforms enable payments to be made electronically for various services and goods. As Roitman (this volume) shows, platforms have had great success in advancing alternative modes of banking: this is reflected in the success of mobile money in several – African and South Asian – countries, and in the profitability of many various online platforms, including for e-commerce, food delivery, taxis, and so on. As such, digital finance is now at the cutting edge of development interventions centred on technology.

> *For example, one of the Sustainable Development Goals is reducing hunger. Digital finance contributes to this goal by giving farmers financial tools to cope with income variations and smooth consumption between harvests. Another example is the climate change and clean energy goal. Digital payments make it possible for households to use pay-as-you-go methods for solar panels and other clean technologies. (McKinsey, 2016, p. 11)*

Because of these shifts – in technology and in development strategy – digital finance has augmented the need for digital identification. But, digital finance can only be used by those who are financially included.

The notion that financial access is elusive for those who lack official identification documents is a recurrent theme in financial inclusion scholarship. For many years the fix for this was to offer alternative products to enhance financial access (see Collins et al., 2009). Financial access itself has undergone a series of conceptual shifts, as microcredit gave way to microfinance, and microfinance gave way to the more nebulous terminology of financial inclusion and inclusive finance, which includes digital finance. A detailed discussion of these transformations takes place within Natile's (2020) study of mobile money in Kenya.

These shifts have drawn attention to strong overlaps between those who are financially excluded or unbanked and those who lack identification documents. The World Bank reports that 1.7 billion people are without financial access (World Bank, 2021). Furthermore, an estimated 1.5 billion persons globally have no form of identification; mostly in the Global South, and often migrants and refugees (ID4D, 2016). Identification projects, which have sought to issue documents to prove citizenship and entitlements to public goods and services, precede digital identity databases. But digital finance requires that identification data should be digital. As such, in contemporary development practice, identification documents are seen as complementary to digital finance, and projects to increase access to identification documents are attached to initiatives for financial access.

As a development tool, digital finance has two primary utilities: (1) as mobile money and (2) for G2P payments. Mobile money does not, in theory, require digital identification to operate, but there is increasing regulatory pressure to link mobile money with digital identification, as FATF recommendations have become embedded in domestic banking regulations.

The other use of digital finance in development strategies is for G2P payments. These include social transfers – including conditional cash transfers – as well as wage and pension payments. The advantages of digitizing G2P payments are covered in CGAP (2009): they include improvement in financial inclusion by connecting recipients to branchless banking channels, but also reductions in government costs by streamlining transactions, and decreases in leakages through theft, fraud, and corruption. Recent analyses by organizations such as the World Bank (2018) and the UN (2020) find that 'the identity gap' (Beduschi, 2019, p. 2) sizeably impedes access to basic healthcare, education services, and social safety nets. To address this, development interventions led by international organizations have been actively assisting states in expanding digital identity. These efforts have been targeted at domestic as well as refugee populations with the support of organizations such as the World Bank, the Asian Development Bank, and the United Nations High Commissioner for Refugees (see Beduschi, 2019).

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4.1 Digital Intrusions

But even beyond basic healthcare and education service, critical scholars have raised concerns about the increasing use of fintech to disburse refugee assistance. For instance, Bhagat and Roderick (2020) show that fintech designed for refugees living in camps and informal settlements in Kenya facilitates racial forms of capital accumulation and expropriation. This occurs because institutions in the Global North, including Mastercard, Safaricom, and Western Union determine who is included and excluded from various forms of monetary assistance, including credit (Bhagat and Roderick, 2020). These examples of international development through fintech connect patterns of individual mobile phone usage and the digitization of social transfers by the state with the business models of private technology companies and financial institutions (see Gabor and Brooks, 2017).

For some scholars this is evidence of a need to review how financialization operates in the Global South (e.g., Aitken, 2017; Jain and Gabor, 2020). For instance, Aitken (2017) shows how new practices attached to financial inclusion projects are data-gathering exercises to identify and extract value from those without formal credit scores in contemporary financial markets. Jain and Gabor (2020) use examples of recent events in India – particularly demonetization and the Unified Payments Interface – to show 'digital' financialization is distinct from 'analogue' financialization; whereas the latter is driven by financial deregulation, financial innovation, and financial globalization, the former is advanced through innovations in digital infrastructures and by supportive and proactive governance. To some extent, such analyses imply that fintech – particularly for poor countries – is simply the new face of financialization. Digital identities play a crucial role in this form of financialization by widening the client base for financial institutions; this is done through increasing the number of those who can use the financial system. Digital identities also deepen the client base by using differential rates and pricing for financial services (see Mader, 2016). These perspectives see digital financialization as a form of what Zuboff (2019) calls 'surveillance capitalism', a system in which firms grow by collecting and monetizing data for profit. In this perspective, large financial institutions and technology companies are responsible for imposing their policies and practices in poor countries.

The shortcoming of this view is there is only limited acknowledgement of the security imperative that is imposed primarily by rich countries on poor countries through the FATF. These concerns are reflected in the growing identification literature on developing countries. The issue of digital surveillance – which operates through identification data, including biometrics and government-issued documents – is a problem from the lens of human rights, particularly the right of individuals to privacy. These challenges are covered in the work of legal scholars (e.g., Beduschi, 2019) and in the grey literature of international and national non-profit organizations such as Privacy International (2019) and the Center of Information Technology Research in the Interest of Society (CITRIS) (UCSC Institute for Social Transformation, 2024; Nonnecke, Ruhrmann, and Geroski, 2019). A common concern in these perspectives is that the increasing use and expansion of digital national identity databases – spurred by SDG focus on legal identity – can be abused in surveillance. Digital identity systems can advance but also limit civil and political rights within the areas of data protection, political participation, and the inclusion of diverse ethnic identities (Nonnecke, Ruhrmann, and Geroski, 2019; Privacy International, 2019, 2020). A related concern is about the role and implications of public–private collaborations, particularly when data privacy and protection laws have uneven effects.

4.2 Surveillance, Power, and State Capacity

The global project for digital identity is thus a product of various power relations involved in the construction of financial

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infrastructures. Global organizations, particularly the CGAP and ID4D, thus frame issues of development as gaps in Global South financial infrastructures. This includes building narratives about digital identity as a prerequisite for secure and reliable payments and settlement systems which are fully dependent on mobile telephones and internet connectivity. By widening the avenues for surveillance, this infrastructural gaze advances a form of governance which is similar to what Mamdani (2012, p. 1) describes as 'define and rule'; an approach centred on the definition and management of difference. This has tended to not only enhance the capacity of the state through e-governance, including digital welfare, but also the power of the private sector. This is explained in the following section, which draws attention to the pivotal role of public–private partnerships in the design and deployment of financial infrastructures.[3]

4.3 Public–Private Partnerships for Financial Infrastructures: Examples from India and Pakistan

Public–private partnerships have been at the core of financial inclusion infrastructures for both India and Pakistan. In India's case, the most prominent success of this approach is reflected in the India Stack, or more generally in the financial infrastructure known as the stack model (see also Singh, this volume).

A stack is the foundation of any digital application and combines fintech-led development strategies with the security imperatives of governments. Bratton (2016, p. 5) describes this as an accidental megastructure that is not only a computational apparatus but also an architecture of governance.

Essentially a combination of projects, a stack is created by linking the technologies required to operate an application: this includes computer languages, architecture, libraries or lexicons, servers, user interfaces and experiences, software, and databases. These utilize applied programming interfaces (APIs), a set of algorithms and code that allow different platforms to 'speak' to each other. APIs can thus be accessed by any private or public player through protocols.

4.4 India Stack and the Agency of Infrastructure

The 'India Stack' is described as a 'set of APIs that allows governments, businesses, start-ups, and developers to utilize a unique digital infrastructure to solve India's hard problems towards presence-less, paperless, and cashless service delivery' (India Stack, 2019). In India's case, the model allows third-party private developers to use the Aadhaar database for customer authentication and verification. This has created an infrastructure primarily geared towards fintech because it facilitates access to data based on biometrics and identification documents. It also exemplifies how the initial design of, and subsequent updates to, protocols can impact other infrastructures (see Campbell-Verduyn and Hütten, 2023).

The success of the India Stack is almost completely dependent on the Aadhaar system. This is managed by the Unique Identification Authority of India (UIDAI), which was established in 2009. The objective of this organization is to issue 'Aadhaar' or unique identification numbers (UIDs) to adult citizens, or residents, of India. From its inception in 2010, the Aadhaar project was framed as centred on welfare, with identity and inclusion as twin objectives. In this narrative, welfare in the form of social support programmes had been hampered by corruption from 'middlemen'; Aadhaar would overcome this problem by removing the middlemen and facilitating a shift to cash transfers, as 'in kind' programmes were prone to corruption (Khera, 2019). Aadhaar has been advantageous for the financial sector, particularly for fintechs, since India's central bank, the Reserve Bank of India, allowed banks to accept Aadhaar as proof of identity for opening bank accounts to support financial inclusion. Aadhaar has slashed KYC costs for banks: financial institutions can conduct 'eKYC' checks at 15% of the cost of a non-digital KYC (PwC, 2018).

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The financial sector in India has also been a massive beneficiary of the digital ecosystem that has erupted from the infamous demonetization drive in India. Those holding cash were pushed to deposit this in the financial system when the Modi government removed the largest banknotes – 86% of currency by value – from circulation (Jain and Gabor, 2020). Particularly controversial is the role of 'iSpirit', or the Indian Software Product Industry Roundtable, which has taken to coordinating the India Stack and hence the digital ecosystem centred around Aadhaar. This is organized as a not-for-profit think tank, staffed mostly by individuals, sometimes described as volunteers from the tech world, who dedicate their time, energy, and expertise towards India's hard problems (Dattani, 2024). An interest group formed by influential individuals and technology firms, iSpirit has been scrutinized for lobbying for data localization, for special access to central bank policies, and for hiring individuals who have left government roles to assume private ones, allegedly to profit from Aadhaar-related businesses (*Quartz*, 2019). Dattani (2020) has described these alleged transgressions as 'governtrepreneurism', noting that the Aadhaar database provides a digital framework for private companies to authenticate identities and deliver additional paid services including financial services. The availability of data, combined with a revolving door for individuals alternating between government and corporate employment, suggests an underlying objective shared by Aadhaar and the India Stack: promoting success for corporate entities and the financial technology industry (Dattani, 2020).

4.5 Biometric Governance in Pakistan

Across the border in Pakistan, biometric data also plays a pivotal role in shaping financial inclusion infrastructures. The NADRA repository has for several decades been a core part of the KYC process in Pakistan. This database contains the biometric data and other personal information of Pakistani residents and citizens. As such, in Pakistan, as in India, national identity numbers – issued by NADRA – can be used to verify identities and thus to conduct eKYC checks.

NADRA has been recognized as a global leader in the application of identification systems and technology to a range of development issues (Malik, 2014). The main objective of this institution, since its inception in 2000, is to issue computerized national identity cards, or CNICs, with a unique thirteen-digit number, to Pakistanis aged eighteen and over. The CNIC is a requirement for conducting transactions of various types with the government as well as the private sector. For instance, voting in elections; applying for a passport or driving licence; purchasing vehicles, land, and other assets; purchasing a plane or train ticket; obtaining a mobile phone SIM card; opening and maintaining a bank account; and conducting financial transactions.

It is estimated that as much as 98% of Pakistan's adult population is registered with NADRA (Malik, 2014), and most national identity cards are also linked to a phone number (PTA, 2024). Following an anti-terror drive in early 2015, the Pakistan Telecommunication Authority proceeded to block all mobile phone SIMs that had not been biometrically verified (Craig and Hussain, 2015). As a result, every mobile phone number in Pakistan is now associated not only with a CNIC number but also with a set of fingerprints. This has facilitated Pakistan's commitment to FATF standards as biometric verification eases CDD requirements.

4.6 The Phone–Fingerprint Nexus

The affixation of biometric identity to mobile telephone SIMs has eased the roll-out of payment gateways that are alternatives to private-sector interbank networks, which have dominated e-payments since digital transactions first began. India's JAM Trinity – Jan Dhan, Aadhaar, and Mobile – is a core part of India's financial infrastructure for inclusion, particularly when coupled with the UPI or Universal Payments Interface, a real-time payment system developed by the National Payments Corporation of India (NPCI).[4] This allows

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for instant money transfers between banks through mobile devices with the help of the UPI app, which uses biometric verification via the Aadhaar database.

The JAM Trinity thus strengthens the foundation for UPI transactions by ensuring a broad base of individuals with bank accounts, secure and reliable digital and biometric authentication, and mobile phones as a widespread means of access. The success of this approach is also heavily due to the NPCI, a not-for-profit organization founded in 2009 to manage India's retail payment systems. NPCI owns the UPI and worked closely with iSpirit – the public–private consortium – to define and develop UPI. By operating like a utility where earnings are reinvested into operations instead of being returned to shareholders, and by not having to pay taxes, the NPCI was able to offer low rates – relative to international card schemes such as Visa and Mastercard – for its switching services. This made competitors drop their prices (Cook and Raman, 2019). A switching service is a system or platform that facilitates the routing of payment transactions between different parties in the financial ecosystem. When a cardholder makes a purchase or performs a financial transaction, the payment needs to be processed and authorized by various entities, including the cardholder's bank or the issuing bank, the merchant's bank or the acquiring bank, and payment networks. A key accomplishment of UPI is that it is being used by over 160 banks in India; these banks cover up to 95% of the country's banking customers; the small banks that have not yet joined UPI have refrained mainly because of limited technical capabilities (Cook and Raman, 2019).

In Pakistan, a similar initiative to promote a low-cost or free instant payments system is known as Raast. Launched by the central bank or SBP (State Bank of Pakistan) in 2021, this forms a fundamental part of the National Financial Inclusion Strategy. By decreasing dependence on cash, this initiative seeks to encourage the adoption of digital payments, particularly among low-income households and small-scale merchants. Though launched and operated by the central bank, the development of Raast was supported by Karandaaz, a not-for-profit special purpose vehicle that is grant funded by the UK's Foreign, Commonwealth and Development Office and the Bill & Melinda Gates Foundation (Karandaaz, 2023).

Transaction numbers for both systems, India's UPI (Cook and Raman, 2019) and Pakistan's Raast (SBP, 2023), show that they are respectively being used widely by individuals, commercial/retail banks, and microfinance institutions. As such, these initiatives have been successful. But this success would not have been possible if the central banks pushing these infrastructures had taken a less activist approach towards promoting new technologies for financial inclusion.[5] In both countries, there was resistance initially from the banks who were reluctant to move away from the privatized fee-earning infrastructures to which they had become accustomed. For example, the Reserve Bank of India offered incentives to bring banks to the table in the formation of NPCI, promoting apps to improve UPI uptake, and offering free access to the Aadhaar database for biometric authentication. The SBP resorted to rerouting transactions so that they would be processed through Raast instead of the privately owned, fee-based, incumbent service provider (Khan, 2023).

5 Discussion: Financial Infrastructures, Inclusion, and Access

Explicit and active support from the respective central banks in India and Pakistan has been central to the rollout of affordable payment systems. Payments, in contrast to loans and deposits, have gained prominence relative to credit and other financial products since around 2010. This is partially an outcome of the Global Financial Crisis 2007–2009, after which it became clear that microfinance is no less crisis-prone than other sources of finance (see Di Bella, 2011; Wagner and Winkler, 2013). The relatively recent importance attached to payments and payments system has been a

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notable outcome of the discursive shift from microcredit to microfinance to financial inclusion (see Mader and Sabrow, 2015). Financial inclusion encompasses an extensive array of services, particularly mobile money, remittances, and even government payments; these go beyond the traditional realms of microfinance, such as credit, savings, and insurance.

In taking a proactive approach to advancing financial inclusion, both central banks – the Reserve Bank of India and the State Bank of Pakistan – have benefited from high rates of cash usage and low rates of payment card usage. As D'Silva et al. (2019) note, existing frameworks could expand from the modernization of financial infrastructures. For the payment cards – debit and credit – that were in usage, the domestic banks used systems that were not interoperable; furthermore, users could not integrate their payments across systems. For example, sending money from an account at one bank to an account at another bank could take up to two calendar days, if sent after a cut-off time, and even longer over weekends or holidays.

Perhaps the most interesting feature of these new payment infrastructures is that the turn to digital biometrically verified transactions brings financial inclusion to the mainstream, rather than constraining it to specific, purposively designed microfinance institutions. This emphasis on payment systems is a departure from approaches centred on poverty finance (Bernards, 2022), or a bifurcated system defined by mainstream commercial banks based on a traditional bank intermediation model on the one hand, and inclusive finance based on a disintermediated, or shadow banking model, on the other (Jafri, 2023). Not only are the new payment systems designed to be used by consumers through mobile phones, they are also the same whether used through a commercial/retail bank or microfinance bank. In making this possible, these central banks – and others which promote digital payment systems – acknowledge that financial access can be improved not only for the poor but for more affluent users as well, especially by linking the two. There are concerns, however, about inequities arising from unevenness in digital literacy and also from gendered patterns of mobile phone ownership (GSMA, 2021).

6 Conclusion

In this chapter I have explored how an infrastructural gaze on financial inclusion has caused national payment and identification systems to be enlisted in a global project that foregrounds the role of data in development. This project has the support of global institutions and sets out to create financial infrastructures that respond to socio-economic and political realities.

The need for these financial infrastructures is motivated in part by an international security agenda with KYC requirements at its core. These obligations are the core challenge for financial access. In India and Pakistan, biometric databases have been incorporated into financial infrastructures to ease bank access while complying with rules to limit money laundering and terror finance. As such, initiatives to use biometric data to overcome KYC requirements have tended to rely on partnerships between multilateral agencies, governments, private financial institutions, and philanthropic foundations.

Through these partnerships the respective central banks of India and Pakistan have created new payment infrastructures to advance digital biometrically verified transactions. The success of these infrastructures is that they have pushed financial inclusion into the mainstream of banking rather than limiting it to specialized microfinance institutions. This represents a departure from poverty-finance approaches or a bifurcated system. As such, central banks recognize that improving financial access benefits not only the poor but also more affluent users, particularly when the two become infrastructurally connected. However, concerns remain regarding disparities in digital literacy and gendered patterns of mobile phone ownership, which can contribute to inequities in access and surveillance.

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The macro and micro-level aspects of this infrastructural gaze illuminate wider questions of power given the way in which financial infrastructures are not only designed and deployed, but also imposed. On the macro-level, the role of the FATF and the governance of financial transactions cannot be understated. While there is a rich and growing literature on the detriments of this for many countries in the Global South, it has tended to focus on the geopolitical constraints that come from the FATF regime. An infrastructural gaze is useful for highlighting how the strategies to address these constraints – often framed in the language of development – have shaped the wider financial system. Similarly, there are micro-level implications too, particularly the tension between the public and private actors. As the examples in this chapter show, shifts in the wider financial system – whereby financial access becomes a product of public infrastructure – have been driven by the support of private and philanthropic institutions, which have endorsed a model in which user costs are either low or non-existent. How viable this is depends on how the role of financial infrastructures is perceived in the future.

Notes

1. Sial, Jafri, and Khaliq (2023) show how the repeated targeting of financial infrastructure, particularly through the weaponization of the US dollar including through sanctions, has had devastating and lasting effects in Pakistan and Afghanistan.
2. Other institutions, including the World Economic Forum and the GSMA (Groupe Spécial Mobile Association), have also been active in this agenda.
3. A related perspective on this type of liaison is Dattani's (2020) concept of 'governtrerpreunerism', where private sector professionals play a leading role in Aadhaar and India Stack, which are promoted as public services.
4. 'Jan Dhan' refers to the Pradhan Mantri Jan Dhan Yojana (PMJDY), a financial inclusion programme launched by the Government of India in August 2014. The term 'Jan Dhan' literally translates to 'People's Wealth' or 'People's Treasury' in Hindi. The primary objective of the Jan Dhan Yojana is to ensure access to financial services for all households in India, especially those who were previously excluded from the formal banking sector (PMJDY 2023).
5. The central banks of India and Pakistan are, respectively, the Reserve Bank of India and the SBP.

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