

# Economic Development and Digital Transformation: Learning from the experience of Aadhaar and Financial Inclusion in India

Suyash Rai<sup>1</sup>

20 December 2024

## Abstract

The digital public infrastructure (DPI) approach has gained prominence in digital transformation, with India's Aadhaar often cited as a success story for accelerating financial inclusion. This paper critically evaluates India's progress on financial inclusion from 2011 to 2021, revealing a paradox: while account ownership surged, account usage remained low. The paper highlights that government and Reserve Bank of India (RBI) mandates drove rapid account opening, with Aadhaar enabling account opening mainly as a physical ID and an authentication tool for transactions. The financial inclusion efforts focused on expanding account ownership for direct benefit transfers, often at the expense of service quality. Banks, pressured to meet political targets, faced weak commercial incentives due to restrictive pricing regulations and mismatched service delivery models. These constraints hampered sustainable account usage. The paper explores whether alternative policy designs could have balanced electoral and economic goals more effectively. Demand-side constraints, shaped by socio-economic conditions, and supply-side path dependencies influenced government choices. However, the analysis suggests room for greater political creativity in defining the policy objectives, liberalizing regulations liberalization to enhance financial inclusion, and leveraging the public sector banks. Finally, the paper discusses implications of this analysis for institutional reforms, including redesigning welfare schemes, revisiting public sector bank ownership, and rethinking top-down financial mandates. It also situates India's experience within the broader debate on the state's role in DPIs, challenging the notion that state-led DPI initiatives inherently maximize public value.

JEL Codes: G28, H53, L86, O33

Keywords: financial inclusion, defined benefit transfers, digital payment systems, public sector financial institution mandates

---

<sup>1</sup> Suyash Rai is a Fellow with Carnegie India and a Visiting Research Fellow with the xKDR Forum. His email address is: [suyashrai@gmail.com](mailto:suyashrai@gmail.com) He would like to thank Kavya Palavalasa for research assistance, and Anirudh Burman, Ashok Pal Singh, Susan Thomas, Ajay Shah, Rudra Chaudhuri, and two anonymous reviewers for helpful comments. The author would also like to thank the participants at a seminar organized in Mumbai by the xKDR Forum, where this paper was discussed. The opinion presented in this paper are those of the author and do not necessarily reflect the views of his employer. All errors and omissions remain those of the author.

## Table of Contents

<b>1. The promises and pathways of digital transformation.....</b>	<b>3</b>
<b>2. A Comparative Analysis of India's achievements in Financial Inclusion .....</b>	<b>7</b>
<i>Account opening.....</i>	<b>8</b>
<i>Active accounts .....</i>	<b>9</b>
<i>Account Usage .....</i>	<b>9</b>
<i>Gap between inputs and outputs .....</i>	<b>11</b>
<b>3. India's Approach towards Accelerating Financial Inclusion.....</b>	<b>13</b>
<i>Financial inclusion initiatives before 2011.....</i>	<b>13</b>
<i>Financial inclusion initiatives between 2011 and 2021 .....</i>	<b>17</b>
<i>What role did Aadhaar play? .....</i>	<b>18</b>
<i>Why did the government and RBI take this approach to get accounts opened? .....</i>	<b>19</b>
<i>Another fiscalization of the banking sector .....</i>	<b>22</b>
<b>4. Why India's approach to financial inclusion yielded poor results .....</b>	<b>27</b>
<i>Lack of a viable business model.....</i>	<b>30</b>
<i>Mismatch between the solution and the problem.....</i>	<b>31</b>
<i>Studies of the pilot projects.....</i>	<b>32</b>
<i>Direct benefit transfers and financial inclusion .....</i>	<b>34</b>
<b>5. Interpretation of the government's decisions: could a better path have been taken? .....</b>	<b>36</b>
<i>Transaction costs in political markets .....</i>	<b>36</b>
<i>Constraints restricting the banking markets.....</i>	<b>38</b>
<i>Political creativity and institutional constraints.....</i>	<b>39</b>
<b>6. Rethinking the role of the government in DPIs and beyond.....</b>	<b>44</b>
<i>Implications for reform of institutional structures .....</i>	<b>44</b>
<i>Implications for the role of the state in DPIs .....</i>	<b>47</b>
<b>7. Summary and Conclusion.....</b>	<b>51</b>
<b>Appendix .....</b>	<b>53</b>

# 1. The promises and pathways of digital transformation

The Indian economy has shown considerable capabilities in developing, deploying and exporting services using digital technologies. In 2023, India was the fourth largest exporter of digitally delivered services, with a six percent share in their world trade, while its share in merchandise trade was only 1.8 percent.<sup>2</sup>

This success has inspired hope that digital transformation<sup>3</sup> could help India generate comparative advantages in various sectors of the economy and enhance the efficiency of governance. PM Narendra Modi conveyed this hope when, in 2015, at the launch of government's flagship programme Digital India, he said: "I dream of a digital India where high-speed digital highways unite the nation; 1.2 billion connected Indians drive innovation; technology ensures the citizen-government interface is incorruptible."<sup>4</sup>

In recent years, the union government and some non-governmental organizations have offered a systematic approach to digital transformation coalescing around the "Digital Public Infrastructure (DPI)" approach.<sup>5</sup> This was a significant part of the agenda of India's G-20 presidency in 2023. While there is no widely accepted definition of DPIs, the Digital Economy Working Group under the G20 in 2023, inter alia, emphasized that DPIs "deliver and provide equitable access to public and / or private services at societal scale" and "drive development, inclusion, innovation, trust, and competition and respect human rights and fundamental freedoms."<sup>6</sup>

---

<sup>2</sup> 'Global Trade Outlook and Statistics' (World Trade Organization, April 2024), [https://www.wto.org/english/res\\_e/booksp\\_e/trade\\_outlook24\\_e.pdf](https://www.wto.org/english/res_e/booksp_e/trade_outlook24_e.pdf).

<sup>3</sup> Digital transformation can be defined as a "fundamental change process, enabled by the innovative use of digital technologies accompanied by the strategic leverage of key resources and capabilities, aiming to radically improve an entity\* and redefine its value proposition for its stakeholders. (\*An entity could be: an organization, a business network, an industry, or society.)" See: Cheng Gong and Vincent Ribiere, 'Developing a Unified Definition of Digital Transformation', *Technovation* 102 (1 April 2021): 102217, <https://doi.org/10.1016/j.technovation.2020.102217>.

<sup>4</sup> 'PM's Remarks at the Launch of Digital India Week', 1 July 2015, [https://www.pmindia.gov.in/en/news\\_updates/pms-remarks-at-the-launch-of-digital-india-week/](https://www.pmindia.gov.in/en/news_updates/pms-remarks-at-the-launch-of-digital-india-week/).

<sup>5</sup> Google Trends shows that there was hardly any search interest in this phrase before 2021, and its popularity mostly picked up in 2023. Google Trends, 'Explore: Digital Public Infrastructure', accessed 21 May 2024, <https://trends.google.com/trends/explore?date=all&geo=IN&q=digital%20public%20infrastructure&hl=en-IN>.

<sup>6</sup> 'G20 Digital Economy Ministers Meeting Outcome Document and Chair Summary', 19 August 2023, <https://g7g20-documents.org/database/document/2023-g20-india-sherpa-track-digital-economy-ministers-ministers-language-g20-digital-economy-ministers-meeting-outcome-document-and-chair-summary>.

This idea that the impact of DPIs depends on how they enable access at societal scale is also essential to some of the definitions presented by academics. For instance, Eaves and Sandman (2023) define DPIs as “society-wide, digital capabilities that are essential to participation in society and markets as a citizen, entrepreneur, and consumer in a digital era.”<sup>7</sup>

Examples of DPIs include digital identity systems, fast payment systems, data exchanges, and so on. To illustrate the success of the DPI approach, many prominent persons have asserted that a digital identity system, Aadhaar<sup>8</sup>, helped India achieve as much progress in financial inclusion in terms of access to accounts in less than a decade as would have otherwise taken half a century to achieve.<sup>9</sup> During India’s G-20 presidency in 2023, this was often cited as a success.<sup>10</sup>

Since there is a strong association between Gross Domestic Product (GDP) per capita of a country and financial inclusion as measured by account penetration (the percentage of eligible population with an account),<sup>11</sup> claims of rapid progress are worth examining carefully—if they are valid, the experience could offer lessons for others. Since progress on a measure like financial inclusion could be on account on various factors - allocation of resources through

---

<sup>7</sup> David Eaves and Jordan Sandman, ‘What Is Digital Public Infrastructure?’, *UCL Institute for Innovation and Public Purpose Blog* (blog), 14 April 2023, <https://medium.com/iipp-blog/what-is-digital-public-infrastructure-6fbfa74f2f8c>.

<sup>8</sup> What sets it apart from other ID systems in India is that it collects biometric information—fingerprints and iris scans—to help verify whether a person is who they claim to be.

<sup>9</sup> This claim was originally made in Derryl D’Silva, Zuzana Filková, Frank Packer, and Siddharth Tiwari, ‘The Design of Digital Financial Infrastructure: Lessons from India’, *Bank for International Settlements*, BIS Papers, 106 (December 2019). It has since been reiterated by others, including:

- Queen Máxima of the Netherlands, United Nations Secretary-General’s Special Advocate for Inclusive Finance for Development (UNSGSA) and Honorary Patron of the G20 Global Partnership for Financial Inclusion, in Oya Pinar Ardic Alper et al., ‘G20 Policy Recommendations for Advancing Financial Inclusion and Productivity Gains through Digital Public Infrastructure’ (Washington, D.C.: World Bank Group, 2023), <http://documents.worldbank.org/curated/en/099092023121016458/P178703046f82d07c0bbc60b5e474ea7841>;
- Narendra Modi, Prime Minister of India [@narendramodi], ‘India’s Leap in Financial Inclusion, Powered by Digital Public Infrastructure!’, *X*, 8 September 2023, <https://x.com/narendramodi/status/1700032987868377368>;
- Nandan Nilekani, the founding Chairman of Unique Identification Authority of India (UIDAI) in ‘Nandan Nilekani: India’s Financial Inclusion Is on Fast Track Because of These 3 Big Ideas’, *ThePrint*, 10 December 2019, <https://theprint.in/opinion/nandan-nilekani-indias-financial-inclusion-is-on-fast-track-because-of-these-3-big-ideas/332998/>;
- V. Anantha Nageswaran, Chief Economic Advisor, Ministry of Finance, Government of India in V Anantha Nageswaran and Monica Thind, ‘G20 Presidency: Taking Financial Inclusion to the next Level’, *Financial Express*, 4 September 2023, <https://www.financialexpress.com/opinion/g20-presidency-taking-financial-inclusion-to-the-next-level/3231741/>.

<sup>10</sup> ‘World Bank’s G20 Document Praises India’s Financial Inclusion via Digital Public Infrastructure’, 8 September 2023, [https://www.pmindia.gov.in/en/news\\_updates/world-banks-g20-document-praises-indias-financial-inclusion-via-digital-public-infrastructure/](https://www.pmindia.gov.in/en/news_updates/world-banks-g20-document-praises-indias-financial-inclusion-via-digital-public-infrastructure/).

<sup>11</sup> The association between GDP per capita and adults with a bank account has also been shown in a paper by the Bank for International Settlement; see Graph 1 in D’Silva et al., ‘The Design of Digital Financial Infrastructure: Lessons from India’, BIS Papers, 106 (December 2019): 4.

fiscal subsidies, mandates on financial institutions, improvements in institutional mechanisms such as the forms of financial institutions<sup>12</sup>, competition<sup>13</sup>, and regulations,<sup>14</sup> and so on — it is also important to understand what the drivers of improvement really were.

These claims also need to be seen in the context of an emerging debate on the roles of markets, state and society in digital transformation. Many thinkers have expressed concerns about the central role played by big technology firms in digital markets. In their 2023 book, Nobel laureates Simon Johnson and Daron Acemoglu, highlighted that unchecked corporate control over technology risks exacerbating inequality unless steered by institutions prioritizing collective welfare.<sup>15</sup>

In this vein, some have advocated for a stronger role for the state in shaping the trajectory of digital transformation. In a 2024 paper, Eaves, Mazzucato, and Vasconcellos argue that DPIs are as essential to modern society as traditional infrastructure and propose a proactive state-led approach to create public value through a societal-scale digital transformation based on shared digital infrastructures.<sup>16</sup> They suggest that governments should not only address market failures but also shape markets to achieve desired outcomes, aligning technological innovation with societal goals. They call on the state to explicitly define the purpose and direction of DPIs to ensure that they serve societal goals.

In the context of the emerging advocacy around DPIs and these debates around the suitable roles of markets, state and society in digital transformation, this paper presents a study of the experience of financial inclusion in India between 2011 and 2021, including the role that Aadhaar as a DPI played in this.

---

<sup>12</sup> Institutional innovations can enable inclusion in ways that were not possible earlier. For instance, women’s groups—self-help groups and joint liability groups—have increased the flow of credit to women, especially in rural areas, by helping overcome the problems of adverse selection and moral hazard, and by reducing the per customer operational costs for financial institutions.

<sup>13</sup> Competition may force firms to seek new customers that are presently not being served by other firms, and therefore may lead to more inclusion.

<sup>14</sup> Regulatory restrictions may partly determine the costs of delivering services. For instance, it has been argued that if excessive KYC regulations are imposed, financial inclusion becomes expensive.

<sup>15</sup> Daron Acemoglu and Simon Johnson, *Power and Progress: Our Thousand-Year Struggle Over Technology and Prosperity* (PublicAffairs, 2023).

<sup>16</sup> Mariana Mazzucato, David Eaves, and Beatriz Vasconcellos, ‘Digital Public Infrastructure and Public Value: What Is “Public” about DPI?’, Working Paper Series (IIPP WP 2024-05) (UCL Institute for Innovation and Public Purpose, 2024), <https://www.ucl.ac.uk/bartlett/public-purpose/publications/2024/mar/digital-public-infrastructure-and-public-value-what-public-about-dpi>.

This paper has three purposes. The first is empirical—to evaluate the claims that have been made about the success of the DPI approach in accelerating financial inclusion in India. The second is historical—to offer an account of how India has sought to achieve financial inclusion, and to interpret the choices contextually and critically. The third is normative—to offer ideas on the lessons that policymakers and others might draw from these experiences for reforming institutions and making policies. These purposes become intertwined in the paper, as the empirical analysis presents a puzzle that the historical narrative unpacks, which in turn leads to tentative suggestions for policymakers.

## 2. A Comparative Analysis of India's achievements in Financial Inclusion

Account opening is only the input for financial inclusion. What matters for people is whether they use the accounts—usage implies output; and the impact this has on their economic lives—impact implies outcome.<sup>17</sup> Evaluation of outcome requires studying the impact of using an account over time. Short of that, what we can observe is the output—usage of the accounts. We can see whether the accounts are used at all, and if they are used regularly.

There are two direct functions for which accounts are used—consumption smoothing done by depositing and withdrawing money as and when needed; and making and receiving payments. This section presents a comparative analysis of India's success on account opening and account usage between 2011 and 2021.

The main source of data in this section is the World Bank's Global Findex Database, which provides data on a range of indicators of financial inclusion based on nationally representative surveys.<sup>18</sup> All the claims about India's exceptional achievements in financial inclusion referred to in the previous section use this database as the source. This database starts in 2011, and the latest year for which data is available is 2021/22.<sup>19</sup> The comparative analysis in this section is based on data from 2011 and 2021/22.

Since India is a lower middle-income country, we consider other lower middle-income countries and the larger set of middle-income countries, which includes both lower and upper middle-income countries, for comparison.<sup>20</sup> In 2011, on the measure of account penetration (the percentage of eligible population with an account), the average for low-income countries

---

<sup>17</sup> Indradeep Ghosh and Susan Thomas, 'Financial Inclusion Measurement: Deepening the Evidence', Working Paper No. 20 (XKDR, January 2023), <https://econpapers.repec.org/paper/anfwpaper/20.htm>.

<sup>18</sup> 'The Global Findex Database 2021' (Washington, DC: World Bank, 2022), <https://www.worldbank.org/en/publication/globalfindex>.

<sup>19</sup> For most countries, the latest survey is from 2021; but in some countries, the survey was conducted in 2022.

<sup>20</sup> The Global Findex Database places countries into income groups based on their GNI per capita in 2021. So, even though some were not middle-income countries earlier, and graduated to this income group at some point between 2011 and 2021, they are considered in that income group. We have only considered countries for which data on the key indicators are available for both 2011 and 2021/22. The database includes 88 middle-income countries, but data for both years is available for 73 of these countries. Among these, 37 are lower middle-income countries. The middle-income countries for which these data are not available for both years include: Angola, Belarus, Belize, Bhutan, Cote d'Ivoire, Djibouti, Haiti, Libya, Maldives, Montenegro, Morocco, Myanmar, Namibia, Tunisia, Turkmenistan.

was 11 percent, for middle-income countries it was 33 percent, and for high income countries it was 84 percent.<sup>21</sup> Among the middle-income countries, the average for lower middle-income countries was 25 percent, while that for the upper middle-income countries was 41 percent.<sup>22</sup> This association between per capita income and performance on this measure justifies the selection of comparable countries.

### *Account opening*

Table A.1 in the Appendix provides data on the progress that various middle-income countries have made between 2011 and 2021/22 in opening accounts with banks, other financial institutions, or mobile money services for those above 15 years of age. Table 1 gives the summary from that table. Three points are obvious. First, in 2011, most middle-income countries had low levels of account penetration. Second, most countries have made considerable progress in this decade. Third, the improvement in India is better than the average improvement in middle-income countries. In 2011, on account penetration, India ranked 27<sup>th</sup> among the 73 middle-income countries for which data was available, and 7<sup>th</sup> among the 37 lower middle-income countries. In 2021/22, India's rank had improved to 18<sup>th</sup> among the middle-income countries, and to 6<sup>th</sup> among the lower middle-income countries.

Table 1: Summary of account penetration progress in middle-income countries

Country	Percentage of those above 15 years of age with an account with a bank, other financial institution, or mobile money service	
	2011	2021/22
India	35%	78% <sup>23</sup>
Mean for middle-income countries	33%	59%
Median for middle-income countries	28%	56%
Mean for lower middle-income countries	25%	53%
Median for lower middle-income countries	21%	51%

Source: Global Findex Database, World Bank

<sup>21</sup> Author's calculation based on data from Global Findex Database 2021

<sup>22</sup> Ibid.

<sup>23</sup> It is worth noting here that in 2017, 80 percent of the respondents in this survey reported having accounts. This suggests that much of the progress in improving account penetration happened between 2011 and 2017. Since then, there has been a decline.



### *Active accounts*

The most basic measure of usage is whether the accountholder has used the account at all in the recent past. The Global Findex Database has a measure that captures this—“Has an inactive account (% with an account, age 15+)”. It is the share of respondents who have an account but report neither a deposit into nor a withdrawal from their account in the past one year. This includes not just cash deposits or withdrawals but also making or receiving any kind of digital payment. Table A.2 in the Appendix provides data on respondents with inactive accounts, and the account penetration after excluding them. On this measure, India was by far the lowest ranked middle-income country.

In 2021, 35 percent of the respondents’ accounts in India were inactive. On this measure, the median for the middle-income countries was 7 percent.<sup>24</sup> Those wondering if Covid affected the findings, consider the following arguments. First, even in the surveys conducted in 2014 and 2017, 33 percent and 38 of respondents with accounts, respectively, had reported inactive accounts. So, this is a longstanding problem. Second, the survey was conducted between July 30 and October 18, 2021. The lockdown of 2020 in India that ended on May 31, 2020, could not have affected the response.<sup>25</sup> Third, Covid was a global pandemic, and its effect on active accounts was also likely to be global. If anything, due to the strong emphasis on cash transfers in India’s Covid response, the pandemic should have led to more active accounts in India.

If we exclude those with inactive accounts, account penetration in India in 2021 was 50 percent, while the average for the middle-income countries was 55 percent, and for lower middle-income countries it was 50 percent. If we don’t include the inactive accounts, India’s rank on account penetration among the 73 middle-income countries in 2021 was 42<sup>nd</sup>, and among the 37 lower middle-income countries, it was 15<sup>th</sup>

### *Account Usage*

As discussed earlier, the routine usage of accounts is for consumption smoothing and payments. Consumption smoothing involves depositing and withdrawing money to match the availability of cash with its requirement. The measure for usage of accounts for depositing money

---

<sup>24</sup> The data on inactive accounts in 2011 is not available for any of the countries.

<sup>25</sup> Development Research Group, Finance and Private Sector Development Unit, ‘Global Financial Inclusion (Global Findex) Database 2021: India 2021’ (World Bank, Development Data Group, 2022), <https://doi.org/10.48529/8XHF-W759>.

considered here is: “Deposited money into a financial institution account 2 or more times a month”. These include cash deposits, electronic deposits, or any transfer of money into the account by the respondent, an employer, or another person or institution. The measure of withdrawal is: “Withdrew money from a financial institution account 2 or more times a month”.

Please refer to Table A.3 in the Appendix for detailed data on the discussion below, and Table 2 for a summary. On account usage for consumption smoothing as well, India’s performance in 2021 was worse than the average for middle-income and lower middle-income countries. Since consumption smoothing requires regular deposit and withdrawal of money, only those who do both regularly can be said to be fully using the accounts. At a maximum, only 9 percent of the respondents in India were regularly using accounts for consumption smoothing. Since 78 percent reported having an account, this is a very low number. So, most people were not using accounts for this purpose.

Table 2: Account usage in 2021

	Made a deposit 2 or more times a month into a financial institution account (percentage)		Made a withdrawal 2 or more times a month (percentage)		Made or received a digital payment in the last one year (percentage)	
	Age 15+	Has a financial account	Age 15+	Has a financial account	Age 15+	Has an account
India	9	12	14	18	35	45
Mean for middle-income countries	16 (N=67)	26 (N=67)	24 (N=66)	39 (N=66)	50 (N=78)	85 (N=78)
Mean for lower middle-income countries	12 (N=32)	24 (N=32)	18 (N=31)	33 (N=31)	43 (N=41)	82 (N=41)

Source: Global Findex Database, World Bank (“N” denotes the number of countries for which data on the relevant parameter was available)

The indicator of account usage for payment purposes considered here is—“Made or received a digital payment (% age 15+)”. This is the “percentage of respondents who report using mobile money, a debit or credit card, or a mobile phone to make a payment from an account—or report using the internet to pay bills or to buy something online or in a store—in the past year.” This

includes respondents who report paying bills, sending or receiving remittances, receiving payments for agricultural products, receiving government transfers, receiving wages, or receiving a public sector pension directly from or into a financial institution account or through a mobile money account in the past year.<sup>26</sup> Please refer to Table A.3 in the Appendix for detailed data on the discussion below, and Table 2 for a summary of that data. India’s performance is much worse than the average for the middle-income and lower middle-income countries.

### ***Gap between inputs and outputs***

Table 3 gives India’s ranking among the countries for which data is available on the measures discussed above. On the consumption smoothing measures, India is in the bottom third, and on the digital payments measure, it is in the bottom fourth. Further, since India has an unusually high percentage of accountholders who do not use their accounts at all, India’s standing on account penetration for active accounts is also not good.

Table 3: India’s rank on indicators of account usage

	Made a deposit 2 or more times a month		Made a withdrawal 2 or more times a month		Made or received a digital payment in the last one year	
	Age 15+	Has a financial account	Age 15+	Has a financial account	Age 15+	Has an account <sup>27</sup>
India’s rank among middle-income countries	43/67	60/67	44/66	62/66	58/78	78/78
India’s rank among lower middle-income countries	15/32	27/32	13/31	27/31	25/41	41/41

Source: Author’s calculation based on data on the Global Findex Database

<sup>26</sup> ‘Appendix C: Global Findex Glossary’, in *The Global Findex Database 2021* (Washington, DC: World Bank, 2022), <https://thedocs.worldbank.org/en/doc/22d13c2efe6497e6e105e3c396a97362-0050062022/original/Findex-2021-Glossary.pdf>; ‘Microdata Codebook’, in *The Global Findex Database 2021* (Washington, DC: World Bank, 2022), <https://thedocs.worldbank.org/en/doc/7f53eaea4402fbc7b985f127446c9192-0430062022/original/GlobalFindex2021-MicrodataCodebook.pdf>.

<sup>27</sup> These include respondents who report having an account at a bank or another type of financial institution or report personally using a mobile money service in the past year.

These findings can be summarized thus: India did quite well in opening accounts between 2011 and 2021, but an unusually large number of these accounts were inactive in 2021, and only a small number of them were being regularly used. As Table 3 shows, if we consider the deposit, withdrawal and payment measures as a percentage of those with accounts, India ranks close to the bottom of the list of comparable countries.

The crux of the problem is that a lot of inputs, i.e. resources for opening and maintaining the accounts, were wasted, because they did not get translated into outputs and outcomes. The reasons for this difference between success in rapid account opening and failure in achieving real financial inclusion are worth understanding. The next section gives a narrative account of India's approach to getting accounts opened rapidly, the role of Aadhaar in this process, and why this approach was taken. Section 4 explains why this approach did not work well in enabling account usage.

### 3. India's Approach towards Accelerating Financial Inclusion

The history of financial inclusion in India is complex and rooted in the development of its financial system. In this section, a recap of the history of financial inclusion initiatives before 2011 is followed by an overview of the initiatives between 2011 and 2021 to understand the approach that the government took to accelerate financial inclusion. After that, the role of Aadhaar is discussed. Towards the end of the section, the motivation behind the government's approach is explained.

#### *Financial inclusion initiatives before 2011*

For much of post-independence history, the focus of financial inclusion initiatives was on credit. Initially, the approach mainly involved building and refinancing credit cooperatives, especially in rural areas.<sup>28</sup> Cooperatives are community-owned and governed, promoting principles of cooperation. Cooperatives grew rapidly, and by 1971, their share in rural credit was about ten times that of banks.<sup>29</sup>

A major shift occurred in 1969 when the government nationalized many of the banks.<sup>30</sup> With government's direct control over large banks, the focus of financial inclusion initiatives shifted to banks. This shift was complemented by the creation of regional rural banks in the 1970s to serve rural populations. In 1969, the RBI introduced the Lead Bank Scheme to designate a lead bank in each district to work with other institutions to improve financial access.<sup>31</sup> Later, from 1989, under a service areas approach, each bank branch was assigned a specific geographic area comprising a group of villages, to fulfil the banking requirements.

In 1972, the Reserve Bank of India (RBI) mandated bank lending to certain "priority" sectors, which over time came to include agriculture, micro and small enterprises, export credit, education, housing, social infrastructure, and renewable energy, among others. Between 1977

---

<sup>28</sup> M. S. Sriram, ed., *Talking Financial Inclusion in Liberalised India: Conversations with Governors of the Reserve Bank of India* (Taylor & Francis, 2017).

<sup>29</sup> *ibid.*

<sup>30</sup> While the State Bank of India had already been nationalized in 1955, the stake was taken by the Reserve Bank of India. In 1969, the fourteen largest commercial banks were nationalized, and the government took a majority stake in each of them. In 1980, more banks were nationalized. In 2008, the stake in State Bank of India was transferred to the Government of India.

<sup>31</sup> Reserve Bank of India, 'Master Circular – Lead Bank Scheme' (3 July 2017), RBI/2017-2018/8, FIDD.CO.LBS.BC.No.1/02.01.001/2017-18, <https://www.rbi.org.in/commonperson/English/Scripts/Notification.aspx?Id=2317>.

and 1990, RBI's licensing policies required banks to open branches in underserved areas as a condition for expanding in already-served locations. The number of banking outlets increased from 8,262 in 1969 to 60,220 by 1991, with those in rural areas growing from 1833 to 35,206.<sup>32</sup>

Another tendency that developed in this time was that the government started using banks for its developmental activities. Banks implemented the government's credit-based development programmes such as the Integrated Rural Development Programme, wherein the government identified the beneficiaries and banks delivered the credit. Later, as women's self-help groups (SHG) were linked with banks, despite their genesis in the work of voluntary and civil society organizations, they also came to be harnessed by the government for its development schemes, becoming "an instrumentality of the State, focussing on developmental aspects with a financial base, rather than as a tool for banking".<sup>33</sup> Financial repression also increased, as banks were forced to lend to government to finance the deficits, thereby softening the budget constraints.

The 1990s were a decade of reforms, which redefined the roles of the state and markets. Although the government retained majority ownership in the nationalized banks, new private banks were licensed, interest rates and branch licensing were liberalized. There was a shift away from top-down directives, but the expansion of banks into rural areas slowed down. The number of bank offices in rural areas fell to 32,734.<sup>34</sup>

There was a reason why so much financial inclusion was driven by top-down mandates. The transaction costs of the service delivery channel in banking, brick-and-mortar bank branches staffed by bank employees, were too high to meet the demand for low value transactions. Hence, inclusion initiative usually involved cross-subsidization.

In the late 1990s and the 2000s, an acceleration of technological progress in financial services—from mobile banking to mobile wallets, from P2P payments and lending to low-cost handheld devices to conduct transactions—created the potential to drastically reduce transaction costs for service delivery. Increased telecommunications connectivity also enabled transactions in remote locations.

---

<sup>32</sup> Sriram, *Talking Financial Inclusion in Liberalised India*, p. 11.

<sup>33</sup> *ibid*, p. 21.

<sup>34</sup> *ibid*, p. 11.

Aadhaar enrolments began in 2010, which made another enabling technology available. A digital identity system can facilitate opening and usage of accounts by reducing the transaction costs. It can reduce the costs of secure identification of new consumers. Secure authentication can reduce the risks of wrong identification, while obviating the need for copying and storing physical identification documents. Further, when a consumer transacts, the digital identity system can enable secure transactions without the banks having to develop separate authentication systems of their own.

These technologies enabled banks to develop lower cost channels of reaching consumers and created possibilities for new non-bank business models.

Banks could appoint agents equipped with handheld devices connected to their systems to open accounts and provide services. As the infrastructure costs of agent-led outlets are lower than those of bank branches, and opportunity cost of agents' time is much lower than that of the bank employees, the agent-led, branchless banking models have lower costs than branch-based banking.<sup>35</sup> Further, as more and more consumers start transacting digitally using their own devices, such as smartphones, even the need for these outlets can decline over time. Until then, it is necessary to have interfaces where cash in-cash out transactions can be done to convert cash into bank deposits and vice versa. In a cash-intensive economy, the cash in-cash out outlets are necessary even to enable digital transactions.

The new technologies also enabled new non-bank business models for financial inclusion. For instance, mobile companies and ecommerce companies emerged as major providers of financial services in many countries. What David Dollar and Yiping Huang call the “long-tail” feature of digital technologies makes it possible to reach large number of customers at a low cost—once a person establishes a relationship with a technology platform, the marginal cost of offering financial services to them can be close to zero.<sup>36</sup>

---

<sup>35</sup> Anjini Kochar, ‘Branchless Banking: Evaluating the Doorstep Delivery of Financial Services in Rural India’, *Journal of Development Economics* 135 (1 November 2018): 160–75, <https://doi.org/10.1016/j.jdeveco.2018.07.001>.

<sup>36</sup> David Dollar and Yiping Huang, eds., *The Digital Financial Revolution in China* (Brookings Institution Press, 2022), <http://www.jstor.org/stable/10.7864/j.ctv1sd7cvn>.

Unlike regulators in many other countries, RBI did not allow non-bank business models for opening and servicing accounts to grow. But it did allow banks to use agents, or business correspondents (BCs), for branchless banking in 2006, enabling remote financial services access, such as deposits, withdrawals, and payments.<sup>37</sup> Initial restrictions on agent eligibility (until 2010, for-profit BCs were not allowed) and transaction pricing (until 2008, banks had not allowed to price the BC services differently) were gradually eased, and RBI simplified Know Your Customer (KYC) norms, especially with the acceptance of Aadhaar as an identity proof in 2011 and the introduction of Aadhaar-based electronic KYC (e-KYC) in 2013.<sup>38</sup>

In the mid-2000s, the government's and RBI's financial inclusion started focusing on opening accounts.<sup>39</sup> However, instead of allowing the new business models and technologies to increase financial inclusion organically, perhaps with some help through subsidies, the RBI started pushing the banks to quickly increase their presence in rural areas and to rapidly open accounts for the financially excluded. It also intervened in the product and pricing decisions. This was consistent with the longstanding tendencies of its financial inclusion initiatives.

In 2005, the RBI urged the banks to open “no-frill” accounts.<sup>40</sup> These accounts, later renamed Basic Savings Bank Deposit Accounts (BSBDA) in 2012, allow customers to maintain zero minimum balance, and the banks are required to allow deposit transactions up to four withdrawal transactions per month for free, making them commercially unattractive. In 2010, the RBI introduced Financial Inclusion Plans (FIP) that required banks to set targets, such as the number of rural branches and business correspondents and track the number of BSBDA opened.<sup>41</sup> The RBI also directed banks to ensure access in all villages with populations over 2,000 by March 2012. Stringent monthly monitoring by the RBI meant that this was as good as an order.

---

<sup>37</sup> In 2017, the RBI relaxed the branch authorization policy, bringing all branches and business correspondent outlets that operated for at least four hours a day, five days in a week, under the definition of banking outlets.

<sup>38</sup> Compared to other jurisdictions, India's KYC regulations continued to be “excessively prescriptive”, with the requirements to verify address and the penalty provisions going beyond the obligations under the Financial Action Task Force (FATF) framework. See: Rishab Bailey, Trishee Goyal, Renuka Sane, and Ridhi Varma, ‘Analysing India's KYC Framework: Can We Do Things Better?’, SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, 22 January 2021), <https://doi.org/10.2139/ssrn.3776008>.

<sup>39</sup> Reserve Bank of India, ‘Annual Policy Statement for the year 2005-06’ (28 April 2005), <https://rbi.org.in/Upload/Notification/Pdfs/62624.pdf>.

<sup>40</sup> Mathew, Jaya, and Reeba Kurian. "India's policies on leveraging financial inclusion in the country." *The Journal of Developing Areas* 51.4 (2017): 433-443

<sup>41</sup> Ibid.



## *Financial inclusion initiatives between 2011 and 2021*

In 2011, the government launched the Swabhimaan campaign to provide banking services in such villages.<sup>42</sup> Under the campaign, banks were given a mandate to create their presence in all such villages, and government provided subsidies to banks for opening no-frills accounts.<sup>43</sup> RBI identified the villages and, through the state level coordination mechanism, allocated them to the banks to open outlets.<sup>44</sup>

Banks responded swiftly. By March 2010, BC outlets numbered 34,174, which scaled up to 2,21,341 by March 2013.<sup>45</sup> Later, the RBI expanded the mandate to include villages with fewer residents, leading to 5,86,307 BC outlets by March 2016.<sup>46</sup> The establishment of these outlets was largely driven by regulatory mandates. A similar response to top-down mandates can be seen in account opening. By March 31, 2010, the banks had opened about 73.5 million no-frills accounts. This number rose to 138.5 million by March 31, 2012, and to 243 million by March 31, 2014.<sup>47</sup> But even this pace of account opening was not deemed sufficient by the government.

In August 2014, the government intensified the top-down approach with the launch of the Pradhan Mantri Jan Dhan Yojana (PMJDY), aiming to provide every adult with access to financial services. While Swabhimaan targeted households in villages, PMJDY aimed for individual inclusion across rural and urban areas. In the first five months of the scheme, over 125 million accounts were opened, reaching 179 million by the end of the first year and surpassing 300 million accounts within three years.<sup>48</sup> By March 2021, PMJDY accounts numbered 422 million.<sup>49</sup>

---

<sup>42</sup> Dheeraj Tiwari, 'Every Village to Be Covered under Financial Inclusion Drive', *The Economic Times*, 13 June 2011, <https://economictimes.indiatimes.com/news/economy/policy/every-village-to-be-covered-under-financial-inclusion-drive/articleshow/8831438.cms?from=mdr>.

<sup>43</sup> Press Trust of India, 'Banks to Get Rs 140 for Every "no Frills" Account', *Business Standard*, 20 January 2013, [https://www.business-standard.com/article/finance/banks-to-get-rs-140-for-every-no-frills-account-111022800259\\_1.html](https://www.business-standard.com/article/finance/banks-to-get-rs-140-for-every-no-frills-account-111022800259_1.html).

<sup>44</sup> Deepali Pant Joshi, 'Financial Inclusion – Journey so Far and Road Ahead' (Speech, The Mint Conclave on "Financial inclusion", Mumbai, 28 November 2013), <https://www.bis.org/review/r131202a.pdf>.

<sup>45</sup> *ibid*, p. 7.

<sup>46</sup> Subhash Sheoratan Mundra, 'Financial inclusion in India – the journey so far and the way ahead' (Address, BRICS Workshop on Financial Inclusion, Mumbai, 19 September 2016), <https://www.bis.org/review/r160930h.pdf>.

<sup>47</sup> Compiled from RBI Annual Reports. Available at: <https://rbi.org.in/Scripts/AnnualReportMainDisplay.aspx>

<sup>48</sup> Department of Financial Services, Ministry of Finance, Government of India, 'No. of Accounts Opened under PMJDY as on 31.01.2015 (Summary)', 31 January 2015, <https://pmjdy.gov.in/files/progress/phase1.pdf>.

<sup>49</sup> Pradhan Mantri Jan Dhan Yojana (PMJDY), Department of Financial Services, Ministry of Finance, Government of India, 'Bank Categorywise Report as on 31/03/2021', <https://pmjdy.gov.in/Archive> (search for: 31/03/2021).

At that time, the union government had a majority stake in more than three-quarters of the commercial banking sector, and about 94 percent of outstanding deposits from rural areas were with government-owned banks.<sup>50</sup> Most PMJDY accounts (97 percent) were opened by government-owned banks, which divided and allocated the responsibilities amongst themselves geographically at the state and district level. The top-down mandates from the government and RBI formed the core of the strategy to boost financial inclusion.

### *What role did Aadhaar play?*

For KYC, Aadhaar can be used in two ways—online through an e-KYC process and offline using a hard copy of the Aadhaar details. By March 31, 2017, 44.7 million e-KYC transactions had been done to open bank accounts.<sup>51</sup> By that time, about 533 million<sup>52</sup> BSBD accounts had been opened, 282 million<sup>53</sup> accounts of which were opened under PMJDY. So, even if we assume that all e-KYC transactions to open accounts were done by banks, only about 8.5 percent financial inclusion accounts that were opened by March 31, 2017, had been opened using Aadhaar e-KYC.

Only when Aadhaar is used as a digital identity, i.e. through e-KYC, it can be said to be used as a DPI. So, Aadhaar as a DPI did not play a major role in opening the accounts until March 2017. However, with more than 1.13 billion Aadhaar enrolments<sup>54</sup> done by March 31, 2017, Aadhaar was being widely used as a paper ID. A large survey conducted in 2017-18 found that 67 percent people had used Aadhaar as a paper ID for opening their most recent bank account, while only 17 percent had used Aadhaar e-KYC for the purpose.<sup>55</sup> Aadhaar e-KYC scaled-up

---

<sup>50</sup> The total deposits of banks in March 2014 were Rs. 79.6 trillion, out of which about Rs. 61.1 trillion was with government-owned banks, including regional rural banks. The total deposits from rural areas were about Rs. 7.9 trillion, of which about Rs. 7.4 trillion were with the banks where government had a majority stake.

<sup>51</sup> Ronald Abraham, Elizabeth S. Bennett, Noopur Sen, and Neil Buddy Shah, 'State of Aadhaar Report 2016-17' (IDinsight, May 2017), [https://www.idinsight.org/wp-content/uploads/2021/10/State-of-Aadhaar-Report\\_2016-2017.pdf](https://www.idinsight.org/wp-content/uploads/2021/10/State-of-Aadhaar-Report_2016-2017.pdf).

<sup>52</sup> Reserve Bank of India, 'Annual Report 2017-18', (24 August 2018) <https://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/0ANREPORT201718077745EC9A874DB38C991F580ED14242.PDF>

<sup>53</sup> Pradhan Mantri Jan Dhan Yojana (PMJDY), 'Bank Categorywise Report as on 29/03/2017', <https://pmjdy.gov.in/Archive> (search for: 29/03/2017).

<sup>54</sup> 'Graph 1 - Year-wise Aadhaar Generation (September 2010 to March 2022)' in Unique Identification Authority of India (UIDAI), 'Annual Report 2021-22' (2022), p. 23, [https://uidai.gov.in/images/UIDAI\\_Annual\\_Report\\_21\\_22.pdf](https://uidai.gov.in/images/UIDAI_Annual_Report_21_22.pdf).

<sup>55</sup> Ronald Abraham, Elizabeth S. Bennett, Rajesh Bhusal, Shreya Dubey, Qian (Sindy) Li, Akash Pattanayak, and Neil Buddy Shah, 'State of Aadhaar Report 2017-18' (IDinsight, May 2018), [https://www.idinsight.org/wp-content/uploads/2021/10/StateofAadhaarReport\\_2017-18.pdf](https://www.idinsight.org/wp-content/uploads/2021/10/StateofAadhaarReport_2017-18.pdf).

2017-18 onwards. However, since between 2017 and 2021, only about 130 million<sup>56</sup> BSBD accounts were opened. Aadhaar as a physical ID played a much larger role in accelerating financial inclusion than Aadhaar as a digital ID.

The Aadhaar-enabled payment system (AePS) was launched in 2013 to enable Aadhaar-based authentication. The transactions on this system scaled-up from 13 million in 2014-15, to 108 million in 2015-16, to 1.41 billion in 2017-18, to 9.4 billion in 2020-21.<sup>57</sup> The network of BC agents across the country use AePS to authenticate the consumers biometrically to conduct banking transactions. Aadhaar played an important role in authenticating transactions.

Some private banks and financial institutions saw the opportunity presented by Aadhaar and quickly introduced mechanisms for using Aadhaar as a digital identity for opening and servicing bank accounts.<sup>58</sup> But most account were opened by government-owned banks who rushed to open accounts, even if it meant using Aadhaar as a physical ID. Therefore, it is not right to argue that Aadhaar as a DPI led to a rapid increase in account penetration.

### ***Why did the government and RBI take this approach to get accounts opened?***

Although the first Aadhaar was issued in 2010, the digital identity system was established by a parliamentary statute only in March 2016. By then, close to a billion persons had been enrolled with Aadhaar. The main stated rationale that was driving Aadhaar and its urgent rollout was the need for identification and authentication of beneficiaries under welfare schemes.<sup>59</sup> The context for this is worth understanding.

At that time, the government, buoyed by a sharp rise in tax to GDP ratio, was expanding the welfare schemes rapidly. The union government's subsidy expenditure grew from 1.5 percent of GDP in 2007-08 to 2.4 percent of GDP in the pre-election year of 2008-09. It remained in

---

<sup>56</sup> Reserve Bank of India, 'Annual Report 2021-22', (26 May 2022) <https://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/ORBIAR2021226AD1119FF6674A13865C988DF70B4E1A.PDF>.

<sup>57</sup> UIDAI, 'Annual Report 2021-22' (2022), (see note 48).

<sup>58</sup> Surabhi Agarwal, 'IDFC Launches Aadhaar Pay, Becomes the First to Launch Biometric Based Payment System', *The Economic Times*, 7 March 2017, <https://economictimes.indiatimes.com/industry/banking/finance/banking/idfc-bank-puts-in-place-aadhaar-pay-infrastructure/articleshow/57515275.cms?from=mdr>.

<sup>59</sup> Unique Identification Authority of India, Planning Commission, Government of India, 'UIDAI Strategy Overview: Creating a Unique Identity Number for Every Resident in India' (2010), [https://prsindia.org/files/bills\\_acts/bills\\_parliament/2010/UIDAI\\_STRATEGY\\_OVERVIEW.pdf](https://prsindia.org/files/bills_acts/bills_parliament/2010/UIDAI_STRATEGY_OVERVIEW.pdf).

that range for several years. New welfare schemes such as the rural employment guarantee schemes were launched, and some of the schemes were expanded.

However, two problems were emerging—the problem of leakages, and the problem of credit attribution. Several studies were revealing large scale leakages in welfare schemes, with some of the leakage on account of the benefit being siphoned off by creating “ghost” beneficiaries or benefits being given to the same person multiple times (“duplicates”).<sup>60</sup> Surveys showed that beneficiaries gave much of the credit to state and local governments for schemes that were mostly funded by the union government.<sup>61</sup>

Biometric authentication could, it was argued, reduce leakages happening on account of ghost and duplicate beneficiaries and since the beneficiaries would receive the benefits directly, the government could ensure that they get to know who was paying for them. While Aadhaar could provide authentication, the government also needed accounts to transfer the cash benefits. The intensification of account opening initiatives in the early 2010s happened in this context. In 2013, the RBI clearly stated that the push to open Aadhaar-enabled bank accounts since 2011 was “to facilitate the smooth implementation of the Electronic Benefit Transfer scheme”, and that its push for opening of outlets in unbanked rural areas was for “ensuring a seamless roll-out of the Direct Benefit Transfer<sup>62</sup> scheme of the Government of India”.<sup>63</sup>

---

<sup>60</sup> In 2005, a performance evaluation of the targeted public distribution system, conducted by India’s Planning Commission, found that 58 percent of the subsidized food grains issued in the system did not reach targeted beneficiaries, and diversion of subsidised grains to non-existent beneficiaries accounted for 16.7 percent of the total grain off-take. *See*: Programme Evaluation Organisation, Planning Commission, Government of India, ‘Performance Evaluation of Targeted Public Distribution System (PDS)’, Technical Report, March 2005, <https://dmeo.gov.in/sites/default/files/2019-10/Performance%20Evaluation%20of%20Targeted%20Public%20Distribution%20System%20%28TPDS%29.pdf>.

Another study in 2005 found that 38 percent of subsidized kerosene distributed through the public distribution system did not reach its intended recipients, but it did not distinguish between different causes for this. *See*: National Council for Applied Economic Research (NCAER), ‘Comprehensive Study to Assess the Genuine Demand and Requirement of SKO (Special Kerosene Oil)’, Technical Report M/05/079, 2005, <https://www.slideshare.net/BabasabPatil/annualreport-2005>.

<sup>61</sup> In 2014, in the housing subsidy scheme, for which 80 percent of the expenditure was incurred by the union government, only 22.4 percent respondents who had benefited from the scheme gave credit to the union government, while more than 50 percent gave the credit to state governments. For the employment guarantee scheme, which was fully funded by the union government, only about 25 percent respondents gave credit to the union government, while 42 percent said they believed the state governments were responsible for the scheme. *See*: Lokniti-CSDS, ‘NES-Postpoll 2014-Findings (Weight by State Proportion and Actual Vote Share)’, Survey Findings, All India Post Poll, 2014, [https://www.lokniti.org/media/PDF-upload/1536130357\\_23397100\\_download\\_report.pdf](https://www.lokniti.org/media/PDF-upload/1536130357_23397100_download_report.pdf).

<sup>62</sup> DBT is Direct Benefit Transfer, and EBT is Electronic Benefit Transfer. In those days, these terms were interchangeably used.

<sup>63</sup> Reserve Bank of India, ‘Report on Trend and Progress of Banking in India 2012-13’, (21 November 2013) [https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/ORTP21112013\\_F.pdf](https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/ORTP21112013_F.pdf).

When the government changed in May 2014, and Narendra Modi became the Prime Minister, there was a chance that it would not continue with Aadhaar. Previously, as Chief Minister, he had expressed serious reservations about it.<sup>64</sup> However, Aadhaar enrolments continued—194.6 million in 2014-15, and 194.5 million in 2015-16. The main argument that seems to have secured continued support was that Aadhaar would help the government save fiscal resources by reducing leakages.<sup>65</sup>

In 2016, the Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act was approved by the Parliament.<sup>66</sup> The long title of the law stated that it was an Act to “provide for...efficient, transparent, and targeted delivery of subsidies, benefits and services, the expenditure for which is incurred from the Consolidated Fund of India to individuals residing in India...”.<sup>67</sup> The procedure used to pass this law shows that the government was even willing to risk a prohibition on other uses of Aadhaar to get statutory support for its use for direct benefit transfers and other fiscal purposes.

The ruling coalition did not have a majority in the Rajya Sabha (the upper house of Parliament). The law was certified and passed in the Parliament as a “Money Bill”, only need the approval of Lok Sabha, the lower house in which the government enjoyed a majority. According to the Constitution of India, a bill can be certified as a money bill only if *all* its provisions deal with an enumerated list of fiscal matters as given in Article 110 of the Constitution. This meant that there was a risk that in judicial review, Aadhaar’s use could be restricted only to fiscal purposes, even though section 57 of the Act allowed the use of Aadhaar for “for any purpose, whether by the State or any body corporate or person, pursuant to any law, for the time being in force, or any contract to this effect.”<sup>68</sup>

---

<sup>64</sup> Narendra Modi’s 2013 Speech On Aadhaar I BJP | UPA’s Aadhaar Scheme | BOOM, 2017, <https://www.youtube.com/watch?v=qObQijptfg>.

<sup>65</sup> Shankkar Aiyar, ‘How Aadhaar Scheme Got a Second Life under PM Modi’, *The Times of India*, 6 July 2017, <https://timesofindia.indiatimes.com/india/how-aadhaar-scheme-got-a-second-life-under-pm-modi/articleshow/59464487.cms>.

<sup>66</sup> The Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016, (Act No. 18 of 2016), <https://www.indiacode.nic.in/bitstream/123456789/2160/5/A2016-18.pdf>.

<sup>67</sup> *ibid.*

<sup>68</sup> *ibid.*

While challenging the constitutionality of the Aadhaar Act, the petitioners, inter alia, sought judicial review of the Speaker's certification of the Aadhaar Bill as a Money Bill.<sup>69</sup> On September 26, 2018, the Supreme Court of India, in its majority judgment, upheld the passing of the Aadhaar Act as a money bill, reasoning that the dominant purpose of the Act was to establish a mechanism for the distribution of subsidies, benefits, and services, which fell within the definition of a money bill.

The court was able to do so by first reading down section 57 to disallow the use of Aadhaar based only on any contract, holding that this was unconstitutional on the grounds it would “impinge upon the right to privacy of such individuals”.<sup>70</sup> The court ruled that, unless a law enables it, no one can use Aadhaar, and such law would have to meet the tests of “need” and “proportionality”.<sup>71</sup> This considerably curtailed the use of Aadhaar for non-fiscal purposes, but it allowed the law to survive judicial scrutiny.<sup>72</sup>

The government’s decision to rapidly scale-up Aadhaar enrolments, its large-scale usage even without a statutory backing, the long title of the Aadhaar law, and the decision to take the Money Bill route for getting legislation passed show that, for the government, the “publicness” of Aadhaar as a digital public infrastructure was only about its fiscal purposes, which are linked to its electoral objectives, and not about any broader “participation in society and markets as a citizen, entrepreneur, and consumer in a digital era”.<sup>73</sup> As discussed earlier, the same motivation was driving the financial inclusion initiatives between 2011 and 2021.

### ***Another fiscalization of the banking sector***

Urjit Patel, a former governor of RBI, coined the phrase “banking sector-fiscalization” to describe the tendency of India government to use “banks that it owns to fire up and pump-

---

<sup>69</sup> Other grounds cited by the petitioners included: privacy concerns raised by the collection and storage of biometric and demographic data of individuals; concerns about the use of Aadhaar for mass surveillance by the state; the possibility of exclusion of marginalized and vulnerable groups on account of the mandatory requirement of Aadhaar for accessing various services and benefits; concerns about the security of the Aadhaar database; the question of proportionality and necessity of the mandatory linking of Aadhaar to various services.

<sup>70</sup> *Justice K.S. Puttaswamy v. Union of India*, 2019 (1) SCC 1, [https://www.scobserver.in/wp-content/uploads/2021/10/Aadhaar\\_35071\\_2012\\_FullJudgement.pdf](https://www.scobserver.in/wp-content/uploads/2021/10/Aadhaar_35071_2012_FullJudgement.pdf).

<sup>71</sup> In 2017, while declaring that India’s constitution provides for a fundamental right to privacy, the Supreme Court provided for a three-fold test of “legality”, “need”, and “proportionality”. See: *Justice K.S. Puttaswamy v. Union of India*, (2017) 10 SCC 1, [https://www.scobserver.in/wp-content/uploads/2021/10/Right to Privacy\\_Puttaswamy Judgment 1.pdf](https://www.scobserver.in/wp-content/uploads/2021/10/Right to Privacy_Puttaswamy Judgment 1.pdf).

<sup>72</sup> This procedure for upholding the law was questioned by the dissenting opinion written by Justice DY Chandrachud, who argued for striking down the entire law because of the government’s decision to pass the Aadhaar Act as a Money Bill.

<sup>73</sup> Eaves and Sandman, ‘What Is Digital Public Infrastructure?’, (see note 6).

prime the economy” whenever they “found their capacity for further fiscal expansion becoming constrained”.<sup>74</sup> Bank nationalization enabled this. Research has also shown that, during election times, bank lending, especially the credit to agriculture, is used for electoral purposes.<sup>75</sup>

In the decade under consideration, between 2011 to 2021, there was another form of fiscalization of the public sector banks—their operational infrastructure was commandeered to serve the purpose of direct benefit transfers under the government’s welfare schemes. This reduced the discretion available to the public sector banks in deciding where to expand their presence, whose accounts to open, and how to price their services.

In the survey conducted for the Global Findex Database in 2021, 49 percent of the respondents with financial institution accounts in India reported that their first financial institution account ever was opened to receive money from the government, while the average for middle-income countries 72 middle-income countries for which this statistic is available was only 17 percent.<sup>76</sup>

These efforts succeeded in scaling up direct benefit transfers—in 2014-15, the number of beneficiaries more than doubled over the previous year and the amount transferred grew more than five times (see Figures 1 and 2). Over the next few years, they continued to grow rapidly.

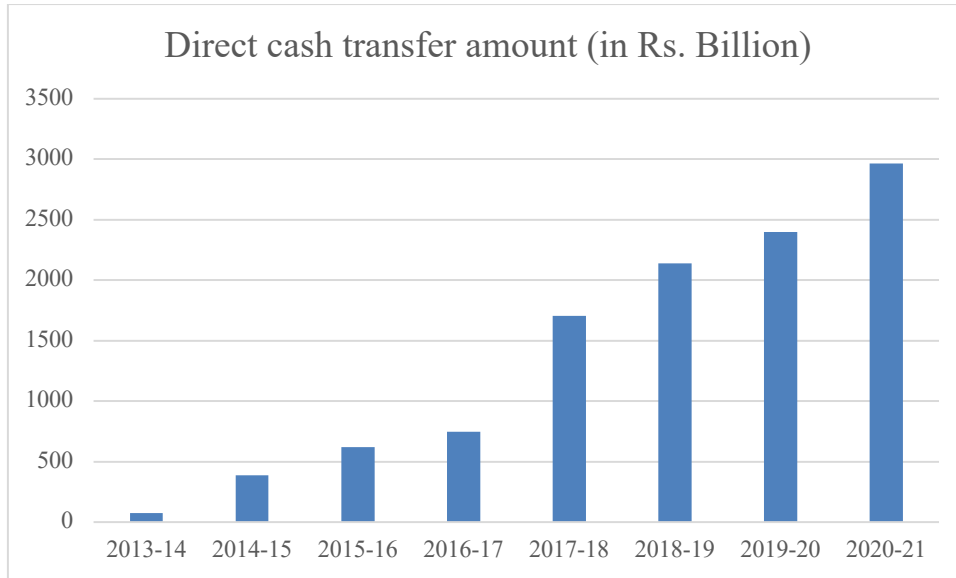
Figure 1: Scale-up of direct benefit transfers (amount)

---

<sup>74</sup> Urjit Patel, *Overdraft: Saving the Indian Saver* (Harper Collins, 2020).

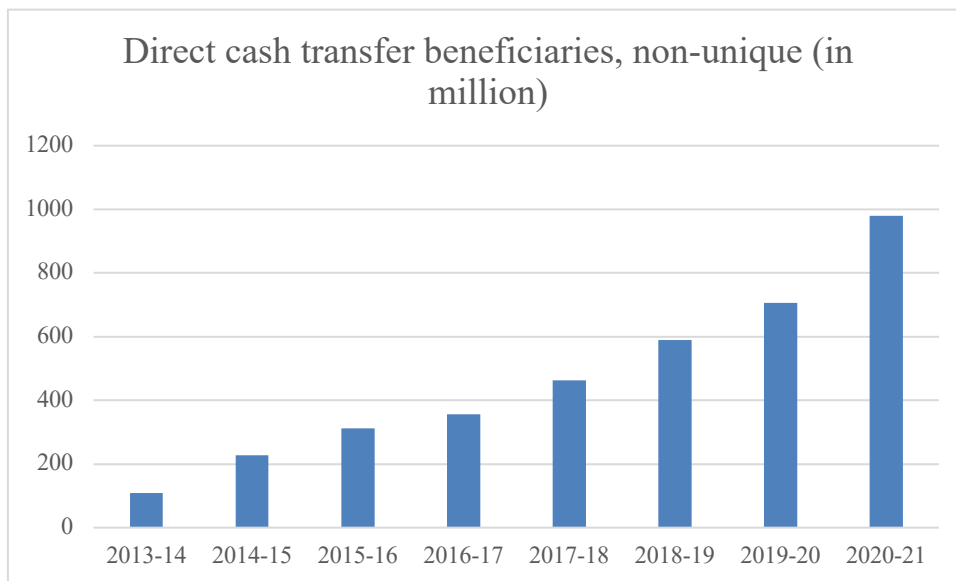
<sup>75</sup> Shawn Cole, ‘Fixing Market Failures or Fixing Elections? Agricultural Credit in India’, *American Economic Journal: Applied Economics* 1, no. 1 (2009): 219–50.

<sup>76</sup> ‘The Global Findex Database 2021’, (see note 14).



Source: DBT Mission Director, Government of India, ‘Direct Benefit Transfer (DBT)’, 2013-2021, <https://dbtbharat.gov.in/>.

Figure 2: Scale-up of direct benefit transfers (number of non-unique beneficiaries)



Source: DBT Mission Director, Government of India, ‘Direct Benefit Transfer (DBT)’, 2013-2021, <https://dbtbharat.gov.in/>.

The Bharatiya Janata Party (BJP)-led union government also tried to address the problems of leakages and credit attribution in other ways. For instance, it renamed many of the schemes to signal to the beneficiaries that they are the schemes of the union government. They added “Pradhan Mantri (Prime Minister)” before the name of schemes—the housing scheme was



renamed the Pradhan Mantri Awas Yojana (Prime Minister Housing Scheme). Another effort by the ruling BJP was to get its party cadres to convey to the beneficiaries that the benefits they received are from the union government.<sup>77</sup>

In the 2019 general elections, the union government got much more credit for the schemes even though its share in expenditure on those schemes had fallen. For the housing scheme, for instance, 51.1 percent respondents (up from 22.4 percent in 2014) who had received benefits gave the credit to the union government. For the employment guarantee scheme, this number was 50.2 percent (up from 25 percent in 2014).

By the government's estimates, the cumulative savings from direct benefit transfers till date are Rs. 3.7 trillion (about USD 43 billion).<sup>78</sup> The infrastructure of direct benefit transfers also gave the government the ability to initiate new cash transfers schemes or do emergency cash transfers during crisis such as the Covid-19 pandemic.<sup>79</sup> One could argue that these decisions have generated significant public value, and the modest improvement in financial inclusion is the price for this. However, this assumes that India achieved better success in direct benefit transfers than other comparable countries.

In 2021, 51 percent of the respondents in India who reported receiving transfers from government said that they received them directly into their account, while the average for the 46 middle-income countries for which data is available was 62 percent.<sup>80</sup> So, India's move towards direct transfers of cash benefits has not been exceptional. Many other countries have also shifted to such mechanisms of transferring benefits. Almost all the other middle-income countries for which this data is available achieved higher share of direct benefit transfers than India, and most of them also achieved higher penetration of active accounts.<sup>81</sup>

---

<sup>77</sup> Press Trust of India, 'BJP Leaders to Contact Govt Schemes' Beneficiaries on Tuesday', *Business Standard*, 25 February 2019, [https://www.business-standard.com/article/pti-stories/bjp-leaders-to-contact-govt-schemes-beneficiaries-on-tuesday-119022501038\\_1.html](https://www.business-standard.com/article/pti-stories/bjp-leaders-to-contact-govt-schemes-beneficiaries-on-tuesday-119022501038_1.html).

<sup>78</sup> These are the total savings that the government has claimed from direct transfers of in-kind and in-cash benefits. See: DBT Mission Director, Government of India, 'Direct Benefit Transfer (DBT)', 2013-2021, <https://dbtbharat.gov.in/>.

<sup>79</sup> Sunil Bhat, Sharad Bangari, Anil Gupta and Pritam Patro, 'Addressing Three Key Issues of BC Agents in India for COVID-like Challenges', *MicroSave Consulting (MSC)* (blog), 28 January 2021, <https://www.microsave.net/2021/01/28/addressing-three-key-issues-of-bc-agents-in-india-for-covid-like-challenges/>.

<sup>80</sup> 'The Global Findex Database 2021', (see note 14).

<sup>81</sup> *ibid.*

In Brazil, for instance, the Bolsa Família program started transferring money directly into bank accounts in 2004. This method was implemented to improve the efficiency and security of the cash transfer process. In 2021, 76 percent of the recipients of government transfers in Brazil reported receiving them in financial institution accounts, 84 percent of respondents had accounts, and only 4 percent reported having inactive accounts.<sup>82</sup> So, large scale direct cash transfers were achieved without compromising on real financial inclusion.

This suggests that the increase in direct benefit transfers and the pursuit of financial inclusion are not mutually exclusive. By encouraging public investments in expanding the banking channels to underserved areas, an emphasis on such transfers payments can lead to financial inclusion, and indeed has done so in some other countries.<sup>83</sup> So, why did India's approach yield such poor results in improving financial inclusion?

---

<sup>82</sup> *ibid.*

<sup>83</sup> Emilio Hernandez, Christopher Blackburn, Anand Raman, and Paul Reynolds, 'Agent Network Journeys toward the Last Mile: A Cross-Country Perspective', Focus Note (Washington, D.C.: Consultative Group to Assist the Poor (CGAP), December 2020), [https://www.cgap.org/sites/default/files/publications/2020\\_12\\_Focus\\_Note\\_Agent\\_Network\\_Journeys.pdf](https://www.cgap.org/sites/default/files/publications/2020_12_Focus_Note_Agent_Network_Journeys.pdf).

## 4. Why India’s approach to financial inclusion yielded poor results

As discussed in the previous section, the main drivers of account opening in India between 2011 and 2021 were a series of mandates to government-owned banks. The government and the RBI mobilized them to rapidly open accounts. But, as shown in section 2, even though many accounts were opened, an unusually large number of them are not used, and very few are used regularly. This is a story of disappointing outputs despite expending a lot of effort and resources. It is worth understanding why this happened.

A clue can be found in Table 4. It shows that in India there is almost no gap in account penetration based on gender, education, income group and other parameters on which one generally expects a gap, and indeed most other middle-income countries do report a large gap. India is unique in this regard. The average middle-income country has significant differences based on parameters like gender, education, income group and region, but there are hardly any differences in the percentage of inactive accounts based on these parameters. In India, on the other hand, there are almost no differences in account penetration based on these parameters, but large differences emerge in the percentage of inactive accounts.

Table 4: Equality in account penetration, inequality in account usage

Parameter	Category	Account penetration in 2021 (%age)		Inactive accounts in 2021 (%age of those with accounts)	
		Middle income countries (mean)	India	Middle income countries (mean)	India
Gender	Male	63	78	8	29
	Female	54	78	9	42
Education	Secondary or higher	67	81	8	26
	Primary or lower	47	76	9	40
Income	Richest 60 percent	64	77	8	29
	Poorest 40 percent	50	78	10	45
Region	Urban	59	78	5	30
	Rural	48	77	5	40

Source: Global Findex Database 2021

This difference between the pattern of equality in account ownership and the pattern of inequality in account usage can give us a clue to understanding why the impressive improvement in account penetration was accompanied by disappointing level of usage of the accounts.

For banks' frontline staff and BC agents, account opening and cash transfers are logistical tasks.<sup>84</sup> They can open the accounts rapidly in response to top-down mandates with no regard to any consideration other than the person's agreement and basic KYC requirements. The money can be then transferred into the accounts under the government's direct transfer schemes, and the beneficiaries come to withdraw it. No effort is needed to ensure that the accountholders get a good quality of service. Even if the outlet is somewhat far and opens only for a few hours in a week, the bank need not worry about the transaction costs for the beneficiaries of cash transfers, because the latter will withdraw the money, even if it means incurring some costs. Since the public sector banks were held accountable for opening accounts and enabling direct benefit transfers under government schemes, they did so.

Looking at the reasons that accountholders with inactive accounts cite for not using their accounts is instructive.<sup>85</sup> In 2021, about 49 percent of the accountholders with inactive accounts said that the reason they are not using their account is that the bank is too far away from where they live. This is puzzling if we look at the rapid growth in the number of BC outlets. Field studies suggest that outlets are clustered in certain parts of an area. One study found that 30 percent of the total population and 52 percent of the rural population in the study area did not have an outlet within five kilometres.<sup>86</sup> As discussed earlier, presence of such outlets is necessary for cash-in cash-out transactions that continue to be essential in a cash-heavy economy. In some of the other comparable countries in which similar studies were conducted, either almost the entire population lives within 5 kms of the nearest outlet (e.g. China, Colombia), or most of them do (e.g. 93 percent in Kenya, 87 percent in Indonesia).<sup>87</sup>

---

<sup>84</sup> Government officials exercise the discretion to identify the beneficiaries who are eligible to get the direct cash transfers. Banks are only conduits for making the transfers.

<sup>85</sup> 'The Global Findex Database 2021', (see note 14).

<sup>86</sup> M P Karthick, Mohak Srivastava, and Akhand Tiwari, 'Optimizing Agent Network Distribution: A Geospatial Mapping Study in Rural India' (MicroSave Consulting, July 2019), [https://www.microsave.net/wp-content/uploads/2019/07/Agent-Mapping\\_Final-Report.pdf](https://www.microsave.net/wp-content/uploads/2019/07/Agent-Mapping_Final-Report.pdf).

<sup>87</sup> Hernandez et al., 'Agent Network Journeys toward the Last Mile: A Cross-Country Perspective', (see note 77).

About 46 percent of accountholders whose accounts were inactive said they did not need an account. Another reason cited by accountholders for not using the accounts (48 percent of such accountholders) was that they do not trust the banks. Since every economically active person needs to do consumption smoothing and payments, perhaps the respondents mean that the kinds of accounts being offered are not useful for them and/or that they are not aware of the uses of the bank accounts. Perhaps banks and the agents have also not done enough to earn their trust. For instance, some field studies find that only a small fraction of the BC outlets are regularly available for transactions.<sup>88</sup> If a banking outlet is not regularly available for transactions, it may not be trusted with savings that need to be accessible at any time.

Encouraging regular usage of accounts for consumption smoothing requires attention to such issues such as convenience, flexibility, and continuity of service.<sup>89</sup> Customers will regularly use accounts for consumption smoothing and payments only if they do not have to incur significant transaction costs in accessing the bank outlets for transactions, and if the services are useful for them. The banks will offer such services if they see themselves profiting from them. Regular usage of accounts requires a matching of consumers' interests and banks' incentives.

In India since banks and their agents had little discretion to consider issues like commercial viability, service quality, channel design, etc during the account opening process, the patterns of differences based on the parameters discussed above emerge in the usage of accounts, because usage reflects the reality in which commercial transactions are conducted. Gunther (2017) found that while PMJDY significantly increased the likelihood of owning an account among the previously unbanked, such as the poor and the uneducated, the progress in the active use of accounts was less substantial for the most marginalized.<sup>90</sup>

---

<sup>88</sup> Akhand Tiwari, Lokesh K Singh, Mukesh Sadana, and Puneet Chopra, 'The Curious Case of Missing Agents in Rural India' (MicroSave Consulting, January 2014), [https://www.microsave.net/files/pdf/IFN\\_105\\_The\\_Curious\\_Case\\_of\\_Missing\\_Agents\\_in\\_Rural\\_India\\_MicroSave.pdf](https://www.microsave.net/files/pdf/IFN_105_The_Curious_Case_of_Missing_Agents_in_Rural_India_MicroSave.pdf).

<sup>89</sup> Jonathan Morduch and Stuart Rutherford, 'Microfinance: Analytical Issues for India' (World Bank, South Asia Region, 4 April 2003), [https://wagner.nyu.edu/files/faculty/publications/Microfinance\\_Analytical\\_Issues\\_for\\_India.pdf](https://wagner.nyu.edu/files/faculty/publications/Microfinance_Analytical_Issues_for_India.pdf).

<sup>90</sup> Manuela Kristin Günther, 'The Progress of Financial Inclusion in India: Insights from Multiple Waves of Survey Data', *SSRN Electronic Journal*, 2017, <https://doi.org/10.2139/ssrn.2946954>.

The policy choices made to expand the banks' presence and to accelerate account opening seem to have created a mismatch between the kind of supply side solutions that have been developed and what is needed to achieve real financial inclusion in terms of active usage of accounts.

### ***Lack of a viable business model***

The financial inclusion efforts in India did not create a sound business model. The no-frills or BSBD accounts do not require any minimum balance, and all deposit transactions and up to four withdrawals per month are to be given free. Most of the accounts that were opened under the financial inclusion initiatives are these accounts. It is very difficult for the banks to make money from these accounts. The only exception to this is the commission that banks are paid for direct benefit transfers. The government pays a commission for such transactions.

Since the low-income households tend to have irregular and unpredictable incomes, they need to do frequent transactions to smooth consumption, deal with emergencies, and save for future needs.<sup>91</sup> It is very difficult for banks to profitably offer such high frequency transactions even through agent-led models unless they are allowed flexibility on pricing the services.

System-wide commercial viability has eluded the BC agent networks. Studies on BC agents show that almost a third of them lose money, and many others do not make a significant amount from this activity.<sup>92</sup> Such findings have been reported by studies conducted throughout the decade.<sup>93</sup> While the banks and BC agents can improve their incomes by cross-selling other products, deposits and withdrawals remain unprofitable because of the pricing restrictions.<sup>94</sup> It is not surprising that many agent outlets are inactive.<sup>95</sup> Financial inclusion has basically

---

<sup>91</sup> Daryl Collins et al., *Portfolios of the Poor: How the World's Poor Live on \$2 a Day* (Princeton University Press, 2009).

<sup>92</sup> Aakash Mehrotra, Akhand Tiwari, M P Karthick, Mimansa Khanna, and Vivek Khanna, 'State of the Agent Network, India 2017: Agent Network Accelerator Research', India Country Report February, 2018 (MicroSave Consulting, 2017), [https://www.microsave.net/wp-content/uploads/2018/12/Agent\\_Network\\_Accelerator\\_Research\\_Country\\_Report\\_India.pdf](https://www.microsave.net/wp-content/uploads/2018/12/Agent_Network_Accelerator_Research_Country_Report_India.pdf).

<sup>93</sup> Ann-Byrd Platt and Akhand Tiwari, 'The State of Business Correspondence: Agent Networks in India', Policy Brief (MicroSave, March 2012), [https://www.microsave.net/wp-content/uploads/2018/10/1370951943\\_PB\\_2\\_The\\_State\\_of\\_Business\\_Correspondence\\_Agent\\_Networks\\_in\\_India.pdf](https://www.microsave.net/wp-content/uploads/2018/10/1370951943_PB_2_The_State_of_Business_Correspondence_Agent_Networks_in_India.pdf).

<sup>94</sup> Aishwarya Narayan, Abhishek Mukherjee, Natasha Agnes D'cruze, Deepti George, and Indradeep Ghosh, 'Uninterrupted Cash In Cash Out (CICO): An Agent Success Model' (Dvara Research, 21 March 2024), [https://dvararesearch.com/wp-content/uploads/2024/03/CICO-Report\\_March-2024.pdf](https://dvararesearch.com/wp-content/uploads/2024/03/CICO-Report_March-2024.pdf).

<sup>95</sup> Avinash Nair, 'One-Third of Business Correspondents Deployed by Banks Inactive in Gujarat: SLBC', *The Indian Express*, 17 April 2023, <https://indianexpress.com/article/cities/ahmedabad/one-third-of-business-correspondents-deployed-by-banks-inactive-in-state-report-8561819/>.

become what one senior banker described to me as a “cost centre activity” – it is not expected to be profitable, and is considered a cost of being able to do business.

### ***Mismatch between the solution and the problem***

The expansion of the BC channel mostly followed a central planning approach of allocating areas to different banks to establish outlets in, with a focus on direct cash transfers. This limited the competition in banking services and oriented the banking channel to do what it needed to do to meet the government’s objectives. Once this path of central planning and control was taken, it created frictions in the working of market forces.

The account opening drives based on top-down mandates led to wastage of time and other resources and oriented the bankers towards unproductive activities. Gunther (2017) estimates that about 51 percent of the PMJDY accounts opened in the first year were opened for those who already had accounts.<sup>96</sup> The survey conducted for the Global Findex Database found that in 2018, account penetration in India was 80 percent, but it fell to 78 percent in 2021. Between August 2017 and August 2021, about 130 million accounts were opened under PMJDY. The decline in account penetration might be explained by duplication and/or closure of accounts. This implies a considerable wastage of resources due to top-down mandates.

The public sector banks’ energies were focused towards appeasing the government. Media outlets reported that some bankers have been depositing small amounts into customers’ accounts, so that the accounts don’t become inoperative, which is something they are held accountable for.<sup>97</sup> In surveys of accountholders such accounts would be reported as inactive, while in institutional data, they would not appear as inoperative.

Since so much of account opening was driven by top-down mandates to facilitate direct cash transfers, and since commission on these transfers continue to be a relatively reliable source of income for the BC agent channel, the channel has been designed mainly for the purpose of cash transfers, with insufficient regard for regular transactions. A channel designed for periodic or occasional cash transfers is quite different from one built for intensive transactions.

---

<sup>96</sup> Günther (2017), (see note 84).

<sup>97</sup> Shyamlal Yadav and Jay Mazoomdaar, ‘The One-Rupee Trick: How Banks Cut Their Zero-Balance Jan Dhan Accounts’, *The Indian Express*, 13 September 2016, <https://indianexpress.com/article/business/banking-and-finance/how-banks-cut-their-zero-balance-jan-dhan-accounts-one-rupee-trick-3028190/>.

Some of these problems were seen even in the pilot projects conducted two decades ago, well before the top-down approach were scaled up. But it seems that those lessons were not learnt while scaling up.

### ***Studies of the pilot projects***

In 2006-07, the RBI announced a drive under which it asked the State Level Banking Committees (SLBC)<sup>98</sup> and the lead banks in each state to conduct pilot projects to promote complete financial inclusion in at least one district in their respective states. The drive for opening no frills accounts were completed in 155 districts across 19 States and six Union Territories by November 2008, and the districts were declared as hundred percent financially included.<sup>99</sup> This was well before Aadhaar was launched.

Consider two studies that evaluated these pilot projects—one from the Gulbarga district of Karnataka, and the other from the Cuddalore district of Tamil Nadu. A survey-based study on the Gulbarga project was published in 2009.<sup>100</sup> The Cuddalore study was published in December 2008, and reported the status a year after this project has been declared a success.<sup>101</sup>

The Gulbarga study found that only 5 percent respondents who had bank accounts made regular deposits in them, while 57 percent had never made a deposit. 51 percent respondents used their account to withdraw money, and they did so as and when government transfers were deposited. The Cuddalore study found that only about 15 percent of the accounts were operational a year later.<sup>102</sup> The study also found that, for the active accounts, the average number of transactions in the previous year was only 4.4, implying infrequent use.

---

<sup>98</sup> The SLBC is a forum with representatives from all banks in the state, the state government, and the RBI. It is responsible for coordinating banking activities in the state.

<sup>99</sup> About 400,000 accounts were opened in Gulbarga district. *See*: Minakshi Ramji, 'Financial Inclusion in Gulbarga: Finding Usage in Access', Working Paper (Institute for Financial Management and Research, Centre for Micro Finance, January 2009), [https://ifmrlead.org/files/OWC/26\\_Ramji\\_Financial%20Inclusion%20in%20Gulbarga.pdf](https://ifmrlead.org/files/OWC/26_Ramji_Financial%20Inclusion%20in%20Gulbarga.pdf).

About 1,87,000 accounts were opened in Cuddalore. *See*: S Thyagarajan and Jayaram Venkatesan, 'Cost –Benefit and Usage Behaviour Analysis of No Frills Accounts: A Study Report on Cuddalore District' (College of Agricultural Banking & Institute for Financial Management and Research, Centre for Micro Finance, December 2008), [https://ifmrlead.org/files/OWC/28\\_NoFrills\\_Cuddalore.pdf](https://ifmrlead.org/files/OWC/28_NoFrills_Cuddalore.pdf).

<sup>100</sup> *ibid*, Ramji (2009).

<sup>101</sup> Thyagarajan and Venkatesan (2008), (see note 93).

<sup>102</sup> *ibid*. The definition of active accounts that the researcher used was "an account with a balance of more than Rs. 100."



In the Gulbarga study, 91 percent of the respondents who opened the accounts during the drive said that the main reason for opening the accounts was to receive transfers from government, and 87 percent said that no bank representative explained the features of the account to them. Among the accountholders who had never made a deposit, 56 percent said that this was because they opened the account only to receive transfers from government.

In the Cuddalore study as well, most respondents with an inactive account said that they opened bank accounts thinking that it could “help them get a loan from the bank or they might get assistance through some government schemes”. Most of them did not know that the accounts could be used for other purposes, such as saving money.

In the Gulbarga study, of the respondents who opened accounts only about 22 percent lived within a walking distance of a banking outlet. For others, there was significant cost of travel involved in reaching the bank - about half of a day’s earning for a wage labourer in the area. About 70 percent claimed that visiting a bank caused them to lose an entire working day. The Cuddalore study also found that distance from banking outlet was major reason for inactive accounts.

In July 2009, the RBI reported on evaluations by independent external agencies of the progress made in 26 of the districts across eight states that had reported complete financial inclusion.<sup>103</sup> It reported that most of the accounts that had been opened remained inoperative.

These studies show that, since the banks were responding to pressures from the regulator and the government, achieving real financial inclusion was not a priority. They were looking for success in account opening and in delivering direct cash transfers. They did not even tell many of the users about other uses of a bank account.

These studies were conducted at a time when the agent-led model was just starting. Most of the accounts were opened and serviced directly by bank branches. So, it is not surprising that distance from banking outlets was a major cause for lack of transactions in accounts. The lack

---

<sup>103</sup> Reserve Bank of India, ‘Monetary and Credit Information Review’ (January 2009), <https://www.rbi.org.in/SCRIPTS/PublicationsView.aspx?id=11316>.

of interest among bankers’ in creating awareness about the accounts may also be due to the same reason – bank branches were simply too expensive to service zero balance accounts.

When the new technologies and agent-led business models emerged in the early to mid-2000s, it seemed that they would allow even commercially motivated banks to expand financial inclusion, because it would be profitable to serve at least some of the customers who were hitherto not included due to high transaction costs. But provision of bank accounts in rural areas remained largely a remit of the public sector banks driven by government mandates. In the late 2010s, only about 6 percent of the BC agents in rural areas were working for private sector banks (including payment banks).<sup>104</sup>

### ***Direct benefit transfers and financial inclusion***

As discussed in the section 2, there is no essential conflict between scaling up G2P payments and achieving financial inclusion. Direct benefit transfers require opening accounts for the beneficiaries. But the policy design matters. India was unique in the extent to which it relied upon a strong emphasis on top-down mandates. Other countries took different approaches.

For instance, in Brazil, CAIXA, which is a government-owned bank, is mandated to open and service accounts to process payments for various cash transfer schemes.<sup>105</sup> This leaves much of the banking sector, including other government-owned banks, free to increase its presence and open accounts based on their commercial considerations.

Another contrast is with Colombia, where like in India, government transfers were a key objective driving the acceleration in expanding the banks’ presence and opening of accounts. However, even though a large part of the banking sector in Colombia was government owned, private banks leveraged public investments to play the lead role in financial inclusion by accessing subsidies from the government.<sup>106</sup> This led to market-led responses in the form of “new agent models with comparative advantages to operate in different parts of the country”.<sup>107</sup>

---

<sup>104</sup> Mehrotra et al. (2017), (see note 86).

<sup>105</sup> UNICEF Brasil and ABC/MRE, ‘Cash Transfer Programs in Brazil: The New Bolsa Família and Its Predecessors’, Policy Brief, Social Protection Series, November 2023, [https://www.unicef.org/brazil/media/27161/file/policy-brief-2\\_unicef-brazil.pdf](https://www.unicef.org/brazil/media/27161/file/policy-brief-2_unicef-brazil.pdf).

<sup>106</sup> Hernandez et al., (see note 77).

<sup>107</sup> *ibid.*

Section 1 of this paper presented certain claims about the success of Aadhaar as a DPI in accelerating financial inclusion in India. Section 2 showed, through a comparative analysis, that India has not done as well as most other comparable countries in improving real financial inclusion in terms of active and regularly used accounts. Section 3 presented a description of India's approach to financial inclusion and explained why that approach was taken. The section also showed that Aadhaar as a digital identity did not play a major role in accelerating account opening, but it was used much more as a physical ID. Aadhar also played a role in facilitating transactions. This section explained why India's approach to financial inclusion between 2011 and 2021 led to the poor outputs discussed in section 2. The next section addresses the question: could the government have made better choices?

## **5. Interpretation of the government’s decisions: could a better path have been taken?**

Based on the discussion in the previous sections, it can be argued that India’s policy approach yielded sub-par outputs for both financial inclusion (in terms of account usage) and direct benefit transfers (in terms of the percentage of recipients reporting that they received the benefits directly into their accounts). Lots of inputs (resources poured into opening and maintaining accounts) were wasted because they did not lead to outputs (usage of accounts) and outcomes (positive impact on the economic lives of accountholders and on the larger economy), and the progress towards direct benefit transfers was also unexceptional when compared with other middle-income countries.

This begs the question: as the new technologies emerged two decades ago, could the government have taken a different policy approach that would have yielded better outputs politically and economically?

This section offers an interpretation of the decisions described in Section 3 to consider whether a better path could have been chosen. This interpretation is built on three key ideas – transaction costs in political markets; path dependence due to context-specific constraints; and possibility of political creativity. First, the decisions are interpreted in terms of how different policy choices might have helped reduce the transaction costs of implementing welfare schemes. Second, these decisions are interpreted in the context of the constraints created by the histories of the institutions that took them. Finally, the decisions are interpreted in terms of whether the policymakers showed reasonable political creativity in negotiating the constraints.

### ***Transaction costs in political markets***

Just as transaction costs impede the efficient fulfilment of contracts in commercial market transactions, transaction costs also affect political markets also have. Douglass North first put forth the idea of studying politics in terms of transaction costs.<sup>108</sup> Avinash Dixit built on this to describe a political contract as a “promise of a policy (or program) in return for votes (or

---

<sup>108</sup> Douglass C. North, ‘A Transaction Cost Theory of Politics’, *Journal of Theoretical Politics* 2, no. 4 (October 1990): 355–67, <https://doi.org/10.1177/0951692890002004001>.

contributions)”.<sup>109</sup> The parties to such a contract are citizens, on the one hand, and politicians or administrators, on the other.

Dixit argued that political contracts are “more complex and harder to enforce” than differ economic contracts. The principal-agent relationships in the politics are more complex, due to a lack of clarity regarding the principals and agents. In politics, there is also considerable uncertainty about the possible states of the world and the participants’ knowledge of the way the world works, making it difficult to foresee the likely scenarios, leaving the contract incomplete. This necessitates improvisation and satisficing by the participants – trying to do the best under difficult conditions. Political markets are also marred by limited and asymmetric information, opportunism in principal-agent relationships, and other transaction cost problems.

New technologies often help reduce the transaction costs. When new technologies come along, the government must choose some institutional and policy frameworks for them. One way of characterizing these choices is in the “markets vs state” or “markets vs hierarchies”<sup>110</sup> frame. The government may decide to allow markets, with some regulations, to determine how the technology will be adopted and/or deployed, or it may choose some hierarchical administrative mechanisms for doing so. It may also choose to mix the approaches. For instance, it may decide to invest in hierarchical systems for development of a technological system, and then leave it to the markets to determine how it will be used. It could also introduce hierarchical, administrative systems for certain uses of technology that are important for reducing transaction costs of political transactions, while leaving the other uses to markets. In understanding these choices, the interests that politicians and administrators have in mitigating the transaction costs in politics must be considered.

The promise of delivering benefits under welfare schemes is an example of a political contract. The challenges of authenticating the beneficiaries made it difficult to implement the contract. The governance structures implementing these contracts created a problem of multiple

---

<sup>109</sup> Avinash K. Dixit, *The Making of Economic Policy: A Transaction-Cost Politics Perspective* (The MIT Press, 1996), <https://doi.org/10.7551/mitpress/4391.001.0001>.

<sup>110</sup> Oliver Williamson developed a theory of the comparative efficiencies of markets and hierarchies in managing transactions. Markets, he argued, are generally efficient for simple, standardized transactions with low uncertainty, where the price mechanism can coordinate transactions, and competition disciplines behaviour. Hierarchical decision-making, on the other hand, can be more efficient for complex transactions with high uncertainty and asset specificity. Hierarchies can reduce transaction costs by internalizing transactions and creating administrative controls. *See, for instance*: Oliver Williamson, ‘Markets and Hierarchies: Some Elementary Considerations’, *The American Economic Review* 63, no. 2 (1973): 316–25.

principals – both the union government and state governments acted as principals. Even though, at that time, most of the funding for the union government schemes was from the union government, the state governments could effectively act as principals while implementing the schemes, with weak accountability to the union government.

Further, there was limited and asymmetric information regarding the implementation of the schemes at various levels - between the union and state governments, between state governments and their frontline bureaucracies, between frontline bureaucracies and the beneficiaries - creating the possibility of opportunism in these relationships. There was also considerable complexity and uncertainty in predicting whether and to what extent the states would reform their systems of scheme implementation to reduce leakages.

In the 2000s, as the government was increasingly relying on welfare schemes to achieve performance legitimacy, the system of implementation imposed large transaction costs leading to problems of leakages and credit attribution. The government decided to introduce direct benefit transfers to reduce the transaction costs in the political contracts comprising the welfare schemes. It then took an approach to account opening that preferred hierarchical, top-down mandates over markets. As discussed earlier, India was unique in taking such an approach to such an extreme. Could this decision be explained by the institutional constraints of the time?

### ***Constraints restricting the banking markets***

A growing emphasis on cash transfers<sup>111</sup> coupled with the problems of leakages and credit attribution created the motivation to scale-up direct cash transfers. The context at the time presented certain constraints that might have affected the timeline for achieving the government's objective of scaling up direct cash transfers by opening bank accounts and sending money through them. These relate to the demand-side as well as the supply side in the banking markets.

Demand-side constraints: As discussed in section 4, in most other comparable countries, there are large differences in account penetration based on demand-side parameters such as income

---

<sup>111</sup> There were three categories of schemes involving cash transfers – schemes where in-kind transfers were converted into transfers of money into accounts (e.g. cooking gas subsidy, food subsidy in some states, housing subsidy, etc); schemes where cash was being given earlier and were later transformed into direct transfers into accounts (e.g. social assistance schemes, scholarships; wages under rural employment guarantee scheme); and new schemes where direct transfers into accounts were the norm from day one (e.g. transfers to farmers under PM-KISAN scheme).

level, region (rural vs urban), gender, and education level. Any inclusion process that follows the commercial imperative will first reach those who are easier to include. The market process would not have led to rapid financial inclusion of welfare scheme beneficiaries on its own. Something more was required.

Supply-side constraints: Earlier decisions by RBI had created frictions in the banking market. Mandating no-frills accounts with free transactions and no minimum balance, restrictions on pricing in the BC channel (2006-2008), and the prohibition on for-profit BCs (until 2010), meant that in 2011, the BC channel had not developed well. Under the lead bank and service area approaches, specific banks were assigned villages, creating a path dependence - the easiest way of reaching a village was through the respective bank. Competition in banking was also weak due to restrictive licensing. After issuing 10 bank licenses in 1993-94, the RBI granted only two more in 2003-04, followed by another decade-long gap. By the early 2010s, only 7 of the 12 licensed banks survived.<sup>112</sup> This reduced the incentives for banks to innovate or expand beyond serving large firms and affluent customers in a growing economy. While these policies were not irreversible, they constrained market forces in the short to medium term.

These constraints meant that, in 2011, the probability of banks being driven by commercial incentives to rapidly open accounts for most of the welfare scheme beneficiaries was low. At the same time, government ownership of a large part of banking sector gave it the powers to issue mandates, and it used these powers.

This interpretive explanation is not a justification. A justification implies that the policymakers chose the best possible path under the constraints. So, the question is: despite these constraints, could the government have chosen a path leading to better financial inclusion outcomes while helping achieve its electoral objectives?

### ***Political creativity and institutional constraints***

The rapid account opening allowed the government to quickly scale up direct cash transfers, which may have helped the ruling party electorally.<sup>113</sup> If we define rational choice in terms of

---

<sup>112</sup> Anand Adhikari and Suprotip Ghosh, 'Banking Licence: How Banks Will Manage the Shift from Their Existing Business Models', *Business Today Magazine*, 4 August 2013, <https://www.businesstoday.in/magazine/features/story/new-bank-licences-rbi-132367-2013-07-19>.

<sup>113</sup> Rational choice need not always translate into success. It so happened that the efforts of the UPA government in scaling direct benefit transfers yielded results after it had lost power. The UPA government (2004-2014) left in place much of the

individuals relying on rational calculations to make choices aligned with their own best interests, we can see the decisions described in section 3 reflecting rational choice by the political leadership. In this sense of rational choice, analytical critique of a policy decision is rarely fruitful. Some combination of objectives, constraints and powers can make the decision seem “rational”. But such an interpretation of a decision takes the objectives, constraints and powers as given. It does not give sufficient regard to political creativity in defining the objectives, easing the institutional constraints, and exercising powers.

It is worth considering the government’s decisions regarding - a) the objective of scaling direct cash transfers to address the problems of leakages and credit attribution; b) RBI’s top-down financial inclusion interventions and limited competition in banking that limited the possibility market-led financial inclusion; and c) exercise of power over public sector banks that allowed the government to issue mandates to them. Each of these – the objective, the constraints, and the powers – could have been approached differently. While there was some path dependence, several policy options were available, especially after the 2014 elections, when the new government had considerable opportunity to redefine the agenda.

**Defining the objective differently:** The way the government defines policy objectives shapes downstream decisions. Was it necessary for the government to aim at opening 180 million accounts in one year and scale-up the amount of direct cash transfers 29 times in five years, as was done under the first term of the NDA government?<sup>114</sup> Once such a goal is set, there is less freedom to try different approaches.

The incumbents have some freedom to choose their electoral strategy. It was up to the government to decide the extent to which it would count upon direct cash transfers. Further, for a given level of emphasis on cash transfer schemes, the government could have accepted a different pace at which to seek a shift to direct cash transfers. A more gradual scale-up of direct cash transfers, perhaps with prioritization of states where the reports of leakages were high, would have allowed more flexibility in the approach to account opening and cash transfers. Some leakages due to ghosts and duplicates would have continued. The government would

---

infrastructure for direct benefit transfers but could not scale them before it lost power. The NDA government, which came to power in 2014, got hundreds of millions of accounts opened through PMJDY, and used the existing infrastructure, to scale up direct cash transfers. In 2017-18, the amount of these transfers was more than 23 times what they had been in 2013-14.

<sup>114</sup> From Rs. 73.7 billion in 2013-24 to Rs. 2140.9 billion in 2018-19. See: DBT Mission Director, Government of India, ‘Direct Benefit Transfer (DBT)’, 2013-2021, <https://dbtbharat.gov.in/>.



also have had to find other ways for solving the problem of credit attribution where direct cash transfers had not scaled. The government showed a lack of imagination in these matters.

**Easing the constraints for market-led financial inclusion:** The path dependence created by the earlier policy interventions did not have the power to completely determine the government's approach. With a medium-term perspective, several changes were possible that could have allowed for a more market-led acceleration of financial inclusion.

One option was to take a more liberal approach towards financial inclusion through telecom companies and ecommerce companies. Several countries took this approach. As the telecom networks expanded, they offered financial services access to those who did not have access to banking. Aadhaar could have played a big role in this by providing a secure way of identifying and authenticating the accountholders. The RBI and the government took a very restrictive approach and prevented these opportunities from being realized.

Just like the agent-led banking, the mobile money accounts were also enabled by the advent of new technologies that allowed for secure transactions to be conducted over telecommunications networks using handheld devices, such as point of sale devices and mobile phones. Many countries allowed mobile telecommunications companies to offer accounts and payment services, so that they could piggyback on the rapid increase in the reach of mobile connections.

For instance, Global Findex Database reports that, in Kenya, 69 percent respondents in 2021 had a mobile money account, while only 51 percent had a financial institution account. In Ghana, 60 percent reported mobile money accounts, while only 39 percent had financial institution accounts. In Senegal, which has registered one of the most remarkable improvements in account penetration (going from 6 percent in 2011 to 53 percent in 2021), 45 percent had mobile money accounts, while only 28 percent had financial institution accounts. In India, only 10 percent of respondents had a mobile money account in 2021. The RBI and the government focused on bank-led approaches to financial inclusion.

A few countries leveraged the rapid increase in smartphone ownership to accelerate financial inclusion through ecommerce and other apps. China, for instance, could overcome the limitations of traditional banks by accelerating financial inclusion using new digital finance

business models.<sup>115</sup> It enabled applications like AliPay and WeChat, which led to around one-third of consumer payments in China going cashless, and three-fourths of Chinese smartphone users making a mobile point-of-sale purchase in 2017.<sup>116</sup> Similarly, ecommerce has become a major driver for financial inclusion in countries like Kazakhstan, with the websites and applications offering ecommerce services also offering financial services.

These approaches have their own challenges, but they entail a broader set of strategies than simply issuing top-down mandates to government-owned banks. The government could also have advocated the RBI to take a more liberal stance towards bank licensing and business model design. RBI did change its licensing policy later in the decade—giving two new licenses in 2014, creating new categories of banks, and giving several more licenses under the new categories in 2015. Had these changes happened earlier, especially when the BC model was being introduced, India would have seen more competition in banking. Further, restrictions like mandatory zero balance accounts with free transactions could have been eased, to allow more commercially viable approaches to financial inclusion, while giving fiscal subsidies to make it worthwhile for banks to serve low-income customers.

**Judicious use of powers over public sector banks:** The ownership of public sector banks creates a temptation for the government to get them to serve the objectives of its choosing. As described in this paper, the government directed the public sector banks' expansion into unbanked areas through top-down mandates. One can hardly imagine a more intrusive way of influencing the banks' decisions. Was it necessary to force them to cover the entire country and to open hundreds of millions of accounts within a few years? As it turns out, banks did open the accounts, but in a manner that led to an unusually large number of unused accounts, leading to wastage of inputs used to open and maintain those accounts.

There were other ways of intervening that could have avoided this. For instance, the government could have nudged the banks to expand their presence in unbanked areas by giving them subsidies for doing so in areas that the government considered to be of a high priority. Even the top-down mandates could have been limited to a few priority areas.

---

<sup>115</sup> *The Digital Financial Revolution in China* (see note 33).

<sup>116</sup> 'China: A Digital Payments Revolution', CGAP Research & Publications, 25 September 2019, <https://www.cgap.org/research/publication/china-digital-payments-revolution>.

This is not an exhaustive treatment of the possibilities of political creativity. The point is only to show that there were other ways of defining the objectives, easing the constraints, and exercising power over the banks. So, the approach taken to account opening and scaling direct cash transfers was a failure of instrumental rationality. While it seems to have served the electoral objectives of the ruling party, other approaches might have helped the government make some electoral gains while also making progress on real financial inclusion and benefits that accrue from it.

For any given time horizon and political strategy, the interactions between political motivations and institutional structures shape the policy decisions of the types analyzed in this paper. While political creativity can help achieve better outcomes within existing institutional structures, there are limits to such creativity in the short to medium term. So, the evaluation and reform of the broader institutional structures – the deeper norms and basic rules – that shape the decisions is also necessary. This analysis has implications for how we may think about the role of the government in shaping DPIs and how we may inform broader reform agendas in the Indian economy. The next section deals with these issues.

## **6. Rethinking the role of the government in DPIs and beyond**

Analytical inputs are useful when a careful consideration of costs and benefits is being done. In India, in the last few years, there have been several major policy decisions to pursue ambitious objectives that were defined in such a manner that it seemed that costs did not matter. In 2016, the government decided to demonetize 86 percent of the currency in circulation to curb corruption. In 2020, faced with the radical uncertainty of Covid-19, the government imposed a near-total nationwide lockdown—the most stringent in the world. More moderate and subtle ways of defining the objective and pursuing them were available and were indeed implemented by other countries.

Critiques of these decisions have been offered, and we may add to the list the critique presented in this paper of the financial inclusion strategy. However, it would be limiting to see these only as failures of instrumental rationality - the government making poor choices. We should also consider the institutional structures that enabled such decisions. Each of these should be evaluated in terms of their benefits to the economy, and feasible pathways for reforms should be developed and implemented., the possibility of such decisions emerges in an institutional context. It is important to evaluate the institutional structures. In this section, we consider certain institutional structures that enabled the decisions critiqued in this paper, before turning to the debate on the role of the government in DPIs.

### ***Implications for reform of institutional structures***

The assessment of institutional structures should be based on evidence on their performance over time and across states of the world. While “clinching evidence” to recommend a particular course of action is rarely feasible, accumulation of evidence can inform the decision-making process. As discussed earlier, there are three important institutional structures on which this paper has shed light: 1) the structure of the welfare schemes with a strong and growing emphasis on private goods, including cash; 2) the norms of top-down regulatory interventions for financial inclusion; and 3) the government ownership of a large part of the banking system that empowers the government to force banks to pursue its priorities.

Consider the government ownership of banks. The nationalization of banks was a historic, politically motivated decision, and it gave the union government enormous powers to use the

banks' balance sheets and operational capabilities.<sup>117</sup> In contrast with the pre-nationalization emphasis on cooperatives, this was a radical centralization of the power of finance in the Indian economy. There are theoretical arguments that support some government intervention in banking. For instance, in developing countries, the credit markets often do not serve borrowers in the agricultural sector or those running small enterprises, even though the positive externality of such loans may be high.<sup>118</sup>

However, empirical research does not quite support government ownership of banks as a solution to these problems. For instance, while government-owned banks in India are, predictably, more likely to lend to government-owned and rural firms, contrary to expectations, they are less likely to lend to smaller, informationally more opaque firms that government-owned banks are supposedly designed to serve.<sup>119</sup> Further, even though government ownership may lead to development lending targets being met, this need not have any significant impact on the real economy.<sup>120</sup> As discussed earlier, ownership of banks also enables the use of their balance sheets and operational infrastructure for electoral purposes with poor economic outcomes. Over time, India's political economy must determine what is to be done with this structure.

On the structure of the welfare schemes, there are important questions around the efficiency of government expenditure, and whether the present approach is good for India's economic development. This "new welfarism"<sup>121</sup> emerged in a context where despite moderate to high economic growth since the early 1990s, there has been a lack of success on a key measure—

---

<sup>117</sup> In the two years prior to the nationalisation of 1969, the RBI and the then Finance Minister Morarji Desai had tried to avoid nationalization by using alternative instruments of state power. Several governance reforms were introduced through an amendment to the banking laws that was notified in early 1969. These included mandates such as: a majority of professional directors; representation on the board from agriculture and the rural economy, small industries and cooperatives; professional bankers instead of industrialists as chairpersons; a prohibition on lending to directors of the bank; RBI approval for the appointment and removal of auditors; and so on. The law also empowered the Union Government to acquire a bank if it failed to comply with the directions of the RBI or was being run badly. However, before these measures could be properly implemented, the government decided to nationalise the banks. See: Reserve Bank of India, *The Concise History of Reserve Bank of India 1935–1981* (New Delhi: Reserve Bank of India, 2014).

<sup>118</sup> Abhijit V. Banerjee, 'Contracting Constraints, Credit Markets, and Economic Development', in *Advances in Economics and Econometrics: Theory and Applications, Eighth World Congress*, ed. Lars Peter Hansen, Mathias Dewatripont, and Stephen J. Turnovsky, vol. 3, Econometric Society Monographs (Cambridge: Cambridge University Press, 2003), 1–46, <https://doi.org/10.1017/CBO9780511610264.002>.

<sup>119</sup> Allen N. Berger, Leora Klapper, Maria Martinez Peria and Rida Zaidi, 'Bank Ownership Type and Banking Relationships', *Journal of Financial Intermediation*, Financial Contracting and Financial System Architecture, 17, no. 1 (1 January 2008): 37–62, <https://doi.org/10.1016/j.jfi.2006.11.001>.

<sup>120</sup> Shawn Cole, 'Financial Development, Bank Ownership, and Growth: Or, Does Quantity Imply Quality?', *The Review of Economics and Statistics* 91, no. 1 (2009): 33–51.

<sup>121</sup> Abhishek Anand, Vikas Dimble, and Arvind Subramanian, 'New Welfarism of India's Right', *The Indian Express*, 22 December 2020, [https://ashoka.edu.in/static/doc\\_uploads/file\\_1608617954.pdf](https://ashoka.edu.in/static/doc_uploads/file_1608617954.pdf).

creation of good jobs, especially in the manufacturing sector, and significant regional divergences in income and other measures. Expenditure on private goods has opportunity costs. The government could allocate the resources towards public goods or building better public systems for public health, education, sanitation, etc. Government's main role in the economy should be to perform activities that markets would not perform. These include areas where markets fail (such as, provision of public goods), and where the collective actions problems are the most profound (such as, the criminal justice system).

The norms in the RBI and the government on promoting financial inclusion through top-down mandates are also worth considering for reform. They initially came about at a time when due to high costs of financial services channels inclusion required some government intervention.<sup>122</sup> However, even at that time it was not necessary to intervene through mandates – direct fiscal subsidies could have been used, for instance. Now that new technologies and business models are emerging that can enable inclusion through the market processes, a shift in the norms is advisable. Even if the government wants to play an active role in promoting inclusion, it might work better if it complements the market processes by providing subsidies. Here as well, an assessment of the overall institutional structure is needed. Reform ideas have been proposed for many years.<sup>123</sup> The evidence presented in this paper adds to this debate as well.

One can see these three institutional structures through the lens of what Masahiko Aoki called “institutional complementarities” - the interdependent relationships between different institutions within an economic system.<sup>124</sup> This interdependence creates a balance where institutions mutually reinforce each other's operations. The experience recounted in this paper suggests that there are such complementarities between government ownership of banks, the emphasis on cash transfers in welfare schemes, and the top-down mandates to government-owned banks to serve the purposes of the government's choosing. Their role in enabling cash

---

<sup>122</sup> It is not that the alternative approaches—cooperative-led or market-led—have not worked, but they have not been given an adequate space in banking. In the first two decades after independence, the emphasis on cooperatives for financial inclusion did yield considerable improvements in their role in rural credit. Similarly, the SHGs were largely driven by civil society initiative, albeit later harnessed by the government for its developmental objectives. In recent decades, commercial micro credit firms have competed in the credit markets to reach customers with small loans. However, these are exceptions and often disrupted by state intervention. The central tendency of the state's approach to financial inclusion involves top-down mandates issued to banks and other financial institutions.

<sup>123</sup> In 2013, the Financial Sector Legislative Reforms Commission had recommended an approach to the pursuit of development objectives in the financial sector that was transparent and involved on-budget subsidies rather than mandates. See chapter 10 of the report: [https://dea.gov.in/sites/default/files/fslrc\\_report\\_voll\\_1.pdf](https://dea.gov.in/sites/default/files/fslrc_report_voll_1.pdf)

<sup>124</sup> Aoki, M. (2001). *Toward a Comparative Institutional Analysis*. Cambridge, MA: MIT Press

transfers as well as credit delivery under welfare schemes and their amenableness towards top-down mandates create the political case for the continued ownership of banks, which in turn gives these powers to the government. However, there are ways to escape such an equilibrium. For instance, as discussed earlier, the objectives of cash transfers could be achieved by other means as well, as has been done in some other countries. Reforming these institutional structures would require a strategic approach that considers these complementarities and moves towards more efficient and productive institutional structures.

The accumulation of evidence around the impact of institutional structures should go hand in hand with the development of recommendations about reforming them. In developing the recommendations, it is also important to find politically feasible pathways. One could argue, for instance, that government should not own any banks. In India, a key precondition for privatization of banks is to develop a robust bankruptcy resolution framework for banks. This does not exist right now, and India is an exception among the G20 countries in this regard.<sup>125</sup> Unless all these pieces – evidence on the problems with an institutional structure, recommendations on reform, and preconditions and pathways to get to those endpoints - are in place, the institutional structures may persist.

### ***Implications for the role of the state in DPIs***

In section 1, we referred to the 2024 paper by Eaves, Mazzucato, and Vasconcellos, in which they forcefully advocate a central role of the state in shaping DPIs.<sup>126</sup> They cite Aadhaar as an example of a DPI that benefited from having a clear purpose and direction given by the state, which helped streamline welfare transfers. But the evidence presented in this paper complicates this narrative. One could make the argument that because the state dominated the process of defining the purpose and direction of Aadhaar, perhaps public value was not maximized.

The approach that the government in India took to scale-up direct benefit transfers led to a lot of wastage of inputs, hundreds of millions of accounts that were opened and maintained are not used, and many more are not regularly used. Further, the government’s legislative strategy, which was aimed at securing Aadhaar’s use for fiscal purposes, led to judicial restrictions on

---

<sup>125</sup> Financial Stability Board (FSB), ‘2023 Resolution Report: “Applying Lessons Learnt”’ (15 December 2023), <https://www.fsb.org/uploads/P151223.pdf>.

<sup>126</sup> Mariana Mazzucato, David Eaves, and Beatriz Vasconcellos, ‘Digital Public Infrastructure and Public Value: What Is “Public” about DPI?’, (see note 11).

the uses of Aadhaar. This substantially curtailed and limited the “publicness” of Aadhaar. These are the costs of the government’s decisions.

Aadhaar has mostly become a tool for the government, rather than a proper “shared digital system” that can be “leveraged by both the public and private sectors”, enabling “equitable access to public and / or private services at societal scale”.<sup>127</sup> The failure to realize the full benefits of Aadhaar for achieving real financial inclusion and the restrictions on the usage of Aadhaar for non-fiscal purposes are major setbacks from the perspective of the public value of Aadhaar. So, the pre-eminent role that the state played led to highly ambiguous outcomes. Even on the purpose that the state did prioritize—direct cash transfers—the achievement is arguably sub-par, as India’s shift to direct benefit transfers has not been exceptional, albeit it is difficult to say what might have happened in the counterfactual scenarios.

The Indian government’s overbearing approach is not just towards Aadhaar and financial inclusion. Consider another digital system that is claimed to be a DPI in India—the Unified Payment Interface (UPI), which is a fast payment system. The government, through a legislation, banned any fees to be charged from customers or merchants for UPI transactions. It also made it mandatory for businesses with more than Rs 500 million (about \$6 million) annual sales to accept UPI payment, with a penalty to be enforced by the joint commissioner of income tax for each day of non-compliance.<sup>128</sup> Such steps may lead to short-term successes for the system being promoted, but harm market competition. It is difficult to compete with zero pricing and enforcement by income tax officials.

The economics of pricing does not necessarily counsel such a policy. In economics, a good is classified as a public good, when, by its technical and physical features, it is “non-rivalrous in consumption” and “non-excludable in use”.<sup>129</sup> A good is nonexcludable if “it is impractical for one person to maintain exclusive control over its use.”<sup>130</sup> DPIs are high on excludability - it is technically quite easy and practical for the providers of DPIs to exclude any users, which allows them to put a toll for its usage. A good is non-rivalrous in consumption when “more than one

---

<sup>127</sup> ‘G20 Digital Economy Ministers Meeting Outcome Document and Chair Summary’, (see note 5).

<sup>128</sup> Rai, Suyash, ‘UPI redefining digital economy but govt coercion can stifle innovation,’ The Print, 27 October 2022. <https://theprint.in/opinion/upi-redefining-digital-economy-but-govt-coercion-can-stifle-innovation/1183406/>

<sup>129</sup> David L. Weimer and Aidan R. Vining, *Policy Analysis: Concepts and Practice*, 6th ed. (New York: Routledge, 2017), <https://doi.org/10.4324/9781315442129>.

<sup>130</sup> *ibid*, ‘Rationales for Public Policy: Market Failures’, in *Policy Analysis*.



person can derive consumption benefits from some level of supply at the same time”.<sup>131</sup> Most DPIs have this feature. So, DPIs are, like most types of traditional infrastructure, toll goods—they are non-rivalrous in consumption and excludable in use. Pricing of such goods depends on their congestibility. Since a payment system may be congestible, pricing them at marginal social cost, with peak-load pricing if the congestion is variable, is consistent with public value creation.<sup>132</sup> Making DPIs free may maximize usage, but maximizing usage does not necessarily mean maximizing public value. Since there is a social cost of providing DPIs, they should be efficiently priced.

The broader point here is that unlike public goods, “publicness” is not an immutable feature of DPIs. Their “publicness”—i.e. who will be allowed to use it, at what price, and for what purpose - is defined mostly through institutional choices around the DPIs. Defining this publicness requires careful, reasoned judgement on institutional design. For instance, unless there are good reasons to side-step them, considerations of economic efficiency should underpin thinking about pricing. Similarly, the legislations and policies around DPIs should enable an open and expansive notion of public use, subject to due protections, safeguards and consent requirements. In the way the government has exercised power in shaping the DPIs, such principles seem to have been neglected.

The argument by Eaves, Mazzucato, and Vasconcellos (2024) that the state should go beyond addressing market failures and actively shape development and deployment of DPIs seems too one-sided and lacking in a theoretical basis for defining what the suitable role of the state is. It makes very optimistic assumptions about how the state would work towards maximizing public value. They do suggest co-creation, collective learning, and knowledge sharing, but they strongly emphasize the state’s pre-eminent role in directing DPIs towards maximizing public value. This seems like a leap of faith that is not qualified by any theoretical discussion on situations in which this would work well.

As discussed earlier, the analysis in this should not be seen merely in terms of a failure of instrumental rationality, which is possible in any context, and therefore cannot be cited to question a framework for thinking about public value maximization. A fuller understanding

---

<sup>131</sup> *ibid.*

<sup>132</sup> *ibid.*

can be found in the ways in which political motivations interacted rationally with the relevant institutional structures to create the policies that led to these outputs and outcomes. As we saw in this paper, the institutional context even put some aspects of publicness at odds with each other—the decisions taken to quickly implement the government’s direct cash transfers put this aspect of publicness at odds with the gradual pursuit of real financial inclusion and led to judicially imposed restrictions on some other uses. So, any useful discussion on creation of public value through DPIs should be situated in the context of a country’s (or any other unit of administration’s) political economy and institutional structure.

The analyses and interpretations presented in this paper offer an example of how and why the political economy and institutional structures can interact to create poor outcomes even when a technological system has been developed with rare skill and investment. Due attention to political economy and institutional structures will make it more likely that the technological systems are used for the maximization of public value.

In this vein, while considering the maximization of public value of a DPI, it is worth asking two questions about the context. First, given the present political motivations and institutional structures, what is the best strategy for maximizing public values in the short to medium term? Second, what might be done to reform or transform the institutional structures so that, in the medium to long term, the public value can be maximized? The latter question is not just about DPIs, but a broader inquiry into how the present institutional structures work. In shaping the medium to long-term agenda for change in the institutional structures, the state need not necessarily be the prime mover. Businesses, civil society organizations, academics, citizens can also lead.

## 7. Summary and Conclusion

The capabilities and comparative advantages revealed by India's success in the exports of digitally delivered services have generated much excitement about the potential of digital transformation to accelerate economic development in India. In recent years, the digital public infrastructure (DPI) approach has become a central pillar of the strategy for this digital transformation in India. There is also a budding debate on the suitable roles of the state and the markets in shaping DPIs. The first DPI to scale in India was Aadhaar.

This paper considered the oft-repeated claim that Aadhaar as a DPI helped India radically accelerate the progress in financial inclusion. To evaluate this claim, section 2 presented a comparative analysis with a focus on progress made in the decade between 2010-11 and 2020-21. The analysis showed that while it is indeed true that India achieved a significant progress in opening bank accounts, it lags most comparable countries in account usage. This is because an unusually large number of accounts remain completely inactive, and a very small number are regularly used. In terms of the percentage of accounts used regularly, India is close to the bottom of the list of comparable countries. This is a puzzle—why did the success in account opening not translate into a commensurate improvement in real financial inclusion?

Section 3 offered a historical description of the approach the government and the banking regulator (RBI) took towards accelerating financial inclusion in India. In short, the main pillars of the approach were top-down mandates to get government-owned banks to expand their presence and open accounts. While Aadhaar did enable account opening, it was mostly used as a physical ID rather than a digital ID, and later it helped with transaction authentication. The section also explained why such an approach was taken—the main motivation was to quickly scale up direct benefit transfers under the government's welfare schemes to address the problems of leakages and credit attribution, which the government wanted to get done before the next electoral cycle. Section 4 explained why this approach to financial inclusion did not yield success in account usage by showing that the government's approach to financial inclusion created mismatches between what is needed to enable financial inclusion and what was being done to rapidly open accounts.

Section 5 started with an empathetic view of the government's objectives—acknowledging the centrality of transaction costs in the implementation of welfare schemes, and the constraints

within which the government had to address the problems of leakages and credit attribution arising due to the transaction costs. But the section then showed that there was considerable room for political creativity in defining the objectives, easing the constraints, and the exercise of power over the public sector banks. It was not necessary to get 180 million accounts opened in a year. It was possible to ease the regulatory restrictions on non-bank service delivery, pricing of banking services, licensing of banks, etc. It was also possible to achieve some progress without taking the extreme intrusive measure of forcing the public sector banks to open the accounts quickly; other measures such as subsidies and other incentives could have been used.

While the decisions critiqued in this paper seem to be failure of instrumental rationality, there are also deeper institutional structures that enabled these decisions. Section 6 discussed the implications of the analysis in this paper for the reform of certain institutional structures – the increasing emphasis of welfare expenditure on private goods, including cash; government ownership of banks; and the norms of top-down mandates for financial inclusion. Section 6 also considered the implications of this analysis for the debate on the roles of the states, the markets and the society. The analysis in this paper complicates the argument put forth by some researchers that state's leadership in explicitly defining the purpose and direction of DPIs will maximise public value. Whether this happens depends on the political economy and institutional context.

As a lower middle-income country, India should take all available opportunities to accelerate its development. The potential for digital transformation to accelerate development in India rightly generates much hope and expectation. The DPI approach has emerged as a promising one. However, a focus on technologies and technological systems without due attention to the broader political economy and institutional structures that shape their outputs and outcomes may lead to disappointments. The analyses and interpretations presented in this paper offer an example of how and why this can happen even when a technological system has been developed with rare skill and investment. Due attention to political economy and institutional structures will make it more likely that the technological systems are used for the maximization of public value.

## Appendix

Table A.1: Improvements in account penetration between 2011 and 2021/22

<i>Country</i>	<i>Percentage of those above 15 years of age with an account with a bank, other financial institution, or mobile money service</i>	
	2011	2021
Albania	28%	44%
Algeria	33%	44%
Argentina	33%	72%
Armenia	17%	55%
Azerbaijan	15%	46%
Bangladesh	32%	53%
Benin	10%	49%
Bolivia	28%	69%
Bosnia and Herzegovina	56%	79%
Botswana	30%	59%
Brazil	56%	84%
Bulgaria	53%	84%
Cambodia	4%	33%
Cameroon	15%	52%
China	64%	89%
Colombia	30%	60%
Comoros	22%	34%
Congo, Rep.	10%	47%
Costa Rica	50%	68%
Dominican Republic	38%	51%
Ecuador	37%	64%
Egypt, Arab Rep.	10%	27%
El Salvador	14%	36%
Eswatini	29%	66%
Gabon	19%	66%
Georgia	33%	70%
Ghana	29%	68%

Guatemala	22%	37%
Honduras	21%	38%
Indonesia	20%	52%
Iran, Islamic Rep.	74%	90%
Iraq	11%	19%
Jamaica	71%	73%
Jordan	25%	47%
Kazakhstan	42%	81%
Kenya	42%	79%
Kosovo	44%	58%
Kyrgyz Republic	4%	45%
Lao PDR	27%	37%
Lebanon	37%	21%
Lesotho	18%	64%
Malaysia	66%	88%
Mauritania	17%	23%
Mauritius	80%	91%
Mexico	27%	49%
Moldova	18%	64%
Mongolia	78%	98%
Nepal	25%	54%
Nicaragua	14%	26%
Nigeria	30%	45%
North Macedonia	74%	85%
Pakistan	10%	21%
Panama	25%	45%
Paraguay	22%	54%
Peru	20%	57%
Philippines	27%	51%
Romania	45%	69%
Russian Federation	48%	90%
Senegal	6%	56%
Serbia	62%	89%
South Africa	54%	85%
Sri Lanka	69%	89%

Tajikistan	3%	39%
Tanzania	17%	52%
Thailand	73%	96%
Turkey	58%	74%
Ukraine	41%	84%
Uzbekistan	23%	44%
Vietnam	21%	56%
West Bank and Gaza	19%	34%
Zambia	21%	49%
Zimbabwe	40%	60%
<b>India</b>	<b>35%</b>	<b>78%</b>
<b>Mean (unweighted)</b>	<b>33%</b>	<b>59%</b>
<b>Median</b>	<b>28%</b>	<b>56%</b>

Table A.2: Respondents with inactive accounts in 2021/22

<i>Country</i>	<i>Has an inactive account (% with an account, age 15+)</i>	<i>Percentage of those above 15 years of age with an active account with a bank, other financial institution, or mobile money service</i>
Albania	11%	39%
Algeria	11%	39%
Argentina	5%	68%
Armenia	7%	51%
Azerbaijan	5%	44%
Bangladesh	8%	48%
Benin	8%	45%
Bolivia	9%	63%
Bosnia and Herzegovina	6%	74%
Botswana	9%	54%
Brazil	5%	80%
Bulgaria	6%	79%
Cambodia	12%	29%
Cameroon	2%	50%
China	2%	87%
Colombia	8%	55%
Comoros	27%	25%
Congo, Rep.	4%	45%
Costa Rica	8%	63%
Dominican Republic	13%	45%
Ecuador	16%	54%
Egypt, Arab Rep.	11%	24%
El Salvador	12%	32%
Eswatini	1%	66%
Gabon	1%	66%
Georgia	5%	67%
Ghana	2%	67%
Guatemala	12%	33%



Honduras	6%	36%
Indonesia	17%	43%
Iran, Islamic Rep.	4%	86%
Iraq	20%	15%
Jamaica	16%	61%
Jordan	12%	41%
Kazakhstan	1%	80%
Kenya	2%	78%
Kosovo	9%	53%
Kyrgyz Republic	7%	42%
Lao PDR	21%	30%
Lebanon	21%	16%
Lesotho	6%	60%
Malaysia	4%	85%
Mauritania	8%	22%
Mauritius	4%	87%
Mexico	6%	46%
Moldova	4%	62%
Mongolia	0%	98%
Nepal	26%	40%
Nicaragua	7%	24%
Nigeria	10%	41%
North Macedonia	7%	79%
Pakistan	8%	19%
Panama	11%	40%
Paraguay	4%	52%
Peru	8%	53%
Philippines	11%	46%
Romania	5%	66%
Russian Federation	1%	88%
Senegal	5%	53%
Serbia	1%	88%
South Africa	3%	83%
Sri Lanka	18%	73%
Tajikistan	11%	35%

Tanzania	3%	51%
Thailand	2%	94%
Turkey	6%	69%
Ukraine	2%	82%
Uzbekistan	3%	43%
Vietnam	8%	52%
West Bank and Gaza	20%	27%
Zambia	3%	47%
Zimbabwe	3%	58%
India	<b>35%</b>	50%
Mean (unweighted)	<b>8%</b>	<b>55%</b>
Median	<b>7%</b>	<b>52%</b>

Table A.3: Account usage in middle-income countries

Country	Income group	Deposited money into a financial institution account 2 or more times a month		Withdrew money from a financial institution account 2 or more times a month		Made or received a digital payment	
		% age 15+	% age with a financial institution account	% age 15+	% age with a financial institution account	% age 15+	% age with an account
Algeria	Lower middle income	4%	9%	7%	16%	34%	77%
Bangladesh	Lower middle income	NA	NA	3%	7%	45%	86%
Benin	Lower middle income	NA	NA	NA	NA	44%	90%
Bolivia	Lower middle income	15%	22%	24%	35%	55%	81%
Cambodia	Lower middle income	8%	26%	9%	28%	26%	78%
Cameroon	Lower middle income	5%	20%	5%	22%	50%	97%
Congo, Rep.	Lower middle income	NA	NA	NA	NA	44%	94%
Cote d'Ivoire	Lower middle income	NA	NA	NA	NA	48%	94%
Egypt, Arab Rep.	Lower middle income	2%	6%	4%	14%	20%	74%
El Salvador	Lower middle income	7%	23%	8%	27%	28%	78%
Ghana	Lower middle income	15%	38%	14%	36%	66%	96%
Honduras	Lower middle income	6%	18%	8%	25%	32%	84%
Indonesia	Lower middle income	6%	13%	13%	26%	37%	72%
Iran, Islamic Rep.	Lower middle income	33%	37%	56%	62%	84%	94%
Kenya	Lower middle income	11%	22%	15%	30%	78%	98%
Kyrgyz Republic	Lower middle income	10%	23%	12%	31%	39%	87%
Lao PDR	Lower middle income	11%	30%	15%	40%	21%	57%
Mongolia	Lower middle income	61%	62%	85%	87%	97%	99%
Morocco	Lower middle income	5%	12%	13%	32%	30%	68%
Myanmar	Lower middle income	6%	15%	10%	27%	40%	84%
Nepal	Lower middle income	8%	16%	12%	22%	29%	53%
Nicaragua	Lower middle income	7%	32%	NA	NA	21%	82%

Nigeria	Lower middle income	22%	49%	26%	58%	34%	74%
Pakistan	Lower middle income	NA	NA	NA	NA	18%	84%
Philippines	Lower middle income	16%	35%	18%	39%	43%	85%
Senegal	Lower middle income	NA	NA	NA	NA	53%	95%
Sri Lanka	Lower middle income	14%	16%	36%	40%	55%	62%
Tajikistan	Lower middle income	3%	8%	NA	NA	33%	84%
Tanzania	Lower middle income	NA	NA	NA	NA	50%	96%
Tunisia	Lower middle income	3%	8%	7%	19%	28%	75%
Ukraine	Lower middle income	40%	47%	50%	60%	81%	97%
Uzbekistan	Lower middle income	11%	25%	22%	51%	42%	95%
West Bank and Gaza	Lower middle income	4%	12%	8%	23%	21%	62%
Zambia	Lower middle income	6%	25%	8%	33%	46%	96%
Zimbabwe	Lower middle income	5%	18%	9%	29%	58%	97%
Comoros	Lower middle income	NA		4%	13%	20%	58%
Eswatini	Lower middle income	10%	27%	13%	34%	65%	97%
Lesotho	Lower middle income	5%	12%	NA	NA	59%	92%
Mauritania	Lower middle income	NA	NA	NA	NA	20%	85%
Vietnam	Lower middle income	19%	34%	31%	56%	46%	82%
Albania	Upper middle income	4%	9%	13%	30%	35%	78%
Argentina	Upper middle income	20%	30%	33%	50%	65%	91%
Armenia	Upper middle income	9%	18%	17%	32%	47%	86%
Bosnia and Herzegovina	Upper middle income	15%	19%	37%	47%	67%	84%
Brazil	Upper middle income	31%	37%	35%	42%	77%	91%
Bulgaria	Upper middle income	26%	31%	45%	54%	75%	90%
China	Upper middle income	31%	35%	41%	46%	86%	97%
Colombia	Upper middle income	13%	23%	19%	34%	52%	87%
Costa Rica	Upper middle income	27%	40%	29%	43%	59%	86%
Dominican Republic	Upper middle income	14%	29%	17%	35%	39%	75%
Ecuador	Upper middle income	17%	27%	23%	35%	47%	73%
Gabon	Upper middle income	6%	22%	7%	26%	66%	99%
Georgia	Upper middle income	23%	33%	28%	39%	62%	88%

Iraq	Upper middle income	NA	NA	NA	NA	14%	77%
Jamaica	Upper middle income	20%	28%	24%	34%	50%	68%
Jordan	Upper middle income	5%	12%	14%	32%	36%	77%
Kazakhstan	Upper middle income	30%	37%	40%	50%	78%	96%
Kosovo	Upper middle income	8%	14%	18%	31%	48%	82%
Lebanon	Upper middle income	NA	NA	NA	NA	14%	68%
Malaysia	Upper middle income	32%	36%	54%	61%	79%	90%
Mauritius	Upper middle income	23%	26%	59%	66%	80%	88%
Moldova	Upper middle income	7%	11%	33%	51%	60%	93%
Namibia	Upper middle income	24%	36%	28%	43%	66%	93%
North Macedonia	Upper middle income	12%	13%	33%	39%	74%	87%
Panama	Upper middle income	19%	41%	20%	44%	36%	81%
Paraguay	Upper middle income	4%	14%	6%	23%	51%	94%
Peru	Upper middle income	19%	34%	24%	42%	49%	85%
Romania	Upper middle income	26%	37%	39%	57%	64%	92%
Russian Federation	Upper middle income	49%	56%	52%	59%	87%	97%
Serbia	Upper middle income	36%	41%	42%	47%	87%	98%
South Africa	Upper middle income	34%	40%	46%	55%	81%	95%
Thailand	Upper middle income	40%	43%	66%	70%	92%	96%
Turkey	Upper middle income	20%	28%	30%	41%	68%	91%
Azerbaijan	Upper middle income	12%	25%	15%	33%	43%	92%
Botswana	Upper middle income	9%	19%	15%	30%	52%	88%
Guatemala	Upper middle income	9%	26%	10%	30%	26%	70%
Mexico	Upper middle income	24%	51%	26%	56%	44%	90%
<b>India</b>	<b>Lower middle income</b>	<b>9%</b>	<b>12%</b>	<b>14%</b>	<b>18%</b>	<b>35%</b>	<b>45%</b>
<b>Mean (middle-income countries)</b>		<b>16%</b>	<b>26%</b>	<b>24%</b>	<b>39%</b>	<b>50%</b>	<b>85%</b>
<b>Mean (lower middle-income countries)</b>		<b>12%</b>	<b>24%</b>	<b>18%</b>	<b>33%</b>	<b>43%</b>	<b>82%</b>