

# Spreading JAM across India's economy

*Large-scale, technology-enabled, real-time Direct Benefit Transfers can improve the economic lives of India's poor, and the JAM Trinity—Jan Dhan, Aadhaar, Mobile—can help government implement them. Over the past year JAM has thickened and spread: Jan Dhan and Aadhaar deepened their coverage at an astonishing rate—respectively creating 2 and 4 million accounts per week—and several mobile money operators were licensed. This chapter examines the first variety of JAM—the PAHAL scheme of transferring LPG subsidies via DBT. The scheme reduced leakages by 24 per cent and seems to have excluded few genuine beneficiaries. When deciding where next to spread JAM, policymakers should consider first-mile (beneficiary identification), middle-mile (distributor opposition) and last-mile (beneficiary financial inclusion) challenges. Our JAM preparedness index suggests that the main constraint on JAM's spread is the last-mile challenge of getting money from banks into people's hands, especially in rural areas. The government should improve financial inclusion by developing banking correspondent and mobile money networks, while in the interim considering models like BAPU—Biometrically Authenticated Physical Uptake. At present, the most promising targets for JAM are fertiliser subsidies and within-government fund transfers—areas under significant central government control and with substantial potential for fiscal savings.*

## INTRODUCTION

3.1 Cash transfers can directly improve the economic lives of India's poor, and raise economic efficiency by reducing leakages and market distortions. Implementing direct benefit transfers (DBT) at large-scale and in real-time remains one of the government's key objectives, and significant progress has been made in the past year. Last year's Economic Survey explained how the JAM Trinity—Jan Dhan, Aadhaar, Mobile—can help government implement DBTs. This chapter:

- Takes stock of the spread of JAM;
- Studies the government's first full-

scale cash transfer program – delivering cooking gas (LPG) subsidies via DBT;

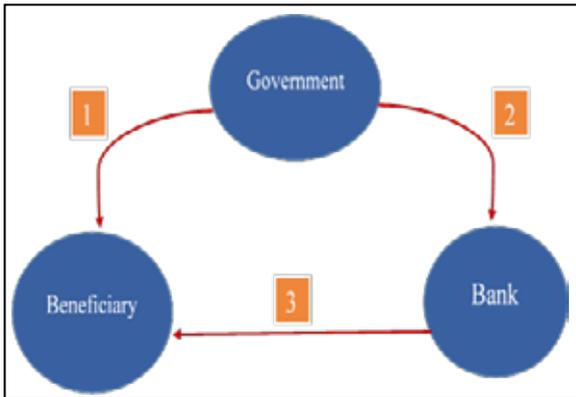
- Discusses first-mile, middle-mile and last-mile issues to help policymakers decide where next to spread JAM;
- Presents a simple JAM preparedness index to assess states' ability to implement two varieties of JAM—DBT and Aasaan; and
- Concludes with policy recommendations on LPG and the broader JAM agenda.

## THE INGREDIENTS OF JAM

3.2 Suppose the government wanted to

transfer ₹1000 to every Indian tomorrow. What would that require?

1. Government must be able to *identify* beneficiaries;
2. Government must be able to *transfer* money to beneficiaries;
3. Beneficiaries must be able to easily *access* their money.



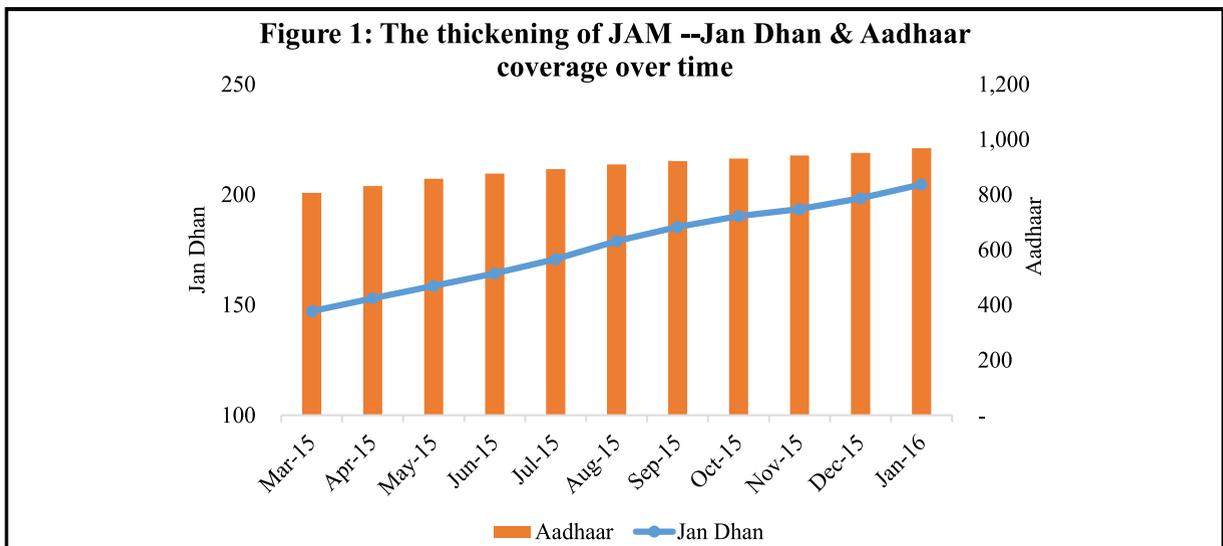
3.3 Failure on (1) leads to inclusion errors and leakage – benefits intended for the poor flow to rich and “ghost” households, resulting in fiscal loss. Failure on (2) and (3) leads to exclusion errors – genuine beneficiaries being unable to avail benefits. The government must be especially sensitive to exclusion

errors, which typically hurt the poorest and can be invoked as reason—and highlighted by leakage beneficiaries—to roll back DBT schemes<sup>1</sup>. We now discuss the 3 requirements for JAM in turn.

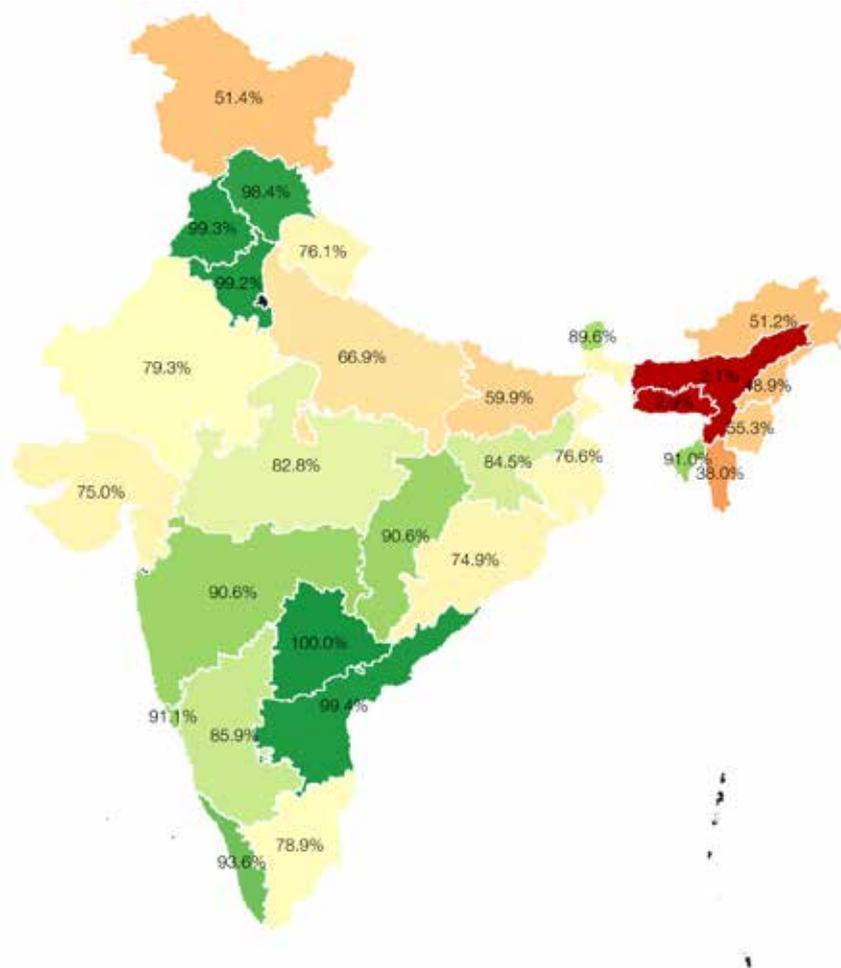
**Government → Beneficiary: the challenge of identification**

3.4 To identify beneficiaries, the government needs databases of eligible individuals. Beneficiary databases have existed for long before Aadhaar, but their accuracy and legitimacy have been hampered by the administrative and political discretion involved in granting identity proofs like BPL cards, driving licenses and voter IDs. Ghost and duplicate names crept into beneficiary lists, leading to leakage. Aadhaar's virtue lies in using technology to replace human discretion, while keeping the system simple enough – fingerprints and iris scans – for citizens to understand.

3.5 The current government has built on the previous government's support for the Aadhaar program: 210 million Aadhaar cards were created in 2015, at an astonishing rate of over 4 million cards per week. 975 million



<sup>1</sup> Even in one of the most successful DBT programs—MGNREGA in Andhra Pradesh, which had 92 percent customer satisfaction rates—the feedback that bubbled up to top administrators through the state bureaucracy was disproportionately negative. This was a classic case of large, diffuse benefits and small but concentrated losses (Muralidharan et al 2015).

**Figure 2: Aadhaar coverage across states**

individuals now hold an Aadhaar card – over 75 per cent of the population and nearly 95 per cent of the adult population (Figure 1). Figure 2 shows that Aadhaar penetration is high across states. Nearly one-third of all states have coverage rates greater than 90 per cent; and only in 4 states—Nagaland (48.9), Mizoram (38.0), Meghalaya (2.9) and Assam (2.4)—is penetration less than 50 per cent.

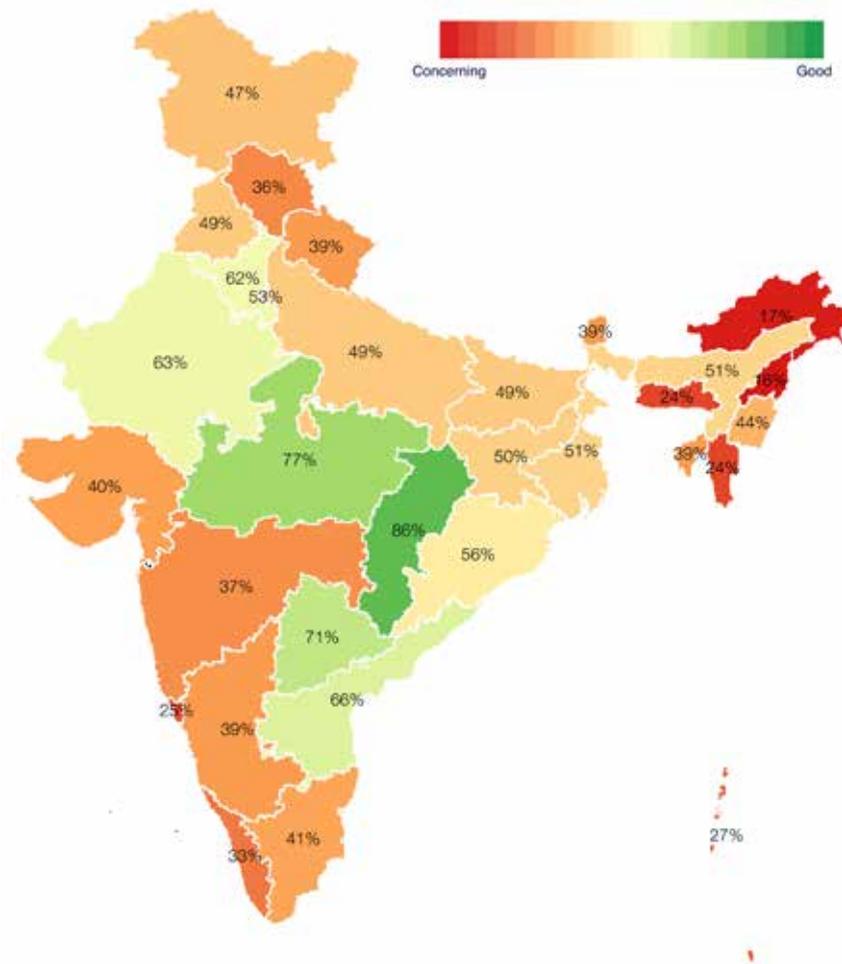
### **Government → Bank: the challenge of payment**

3.6 After identifying beneficiaries, the government must transfer money to them. Every beneficiary needs a bank account and

the government needs their account numbers. This constraint has been significantly eased by the Pradhan Mantri Jan Dhan Yojana, under whose auspices nearly 120 million accounts were created in the last year alone—at a blistering, record-setting pace of over 3 lakh accounts per day<sup>2</sup>.

3.7 Figure 3 shows that, despite Jan Dhan's record-breaking feats, basic savings account penetration in most states is still relatively low – 46 per cent on average and above 75 per cent in only 2 states (Madhya Pradesh and Chattisgarh). Policymakers thus need to be cognisant about exclusion errors due to DBT not reaching unbanked beneficiaries. Comparing the reach of Jan Dhan with that of

<sup>2</sup> Jan Dhan was awarded a Guinness World record for opening the most bank accounts in a single week (18 million during 23-29 August 2014).

**Figure 3: Basic Saving Account coverage across states**

Aadhaar suggests that the unbanked are more likely to constrain the spread of JAM than the unidentified.

### **Bank → Beneficiary: the last-mile challenge of getting money into people's hands**

3.8 Having transferred money to people's bank accounts, is the government's job done? Perhaps in urban areas, where people live near banks, even though financial literacy remains a concern<sup>3</sup>. In rural India, however, there is a serious "last-mile" problem of getting money from banks into household's hands: only 27 per cent of villages have a bank within 5 km<sup>4</sup>. To help address this problem, the RBI in 2015 licensed 23 new banks – 2 universal banks, 11

payment banks and 10 small finance banks.

3.9 While the figures show states' performance relative to each other, it is important to benchmark India's preparedness against a country where last-mile financial inclusion is considered good—like Kenya. The Kenyan BC:population ratio is 1:172. By contrast, India's average is 1:6630, less than 3 per cent of the Kenyan level. Kenya is more sparsely populated than India, so perhaps India needs fewer BCs. Yet still the spatial density of BC's in India is 17 per cent the Kenyan level.

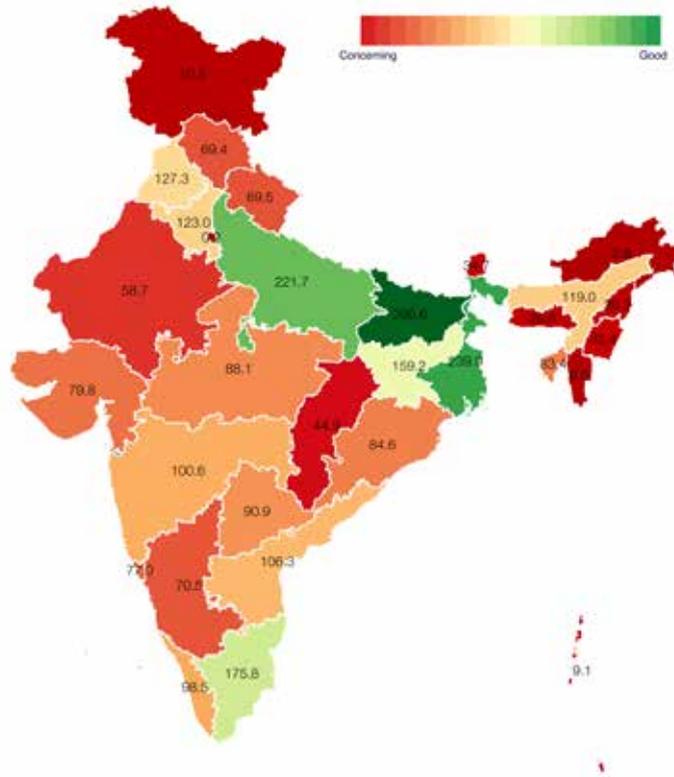
3.10 The contrast with India's mobile operator penetration is instructive. Figure 5

<sup>3</sup> Cole et al (2011)

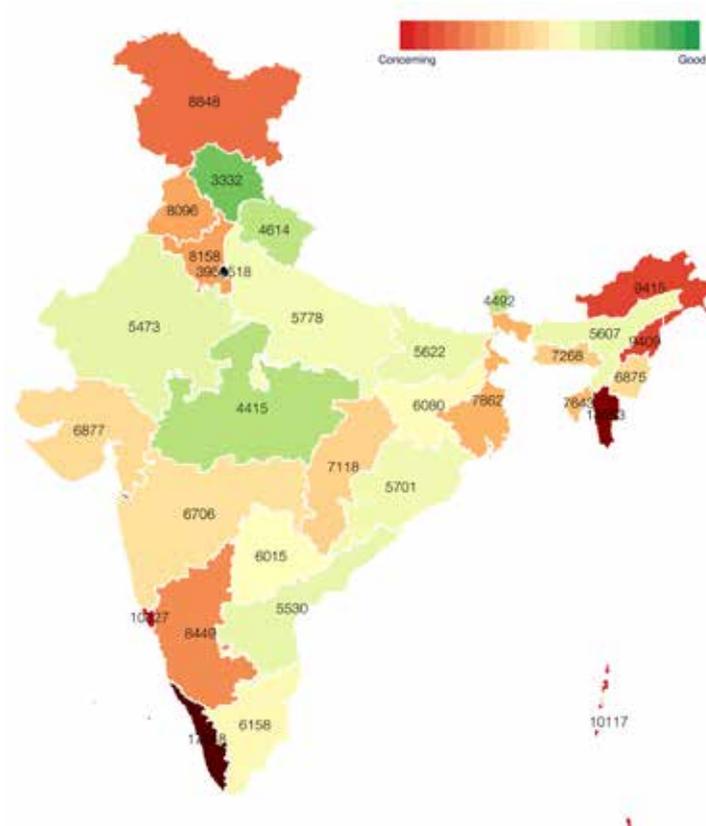
<sup>4</sup> DBT Mission

**Figure 4: One of the missing pieces of JAM – a thriving BC industry**

**Spatial density of BCs – BCs per area**



**Population density of BCs – People per BC**



shows that mobile penetration across India is strong. Only in Bihar (54 per cent) and Assam (56 per cent) is penetration lower than 60 per cent. Moreover, there are approximately 1.4 million agents or service posts to serve the approximately 1010 million mobile customers in India, a ratio of about 1:720.

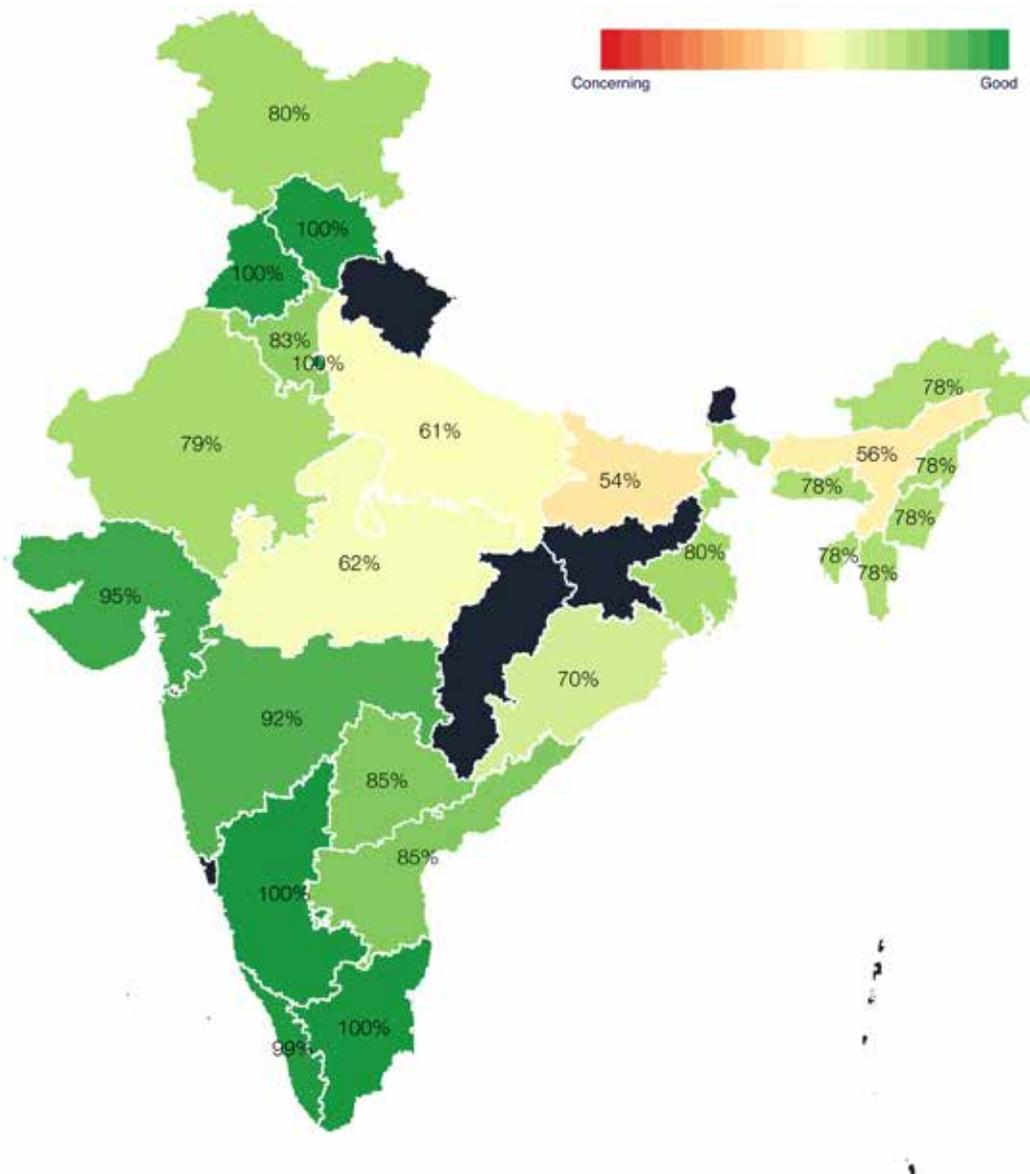
3.11 India should take advantage of its deep mobile penetration and agent networks by making greater use of mobile payments technology. Mobiles can not only transfer money quickly and securely, but also improve the quality and convenience of service

delivery. For example, they can inform beneficiaries that food supplies have arrived at the ration shop or fertiliser at the local retail outlet. While some important changes have occurred this year to improve last-mile financial connectivity—including the Jan Dhan Yojana's initiatives to develop the BC space and the licensing of several mobile money operators—the Bank-Beneficiary connection still appears the weakest link in the JAM chain.

### THE AMOUNT AND VARIANTS OF JAM

3.12 The ingredients of JAM came together

**Figure 5: Mobile coverage across states**



in 2014-15, and Tables 1 and 2 illustrate its scale and distribution. Over 20 per cent of India's population received a cash transfer from the government in FY14-15. Table 2 shows that JAM was involved in distributing benefits across a range of government programs—from education and labour schemes (scholarships and MGNREGS) to subsidies and pensions (NSAP). This chapter studies the two largest JAM schemes in detail. Box 1 shows that, while MGNREGS has introduced DBT for paying workers' wages, JAM remains incomplete. Significant savings and efficiency gains can be achieved by transferring funds directly from the state/central government to the worker rather than layer by layer (Centre → State → District → Block → Panchayat), with leakages along the way. We begin however with the first type of JAM – DBT in LPG.

**Table 1: The Amount of JAM in 2014-15**

Total amount disbursed (₹Cr)	44035
No. of beneficiaries (in Cr)	29.6
Beneficiaries seeded with Aadhaar	57%
Funds transfer using Aadhaar Bridge Payment	26 %

**Table 2: The varieties of JAM in FY14-15**

Scheme	No. of Schemes	% Share of total disbursement
Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)	1	41
PAHAL (the LPG subsidy scheme)	1	37
National Social Assistance Program (NSAP)	1	14
Scholarship Schemes	29	7
Other Schemes (Labour, Women and Banking)	10	1

### The first type of JAM – DBT in LPG

3.13 This section studies the Pahal scheme, which directly transfers LPG subsidies into customers' bank accounts. The current government launched the Pahal scheme in late 2014 and early 2015, restarting and modifying a program that the UPA government had begun and then suspended. Currently over 151 million beneficiaries receive LPG subsidies via DBT, and ₹29,000 crore have been transferred to beneficiaries to date.

3.14 Household LPG is both untaxed and enjoys a universal subsidy, even though, as Chapter 6 shows, 97 per cent of LPG is consumed by the richest 30 per cent of households. Before the DBT scheme was introduced, households could buy LPG cylinders at subsidised prices (~Rs 430). Commercial establishments are ineligible for the subsidy and must pay market prices plus central and state taxes of about 30 per cent on average. This violation of the One Product One Price principle provides strong incentives for distributors to create 'ghost' household accounts and sell subsidised LPG to businesses in the black market.

3.15 Now, with DBT in place, the government identifies beneficiaries by linking households' LPG customer numbers with Aadhaar numbers to eliminate 'ghost' and duplicate households from beneficiary rolls<sup>5</sup>. Households buy at market prices (currently ~Rs 670), and have the subsidy credited into their bank account within 3 days. A permanent advance was made by the government to reduce household liquidity constraint issues. The phased introduction of DBT in LPG allows us to study its impact by comparing districts that started DBT a few months earlier to districts that began DBT slightly later. This research design helps us control for confounding factors like seasonality and changing world prices.

<sup>5</sup> Aadhaar is not mandatory in the Pahal scheme, but many beneficiaries have chosen to seed their Aadhaar with their customer numbers.

3.16 Figure 6 shows the impact of introducing and then suspending DBT in LPG. Sales of subsidised domestic cylinders fell by 24 per cent when the scheme was introduced and spiked when the scheme was suspended by the UPA. Pahal had a similar impact: a 27 per cent reduction in sale of subsidised cylinders. Based on prices and subsidy levels in 2014-15, we estimate that the potential annual fiscal savings of Pahal will be Rs 12700 crore in a subsequent FY.

3.17 Before celebrating PAHAL's success, it is important to check that reduced sales of domestic cylinders do not merely reflect exclusion errors – lower consumption by genuine beneficiaries who do not have bank accounts and therefore cannot access the subsidy under the JAM arrangement. Figure 8 plots the number of LPG cylinders purchased in the year before DBT introduction against the percentage in each group who were receiving the DBT. If exclusion was high among the poor, groups who consume the least LPG should have the lowest DBT compliance rates. But in fact the lowest compliance rates are for those with the largest

prior consumption of LPG cylinders. These are likely to be ghost households now denied the subsidy. Figure 8 thus provides some reassurance that JAM in LPG has succeeded in reducing leakages rather than excluding the poor.

3.18 Economic theory would predict the reduction in black market supply would increase black market prices. Barnwal (2015) collected data on black market prices from both consumers (samosawallahs, hotels and other commercial retailers) and suppliers (LPG deliverymen). Table 3 shows that black market prices spiked by almost 30 per cent in districts where DBT was introduced.

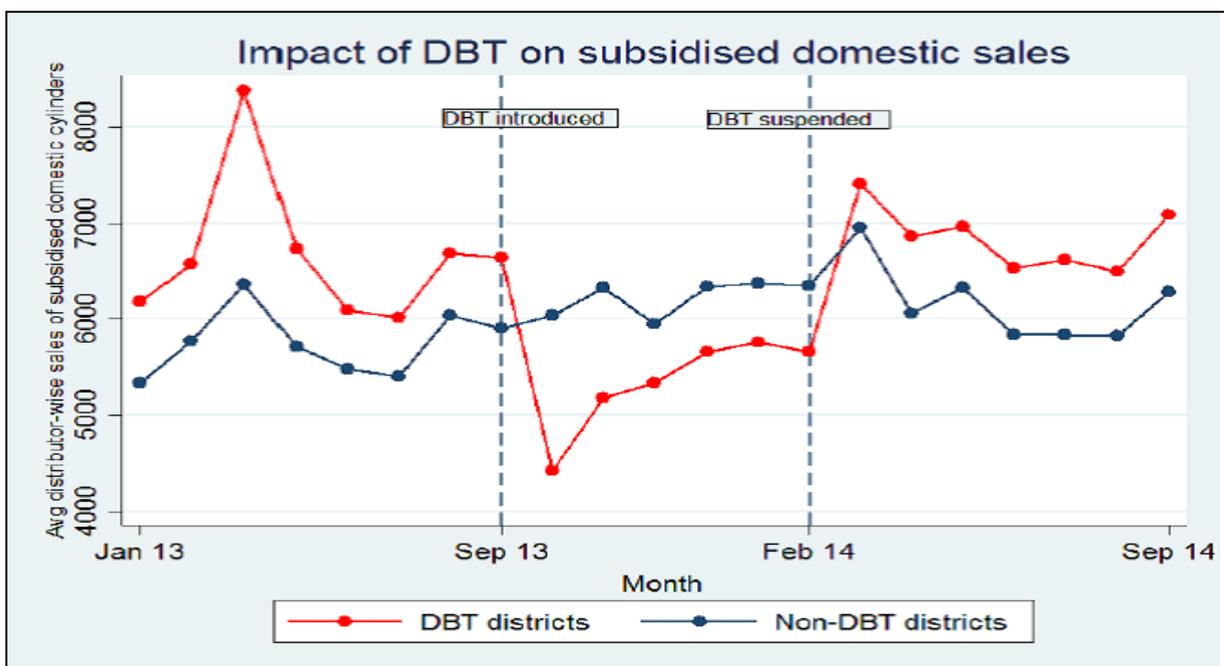
**Table 3: JAMming the LPG black market**

	Black market price of domestic cylinders	
	during DBT phase	After suspension
DBTL districts	Rs. 1143	₹ 861
Non-DBTL districts	₹ 988	₹ 970

### Lessons from the LPG experience

3.19 We should also expect that previous consumers of black market cylinders—such

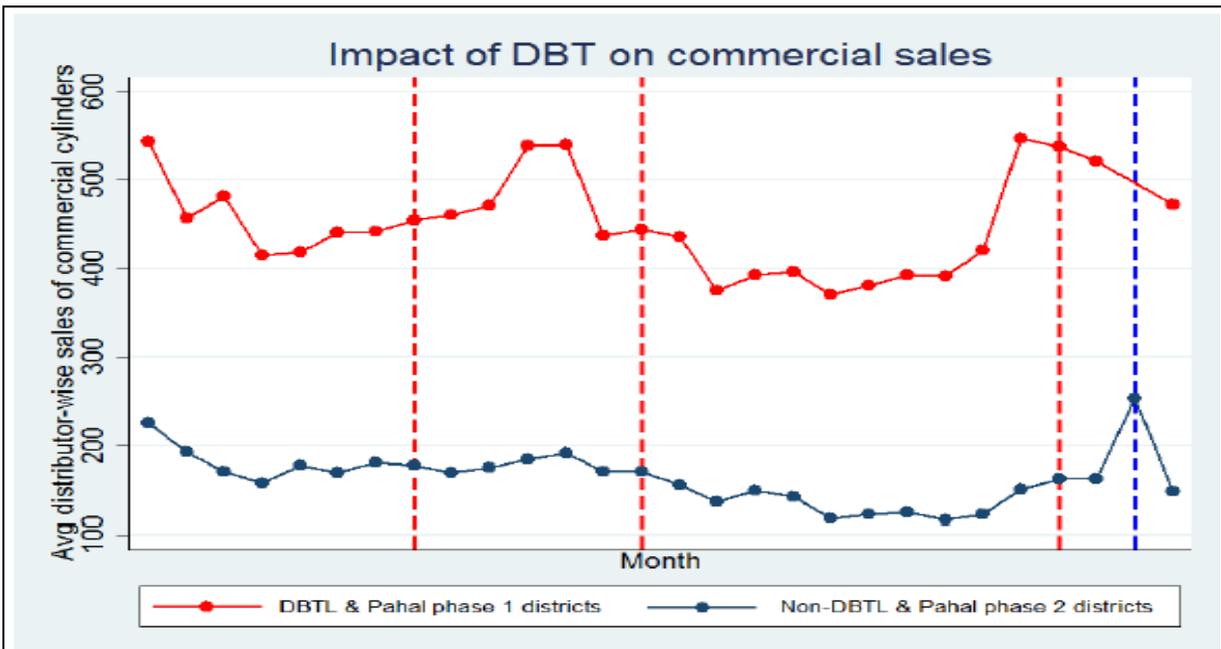
**Figure 6: Impact of DBT on subsidised domestic sales**



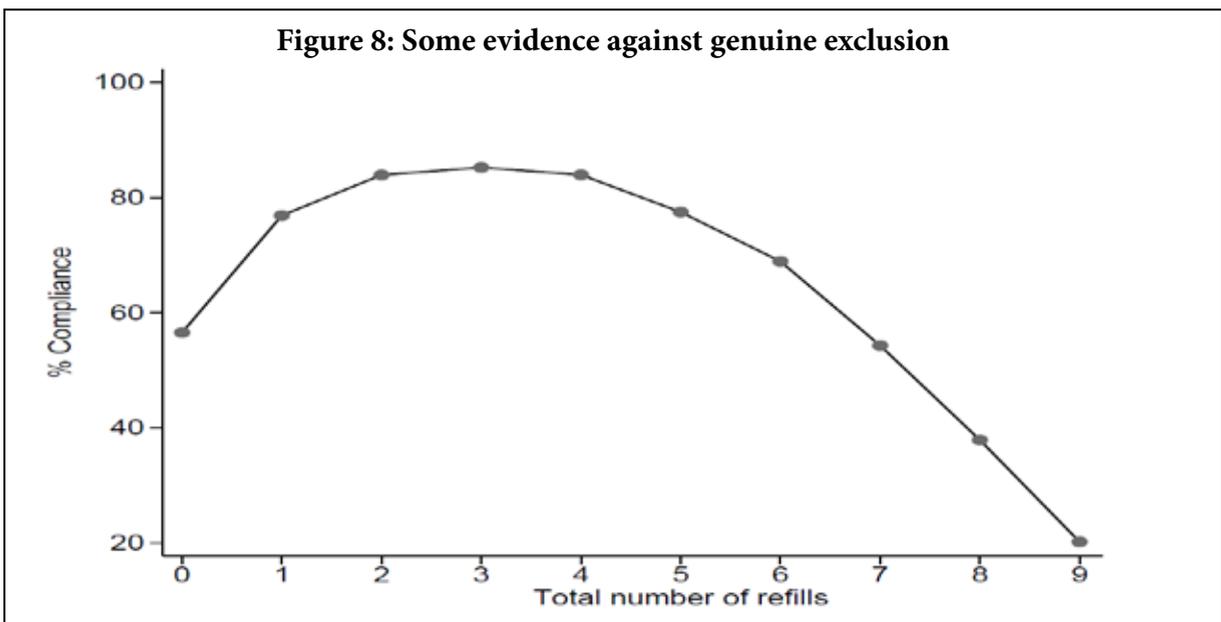
as commercial establishments—are forced by the introduction of DBT to buy commercial cylinders. Figure 9 shows evidence that commercial LPG sales increased when DBT was introduced and fell back when DBT was suspended. But the effect is surprisingly small (6 per cent). What happened? Sales of non-subsidised domestic cylinders shot up. While households can buy only 12 subsidised cylinders a year, they can buy an unlimited number of unsubsidised cylinders. However

these cylinders are still 30 per cent cheaper than commercial cylinders due to differential tax treatment of household and commercial LPG. The latter is subject to customs and excise duties of 13 per cent and state taxes of between 5 per cent (Assam) and 20.5 per cent (Bihar) over-and-above domestic LPG. This is a second violation of the One Product One Price principle and creates another source of leakage—a shortfall of tax revenue in this case rather than excess subsidy burden.

**Figure 7: DBT causes some substitution to commercial sales**



**Figure 8: Some evidence against genuine exclusion**



3.20 Another reform that could further reduce LPG leakages with limited genuine exclusion is lowering the household cap from 12 to 10. Table 4 shows that even the richest households—the top 10 per cent—typically do not consume more than 10 cylinders per year, so reducing the household cap will be unlikely to hurt the poor. Moreover, as Figure 9 illustrates, there is a well-known ‘March problem’ in LPG. Because March is the end of the fiscal year, distributors have strong incentives to invoice unconsumed subsidised cylinders to households and resell them in the black market. This explains the observed spike in March consumption (January and December consumption are high because households use LPG for heating during the

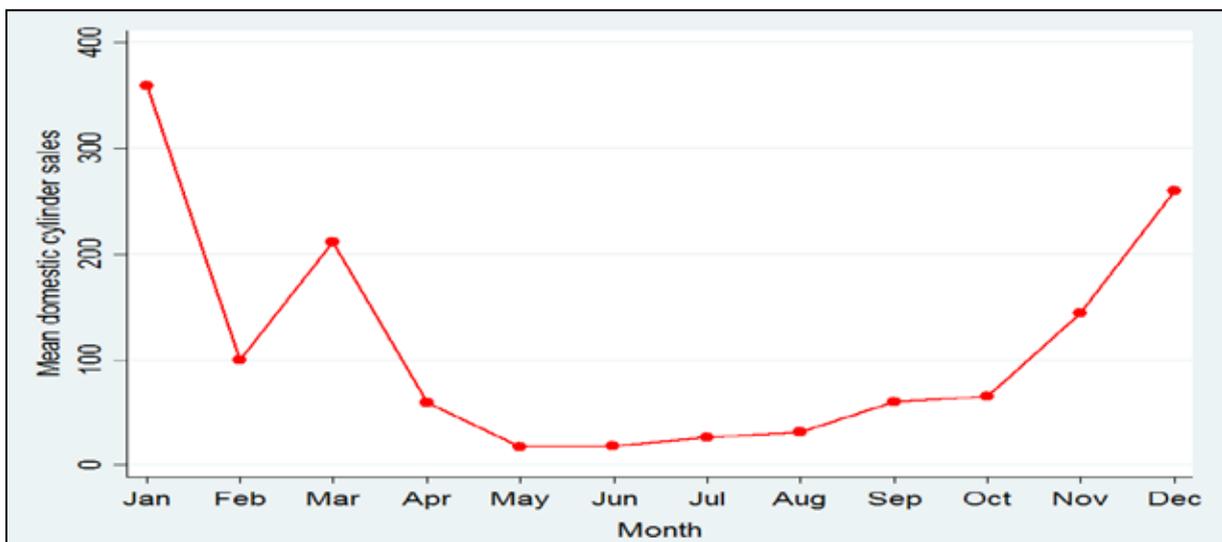
winter months). Reducing the cap could significantly reduce this leakage.

**Table 4: Household LPG consumption by decile**

Consumption decile	Rural	Urban
1st	4	4
2nd	7	9
3rd	7	9
4th	7	10
5th	8	10
6th	8	10
7th	8	10
8th	8	10
9th	8	10
10th	8	10

Source: HPCL administrative data

**Figure 9: LPG's March problem**



### Box 3.1: Why the government should use JAM for its bread-and-butter functions

Poor households rely on government subsidies to buy certain commodities. In the same way, state and local governments rely on central transfers to fund key programs, businesses working with government rely on timely payment to manage cash flow, and government employees rely on government transfers for their salaries. All receive funds from the same *Sarkari* financial pipe that delivers subsidies – and which JAM can improve by reducing delays, leakages, and administrative burden.

This box documents the returns to experimenting with JAM for MGNREGS expenditure in Bihar between 2011 and 2013, and discusses its implications for other schemes and payments.

The figure below shows how the old and new MGNREGS fund flow systems compare, and the Table explains the two conceptual differences, followed by the effects seen from the Bihar experiment. In the old system, disbursements were based on forecasted expenditure, and funds sat idle in local government accounts till expenditures were incurred—though MGNREGS has reformed its system as shown in the figure at the national level following an August 2015 cabinet note, most other government schemes still follow the old system.

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Figure : MGNREGS fund flow systems: old vs. new

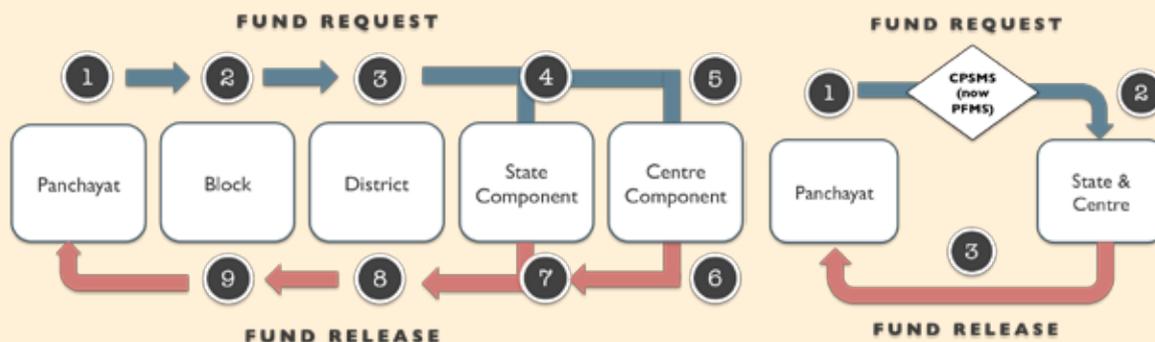


Table: Conceptual Differences in Fund Flow Systems

Characteristic	Old system	New system	Effect
<b>When are funds allocated?</b>	Before spending occurs, based on forecasts	When spending occurs, in real-time	Reduced float (26%)
<b>How do funds flow?</b>	Level by level: Centre → State → District → Block → Panchayat;	Directly from fund pool to spender: Centre/State → Panchayat	Reduced payment delays and uncertainty
<b>When does expenditure documentation occur?</b>	Aggregated and ex-post: For multiple beneficiaries at a time, and after funds have been disbursed	Individually and in real-time: For every individual beneficiary's payment and in order to secure fund release	Reduced leakages (14%) and funds disbursed by 38%

The old MGNREGS system (and the current system for most schemes) has 4 major problems:

1. **Float:** idle funds accrue interest costs for the central government since this is borrowed money. Outside of MGNREGS, the estimated stock of unspent balances in government accounts is at least Rs 1 lakh crore and leads to an annual cost of Rs 8500 crore. The new system keeps funds in a central pool and only disburses expenditure in real-time, reducing float by 26 per cent.
2. **Leakages:** funds had to pass through multiple layers, meaning more people can demand a cut to secure the release of funds. Accounting happens ex-post and in aggregate, making monitoring difficult. The new system reduced leakages by 14 per cent and fund disbursement by 38 per cent even though a household survey showed no change in the amount of work done in MGNREGA.
3. **Misallocation:** funds, once disbursed, usually do not return, so forecast errors lead to misallocation of fiscal resources, with idle funds in some accounts and shortages in others. This leads to scheme shortages for beneficiaries in some panchayats, even if a neighbouring panchayat has available but unused funds.
4. **Resource-intensity:** scheme managers spend valuable time haggling with officials at higher administrative units, who often demand arbitrary documentation to release funds. Similarly, businesses must haggle with programme managers and face arbitrary requirements to receive payments. The reform has eased the burdens in doing business with the government, both internally and for vendors.

MGNREGS is one of the government's largest schemes, and forms 41 per cent of DBT expenditure. Through fund management reforms, it is overcoming these challenges. Similar gains are possible from adopting these reforms for all government payments, including other central and state schemes that still use the old model.

Bringing these reforms will require development of IT systems and strong coordination under the auspices of the Controller General of Accounts. But for the government to reach the world frontier in expenditure management, it requires a new strategic agency that is precisely the expenditure analog of the Goods and Services Tax Network—the Expenditure Information Network (EIN)—that must be created to shepherd and manage this process.

## Where next to spread JAM?

3.21 DBT in LPG has generally been a big success, and policymakers in other areas are understandably keen to emulate its success. However, when designing DBT schemes in other areas, caution should be exercised in drawing lessons from the LPG case. Several features of LPG made it conducive to the application of JAM. Table 5 presents a framework to help policymakers decide whether—and how—to pursue JAM in various policy areas. The table is meant to be illustrative rather than exhaustive. We organise thinking along 3 categories: first-mile, middle-mile and last-mile. We now describe each of these in turn.

### First-mile

3.22 First-mile issues deal primarily with beneficiary eligibility and identification.

- **Targeting:** targeted subsidies are harder to JAM than universal programs, as they require government to have detailed information about beneficiaries. Subsidies targeted at the poor (like food and kerosene) require government to know people's wealth, while benefits targeted at farmers or pregnant mothers require government to know beneficiaries' occupation and pregnancy status respectively. By contrast, the LPG subsidy is universal; all households are eligible.
- **Beneficiary databases:** to identify beneficiaries, the government needs a database of eligible individuals. Some subsidy distributors have beneficiary lists in digital form, such as the The Oil Marketing Companies that distribute LPG subsidies. Customer IDs can then be seeded with Aadhaar and bank account information and mobile numbers. Most states have now digitised their PDS. The recently released Socioeconomic Census (SECC) contains information about household asset-holding and occupation

status. This information, if continuously updated, has the potential to aid targeting and serve as a baseline database for administrators in sectors where beneficiary databases do not yet exist.

- **Eligibility:** a third issue with identification is the household-individual connection. Some benefits are for households while others are for individuals. For example, the National Food Security Act (NFSA) provides for subsidised grain to households but a cash transfer maternal entitlement to mothers. Jan Dhan is monitored at household level, while Aadhaar is an individual identifier. This is doubly important because of the way resources are usually allocated within households: the (typically male) recipient of a cash transfer may have different spending priorities from the (occasionally female) intended beneficiary.

### Middle-mile

3.23 The chief middle-mile issues are the administrative challenge of coordinating government actors and the political economy challenge of sharing rents with supply chain interest groups.

- **Within-government coordination:** ministries and state government departments share authority in administering subsidies and transfers. Some subsidies have more streamlined administrative arrangements than others. The LPG subsidy, for instance, merely requires coordination between the Union Petroleum Ministry, the 3 Oil Marketing Companies and the network of distributors it manages. Coordination in this setting is significantly easier than in kerosene, where the Union Petroleum Ministry must coordinate with the Union Ministry of Consumer Affairs, Food & Public Distribution and all the states' Public Distribution Departments. It is thus no accident that LPG was the first subsidy where DBT was introduced!

- **Supply chain interest groups:** agents along a commodity's supply chain can obstruct the spread of JAM if their interests are threatened. The limited progress in getting Fair Price Shops in the Public Distribution System (PDS) to adopt Point of Sale (POS) machines for biometric authentication is suggestive of such resistance. Profits are required for FPS, fertiliser retail outlets and other distributors to remain viable, and ought to be seen as a feature, not a bug, in subsidy design. Rents must be shared for reform to proceed, and thus distributors need incentives before they invest in JAM infrastructure. The hold-up power of groups within the subsidy system is an example of the Indian's economy exit problem (Chapter 2).

### Last-mile

3.24 Last-mile issues relate to the risks of excluding genuine beneficiaries, especially the poor. These depend on two factors:

- **Beneficiary financial inclusion:** exclusion errors can be substantial if few beneficiaries have bank accounts and can easily access them. Bank account penetration is growing, thanks to Jan Dhan, but in rural areas physical connectivity to the banking system remains limited, and BCs and mobile money providers have not yet solved this last-mile problem. A subsidy's share of rural consumers is thus a rough proxy of the level of beneficiary financial inclusion.
- **Beneficiary vulnerability:** exclusion error risks increase when the beneficiary population is poorer. The poorest 3 deciles of Indian households consume only 3 per cent of subsidised LPG consumption, but 49 per cent of subsidised kerosene.

### So, where and how to JAM?

3.25 We argue that policymakers should decide where next to JAM based on two

considerations:

- **Size of leakages:** as shown in Box 1 and the previous section, JAM significantly reduced leakages in LPG and MGNREGS with limited exclusion of the poor. The returns from pursuing JAM in other areas depends on the size of leakages in those sectors. Subsidies with higher leakages have larger returns from introducing JAM.
- **Central government control:** when introducing JAM, policymakers will confront administrative challenges in coordinating central and state government departments, and political challenges in bringing the supply chain interest groups like Fair Price Shops on board with DBT.

3.26 Based on these considerations, the policy areas that appear most conducive to JAM are those where the central government has significant control and where leakages—and hence fiscal savings due to JAM—are high. Table 5 shows that this combination is met for fertiliser and within-government fund transfers.

3.27 We consider two JAM options: DBT and BAPU—Biometrically Authenticated Physical Uptake. With DBT, subsidies are transferred to beneficiaries in cash. With BAPU, beneficiaries certify their identity using Aadhaar and then physically take the subsidised goods like today. In the next section we evaluate states' preparedness to implement these two JAM options

### JAM Preparedness Index

3.28 We construct an index to measure states' preparedness to implement (i) DBT in urban areas, (ii) DBT in rural areas, and (iii) BAPU. Table 6 shows the indicators used to construct the various indices:

3.30 Because each condition is necessary and none on its own is sufficient, our index is *not the average but the minimum* of the respective indicators. Using the minimum is a way of highlighting the binding constraints along the JAM chain<sup>6</sup>.

<sup>6</sup> The idea of binding constraints appeared in a well-known paper called "The O-ring theory" by Kremer (1993).

**Table 5: The spread of JAM across the Indian economy**

		LPG	Kerosene	Food	Fertiliser	Within-govt JAM
<b>First-mile</b>	<b>Eligibility</b>	Household	Household	Household	Individual	Scheme
	<b>Targeting</b>	Universal	Targeted (BPL)	Targeted (BPL)	Targeted (farmers)	All central government scheme expenditure
	<b>Beneficiary database</b>	Digitised	Most digitised	Most digitised	None	Public Finance Management System
<b>Middle-mile</b>	<b>Within-government coordination</b>	Central Petroleum Ministry with OMCs	Central Petroleum & Food Ministries with all State PDS	Central Food Ministry with all State PDS	Central Fertiliser Ministry with fertiliser manufacturers	Expenditure Department with Central Ministries
	<b>Supply chain interest groups</b>	LPG distributors	Fair Price Shops	Fair Price Shops	Fertiliser retailers	N/A
<b>Last-mile</b>	<b>Beneficiary vulnerability</b>	3%	49%	51%	62%	N/A
	<b>Beneficiary financial inclusion</b>	33%	83%	78%	100%	N/A
<b>Where to JAM?</b>	<b>Leakages</b>	24%	46%	Wheat - 54%, Rice - 15%	40%	14%
	<b>Central government control</b>	High	Low	Low	High	Very High
<b>What kind of JAM?</b>	<b>Recommended policy option</b>	JAM	BAPU	BAPU	BAPU/JAM	JAM

**Table 6: Indicators in the JAM preparedness index**

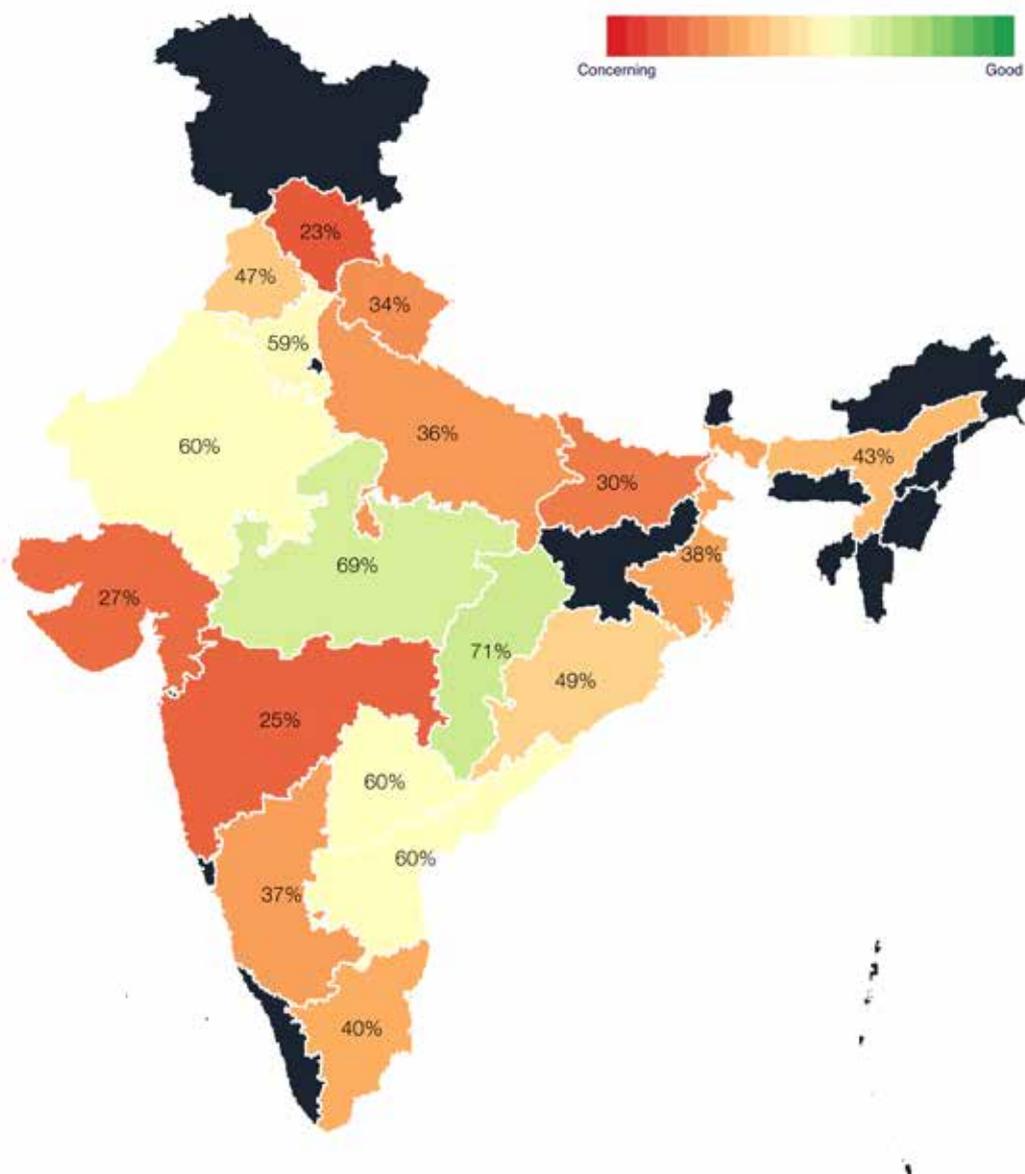
	Urban DBT	Rural DBT	BAPU
<b>Can government identify beneficiaries?</b>	Aadhaar penetration	Aadhaar penetration	Aadhaar penetration
<b>Authenticating transactions</b>	<del>POS machines</del>	<del>POS machines</del>	POS machines
<b>Paying beneficiaries</b>	Basic bank account penetration	Basic bank account penetration	<del>Basic bank account penetration</del>
<b>Beneficiaries accessing money</b>	BC density	BC density	

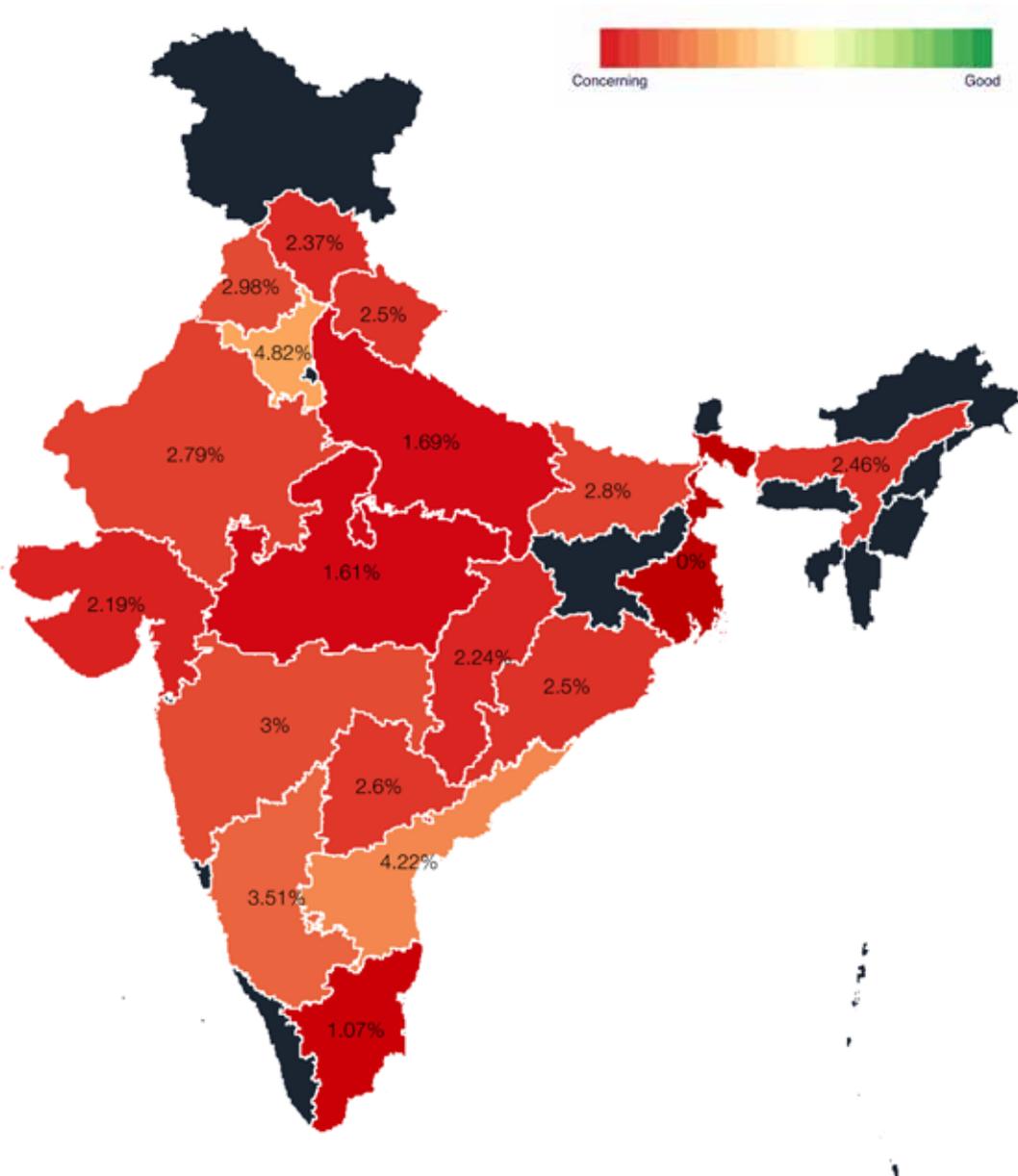
3.31 We begin with the Urban DBT index, shown in Figure 10. There is significant variation across states. Some, like Madhya Pradesh and Chattisgarh, show preparedness scores of about 70 per cent. Others, like Bihar and Maharashtra, have scores of only about 25 per cent. As described earlier in the chapter the binding constraint here is basic bank account penetration—paying beneficiaries is the issue, not identifying them.

3.32 The Rural DBT preparedness index adds an additional indicator: BC density as a ratio of the Kenyan level (Figure 11). We

use Kenya as a benchmark – intuitively as the 100 per cent level – because it is a country where banking agent networks appear to be functioning relatively well in rural areas. The DBT rural preparedness scores are significantly worse than the urban scores, with an average of 3 per cent and a maximum of 5 per cent (Haryana). Comparing the rural and urban indexes—i.e. Figures 10 and 11—it is clear that last-mile financial inclusion is the main constraint to making JAM happen in much of rural India. Jan Dhan’s vision must truly succeed before much of India can JAM.

**Figure 10: JAM preparedness index – Urban**

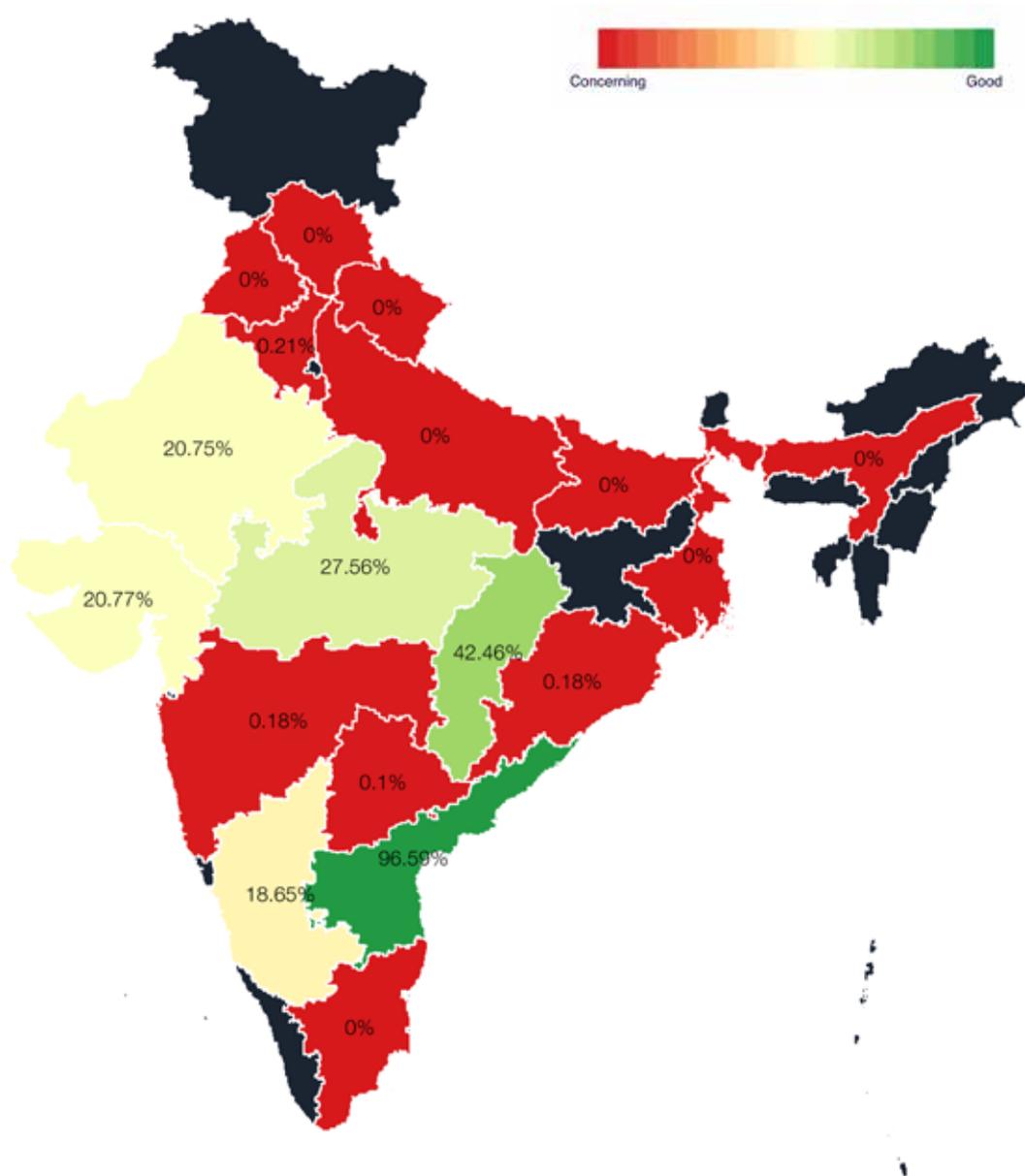


**Figure 11: JAM preparedness index - Rural**

3.33 What can be done to reduce leakages in the meantime, while banking correspondent networks develop and mobile banking spreads? One possibility would be what we call BAPU—Biometrically Authenticated Physical Uptake. Beneficiaries verify their identities through scanning their thumbprint on a POS machine while buying the subsidised product—say kerosene at the PDS shop. This is being successfully attempted by Krishna district in Andhra Pradesh, with significant leakage reductions. Despite

financial inclusion scores being low, if Fair Price Shops are equipped with POS machines, beneficiaries can simply authenticate their identities while taking their rations as under the current system. BAPU preparedness is much better than for Rural DBT preparedness. The average state preparedness is 12 per cent (Figure 12), but there are some states – like Andhra Pradesh (96 per cent), Chhattisgarh (42 per cent) and Madhya Pradesh (27 per cent) – that with some policy push could be well-prepared for BAPU in the near future.

Figure 12: BAPU Preparedness Index



## CONCLUSION

3.36 We conclude with policy recommendations on LPG and the broader spread of JAM.

### LPG

3.37 The Pahal scheme has been a big success. The use of Aadhaar has made black marketing harder, and LPG leakages have reduced by about 24 per cent with limited exclusion of genuine beneficiaries. However, diversion of LPG from domestic

to commercial sources continues, because of the differential tax treatment of “commercial” and “domestic” LPG. In other words, the One Product One Price principle is still being violated. Diversion could be further reduced by equalising taxes across end-uses. This will not necessarily be inequitable because as Chapter 6 shows, LPG subsidies almost entirely benefit the well-off.

### Broader spread of JAM

3.38 Considerable work needs to be done to fully implement the game-changing JAM

agenda. In those areas where the centre has less control, it should incentivise the states to invest in first-mile capacity (by improving beneficiary databases), deal with middle-mile challenges (by designing incentives for supply chain interest groups to support DBT) and improve last-mile financial connectivity (by developing the BC and mobile money space). To this end, states should be incentivised by sharing fiscal savings from DBT.

3.39 Meanwhile, the centre should prioritise areas where it has the highest control over the first- and middle-mile factors and leakages are high. Fertiliser and within-government transfers stand out as good candidates. The example of MGNREGS highlights that delivering within-government transfers via JAM can help other centrally sponsored schemes reduce idle funds, lower corruption and improve the ease of doing business with government.

3.40 Despite huge improvements in financial inclusion due to Jan Dhan, the JAM preparedness indicators suggest that there is still some way to go before bank-beneficiary linkages are strong enough to pursue DBT without committing exclusion errors. In that sense, the JAM agenda is currently jammed by the last-mile challenge of getting money from banks into beneficiaries' hands, especially in rural India. The centre can invest in last-mile financial inclusion via further improving BC networks and promoting the spread of mobile money. The recent licensing of banks will help. Regulations governing the remuneration of BCs may need to be reviewed to ensure that commission rates are sufficient to encourage BCs to remain active.

3.41 In the meantime models like BAPU offer the prospect of lower leakages without the risk of exclusion errors, and therefore merit serious consideration.