Digital Innovations in Public Finance: An Efficient Use of Resources

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Digital innovations in fiscal policy is the *du jour* for the macro policy makers, especially in the post-demonetisation India. India showcases the early three experiments of digitization in public finance – especially financial inclusion through digital financial services - in the recent Economic Survey. It highlights that digitization in public finance helped the government to identify the beneficiaries correctly given the technology it uses. It also helped in the removal of ghost beneficiaries and thus plugged leakages and identification errors. An early figure suggests that digitization in public finances in India has helped to transfer the benefits of welfare programmes to extent of 41% in MGNREGS, 37% in PAHAL (the LPG subsidy scheme), 14% in National Social Assistance Program(NSAP) and 7% in national scholarship schemes.(Economic Survey of India, 2015-16).

Yet another successful experiment in digitization of fiscal policy is the new scheme, Pradhan Mantri Jan Dhan Yojana. It has ensured financial inclusion in financial services through opening savings accounts by the masses so that the money is transferred to the genuine beneficiaries. Another related experiment has been the introduction of Aadhaar cards which provides a unique online identity to each individual in the country and has been linked to bank accounts and mobile numbers in order to ease transactions. Greater use of mobile banking to transfer funds faster and to solve the last mile banking problem has also been encouraged. The use of Jan Dhan accounts, Aadhaar cards and Mobile Banking has helped India take a step closer to the digital revolution that awaits it.

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Such global experiments of digitization in finance have happened in Kenya, where geospatial surveys were used to decipher how much financial institutions have responded to an increasingly digitizing environment. In Kenya a significant share of the population is within 5 kilometers of a "financial access touch point" and Kenya stands out for its people's use of mobile-phone based money—in less than 10 years the share has grown from zero to more than 75 percent of the adult population (Ndung'uNjuguna, Armando Morales, and Lydia Ndirangu2016)[2].

Learning from the global experience, India has experimented with the JAM Trinity (Jan Dhan, Aadhaar and Mobile) for the efficient use of resources. Mainly, the subsidy transfer system in India is fraught with inefficiencies such as leakages and ghost or duplicate beneficiaries. For instance, the PDS delivery system in India is riddled with identification errors which exist mainly due to ghost or duplicate beneficiaries. Similarly the Mahatma Gandhi National Rural Employment Scheme (MGNREGS) for rural India has implementation issues and massive leakages. In case of LPG subsidy the inefficiencies were such that the top 20 per cent of the population by consumption expenditure received over half (60 per cent) of the total direct subsidy, while the bottom half of the population received less than one tenth (8 per cent) of the total subsidy transfer[3] (IISD, 2014). In response to these problems, digitization of the system seemed to be an obvious solution.

The Nilekani Task Force was setup in 2011 to propose an Aadhaar- Enabled Unified Payment structure - a more efficient and cost effective system for the transfer of subsidies to the poor. The

[2]Ndung'uNjuguna, Armando Morales, and Lydia Ndirangu (2016) noted that banks have worked closely with telecommunications companies and insurance sector, which has allowed them a higher market presence there than in many emerging markets. The sequential adaptive and flexible regulatory frameworks, reforms in financial infrastructure, and rapid improvements in skills and capacity in Kenya, helped to enable this expansion of mobile-phone technological platform for person-to-person transfers, payments, and settlements (products such as M-Pesa). The study noted that the value of these transactions has reached the equivalent of 4.5 percent of annualized GDP a day. The virtual savings accounts, digital financial services for cross border payments and international remittances were also expanded after this digitization in Kenya, which led to financial development, lower transaction costs, greater financial inclusion and hence inclusive economic growth. For details, refer http://www.imf.org/external/pubs/ft/fandd/2016/06/ndungu.htm

[3] International Institute of Sustainable Development (2014): "Subsidies to Liquefied Petroleum Gas in India: An overview of recent reforms", IISD, March 2014. See https://www.iisd.org/gsi/sites/default/files/ffs_india_lpg_overview_2014.pdf

Task Force recommended direct cash transfer of subsidies and was further given the responsibility to work out the modalities of the transfer[4].A study by the National Institute of Public Finance and Policy (NIPFP) in 2012, noted that in case of PDS, once the beneficiaries are enrolled through Aadhar, it would be easier to claim benefits as they would be authenticated. In case of MGNREGS, if the wage disbursements are made through the Aadhaar payments system, it could plug leakages by 5 per cent (NIPFP, 2012). However Saraf, et al (2016) noted that when identification documents are not based on a compelling logical framework, organized crimes and identity frauds might be facilitated.

The recent Economic Survey noted that in 2015, 210 million Aadhaar cards were created at a rate of 4 million cards per week. Also, around 975 million people hold an Aadhaar card which is nearly 75 percent of the population and 95 percent of the adult population. The penetration of Aadhaar is high across states wherein one- third of all the states have coverage rates greater than 90 percent (Economic Survey, Government of India, 2015-16).

The Table 1 reveals the outreach of the Jan Dhan scheme in India. The Pradhan Mantri Jan Dhan Yojana ensured that the masses open savings accounts so that the subsidy money is transferred directly to the bank accounts of the genuine beneficiaries[5].

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[4]The Aadhar number was the financial address of an individual on the basis of which funds were transferred into the linked account. The development of the Aadhar services allowed beneficiaries to receive welfare payments directly in one account and ensured funds being used by the intended beneficiary. At the same time, an Aadhaar linked bank account based transfer helped the government eliminate ghost and duplicate identities, use funds in an effective manner and focus on service delivery. The motive behind the implementation of such a system was also greater financial inclusion. However there are increasingly concerns regarding safety and security of these transactions. (For details, see http://www.hindustantimes.com/india-news/what-s-really-happening-when-you-swipe-your-aadhaar-card-to-make-a-payment/story-2fLTO5oNPhq1wyvZrwgNgJ.html and http://www.epw.in/journal/2016/42/commentary/framework-issuing-using-and-validating-identification-documents.html

[5]The mobile banking is now being used to solve the last mile connectivity problem in India. Once the money comes in the bank accounts, getting money from the banks into the hands of the households still remains a challenge. As a solution to this, transfer of money through mobile phones is now being encouraged leading to faster and secure payments. Hence, collectively the JAM (Jan Dhan, Aadhaar,Mobile) Trinity has been used to effectively transfer funds (Economic Survey of India,2015-16). See http://indiabudget.nic.in/budget2016-2017/es2015-16/echapvol1-03.pdf

Table 1:

Digitisation in Public Finance: Financial inclusion through financial services (in crores)

Bank Name	Rural	Urban	Total	No.of Rupay Cards	Aadhaar Seeded	Balance in Accounts
Public Sector Bank	12.32	10.22	22.54	17.58	14.93	49266.04
Regional Rural Bank	3.97	0.66	4.63	3.53	2.76	11708.05
Private Banks	0.55	0.37	0.91	0.84	0.44	2127.40
Total	16.84	11.24	28.08	21.95	18.13	63101.49

Notes: This is the number of accounts opened under Pradhan Mantri Jan DhanYojana as of 22nd March 2017. All figures are in crores. The data updates as on April 2,2017.
Source: Government of India (2017), PMJDY.

The Direct Benefit Transfer of LPG (DBTL) scheme PAHAL was re-launched in 2014 and was intended to benefit the consumers of LPG cylinders directly. This scheme has tried to integrate gender budgeting in energy infrastructure as a component by providing clean cooking fuel to women under BPL. This component is relevant as estimates showed that more than malaria, women and children die out of indoor air pollution due to use of inferior cooking fuel they collected by walking long distances. This programme has taken into account the intensity of effort in the care economy by women, and such statistics of time spent in collecting fuel wood are revealed in time use studies conducted by the Centre for Statistical Organization of India (Chakraborty, 2016 and 2014). Lahoti et al (2012) noted that the uptake of LPG is concentrated in the urban areas prior to PAHAL and among households with better socio-economic indicators. The study noted that while LPG is a clean and healthy fuel, majority of the households in the country still depend on solid fuels for cooking which has adverse health impacts. The objective of LPG subsidies to increase the reach to poor households and make the shift from polluting solid fuels to LPG has not been fully achieved (Lahoti et al, 2012).

The Aadhaar payments mechanism has played a phenomenal role in making the PAHAL scheme a success. Under this scheme, the consumers receive cylinders at the market price and BPL consumers receive the LPG subsidy directly in their bank accounts. To avail the subsidy, consumers were required to either link their Aadhar number with their bank accounts or link their bank account to their 17 digit LPG Id in case of unavailability of an Aadhar number. The scheme aimed to cover 15.3 crores consumers across 676 districts of the country and gradually it was implemented all over the country (Government of India, 2014).[6] The PAHAL scheme was declared to be a huge success by the GOI. The Economic Survey of India 2015-16 also claimed that direct benefit transfers reduced the consumption of subsidized LPG cylinders and thus has reduced the LPG leakages by 24 percent with limited exclusion of genuine beneficiaries (Economic Survey of India, 2015-16). Apart from this, black marketing of LPG cylinders has also become harder.Till date, the total cash transfer amount under PAHAL has been Rs. 45412 crores and 10546388 people have given up their LPG subsidy[7] (Government of India, Ministry of Petroleum and Natural Gas, 2014).

There is further scope to use the JAM Trinity in areas where central government has significant control and where leakages are high so that fiscal savings from JAM can also be high. In case of fertilizers, the central government control is high and the leakages are around 40% which is enough justification for JAM to be used for fertilizer subsidies. Also, state and local governments as well as businesses dealing with the central government rely on the central government transfers/payments which are sent out in the same way as government subsidies.

JAM has improved the efficiency of transfer by reducing leakages, reducing delay and administrative burden. Hence, the JAM Trinity can be used within the government for transfers leading to reduced costs and higher efficiency. However, the effectiveness of these welfare programmes is still fraught with several problems even after such ground breaking reforms. Though the inclusion and exclusion errors in the transfer of money under these schemes have been minimized and the problem of leakage, wastage, and corruption in the delivery process had been dealt with to a great extent, the administration of these programmes uses up considerable manpower and resources.

The Economic Survey 2015-16 has noted regressivity in the pattern of access of subsidies by non-poor in India, especially in the case of power subsidies. Similarly, the LPG consumers avail a subsidy rate (ratio of subsidy amount to the market price) of about 36 percent. Also the poor

[6]Press Information Bureau, Ministry of Petroleum & Natural Gas, Government of India, 31 December, 2014. See. http://pib.nic.in/newsite/PrintRelease.aspx?relid=114245
[7] Ministry of Petroleum & Natural Gas, Government of India,2014. See http://petroleum.nic.in/dbt/index.php

account for only 9 percent of LPG consumption. This reveals the fact that 91 percent of the subsidies are availed by the better off. Finally, there is also a basic problem that in-kind transfers do not leave the decision to the recipients as to what their specific needs are (Ghatak, 2016).[8] Hence, taking a step further in reforming the current system, the implementation of a Universal Basic Income (UBI) policy is being debated by the economists. A UBI would entail an unconditional, uniform cash transfer from the government to the people, irrespective of rich or poor. The Economic Survey of India, 2016-17 mentions that with the implementation of UBI, misallocation and leakages will further be removed since the money will be transferred directly into the bank accounts of the beneficiaries and would involve reduced role of the welfare bureaucracy.

Bardhan (2016) considers a basic income set at about 75 percent of the poverty line, which would replace some but not all welfare programs. According to him, public education, healthcare, childhood nutrition programs, and public works employment guarantee programs are important to be retained. Talking about fiscal feasibility, if the UBI amount is fixed at inflation indexed Rs. 10,000 at 2014-15 prices per person per year it would amount to 10% of the GDP of that year. This amount can be managed given the regressive subsidies and inefficient welfare programs in the country.[9]

Banerjee (2016) and Ghatak (2016) have noted that the schemes like MGNREGA and PDS are still ill-targeted[10]and India can afford a basic income by cutting subsidies, reducing wasteful spending, and reforming the tax code. Ray (2016) pointed out that UBI which is to be provided to citizens can be fixed as a percentage of the country's GDP by integrating the advanced electronic payments infrastructure which is slowly developing in India and the Aadhaar biometric identification programme, UBI can help India tackle poverty directly cutting out layers of

[8] Ghatak, Maitreesh (2016) 'Is India ready for a universal basic income scheme', , Ideas for India, 28 September 2016. See http://www.ideasforindia.in/article.aspx?article_id=1696

[9]Bardhan, Pranab (2016), 'Basic income in a poor country', Ideas for India,26th September 2016.See http://ideasforindia.in/profile.aspx?id=32

[10]' Banerjee, Abhijit (2016), Universal Basic Income', Abhijit Ideas for India, September 27, 2016.See http://www.ideasforindia.in/article.aspx?article_id=1695

bureaucracy[11]. The main advantage of UBI remains that it bypasses the targeting problem as the transfer is universal. It is also visualized as a transfer to compensate the increasing inequalities in economic growth process.

Against the backdrop of fiscal consolidation and fiscal rules, India needs to maintain fiscal deficit below 3 per cent of GDP (Chakraborty, 2016b). The role of digitization in simplifying the subsidy management system and in promoting financial inclusion is evident leading to the efficient utilization of resources.

[11] Ray, Debraj 2016, 'The universal basic share', Ideas for India, 29 September,2016.
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