Does computerisation reduce PDS leakage? Lessons from Karnataka

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Silvia Masiero *discusses recent research into how computerisation can detect and prevent leakage from the Public Distribution System, which is used to dispense rations allocated under the National Food Security Act. She writes that although the system has helped to disincentivise cheating among ration dealers, problems remain. Firstly, technology prevents erroneous inclusion, but can do little towards the exclusion of the needful. Secondly, it monitors ration dealers' behaviour but it cannot remove the incentive to divert rations in a scenario of non-profitability.*

In spite of the policy changes occurred in recent decades, the Public Distribution System (PDS) remains at the core of India's food security agenda. Enforcement of the National Food Security Act (NFSA) is predicated on good functioning of the PDS. Discussion of the PDS and its effectiveness is today as heated as ever, with the possibility of transition to a cash transfer system being openly contemplated by the central government. In context, it is important to examine existing policy measures, and assess their capability to maximise the effectiveness of the programme.

Among the diverse streams of reform, computerisation has been one of the most discussed. Over the last few years, many states have introduced e-governance into their PDS: end-to-end computerisation of the programme, from procurement to delivery of goods in ration shops, has been linked to its greater effectiveness and accountability. In particular, e-governance measures have been devised to combat leakage, in the form of illegal diversion of PDS goods to private markets. The idea of computerisation as a means to increase transparency of supply chains, and thereby to combat leakage, has been theorised, but not yet examined in practice.

Our objective, as researchers on information technology (IT) for anti-poverty systems, has been that of observing the mechanisms through which computerisation can detect and prevent leakage from the PDS. To do so, Professor Amit Prakash (International IT Institute, Bangalore) and I have conducted a study of Karnataka, a state in which, in 6 districts out of 28, computerisation starts from authorised wholesale dealers (AWDs) and reaches to the ration shops, equipped with biometric weighing-cum-point of sale machines. A digital PDS as mature as that of Karnataka allowed us to fulfil two tasks: first, describe the functioning of a computerised PDS, observing the extent to which its mechanisms are able to detect and prevent leakage; and second, to illuminate the implications of computerisation, offering lessons for the other states now embarking in the same process. Our study has been recently published by the Economic and Political Weekly, and can be found here.

In the six districts adopting end-to-end computerisation, front-end infrastructure is installed. It consists in the adoption of biometric weighing-cum-point of sale machines, through which ration shop transactions are conducted. Beneficiaries are identified by the machine through their ration card number, which is entered first, followed by their thumb impression. The system recognises them, and displays their card number and entitlement on the screen. As the ration dealer weighs commodities, the machine's speakers announce (in Kannada) the type and quantity of goods, and a bill is printed. The idea behind the system is that of tracking transactions at the ration shop level, ensuring their legality and making sure that goods are actually sold to PDS beneficiaries, rather than to non-entitled agents or on the market.

A ration dealer serving customers in Karnataka. Credit: Silvia Masiero

The presence of three accountability mechanisms, linking the IT system to prevention of PDS leakage, constitutes the main advantage of the digital PDS, and the reason for its popularity among many citizens. When interviewed on this topic, beneficiaries at ration shops using machines revealed that before the system was introduced, it was much easier for ration dealers to cheat the beneficiaries. In contrast to other states, the majority of ration shops in Karnataka are managed by private agents, rather than by cooperatives or state-owned entities. The existence of these shops is precarious, so corruption does constitute an attractive means to generate profit. Computerisation is a visible manifestation of the state's committment to the fight against leakage, taking the shape of anti-corruption propaganda and of the reconstruction of ration shops, which is key space of interaction between the PDS and citizens.

Yet, concerns about computerisation arise at two levels. First, as noted above, the system has been constructed to tackle an inclusion error – that is, making sure that those not entitled to the PDS cannot access it. However, no explicit provision has been taken towards the exclusion error, which has been systematically recognised as one of the most severe problems that arose after the shift to a targeted system in 1997. In today's Karnataka, obtaining recognition of poverty status is still reported to be a complex process: in the Anna Bhagya Scheme, used in the state, Above Poverty Line citizens are not entitled to any subsidy on foodgrains, and this leaves those not recognised as Below Poverty Line (BPL) or Antyodaya Anna Yojana (AAY) out of the PDS. Technology prevents erroneous inclusion, but can do little towards the exclusion of the needful, and this remains a drawback that the IT system alone cannot resolve.

Secondly, technology monitors ration dealers' behaviour, but does not remove their incentive to diversion. Karnataka's PDS is strongly targeted to the BPL/AAY categories, and the customer basis for ration dealers remains very narrow. Some of the ration dealers we interviewed found economic security by selling non-PDS goods, or obtaining credit concessions. But many of the remaining ones still find themselves in hardship: corruption, in a scenario of non-profitability, still remains very attractive, and IT alone cannot remove the incentive to it. It is good to devise a monitoring system, which threatens ration dealers with sanctions for diversion. However, if no other intervention is taken, they will always be pushed to find a way to bypass technology and the control mechanisms that it entails.

In the present historical phase, computerisation features strongly in the PDS debate. Our study aims to shed light on the mechanisms through which it can possibly reduce leakage, and generate better functioning of India's widest and most important food security net.

Read the full study in Economic and Political Weekly here.

Note: This article gives the views of the author, and not the position of the South Asia @ LSE blog, nor of the London School of Economics. Please read ourcomments policy before posting.

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