No Digital Base for a Cashless Economy*

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Prime Minister Modi is selling the idea that the engineered cash shortage that resulted from the disastrous demonetisation exercise is an opportunity to force-march India to being what is inelegantly termed a "less cash" society. In his view, that transition, if ensured, would for some inexplicable reason tame the rich and reward the poor.

This new sloganeering of the Prime Minister and his government has given the "Digital India" mission a whole new dimension, with electronically-executed financial transactions and settlements becoming a means to realising larger economic and social objectives. Making this an immediate, or even medium term, objective is plucky to say the least, since more than 90 per cent of economic transactions are conducted with cash in current day India. The country's dependence on cash is partly reflected in the fact that the cash-to-GDP ratio in India in 2015 was, at 12 per cent, much higher than in countries like Brazil (3.9 per cent), Mexico (5.3 per cent) and South Africa (3.7 per cent). In India's case, the road to a near-cashless economy seems fairly long and the journey is likely to be slow and tedious.

This seems to be the situation in much of the developing world. While in countries such as Belgium, France and Canada more than 90 per cent of economic transactions are reportedly settled digitally without cash, globally 85 per cent of transactions are cash-based. Moreover, substantially cashless economies tend on average to be more developed with reasonable per capita incomes even among the lower income deciles, more urbanised, and more banked. The transition to a cashless economy tends to be slow, influenced to a considerable degree by the extent of banking spread, though special efforts by the government to facilitate and popularise cash-based transactions do help.

But the Modi government believes that a world-beating software services exporter like India should be able to make the shift rather quickly.There are two realities that are missed in this over-the-top discourse. The first, is that India is far from being connected enough to be able to accommodate the digital execution of the millions of transactions that are conducted across the country every day. The second is, there are large numbers in the country, in the rural areas, in the informal economy and among the poor, who are completely outside even the digital economy that exists. For them, arriving at a 'less-cash' world requires crossing the hurdles to enter the digital economy.

Those hurdles have kept many in India out of the internet. According to figures from the International Telecommunication Union (ITU), the percentage of internet users in India (relative to population) has indeed risen from a negligible number to 26 per cent between 1990 and 2015. However, the latter figure compares with 50.3 per cent in China, 89.9 per cent in South Korea and 74.5 per cent in the US. The low level of connectivity in India is corroborated by a 2014 survey from India's official National Sample Survey (NSS) Organization (71st Round with reference period January to June 2014), which found that the proportion of Indian households in which at least one member had access to the Internet was 16.1 per cent in rural areas, 48.7 per cent in urban areas and 26.7 per cent in rural and urban areas combined. This is far short of

the near universal connectivity envisaged by the "less cash India" mission. A very recent study by ASSOCHAM and Deloitte too estimates that "the internet is out of the reach of nearly 950 million Indians". Besides the sheer shortage of the needed physical infrastructure, India's 1600 languages and many dialects also set up language barriers to the spread of the internet.

Thus, India's success as an Information Technology (IT) and IT-enabled services provider to the rest of the world says little about either the penetration of internet use or the level of digital literacy of its population. The problem partly is that absolute numbers can deceive. In terms of sheer numbers India's internet usage is impressive, making it the second largest (after China) in terms of number of users in a single country. Thus, the oft-quoted website (www.internetworldstats.com) reports (based on figures from the ITU, World Bank and UN) that the number of Internet users in India rose from around 5.6 million in 2000 to 233 million in June 2014 and 462 million in June 2016. However, the definition of a user here is loose, being any "individual who can access the Internet at home, via any device type and connection". The defining feature of a user is access and not actual use. The rapid spread of mobile telephony must itself therefore inflate internet user figures. Moreover, these high and rising absolute figures conceal the fact that in relation to India's population Internet penetration is still low, as noted earlier.

One problem is, of course, that of providing access to the hardware through which individuals get access to the Internet. Crucial to this is the internet backbone that helps carries digital signals across the country and the last mile connections that link customers to this backbone. Here India is at a disadvantage. The World Bank's World Development Report 2016 (WDR) points out that the OECD countries benefited from State investments in fixed line infrastructure before the coming of mobile and internet networks, whereas developing countries "are jumping straight to mobile networks, built by the private sector". Fixed line development had provided the OECD countries the backbone to carry the internet. However, since many developing countries, including India, have moved to mobile technology well before the process of laying out the fixed line infrastructure had been completed, they do not have a previously created internet backbone. This adversely affects their ability to provide quality internet connectivity along with voice connectivity. Most only have "a second class internet: slow, expensive and rarely "always on"."

An additional problem is that investments in the backbone required for high-speed connectivity are lumpy and difficult to recoup, which can make quality connectivity expensive. This can limit access because of the inability to pay. According to the WDR, across the world "only around 15 percent can afford access to broadband internet." Very often there is a tendency to ignore this because of the rapid spread of mobile telephony, including in India. Worldwide the number of mobile subscriptions rose from 1.59 per hundred people in 1995 to 98.6 per hundred people in 2015. In India too, the figure rose from nil per hundred in 1990 to 79 per hundred in 2015. But moving from those figures to the conclusion that data connectivity has increased hugely is not warranted. Not surprisingly, despite the rapid expansion of mobile subscriptions worldwide, the WDR estimates that "nearly 60 percent of the world's people are still offline and can't participate in the digital economy in any meaningful way."

What this reveals is that the rapid diffusion of the mobile phone was not the result of any need for data connectivity. The process of laying out fixed line infrastructure is slow, especially in situations where governments are unwilling to mobilize adequate resources to finance investments that speed up the process. Delays in obtaining access to fixed line connections become substantial and the cost of usage tends to be high. So when a technology that allowed provision of voice connectivity at much lower cost than providing fixed phone connectivity became available, and governments were willing to open up the sector to private operators to fill the gap, there was a huge increase in both the supply and demand for mobile subscriptions. But competition among suppliers to win subscribers has meant that the average revenue per user is at levels where private operators are unwilling to invest in adequate spectrum, let alone the backbone needed to ensure quality services, including internet connectivity. To the extent that data connectivity is available it remains expensive, especially because the former deprives mobile service providers of revenues from voice by facilitating free voice calls using over-the-top applications alike WhatsApp.

Thus, besides factors like language and digital literacy, a combination of inadequate and/or poor backbone and last mile infrastructure, poor delivery of last mile data connectivity through the mobile phone, and high cost of broadband connectivity excludes a substantial section of the population from the internet and other carriers of means of digital payments. The resulting low level of penetration of internet connectivity implies that the idea that digital transactions would come to dominate the economy is mere wishful thinking.

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