

Fiscal Policy Consequences of Digitalization and Demonetization in India

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DIGITALIZATION IN INDIA

In recent years, initiatives and trends have been enabling large-scale digitalization of the Indian economy. The country leapfrogged to widespread use of mobile phones in the past decade or so, given a lift as liberalization of the telecommunications sector occurred alongside booming mobile technology and amid relatively low penetration of fixed-line technology.

By February 2017, more than 1.16 billion Indians had subscribed to mobile services, for a “mobile teledensity” of 85.9 (Telecom Regulatory Authority of India 2017).¹ Teledensity has risen as much as tenfold in slightly more than a decade and prices of mobile services have fallen sharply. By February, 261 million people had become broadband subscribers, up from 1.4 million in March 2006.

Several government projects are catalyzing this digitalization. Among them, a national biometric identity program (*Aadhaar*) has reached about 1.15 billion residents,² and enables identification and authentication of residents. In banking, two programs are helping bring the “unbanked” into the economy. And under the *Pradhan Mantri Jan Dhan Yojana* of August 2014, more than 280 million bank accounts had been opened by March 2017, while another 243 million accounts were opened under a government financial inclusion plan before this. Many of these accounts are held by people who never had bank accounts before,³ while

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¹The number of subscribers for every 100 residents.

²Data from Unique Identification Authority of India.

³According to Sharma, Giri, and Chadha (2016), 67 percent of account holders surveyed said that the Jan Dhan account was their first bank account.

about 60 percent of the *Pradhan Mantri Jan Dhan Yojana* accounts were opened in rural areas.

Banking and payments are also undergoing considerable change. In 2006, new rules allowed banks to appoint agents (called business correspondents and business facilitators),⁴ enabling innovations that have brought down the cost of banking and payment services to low-income households and enterprises. Authorities have also recently allowed licensing of payment banks and various types of prepaid instruments.

Following the demonetization of its 500 and 1,000 rupee (Rs) notes in November 2016, the government announced several measures to increase the pace of digitalization of storage of value and payments. It has reduced the maximum value of cash transactions, lowered permissible cash donations to political parties, and announced various incentives for making electronic payments, such as a service tax waiver for certain values of digital payments. In addition, it waived transaction charges for digital payments made to government agencies and offered discounts and rewards for making digital payments. The Reserve Bank of India also relaxed customer charges for various modes of digital payment.

STATUS OF DIGITALIZATION

Yet despite a widespread perception of India as a leader in digitalization, the economy remains relatively less digitized. On the World Economic Forum's Networked Readiness Index, India ranked 91st among 139 countries in 2016 on "how well (it) is using information and communications technologies to boost competitiveness and well-being." China ranked 59th, Brazil 72nd, and South Africa 65th. India ranked well on affordability of digital services (8th), but mediocre or poor on all other parameters (Table 11.1).

India has a long way to go for digitalization of payments. The penetration of point-of-sales machines is among the lowest in the world and much lower than countries such as Brazil and China (BIS 2016). Surveys have reported that most people in India have never used digital transaction methods.

The process of digitalization in India raises concerns. India lacks a comprehensive legal framework to protect the privacy of users of digital services (Bhandari and Sane 2016), leaving their information vulnerable to misuse. This is a significant concern given the poor skills of users. For example, with literacy at relatively low levels—slightly more than 74 percent in 2011—users may be unable to protect their privacy. And because of weaknesses in redress, enforcement, and adjudication systems, users may be unable to get compensation for abuse or fraud.

The legal framework also enables state surveillance, with little recourse (Bhandari and Sane 2016). And although recent trends suggest India is set for

⁴Business correspondents are agents who conduct transactions on behalf of banks. These transactions typically include accepting deposits, redeeming deposits, and facilitating payments. Business facilitators do only sourcing of business and are not allowed to conduct transactions.

Table 11.1. India's Ranking on Networked Readiness Index

Parameter	India's Ranking
Affordability of digital services	8
Business and innovation environment	110
Infrastructure	114
Skills	101
Individual usage	120
Business usage	75
Government usage	59
Economic impact	80
Social impact	69

Source: World Economic Forum, Networked Readiness Index.

Note: The index measures performance on drivers of digital technologies under three subindices: overall environment, readiness (infrastructure, affordability, skills), and usage (individuals, business, government). The drivers considered for the environment subindex are political and regulatory environment, and business and innovation environment; under the readiness subindex are infrastructure and digital content, affordability, and skills; under the usage subindex are individual, business, and government usage.

rapid digitalization, it seems likely that this will be marked by a “digital divide.” It is estimated that about 9.3 percent of villages do not have mobile network coverage (Parliament of India 2017). Several states have much lower teledensity than the national average—Assam, Bihar, Madhya Pradesh, and Uttar Pradesh have teledensity of 70—while states with teledensity of more than 100 drive up the national average, such as Tamil Nadu and Punjab.

POTENTIAL BENEFITS OF DIGITALIZATION FOR FISCAL POLICY

Digitalization could benefit fiscal policy in many ways, including under the six following categories:

1. **Government payments to individuals:** The government can improve the efficiency of financial payments made to citizens and residents under various schemes and may improve the effectiveness of these schemes by better identification of beneficiaries. Reports have suggested significant leakage from government schemes, which could reduce use of digital authentication methods. For example, a government study estimated that 58 percent of subsidized food grains issued under the Public Distribution System do not reach the targeted beneficiaries (Government of India 2005). Use of digital databases to identify beneficiaries of schemes could help improve the effectiveness of some.
2. **Public procurement:** The government can improve the efficiency and integrity of public procurements by relying on electronic systems that improve transparency and competition.
3. **Nontax revenues:** The government can improve the efficiency of collection of nontax receipts (such as user charges) with digital payment. These methods may reduce the costs associated with handling cash and human resources for collecting these revenues.

4. **Tax collection:** The government can improve efficiency of tax collection with digital methods. For example, electronic filing of taxes may reduce the costs of collection and the resources that it requires.
5. **Tax intelligence and enforcement:** Access to real-time or near real-time information on financial transactions could help improve tax enforcement by the government. As individuals and businesses integrate with the digital economy and accept and make digital payments, it should become easier to create transaction trails that can reveal avoidance or evasion of taxes.
6. **E-governance:** The government could use digitalization to improve efficiency of governance. This may include digitalization of procedures and better information access for citizens and residents. For example, digitalization of land records can help better govern land resources by making such information available to residents online, and possibly by improving procedures for land-record mutations and land transactions.

The next section describes government efforts to realize these benefits of digitalization.

GOVERNMENT RESPONSE TO DIGITALIZATION

As noted, digitalization has created opportunities for greater government efficiency and effectiveness. The central government has launched major and minor programs to integrate use of information technology into its systems and processes, and in 2015 brought all such initiatives under the common “Digital India” program, which now includes 115 major and minor initiatives of the government.⁵

Government Payments to Individuals

The Direct Benefit Transfer program, which commenced in 2013, aims to make government payments directly to beneficiary accounts. It strives to reform the government delivery system by re-engineering the existing process in welfare schemes to simplify and speed up the flow of information and funds. It also aims to ensure accurate targeting of beneficiaries, remove duplication, and reduce fraud.

By March 16, 2017, 99 schemes from 20 ministries had been integrated with the Direct Benefit Transfer system.⁶ Eventually, the system is expected to cover all schemes involving cash transfers to individuals, which will mean integrating 536 schemes across 65 ministries and departments out of 1,182 schemes administered by 75 ministries and departments of the central government.

From January 2013 to December 2016, government payments worth about 1.1 percent of GDP had been transferred through the Direct Benefit Transfer system (Centre for Policy Research 2017). About half of this amount was

⁵The complete list is available at the Ministry of Electronics and Information Technology at <http://www.digitalindia.gov.in/di-initiatives>.

⁶The list is available at <https://dbtbarat.gov.in/scheme/schemelist>.

transferred under the national rural employment guarantee scheme. Other major schemes involving direct benefit transfers include cooking gas subsidies and the National Social Assistance Programme, which provides financial assistance to the elderly, widows, and people with disabilities, and provides scholarships.

The government has also established various portals for end-to-end processing under various schemes. For example, it launched the National Scholarship Portal for scholarship processing, which includes submission of student applications, verification, sanction, and disbursement to the end beneficiary for the government scholarship. Similarly, Jeevan Pramaan, an Aadhar-based biometric-enabled digital service for government pensioners is designed to improve the issuing of life certificates for pensioners.

In addition, the government has started linking different databases for policy decisions about beneficiaries, using the tax database to deny cooking gas subsidies to higher-income households, for example. Such initiatives may help better target subsidies.

The government has also made gradual yet considerable progress in making payments electronically. About 98 percent of all government payments made so far in fiscal year (FY) 2016/17 were electronic, according to the Comptroller General of Accounts on March 1, 2017 (BGR 2017).

Public Procurement

The government launched the online Central Public Procurement Portal in October 2012, mandating ministries to channel all procurements with an estimated value of Rs 1 million (\$58,000 in purchasing power parity terms) or more through the portal or through other e-procurement solutions they may be using. The threshold was reduced to Rs 0.5 million (\$29,000) in April 2015 and Rs 0.2 million (\$11,600) in April 2016, both in purchasing power parity terms. The government also mandated public sector undertakings and autonomous and statutory bodies under the administrative control of ministries to use e-procurement.

In 2016, the central government launched the Government e-Marketplace for single-window online procurement of commonly used, small-value goods and services. The Central Public Procurement Portal facilitates e-procurement for larger-value items (Rs 0.2 million or higher). The government e-Marketplace enables direct purchase, e-bidding, and reverse e-auctions to help achieve best value. The portal offers online registration facilities for government users, product sellers, and service providers. It is expected to help overcome information asymmetry across vendors by making information about procurements by various departments and agencies available to those purchasing similar goods and services.

Nontax Revenues

The government has also launched the national payment service platform, PayGov India, a transactional facility that allows customers to access various services through the internet. Government departments and agencies can use the

platform to offer services through their portals, with a facility to make online payment.

Nonetheless, many user charges levied by government agencies are presently not collected electronically. Some departments have implemented electronic payments with greater success than others. For example, more than 50 percent of passenger ticketing and more than 95 percent of freight ticketing in railways is now online. But most museums and archaeological sites managed by Archaeological Survey of India do not accept electronic payments. Reports by the Comptroller and Auditor General (Audit Report No. 18 of 2013 and Report No. 17 of 2014) have pointed out instances and risks of misappropriation of cash in the Archaeological Survey of India and Department of Posts.

Tax Collection

Most taxes the central government collects are deposited and returns filed electronically. Indeed, the government has mandated electronic filing for certain categories of taxpayers, and most organizations and individuals are now required to file electronically, with conditions based on which electronic filing is mandated. For example, any individual with an income of more than Rs 0.5 million (\$29,000), about five times per capita income, is required to file electronically.

A major reform launched in FY 2017/18 is the introduction of a goods and services tax (GST). This entails a considerable effort to migrate taxpayers from the present system of indirect taxes to the GST system. The government has created the Goods and Services Tax Network, a nonprofit organization that maintains a single portal for all GST stakeholders, including the government and taxpayers. The portal is accessible to the central government to track down every transaction, while taxpayers file their taxes. The system is completely online and is designed to, among other things, provide invoice matching to enable matching of taxable supplies shipped out against all the taxable supplies received. This should help reduce tax evasion.

Tax Intelligence and Enforcement

In 2004, India established a Financial Intelligence Unit under the Financial Action Task Force. It gathers and analyzes information about transactions suspected of involving money laundering. The unit gets data from various financial firms and produces intelligence reports that feed into revenue investigation and enforcement processes.

E-governance

The government has launched several schemes to use digital technologies to improve governance.

For example, it has substantially automated the management of public finances through the Public Financial Management System. It has begun a program to digitize land records across the country and launched a platform (Digilocker) for digital issuance and verification of documents and certificates.

In addition, the government started the National Digital Literacy Mission Scheme to impart information technology training to 5.25 million people working at the front end of government service delivery, including childcare workers, health workers, and others. The e-District Mission Mode Project has been launched to strengthen district administrations through centralized software applications for citizen services and training for staff in departments. And community service centers in village local governments (*Panchayat*) will strengthen a network of 250,000 centers to deliver services. The government has also launched e-Panchayat to provide software for automation of local rural functions.

Challenges of a Digital Economy

Digitalization may also pose certain fiscal challenges. The main, widely acknowledged challenge is in the difficulty of taxation that a digital economy creates. Digitalization provides opportunities for profit-shifting to low-tax locations where a company may in fact be doing no significant business.

In 2016, a committee constituted by the Central Board of Direct Taxes submitted its recommendations on taxation of business models for e-commerce. The committee recommended an equalization levy on payments to nonresidents for certain specified services. From June 1, 2016, the government introduced an equalization levy of 6 percent on specified cross-border, business-to-business transactions exceeding Rs 100,000. By December 31, 2016, Rs 1.46 billion had been collected.

FISCAL CONSEQUENCES OF GOVERNMENT INITIATIVES

Evidence of the impact of digitalization for government fiscal policy is sparse, with little research done. This is partly because most initiatives are new. But the potential is great for research studies of the initiatives described above. These could range from descriptive case studies of design and implementation to rigorous impact studies.

Muralidharan, Niehaus, and Sukhtankar (2016), evaluating biometrically authenticated payments infrastructure for employment and pension programs in Andhra Pradesh, reveal positive fiscal consequences. The new system delivered faster, more predictable, and less corrupt payments without hurting access. The study also found that the investment was cost-effective, as time savings to beneficiaries alone were equal to the cost of the intervention, and leakage of funds

between the government and beneficiaries was reduced significantly, indeed, by 12.7 percent in the employment program.

The government says the Direct Benefit Transfer program led to cumulative savings of Rs 0.5 trillion from 2014–15 and 2016–17,⁷ about 1 percent of total government expenditure. However, the quality of these estimates cannot be verified as detailed workings have not been released. In 2016, the government estimated cumulative savings of Rs 0.21 trillion during 2014–15 and 2015–16, arising out of the direct transfer of the cooking gas subsidy,⁸ about 0.4 percent of total expenditure.

THE DEMONETIZATION DECISION

Indian Finance Minister Arun Jaitley explained the reasons for demonetization in his budget speech in February 2017 (Box 11.1). The proximate objective was fiscal, to expand the tax base. “Tax evasion for many years has become a way of life. This compromises the larger public interest and creates unjust enrichment in favor of the tax evader, to the detriment of the poor and deprived. This has bred a parallel economy which is unacceptable for an inclusive society. Demonetization seeks to create a new ‘normal’ wherein the GDP would be bigger, cleaner and real.” He concluded: “We are largely a tax noncompliant society. The predominance of cash in the economy makes it possible for the people to evade their taxes. When too many people evade taxes, the burden of their share falls on those who are honest and compliant” (Jaitley 2017).

The government had for some time been concerned about the size of the unaccounted, and therefore non-tax-paying, income base. The National Institute for Public Finance and Policy’s (2013) report for the Ministry of Finance, while still confidential (and therefore not cited in detail), showed that unaccounted wealth and income inside the country was large. Yet, the World Bank found that in terms of the size of its shadow economy, India compares favorably with most other developing countries (Schneider, Buehn, and Montenegro 2010). India ranked 15th among 98 developing countries,⁹ and the study found that between 1999 and 2007, the shadow economy shrank from 23.2 percent of GDP to 20.7 percent.

In addition, the National Institute for Public Finance and Policy, using an analytical model commissioned by the government for widening the tax base, indicated that scope existed to do so. But given the large informal sector, such widening could only be of a limited nature if the instruments currently available were deployed. The Finance Ministry considered new forms of instrumentation, even shock therapy such as demonetization.

⁷See the statement published at <http://pib.nic.in/ndagov/Comprehensive-Materials/compr20.pdf>.

⁸See the press release at <http://pib.nic.in/newsite/PrintRelease.aspx?relid=147384>.

⁹Rank 1 means the smallest shadow economy as a percentage of GDP.

Box 11.1. Demonetization of High-Denomination Currency Notes

On November 8, 2016, the Government of India invoked the 1934 Reserve Bank of India Act to withdraw the legal tender status of Rs 500 and Rs 1,000 denomination notes. All those holding these notes were expected to deposit them in their bank accounts or with the central bank, and the amount was credited to their bank accounts.

These high-denomination notes comprised about 87 percent of currency in circulation and amounted to about \$235 billion (nominal conversion), or 10 percent of GDP. The government also introduced Rs 2,000 notes and circulation of a new series of Rs 500 notes. The remonetization of the economy, which is ongoing at the time of writing, is primarily happening through these notes.

On December 28, 2016, the government issued the Specified Bank Notes (Cessation of Liabilities) Ordinance, 2016 to cease the liability of the government for the currency notes whose legal tender status had already been canceled. The ordinance also imposed fines on people transacting with or holding such notes. This ordinance was later confirmed by the parliament as The Specified Bank Notes Cessation of Liabilities Act, 2017.

Sources: Prime Minister's speech delivered on November 8, 2016, to announce the decision to demonetize, and the Specified Bank Notes Cessation of Liabilities Act, 2017.

Even if there is unaccounted wealth in India, it may not be easy to extract a considerably larger amount of tax from the economy. As the government's Economic Survey 2015–16 pointed out, income tax collection is significantly better than expected for the country's level of economic development (Government of India 2017).

To account for the theory that democracies tend to tax and spend more, the survey controlled for democracy as a variable. The finding on personal income tax still holds, albeit the overall tax-to-GDP ratio is lower than it should be. While the percentage of individuals paying taxes is much smaller than expected, the amount of personal income tax collected is actually better than one would expect at this per capita income. This mismatch between satisfactory income tax collection and low number of income tax payers may be because income is concentrated in a smaller number of individuals and because agriculture, which employs a lot of people, is not taxed at all, as taxes are not levied on income from agriculture.

After demonetization, the Department of Revenue issued notices to all who had deposited amounts above Rs 250,000, asking them to show how they had acquired these resources. The government also put in place two amnesties, albeit with heavy penalties as discussed below.

Demonetization was a bold decision and was expected to have considerable short- and long-term consequences. The expected consequences and what the data available to date say about them is discussed in the next section.

Impact on Tax Collection

The impact of demonetization on tax collection and the tax base can be considered in the short term (2016–17) or the medium to long term (2017–18 and beyond). It was expected to hurt growth by reducing demand because of a lack of cash to make payments. It was also expected to reduce production because of cash-flow problems, especially in labor-intensive sectors such as construction or textiles, since casual workers in the informal sector are paid in cash. The government argued, however, that the move would improve tax compliance and help expand the tax base in the long term.

Short-term impact on tax collection

Table 11.2 presents a snapshot of estimates of the negative impact on GDP growth of demonetization in 2016–17. Most organizations expected a big impact, with recovery in 2017–18.

Table 11.2. GDP Growth Estimates by Various Agencies
(Percent, year-over-year growth)

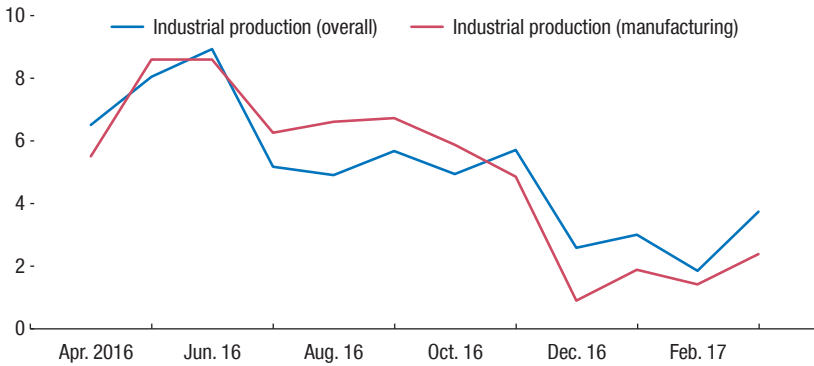
Agency	2016–17		2017–18	
	Pre-demonetization	Post-demonetization	Pre-demonetization	Post-demonetization
IMF	7.6	6.6	7.6	7.2
World Bank	7.6	7.0	7.7	7.6
Asian Development Bank	7.4	7.0	7.8	7.8
Economic Survey, India	7.0–7.75	6.5–6.75		6.75–7.5
Morgan Stanley	7.7	7.3	7.8	7.7
HSBC	7.4	6.3	7.2	7.1
Nomura	7.8	7.1	7.6	7.1
Goldman Sachs	7.6	6.3	...	...
ICRA	7.9	6.8	...	...
CARE Ratings	7.8	6.8	...	...
CRISIL	...	6.9	...	...
FITCH	7.4	6.9	8.0	7.7
BofA-ML	7.4	6.9	7.6	7.2
Ambit Capital	6.8	3.5	7.3	5.8
RBI	7.7	...	7.6	7.1
Central Statistical Office	...	...	7.6	7.1

Source: Reddy (2017).

Note: ... = not available; BofA-ML = Bank of America-Merril Lynch; CARE = CARE Ratings; ICRA = India Credit Rating Agency; RBI = Reserve Bank of India.

Table 11.3 shows the latest estimates of growth in GDP growth. As can be seen, growth in GDP and GVA began decelerating after the fourth quarter of 2015–16. However, the pace of deceleration seems to have accentuated in the fourth quarter of 2016–17, the quarter in which the full impact of demonetization was expected. Provisional estimates show that in the first quarter of 2012–18, GDP and GVA growth further decelerated to 5.7 and 5.6 percent, respectively. Although it is difficult to say how much of this deceleration results from demonetization, other indicators suggest that economic activity did decline after the

Figure 11.1. Industrial Production
(Percent, year-over-year growth)



Source: Centre for Monitoring of Indian Economy.

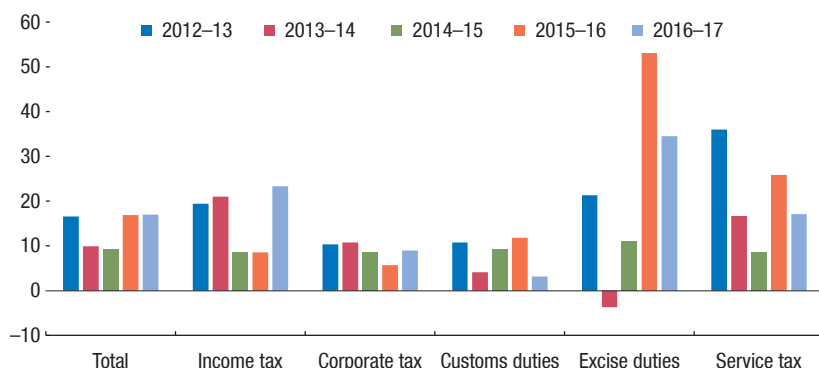
decision. Figure 11.1 shows considerable deceleration in growth of industrial production following demonetization.

Table 11.3. GDP and Gross Value-Added Growth Estimates
(Percent, year-over-year growth)

	GDP Growth		Gross Value-Added Growth	
	2015–16	2016–17	2015–16	2016–17
Full year	8.01	7.11	7.94	6.62
First half	7.79	7.73	7.89	7.17
Second half	8.21	6.53	7.98	6.10
First quarter	7.58	7.92	7.59	7.56
Second quarter	8.01	7.53	8.20	6.77
Third quarter	7.25	6.97	7.29	6.65
Fourth quarter	9.13	6.12	8.65	5.57

Source: Central Statistics Office, Government of India.

Despite this deceleration, growth in tax collection was good in 2016–17 (see Figure 11.2), and almost the same as in the previous year. Indeed, growth in income tax collection was higher than it had been in recent years. This may have been because of the government's additional revenue mobilization measures: tax rates applicable on petroleum products in the second half of 2016–17 were higher than those for the same period in 2015–16, for example, which may explain higher collections of excise duties. In addition, collections under a tax amnesty scheme that closed in September 2016 raised income tax collections. And enhanced revenue enforcement efforts following demonetization may also have boosted collections. Each of these may have blunted the impact of economic deceleration on tax collections in 2016–17.

Figure 11.2. Tax Collection Growth*(Percent, year-over-year)*

Source: Economic Outlook Database (maintained by the Centre for Monitoring of Indian Economy).

Long-term impact on tax base

Yet, even though tax collection appears not to have been affected, demonetization may have affected the tax base, as indicated by the GDP and GVA data.

It is worth noting that the national accounts statistics shown in Table 11.3 do not account for the impact of demonetization on the informal sector, which is where its impact was expected to be significant. The commonly held view in policy circles was that the informal sector largely operated using high-denomination cash. Demonetization was therefore expected to undermine output and, thereby, factor payments, as well as the income and consumption tax base. This is because the quarterly numbers published by the Central Statistics Office estimate growth by extrapolating from events in the formal sector. Thus, the Economic Survey for fiscal year 2017–18 noted: “The national income accounts estimate informal sector activity on the basis of formal sector indicators, which have not suffered to the same extent. But the costs have nonetheless been real and significant.” However, since the first-order contribution of the informal sector to direct and indirect tax revenue is much lower than the formal sector, any slowdown in informal sector activity that is not replaced by the migration of that activity to the formal sector will, at best, have a small impact on revenue. Equally, the impact on revenue will be positive to the extent that such migration happens.

In addition to the formalization of the economy, the government also expects greater tax compliance and is expecting to use data from bank deposits made after the demonetization to generate intelligence for tax enforcement. The government has a record of 1.8 million people whose cash transactions do not appear in line with their profiles (Department of Revenue 2017). Assessing the responses received from depositors is ongoing. In addition, the government has augmented

departmental capability to analyze large volumes of cash deposit data, tracking the compliance status of taxpayers and reporting entities.

Such efforts might yield better tax compliance in the medium to long term. The 2017–18 budget detailed the government's expectations for the positive long-term impact of demonetization on tax revenues. While the tax-to-GDP ratio in 2017–18 was projected to rise by just 0.06 percent of GDP, the numbers flagged an important structural change in GDP.¹⁰ Taxes on personal income have been projected to rise by 0.28 percent of GDP, while all other taxes would either fall or stay constant. The share of personal income taxes is projected to be 16 percent of total revenue receipts in 2017–18, up from 14 percent in 2016–17, while the share of service and indirect taxes was projected to fall. We therefore infer that this is what the government sees as the main fiscal gain from demonetization. If successful, this would be in keeping with the stated aim of the finance minister, which was to ensure that increases in the tax-to-GDP ratio happened through increases in the share of taxes on income, secured by widening the tax base.

Impact on Bank Credit

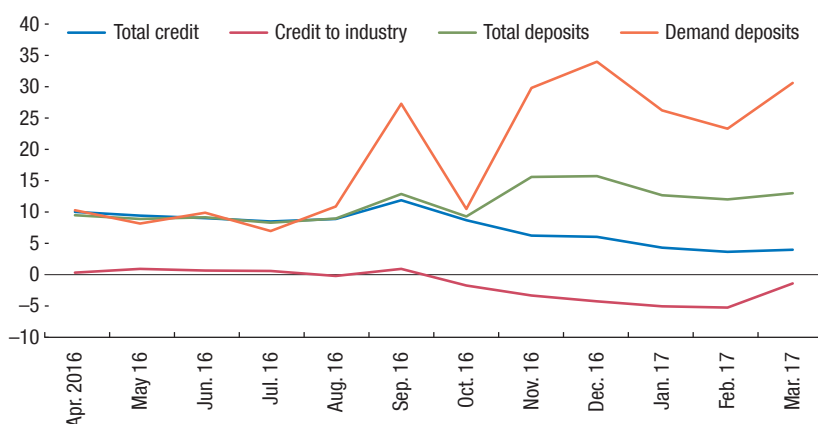
Figure 11.3 shows that while bank deposits, especially demand deposits, grew sharply after demonetization, credit growth slumped. The credit-to-deposit ratio dropped from 74.35 percent in October 2016 to 69.26 percent in November 2016. By July 2017, the credit-to-deposit ratio had risen to 72.23 percent. A large part of the incremental amount collected as deposits was deployed in liquid assets. It is difficult to say if the banks view the increase in deposits as temporary or if this reflects continued weak demand for credit arising from such sources as weak private investment demand and balance sheet difficulties faced by banks, restricting their risk appetite. In this context, notably, between October 2016 and April 2017 the one-year median, marginal cost of funds based lending rate declined by 78 basis points. But this decline did not raise demand for credit, such that, while borrowing has become cheaper, credit growth has decelerated significantly.

Impact on Unaccounted Income

The Economic Survey of 2016–17 argues that demonetization can be viewed as a tax on unaccounted income. This is because the government required depositors of cash above a minimum threshold to account for the source of these deposits. Thus, holders of unaccounted income or wealth could:

- Declare their unaccounted wealth and pay taxes at a penalty rate;

¹⁰FY2016–17 revised estimates projected the tax-to-GDP ratio to be 11.3 percent of GDP, up from 10.8 percent in the budget estimates. This rise was due entirely to higher-than-expected collections of indirect taxes on goods and services. Therefore, in the budget estimates of FY2017–18, the government has perhaps been cautious in projecting further increases in indirect tax revenues, also mindful of the uncertainty associated with the introduction of the new goods and services tax in FY2017–18.

Figure 11.3. Bank Credit and Deposit Growth*(Percent, year-over-year growth)*

Source: Database on Indian Economy, Reserve Bank of India.

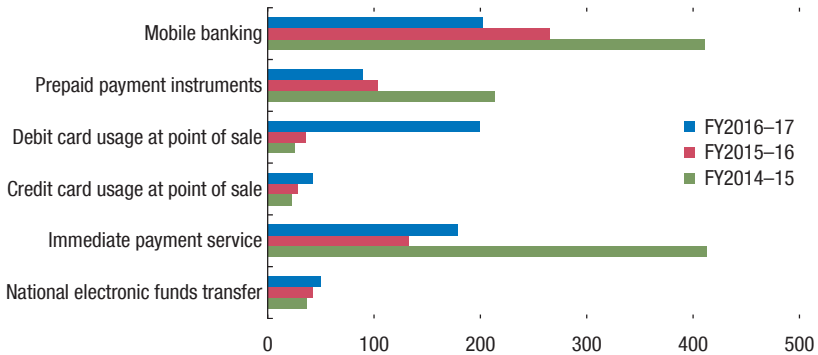
- Continue to hide it, not converting their old notes and thereby suffering a tax rate of 100 percent;
- Launder their black money, paying a cost to do so

The government has been optimistic about getting holders of unaccounted wealth to “come clean.” The Prime Minister’s Welfare of the Poor scheme allowed people to declare cash deposits, of which 50 percent would immediately be taken by the government and the government would withhold a further 25 percent in noninterest-bearing deposits for four years.

Newspaper reports suggested that the government was optimistic that this scheme would net Rs 500 billion to Rs 1,000 billion (15–30 percent of total income tax collection in 2016–17).¹¹ Indeed, according to the government, the scheme has collected only Rs 23 billion (about 0.67 percent of total income tax collection in 2016–17) in additional taxes and surcharges. This suggests that the government’s efforts to encourage people to admit their unaccounted wealth have not generated a good response. Further, the government has announced that it has detected Rs 164 billion in wealth suspected of being unaccounted. Only after investigation and the judicial process will it become clear how much of this is really unaccounted wealth. However, even if this amounts to just about 1.1 percent of the total value of demonetized notes, it raises questions about the efficacy of this method for solving the problem of unaccounted wealth.

¹¹For example, see Moneycontrol: <http://www.moneycontrol.com/news/business/economy/pmgky-flop-why-black-money-holders-dont-mind-taking-on-the-i-t-department-2249931.html>.

Figure 11.4. Electronic Payments, November–March
(Percent, year-over-year)



Source: Reserve Bank of India.

Note: FY = fiscal year.

The Reserve Bank of India's FY2016/17 annual report notes that about 99 percent of the demonetized currency notes have been deposited in the banking system. Thus, it would appear that most holders of unaccounted wealth have been able to find ways to show their unaccounted wealth as legitimate wealth, or perhaps there was not much unaccounted wealth in cash form to begin with. It is possible that the government may be able to take enforcement actions against those who deposited unaccounted cash. However, since tax evaders would have taken the necessary precautions to protect themselves, it would not be easy to generate substantial additional revenue from this source. At this stage, it appears that the demonetization scheme did not make much headway in reducing unaccounted wealth.

Impact on Digitalization

In the wake of demonetization, and the measures to encourage the digital store of value and digital payments that followed, a permanent shift to digital payments would be possible. Government leaders expressed this several times, including in the Economic Survey of February 2017. It is too early to say whether these expectations will be realized in the long term, but trends so far are mixed.

Since the impact was expected after demonetization, we have plotted growth in the November–March period over the corresponding period of the previous year for the past three years. Only for card payments does improvement seem to be significant, for November 2016 to March 2017, compared to corresponding periods in previous years (Figure 11.4). For most of the instruments, the growth rate has been less than what it was in previous years. So, while the steady-state impact of demonetization on digitalization remains to be seen, the information available to date suggests that the signs are not encouraging.

CONSEQUENCES OF BETTING TOO MUCH TOO SOON

As discussed previously, although the government and private sector have taken initiatives to expedite digitalization of the economy, India lags comparable countries on many important parameters. Further, the expected push to digitalization because of demonetization cannot be taken for granted. Even though there may be an improvement in the steady state, it may not turn out to be as large as expected. Still, the central government has launched various initiatives to benefit from digitalization, and it is rapidly launching schemes to integrate digital methods of collecting and transacting information.

India's digitalization initiatives may be categorized into two sets: those that involve direct interaction with citizens, residents, and private organizations, and those that are meant only to improve the government's own internal processes (Table 11.4). Initiatives such as establishment of the National Digital Literacy Mission Scheme fall in the latter set, while the remaining are in the former. The schemes in the former set can be further categorized into those that lead to a mandate for citizens and residents, and those that create a digital option while leaving the nondigital option available.

Table 11.4. Classification of Government Schemes on Digitalization

Who Does the Scheme Deal With?	Is the Digital Method Mandated?	Mandate on Whom?	Examples
Government to person/enterprise	Mandated	Low-income individuals Higher-income individuals and enterprises	Direct benefit transfer E-procurement, submission of information to Financial Intelligence Unit, electronic tax payment, e-filing of taxes, and so on
	Optional	Not applicable	Land record digitalization, community service centers
Government to government	Not applicable	Not applicable	National Digital Literacy Mission

Source: Authors' analysis using information available on initiatives under Digital India.

Most of the e-governance initiatives and digitalization of systems for collecting nontax revenues fall into the category of optional use of digital methods. In the mandated set, there is a case for distinguishing between those that impose the mandate on ordinary citizens and residents and those that impose it on businesses and better-off citizens and residents. In the former set, the biggest initiative is the Direct Benefit Transfer program, which is rapidly integrating government schemes where payments are made to citizens. Mandatory e-procurement, mandatory submission of information to the Financial Intelligence Unit, and electronic payment and filing of taxes are in the latter set.

As long as they are well-implemented, it is hard to argue against technology-based initiatives that improve internal government processes. However, for schemes that concern citizens, residents, and private organizations, close scrutiny is required. Particularly for schemes where ordinary citizens are being mandated to go digital, there is a need to study the unintended consequences and see what can be done

to ensure sound implementation. Some of the potential unintended consequences may include false exclusion of recipients because of infrastructure constraints, compromise of systems because of data integrity and security problems, and mistakes by beneficiaries because of low awareness. The demonetization decision and its consequences also show many unintended consequences of trying to push an ambitious solution quickly through a complex system.

CONCLUSION

India's intensive digitalization seeks to leverage the remarkable increase in access to mobile services of recent years. While digital services are affordable, the country still has a long way to go to achieving universal access, owing to inadequate infrastructure and less-than-universal coverage. With the introduction of Aadhaar, the government has sought to improve the effectiveness of public expenditure, especially transfers. It has also sought to use digitalization to improve tax collection and enforcement. The fiscal policy consequences of these government initiatives are yet to be measured, although the limited research available shows that there have been cost savings in direct benefit transfers.

In 2016, the Government of India made the decision to withdraw the Rs 500 and Rs 1,000 notes in circulation. This event had a momentous impact on both fiscal policy and digitalization. In the short term, the move was expected to have a negative impact on the tax base, principally because demonetization was temporarily expected by nearly all forecasting agencies to reduce economic growth. Although the national accounts statistics show significant deceleration in growth of output, growth in tax collections has not decelerated. This may be because of additional revenue mobilization measures and enhanced enforcement efforts during the year. So, even though growth in tax collection may have remained stable, the underlying economic activity has decelerated.

The impact of demonetization was expected to be significant on the informal sector, but this would, at best, have had a small impact on revenue. The informal sector does not contribute much to corporate taxes, and the impact would therefore be on consumption taxes, due to a loss of output and, therefore, lower disposable income among those employed in this sector. Since the demonetization, growth in bank credit has significantly decelerated. The impact on unaccounted income also appears to be small.

Although demonetization was expected to result in a permanent shift to digital payments, it is too early to say whether this has been realized, as the data show considerable volatility. It is becoming increasingly clear that for most payment instruments, demonetization did not have a positive impact.

Mandating use of digital methods has many benefits, but the pace at which these initiatives are being implemented poses risks. For example, given the digital divide in India, it is possible that there may be exclusion errors in the new system, especially when money is being transferred to a citizen or resident. Several anecdotal media reports note how expeditious implementation of the Direct Benefit

Transfer program has led to exclusions.¹² Further, because protections against privacy breaches are weak in India, forcing so many citizens and residents to digitize their personal information and finances may have unintended negative consequences. Similarly, if there is fraud or other crimes, the weaknesses of redress and adjudication systems may lead to denial of relief for citizens and residents.

Given that India still has a long way to go before achieving a satisfactory level of digitalization of its economy, and the weaknesses in its implementation of digitalization measures, a different and more gradual approach may be better. If the government indeed wants to make use of digitalization for salutary fiscal consequences while avoiding the risks of false exclusions and other inequitable consequences, it should make or encourage investments in better infrastructure so that the digital divide can be minimized. Further, it should put in place a comprehensive consumer protection framework, including privacy protections, and develop systems of redress, enforcement, and adjudication that make the digital experience of users more secure.

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¹²See, for example, HBX (2016).

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