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Will India's Currency Exchange Work as Hoped?

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The government of India announced on November 8, 2016 that its 500 and 1,000 rupee notes would cease to be legal tender by the end of the year. They must be redeemed or will be rendered null. India's ambitious exchange of currency notes is novel. Very few other countries have repudiated the value of over 85% of outstanding currency. The primary aim is eliminating the stocks of cash held as "black money" to make payments in the informal economy, to avoid taxes, or to fund illicit activity. It may diminish the use of cash in the future, whether for legitimate or black money-linked activity. It could also impact the money supply, interest rates, financial inclusion and government finances. This brief attempts to gauge the magnitude and breadth of impact of this major policy move.

The issue of India's black money brings to mind the garlands of rupee notes presented to Kumari Mayawati on her birthday when she was chief minister of the state of Uttar Pradesh. Untraceable, black money notoriously funds political campaigns and facilitates tax evasion—notably stamp duties in real estate—as well as, of course, explicitly illegal activity.

Nobody really knows the amount of black money in India. Various guesses put it at a fifth to a third of the Rs17 trillion currency in circulation (about US\$250 billion). On top of true black money, counterfeit currency plays a largely similar role and is a widely acknowledged problem. Various formal estimates exist on the amount of counterfeit currency in India, ranging from four to 0.004 counterfeit

pieces per thousand bills in circulation.¹ Much higher unofficial estimates circulate in New Delhi among law enforcement officials.

DETAILS OF THE EXCHANGE

The exchange is designed to work by making it easy to exchange old cash into bank deposits, but hard to exchange it into new cash. The new program declared India's two highest-denomination bills, 500 and 1000 rupee notes (worth about US\$7.50 and US\$15, respectively), valueless as of December 30, 2016. The old notes can be exchanged for new notes, but in a highly restricted mechanism.

First, a straight exchange of old-for-new notes is only available up to Rs4,000 (about US\$60) per transaction for the first two weeks. Unlimited amounts of old notes can be deposited in bank accounts, but withdrawals are limited to Rs50,000 (about US\$750) per week for the first two weeks. ATM withdrawals are limited to Rs2,500 per day for one week, and Rs4,000 per day thereafter.

However, the program does not restrict non-cash payment methods. The hope is that bank deposits will rise and many will use checks, debit cards, mobile wallets, and electronic cash transfers for the first time.

Importantly, amounts deposited above the income tax threshold of Rs250,000 (about US\$4,000) will be reported to tax authorities. Such deposits will be subject to tax due plus a 200% penalty rate, so triple the original tax rate. India's highest tax rate is 30% for income above Rs1,000,000



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(about US\$15,000)—so deposits above that amount face an effective tax of 90%.

Workarounds to the restrictions and tax penalties will be found, and a few are obvious. It appears the straight old-for-new exchange does not require a bank account at the bank doing the exchanging. At Rs4,000 the limit binds tightly, but presumably trips to multiple banks (and reportedly long waits in line) could accomplish small amounts of black money exchange.² One could also hold out, hoping the exchange limits will be loosened before the December 30 deadline.

More promising would be a strategy of “structuring,” making bank deposits across multiple bank accounts in amounts smaller than what generates a report to tax authorities. Banks are responsible to report structuring to the Financial Intelligence Unit, but they mostly look for structuring within an individual account. It is common among money launderers to control multiple accounts, often opened in the names of low-income employees. Once withdrawal limits are lifted the money can return to cash.

Finally, other standard methods of money laundering provide workarounds. Buying an asset that holds its value from a legitimate business allows the cash-holder to dump cash. Since the seller is legitimate, the seller can deposit the cash into its own bank account with no problem. Buying financial assets may not work because of the requirement to identify purchasers, but nonfinancial assets like gold, land, or non-perishable commodities should prove adequate as long as the transaction is completed by December 30.³

IMPACT ON BLACK MONEY

Black money stocks will certainly fall, but the drop will depend on the ability to work around the exchange. Presumably very little of the counterfeit notes will be exchanged, so that entire stock of illicit finance should disappear. To the extent that black economy participants allow their legitimate old currency to expire, it will make illicit activities harder and riskier to undertake.

However, the impact may be a one-off hit to black money, with stocks returning in the near future. Once restrictions on withdrawing cash are lifted, the cash-based economy—legal and illegal—will resume unless there is a major increase in going cashless. Resumption of cash-based activity will allow legal and illegal stocks to regrow.

It is unlikely demonetization will have any deterrent effect on holding black money in the future. The inconvenience inflicted on the general public is already generating anger, forcing the government to relax some of the restrictions. This is why it has been 38 years since India's last, much more modest, attempt at demonetization. There should be no expectation that it will be repeated soon.

IMPACT ON THE FINANCIAL SYSTEM

Bank deposits will undoubtedly grow in the near term, as the exchange encourages deposits and limits withdrawals. To the extent that the populace keeps their money in banks or other financial instruments, this will facilitate financial inclusion and the monetization of India's savings. Many people, constrained by withdrawal limits, will try bank-based payment methods for the first time. As Ajay Shah of the National Institute for Fiscal Policy and Planning notes, India has the highest ratio of cash/GDP in the world.⁴ Lots of little businesses and some larger ones will not have the financial depth to survive even a two-month period without cash. Many will be forced to adopt cashless payment methods, but many will also go bust—whether they go cashless or not.

It is unclear how much of the use of formal financial services will stick. For instance, banks are unlikely to make a good impression when flooded with unwilling new customers. The sudden demonetization of such a large share of currency has created long waits in line for bank services, shortages of cash, and extra hassles related to filling out new forms and following other compliance measures. And then the restrictions on withdrawals mean they cannot necessarily get their money back

when they need it. Even if some adoption of cashless methods sticks, it is likely a good share of the new deposits will be withdrawn as soon as the limits are relaxed.

Naturally, there will be monetary policy effects as well. A bit of explanation is needed to understand what might happen. The central bank controls “base money”—cash plus reserves held by banks—but the aggregate money supply used by the economy is much larger. Banks perform the magnification of the money supply by accepting deposits and lending the money back out, a process summarized by the “money multiplier.”⁵

By shifting the cash–deposit ratio dramatically in favor of deposits—even if temporarily—the money multiplier will rise. This would ordinarily cause the aggregate money supply to rise and interest rates to drop, but many other things are changing at the same time. Base money will fall as some cash is nullified. In addition, the disruption of the cash–based economy entails a fall in economic activity that, ironically, reduces demand for money. (The little fruit seller may be desperate for cash today, but if she goes out of business, her money demand disappears.)

The Reserve Bank of India (RBI) can respond by managing base money. Indeed, it is reportedly struggling to distribute new notes to replace the nullified ones.⁶ But actively managing short–term interest rates for the purpose of hitting its inflation target remains a high priority for the RBI. If demonetization begins to move interest rates, it seems unlikely the RBI would not respond by adjusting the money supply and limiting any impact on interest rates.

IMPACT ON GOVERNMENT FINANCES

Some have estimated a sizeable windfall gain for government finances from the exchange.⁷ This could come from two channels. First, black money may be deposited and triple taxed. Second, if never exchanged or deposited, at the end of the year the demonetized notes will no longer count as liabilities on the RBI balance sheet.⁸

Assets held against these liabilities by the RBI can then be sold. Indeed, selling assets (e.g. selling bonds in the open market) is one primary method of reducing the money supply, so it provides a natural way to manage the rising money multiplier. The RBI could then return the proceeds to the government as a dividend.

The impact again depends on how successful the workarounds to the exchange function in practice. Presumably very few large deposits of black money will occur. It is more prudent to avoid scrutiny and lose 100% than to risk investigation and still lose 90%. It becomes a 100% gain for the government if the money never gets deposited. But the bonanza shrinks to the extent that the old cash is laundered.

Soumya Kanti Ghosh, chief economist at State Bank of India, noted that during the 1978 demonetization, about 25% of the cash in circulation did not come back into the system. At that time banks were not so customer–oriented, and the tax penalties and withdrawal limits differed. Between taxes and money that disappears, 20–25% of the money stock may become a fiscal windfall for the government this time.

Seignorage revenue may also be impacted. Money supply growth is equivalent to revenue for the government, because it gets something for essentially nothing (the printing cost of notes). Money supply growth has constituted about 18% of government revenue on average since 2007, though not all of that is returned to the government by the RBI.⁹ Going with the high estimate that one–third of money demand comes from the black economy, about 6% of government revenue can be attributed to growth of the black economy.

This will not be lost due to the exchange; indeed it may grow. Seignorage comes not from the stock of black money, but from its growth. Since black money stocks will drop, the need to replenish them will add to further money demand. For each new rupee the RBI issues after the exchange, more will be hoarded and less deposited than usual. Seignorage revenue should grow in the near term.

The key factor for impact on the black economy will be the degree of workarounds available. If money is not held as cash, or if it proves easy to launder cash, the benefits will be small.

CONCLUSION

Policies should be judged on a cost-benefit framework. Undoubtedly, given the Indian economy's extraordinary reliance on cash today, the cost will be high. The government acknowledges this. The exchange plan will also be regressive, as the poor are much less likely to already have access to cashless payment mechanisms. They may have debit cards because of the major rollout of bank accounts the last two years, but they have fewer places to swipe them. Fourth-quarter GDP statistics released around February 2017 will give a sense of the short-term pain imposed.

The size of the benefit will also be seen soon. By February the amounts exchanged (and by residual, the amount not exchanged) and the rise in bank deposits will also be known. Uttar Pradesh and Punjab, two notoriously corrupt states, will both hold elections in January 2017. The impacts of the exchange plan on campaign financing should be observable, if not precisely measured. The RBI will announce its dividend to the government in June, and by then we will also have a good sense of whether customers stick with their new financial services.

The key factor for impact on the black economy will be the degree of workarounds available. If money is not held as cash, or if it proves easy to launder cash, the benefits will be small. And at best it is a one-off benefit.

The government has taken a big risk by enacting an aggressive policy with a strong chance of a high cost-benefit ratio. Prime Minister Narendra Modi has already beseeched Indians to stick with his measure for the full 50 days.¹⁰ He had previously held a reputation for not taking bold steps. He may come to regret the change in strategy.

ENDNOTES

1. An interagency intelligence white paper reportedly estimated 4/1,000. See <http://www.livemint.com/Home-Page/9NSxNFvWkjsNYOfmkHeCWM/Govt-report-says-4-in-every-1000-notes-are-fake.html>. A study by the Indian Statistical Institute, Kolkata reportedly estimated 0.25 per 1,000. See <http://economictimes.indiatimes.com/news/politics-and-nation/fake-notes-worth-rs-400-crores-in-circulation-study/articleshow/52218833.cms>. And the RBI estimates 0.007 per 1,000. See <https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/3WPSN190313.pdf>.

2. Ellen Barry and Suhasini Rajnov, "Crowds Line Up at India's Banks to Exchange Banned Rupee Notes," *New York Times*, November 10, 2016, http://www.nytimes.com/2016/11/11/world/asia/india-rupee-ban-narendra-modi.html?_r=1.

3. Devesh K. Pandey, "Are demonetised notes striking gold?" *The Hindu*, November 15, 2016, <http://www.thehindu.com/news/national/are-demonetised-notes-striking-gold/article9345948.ece?>.

4. Ajay Shah, "A monetary economics view of the demonetisation," *Business Standard*, November 13, 2016, http://www.business-standard.com/article/opinion/ajay-shah-a-monetary-economics-view-of-the-demonetisation-116111300767_1.html.

5. The money multiplier is defined as $(1+cr)/(cr+rr)$, where cr is the cash-deposit ratio and rr is the reserve ratio. Since reserve ratios are always less than 1, a fall in cr causes the money multiplier to rise.

6. "Remonetise, fast: Government must import currency notes to avoid an economic shock," *Business Standard*, November 14, 2016, http://www.business-standard.com/article/opinion/remonetise-fast-116111401570_1.html, subscription required.

7. Rajhkumar K. Shaaw and Jeanette Rodrigues, "Modi May Reap \$45 Billion Budget Gain on Anti-Graft Cash Ban," *Bloomberg*, November 9, 2016, <http://www.bloombergquint.com/business/2016/11/09/modi-cash-ban-to-boost-india-budget-by-three-times-iceland-s-gdp>.

8. This does not apply to counterfeit notes that clearly do not appear on the RBI balance sheet.

9. The RBI has paid a dividend to the government of about 5.5% of revenue since 2007.

10. Harsha Raj Gatty and T.A. Johnson, "PM Modi on demonetisation: Bear pain for 50 days, then punish me," *The Indian Express*, November 14, 2016, <http://indianexpress.com/article/india/india-news-india/demonetisation-of-rs-500-rs-1000-notes-pm-modi-bear-pain-for-50-days-then-punish-me-4373933/>.

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