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# MOVING TOWARDS “CASHLESSNESS” IN AN EMERGING ECONOMY: A CASE STUDY OF LATEST POLICY STEPS IN INDIA<sup>1</sup>

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## **ABSTRACT**

*On November 08, 2016, India took a decisive step towards going “cashless” by suddenly announcing withdrawal of its existing currency notes of two highest denominations, namely, the Rs. 500/= and the Rs. 1000/=. The move, announced with a suddenness that took the entire nation by surprise, had at its root the purpose of countering the threefold menaces of rampant corruption, counterfeit money and cross-border and internal terror funding. It has generated widespread controversy, the main criticism being that while the policy intent was sound, the execution plan was rather unsound. With one of the highest cash-GDP ratio in the world (close to 11%), India was revealed by RBI (Reserve Bank of India) data as having a staggering share of nearly 86% held in Rs.500/= and 1,000/= notes in the currency stock in circulation (end of FY 2014-15). The cost of “retiring” this volume of currency was therefore, going to be enormous which, as economists like former World Bank Chief Kaushik Basu (Basu 2016) emphasize, could far exceed the gains.*

*In view of the intriguing developments overtaking the Indian economy since the date of submission of the initial abstract, problems that subsequently emerged as considerably more pressing and pertinent have been treated in greater detail in this study. Consequently, the approach and methodology has been substantially modified, although of course retaining the original motivation.*

*With its laudable objectives of striking at the cash-corruption link, India saw, within the first four days of the announcement of demonetization, a staggering surge in bank deposits exceeding USD 52 billion, leading to high hopes of trapping unaccounted or illegal money through this route, a hope that was unfortunately to be belied. Given the enormous problem of Non-Performing Assets plaguing Indian Banks, we have also paid special attention to this potential vast source of unaccounted money in some detail. Next, an overview of India’s vast informal sector has been given, and the guidelines by Schneider and Williams (2013) and Schneider and Buehn (2008) have been used in an attempt to estimate the shadow economy in India using cointegration in a MIMIC framework. Finally, not only did India’s decision to demonetize have enormous economic or financial implications, but it also has had huge social and political ramifications that must be recognized.*

**JEL Classification:** E26, E42, E58, E65, G00, O17

**Keywords:** India, Demonetization, Cashlessness, Informal Sector, Shadow Economy

## **Introduction**

While the world was sitting up in stunned wonder at Donald Trump’s emphatic and complete victory in the US Presidential elections, a “revolution” of an entirely different sort was taking place on the other side of the hemisphere in India, arguably the world’s largest democracy. For those who had

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argued that India's recent demonetization was not only a highly risky economic measure but a step loaded with enormous political fallouts waiting to become manifest—the wait is almost over.

Having stunned the entire nation and close “India-Watchers” by his out-of-the blue announcement of demonetization at midnight November 8<sup>th</sup> 2016, the Indian Prime Minister could have hardly timed his announcement better. On one side was the mindboggling scale of betting and hawala operators waiting to jump into the fray and strike gold on the eve of the US Presidential Elections with its entirely unpredictable fierce contest, a boon to the jackpot-hitters. Overnight, existing Indian currency notes of Rs. 500/= and the Rs. 1000/= became illegal tender, leaving speculators and dealers in massive cash amounts with little more than incriminating pieces of useless paper in hand!

Closer home, on a much modest scale, but something on which the Prime Minister's very political survival would depend, vastly huge sums had been making the rounds in the impending State Assembly Elections in selected Indian states. We are talking here of five among the 29 individual states in the Indian Federal Union framework, with each holding its own State-level Parliamentary Elections in the multi-Party democratic system of the Indian democracy. This is in addition to the quinquennial General Lok Sabha Elections at the Centre that India holds every five years. During the last General Election in 2014, the Bharatiya Janata Party (BJP) led alliance, under Narendra Modi, had come to power with a more than two-thirds majority.

In the just concluded Assembly Elections in the five Indian states whose results were announced on 11<sup>th</sup> March, 2017—the mandate could not have been clearer. The ruling party at the Centre (Prime Minister Modi's BJP) was handed a resounding win in Uttar Pradesh, one of India's largest states which acts typically as the trend-setter for the whole country, followed by a similar near wipe-out for the Congress Government in Uttarakhand—another major state. In two other states, viz. Goa and Manipur—BJP came to power forming alliances with regional parties, while in Punjab they lost the election to Congress, mainly due to the incumbency factor. Given the profile of the average masses that make up the vast body of the electorate in the Indian democracy-- one feature has been made clear by these results – the BJP has emphatically emerged as the Party that identifies itself with the poor and the downtrodden, at the expense of the “corrupt Rich”—and it has been dramatically successful in convincing the average electorate that it “means business” when talking of rooting out corruption, ill-gotten wealth and unjust inequalities. A second-term win and an emphatic comeback in the 2019 General Elections seems, at this point of time, almost a certainty for the BJP in the face of weak, rudderless and divided Oppositions.

The above, obviously, is the *pragmatics* of the political dividend that India's demonetization exercise has yielded its architects. It remains for us to look at some of the economics of the measure-- weighing out some empirical evidence to understand precisely what demonetization has entailed for India's economy.

India's demonetization came at a time when the government had been faced with a number of imperatives. There was, first, the urgency of countering the threefold menace of rampant corruption, counterfeit money and cross-border and internal terror funding that had been assuming alarming proportions day by day. Flagrant tax evasion by the Indian rich as well as big businesses and the size of the black and illegal economy was becoming an enduring scourge.

There was, in addition, the need to introduce India's large informal and non-monetized sector to the purview of banking and enhance the revenue-constrained government's access to resources. The move, announced with unprecedented suddenness, has generated widespread controversy ranging from vociferous support to strident criticisms. With one of the highest cash-GDP ratio in the world (close to 11%), India was revealed by RBI (Reserve Bank of India) data as having a staggering share of 39% held in Rs.1,000 notes in the currency stock in circulation (end of FY 2014-15), while Rs.500 notes accounted for a further 45% of currency stock. The cost of “retiring” this volume of currency

was, therefore, going to be enormous. Would the gains ultimately justify such huge costs? Since the time the original abstract for our study had been submitted, I have been compelled to rethink much of the study at hand. With a considerable number of intriguing and urgent developments having overtaken the Indian economy ever since, the focus of this study had to be substantially modified and updated to reflect the urgencies of reality and preserve the immediate relevance of this paper. Accordingly, while the original conception has been retained, we felt it necessary to bring a shift in the main themes addressed.

The present paper is structured around six basic sub-themes. Section I notes in brief the pro-s and cons of going “Cashless” or “Going with Cash” in a global economy that has passed through the travails of the financial crisis. In Section II we explore India’s recent experiences with “demonetization” till date. We also note the serious obstacles such measures face against corruption given the well-known Indian penchant for holding the bulk of unaccounted wealth in jewelry, real estate and above all, stashed away in tax havens. Next, given the severe problem of NPAs and huge unaccounted money plaguing the Indian Banking Sector, we take a detour in Section III to examine this problem in some depth. Section IV introduces the vast extent of informal sector in India, presenting some detailed data and problems, while Section V presents a very much concise analysis of India’s shadow economy. Section VI concludes.

## **India: An Overview**

India has emerged in its globalized avatar among one of the powerful economies in the emerging world. After sluggish growth under a strongly socially-oriented development philosophy and a plethora of regulations cynically termed “license-permit Raj”, India’s reforms programs were spearheaded in 1990-91 after an unprecedented crisis in both domestic and external balances and an abysmally sliding credibility in the global creditors’ eyes, crises which were reversed after some concerted efforts at short-term macroeconomic stabilization and structural reforms over the medium and longer-term.

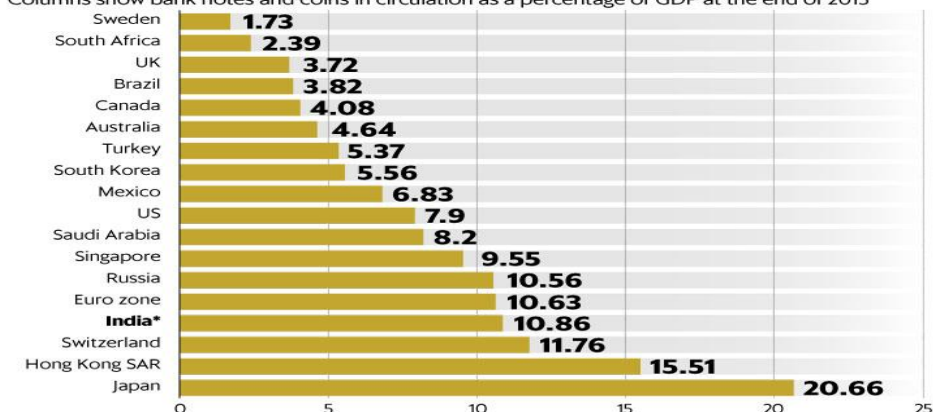
It is India’s relative conservatism rather than going the “whole hog”, an aura zealously guarded by Indian monetary authorities in particular, that to a great extent saved the economy from the upheaval of the financial crisis that peaked in 2008 and is still playing out in some cases in a long drawn-out aftermath. India has stood relatively resilient by dint of this very conservatism that has often, in the past, drawn flak from ardent neoliberals.

Nevertheless, from records of governance that leave much to be desired, to the State’s failure to guarantee, even today, the basic minimum standard of living with dignity to the poorest with the contrasting lifestyles of the super-rich, one could indeed say that the Indian State has failed its masses in many ways. In spite of being a serious contender for emerging with the largest GDP in the coming 15 years (WEO 2016), India is truly a surprising study in contrasts. Ironically enough, the fact of India’s being a democracy has often been interpreted as having put the country into shackles with little possibility of pursuing ruthless growth, and the country’s being contrasted, to its own disadvantage, to economies like China.

Figure 1 below presents a brief overview of certain features of India’s cash use pattern and banking scenario. In the first place, India’s cash-GDP ratio, nearing 11% in 2015-16, is one among the highest in the world. Surprisingly, though, Switzerland is revealed as having an even higher ratio, with Japan leading the list with close to 21%.

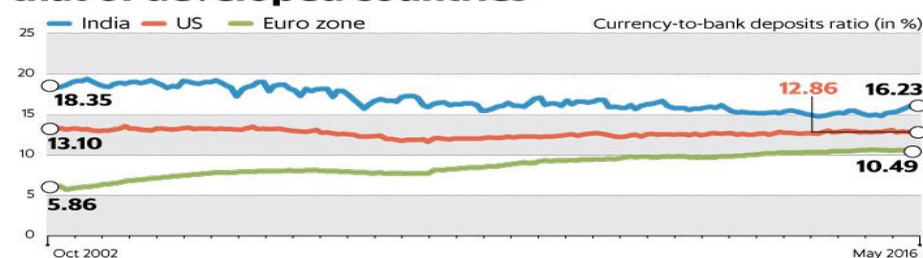
**Figure 1: Cash Use in India: A Brief Impression**  
**India has a high cash-to-GDP ratio**

Columns show bank notes and coins in circulation as a percentage of GDP at the end of 2015

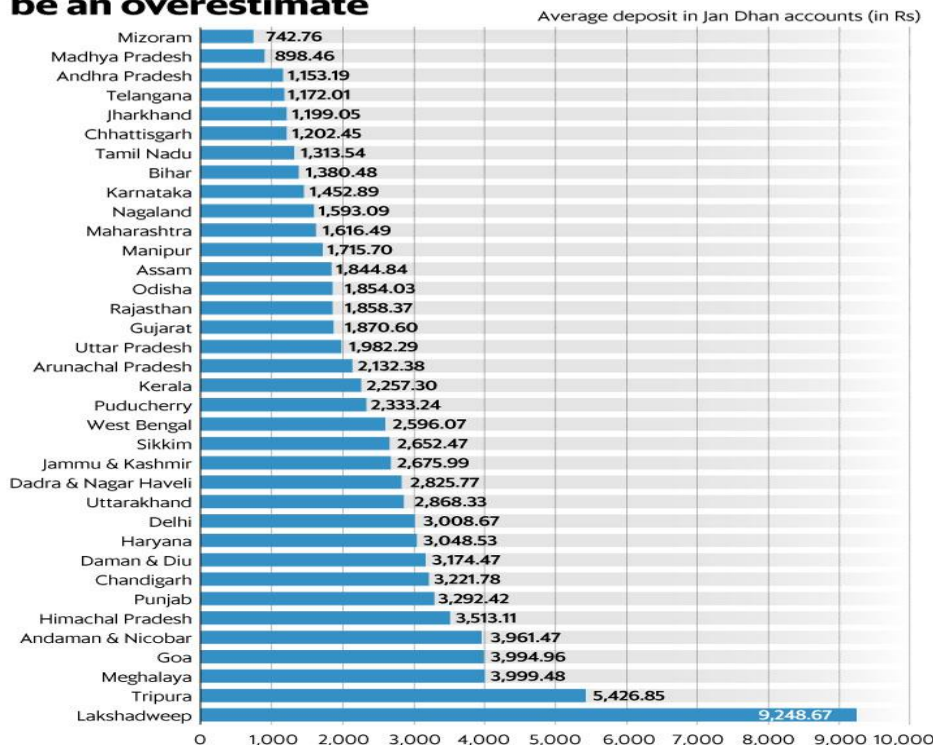


\* India data is for 2015-16

**India's cash-deposit ratio is much higher than that of developed countries**



**Access to banking services might be an overestimate**



GRAPHICS BY SANTOSH SHARMA/MINT

Source: Pradhan Mantri Jan Dhan Yojana website

Against such a backdrop, the demonetization drive announced by Indian Prime Minister Modi on Nov 8<sup>th</sup> 2016 meant that overnight, currency notes of Indian Rupees 500/= and 1000/= became illegal tender scrapped and to be deposited by the public with banks within 31<sup>st</sup> December 2016. Stringent upper limits were put on cash transactions, withdrawal facilities from ATMs, and PAN was made mandatory in transactions exceeding a specified limit. The interconnected issues of the country's "black economy", and India's large non-monetized shadow and informal economy are all entities that were the avowed targets of India's policy of demonetization and reform of the monetary system.

## I

### Going "Cashless" or "Going with Cash"? Concerns in a post-Crisis World

In a post-financial crisis world, increased financial complexity is closely tied up with compounded uncertainty and increased need for cash. All over the globe, for a considerable time now, the debate has become intense as to whether to "go cashless" in all economic transactions. Increasingly sophisticated financial instruments, coupled with the perception that cash transactions are invariably associated with rampant and difficult-to-detect corruption, has for a long time strengthened the move towards cashlessness-- cash payments, in any post-industrial economy, being deemed "merely a barbarous relic of the past" (Beretta 2014), with many advanced European countries taking the lead. The events of 2008, however, went a long way to underscore the total collapse of confidence on entire banking and financial systems that such crises could generate. If common people lost the very foundations of trust on banking and complex financial arrangements—then cash would indeed emerge as the last resort of confidence in monetary transactions. What would then happen to "going cashless"?

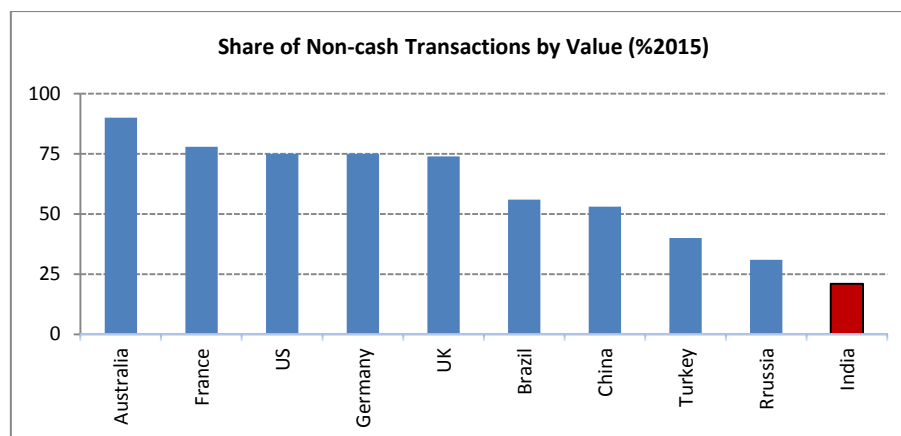
This total breakdown of confidence in what was today's most "sophisticated" financial system that had dispensed with lowly cash to oil the wheels of its smooth machinery, has been elegantly put, among others, by Negueruela (2014). ... "The crisis of values was also, and in some cases especially, a crisis of confidence. The crisis of 2008 was a classic example of "anything's possible", "anything goes", and "the sky's the limit". The disbelief, amazement and paralysis witnessed at the various peaks of the crisis reflected complete powerlessness, impotence in the face of the unexpected, the unforeseeable, and the impossible. At the source of this process was the crisis of moral values, the breakdown of the basic principles of honesty and professional ethics, (...) the focus on the quick buck, (...) the creative accounting where the new products invented by a financial market in turmoil (options, futures, puts, calls, derivatives, intangibles) came to be worth more than productive assets, business organization, know-how and experience, market share and brand recognition. And in the face of it all, analysts, economists and experts with no answers, ridden with hang-ups and doubts, who surrendered to the market, to bonuses and rates of return, letting market forces wash over them to reach all corners of the globe," Negueruela (2014, pp. 5).

In the face of such issues, the world has no simple, direct answers. While "Going cashless" would appear the norm in the current global scenario, there are undisputed advantages of holding cash even in today's globalized and complex world. "Going cashless", it is true, can only succeed when there is sufficient confidence and security safeguards in the financial system to ensure customer financial security.

Nevertheless, disadvantages of excessive dependence on cash have become apparent in a world beset with terrifying and unprecedented levels of global and internal terror-funding and counterfeiting of currency involving vast amounts. The disadvantages of cash have been variously discussed in numerous contexts. Transactions in cash leave no trace, encouraging flagrant corruption and entire parallel universes where "Cash is King", usually pertaining to large-scale illegal and underground activities. Arguments or problems that are specific to the developed West do not, however, always

apply lock stock and barrel to the conditions of developing and transition economies—an issue that we subsequently encounter in the context of the informal economy in such countries.

**Figure 2: Non-Cash Transactions (% of Total Transactions)**



*Source Courtesy: Economic Times and Boston Consulting Group (2016)*

As Figure 2 reveals, India's share of non-cash transactions as a percentage of total value of transactions was among the lowest, at a level of 22%, in 2015. This is, in fact, lowest even among the BRIC countries. Obviously it is some of the disadvantages of cash discussed above that had prompted India's steps towards demonetization last November. In what follows, we discuss India's actual experiments with demonetization stressing on the economics and the arithmetic of the step.

## II

### **India's "Demonetization": Experiences Till Date Not India's First Demonetization**

As the research note by Lahiri (NIPFP 2016) puts: "Interestingly, even during the two previous episodes of demonetization of high value notes over INR 100 in India, on January 12, 1946 and on January 16, 1978, the express objective of the exercise was containing black marketing or black money. (...) In 1978, the High Denomination Bank Notes (Demonetization) Act, 1978, which followed the Ordinance by the same name on January 16, 1978 demonetizing INR 1,000, INR 5,000 and INR 10,000 notes, also stated that the action was needed because such high denomination bank notes facilitate "...the illicit transfer of money for financing transactions which are harmful to the national economy or which are for illegal purposes."" (Lahiri 2016 p 2).

### **Demonetization: Currency Scrap and the Fallout**

A necessary reminder first of all. The humble monetary numbers with which we are going to deal now, are to be seen in the context of an economy with a per capita GDP of 5730/= (PPP constant 2011 international \$), a tax-paying population of 12.5 million individuals, just about 1% of the 1.23 billion population of India in 2013, and with a World Bank (2011) estimate of 23.6%, or about 276 million Indian people living below \$1.25 per day on purchasing power parity basis. These essential truths would help us retain some perspective of the overall scenario.

One should not forget here the large-scale painful experience that the initial days and weeks of demonetization proved for the common man, taking the nation by utter surprise as the measure did. Data has already shown that India is a remarkably cash-use intensive economy—so that overnight, the common citizen was left, minus any forewarning, without the money necessary for hospitalization, paying for medicines, grocery, essential daily items and nearly every other conceivable necessities of life. In the rural sector which houses 70% of India's people and whose livelihood depends on growing the produce that the rest of India consumes, selling to the Marketers and the middlemen became near impossible without cash to be paid, the daily wage earning laborers suddenly found themselves without any work at hand, for the same reason that suddenly there was no money to pay their wages.

The problem, of course, lies with the huge informal economy structure running entirely on cash which is part and parcel of India's daily life. Extremely small digitization of payment transactions in selected pockets only of the economy, coupled with the fact of Indians' long-ingrained habits of cash transactions unfortunately combined to create unmitigated sufferings for the huge Indian masses, whose only hope and sustenance, indeed, was the thought that this move was all for the ultimate greater good, "to teach the corrupt rich a lesson".

So where has demonetization with its attendant steps left us? The ultimate long-run effects of the step are yet to become clear in the absence of the reliable and complete data. We present below a brief data-based overview of the demonetization and its aftermath as it played out in India starting from November 2016 to the beginning of March 2017.

### **Steps Taken By the RBI and the Government during Demonetisation: A Chronological Overview:**

On November 8, 2016, the Reserve Bank of India with concurrence of the government had initiated measures for demonetisation, aimed at cracking down on black money and the shadow economy. However, the unpreparedness for such a massive exercise became too apparent with the unfolding series of ad-hoc measures and notifications continually being announced in quick succession over the subsequent months, tantamount to a ship constantly trying to correct course on a rough sea, primarily to plug loopholes in the process and also with intentions to ease the pain on the "Common Man" from the measures undertaken.

The flurry of directives from RBI, set in chronological order and appended below, indicates the dilemma and ad-hocism that continued for the 3-4 months period, subsequent to the announcement by the PM.

- November 8:       The PM goes on air at 20:00 hours announcing that currency notes of Rs. 500/= and 1,000/= cease to be instruments of legal tender, effective from mid-night the same day, i.e., just 4 hours away.
- The detailed notification further clarified that
- i)       the banned currency notes must be tendered into banks, RBI by December 30, 2016
  - ii)      Old bills could be exchanged over-the-counter at banks up to Rs. 4,000 (US \$60/=).
  - iii)     Cash withdrawals allowed from bank accounts at Rs. 10,000 (US \$ 149/=) per day till November 24, 2016
  - iv)      Cash withdrawals from bank accounts up to Rs. 20,000 (US \$ 299/=) per



- week till November 24; 2016
- v) Cash withdrawals from ATMs up to Rs. 2,000 (US \$ 30/=) per day per card till November 18, 2016
- vi) Cash withdrawals from ATMs up to Rs. 4,000 (US \$ 60/=) per day per card from November 19, 2016
- vii) Payments in old notes allowed for petrol, train tickets, hospital and other emergency services for limited period.

To be only fair, the timing perhaps could not have been better – the world, including the illegal betting market was in preparation for the Trump-Clinton battle to ensue in the next 8 hours. In India, all the political parties were in preparation for the ensuing state elections, where availability of liquid cash plays a big role.

The mixed reaction in the streets was palpable. While for a small section of the population the panic was pretty apparent indeed for the most obvious reasons, a large section of the middle class and the poor seemed to have welcomed the move, although the hardships and extreme inconveniences these common public would have to endure through the subsequent steps became apparent only much later. Meanwhile, the opposition political parties took the event as a great opportunity and went tong and hammer against the government.

- November 9: All banks and ATMs announced closed. In reality, a number of ATMs continued to be closed for days.
- November 11: Deadline for payments in old currency notes for petrol and other emergency services extended for limited period.
- November 13: New notifications
  - i) Cap on weekly cash withdrawals from banks raised to Rs. 24,000 (US \$ 358) from the earlier level of Rs. 20,000 (USD 299/=).
  - ii) Daily withdrawal limit cap of Rs. 10,000 removed
  - iii) Limit for over-the-counter exchange of old bills at banks raised to Rs. 4,500 (US \$ 67/=) from Rs. 4,000:
  - iv) Waiver of ATM fees for all transactions by savings bank customers till December 30, 2016
  - v) Withdrawal limits raised at recalibrated ATMs to Rs. 2,500 (US \$ 37) /day from Rs. 2,000.
- November 14: Deadline for payments in old notes including for petrol extended yet again for limited time
- November 15: Banks instructed to use indelible ink on finger to ensure people change cash only once. However, this could not be implemented due to objections from the Election Commission
- November 17: New notifications:
  - i) Farmers allowed to withdraw up to Rs. 25,000 (US \$ 373) a week against the crop loans
  - ii) Time limit for farmer to pay crop insurance premiums extended by 14 days
  - iii) Over-the-counter exchange of old bills at banks limited to 2,000 rupees from 4,500
- November 18: Cash withdrawal limit at card swiping machines set at Rs. 2,000 per day
- November 21: New notifications:

- i) Farmers allowed to withdraw up to Rs. 25,000 a week from their loan, deposit accounts
  - ii) Farmers would also be able to purchase seeds from state-run outlets with old Rs. 500 notes
  - iii) Small borrowers allowed 60 more days before loans of up to Rs. 10 million (USD 0.15 mn) were marked substandard
  - iv) Cash withdrawal to meet wedding-related expenses allowed up to Rs. 250,000 (US \$3730/=).
- November 22: New notifications
  - i) Monthly limits on transactions via PPIs raised to Rs. 20,000 for 10,000 till December 30, 2016
  - ii) Transfer up to Rs. 50,000 (USD 746/=) from PPIs to banks allowed till December 30
  - iii) RBI asks state-run NABARD to disburse up to Rs. 230 billion (USD 3.4 mn) for crop loans
- November 23: Government announced offer of Rs. 210 billion (USD 3.13 mn) in farm credit to farmers
- November 24: New notifications:
  - i) Exchange of old currency notes at bank counters stopped, only deposits allowed.
  - ii) Payments in old 500 rupees notes allowed at tolls, hospitals for limited time
  - iii) Government to ensure adequate cash supply for pensioners, armed forces personnel:
- November 25: New notifications:
  - i) Old currency notes could be exchanged at RBI branches
  - ii) Basket of securities expanded so that it could be accepted for collateral under money market ops.
  - iii) Tourists allowed to exchange foreign currency worth up to Rs. 5,000 (USD 75/=) per week till December 15, 2016
- November 26: RBI orders banks to place 100 per cent of deposits between September-November under cash reserve ratio
- November 28: New notification:
  - i) Tax amnesty scheme for unreported cash announced. Penalty charges would be 50% in taxes, surcharges. Also quarter of total sum should be parked in non-interest bearing deposit for 4 years period.
  - ii) Withdrawals above Rs. 24,000 weekly limit of deposits made in legal tender allowed.
- November 30: New notification
  - i) Banks allowed to use all cash to meet hiked cash reserve requirement ratio
  - ii) Monthly withdrawal rules from "Jan Dhan" accounts for poor made more stringent
- December 1: Petrol stations, airline ticket counters stopped accepting old 500 notes, although initially it had been decided to continue till December 31, 2016.
- December 2: Government raises limit for market stabilisation bonds to 6 trillion rupees to absorb extra liquidity

December 7: India withdraws temporary order for banks to place deposits under cash reserve ratio

Dec. - Jan. 2017: All restrictions on cash withdrawal from banks / ATMs withdrawn

While the government is still in the process of evaluating the amounts that were deposited with Banks after the note ban, initial estimates put the unaccounted (that is, tax evaded) money deposited over the remarkably short span between November 10 and December 30, 2016 at Rs. 3.5 to 4.0 lakh crores (between USD 52.24 bn. to 59.7 bn.), the I-T department being instructed to meticulously inspect the deposits and send notices to the depositors.

The problem is, of course, that nearly all available estimates reveal close to 90% of the scrapped notes as having already found their way back to the banking system, although the RBI has insisted it would make its announcements public only after scrupulous investigations.

Under suspicion and vigilance of the I-T Department are multiple accounts, recorded under the same PAN, mobile number and addresses, which have seen individual deposits ranging from Rs. 2 lakhs to 2.5 laks, with the total of such deposits reaching Rs. 42,000 crores (USD 6.3 bn).

Post demonetization, Times of India Group estimates put the volume of loan repayments in the form of bank deposits up to January second week as close to Rs. 80,000 crores (USD 11.9 bn). The co-operative banks recorded a deposit of 16,000 crores (USD 2.4 bn), sources of which are being closely investigated by the I-T Department and the Enforcement Directorate (ED).

Banks also revealed Rs. 2.0 lakh crores (around USD 30 bn) as having been deposited in the 60 lakhs bank accounts all over India. The fact that accounts that had remained dormant up to November 9, 2016 suddenly registered deposits to the tune of 25 thousand crores (USD 3.7 bn), has not escaped the notice of the I-T Department and the ED.

Another dramatic revelation came from the “Jan Dhan Yojna” accounts, or ostensibly, the Government-initiated “Common People’s Fund”. Deposits in these accounts grew to Rs. 87,000 crores (USD 13.9 bn) within 45 days post demonetization, prompting the Income Tax department to “dissect” information relating to such deposits (Economic Times January 2, 2017). Overall, detailed reports have been sought from the banking System on the deposits made by the population belonging to various economic strata, to be thoroughly analyzed and sifted through to detect irregularities.

### **Demonetization: Effect on “Black Money”**

The fact of close to 90% of the notes banned finding their way back into the banking system as deposits only serves to underscore the fact that the notion that “rich and corrupt” Indians keep their ill-gotten wealth stashed in cash is an extremely dated and perhaps a somewhat dramatic one.

Indeed, as noted by the likes of NIPFP (1985), Patnaik (2016) and others, one needs to distinguish between “black wealth”, a stock concept and the stream of “black activities”, a flow which adds to the stock of wealth.

Immediately after assuming Office in 2014, Prime Minister Narendra Modi's government had acted on Supreme Court directives to form a Special Investigation Team (SIT) to probe black money that was believed to be mostly stashed abroad.

An estimate of the US-based think-tank Global Financial Integrity put the illicit money outflow from India as running close to \$462 billion in 2014, referring to the “money that is earned and transferred illegally abroad in tax havens ... generally to avoid tax”. Nearly a third of black money transactions were believed to be in real estate, followed by manufacturing, gold and consumer goods purchases.

In spite its best intentions, the SIT had not proved quite effective in unearthing and “bringing back black income” (a ringing promise on which Modi had rode his massive electoral victory in 2014), due

to understandable reasons. Tackling black money in the domestic front is difficult enough. Also, the unpalatable truth is that amidst the fierce bickerings of India's multi-party political set-up, delinking money and muscle power from Party politics is a near-Utopian dream, which no Party that is serious about its own political survival can actually contemplate. Finally, where overseas transactions are concerned, diplomatic and international political protocol among Governments makes certain disclosures and measures a formidable task.

On the domestic front, post demonetization, imminent steps are being envisaged by the Indian government to sift through the voluminous data to identify those who have deposited cash or purchased high-value assets (real estate, jewelry and the like) not satisfactorily accounted for by PAN. Till January 2017 first week, undisclosed income worth Rs. 4,314 crores (USD 644 mn) had been unearthed, Rs. 1,055 crores (USD 16 mn) in new currency and seizure of Rs. 554.6 crores (USD 83 mn) had been reported (Sikarwar, January 2, 2017). In all this, the I-T Department was duly assisted by Banks and Investigation Agencies.

Following a detailed evaluation of banned note deposits, the Government and I-T authorities collected over Rs. 6000 crores (USD 896 mn) as tax on unexplained cash deposits (unaccounted deposits) post demonetization as the Economic Times reported (March 18, 2017), an amount that could further go up according to Justice Arijit Pasayat, Vice-chairman of the SIT on black money.

Individuals who deposited substantial amount of cash after demonetization, either in their own account or in the name of others, have been asked for explanation by the tax authorities.

"The onus is on those who have deposited huge cash to explain the source," ... "The authorities, while examining the huge bank deposits, will finally have to come down to the macro level at some point of time to examine sudden huge deposits of cash in even Jan Dhan accounts. The exercise will be tedious and time consuming. But the tax authorities are determined to undertake this workload," Economic Times sources cited Justice Pasayat as saying.

Many later agreed to avail the amnesty scheme which earlier allowed compounding by payment of 60 per cent of the deposits as tax, now hiked to 75 per cent, the report said.

### **Demonetization: Effect on Investment Pattern**

In November 2016, the "demonetization month" itself, the total deposits in Equity MFs increased by Rs. 9,079 crores (USD 1.4 bn). The pattern of average investor behavior has also shifted away from one-time large investments and in favor of Small Investment Plans (SIP) in Mutual Funds.

### **Demonetization: Impact on Terror and Hawala**

As of January 2017, intelligence sources reported demonetization as having hit hard at terror activities in Kashmir and Maoist terror activities. The hawala business had also been hit hard by the withdrawal of old currency notes.

While announcing the note ban the Government had, among other goals, the twin objectives of reigning in hawala transactions and terrorist activities. According to Intelligence sources, hawala business had been reduced by 50% while terror activities at Kashmir had gone down by 60% by the first week of January 2017.

Typically, inciters of terrorism in Kashmir, who deal in huge amounts of cash, were put into serious trouble following the note ban. Counterfeit currency, printed outside India's borders find their way into Indian soil and are used for the purpose of terror funding activities by various organizations. As a result of ban on the old 500/= and 1000/= notes, the counterfeit currency has lost their use, making terrorists and their support groups unable to finance their terror campaign. This is very much apparent in Kashmir where organized revolts and demonstrations by large mobs, pelting, arson and destruction

of public property had become almost daily features, with a lot of money being spent to incite the youth population into destructive activities. In the interiors of the country, Maoists who typically engaged in intimidation and extortion of people and used money to buy explosives are also facing trouble. Similar instances can be found in other Indian states.

Hawala routes, the major instrument of illegal monetary transactions in the parallel economy, are one main channel through which black money is smuggled abroad. Since majority of the hawala transactions take place in 500/- and 1000/- notes, scrapping of those denominations has landed hawala circles into trouble as the enormous stock of cash in their hands has become useless. One estimate puts the volume of smuggled money as having come down to half by the first week of January 2017.

Finally, as put by Professor Maitreesh Ghatak (2017) of the LSE “People suffered but voting may have been driven less by anger over the damage to immediate economic interests than by their belief that a ‘decisive’ Modi would make them better off in the long run” (Ghatak 13th March 2017).

To sum up, extensive data from the Press and Banks bring out that:

- India’s “experiments” with its process of demonetization in the face of stiff opposition from political rivals is a phenomenon which only time can tell if it succeeded in fulfilling its objectives.
- Laudable intentions notwithstanding, the actual process left a lot to be desired, causing undeniable hardship to the common people and specially India’s large informal economy, at least initially. This underscores once again the need for basic financial literacy to be put in place first, instead of forcing people into banking habits through coercive measures and acute inconveniences.
- In fact, the process had huge social costs. Hospitals in some places refused to treat life-threatened patients, mostly from the lower socio-economic strata, in exchange of old notes even when they had been clearly instructed to do so. In addition, more than 100 people, again mostly poor and disadvantaged, fell acutely ill while standing in queues after having travelled miles after miles in search of a bank that would serve them.
- Instead of a sudden out-of-the-blue announcement with repeated and bewildering changes that almost daily marked the process, a more carefully thought-out planned transition could have helped common people escape huge sufferings.
- Demonetization, with the large amount of bank deposits, has probably failed in “unearthing” black money, as more than 90% of the deposits have come back into the system
- This means that in India, as repeatedly iterated, it is black “activities” rather than “black money” as such, that generate most of the black or illegal wealth.
- The RBI has been surprisingly vague about the details of money flowing in and out of the system.
- The decision to introduce 2000/= (equivalent to USD 30/=) currency notes at the same time as withdrawing 1000/= notes, is difficult to comprehend given the objective to eliminate big bills. With counterfeit 2000/= notes having already surfaced in the system, the wisdom of these steps is seen as rather suspect.
- Calibration of the ATMs to dispense the slightly modified new currency bills is still incomplete. On top of that, instances abound where already rampant counterfeiting of the new 500/= and high denomination notes of Rs. 2000/= has started, so much so that a number of Bank ATMs have been frequently reported as having dispensed bunches of counterfeit currency.
- “Going cashless” can only succeed when sufficient confidence and security safeguards have been put in the financial system to ensure customer financial security. Instances of fraudulent

card transactions have been on the rise all over the world, India not excepted.

- On the positive sides, there is the unquestionable new awareness about banking and digitization among common public, and a sense of renewed responsibility on the part of the government to usher in financial literacy to a large section of neglected masses.
- Overall, Indian public's investment profile has improved towards longer-term investments. December 2016 saw the maximum impact of the demonetization step and the note scrapping exercise. Even then, the consequent inevitable decline in the share market could not prevent gains in the equity mutual funds, which registered an increase of Rs. 10,103 crores (USD 1.5 bn), the highest in last 18 months. This implies that the same scrapped money which was par force deposited with the banks were then re-invested in mutual funds with a view towards long-term returns.
- Speculative and rampant terror activities across the border do seem to have become subdued.

It is, of course, common wisdom that the unscrupulous and the ruthlessly corrupt are more than certain to find ways to subvert the system and devise multiple methods to bypass legal provisions and accountability.

That the problem of vast unaccounted money and wealth is not necessarily synonymous with having cash in the system becomes even more apparent in Section III, where we explore the malady of Non-Performing-Assets (NPAs) that has been plaguing the Indian banking sector. The advances given by banks (termed assets), clearly meant to generate income via interests and instalments, become "bad loans" when the instalment is not paid after the due date, and NPAs beyond 90 days. The ratio of NPAs to total advances given by a bank is a commonly used indicator reflecting the health of the banking system. Non-performing Asset (NPA) is an alarming threat to the sustainability of the banking industry in India and a burning concern for Indian Policymakers. Despite a series of correctional steps advocated by RBI over the last couple of years, concrete results are eluding the economy.

### III

#### **A Problem of Trust? Indian Banks and their NPAs in a Liberalized Regime: A Brief Digression and Overview**

As per latest estimates, bad loans of Public Sector Banks (PSBs) grew by more than 1 lakh crores (USD 14.9 bn) in the first nine months of the current of this financial year (2016-17) to a whopping total of Rupees 6 lakh Crores (USD 89.6 bn). (Source: ET; 22/03/2016). As per CRISIL's estimation, weak assets in the Indian banking system were about to touch a high of around Rs. 8 lakh crores (USD 119.4 bn) by end of the current fiscal (2016-17), having reached the astounding level over the last three decades where one major contributor was the infrastructure sector.

For an in-depth understanding of how some of the ills inherent in the Indian Banking System has led to lakhs of crores of Rupees being siphoned off, we showcase the problem with reference to the energy and power sector, one of India's most important sectors given the country's acute dependence on power for continued expansion of industrial and social infrastructure and requiring huge orders of investment involving Banking and Non-bank Financial Institutions, Public Private Partnerships (PPPs) and huge foreign investment.

In point of fact, the problems of power financing through the Indian Banking and Financial Systems have gone so endemic and near unsolvable that concerned circles have coined the term "Money Laundering in the Power Sector".

Since the late 1970s till about 2012, the demand for electrical energy in India had been increasing in leaps and bounds. In 1991, the Indian Power Sector was opened up for Private Sector participation by liberalizing the regulations. Initially the focus was on adding generating capacities to meet growing

power demand. Consequently many Independent Power Projects (IPP) were planned but only very few projects could materialize, mainly due to monopoly/single buyer options (State Electricity Boards) then available. To correct matters, the Government of India introduced the new Electricity Act, 2003, to boost the ongoing reform process for effecting comprehensive turnaround and promoting private participation in Power Sector.

What followed was absolute mayhem – anyone and everyone, with some money in hand, started investing in the power sector, smelling out lucrative business. While power producers with genuine credentials made investments, there were huge investments from Developers from unscrupulous background. The banks on their part invested heavily without a proper due diligence being carried out at their end.

By 2012 initial signs of the recession in industry were visible. Moreover, the initial demand estimates proved grossly over-estimated. The distribution companies projected a lower demand as they were short on the receivables. Gas was no longer available option for fuel and linkage coal was difficult to obtain, in absence of Power Purchase Agreements (PPA). Coupled with all these problems, the government decided to turn its attention and incentivize the renewable sector. The thermal power sector didn't find it easy to identify off-takers for their power, resulting in the IPPs unable to tie up the necessary power purchase agreements. Stringent environmental laws from the Environment Ministry ensured that thermal power was no longer a viable option for investment.

It was time for unscrupulous business to flourish. Those promoters who had invested heavily realized soon that the returns were not as high as expected. Various ways and means to siphon off the money were devised. Little wonder that a large part of investments from the banks and financial institutes gradually moved towards being NPAs—opening a floodgate of sorts for the perennial generation of unaccounted money.

Since the early 1990s, the Indian banking system, which for long had been operating in a closed economy, was suddenly faced with the challenge of an open economy. On one hand a protected environment ensured that banks never needed to develop sophisticated treasury operations and Asset Liability Management skills. On the other hand a combination of directed lending and social banking relegated profitability and competitiveness to the background. The net result was unsustainable NPAs and consequently a higher effective cost of banking services.

A look at some of the data reveals that Gross non-performing assets of the Power Finance Corporation (PFC) were 3.15% of its loan assets as on 31 March 2016 against 1.16% a year back. Net NPAs rose to 2.55% of the loan assets as on March 31 from 0.93% in same period a year back. PFC's gross NPAs stood at Rs. 7519 Crores (USD 1.1 bn) of the total loan assets of Rs. 238,920 Crores (USD 36 bn) as on March 31, 2016.

Gross NPAs of Rural Electrification Commission (REC) stood at 1.71% of its loan assets, while net bad loans were at 1.36%. In 2014-15, gross NPAs were 0.74% while net NPAs were at .54%.

On a similar note, Gross NPAs of state-run banks in December 2015 stood at 7.30%. (The Economic Times, 27th May 2016).

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We can now summarize some of the causes for Non-Performing Assets (mainly related to investments in the power sector), that have a direct relation to economic factors.

Some among the major internal factors can be identified as:

- i. Lack of proper tracking mechanism for the utilization process of the funds borrowed. Diversion of funds for other purposes, even to the extent of promoting sister concerns are various ways the loans are squandered. Often excess capacities are created for non-economic reasons. All these are attributable to slackness on the part of the Lenders/ Lenders' Engineer/

- Legal Counsel / Financial Advisers for a proper credit appraisal, monitoring and follow-ups.
- ii. Procrastination of problems where postponement may lead higher earnings. Funds disbursed are often made to accrue interest when purposefully left unutilized.
- iii. Debtors often resort to manipulations using political influence, resulting in delayed recovery or even in total loss of receivables.
- iv. Often there are a large number of lenders (often as high as 26 lenders) for a single project. It becomes difficult for all of them to converge on issues during the joint lenders' forum (JLF) meetings, thereby delaying vital decision making process.

To be fair, there are also quite a few “outside” or “External” factors genuinely beyond the control of the Projects in question that also come into play to affect performance and profitability, such as:

- i. A sluggish legal system, which results in legal impediments and time consuming nature of asset disposal process.
- ii. Political interferences.
- iii. Dearth of proper and adequate project management and construction resources as well as raw material, construction power and water and other infrastructural requirements.
- iv. Truly external factors like industrial recession, adverse swings in exchange rates, changes in government policies like excise or import duty changes, to cite a few.

### **Reserve Bank Guidelines for Restructuring Stressed Assets**

#### **The 5:25 scheme**

This scheme allows banks to extend long-term loans of 20-25 years to match the cash flow of projects, while refinancing them every 5 or 7 years, thus allowing infrastructure loans to be stretched out over a longer tenure.

#### **Strategic Debt Restructuring (SDR)**

Under SDR, RBI allows banks to convert a part of their debt to majority equity in a defaulting firm. This helps in taking control of the defaulting firm and effecting a change in management. After banks have decided to convert their debt, they have 18 months to find a new buyer or strategic investor who can buy the majority equity from them and take over the company.

#### **Scheme for Sustainable Structuring of Stressed Assets (S4A)**

With the above tools unable to deliver the desired results, this was Reserve Bank of India's yet another improvisation to provide banks with sufficient arms to tackle the growing challenge of stressed assets and could help banks limit fresh slippages to non-performing assets (NPAs) from large corporate exposures.

S4A entails an in-depth study through financial modeling including sensitivity analysis to determine the sustainable debt level for stressed projects. The outstanding debt is then classified as sustainable debt and equity/quasi-equity instruments. It is assumed that this would provide advantage to the lenders when the project turns around. This would be only applicable to projects that have started commercial operations and have outstanding loans of over Rs. 500 crores. More transparency in the process is expected through appointment of an external agency for techno-economic viability study and also authorized through an oversight committee of independent experts.

#### **The 3 restructuring schemes and the effect on power sector**

The 5/25 scheme has been successful where the project in financial terms is viable. It provides a definite advantage to the borrower as it helps in stretching the repayment period (thereby reducing the monthly /quarterly repayment amount); the lender has to ensure protection of net present value (NPV) of the loans refinanced. The decision to refinance is taken on the basis of a techno-economic viability of the project, conducted by an independent agency. Many power projects have taken advantage of



this scheme.

The SDR scheme mandates the banks to take majority stake (51%) in the stressed plant along with management control over the plant administration. The bank would then require finding a buyer for the plant within 18 months from the reference date, failing which the plant is to be classified as NPA. Several plants are being considered under the scheme by banks, but not with much success. The borrower, while extending his cooperation for the process, is not prepared to let go his controlling stake over the plant. He puts in whatever hurdles he can devise to turn away any interested buyer. In fact, several plants are under consideration for the SDR process, but none of them have been able to identify the new buyer.

Though the S4A scheme addresses some of the challenges faced in implementing the 5:25 scheme and SDR, its successful applicability as a loan recovery instrument, is to be proved yet. It is hoped in banking circles that the S4A scheme shall enable the lenders to find a way to deal with stressed assets. However, the government is already looking to set up a new mechanism for faster resolution of stressed assets that shall allow state-run lenders to take a bigger haircut on their bad loans without fear of vigilance action. This process is expected to be initiated with the top 50 non-performing assets.

We now come to the issue of India's vast informal or unorganized sector which has attracted a huge volume of research and speculations in the literature.

#### IV

##### **India's Informal Economy: A Brief Overview**

In India, we live surrounded by the informal economy. Let alone the substantial agricultural sector of the country, even amidst some of the select confines of India's "A1" Metro cities, the informal or unorganized economy has managed, not only to make inroads and survive, but to flourish at an unbelievable extent, by dint of its sheer never-say-die spirits, its gritty innovative stamina and entrepreneurial pluck. India's informal sector is one indispensable, if precarious, attendant of the track along which India's development has progressed. One of the avowed objectives of demonetization was to reduce the extent of the huge volume of cash transactions that occurs in the informal sector in India, one of the largest in Asia and certainly in the world.

**Figure 3: The Ubiquitous Informal Economy of India**



*Image Courtesy: pixabay, [www.mbascool.com/](http://www.mbascool.com/)*

How do we define the term “informal economy”? The problems of arriving at a straightforward and unanimous definition have been discussed at length in the literature. Below, we briefly recapitulate some essential concepts and empirical evidences.

Known variously as the unorganized, “shadow, underground, unobserved, unofficial, subterranean, unrecorded, informal, irregular, second, twilight, parallel-- synonyms used for the ‘hidden economy’ seem to highlight the fact that this concept, which essentially captures the activities beyond measurement by fiscal or economic factors, is itself replete with differences in definitions and pathologies” (Chaudhuri et al 2003).

As noted economist C. P. Chandrasekhar points out, the National Sample Survey (NSS) of India identifies the informal sector as “consisting of proprietary and partnership enterprises (excluding those run by non-corporate entities such as cooperatives, trusts and non-profit institutions), in the non-agricultural sector and in agriculture-related activities excluding crop production (AGEGC). These kinds of non-agricultural enterprises are the ones that do not correspond to the organisationally more modern enterprises that economists like Simon Kuznets saw as coming to dominate the non-agricultural sector in the course of development” (Chandrasekhar 2014). In Kuznets’ view, as modern economic growth occurred, not only would economic activity be diversified away from agriculture but there would be an attendant increase in the size of non-agricultural enterprises and a growing role for impersonal forms of organisation (ibid).

In the Indian context, is the term informal economy synonymous with the “shadow” economy as understood in the West? Not quite, as the illuminating commentary by Schneider and Williams (2013), among others, clarifies. “There is also a very large shadow economy in many less developed countries. Here we use the *less ‘loaded’ term ‘informal economy’* to describe this activity because its characteristics are different from the shadow economy in the West. The informal sector in poorer countries is typically between 25 and 40 per cent of national income and can represent up to 70 per cent of non-agricultural employment. In such countries, informal activity often arises because of the inadequacies of legal systems when it comes to formalizing business registration rather than as a result of deliberate evasion activity. Nevertheless, the problems that informality can bring are enormous: it can be a serious constraint on business growth; and the lack of enforceability of business and employment contracts in a country makes prosperity much harder to achieve” (Schneider and Williams 2013, pp. 22, emphasis added).

In the same vein, the authors add,

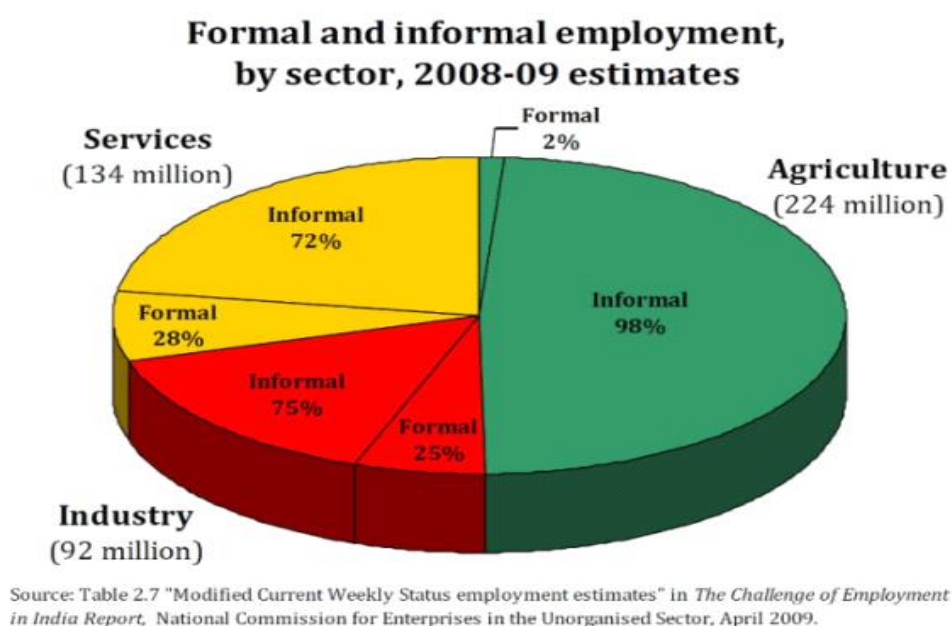
*“It is worth noting that, in many parts of the world, the shadow economy is more or less endemic and is often described simply as ‘informal’ rather than ‘shadow’. Such informal activity does not take place because individuals are deliberately avoiding paying taxes and avoiding abiding by regulation but because the infrastructure does not exist for the effective and efficient registration of businesses and to ensure the efficient collection of taxes. In many poorer countries, the shadow economy is not so much a problem of evasion by citizens but of an inability of people to pay taxes and register their activity even if they would wish to do so, “(Schneider and Williams 2013, pp. 59, italics added).*

As Chandrasekhar (2014) notes, “The fact that sectors like trade and construction are important contributors to the unorganized sector and to informal employment is of significance. (...). The really stringent form of size-based regulation applies to the manufacturing sector, in which units that meet the criteria set by the Factories Act, 1948 need to register themselves and be subject to factory legislation. This legal distinction does not apply to non-agricultural sectors outside manufacturing” (Chandrasekhar 2014).

Figure 4 below clearly brings out the stark contrast between organized employment vis-à-vis the vast proportion engaged in unorganized labor in India around 2009, that is, nearly two decades after wide-

ranging reforms on industrial and other fronts had been undertaken. As fig. 4 shows, more than 90% of India's employment arose in the informal sector<sup>2</sup> around 2008-09.

Figure 4: Extent of Informal Sector in India (2008-09)



Interestingly, even in the organized sector, workers may be informally employed without any social protection. This is the basis on which the NCEUS (2007) made a distinction between the organized vs. unorganized economy in the sense of output production, and the formal vs. informal so far as conditions of employment are concerned.

The NSS Report No. 539 (NSSO 2012) of the Government of India clarifies and distinguishes between the coverage of informal sector and informal employment (NSSO 2012 pp. 20 § 2.25). The distinction may seem trivial or purely an issue of semantics, but it makes a huge difference to the worker whose fate it is to be informally employed. A four-fold classification of the workforce may thus be possible with workers in both organized and unorganized sectors being either formally or informally employed (Table 1).

**TABLE 1: Proportion of Informal Workers in India (2007)**

Sector/ Workers	Informal worker	Formal worker
Informal/unorganized sector	99.6	1.4
Formal/organized sector	46.6	53.4
Total	92.4	7.6

Source: NCEUS (2007), p.4

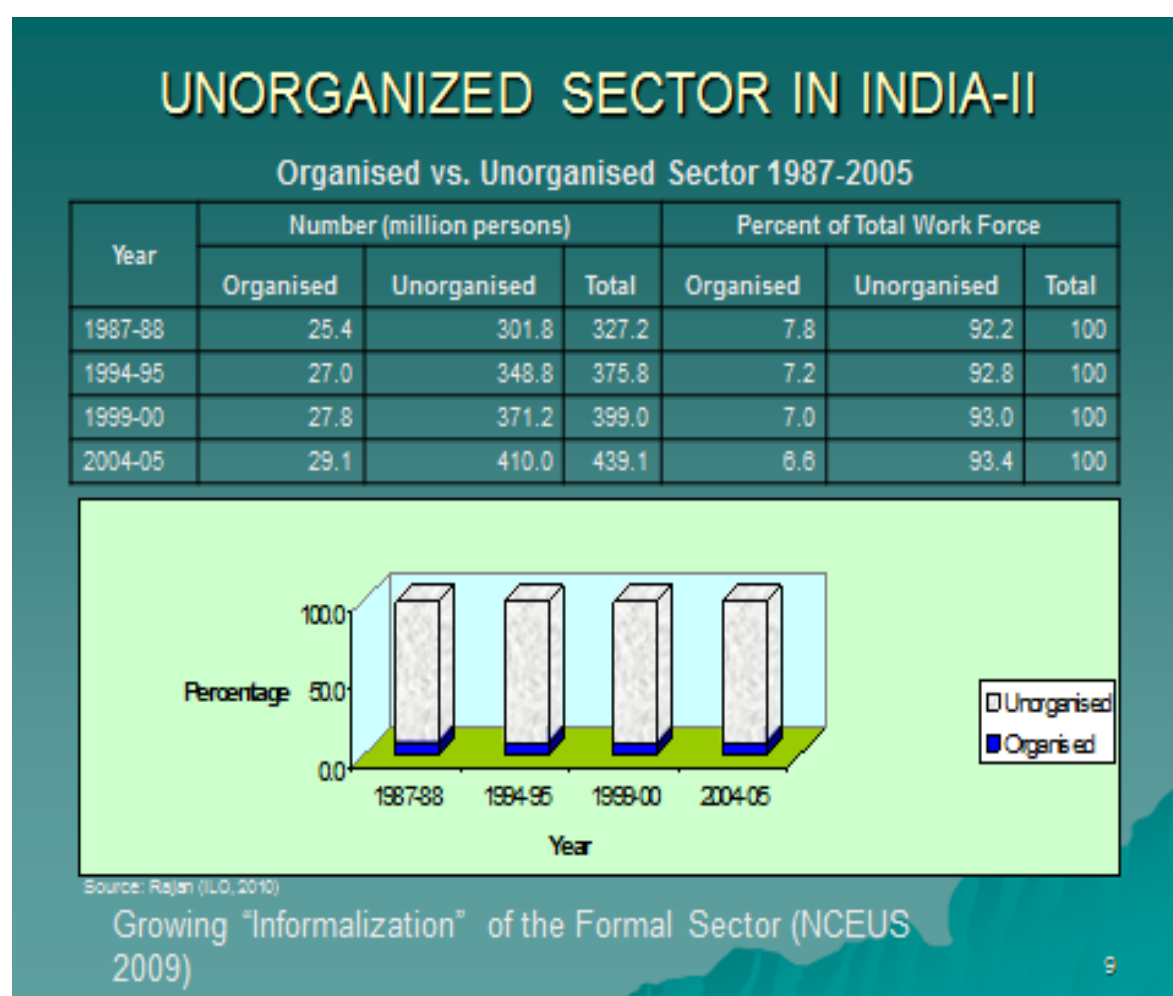
<sup>2</sup> Although for most purposes, the terms unorganized and informal sector are used interchangeably, the former concept is "a bit broader than the related concept of the informal sector" (Bosworth et al 2006). In the present context we continue with the practice of equivalent use of the two terms.

Table 2 below depicts how, post- India's economic reforms in 1990-91 up to 2004-05, unorganized sector employment continued to grow much more rapidly while employment in organized sector lagged behind in absolute terms and shrunk as ratio of total work force.

The 2009 NCEUS Report (National Commission for Enterprises in the Unorganized Sector) was thus led to comment:

“... The entire increase in the employment in the organized sector (over the post-reforms period) has been informal in nature i.e. without any job or social security. (...) this can be termed as *informalization of the formal sector*, i.e., employment increase consists of regular workers without social security benefits and casual or contract workers again without the benefits that should accrue to formal workers” -- (NCEUS 2009), emphasis added.

**TABLE 2: Workers in Organized and Unorganized Sectors, 1987-8 to 2004-5**



Source: Dasgupta and Saha (2012)

What about the recent scenario? For the necessary updating of the informal sector employment scenario, as far as data available till date, we turn to Chandrasekhar (2014) again: “Between 2004-05 and 2011-12, (...) employment in the organised, non-agricultural sector (...) rose from 28.8 million to 47.7 million, whereas employment in the unorganised sector rose from 185.4 million to 209.6 million. That is, organised sector employment stood at 6.3 per cent and 10.1 per cent respectively of total employment in 2004-05 and 2011-12. In absolute terms there were more who joined the unorganised sector's workforce than the number who entered the organised sector between the two years. Even in 2011-12, as much as 86 per cent of workers in the private

sector and 50 per cent in the public sector were in units that could be designated as unorganised based on employment size”.

Finally, one must note the crucial difference between the weightages of formal / informal employment vis-à-vis the values added by the respective sectors. Table 3 dramatically brings out the fact that notwithstanding the large proportion of the population that the informal sector absorbs, their productivity continues to be quite low and value added by the informal sector has actually gone down over the years, as made evident from the data on gross value added by the different sub-sectors of the informal sector in the total economy.

**Table 3: Estimated Gross Value Added by Informal Sector, Industry Group-Wise (Major)**

Industry / Sector	Per cent of Unorganized to Total	
	1999-2000	2004-05
Agriculture	96.55	94.48
Mining	30.00	18.00
Manufacturing	28.85	26.84
Construction	44.66	46.33
Trade	77.35	75.08
Hotels & Restaurants	56.19	50.8
Transport & Storage	57.27	44.45
Banking, Finance & Insurance	7.43	9.29
Real Estate, Renting and Business Services	77.24	63.44
Health & Social Work	21.8	23.19
Other Community, Social & Personal Services	61.04	69.44
Private Household & Extraterritorial Organisation	80.11	95.29
<b>Total</b>	<b>55.42</b>	<b>49.94</b>

*Source: NCEUS (2012) and Author's Calculations*

Total factor productivity (TFP) of the informal sector in manufacturing has continued to be quite low as compared to formal manufacturing well into recent years (Planning Commission 2016).

## V

### **The shadow economy in India: An Analysis**

Confronted with the conceptual dilemma, and the various definitions available in the literature as to what exactly constitutes the shadow economy, it is helpful to recall here our foregoing discussion on the Indian informal economy. We employ the useful version provided by Chaudhuri, Schneider and Chattopadhyay (2006) in their study of India's shadow economy where the distinction between the

“informal” and the “shadow” economy is brought out clearly. Chaudhuri et al (2003) also provide a number of equally able alternative definitions, among them the one by Bagawacha and Naho (1995) “as a combination of informal (small-scale production and distribution units), parallel (illegal production of legal activities) and black market activities (production and distribution of market and non-market goods forbidden by the government)”

In this study, then, our definition of the “Shadow economy” includes “the portion of the income earned from legal and illegal activities that cannot be accounted for by the standard measurement procedures used in compilation of national income accounts” (Chaudhuri et al 2006).

For an idea about the relative sizes of shadow economies across the world, we present in Table 4 below selected data obtained from previous estimate attempts for a wide range of countries all over the world, for the period of estimation from 1999 to 2007.

**Table 4: Shadow Economy Sizes (Selected Countries)**

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	Average
Australia	14.4	14.3	14.3	14.1	13.9	13.7	13.7	13.7	13.5	14.0
Austria	10.0	9.8	9.7	9.8	9.8	9.8	9.8	9.6	9.5	9.8
Belgium	22.7	22.2	22.1	22.0	22.0	21.8	21.8	21.4	21.3	21.9
Bolivia	67.0	67.1	67.6	67.7	67.7	66.9	64.3	62.8	63.5	66.1
Brazil	40.8	39.8	39.9	39.9	39.6	38.6	38.4	37.8	36.6	39.0
Cambodia	50.4	50.1	49.6	50.0	49.2	48.8	47.8	46.8	46.0	48.7
Canada	16.3	16.0	15.9	15.8	15.7	15.6	15.5	15.3	15.3	15.7
Central African										
Republic	42.8	42.6	43.1	44.0	46.9	47.3	46.9	45.9	45.1	45.0
China	13.2	13.1	13.0	12.9	12.8	12.6	12.5	12.2	11.9	12.7
Denmark	18.4	18.0	18.0	18.0	18.0	17.8	17.6	17.0	16.9	17.7
Finland	18.4	18.1	17.9	17.8	17.7	17.6	17.4	17.1	17.0	17.7
France	15.7	15.2	15.0	15.1	15.0	14.9	14.8	14.8	14.7	15.0
Georgia	68.3	67.3	67.2	67.2	65.9	65.5	65.1	63.6	62.1	65.8
Germany	16.4	16.0	15.9	16.1	16.3	16.1	16.0	15.6	15.3	16.0
Haiti	54.8	55.4	56.1	56.5	56.4	57.4	57.1	57.0	57.1	56.4
India	23.2	23.1	22.8	22.6	22.3	22.0	21.7	21.2	20.7	22.2
Japan	11.4	11.2	11.2	11.3	11.2	10.9	10.7	10.4	10.3	11.0
Luxembourg	10.0	9.8	9.8	9.8	9.8	9.8	9.7	9.6	9.4	9.7
Mexico	30.8	30.1	30.3	30.4	30.5	30.1	29.9	29.2	28.8	30.0
Netherlands	13.3	13.1	13.1	13.2	13.3	13.2	13.2	13.2	13.0	13.2
Pakistan	37.0	36.8	37.0	36.8	36.2	35.3	34.9	33.8	33.6	35.7
Russia	47.0	46.1	45.3	44.5	43.6	43.0	42.4	41.7	40.6	43.8
Singapore	13.3	13.1	13.3	13.3	13.1	12.8	12.7	12.4	12.2	12.9
Sri Lanka	45.2	44.6	44.6	44.1	43.8	43.9	43.4	42.9	42.2	43.9
Switzerland	8.8	8.6	8.6	8.6	8.8	8.6	8.5	8.3	8.1	8.5
Thailand	53.4	52.6	52.4	51.5	50.2	49.6	49.0	48.5	48.2	50.6
UK	12.8	12.7	12.6	12.6	12.5	12.4	12.4	12.3	12.2	12.5
USA	8.8	8.7	8.8	8.8	8.7	8.6	8.5	8.4	8.4	8.6
Time Average	34.0	33.7	33.6	33.6	33.3	32.9	32.5	32.1	31.2	

*Source: Based on Buehn, Monte Negro and Schneider (2010) as cited in Schneider and Williams (2013).*

The overall extent of the shadow economy has thus ranged, on an average, between 34% of GDP



(1999) to 31.2% in 2007, apparently having declined gradually over this period. Two points are to be noted here, viz. 1), at individual country levels, the time trend of the extent of the shadow economy has been more varied and it has gone up with time in a few countries like Haiti. 2) This overall average, on disaggregation, comprises country average figures as low as 8.5% of GDP (Switzerland) to as high as 66.1 % in countries like Bolivia.

For India, the weightage of the shadow economy in GDP is seen to have remained more or less steady around the own country average of 22%-- a figure on the lower side of the overall (world) average of around 32%. A McKinsey estimate put India's shadow/ GDP ratio around 25% in 2013.

### **The Shadow Economy in terms of Causal and Indicator variables**

Among the most difficult to measure (unobservable) entities in the national economy, both "indirect" and "direct" methods have been used to estimate the shadow economy. With direct methods employing survey and cash use data, correct responses are understandably difficult to elicit, thus limiting their usefulness. Indirect methods include currency demand, and later, the Multiple Indicators Multiple Causes (MIMIC) method has been developed to complement both direct and indirect methods. MIMIC has been found particularly useful and hence prevalent in estimating the shadow economy in various parts of the world, as it treats the unobservable entity viz., the shadow economy as a "latent" variable. Typically, in the MIMIC framework a number of proximate causal variables are used, ones those are thought to exert a causal influence on the extent of the shadow economy, and a number of "indicator" variables, viz. manifestations of the shadow (latent) variable..

A huge body of research literature exists on recent estimates of the shadow economy, including, among relatively later works, Bajada and Schneider (2003, 2005 and 2009); Del'Anno and Schneider (2004 and 2006), Giles et al (2003) and Schneider et al (2008 and 2010, 2013 and 2016).

As observed earlier, being a "latent" or alternatively unobservable variable the shadow economy can be estimated only indirectly, through causes and Indicators. What are the causal variables that may be conceptualized as affecting the shadow economy, and secondly the indicator variables which can be conceived as being manifestations of the shadow economy?

Chatterjee, Chaudhury and Schneider (2003, 2006) are examples of analysis in the Indian context among the various studies undertaken on the shadow economy. Research includes estimates for developed as well as developing country groups; the French and German economies, and specifically, India in comparison with other Asian nations as well as a study at the Indian state-level.

Among the various causal and indicator variables suggested, a careful review of the extensive literature shows that our choice of variables must be pragmatic as at the same time reflecting an analytical framework that is relevant to India's unique characteristics...

### **Causal Variables**

#### **Value added by agriculture**

India had started its post-independence planned industrialization with a predominantly agricultural economy, with agriculture and allied activities contributing 53% to the gross value-added in overall GDP (1950-51). With progress of planned industrialization, share of agriculture gradually contracted (35% in 1970-71), although, as noted in Section IV, agriculture continued to be the mainstay of the large informally employed population of India. The slow contraction of value added by agriculture saw further shrinkage since 1990s with the structural adjustment package shifting emphasis away from agriculture and social and rural development, and stood at 20% of GDP as of 2012-13. Value added by agricultural (share in GDP) can be taken as a highly relevant causal factor in the Indian shadow economy, with the intuition that greater this value-added, greater the extent of the shadow economy.

**Burden of taxation** affects the labor-leisure choice through the disincentive effect of high taxes. Secondly, the decision to avoid taxable areas of activity also increases participation in shadow economy. Thirdly of course, there are the instances of pure tax evasion. India's initial lofty ideal of development with social justice and equality gave rise to attempts at highly progressive direct taxation, which in reality, resulted in a direct taxes share of merely 8% in total tax share in 1950-51 while indirect taxes, consisting of various sales, excise, cess, customs duties stood at 88.9%. Indian income and corporate tax rates had been particularly high in efforts to address rampant inequality and poverty; but the extremely complicated tax laws and statutes in India, with innumerable number of slabs and bewildering complexities and exemptions gave rise to rampant tax evasions and the innumerable tax loopholes, serving only to encourage tax avoidance and evasion in ingenious ways. Indirect taxes, on the other hand, are essentially regressive in nature. Moreover, in India the pattern of duties and indirect taxes has frequently added directly to the problem of inflation. Eventually India has enabled itself (by simplification of the tax structure) to raise the share of direct taxes against the indirect taxes, thus also achieving some semblance of social equality in the tax structure.

Our second and third variables reflect the burden of taxation on the economy. On the whole, larger the burden of taxes relative to the economy, larger will the share of the shadow economy as larger will be the tendency to work outside the purview of activities under the purview of taxation. We employ two variables, one the share of direct taxes to total taxes, and secondly the share of indirect taxes, expecting both to bear a positive relationship with the size of the shadow economy.

The next causal factor to consider is the **state of regulations**. As Singh et al (2012) note, "... In developing countries, large informal economies limit state capacity to deliver governance and strong institutions, which in turn discourages participation in and expansion of the formal economy. ... We find that when businesses are faced with onerous regulation, inconsistent enforcement and corruption, they have an incentive to hide their activities in the underground economy" (Singh et al 2012). Thus, regulatory institutions are an important determinant of the size of the underground economy, with the shadow economy being positively related to the regulatory intensity of the economy.

**Inflation** (Schneider 2006) is another significant causal variable, although literature suggests that frequently the shadow economy in turn puts pressure on the former.

Finally, as the shadow economy comprises people failing, or opting out of, formal sector employment, shadow economy size would be lower the more people find employment in the organized public sector. Thus, we have another causal variable in **public sector employment**, inversely influencing the extent of shadow economy.

## Indicators

Indicator variables can be thought of as manifestations of the latent variable, viz. shadow economy, acting as markers to the existence as well as extent of the latter. We have focused on GDP in real terms, and the ratio of currency held by the public among the variables suggested in the literature.

## Data and Methodology:

Numerous researchers have estimated comprehensive (sometimes dynamic) MIMIC model to get a time series index of the hidden variable for various countries. Our study presents an attempt to estimate the shadow economy in India over 1970-2014, employing time-series data on the Indian economy, following the methodology of Böhn and Schneider (2008). Their study demonstrates how cointegration and error correction (ECM) can be accommodated in a MIMIC structure, and the unobservable latent variable (in this case the shadow economy) can be derived from the estimated long run cointegrated relationship, to be later calibrated into cardinal indices from ordinal ones.

## Data Availability and Choice of Variables: A Note



Our main data sources for this analysis were 1) World Development Indicators (World Bank); 2) various issues of the Economic Surveys of Ministry of Finance of the GOI; 3) Indian Public Finance Statistics of the Ministry of Finance, 4) the Reserve Bank of India Handbook of Statistics for the Indian Economy. However, while collecting the data on regulatory intensity, attempts to use the Fraser Institute and the Heritage Foundation Database failed to locate continuous and consistent time-series data dating as far back as to 1980. Whatever data was available prior to 1995 contained too many discontinuities. Considering the substantial range of unavailable data, we decided against employing interpolation for this rather large number of missing data points. Accordingly, we were forced to omit the very crucial variable of regulatory intensity from our final choice of causal variables, remaining fully aware of the fact that this is far from a satisfactory solution. We are conscious of the serious limitation our study suffers from exclusion of an adequate measure of regulation, a shortcoming that we attempt to address in our ongoing research.

The variables structure we thus finally adopt is as follows:

**Table 4: Proposed Structure of the MIMIC Model (India)**

<b>Variables</b>	<b>Variable Name</b>	<b>Measure</b>	<b>Direction of Relationship with Shadow Economy</b>
<b>Causal</b>	agr_gdp	Share of agriculture in GDP	Positive
	dt	Share of direct taxes in Total Taxes	Positive
	idt	Share of indirect taxes in Total Taxes	Positive
	cpi	Inflation: % annual change of CPI	Negative (Chaudhuri et al 2003, among others)
	pubemp	Population Employed in Public Sector	Negative
<b>“Latent”: The Shadow Economy</b>			
<b>Indicator</b>	lngdp	Natural log of real gdp	Positive
	Curr_pub	Cash with public as ratio of M3	Positive

#### **Analysis in Brief:**

The present analysis studies the time period 1970 to 2014, using annual data. Since time series macroeconomic data generally exhibit non-stationarity, therefore methodologically we follow the comprehensive study by Bühn and Schneider (2008) on the French economy to use cointegration and

error-correction (ECM) in a MIMIC framework. This method is also capable of permitting us to derive ordinal estimates of the latent variable from the long-run cointegrating equilibrium equation, which must next be calibrated to obtain some cardinal measure from these ordinal indices.

Table 5 reports the results of the Stationarity (Unit Root) Tests for our variables, both causal and indicators.

**Table 5: Analysis of Stationarity: Causal and Indicator Variables**

Variable	Test Equation	Level			Test Equation	First Difference		
CAUSES		ADF	PP	KPSS	ADF	PP	KPSS	
Agr_gdp	C & T	0.3491	0.3907	0.1039***	C	0.0000	0.0000	0.2801***
DT	C & T	0.7797	0.7528	0.2012*	C	0.0000	0.0006	0.3140***
IDT	C & T	0.7797	0.7528	0.2012**	C	0.0000	0.0000	0.3140***
infln	C & T	1.0000	1.0000	0.2151**	C	0.0496	0.9889	0.6542*
pubemp	C & T	0.6139	0.5635	0.2237	C	0.4175	0.0038	0.7269*
INDICATORS		ADF	PP	KPSS		ADF	PP	KPSS
lngdp	C & T	0.3417	0.3270	0.2163**	C	0.0000	0.0000	0.5720*
curr_pub	C & T	0.4726	0.6149	0.1688*	C	0.0001	0.0001	0.3429***

\* Stationarity at 1%. \*\* Stationarity at 5%. \*\*\* Stationarity at 10%.

*Note: For the Augmented Dickey-Fuller (ADF) test and the Phillips-Perron (PP) test, the MacKinnon (1996) one-sided p values are given whereas test statistics are reported for the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test. Its critical values are taken from Kwiatkowski et al. (1992). For a test equation with constant (C) the critical values are: 0.347 (10% level), 0.463 (5% level), and 0.739 (1% level) whereas for a test equation with constant and trend (C & T) the critical values are: 0.119 (10% level), 0.146 (5% level), and 0.216 (1% level). For the order of the autoregressive correction for the ADF test, we use the Akaike Information Criterion (AIC). For the PP and KPSS tests, we use the Bartlett kernel estimator and the Newey-West (1994) data-based automatic bandwidth parameter method.*

All causal and indicator variables being I (1), we now proceed to investigate the possibility of cointegration between all five causes and each of our indicators, under the Engle and Granger two-step approach. Following short run error correction mechanism (ECM), the following two regressions are estimated (Engle and Granger 1987) in least square regressions with variables in levels, where the particular indicator is the dependent variable and the causes are the independent variables (Bühn and Schneider 2008).

$$\text{lngdp} = \alpha_1 (\text{agr\_gdp}) + \alpha_2 (\text{dt}) + \alpha_3 (\text{idt}) + \alpha_4 (\text{cpi}) + \alpha_5 (\text{pubemp}) + u_1 \dots \dots 1)$$

and

$$\text{curr\_pub} = \beta_1 (\text{agr\_gdp}) + \beta_2 (\text{dt}) + \beta_3 (\text{idt}) + \beta_4 (\text{cpi}) + \beta_5 (\text{pubemp}) + u_2 \dots 2)$$

Because all variables are deviations from their means, no constant is included in the regression equations.

Next, as the unit root test (KPSS) results in Appendix Tables A1 and A2 show, presence of unit roots in either of the residuals  $u_1$  or  $u_2$  is rejected, confirming the stationarity of the residuals. Thus both of our two indicators are cointegrated with the causal variables.

Having confirmed the existence and validity of both cointegration relationships, how do we next proceed to estimate our unobservable latent variable, viz. the size of the shadow economy and the growth thereof? This is possible as now we can estimate the long run cointegration, which in fact is the equilibrium MIMIC model, which would allow us to derive estimates for the latent variable.

Finally, for estimating the latent variable, Bühn and Schneider (2008) suggest “fixing a scale” for this unobservable variable, one convenient method of doing which is “to set the coefficient of one (...) indicator variables to non-zero” (Bühn and Schneider, 2008). The authors themselves have fixed the coefficient of their GDP variable for this purpose. The ordinal index is then transformed into a cardinal series on the basis of existing parallel studies containing already estimated.

In our case, Chaudhuri et al (2003), Schneider et al (2009) and Sharma (2016) are among the existing studies offering alternative estimates with which to compare and calibrate our estimates for the chosen latent variable, viz. the shadow economy as a ratio of GDP in India.

As indicated earlier, the present study is a work in progress where we are still in the process of consolidating our analysis and results on the Indian shadow economy. Complete analysis of this part has been rescheduled in view of our preoccupation with the other major developments simultaneously unfolding in the Indian economy which, to our mind, merited immediate and greater attention.

Having established that there is, indeed, a valid cointegrating relationship between the causal and indicator variables of the latent shadow economy in India, we are still continuing our further research into this entity. We, therefore, present this section as a tentative and preliminary but a very much indispensable part, of our ongoing research.

## **VI**

### **Conclusion**

To sum up this study on what it means for an economy like India with her most pressing problems to go the “cashless” way, our primary inference is that it is still rather early to deduce firm conclusions about the full impact of India’s demonetization attempts. Many economists have argued that the steps should indeed be termed as a currency swap rather than “going cashless” in the truest sense, since rather than cash withdrawal lock stock and barrel, the government has actually replaced old currency with new, although this “remonetization” has fallen short of the extent of withdrawal. However, until the “new numbers” come out fully, the effects of demonetization on India’s long-term economic prospects cannot be properly assessed.

Post-demonetization, official estimates put India’s GDP growth at an unimpaired 7% in the first quarter of 2017, although, as some argue, the cash crunch and the consequent inevitable slowdown in primarily consumer demand should have some medium-term effects.

India has gradually adjusted itself to greater reach of banking and online transactions, but instances of online fraud and scams abound, so that increasing degrees of financial literacy as well as awareness about proper security safeguards have become imperative.

Solving the problem of large scale corruption and tax evasion, all along the bane of India, even now seems rather a distant possibility, given the loopholes in the system and the political and muscle power enjoyed by the rich. To that end, India’s demonetization, no doubt a laudable enough gesture,

must stand the test of time. Addressing the staggering extent of the unrecovered loans by the banking sector to Indian big business houses is another urgent concern.

Next, given the evidence on the vast unorganized sector that characterizes the Indian economy, it is not difficult to appreciate the challenges that policymakers face to bring this large volume under accounting and the purview of banking regulations. The “growing informalization” of the Indian economy over the past decades, a remarkably pronounced trend, underscores the urgent necessity of having in place policies designed towards the informal sector which could, with some effort, be transformed from its perceived status as a liability to a flourishing asset to the national economy.

Finally, we conclude our brief analytical foray into India’s shadow economy by reporting the favorable and significant establishment of cointegration among our causal and indicator variables. Our study, under the adopted methodology, is still in its exploratory stage which we are in the process of consolidating further. Second, we must re-emphasize the limitation of having had to omit an index of regulation from our list of causal variables, which our future and ongoing research intends to address. Identification of further relevant causal and indicator variables is also under process. To that end, our research in India’s shadow economy should be seen as a first necessary step towards developing and contributing towards a nuanced understanding of this elusive phenomenon in India’s unique scenario.

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