



Road to Less-Cash

A report by Visa. Co-sponsored by ItzCash.
Prepared by India Development Fund and Internet & Mobile
Association of India
JULY 2012



Visa



Visa is a global payments technology company that connects consumers, businesses, financial institutions and governments in more than 200 countries and territories to fast, secure and reliable digital currency. Underpinning digital currency is one of the world's most advanced processing networks—VisaNet—that is capable of handling more than 20,000 transaction messages a second, with fraud protection for consumers and guaranteed payment for merchants. Visa is not a bank, and does not issue cards, extend credit or set rates and fees for consumers. Visa's innovations, however, enable its financial institution customers to offer consumers more choices: Pay now with debit, ahead of time with prepaid or later with credit products. For more information, visit www.corporate.visa.com

Itz Cash Card Ltd



Launched in 2006, Itz Cash Card Ltd. is the first to introduce payments on mobile, internet and IVRS through India's first "Multi Service Pre-paid Card Company". ItzCash pioneered introduction of multiservice stored value prepaid cards in India of various denominations which can be used to purchase various goods and services based on anywhere, anytime concept.

Itz Cash Card Ltd. is the first company which has been issued the Certificate of Authorization, by the Reserve Bank of India (RBI) under the Payment and Settlement. Since its inception ItzCash has emerged as an end-to-end payment solution provider from issuance to authentication and settlement.

ItzCash has been introduced by Essel Group which is among India's most prominent business houses with a diverse portfolio across sectors. Essel Group started business in 1976 with a commodity trading and export firm and has since then metamorphosed into a conglomerate that is a symbol of the ingenuity and power of Indian entrepreneurship.

IDF



IDF is a privately funded, non-profit, non-partisan research foundation set up as a Trust on April 2, 2003. Its major objective is to develop awareness about how markets work, why they are desirable and how we can develop them. IDF aims to help policy makers transform emerging economies into market based societies. There are three aspects to its activities:

- to offer recommendations on what needs to be done. These recommendations are derived from research and analysis;
- to generate a blue-print of how to implement the recommendations. These are worked out through interaction with practitioners and stakeholders; and
- to disseminate its work through publications in peer-reviewed journals, workshops, seminars and various media to reach out to practitioners, policymakers and the general public. It also undertakes pilot projects to demonstrate how its recommendations can be realized.

IAMAI



The Internet and Mobile Association of India [IAMAI] is a young and vibrant association with ambitions of representing the entire gamut of digital businesses in India. It was established in 2004 by the leading online publishers, but in the last eight years has come to effectively address the challenges facing the digital and online industry including mobile content and services, online publishing, mobile advertising, online advertising, e-commerce and mobile & digital payments among others.

Eight years after its establishment, the association is still the only professional industry body representing the online and mobile VAS industry in India.

The association is registered under the Societies Act and is a recognized charity in Maharashtra. With a membership of over 135 Indian and MNC companies, offices in Delhi and Mumbai, the association is well placed to work towards charting a growth path for the digital industry in India.

Table of Contents

Executive summary	4
About the report.....	6
Introduction.....	7
Payment patterns in the retail sector	17
Payment patterns among households	33
Government's role in promoting cashless transactions	42
Recommendations.....	52
Appendix.....	68



Executive Summary

Consider this: As of April 2011, the provisional estimate of the amount of currency in India stands at INR 970,209 crore¹, which has grown by 50% in a little over two years. The amount of currency with the public stands at INR 947,024 crore, i.e. 95% of the total currency.

We recommend through this report that this burden of cash needs to be reduced by the use of cashless instruments. Through primary and secondary research, the report attempts to estimate the amount of cashless as well as cash transactions, identify the major sectors that have preference for either, identify the areas where electronic payments can replace or substitute cash, and identify the driving or inhibiting factors for the use of electronic payments.

The study

To explore the potential for a cashless economy, we chose to look at the issue from all sides—that of the buyer and the seller; that of the retail sector, the households and the government; that of the existing situation and the barriers and the drivers for the future.

- The study was done using a combination of secondary and primary research:
- Secondary research to assess the existing payment landscape in the country
- Survey to assess the payment patterns in the retail sector
- Survey to assess the payment patterns among households
- Secondary research to understand the Government's role in the payments landscape
- Analysis of all of the above findings to arrive at the recommendations.

Key findings of the survey

The burden of cash

The cost of maintaining currency, in the form of the cost of printing and distributing cash, constitutes about 0.2% of India's GDP. It is estimated that for 2009-10, RBI incurred an annual cost of INR 2,800 crore² to just print the currency notes. This was 0.4% of the total currency in circulation. This cost does not include the cost of storage, transportation, security, detection of counterfeits, etc. To the printing cost, if we were to add the cost of storage and maintaining these currencies through ATMs alone, the cost of printing and disbursing currency comes to approximately INR 70 per person per year. Given the growth rate in the volume of currency, the cost of printing and disbursing will soon become enormous.

The need to go cashless

What if we were to move towards a cashless economy? A moderate growth of cashless transactions by 5% a year will save more than INR 500 crore annually³. This is the direct benefit. However, the indirect benefits are perhaps much more important for India, especially given its objective of inclusive growth. Going cashless will help the government achieve its objective of inclusive growth (through financial inclusion) and make public utilities more efficient.

A moderate growth of cashless transactions by 5 percent a year will save more than INR 500 crore annually⁵

¹ www.rbi.org.in

² Ashish Das and Rakhi Agarwal (2010), "Cashless Payment System in India- A Roadmap", Technical Report, IIT Bombay, <http://dspace.library.iitb.ac.in/jspui/handle/10054/1732>

^{3,5} Cost of printing and distribution of cash (Approximately (Rs. 10,000-Rs. 11,000 crore), 5% saving is Rs. 500 crore, divided by GDP)

⁴ Survey finding

Payments patterns in the retail sector:

A survey consisting of 700 enterprises was conducted between April and May 2011. The findings of the survey were as follows:

- The retail sector is growing at a healthy rate (20%). However, the share of organized retail is only 4% and it is growing at 11%.
- Only about 3% of all retail payments are through cashless instruments. The low figures are due to low penetration of organized retail and because less than half of organized retail is being carried out through cashless instruments.
- Cards are the most preferred mode among all electronic payment channels (14%)
- The clothing and footwear category shows the highest number and most significant amount of cashless transactions. This is partly because of the high penetration of organized retail.
- Approximately 70% of the retailers prefer cash transactions with households. Cashless transactions between retailers and households and between retailers and wholesalers will increase if either more transactions are initiated by the retailers and/or the preference for cashless by the retailer is higher.
- According to retailers, the two major reasons for not using the cashless mode are high transaction costs and perceived delay in receiving payments. About 34% retailers perceive cashless transactions to be risky.
- Even in establishments with an installed POS device, cash remains the preferred mode with 74% cash payment contribution. Among reasons for not using cashless instruments, 17% cite low transaction amounts and 15% worry about security.
- The two major advantages of cashless as perceived by retailers are that it increases sales (often by removing the amount of money a customer is carrying), and it decreases costs (saving on currency management).
- The share of credit and debit cards put together to electronic payments is less than 10%. The top 10 banks (out of more than 170 banks) account for over 60% of all electronic payments.
- Bengaluru has the highest card acceptance, Mumbai and Delhi come second, while Kolkata has the least.
- In the sector, 56% of public limited companies and 47% of women proprietors believe that managing currency is tough, and would rather accept card. Among partnerships, 42% accepting cards believe that their sales increase due to cards acceptance. In the overall sector, this belief is held by 24%.
- Among people with a post graduate degree, 31% understand that cashless transactions are less risky and hence adoption is much higher.
- Payments for mobile phones, school fees and IT AMCs are mainly done in cash (93% , 74% and 78% respectively).

Payment patterns among households:

To assess the preference towards cashless transactions among households, we conducted a survey among household across eight locations. Through a structured questionnaire, we interviewed 3066 households, which included rural and urban households. The survey findings threw up the following observations:

- Only about 3.6% of the households in India make cashless transactions. In urban India, approximately 11% of the households are involved in cashless transactions, while in rural India, only 0.43% of the households make cashless transactions.
- At an all-India level, 0.52% of the total household expenses are incurred in cashless instruments. The urban figure is 1.62% and the rural figure is 0.43%.
- The top five items that have the highest non-cash component are rent (11%), electricity (4%), clothing (7%) and footwear (5%), education (4%), beverages (3%), with the clothing and footwear category taking the biggest share. However, in the metro cities, especially in Bengaluru and Mumbai where POS acceptance network and retailer awareness is high, these percentages are at least twice as much.
- Most items that attract high cashless expenses are influenced by local factors.
- The main reasons for not using cashless: non-acceptance by the seller, low transaction amounts and non-availability of cashless payment instruments for masses.
- It appears that if households have an incentive to keep records of financial transactions, they will have higher chances of incurring non-cash expenditures.
- Given that the supply-side bottlenecks are more prominent than the demand-side bottlenecks, the direct intervention in terms of incentivizing sellers to accept non-cash payments would have the maximum impact. These incentives are direct incentives given to the sellers; reduction in transaction fees; and measures that ensure security of financial transactions.
- People in the monthly income band of Rs 75,000-100,000 are the most prolific users of cashless instruments.
- Professionals with a post graduate degree are most likely to use electronic channels for payment needs (11%).

Government's role in promoting cashless transactions:

The Government has an active role in promoting cashless instruments by providing incentives for certain consumption items and in making some other payments mandatory.

Broadly, there are two things that the Government can do—directly promote cashless transactions in the sectors it is present and introduce policy initiatives.

- The Government can mandate payment through non-cash instruments for many sectors where it is the only recipient. For example, taxes, passport fees, collection of fees, etc.
- It can mandate payments through electronic payments for households availing PDS or other government programs.
- A micropayment structure based on UID will help the Government attain financial inclusion as well as a cashless economy. Government departments should be able to now disburse benefits by simply generating a list that contains a UID number in one column, and in another column the payments against it. (Payments based on UID can also be made for MNREGS.)
- As a policy maker, one of its main jobs is to ensure the network size. One way to do that would be to lower or remove all transaction costs (involved with cashless).
- Another initiative would be to announce tax incentives to households that make payments to the unorganized sector such as to various domestic helpers. This will aid the Government in achieving cashless transactions as well as encourage financial inclusion.

The Government can directly promote cashless payments in the sectors where it is present and introduce policy initiatives for sectors where it isn't

Recommendations

The road to cashless needs a combination of four factors –

1. Customer acquisition

Our recommendations to make e-payments more accessible through prepaid payment instrument include:

- a. Zero KYC for all prepaid payment instruments (maximum balance at INR 50,000) with restriction only on cash-withdrawal and forex transactions.
- b. On all prepaid payment instrument allow e-KYC using the Aadhaar infrastructure, which eliminates the need of collecting and verifying paper documents from consumers. This will enable the payments industry to work on a ubiquitous initiative and authenticate the identity of people.

2. Availability

- a. BC activities for basic services like cash-in and cash-out to be enabled at the everyday use merchant categories, like the post office, LIC branches and agents, petrol stations and domestic gas dealerships, outlets of utility companies like BSNL and MTNL, mobile connection and top-up retailers, etc.
- b. To gain exponential increase in the adoption of cashless payments, the highly proliferated mobile phone channel is most suitable. Among telecom technologies, USSD is the most prevalent, pervasive and widely used option. It is possible to get a USSD code from all telecom operators making it truly an interoperable option.

3. Dis-incentivize cash, accelerate acceptance

Here are a few examples of how either the customer or merchant or both can be encourage to convert a cash transaction into a cashless one:

- a. The RBI should levy a charge on all cash-withdrawals and cash deposits made by any mode (ATM, Cheque, withdrawal slip, cash at POS) above INR 2000.
- b. Tax breaks (income tax, service tax, etc.) to merchants on transactions paid through e-payments to increase e-payment acceptance and to drive whole-hearted acceptance of POS infrastructure and the MDR concept.
- c. Discounts to be offered to consumers on certain types of payments in case they use an e-payment option.
- d. No surcharge should be allowed by any merchant to customers for any type of electronic payments.
- e. Income tax payments are now mandated to be an e-payment. Payments for goods and services of certain merchant types in towns and cities with a certain population and above should be mandated to be electronic in case the amount is INR 2000 or above.

4. Awareness and education

- a. A massive campaign at the country level by the Government, regulators and the industry together needs to be undertaken for at least 3-5 years on a continuous basis to highlight the options available for e-payments for all consumers and benefits they offer over cash
- b. We can draw example from the 'Do Boond' campaign to eradicate polio disease in the country. A similar exercise at a massive scale needs to be undertaken to eradicate the 'disease of cash usage' in our country.

About the Report

In this report, we study the nature of cashless transactions by looking at the current status, challenges and opportunities ahead for four distinct pillars that are necessary to move the country from a cash economy to a cashless one. These four pillars are (a) banking infrastructure, (b) households (c) retail sector and finally, (d) Government.

Switching from an economy that predominantly uses cash to a cashless economy will require concerted efforts to develop a network of critical mass of non-cash users. It is important, therefore, that policy initiatives are in place to develop this critical mass. Once it has been developed, it becomes more lucrative for individuals to shift from cash to cashless transactions. Our recommendations are based on this network effect.

Objective

The report aims to provide an estimate of the cashless transactions in India and the advocacy for going cashless. The estimation will involve the following:

- Estimating number of cashless and transactions
- Identifying major sectors that have cashless as well as cash transactions
- Identifying areas where cashless transactions can replace/substitute cash transactions
- Identifying factors that promote or inhibit cashless transactions.

Methodology

The data and analysis in the report is done based on extensive surveys of households and retail enterprises, supplemented with information from authenticated secondary sources, including Reserve Bank of India (RBI), National Sample Survey Organisation (NSSO), Indian Council for Research on International Economic Relations (ICRIER) and others.

Retail sector survey: We conducted a survey to estimate the number of cashless transactions among retailers and wholesalers and the bottlenecks they face. The survey consisted of 700 retail enterprises (mostly organized). The sample framework was divided by geography (four major urban metros—Delhi, Bengaluru, Kolkata and Mumbai) and retail segments in the retail sector. The sectors considered for our study include grocery, clothing and footwear, education, medical shops, nursing homes and hospitals, cab service providers, truck owners, mobile service providers, IT AMC providers, and consumer durables. We finally used the sector weights (mainly using NSSO) to arrive at the country-wide estimates.

Household survey: We conducted a survey to estimate the extent to which households, both rural and urban, use cashless instruments across geographies (metros and tier-I cities) as well as consumption items. We then identified the bottlenecks (both from the demand- as well as the supply-side) that hinder cashless transactions. The analysis was carried out via a household survey covering 3066 households across 8 locations. Population weights were then used to arrive at population estimates from sample estimates. The households were identified based on their socio-economic classification (SEC).

Introduction

According to the Reserve Bank of India (provisional estimates), the amount of currency in circulation (as of Jan 2013) stands at INR 1,158,380 crore, of which 96% is with the public changing hands circulating everyday. Naturally, this also implies a huge cost of printing and maintaining paper and coin currency (See Table 3.1a in the Appendix).

High cost of maintaining currency

The RBI, according to estimates for 2009-10, incurred an annual cost of INR 2,800 crore to just print the currency notes, which amounted to 0.4 percent of the total currency in circulation at the time. Add to this the cost of storage, transportation, security, detection of counterfeits, and the cost mounts up further. If one were to look at printing, storage and maintaining these currencies through ATMs alone, it comes to approximately INR 70 per person per year. The total number of ATMs in India stands at 60,000 (January 2010). With the cost of installing an ATM around INR 700,000 (and an equivalent amount to maintain them per year) and a plan to add 10,000 ATMs per year, the total cost of printing and distributing currency (through ATMs alone) would amount to INR 8400 crore⁷.

In other words, the cost of printing and distributing cash constitutes about 0.2% of India's GDP⁸. Given the growth rate in the volume of currency, the cost of printing and disbursing will soon become enormous. In the face of this, a moderate growth of cashless transactions by 5% a year will save more than INR 500 crore annually. Therefore, there is a direct benefit (in terms of cost savings) of moving towards cashless transactions in India. However, it is the indirect benefits that are perhaps much more important for India, especially given its objective of inclusive growth.

Benefits of cashless transactions

There are three distinct yet important indirect benefits of promoting cashless transactions in India⁹.

- It will promote financial inclusion.
- It will keep records of financial transactions.
- And it will lower transaction costs involving any two parties engaged in a financial transaction.

While the last observation is in general true for any economy, the first two are particularly relevant for India. But the exact road map to move towards a cashless economy needs to address how the proposed instruments, incentives and laws need to change to facilitate such an outcome.



⁶ Ashish Das and Rakhi Agarwal (2010), "Cashless Payment System in India- A Roadmap", Technical Report, IIT Bombay, <http://dspace.library.iitb.ac.in/jspui/handle/10054/1732>

⁷ Rs. 8400 crore = 60000 ATMS * Rs 14 lacs (Rs. 7 lacs for installation and Rs. 7 lacs for maintenance)

⁸ Cost of printing and distribution of cash (Approximately Rs. 10,000-Rs. 11,000 crore) divided by GDP is around 0.2%

⁹ By cashless transactions, we mean all financial transactions that do not involve any currency

(a) Financial inclusion

Recently, Shubhashis Gangopadhyay in his discussion paper *How can Technology Facilitate Financial Inclusion in India?* Review of Market Integration (2009) stated that more than half the Indian population is not financially included. He finds that there are about 6.3 bank branches for every 100,000 people in India, less than 3 branches per 100 square kilometers. For rural India, the numbers are 3.5 branches per 100,000 people and less than 1 branch per 100 square kilometers.

In particular, 45 percent of the rural, 28 percent of the urban and 38 percent of all households in India admit that access and availability are the main factors determining their choice of a particular bank. While it is necessary for financial inclusion that every household should have access to a bank, mere physical access is, of course, not sufficient. Therefore, apart from the recently announced incentives for banks to open “no frills” accounts, one needs to explore avenues that will reduce the cost of financial transactions¹⁰. It means that access to a cashless instrument is more important than ‘no-frills accounts’.

This is particularly important given that more than 90% of the workforce in India is in the unorganized sector, and physically accessing banks would mean huge opportunity costs for them (measured in terms of daily earnings). Initiatives such as the business correspondent (BC) model practised by various banks address up to an extent the problem of physically accessing the banks for financial transactions. These models are based primarily on a technology interface that allows households to deposit and withdraw money without having to travel to the nearest branch or ATM¹¹. In the absence of infrastructure that can accept cashless payments at various outlets, these households will still have to incur transaction costs while using cash in order to purchase or sell various goods and services.

However, financial inclusion can increase if the economy were to move towards cashless instruments. This is because, with much lower need for cash-based transaction, the entire cost of sustaining a BC model or installing ATM machines to withdraw cash would be redundant. Moreover, the transaction costs of ‘being physically present’ at the point of purchase stores are enormous, with cash that are entirely avoided now. For example, to buy regular groceries one has to be physically present there. Given that 93 percent of the labour force is in the unorganized sector, this has huge transaction costs in terms of employment loss. A cashless payment system will reduce this cost tremendously. An enabling system that promotes cashless transactions would, therefore, be the natural extension of the existing policies directed towards financial inclusion. In this report we highlight those specific cashless instruments that can facilitate and enable financial inclusion¹².

(b) Financial records

Recording financial transactions has many advantages.

- It aids the Government in collecting appropriate tax revenues.
- It can effectively detect, and help curtail, illegal transactions.
- It will give us a better estimate and understanding of the huge unorganized sector in India.
- And last, but not the least, it will help plug the ‘leakages’ in various Government programs.

The cost of printing and distributing cash constitutes about 0.2% of India’s GDP

¹⁰ In the Union Budget, 2011-12, a provision of INR 50 crore has been set aside under the Swabhiman Scheme as part of the Financial Inclusion Plan.

¹¹ Case studies on branchless banking by Corporation Bank and the Bank Sathi model of SEWA at <http://www.inclusion.in>.

¹² For an overall policy framework to enable financial inclusion, see reports by BCG and TCS.

Although we do not have accurate estimates of the usage of cash in the country, the amount is definitely enormous¹³. With cashless transactions, almost all transactions will leave a digital footprint. A system that encourages and incentivizes the 'buyer' to pay through cashless instruments (increasing use of bank to bank transactions without involving the physical currency) will have higher financial transparency. This is perhaps the most direct way of battling issues in corruption and black money in India. Digital footprints have other advantages as well. They can make public delivery systems (PDSs) much more efficient. In 2009, the Planning Commission estimated that only 27 percent of PDS expenditure reached the targeted low-income groups. The Justice Wadhwa Committee report on PDS also finds leakages in the PDS subsidy¹⁴. In fact, the Committee also recommends the use of computerized platforms that will keep a record of all transactions pertaining to the PDS. It is fair to assume that once the records are maintained, the misallocation of PDS items can be easily detected and acted upon, which will bring in transparency, auditability, and traceability.

(c) Lower transaction costs

With appropriate technology and instruments, the need to be physically present during any financial transaction can be dispensed with. This is obvious with online payments, mobile banking, mobile purse, etc. However, even though certain transactions may require that the two parties be physically present, using appropriate cashless technology, one can reduce transaction costs as cashless transactions often reduce processing costs and waiting times. For instance, in April 2011, a hike in the toll tax rates by a rupee caused a day-long traffic jam in Gurgaon on the largest toll gate in India. This expressway is the busiest inter-city route in India, handling more than 180,000 passenger car units (PCUs) daily. With toll tax rate increasing to INR 21 from the earlier INR 20, commuters as well as officials deployed at toll cabins were seen struggling to tender the exact change, causing traffic to slow down¹⁵.

The process of calculating and tendering the exact change is often cumbersome and time consuming. It is also subject to rounding-off errors. Recently, RBI has notified that currency below 50 paise will be withdrawn. With various bill amounts that run into two digits after the decimal point, it would be now open to higher rounding off errors and may lead to rise in opportunistic behaviour by a certain percentage.



¹³ The estimate according to the Finance Minister is INR 45,00,000 crore. See <http://www.asianage.com/india/indian-black-money-estimated-around-rs-45-lakh-crore-076>

¹⁴ See <http://pdscvc.nic.in/report%20on%20computersisation%20of%20PDS.htm>. This is also substantiated by similar studies conducted by the Planning Commission of India. Although estimates vary, the conclusion is the same.

¹⁵ http://findarticles.com/p/news-articles/times-of-india-the/mi_8012/is_20110403/extra-rupee-takes-toll-delhi/ai_n57214461/

Existing scenario of electronic payments in India

The banking sector in India has 171 banks (as reported by RBI in 2009). Of these 166 are scheduled commercial banks while 5 are non-scheduled commercial banks. A brief description of the key indicators for the scheduled commercial banks is given in Table 3.2a in the Appendix. Public sector banks constitute the largest market share (approximately 80% in terms of deposits). While profit per employee as well as wages as a cost are dissimilar across banks, however, return on asset (ROA) numbers are very similar.

Volume and type of electronic transactions



Where does the banking system stand as far as cashless transactions are concerned? The total volume of electronic payment systems (EPS) in 2010-11 stood at close to 90 billion¹⁶, a five times increase in eight years. The instruments included in this are ECS (electronic clearing systems), NEFT (interbank electronic fund transfer systems) and credit and debit cards¹⁷. In terms of transactions, credit and debit cards still make up the bulk, with 55% of total EPS transactions.

What we are primarily interested in, however, is the amount of money in transactions, which was more than INR 13 lakh crore in 2010-11. This has increased a fantastic 25 times in eight years (2003-04 to 2010-11)¹⁸. It is not uniform across all the instruments, though. While ECS (debit) has grown more than 30 times and NEFT more than 50 times, credit card and debit card growth rates have been modest and are only around 5 times. From a collective share of 43% of total EPS in 2003-04, the collective share now stands at less than 10% for credit and debit cards put together (see Table 3.4b in the Appendix).

We also need to look at the average amount per transaction. The current average amount per electronic

The total volume of electronic payment systems in 2010-11 stood at approx. 90 billion, growing five times in eight years

^{16, 18} www.rbi.org.in

¹⁷ These calculations are done without considering RTGS (Real Time Gross Settlement) which by itself comprises the highest volume in terms of Rupees. This is because RTGS are applicable for transactions exceeding a minimum value. Therefore, very few households make transactions through RTGS. The amount transacted through RTGS is usually 30 times that of NEFT.

transaction is INR 14,403. NEFT has the highest average amount per transaction and is close to INR 71,000. The average amount per transaction for credit and debit cards stands at INR 2,848 and INR 1,632, respectively. Clearly, the above numbers suggest that households are not averse to EPS if it involves interbank transactions but are averse to using debit and credit cards. The possible factors that explain such low usage of these cards are perceived higher transaction costs, lower transaction amounts, and transaction security. These are the factors that were brought to light in our household and enterprise surveys. The low growth figures for credit and debit cards are particularly worrisome. The growth rates have been extremely modest whether we consider the number of transactions or the amount of transactions. What is of particular interest is the fact that the amount per transaction has also shown an extremely gradual growth for credit and debit cards. Therefore, if the current trend continues, a mere push for increasing the number of cards will not guarantee a substantial growth in the number as well as amount of transactions. More measures will be needed, and we discuss them later in this report.

Table 3.1: Electronic payments by banks

	NEFT (106 Banks)	RTGS (120 Banks)
Number of transactions (in millions)	15.77	4.27
Volume of transactions (in INR billions)	1,145.33	41,901
Percentage of transactions by top 10 banks (in millions)	64.7	58.95
Percentage of volume of transaction by top 10 banks (in INR billions)	65.7	62.35
Number of banks that are in the top 10 in terms of volume and number of transactions	9	8

Source: www.rbi.org.in

Types of banks using EPS

Even as we see the aggregate scenario of EPS, it is worthwhile to look at the kind of banks that are involved in EPS. In Table 3.1 we consider the breakup of NEFT and RTGS transactions by bank types. It is clear that 10 banks (out of 171) contribute the major chunk of EPS measured by number of transactions as well as amount of transactions. Together, these 10 banks make up around 60% of all EPS.

There are seven banks (one nationalized, two private and four foreign) that feature in the top 10 irrespective of whether we consider NEFT and RTGS (in terms of transactions and volume). This clearly means that most banks do not contribute substantially to cashless. Therefore, there is an enormous scope for encouraging them to initiate electronic payments. Note that between NEFT and RTGS, the former is more a part of retail payment (initiated by individual households) and it is there that close to two-thirds of the transactions are done by only 10 banks. A policy thrust that encourages few more banks to initiate NEFT will take EPS a long way.

Electronic payments through ATMs

Apart from the EPS, the other electronic based system (although not cashless) that is used by households is that of ATMs. As of year 2010, there were over 60,000 ATMs. However, the ratio of onsite to offsite ATMs is still greater than one. While ATMs are actually a process of converting cashless to cash, any expansion idea must address a proportionately higher increase in offsite ATMs.

Table 3.2: Spread of ATMs

Type of the Bank	Branches		ATMs	
	Scheduled Commercial Banks	Public Sector Banks	Private Sector Banks	Foreign Banks
Rural	20,773	19,567	1,201	5
Semi-urban	17,638	14,595	3,037	6
Urban	16,007	12,920	3,027	60
Metropolitan	14,742	11,743	2,762	237
Total	69,160	58,825	10,027	308
Onsite	32,679	23,797	8,603	279
Offsite	27,474	16,883	9,844	747
Total	60,153	40,680	18,447	1,026
Percent of Offsite to total ATMs	45.7	41.5	53.4	72.8
ATMs per branch	0.87	0.69	1.84	3.33

Source: www.rbi.org.in

Geographic spread of EPS

We identified a set of 50 cities that are the most banked as well as have the highest growth potential. These cities were identified using two criteria—total volume (in terms of deposits and credits) as well as composite growth (deposit and credit growth). The total volume in India is INR 87 lakh crore, while the composite growth rate for all banks together is 22 percent. The four metros and Bengaluru, not surprisingly, show the highest propensity for the usage of cashless instruments.

The four metros and Bengaluru, not surprisingly, show the highest propensity for the usage of cashless instruments

The 50 cities we have identified (marked in the map below) have a robust banking infrastructure. To move towards a cashless economy, these are the cities to target for growth. For our survey, we chose eight cities from this list.

Cities with high potential for EPS

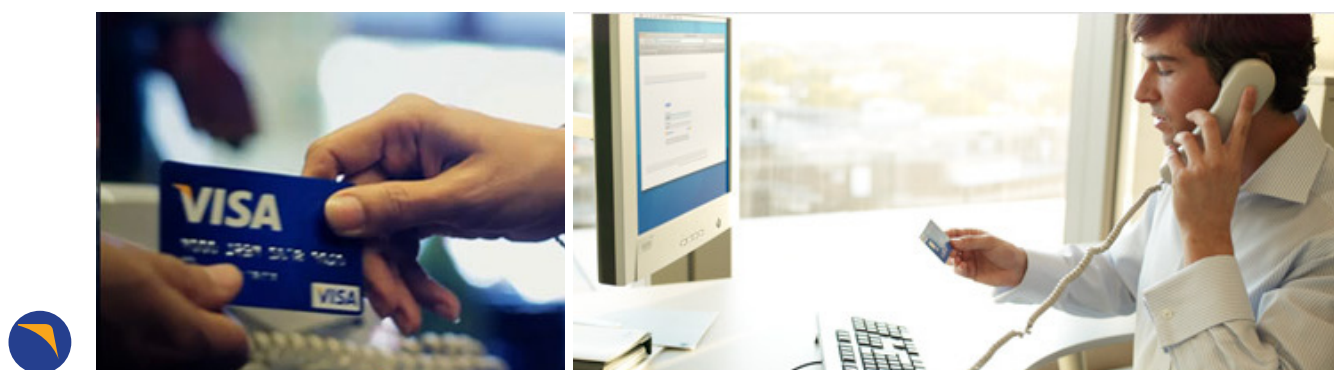


International trends in electronic payments

Worldwide, there is tremendous interest among policy makers, academicians and commercial enterprises to explore the possibility of moving towards a cashless economy. However, cash continues to remain the predominant form of transaction.

In Europe, it accounted for 78% of Euro 388 billion retail payments in 2008, or nearly Euro 301 billion transactions¹⁹. In 2008, the total cost of distributing, managing, handling, processing and recycling of cash and that of accepting cash payments was Euro 84 billion or 0.60% of Europe's GDP. Although it is expected that there will be a significant increase in the use of cashless payments and a general decline in the number of cash payments in Europe by 2014, cash will still remain the continent's main retail payment mode. These European figures are significant. Between 2000 and 2008, cashless payments grew by 160% or at a compounded annual growth rate (CAGR) of 6.2%. In fact, Iceland is ranked number one in terms of proportion of cashless transaction to total transactions in retail sectors. Less than one sixth of retail transactions is in cash²⁰. Retail cashless payments in the USA increased at a CAGR of 4.5% to USD 102 billion between 2000 and 2008.

Recently a study by credit rating and research agency, Moodys.com analysed the impact of electronic payment instruments (credit and debit cards) usage on GDP for 56 countries²¹. The study calculates that, for the 56 countries in the sample—which collectively account for 93% of the world's gross domestic product—electronic card usage added USD 983 billion in real dollars to private consumption and GDP from 2008 to 2012.



Electronic card usage added USD 983 billion to private consumption and GDP for 56 sample countries from 2008 to 2012: Moodys.com

¹⁹See EPC (European Payments Council) newsletter http://www.europeanpaymentscouncil.eu/pdf/EPC_Article_112.pdf

²⁰Iceland is ranked #1 in terms of proportion of cashless transaction to total transactions in retail sectors. Less than one sixth of retail transactions are in cash. www.dgwbirch.com/papers/go/go010208.pdf

²¹Moody's Analytics (2010) whitepaper available on the Visa website: http://corporate.visa.com/_media/moodys-economy-white-paper.pdf

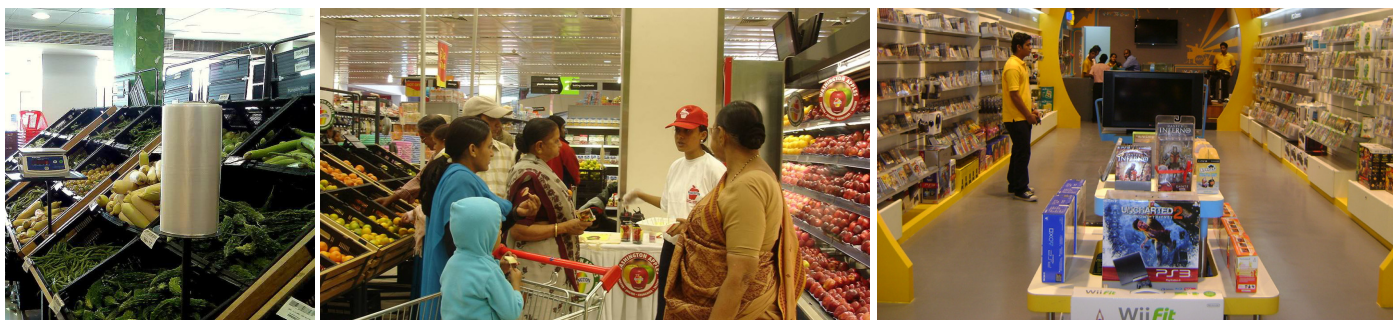
The contribution of cashless instruments to total consumption and GDP are given in table 2.7a and 2.8a in the Appendix.

The Moodys.com²² study also analyzed the impact that future electronic payment instruments usage will have on economic growth. The struggling global economy grew in real GDP by only 1.8% per annum in the 2008–2012 time period. What the report found was that without increased card usage, that growth would have been 1.6%. The report also found that in India, there was an increase of USD 1.5 billion in the GDP because of greater card penetration.



²² Moody's Analytics (2010): http://corporate.visa.com/_media/moodys-economy-white-paper.pdf

Payment Patterns in the Retail Sector



Background: The Indian retail industry

The Indian retail sector is divided into organized and unorganized segments. Organized retailing refers to trading activities undertaken by licensed retailers, that is, those who are registered for sales tax, income tax, etc. These include the corporate-backed hypermarkets and retail chains and also the privately-owned large retail businesses. Unorganized retailing, on the other hand, refers to the traditional formats of low cost shops like the kirana shops (corner shops and mom-and-pop stores), owner-manned general stores, paan/beedi shops, convenience stores, handcart and pavement vendors, etc²³. Usually these shops employ 2-3 employees and operate in less than 100 square feet area.

Retail is the largest source of employment after agriculture and constitutes about 10% of India's GDP²⁴. The current prevalence of cashless and its future scope in India depend upon the growth of retail sector in general and organized retail in particular. This can be seen in two important statistics. For the period 2003-2007 the CAGR for the retail sector as a whole is 11%, while for the organized retail sector, it is approximately 19% (ICRIER, see Table 4.1). Thus, overall, the growth of the organized retail sector is much higher than the growth in retail sector. The share of organized retail out of total retail is showing an upward trend in five out of the eight sectors²⁵. The three sectors where the proportion of organized retail to total retail is reducing are beverages, the clothing and footwear sector and the furniture and furnishing sector (see Figure 4.1). This clearly has strong implications about the kind of retail sectors that are more likely to have cashless transactions currently or have the potential.

Using the estimates from the Indian Council of Research on International Economic Relations (ICRIER) and assuming the CAGR for the three years 2004-2007 to hold true for the next three, our estimate for 2010-11 is USD 372 billion for the retail sector, of which organized retail is a mere USD 15.24 billion (4.1%). The expenditure on food and groceries alone constitutes about 54% of total retail expenditure. All other sectors contribute less than 10% individually, except clothing and footwear. The sectoral composition in organized retail is given in Figure 4.2a in the Appendix. Clothing and footwear contributes 37%, while furniture, furnishing and appliances (essentially consumer durables) constitute 15%. Further, the proportion of organized retail to total retail for clothing and footwear stands at about 16% and 8% for furniture, furnishing etc. (see Figure 4.3a in the Appendix).

The organized retail sector is growing at a higher rate than the retail sector as a whole

^{23, 24} CCI (2009), "Retail Industry in India", http://www.cci.in/pdf/surveys_reports/indias_retail_sector.pdf

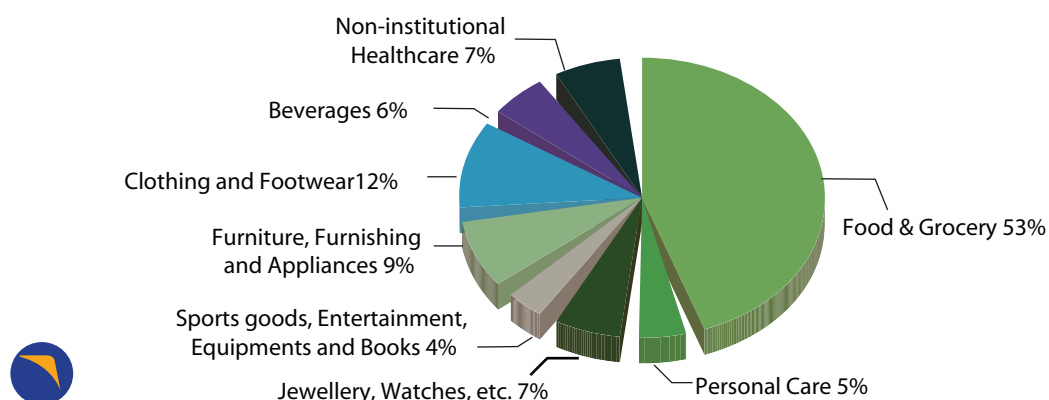
²⁵ ICRIER (2008), "Impact of organized retailing in the unorganized manufacturing sector" <http://www.icrier.org/page.asp?MenuID=24&SubCatId=175&SubSubCatId=258>

Table 4.1: Estimated retail sector for 2010-2011

Consumption Sectors	Amount of Retail	Amount of Organized Retail	OR as a Share (%) of Retail	Share of Sectors (%) in Retail	Share of Sectors (%) in OR
Food and grocery	10,720.07	95.41	0.89	53.47	9.42
Beverages	1,265.71	23.27	1.84	6.31	2.30
Clothing and Footwear	2,366.68	375.01	15.85	11.80	37.02
Furniture, furnishing appliances	1,898.64	152.25	8.02	9.47	15.03
Non Institutional healthcare	1,413.86	41.14	2.91	7.05	4.06
Sports goods, entertainment, equipments and books	735.94	158.75	21.57	3.67	15.67
Personal care	1,026.17	98.99	9.65	5.12	9.77
Jewellery, watches etc	1,401.94	133.39	9.51	6.99	13.17
All India	20,049.23	1,013.07	5.05	100.00	100.00

Source: ICRIER. All amounts are in INR billion.

Figure 4.1: Survey findings: Share of different sectors (in %) in retail



Food items contribute to approximately 59% of the total expenditure in rural households and 47% of the total expenditure in urban households. Among non-food expenditure, clothing and footwear contributes the highest percentage for both rural and urban households. Given that the expenditure on food items is the highest, a close scrutiny of items within the food sector is worth investigating. This will give us the roadmap to target cashless consumption items. The top three items, cereals and associated products, milk products, and refreshments/beverages constitute around 57% of the food consumption items across rural or urban households.

Key features of the retail enterprise survey

There is no secondary data that can be used to estimate the proportion of cashless transactions carried out by various retail sectors. Further, there is no data available to scientifically find out the possible reasons that impede cashless transactions. As a result, we undertook a retail enterprise survey to address the above gaps.

- A survey consisting of 700 retail enterprises was conducted between April and May 2011.
- The sample framework was divided by geography (four major urban metros—Delhi, Bengaluru, Kolkata and Mumbai²⁶) and retail sectors.
- The sectors considered for our study are grocery, clothing and footwear, education, medical shops, nursing home and hospitals, cab service providers, mobile service providers, IT AMC providers and consumer durables.
- The sample was further stratified into two groups—retailers (580) and wholesalers (120).
- The final stratum involved enterprises that employed up to 10 employees and those who employed more than 10 employees. The sample size per stratum is given in Tables 4.2a-4.4a in the Appendix.
- We surveyed retailers as well as wholesalers. For enterprises (retail or wholesaler) surveyed under clothing and footwear, consumer durables, medical shops and groceries, we only included units that have installed point-of-sale (POS) machines in their premises. For the other sectors (e.g., educational institutes), sampling was not restricted to establishments with POS devices, since the prevalence of these devices in these sectors is low.

Sufficient care was taken in drawing up the sample to ensure that the surveyed retail enterprises have the infrastructure to accept or make cashless payments. In other words, our sample was largely limited to the organized segment of the retail business.

Some of the sample characteristics are given in Table 4.5a in the Appendix. In our sample, 90 percent of the units have a dedicated bank account, average number of employees is around 17 for retailers and around 20 for wholesale, and the respective average age of the units are 13 years for retail and 14 years for wholesale. The average figures are arrived at by taking the number of employees as weights²⁷. These findings are not surprising and broadly conform to the types of organizations that make up the organized retail sector²⁸.

Food gets the biggest retail spend share, making it a high potential segment for cashless payments

²⁶The geographical stratum is done for purely operational ease of sampling. In other words, as we are not interested in comparing enterprises in the identical sector across cities, the sample size per city, per sector and per organisation type (retail or wholesale) is inadequate. However, the sample size is adequate to arrive at an aggregate estimate by sector-organization combination.

²⁷We did not use the gross turnover as weights owing to two reasons. One, many (approximately 17%) of the enterprises refused to divulge the turnover figures and two, those who divulged, have an incentive to underreport.

²⁸CII-AT Kearney, "Retail in India: Getting organized to drive growth" http://www.atkearney.com/images/global/pdf/retail_india.pdf

Key findings: Estimate of cashless transactions in retail

The sample estimates of cashless by sector and organization type is given in Table 4.2²⁹. Note that the retailers as well as the wholesalers are most often in the middle of a supply chain. For the retailers, wholesalers are vertically above them in the supply chain, while the households are just below them. Wholesalers, in turn, have the manufacturers above them. Therefore, for each organization the estimate of cashless transaction need to be done at two levels—transaction vis-à-vis their buyers (households for retailers and retailers for wholesalers) and transaction vis-à-vis their suppliers (wholesalers for retailers and manufacturers for wholesalers). Thus, the table presents for each sector and organization combination, two estimates—cashless transactions with buyers and cashless transactions with sellers.

Table 4.2: Survey findings: Cashless transactions estimate (retailers and wholesalers)

	Retailers			Wholesalers		
	Cashless with Supplier (%)	Cashless with Buyer (%)	Average Cashless	Cashless with Supplier (%)	Cashless with Buyer (%)	Average Cashless
Cab services providers	39.02	39.05	39.04			
Clothing	58.09	41.28	49.69	63.51	47.76	55.64
Consumer durables	56.59	39.02	47.81			
Footwear	64.29	28.99	46.64	69.74	31.86	50.80
Groceries	55.11	30.94	43.03	50.47	44.83	47.65
IT AMC service providers	43.47	41.44	42.46	48.84	36.41	42.63
Medical shops	51.66	24.61	38.14			
Mobile phone kiosks	26.09	9.30	17.70			
Nursing homes/hospitals	21.83	29.27	25.55			
Schools (kindergarten, primary schools or secondary schools)	33.15	28.27	30.71			
Transporters or truck owners	36.51	46.98	41.75			
Travels agencies	16.22	31.70	23.96			
Total cashless	47.43	34.16	40.79	46.59	41.32	50.21

²⁹These estimates are representative of the organized retail sector.

Table 4.3: Survey findings: Cashless estimates by organized retail sectors



Consumption Sectors	Amount of Retail	Amount of Organized Retail	Organized Retail Share (%) to Total Retail	Cashless Transactions Share (%) in Organized Retail	Amount of Cashless Transactions	Cashless Share (%) to Total Retail
Food & Grocery	10,720.07	95.41	0.89	43.03	50.51	0.47
Clothing and Footwear	2,366.68	375.01	15.85	48.41	316.85	13.38
Furniture, furnishing and appliances	1,898.64	152.25	8.02	47.81	140.12	7.38
Non Institutional healthcare	1,413.86	41.14	2.91	27.95	14.02	0.99
All India	16,399.25	663.81	4.04		521.49	3.17

All amounts are in INR billion.

What are the volumes: In our sample (that mainly constitutes of the organized retail sector), the aggregate percentage of cashless transactions to total transactions are approximately 38% for the retailers and 50% for the wholesalers. If we use 38% as the representative cashless transaction for organized retail (which in turn is only estimated at around 7.5%), we get an estimate that approximately 3% of all retail transactions are in cashless format.

The estimate can be further fine tuned. Consider the four consumption items—food and groceries, clothing and footwear, non-institutional medical expenses and consumer durables. These four sectors explain about 82% of all retail and 65% of organized retail. The share of cashless transaction to total retail transaction is given in Table 4.3. From the table, it is evident that the total cashless transactions (amounting to INR 521.49 billion) as a percentage of total retail transaction is a meager 3.17%. This is because of two things. One, the share of organized retail (in these four sectors) is only 4.04% of total retail transactions and two, the proportion of cashless transactions themselves are below 50% for these sectors. In terms of gross amount, only INR 521 billion is transacted cashless out of a total transaction of INR 16,399.25 billion in these four sectors³⁰.

Only INR 521 billion is transacted cashless out of INR 16,399.25 billion in the top 4 consumption sectors

³⁰Note that since our sample frame had only the four major metros, the aggregate estimates can overestimate cashless transactions.

Who prefers cashless transactions: The extent to which cashless transactions are made between two parties depends mostly upon both parties agreeing to do so³¹. Therefore, it is important to ask the following set of questions:

- Who initiates the transaction process?
- What is the preference of the retailer vis-à-vis cash and cashless modes of payments?

The first question has an important implication. It can be hypothesized that the mode of transaction (cash or cashless) in a supply chain will often be decided by the first mode of transaction. This is because, converting cash to cashless (depositing a payment in the bank) or converting cashless to cash (withdrawing a payment from the bank), involves transaction costs, however miniscule they may be. This is especially true given that the cashless network is not prominent³². Thus, for cashless transactions to prevail, one needs to look at two distinct transactions. The first one is between the retailer and the household and the second one is between the retailer and the wholesaler. The preference for cashless or cash between the two parties in each of these transactions eventually determines the nature of transaction. In Table 4.4 below, we present the figures for the same. We only consider the retailers as they cover all the consumption sectors.

Table 4.4: Survey findings: Initiator of payments and preference of cash (percentages)

	Retailers			Supplier Initiated	Cash preference with Buyers	Cash preference with Suppliers
	Cashless with Buyer	Cashless with Supplier	Buyer Initiated			
Cab services providers	39.05	39.02	43.21	77.9	54.76	54.76
Clothing	41.28	58.09	65.54	46.52	80.05	54.11
Consumer durables	39.02	56.59	43.89	61.36	73.17	26.83
Footwear	28.99	64.29	49.81	66.07	70.75	20.16
Groceries	30.94	55.11	54.58	71.55	76.69	38.04
IT AMC service providers	41.44	43.47	48.4	72.77	56.58	57.27
Medical shops	24.61	51.66	26.27	32.84	63.55	34.98
Mobile phone kiosks	9.3	26.09	82.32	66.58	89.06	73.44
Nursing homes/hospitals	29.27	21.83	60.62	80.37	68.29	63.41
Schools (kindergarten, primary schools or secondary schools)	28.27	33.15	75.88	70.28	62.61	59.86
Transporters or truck owners	46.98	36.51	55	77.86	56.10	53.66
Travels agencies	31.7	16.22	82.24	78.68	53.89	82.95
Total cashless	34.16	47.43	57.28	69.79	69.95	43.65

³¹As mentioned earlier, cash transactions are prohibited by law in very few cases. For example, payment of electricity bill exceeding a particular amount, by cash, is prohibited in some cities.

³²The necessity of creating a cashless network will be discussed later.



Table 4.5: Survey findings: Correlation between cashless payments and other relevant factors



	Cashless with Buyer	Cashless with Supplier	Buyer Initiated	Supplier Initiated	Cash Preference with Buyers	Cash Preference with Suppliers
Cashless with buyer	1.00					
Cashless with supplier	0.28	1.00				
Buyer initiated	-0.34	-0.59	1.00			
Supplier initiated	0.18	-0.52	0.42	1.00		
Cash preference with buyers	-0.53	0.30	0.25	-0.34	1.00	
Cash preference with suppliers	-0.19	-0.88	0.74	0.42	-0.17	1.00

The suppliers initiate almost 70% of the transactions while the buyers initiate about 57% of the transactions. This means that retailers are mostly the 'takers' regarding the transaction methods. Next we look at the preference towards using cash for transactions vis-à-vis the buyers and the suppliers. With the buyers, 70% of all retailers prefer to perform cash transactions, while only around 44% of suppliers prefer using cash. Currently, suppliers do not have the option of cashless transactions. Clearly there is a significant liking to use cash for transactions with the buyers than with the suppliers. It is interesting to note that, only with travel agencies, the percentages work the other way round. That is, the preference of buyers to use cash is significantly lower (54%) than that of suppliers (83%). From our discussion pertaining to cashless transactions by households for travel related expenses, it was evident that many of these expenses were 'reimbursable' implying that the households preferred a financial record. This means that the households (who also initiate the transaction in 82% of the cases) preferred cashless payment systems for travel related expenses.

Reasons for preference for cash: Going by the overall percentages, preference of buyers for cash, as against that of suppliers can be because of one or many of the following things.

- Because of lower transaction amounts: Bulk orders from wholesalers are easier to be paid with cashless than with cash whereas orders from households will be far lower in volume.
- Transaction security coupled with the lack of repeated interaction with the same buyer: In all likelihood, most retailers may not interact with the same buyer ever or for a long period of time. Therefore, reputation, which can be proxied by "if your payment defaults, future transactions will suffer" is not likely to be enforceable between the retailer and the household. However, given that there could be a few and designated wholesalers, and that it is the retailers who pay, the retailers would prefer more of cashless.
- Daily working capital requirements: The retailers finance their daily working capital requirements by cash. Therefore, they prefer to do maximum number of transactions (transactions with households) with cash. The only way this segment will move towards cashless is; however, if the entire supply chain moves towards cashless.
- Non-payment of service and other taxes³³: With cashless payments, the financial footprints can easily be covered (in the event that the taxes are not paid) which is difficult with cashless transactions.
- Lack of awareness amongst the merchants: We need to raise awareness among merchants on cashless transactions not being risky. The perceived risk is either on Internet security, which is again an awareness issue, or delay in payment received, which is an operational issue.

Correlation³⁴ of transactions between households and the retailer: There are three important correlation coefficients in this case. The correlation between cashless with buyers and extent to which buyers' initiate a transaction, correlation between cashless transaction and the extent to which the retailers prefer cash transactions with the buyer and finally, the correlation between who initiates the transaction and what mode does the retailer prefer between the buyers and the retailers.

Table 4.6: Survey findings: City-wise acceptance



City	Cash	Cheques	Debit Card/ Credit Card	Don't Know / Can't Say	Total
Bengaluru	57%	7%	33%	3%	100%
Delhi	77%	7%	10%	7%	100%
Kolkata	83%	11%	5%	1%	100%
Mumbai	77%	13%	10%	0%	100%
Overall	73%	9%	14%	3%	100%

The survey further revealed that Bengaluru (33%) has the highest rate of card acceptance followed closely by Delhi (10%) and Mumbai (10%). In Kolkata cash is more prevalent (83%). Clearly, cards are the most preferred mode among all electronic payment channels.

Table 4.7: Survey findings: Advantages of using cashless transaction



City	Don't Know/ Can't Say	No Need to Manage Cash	Sales Increase	No Need to Deposit	Transaction Amount not Consistent	Total
Bengaluru	3%	22%	20%	5%	51%	100%
Delhi	2%	32%	33%	3%	31%	100%
Kolkata	2%	68%	14%	10%	5%	100%
Mumbai	1%	29%	26%	8%	36%	100%
Overall	2%	37%	24%	6%	31%	100%

Bengaluru has the highest card acceptance, Mumbai and Delhi come second, Kolkata has the least. The reason Bengaluru is at the top is because people there understand best that they are not constrained by cash on hand.

Table 4.8: Survey findings: Are cashless transactions risky?



City	Don't Know	No - Not Risky	Yes - Risky	Total
Bengaluru	1%	66%	33%	100%
Delhi	1%	70%	30%	100%
Kolkata	5%	64%	32%	100%
Mumbai	0%	60%	40%	100%
Overall	1%	65%	34%	100%

Approximately 70% of the retailers prefer cash, citing lower transaction amounts, security concerns and working capital needs

³³However, this can only be conjectured as it would not have elicited required responses if asked to the retailers.

Table 4.9: Survey findings: What are the reasons for the cashless transactions to be seen as risky?



City	Cheques May not be Honoured	Don't Know/ Can't Say	Always a Delay in Receipt	Internet Security is a Risk
Bengaluru	12%	5%	59%	24%
Delhi	2%	56%	8%	34%
Kolkata	28%	13%	15%	43%
Mumbai	12%	46%	23%	19%
Overall	13%	32%	27%	29%

Note that the first two correlations have negative figures while the third has a positive correlation figure (see Table 4.9). This implies that cashless transactions of buyers will increase if either more transactions are initiated by retailers and/or if the preference for cashless by the retailer is higher. However, these two are not independent. In other words, there is a positive correlation between who initiates the payment and the preference of retailers for cash. Effectively, this means that at a policy level if either the preference for cash by the retailer is incentivized or if the retailers can initiate the payment mode, more cashless transactions are likely.

If we consider the transactions between the retailer and the wholesaler, the correlation (in terms of sign) is the same as that between the retailer and the household. Therefore, once again if either the preference for cash by the retailer is incentivized or if the retailers can initiate the payment mode, more cashless transactions are likely. In fact, the correlation figures are higher in this case implying that any incentive for retailers to go cashless or make them the initiator of the payment is likely to have more effect on cashless transactions with wholesalers than with retailers.

Key Findings: Factors that drive or inhibit cashless transactions

Any recommendation towards moving to cashless needs to address two things. It must address the possible bottlenecks (both perceived and real) that prevent cashless transactions (see Table 4.10). It must also find out the perceived advantages of cashless transactions. Policy recommendations may then be designed so that some of the bottlenecks are removed while building a framework based on the advantages.

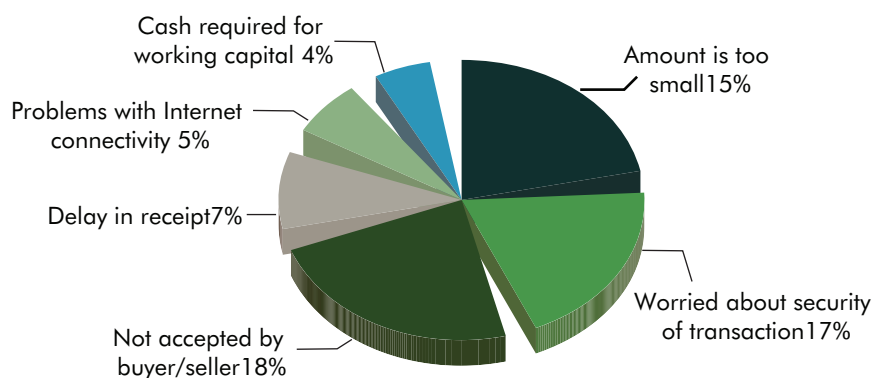
More cashless transactions are likely if the preference for cash by the retailer is incentivized at a policy level and retailers initiate the payment

³⁴Relevance here pertains to correlation between cashless transactions, the initiator of transaction as well as the preference for cash, computed separately for the buyers and the suppliers. In other words, we do not highlight correlation between items pertaining to retailer-buyer transaction with retailer-wholesaler transactions.

Table 4.10: Survey findings: Reasons for not using cashless

Sector	Delay in Receipt	Problems with Internet Connectivity	Not Accepted by Buyer/Seller	Worried about Security of Transaction	Amount is Too Small	Transaction Costs are High with Cashless	Cash Required for Working Capital
Cab services providers	4.76	7.14	9.52	16.67	11.90	50.00	0.00
Clothing	32.42	2.74	17.21	3.49	2.99	9.23	12.22
Consumer durables	12.20	4.88	14.63	19.51	19.51	26.83	2.44
Footwear	3.95	0.79	3.95	22.13	26.48	28.85	1.58
Groceries	4.91	6.13	19.63	12.88	16.56	36.20	2.45
IT AMC service providers	0.00	6.00	2.54	19.63	11.55	51.50	0.00
Medical shops	0.00	2.96	18.23	10.84	21.18	37.44	4.43
Mobile phone kiosks	0.00	0.00	7.81	25.00	30.47	32.81	3.91
Nursing homes/hospitals	9.76	9.76	17.07	9.76	9.76	41.46	0.00
Schools (kindergarten, primary schools or secondary schools)	6.43	4.12	32.59	29.93	5.75	12.18	9.01
Transporters or truck owners	4.88	2.44	19.51	24.39	12.20	24.39	12.20
Travels agencies	2.59	2.32	8.46	15.83	18.42	47.34	4.77
All sectors	6.62	5.16	17.40	16.95	14.10	33.41	4.12

Figure 4.2: Survey findings: Reasons for not using cashless



Almost one-third of the retailers surveyed cite high transaction costs as an important reason for not using cashless (see Table 4.11, Figure 4.2). The other three important reasons for cash payments are non-acceptability by all, smaller amounts and security of transactions. These four together constitute around 85 percent of all the reasons cited for cash transactions. Transaction costs and small amounts together constitute about half of the reasons. This clearly means that reduction in transaction costs (in forms payment processing fees) especially involving higher amount transactions will have significant effect. The other important factors highlighted by the retailers are non-acceptability and security. You will see that non-acceptability was a prominent reason cited by the households too. However, given that the acceptability by all is an endogenous outcome depending upon how other issues are addressed, we would focus on instruments that can increase acceptability. Thus the broad instruments that can be targeted directly to encourage and accept cashless transactions are (a) methods to lower transactions costs; and (b) making transactions more secure.

Bottlenecks: The two bottlenecks that prevent retailers from using cashless instruments are that they perceive cashless transactions as costly, or they see them as risky. These are given in the table below. While 43% of all retailers perceive cashless to be costly, 38% perceive it to be risky.

Table 4.11: Survey findings: Cost and risk perception about cashless transactions



Sector	Cashless is Costly	Cashless is Risky
Cab services providers	58.54	39.02
Clothing	14.21	23.44
Consumer durables	36.59	34.15
Footwear	29.77	40.76
Groceries	39.13	34.78
IT AMC service providers	34.18	33.95
Medical shops	44.62	24.14
Mobile phone kiosks	57.60	43.75
Nursing homes/hospitals	65.00	46.34
Schools (kindergarten, primary schools or secondary schools)	43.06	48.11
Transporters or truck owners	36.11	38.46
Travels agencies	48.28	42.94
All sectors	43.18	38.46

Among retailers who do find cashless transactions either costly or risky, what are the possible reasons? Three reasons stand out clearly (see Table 4.12).

- Transaction costs. This was reported by households as well as retailers.
- Perceived delay in payment owing to cashless transactions. The delay could be owing to cheque clearance or other processing delays.
- The third reason (this inhibits online transactions) is the perception of risk due to lack of internet security.

Note that the requirement and installing of POS devices and system automation costs are not perceived as major costs. Indeed, of the retailers who do not have a POS device installed at their premises, around 43% plan to install it within a year.

The two bottlenecks for cashless among retailers are that it is seen as either costly or risky

Table 4.12: Survey findings: Reasons for cashless transactions being costly and risky

Sector	Why Costly				Why Risky		
	Delay	Automation	POS	Transaction Costs	Default	Delay	Internet Security
Cab services providers	4.17	8.33	29.17	58.33	27.27	9.09	63.64
Clothing	0.00	0.00	14.04	85.96	0.00	54.84	45.16
Consumer durables	20.00	0.00	20.00	60.00	42.86	28.57	28.57
Footwear	15.63	9.38	4.69	70.31	41.46	39.02	19.51
Groceries	1.64	1.64	52.46	44.26	23.81	21.43	54.76
IT AMC service providers	1.35	20.95	14.19	63.51	6.10	28.05	65.85
Medical shops	5.75	10.34	24.14	59.77	0.00	38.71	61.29
Mobile phone kiosks	5.56	13.89	13.89	66.67	26.19	61.90	11.90
Nursing homes/hospitals	34.62	7.69	15.38	42.31	37.50	50.00	12.50
Schools	19.48	0.00	4.28	76.25	0.00	32.81	67.19
Transporters or truck owners	23.08	15.38	7.69	53.85	0.00	72.73	27.27
Travels agencies	52.29	0.00	9.14	38.57	3.87	75.00	21.13
All sectors	16.05	6.43	18.86	58.66	17.39	40.74	41.87

Further even with the retailers who have installed POS device, cash remains the preferred mode of transaction (74%).

Table 4.13: Survey findings: Preferred payment modes

POS Card Reader Device	Cash	Cheques	Debit Card/ Credit Card	Don't Know Can't Say	Online Payment	Grand Total
Installed	74%	4%	21%	1%	0%	100%
Not Installed	73%	17%	5%	5%	0%	100%
Overall	73%	9%	14%	3%	0%	100%

The reason cited for accepting cash transaction are similar to the ones mentioned in the previous page. In addition 17% of the merchants said that the transaction size was too small and 15% highlighted security as a concern. (See Table 4.14)

Table 4.14: Survey findings: Reasons for not using cashless transactions

POS Card Reader Device	Do not Accept Cashless Transactions	Result in High Service Charge	Don't Know/ Can't Say	Worried About Security	Need Cash for Working Capital	Delay in Receipt	Internet Problem	Transaction Amount Small	Grand Total
Installed	17.08%	36%	2%	15%	4%	4%	5%	17%	100%
Not Installed	16.78%	38%	2%	16%	5%	5%	5%	13%	100%
Grand Total	16.96%	37%	2%	15%	4%	4%	5%	15%	100%

Partnerships accepting cards believe that their sales increase due to cards acceptance, 56% of public limited and 47% of proprietorships by female believe managing currency is tough, so they think they should accept cards. Private limited companies are at the top—77% believe accepting cashless is not risky. Among others, 44% public limited, 43% co-operative and 41% of women proprietors believe it is risky to accept cashless transactions. It is, therefore, important to raise awareness (See Table 4.16a).

When it comes to educational qualifications, people with postgraduate degrees realize that managing cash is tough and risky, hence their adoption of cashless transactions is much higher. (See Table 4.18a)

There is a need to introduce prepaid payment instruments (PPIs) for small transactions, educate people on the security of cashless transaction and the ability of solutions like mobile POS and web payments to reduce transaction costs.

Perceived advantages of cashless transactions: Three advantages stand out (see Table 4.15). All three directly affect the bottom line. Two of them directly increase sales while one cuts down on costs. Cashless transactions are helpful in currency management, that is, time and other costs involved in counting and storing currency notes are saved. Retailers also feel that cashless transactions directly increase sales. This could either be because consumers do not stop themselves from buying or buy less because of the purse constraint (amount of cash carried by the consumer). This clearly means that single transactions that have the potential to be 'large' are more likely to be enabled by cashless transactions. Our recommendation on promoting cashless, therefore, takes this into account.

Table 4.15: Survey findings: Advantages of cashless

Sector	Currency Management	Increase in Sales	Cost of Going to Banks	Buyers are Not Constrained by Purse
Cab services providers	43.90	26.83	4.88	24.39
Clothing	33.85	36.59	0.00	26.83
Consumer durables	36.59	26.83	0.00	36.59
Footwear	43.48	17.00	5.93	33.60
Groceries	42.24	24.22	5.59	27.95
IT AMC service providers	29.74	27.10	12.47	30.70
Medical shops	33.99	25.62	2.46	37.93
Mobile phone kiosks	40.63	23.44	4.69	31.25
Nursing homes/hospitals	36.59	21.95	4.88	36.59
Schools	49.31	11.25	13.14	26.29
Transporters or truck owners	32.43	27.03	8.11	32.43
Travels agencies	16.50	25.66	1.80	56.03
All sectors	36.28	24.59	5.27	33.65

Retailers see two major advantages in a cashless transaction—it increases sales (due to convenience) and decreases costs (saving on currency management).

Payment Patterns Among Households

The major initiation of cashless transactions in India, as in all other countries, comes from retail purchases triggered by households. It is, therefore, vital that we understand the extent to which households use non-cash instruments—across sectors, consumption items and geographies. We also need to assess the reasons (both perceived and otherwise) why different items have different proportions of non-cash expenditure. We carried out a household survey across 8 locations that had rural as well as urban households. In all, we interviewed 3066 households through a structured questionnaire. The households were identified based on their socio-economic classification (SEC).

Classifying the households

The SEC classifies households according to occupation and education. The SEC in the urban area can be segregated into A1, A2, B1, B2, C, D, E1 and E2. The classification is done according to the occupation and education levels of the chief wage earner of the household. The classification is elaborated in Table 5.1a in the Appendix.

The rural area is segregated into R1, R2, R3, R4. This classification is done on the basis of the type of house in terms of pucca semi-pucca and kuchcha and the education level of the chief wage earner. This classification is elaborated in Table 5.2a in the Appendix.

Key features of the household survey

We chose the SEC classification for our survey to align it with other similar surveys and studies.

- The geographical spread ensured that we had adequate representation from all the four regions of the country. We selected the four metros Delhi, Mumbai, Kolkata and Bengaluru along with four Tier-I cities—Kanpur, Surat, Jaipur and Vishakhapatnam.
- The four tier-I cities also had rural areas in their outskirts. Our sample of rural households was drawn from these areas.
- We selected 5 urban categories (SEC-A1, A2, B1, B2 and C) and 1 rural category (R1). We restricted our survey to only 6 SECs (out of possible 12) and 8 locations, as these are the types where one can observe some significant cashless transaction³⁵.
- Further, among all available SEC households, we only surveyed those households that had a bank account. This was necessary as cashless transactions without a bank account is almost impossible.
- The survey was conducted during October-November, 2010.

In the table below, we present the sample size per cell³⁶.

Table 5.1: Sample size per cell for the survey

	Delhi	Kolkata	Mumbai	Bengaluru	Kanpur	Jaipur	Surat	Vizag
SEC A1	30	30	52	37	25	42	22	26
SEC A2	70	71	40	63	75	52	82	70
SEC B1	80	46	59	47	42	55	43	51
SEC B2	30	57	47	55	59	57	76	54
SEC C	98	101	103	100	99	94	126	99
SEC R1	0	0	0	0	150	149	146	151
Total	308	305	301	302	450	449	495	451

³⁵In addition to the above, we surveyed a few households from SEC R2 in Jaipur and Kanpur who had bank accounts. True to our assumption, we did not find any cashless expenditure among these households.

³⁶The SEC classifications were done for sampling framework. We do not wish to present the results by SEC category as we believe that cashless policy initiatives should not be targeted by SEC.



Mapping the sample: The survey questionnaire gathered information on household demographics as well as details on aggregate expenditure (30 day recall or 365 day recall depending upon the expenditure item), the expenditure incurred through cash, and the possible reasons for not using card or cheques to incur these expenses.

The expenditure items were broken up into 25 distinct items. These items can be mapped at an aggregate level to the various expenditure items that are followed in NSS consumption and expenditure round surveys. The total number of households per cell is given in Table 5.3a in the Appendix.

By restricting ourselves to the six SEC categories in our sample framework, we are implicitly assuming that the cashless transactions in the remaining socio-economic categories are negligible. This implies that, given our sample framework (in Table 5.1) and the population numbers (Table 5.2), we can obtain at most 49 percent of the households in urban India (proportion of households in SEC A1, A2, B1, B2 and C over total urban household population) and 4 percent of the rural households (proportion of households in R1 to total population of rural households) who can make cashless transactions.

In Table 5.2 we present the proportion of households that incur non-cash expenditure per item. For any given item, column 2 gives the percentage of households (all India) that incur non-cash expenditure while columns 3 and 4 give the equivalent numbers for urban and rural India. These estimates are obtained by simply counting the percentage of households that at an aggregate household expenditure level incur less than 100% payment by cash.

Arriving at estimates—the mathematics: First, given that the household survey was conducted only among those households who had bank accounts, to arrive at the population estimate we had to consider the number of households in a particular category that have bank accounts. To explain the calculations, consider the following example:

- Suppose the population is 1000.
- Out of this 700 individuals stay in rural and 300 in urban areas (for instance).
- Let the proportion of individuals having bank account be 40% and 80% in rural and urban areas respectively.
- This means that at the population level, 52% individuals have bank accounts (40% of 700=280 and 80% of 300=240).
- Now, from our household survey we find that, our sample estimates of households who incur non-cash expenses are (say) 2% in rural and 10% in urban.
- This means, at the population level, 2% of 280 (=5.6) and 10% of 240 (=24) people incur cashless expenses.
- The population estimate of households incurring non-cash expenses is 24+5.6=30 approximately.
- This implies that the proportion of households incurring non-cash expenses are 30/1000 = 0.03 (or 3%).
- Note that, we are assuming the entire population that does not have access to bank accounts (480) does not make any cashless transactions either.

There is a potential 49% of households in urban India and 4% in rural India that can make cashless transactions

Estimate of cashless transactions among households

Some interesting facts immediately emerge. One, there are 3.6% households at an all-India level that have incurred non-cash expenditure in at least one item. The corresponding numbers are 11% for urban India and 0.43% for rural India. Given that about 4% of the total households incur non-cash expenditure, it appears that the willingness or awareness of households for making non-cash payments is not negligible wherever it is feasible (either by choice or by design). This simply means that households are not averse to non-cash expenditure. However, the object of our survey was to assess how many items and to what extent do they incur non-cash expenditure. If anything, the above numbers suggest that if there is a bottleneck, the effort to move towards non-cash expenditure should be more pronounced to remove the supply side bottlenecks—that is, enabling more and more providers of goods and services with the appropriate incentive and infrastructure to accept non-cash payments and make more options available for electronic payments.

Looking at the item-wise break up, we find that the top 10 items that have the highest percentage of households incurring non-cash expenditures are almost identical for both rural and urban areas³⁷. Note that, while there are 12 prominent items that have at least 1% or more households incurring cashless expenditure in urban India, the number is zero for rural India. Therefore, it is fair to infer that for rural India, there are hardly any consumption items that see an increasing household expenditure in the non-cash category. Interestingly, education expenses in rural India attract the highest percentage of households making non-cash payments (although the number stands at a meagre 0.097%).



³⁷We consider the top 8 items and not 10 because (1) these items have at least 0.5% of all households incurring cashless expenditures in both the sectors and (2) there is a four-way tie for the 10th ranked item for rural India.

Table 5.2: Survey finding: Percentage of households that incur non-cash expenditures

Item	Percentage (Households) All India	Percentage (Households) Urban	Percentage (Households) Rural
Cereals	0.50	1.55	0.05
Milk and milk products	0.24	0.75	0.02
Edible oils	0.26	0.83	0.02
Eggs, fish and meat	0.21	0.67	0.01
Vegetables and fruits	0.15	0.50	0
Sugar and salt	0.21	0.68	0.01
Beverages and refreshments	0.18	0.59	0.01
Pan, tobacco and intoxicants	0.04	0.10	0.02
Processed foods	0.09	0.31	0.00
Electricity	0.71	2.30	0.02
LPG and other fuels	0.33	1.10	0.00
Entertainment and related expenses	0.34	1.12	0.01
Other consumer services (not conveyance)	0.23	0.75	0.01
Domestic servant, cook and sweeper	0.09	0.29	0.00
Barber, beautician, tailor	0.14	0.46	0.01
Telephone and mobile charges	0.57	1.85	0.02
Conveyance	0.37	1.19	0.02
Rent	0.34	1.13	0.00
Durable goods	0.49	1.57	0.03
Clothing and footwear	0.98	3.06	0.08
Education	0.70	2.11	0.10
Medical, institutional	0.43	1.34	0.04
Medical, non-institutional	0.21	0.65	0.02
Personal care, toiletries and sundry	0.42	1.32	0.03
Rail and air travel	0.27	0.81	0.04
Total	3.63	11.10	0.43

*The percentages for the top ten consumption items are boldfaced.

Before we analyze why certain items have higher percentage of households that incur non-cash expenditure than others, let us focus on the actual amounts of non-cash expenditures.

Proportion of non-cash expenditure per item: For any given item, column 2 in Table 5.3 gives the percentage of households (all India) that incur non-cash expenditure while columns 3 and 4 give the equivalent numbers for urban and rural India. At an all-India level, 0.52% of all expenditure is in non-cash instruments. The corresponding number is 1.62% for urban India and 0.05% for rural India. There are some interesting facts that emerge out of the numbers. One, in urban areas, almost 10 items

Among households, 0.52% of all expenditure is through non-cash instruments

have at least 1% expenditure in non-cash while in rural India, none of the items have non-cash expenditure that is even 0.1% of total expenditure for that item. This means that for urban areas, while one can make larger payments through non-cash modes, the same may not be possible in rural areas.

The penetration of electronic payment channel seems to be only in select urban segments of utility bills, retail fashion, conveyance, rent and durable goods.

Table 5.3: Survey findings: Proportion of non-cash expenditure (by item)

Item	Percentage (Households) All India	Percentage (Expenditure) Urban	Percentage (Expenditure) Rural
Cereals	0.42	1.28	0.05
Milk and Milk Products	0.17	0.54	0.01
Edible oils	0.20	0.63	0.01
Eggs, Fish and Meat	0.13	0.43	0.00
Vegetables and Fruits	0.11	0.36	0.00
Sugar and Salt	0.18	0.58	0.01
Beverages and Refreshments	0.15	0.50	0.01
Pan, Tobacco and Intoxicants	0.04	0.09	0.01
Processed Foods	0.08	0.27	0.00
Electricity	0.64	2.07	0.02
LPG and Other Fuels	0.28	0.93	0.00
Entertainment and Related Expenses	0.29	0.94	0.01
Other Consumer Services (not conveyance)	0.20	0.64	0.01
Domestic Servant, Cook and Sweeper	0.06	0.21	0.00
Barber, Beautician, Tailor	0.12	0.37	0.01
Telephone and Mobile Charges	0.50	1.63	0.02
Conveyance	0.28	0.91	0.01
Rent	0.31	1.04	0.00
Durable Goods	0.44	1.40	0.03
Clothing and Footwear	0.82	2.56	0.07
Education	0.62	1.89	0.08
Medical, Institutional	0.40	1.24	0.03
Medical, Non-institutional	0.18	0.57	0.01
Personal care, Toiletries and Sundry	0.39	1.24	0.02
Rail and Air Travel	0.24	0.72	0.03
Total	0.52	1.62	0.05

*The percentages for the top ten consumption items are boldfaced.

People tend to make larger payments through non-cash modes in urban India, but not in rural areas

Combining the findings from the tables, two important facts emerge:

- a) A significant percentage of households in India makes non-cash payments in one or more items
- b) However, the aggregate non-cash expenditure is still extremely low.

Urban trends: For urban areas, the demand side bottleneck is not as prominent as the supply side bottleneck. This can be seen from the fact that 11% of urban households are aware and do incur cashless expenditure and yet, apart from clothing and footwear, none of the items have even 3% of the households making non-cash payments. However, for items where there is non-cash expenditure, some households have a significant portion of non-cash expenditure (10 items have more than 1% non-cash expenditure). This means that while a significant proportion of urban households is willing to make non-cash expenditure, the spread is only across a few items.

Rural trends: For rural areas too, the supply bottlenecks seem to be more binding. Here, a negligible percentage of households incur non-cash expenditure (0.43%). Further, the share of cashless transactions is extremely low (none exceeding 0.1%). That is, non-cash expenditure does not form a significant proportion of any item.

Therefore, for both urban and rural households, although a percentage of households make non-cash payments, none of the items by themselves attract a significant percentage of households who make non-cash payments.

Item-wise preference for non-cash expenditure: Let us now inspect in greater detail, the items that have prominent cashless expenditure. Note that given the extremely low percentage of cashless expenditure for any item in rural parts, the overall prominent items are those that are also prominent in urban India.

Therefore, we focus on the possible reasons that hold true for urban India. The following are the top 10 items (each having at least 1% percent cashless expenditure).

- Cereals
- Electricity
- Entertainment
- Telephone
- Rent
- Durable goods
- Clothing & footwear
- Medical expenses (institutional)
- Personal care
- Education

Drivers for households to go cashless

There are some distinct factors that explain why some items have higher share of non-cash component. To understand them, one has to go deeper into one of the crucial aspects of non-cash payments, i.e., keeping a record of financial transactions.

If the households have an incentive to keep records of financial transactions, they will have higher chances of incurring non-cash expenditures.

Incentives to go cashless: Such incentives are often built into most salary contracts. Most salary contracts have an explicit reimbursement (allowance) for rent, communication (usually telephone bills), conveyance allowances as well as educational expenses³⁸. This means that keeping a record of financial transactions for these items is in the interest of the households in order to claim reimbursements. Given that non-cash expenditure keeps 'digital footprints', it makes payments using non-cash instruments more likely.

Mandatory requirements: Apart from incentives to keep financial records, often mandatory requirements and infrastructure to accept cashless instruments promote cashless transactions. One example is the payment of electricity bills. Paying electricity bills in various areas is mandated by law to be paid through cheques if the bill amount exceeds a certain value³⁹.

Other factors: The infrastructure (on the suppliers' side) and the transaction amount also play an important role. Petrol cards issued by petrol pump stations are often used to incur fuel expenses because most pumps have POS terminals with them. So, when the seller has the necessary infrastructure to accept non-cash payments, there is a higher chance for the payment to be cashless. Transaction amounts also make a difference. Consumer durables involve a large amount of financial outlay per transaction. This means that households often prefer to pay using non-cash instruments to avoid the cost of carrying large amounts of cash.

Inhibitors for households to go cashless

The obvious issue therefore is how to encourage households to start using cashless instruments. For this we need to investigate the possible reasons that prevent cashless transactions. These reasons are given in Table 5.4 in the facing page. **There are two main reasons (that account for almost 94%) for not using cashless transactions.**

- Seller not accepting electronic payment is the single largest reason for people not using cards to make payment for their daily purchases. This is acting as one of the major deterrents especially for people with debit cards.
- Lack of awareness among consumers on how to use their cards for directly paying for purchases is the second largest reason for not using electronic channels for payment.

³⁸Rents usually form a large part (approximately 30%) of the salary and also attract the highest tax rebate. Telephone bills are usually reimbursed for most professionals while educational expenses for children (apart from books and periodicals) are reimbursed in many organisations. Apart from this, salary contracts have travel allowance, uniform allowance as well as perks in the form of "meal coupons". Note conveyance allowances also have almost a 1% share of cashless component.

³⁹DHBVN, the main distributor of power in South Haryana mandates that any bill amount exceeding INR 2,000 must be paid through cheques.

Hence, to incentivize people to use cashless transactions one needs to provide the following.

- Direct incentives to the sellers
- Reduction in transaction fees and tax benefits that compensate for the cost
- Measures that ensure security of financial transactions
- Educating and creating awareness.

Table 5.4: Survey findings: Reasons for not using cashless payments (in percentages)

Items	Not Accepted by Seller	Small Amount	Extra Charges are Levied	Security of Transactions	Not Aware
Cereals & cereal products, pulses & their products & spices	47.98	13.11	6.15	9.75	14.40
Milk & milk products	46.16	19.47	5.22	8.12	13.38
Edible oil	43.63	21.31	6.47	6.81	13.99
Egg, fish and meat	49.45	18.65	6.32	8.71	14.79
Vegetables & fruits	45.65	18.52	6.25	7.71	14.09
Sugar & salt	41.52	24.15	5.68	7.15	14.11
Beverages & refreshments	40.97	24.65	6.41	7.62	14.22
Pan, tobacco and intoxicant	38.25	22.17	6.80	11.84	14.49
Processed food	34.90	26.85	8.22	10.76	14.41
Electricity	30.96	27.17	8.69	10.31	14.77
LPG and other fuels	36.02	25.32	8.64	7.66	14.72
Entertainment & related expenditure	37.68	24.59	7.31	8.91	16.17
Other consumer services excl. Conveyance	41.65	18.71	8.05	10.40	16.57
Domestic servant/cook & sweeper	47.04	16.54	7.37	12.74	11.63
Barber, beautician, tailor, etc	43.08	23.58	6.24	7.03	13.37
Telephone/mobile charges	36.70	24.47	7.65	9.06	14.16
Conveyance	41.38	21.87	7.02	8.78	14.49
Rent	45.00	19.02	6.95	12.32	13.05
Durable goods	29.63	14.35	13.89	20.83	13.89
Clothing & footwear	28.52	15.46	13.56	18.40	15.82
Education	31.24	14.75	12.88	16.58	16.58
Medical (institutional)	27.95	16.10	15.83	12.98	19.82
Medical (non-institutional)	30.25	23.19	10.33	15.50	15.56
Personal care, toilet and sundry articles	38.07	21.15	8.83	10.89	14.42
Conveyance-air fare & railways	29.38	20.53	10.21	16.34	19.12
Averages	38.52	20.87	8.44	11.09	14.63

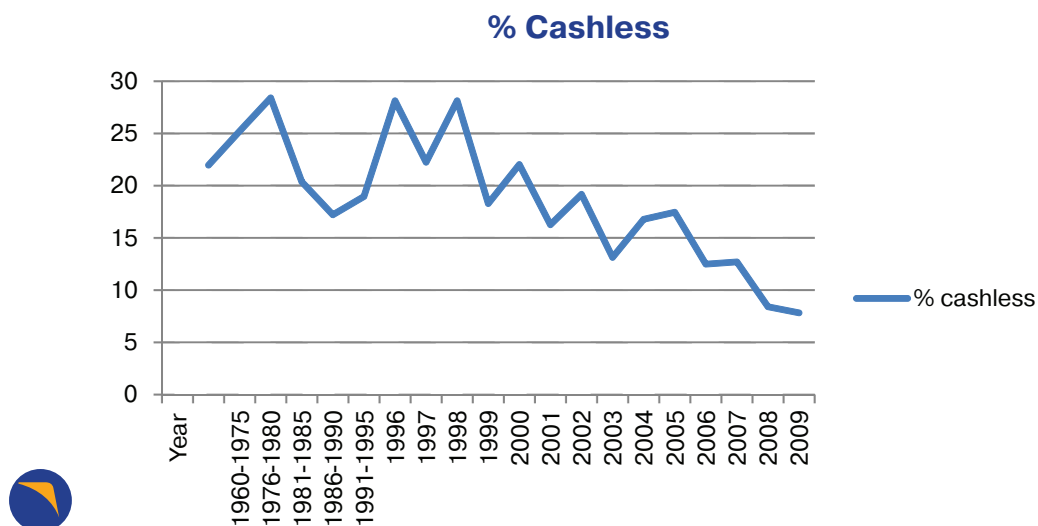


Learning curve of households to go cashless

Finally, it is important to know the learning process that is involved and the time taken for a household to use non-cash instruments. This can be inferred from the extent of non-cash usage by a household and the access to bank account for a household.

In Figure 5.1, we plot the percentage of households who use non-cash payments against the year when they had opened an account. The overall trend suggests that households that have held bank accounts for a longer duration are more likely to initiate cashless transactions. This is not surprising as familiarity with bank accounts and associated services are necessary in order to initiate cashless transactions. The obvious implication of this is that, the recent drive to open bank accounts will show results in terms of non-cash expenses, though with a certain lag.

Figure 5.1: Cashless users and year of opening bank account



Expenditure patterns of households for cashless transactions

Few of the key findings from the household expenditure pattern in non-cash instruments are summarized below.

Table 5.5: Survey findings: Pattern of non-cash expenditure by households

Description	Observation	Comments
Percentage of households incurring non-cash expenditures	Significant (3.61% overall), 11% urban and 0.43% rural	
Share of non-cash expenditure to total household expenditure	Low (0.52%) for all India, 1.62% for urban and 0.052% for rural India	Most households use non-cash expenditure in only one item. Maximum (3.6%) households use non-cash expenditure on clothing and footwear in urban India.
Items that see significant non-cash expenditures	Rent, electricity, clothing and footwear, local conveyance, education, beverages	In-built incentives, mandatory requirements as well as infrastructure available with the seller helps the usage of payment through non-cash instruments
Main reasons for not using cashless instruments	Not accepted by the seller, security and awareness	Step to incentivize sellers to use POS machines will be a major initiative.



City-wise trends

The city-wise estimates, given in Table 5.6 overleaf and Table 5.6a in the Appendix are only for the socio-economic categories considered for our study. A glance at the various items that have high proportion of cashless expenditure is a result of local as well as non-local factors. Here are some observations.

- The data illustrates that Bengaluru is the city where the usage of cash (87%) is on the lower side, while the other urban and the semi-urban areas that have been part of this survey have a very high usage of cash. Clearly if it is possible in Bengaluru, it can be replicated in other cities through awareness and higher acceptance network specifically in five areas—as mentioned below.
- Utility bill payment(96%), entertainment(96%), durable goods (92%), mobile (96%) and medical expenses (97%), are some of the areas where the penetration of the electronic channels is on the higher side since POS terminalisation is higher for these areas and this is an urban area phenomenon.
- While rent (89%) has the largest (and quite significant) proportion of cashless transactions in Mumbai, it does not feature among the top five cashless items in the other cities.
- Items like electricity payments feature among the top five items in four out of the eight cities, while durable goods and education feature among the top five items in six and five cities respectively.

Apart from very few items that attract prominent cashless expenses, most cashless transactions are influenced by local factors

Table 5.6: Survey finding: Non-cash expenditure by cities

Item	Delhi	Mumbai	Bengaluru	Kolkata	Kanpur	Jaipur	Surat	Vizag
Cereals & cereal products, pulses & their products & spices (last 30 days)	1.15	2.35	13.51	0.88	0.60	2.18	7.13	0.05
Milk & milk products (last 30 days)	0.65	2.33	2.13	0.86	0.29	0.87	0.75	0.04
Edible oil (last 30 days)	0.24	1.24	11.83	0.00	0.04	0.50	2.13	1.17
Egg, fish and meat (last 30 days)	0.00	3.29	0.79	1.52	0.00	0.71	0.00	0.16
Vegetables & fruits (last 30 days)	0.00	4.24	0.18	0.57	0.00	1.11	1.34	0.00
Sugar & salt (last 30 days)	0.00	1.87	6.62	0.34	0.32	0.38	0.89	0.00
Beverages & refreshments (last 30 days)	0.53	11.28	2.86	0.83	0.00	2.03	0.38	0.00
Pan, tobacco and intoxicant (last 30 days)	0.00	0.45	0.00	2.14	0.42	0.00	0.00	2.16
Processed food (last 30 days)	1.45	1.87	5.01	0.00	1.03	2.68	0.00	0.00
Electricity (last 30 days)	5.29	12.56	13.85	0.20	0.96	1.40	4.85	0.00
LPG and other fuels (last 30 days)	0.39	4.59	3.31	0.63	0.00	0.28	1.96	0.00
Entertainment & related expenditure (last 30 days)	0.00	13.12	3.73	0.00	0.00	3.88	0.84	0.28
Other consumer services excl. conveyance (last 30 days)	0.27	6.97	3.91	2.84	3.86	2.19	0.00	0.00
Domestic servant/cook & Sweeper (last 30 days)	0.62	2.10	2.40	0.00	0.00	0.00	0.00	0.00
Barber, beautician, tailor, etc (last 30 days)	0.32	1.41	2.08	1.28	0.13	1.00	0.49	0.00
Telephone/mobile charges (last 30 days)	1.87	11.52	15.01	1.25	0.98	0.26	3.21	0.27
Conveyance (last 30 days)	4.59	5.50	6.13	0.90	0.64	0.66	5.36	0.00
Rent (last 30 days)	2.52	27.46	9.24	1.13	0.00	0.00	0.00	0.00
Durable goods (last 365 days)	2.56	10.88	21.04	0.00	2.11	4.44	11.41	4.01
Clothing & footwear (last 365 days)	4.08	4.90	15.73	2.74	1.51	3.41	7.52	2.78
Education (last 365 days)	5.42	4.35	10.92	1.62	2.18	4.40	3.54	0.96
Medical – institutional (last 365 days)	0.13	1.91	13.57	0.85	0.00	0.75	2.28	2.12
Medical (non-institutional) (last 365 days)	1.27	6.17	12.27	0.28	2.70	0.79	1.47	0.00
Personal care, toilet and sundry articles (last 365 days)	2.04	4.10	14.58	0.00	2.89	2.52	11.50	0.31
Conveyance-Air fare & Railways (last 365 days)	7.58	4.58	7.62	0.00	2.07	4.69	1.59	0.68

*The top 5 items that have highest proportion of cashless expenditure are bold faced.



Income-wise trends

People in the income band of INR 75,000 – 100,000 emerged as the ones using the electronic channels heavily. Their cash expenditure is 66% vis-a-vis the people in the income band of INR 100,000+ (99%).

- People with middle income band (monthly INR 30,000 to 100,000) prefer to use electronic channel more
- People with very high income band (monthly 100,000+) are high cash users other than for air travel and retail fashion
- People in the monthly income band of Rs 75,000-100,000 are the most prolific users of cashless instruments. (See Table 5.7a in the Appendix)

Table 5.7: Survey finding: Payment methods used by the best-in-class income category for Rs 100,000

Item	Electronic Usage	Cash Usage
Rail/Air Travel	71%	29%
Durable Goods	61%	39%
Rent	49%	51%
Tel/Mobile	47%	53%
Med Institutional	46%	54%
Clothing/Footwear	44%	56%
Beverage and Refreshment	35%	65%
Education	32%	68%

Age-wise trends

People in the age group of 21-35 tend to spend less cash on the following items than the people in the age group of 36+.

Table 5.8: Survey finding: Non-cash expenditure by age

Item	21-35	36+
Rent	84%	97%
Personal care	93%	96%
Tel/Mobile	94%	97%
Conveyance	94%	96%

Education-wise trends

People with postgraduate or professional qualification used electronic channel (89%) much more than the illiterates, who were completely dependent on cash for all their requirements.

Occupation-wise trends

Professionals and the salaried people are using electronic payment channels more than those who are self-employed. Large business owners are also likely to use electronic payment channels more, though primarily on air travel. Shop owners, clerical staff and skilled workers need to be educated and provided with a PPI in a convenient manner to drive cashless transactions. (See Table 5.8a in the Appendix)



Government's role in promoting cashless transactions

Our discussions from the household and retail enterprise surveys bring out two reasons that are common and plaguing cashless transactions tremendously.

- Low acceptance of cashless transactions, and
- High transaction costs.

The role of the Government is prominent in removing both these bottlenecks. Here are some of the ways the Government can play a constructive role in promoting cashless transactions.

- It needs to create a critical mass or network of users, which will make cashless transactions more easily acceptable and convenient across parties.
- It needs to play its role as the policymaker to help reduce transaction costs.
- Finally, the Government is also an important sector for consumption as well as employment generation. It can be a direct contributor to cashless transactions by playing its role as a buyer as well as employment generator.

Developing the cashless transaction network

Switching from an economy that predominantly uses cash to a cashless economy requires a concerted effort to develop a network of critical mass that deals with cashless transaction. The development of this network is important as there is a switching cost for users to shift from cash to cashless.

Network effects are in place when an addition of one more individual to an existing network of individuals increases the value of all the members in the current network. This makes it costlier for the existing members to switch from the current network. Clearly, with each additional transaction conducted in cash or addition of one individual who wishes to transact in cash, the value to all the members currently using cash increases. Therefore, for any one from the existing network of cash users to switch to cashless transactions, the benefits must be significantly higher. Simply put, users will find it more attractive to switch to cashless transactions if more people are initiating them⁴⁰.

Any policy to help users shift to cashless transactions would be much more effective as the size of this network grows. It is important, therefore, that policy initiatives are in place to develop a critical mass of this network (of non-cash users). This critical mass may vary across geographies or across sectors.

Once it is developed, it becomes more lucrative for individuals to leave the existing network of cash transactions and join the network involving cashless transactions⁴¹. Our recommendations to shift towards cashless economy are based on this network effect.

Creating the platform: Role of UIDAI

Financial service is one of the most important requirements for the currently excluded socio-economic segment of the country. And given that one of the key objectives of constituting Universal Identification (UID) is to extend the delivery of services to the currently excluded, UID is actively working to facilitate the delivery of financial services. "In this regard, UIDAI believes that the plan of issuing Aadhaar numbers to the intended 60 crore residents over the next four years and setting up an online biometric authentication service will help address many of the current challenges faced by the banks in delivery of financial services. While covering the entire country may take some time, we believe that these initiatives will ease a large portion of current challenges and will help banks accelerate the accomplishment of a much deeper penetration of financial service delivery in the country⁴²."

⁴⁰See Oz Shy (2002), "The Economics of Network Industries", Cambridge University Press, for discussions on various network effects.

⁴¹At one point, the popularity of fax machines was driven by the network effect. Surely, if only one user has a fax machine, it is useless! So to make more people use them, manufacturers initially subsidized fax machine.

How will UID help solve the “last mile” problem? The process of financial inclusion based on UID primarily is linked to Aadhaar-enabled payments. The architecture of such payment structure is clearly highlighted in the draft prepared by UIDAI⁴³.

A critical part of the UID-enabled micropayments architecture is the direct deposit of Government benefits into the accounts of the beneficiaries. Government departments should be able to disburse benefits by simply generating a list that contains a UID in one column, the linked bank account in the next column and the amount in the last column.

Two critical pieces of infrastructure are required to implement Aadhaar-enabled disbursement of government benefits:

- Government departments must have IT systems that maintain a list of beneficiaries by UID, and track any program-specific information required for disbursing the benefit. At the time of disbursement, a list of UIDs and amounts are generated and sent to the bank servicing the concerned government department.
- A nation-wide payments infrastructure can then distribute payments into beneficiaries’ accounts using their UIDs.
-

The advantages of such infrastructure are significant.

- Mobile phones can instantly notify customers of cash transfers from the customer account to the business correspondent (BC) account and vice versa, via SMS. If the customer does not own a mobile phone, they can make an IVRS call through any available phone to check if the transaction has been made. Governments can also use the mobile SMS platform or IVRS to inform beneficiaries whenever money has been credited into their accounts. Also, with mobile, the existing ATM and POS infrastructure can be leveraged.
- A voice-activated system can be used to let customers control every transaction and be aware of each step in the transaction process. An interactive voice menu activated either by the mobile phone’s handset keys or by the customer’s voice can provide users simplified access to informed banking.
- A mobile phone will also allow customers to place a complaint against any BC who they think has tampered with the transaction or has short-changed them, and the transaction can be put on hold.
- The Aadhaar-based mobile transaction will offer real time online verification and authentication.
- By combining the ubiquity of mobile phones with a high volume-low-cost payments network, one will eventually be able to have a cashless transaction between two parties.

Direct contribution to cashless by the Government

Mandates and incentives: There are a large number of nodal points of interaction between a citizen and the Government. The obvious role of the Government in those cases will be to make cashless transactions mandatory for certain payments and make it mandatory for certain services exceeding a certain amount.

An Aadhaar-based micropayment structure will achieve financial inclusion and promote cashless

⁴²“Discussion Paper on Aadhaar Based Financial Inclusion” <http://uidai.gov.in/images/FrontPageUpdates/discussionpaperonaadhaarbasedfinancialinclusion15oct.pdf>

⁴³“From Exclusion to Inclusion with Micropayments” http://uidai.gov.in/UID_PDF/Front_Page_Articles/Strategy/Exclusion_to_Inclusion_with_Micropayments.pdf

For example, payment for passports can be made mandatory through cashless (online payments or bank drafts). While payments of various taxes (income, sales or excise duties) can be made mandatory through cashless modes. In addition a tax rebate (of say 1 to 2%) on payments made by households as salary to the unorganized sector (domestic servants, sweepers, etc) can boost cashless payments. This will do two things. One, the households will have an incentive to go cashless, and two, a large proportion of the unorganized sector will be financially included.

Direct government programmes: Apart from the incentives and mandatory prescriptions of cashless mentioned above, there are some direct Government programmes and initiatives where it can create a large platform for cashless transactions.

There are two broad areas where the Government can promote cashless transactions that will be quick, efficient as well as have an enormous impact. These are:

- cashless instruments to avail PDS, and
- encouraging cashless transactions with Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS) payments.

Cashless transactions and PDS

In India, food security for the poor is addressed by the Government through the Public Distribution System (PDS). The PDS beneficiaries include those who possess the Above Poverty Line (APL), Below Poverty Line (BPL) and the Antyodaya cards. However, although the Government has been allocating funds for PDS, only a fraction reaches the intended beneficiary, due to leakages and wastages.

According to the Wadhwa Committee report "PDS is inefficient and corrupt". There is diversion and black-marketing of PDS food grain in large scale. The poor never get the PDS food grain in proper quantity and quality. Given the high leakage in PDS, a natural question that emerges is whether cashless transactions will plug these leaks. The Wadhwa Committee explicitly recommends cashless transactions as one of the possible solutions.

In a recent survey conducted by IDF at Raghuvir Nagar (Delhi), it was found that about 66 percent face difficulty in getting the entitled ration. The difficulties include:

- Insufficient stock of items
- Unclean and inferior quality stock
- Facing long queues.
- The shop not always open at designated times.

How will cashless transactions help? Indeed, cashless transactions (through a pre-loaded card) will ensure that a record of the transactions is kept with both the PDS shop as well as the households. This will make the PDS much more accountable as the supply in the stock, the actual distribution, quantity distributed, and prices charged will all be now recorded. A simple pre-loaded card that can be used at POS will capture this data. Analysis of the survey data from Raghuvir Nagar further shows that household expenditure on PDS items is around 15 percent of total household expenditure for BPL families⁴⁴.

The Government can mandate cashless payment for the sectors where it is the only recipient, for example, taxes, collection of fees, etc

⁴⁴With a PDS that is less prone to leakage and is more efficient, this percentage can increase further as many households receive only about 60% of their entitlements in the current scenario.

Given that the intended PDS beneficiaries (BPL and Antyodaya) are around 80 million households in India, including them in the cashless network would immediately ensure three things:

- Increase in the total number of households who use cashless by at least 5 times the current figure.
- An immediate cashless transaction of close to INR 4000 crore.
- A PDS system that is efficient.

The calculations follow from the fact that our survey shows less than 20% of all urban households and less than 10% of all rural households use cashless transactions. Given that these numbers are based only on households that have bank accounts, the total number of households who have ever used cashless transactions will not exceed 15 million. The PDS beneficiaries are least likely to be among these 15 million. Therefore, any move that brings the PDS beneficiaries into the network immediately boosts the network size by at least 5 times and at a healthy 100 million!

Further, given that the government uses around INR 280 billion per year as PDS subsidy, this immediately means that if cashless transactions are made mandatory at the fair price shops (FPS) (approximately 5 lakhs in all), there will be savings of around INR 100 crore per year alone on printing and managing currency⁴⁵! Operationally, using cashless instruments to access PDS is not difficult. It can be mandated by law that PDS payments can only be made through a pre-paid loaded card. This would mean that a digital footprint of all PDS transactions can be maintained thereby preventing most leakages⁴⁶!

Linking cashless transactions with MNREGA

Receivables in cash is a barrier: One of the determinants of whether a cashless transaction will be initiated by a household will depend upon whether the household gets its receivables through a cashless instrument. This is because if the receivables to a household are only in the form of cash, then to make cashless payments, the household will have to incur extra cost to convert them to cashless instruments. Given that 90% of the workforce in India is in the unorganized sector and almost the entire rural population is in the unorganized sector, the chances of rural household receiving payments through non-cash instruments are minimal. Therefore, this acts as a natural barrier in using cashless transactions in rural parts (apart from fewer sellers willing to accept them).

Encourage cashless wages through MNREGS: The obvious role the Government can play here is to encourage cashless transactions through its largest programme—Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS). Nearly 84% of the total wage payment under the rural employment guarantee scheme was made through banks and post offices in 2009-10⁴⁷. The total wage disbursed to the unskilled workers under the MNREG Scheme in FY'10 stood at INR 25,634 crore and the amount paid through banks and post offices accounted for INR 21,625 crore. This meant a total of 9.2 crore individual and joint, bank and post office accounts, with banks alone accounting for 5 crore accounts. This has drastically reduced the leakages in the scheme and to a great extent enabled the rural economy to grow at a faster pace.

⁴⁵For PDS subsidies and other numbers see http://uidai.gov.in/images/FrontPageUpdates/uid_and_pds.pdf

⁴⁶Lately, there is a growing debate about replacing PDS by direct cash transfers. These direct cash transfers should be made through bank accounts.

⁴⁷http://biz.zeenews.com/news/news_content.aspx?newscatid=1&newsid=11823

Investment needed in POS: Given the volume of transaction and number of beneficiaries, linking cashless instruments (through specific cards issued by the bank) will have a significant impact on enabling cashless transaction in rural parts. However, the initiative would require that the government invests in POS at various outlets in rural India which will accept these payments. Inducing MNREGS beneficiaries to undertake cashless transactions would immediately mean that around 52 million households from rural India will be part of the cashless network. A modest amount (10%) spent on cashless expenditure from the MNREGS payment would immediately mean that close to INR 3000 crore will be the additional cashless transaction leading to an annual savings of INR 25 crore on printing and managing currency.

Best practices

It is evident that in order to develop a critical mass of people using cashless instrument, it is important that a network is built up. How did some of the countries that have a reasonably large proportion of cashless expenditure, achieve this? The theory behind this new order of electronic money dominance is certainly attractive but the actual implementation of such a system is daunting. The pioneers are typically East Asian, with Singapore being a prominent example.

Singapore

Singapore, one of the economies that have higher percentages of cashless transactions, started moving towards a cashless economy as a longrun policy initiative almost three decades ago.

Three decades of effort: The National Campaign to Minimise Cash Transactions was launched on 14 March 1985 to urge Singaporeans to carry out their transactions electronically. The three-month long campaign had three specific goals:

- to encourage Singaporeans to receive their pay through direct credit to the bank,
- to persuade them to pay their bills electronically via General Interbank Recurring Order (GIRO),
- and to promote payments through the Electronic Funds Transfer at Point of Sale system (EFT-POS).

Building awareness and mass appeal: On January 1984, a 17-member COMMICT (Committee to Minimise Cash Transactions for Manpower Savings) was set up to carry out the quarter-million dollar campaign. Members of the public were educated through video shows, automated teller machines (ATMs), demonstrations and hands-on exhibits provided by thirteen organisations, mainly banks and computer companies. Awareness was also created through mobile exhibitions set up at People's Park Centre and Parkway Parade. During the campaign, advertisements were taken out and workers also received letters and brochures promoting the conveniences of cashless paydays. To answer public queries, the Ministry of Finance also set up a hotline number.

Innovative schemes: The notion of cashless paydays was introduced. Though cashless paydays for government departments have been around since 1972, only 51% of the 1.04 million workers were receiving their salaries through direct credit during the start of the campaign. The Government also aimed to bring in the private sector and to increase the number to at least 70%. Letters were sent out to employers, encouraging them to pay their employees through the bank instead of cash. The Housing and Development Board (HDB) also relaxed its rule on ATM locations so more ATMs could be added to meet the increased demand. To ensure the smooth implementation of cashless paydays, employers were encouraged to stagger their paydays so demand for bank services could be distributed more evenly.

The second phase of the campaign was to encourage members of the public to pay their bills through General Interbank Recurring Order (GIRO). It was reported that 40 million bills paid to government departments and statutory boards were done so in cash. In a year, only a million payments were received by cheque and five million payments were made by GIRO.

Pushing electronic payments at POS: The third and most challenging part of the campaign was the implementation of accepting electronic payments at point of sales (EFTPOS)⁴⁸. To boost, EFTPOS, 10,000 people and 39 retail outlets took part in a pilot scheme in June 1985. The participants of the scheme comprised five top local banks, major retailers, petrol companies and selected government departments.

Electronic money everywhere: Keen to develop a cashless society, Singapore encouraged the use of CEPAS (Contactless e-Purse Application) stored-value prepaid cards. Their aim is to use these cards to replace those small cash transactions that are most prohibitive to a cashless society such as public transport and retail services. For example, in the public transport, the cost of processing small currencies (to tender exact fare) is substantial in terms of time usage. These cards can be categorised into single purpose stored value cards (SPSVCs) and multipurpose stored value cards (MPSVCs). SPSVCs can only be used to pay for goods and services offered by the issuer (e.g. prepaid phone cards). In contrast, a MPSVC also allows cardholders to pay for goods and services offered by other merchants or organizations.

Mexico

Mexico is one of the first countries in the world whose legislature may actually ban very large cash transactions of a certain nature. Mexico's reasons are obvious, they need to fight against illegal drug trafficking and ensnare tax evaders⁴⁹.

Europe

In Greece, any cash transaction above the value of Euro 1500 will be put under the scanner. In Italy too, discussions are in place such that any and all-cash transactions greater than the value of Euro 5000 may be outlawed. All of this is being done to clamp down on tax evaders.

Observations from country experiences

Two facts stand out from the above country experiences:

- One, the government plays an important role. This is not surprising given that moving from one payment system to the other not only requires approval of new payment systems, but also appropriate regulatory regimes. Most importantly, the government has to participate actively in developing the critical mass in the network.
- Two, the road towards cashless is determined by what are the priorities of the Government.
- For India, given the development objectives of the government, it is essential that developing a system of cashless transaction is consistent with inclusive growth. This can be achieved by an enabling system, policies that encourage certain instruments and platforms are desirable than outright banning of certain instruments and platforms.

If even 10% of MNREGS payment is cashless,
it would amount to INR 3,000 crore, saving
INR 25 crore on managing currency

⁴⁸For the evolution of cashless system in Singapore, refer to www.bis.org/cpss/paysys/SingaporeComp.pdf

⁴⁹<http://business.feedfury.com/content/45162601-the-cashless-society.html>



Recommendations

The findings can now be put together to identify the roadmap for moving towards a cashless economy. For this two things are important. Designing of appropriate instruments is necessary which is in sync with India's current path of development and her strengths. Further, a detailed policy initiative that sets the targets and then outlines the steps to get there is necessary too.

Instruments that will promote cashless

To evaluate the possible instruments that can promote cashless transactions, it is important to identify the main advantages cash brings in any transaction. It is straightforward to argue that, any cashless instrument that mimics these advantages is likely to be more readily adoptable than those which do not have these advantages. The four prominent advantages cash brings are:

- Ready acceptability by all
- No extra (financial) charges involved in using cash transactions
- Cash gives higher anonymity to the user
- Financial liability is capped at the amount of cash that is used

Apart from these listed advantages, cash, unlike anything else of value, cannot be designated as belonging to a particular person, and hence the holder has to be extra careful in not being dispossessed of it. Once dispossessed of cash, it cannot be retrieved to the rightful owner without strong circumstantial evidence. A technology-enabled purse, on the other hand, could only be operated by the possessor, through a PIN or code.

Based on the advantages listed above, the most obvious instrument of cashless transaction should be one that is

- easily acceptable to most (it is here the policy initiative about enabling who all can issue and accept cashless transactions become important),
- costs equal if not less (this is where targeted discounts or incentives to parties using cashless instruments become important), and
- should not reveal the identity of the user (this is where electronic prepaid payment instruments may not succeed initially) and details about other financial information about the user is not revealed.

Pre-paid instruments most acceptable

If one were to increase the "acceptance" of various non-cash instruments by as many agents as possible (by incentivizing various agents), the instrument that comes closest to cash are the electronic pre-paid payment instruments. Therefore, as a starting point, the instrument that can initially replace cash seems to be pre-paid payment instruments.

It is clear that pre-paid payment instruments can mimic currency the closest. However, for individuals to switch to such instruments, it is important that there are 'substantial benefits now' (and not mere perceived benefits due to occur in the future). One obvious way to make such instruments more attractive is to offer some discount on the MRPs of goods and services purchased using such instruments.

Table 7.1: Payment instruments



	Cash	Credit/ Debit Card	Semi-close Prepaid instrument	Mobile Wallet
Acceptability	High	Moderate	Med	Med
Financial cost of usage	Zero	High	Low	Med
Storage cost	High	Low	Low	Low
Security of transaction	Low	High	Med	High
Anonymity	High	Low	Med	Low
Financial liability	Low	High	Low	Moderate
Accessibility	High	Low	High	High

Semi-closed pre-paid payment instruments are redeemable at a group of clearly identified merchant locations and establishments that contract specifically with the issuer to accept the payment instruments. These instruments do not permit cash withdrawal or redemption by the holder⁵¹. The open system prepaid payment instruments (through which money can be withdrawn) do not increase non-cash payments much as ATM cards only help in withdrawing and circulating currencies. As prescribed by RBI, the maximum value of any pre-paid payment instrument has been fixed at INR 50,000. Once a group of merchants are involved in the network who would accept such pre paid instruments, these cards will have ready acceptability.

Improved POS efficiency

As of 2009-10, there are around 19 million credit cards and 190 million debit card holders and there are just 11 transactions per credit card and one transaction per debit card annually. The average amount transacted per credit card stands at INR 337. The corresponding figures for debit cards stand at INR 15. Besides, India had about 600,000 point-of-sale (POS) terminals in 2009-10 and on an average, there was less than one debit card transaction and only 1.3 credit card transactions per day per POS terminal. Thus, both from the merchants' and customers' point of view, POS terminals are highly under-utilised⁵². Among all cashless retail electronic payment systems, 27% are in ECS (electronic clearing system), 60% are through NEFT (National Electronics Funds Transfer), 10% are through credit cards and a mere 4% are through debit cards (RBI).

Use of mobile wallet

The technology involves the concept of a mobile wallet. **Mobile wallet is a mobile-enabled application and payment service provider that enables its network of users/subscribers to make convenient payments to any designated affiliates or the mobile wallet's appointed network of merchants to accept mobile wallet points as mobile based payment gateway.**

There are some existing models of cashless transactions that are practised in India with particular emphasis on financial inclusion. They are based mostly on electronic prepaid payment instruments such as the mobile phone technology. Given the increasing penetration of mobile phones—a tele-density of almost 70 (154 for urban and 33 for rural)—it is natural to base financial inclusion strategies on mobile phones⁵³. It is expected that given the current growth rate, by 2014, the tele-density will reach 97%.

Roadmap

The path to cashless has three important and basic components—mandatory, incentives and networks (MIN). The role of the government is prominent in all the three cases.

Mandatory The Government can mandate certain nature of payments to be made by cashless instruments. These can be easily achieved for instruments that involve paying directly to the Government for certain goods and services (say passport fees, tax payment, payment to railways, PDS, State Electricity Boards or to national airlines, etc) or where the Government pays (salaries, various schemes like MNREGS, other cash transfer schemes, etc.).

Incentives Given that enforcing mandatory requirements is difficult for transactions that involve two private parties (say household and retailers) or third-party payment service provider, an incentive scheme will work better. These incentives need to be given to one party to carry the cashless transactions.

⁵⁰The guidelines about who can issue these instruments and what these instruments entail can be found at Payment and Settlement Systems Act, Board for Regulation and Supervision of Payments and Settlement Systems Regulations, 2008 and the Payment and Settlement Systems Regulations, 2008 of RBI at <http://www.rbi.org.in>

⁵¹See Das and Aggarwal (2010) and http://www.rbi.org.in/scripts/BS_ViewBulletin.aspx?Id=12106

⁵²http://www.trai.gov.in/WriteReadData/trai/upload/PressReleases/816/Press_release_feb%20-11.pdf

Network Finally, for a cashless system to be successful in the long run, a critical size of the network must be developed. The role of the government along with the RBI is most crucial here. We summarize below the current status and the possible interventions for each retail consumption sector towards moving cashless.

Going from cash to cashless in India

1. Customer acquisition

Background

The research findings indicate that the process for acquiring any of e-payment instruments is cumbersome. Know Your Customer (KYC) norms act as a deterrent towards introducing many more Indians into the formal financial fold as cash is immediate, better and convenient option for the masses. We recommend that the KYC norms will have to be further simplified, especially for prepaid payment instruments for the purpose of day-to-day purchase of goods and services, while maintaining required level of control for other sensitive services like money transfer, cash out.

Today, nearly 200 million people are registered with Aadhaar and have shared all the required KYC details. In the next few years, this number will double and enabling the electronic payments industry and the financial industry to leverage Aadhaar for the KYC norms.

Solution

Our recommendations to make e-payments more accessible through prepaid payment instrument include:

- Zero KYC for all prepaid payment instrument (max balance at INR 50,000) with restriction only on cash-withdrawal and Forex transactions.
- On all prepaid payment instrument allow e-KYC using the Aadhaar infrastructure which eliminates the need of collecting and verifying paper documents from consumers. This will enable the payments industry to work on a ubiquitous initiative and authenticate identity of people.

To further push for a less-cash India, it will be critical that the prepaid payment instrument issuance be brought under the financial inclusion targets of the banks and incentivize the banks and accelerate financial inclusion in the country.

2. Availability

Background

There is a lack of transaction points for basic services like cash-in and cash-out. The RBI has offered a solution in terms of reasonably relaxed BC guidelines. However, the number of BCs where the customer can transact is still very low. Availability of cashless options needs to expand beyond formal banking channel at rapid pace.

Solution

- BC activities for basic services like cash-in and cash-out to be enabled at the everyday use merchant categories, like post-office, LIC branches/agents, petrol stations and domestic Gas dealerships, outlets of utility companies like BSNL/MTNL, Mobile sim/top-up retailers, as they continue to transact very large volumes of cash. They must be categorised as “Deemed BCs” making it much easier for banks to expand their service network. These deemed BCs need not be exclusive to any bank making it a truly interoperable channel. Further, this will drive a behavioural change in consumers who would convert their cash into electronic value more easily and frequently. Many of these Deemed BCs are also merchants. This is the first step towards driving consumers to use this electronic value to make payments instead of converting it back to cash.

- To gain exponential increase in adoption of cashless payments, the highly proliferated mobile phone channel is most suitable. Among telecom technologies, USSD is the most prevalent, pervasive and widely used option. Additionally it also takes away the inherent insecurities of SMS. It is possible to get a USSD code from all telecom operators making it truly an interoperable option.

3. Dis-incentivise cash, accelerate acceptance

Background

Today, at many places of commerce the customer is in a way incentivised to pay in cash. At IRCTC, while booking their tickets online, the cardholder pays a surcharge for using an e-payments instrument, but none when they pay cash at the railway counter to book the same ticket. Similarly, at a fuel station the cardholder pays a surcharge for using a card but not so if he pays in cash.

While the e-payments industry continues to ensure that more and more Indians have access to e-payment instruments, there is no incentive for them to use their card in lieu of cash. In many other cases, there is no “Point of Payment” infrastructure where these millions of instruments can be used.

Solution

- The RBI should levy a charge on all cash-withdrawals and cash deposits made by any mode (ATM, cheque, withdrawal slip, cash at POS) above INR 2000. RBI could collect INR 10 for every such transaction from the bank and use the pool to drive consumer awareness program on the benefits of e-payment. RBI should allow the banks latitude to pass this charge on to their consumers as a fee for cash handling over a certain amount. If the source of cash is charged, there will be less propensity from consumers to use it and will be encouraged to use the more efficient system of e-payments
- Given below are a few examples of how either the customer or merchant or both can be incentivised to convert a cash transaction into a cashless one.
- Tax breaks (income tax, service tax etc.) to merchants on transactions paid for through e-payments to increase e-payment acceptance and to drive whole hearted acceptance of POS infrastructure and the MDR concept.
- Discounts to be offered to consumers on certain types of payments in case they use an e-payment option
- No surcharge should be allowed by any merchant to customers for any type of electronic payments. MDR is now lowered to an extent that is well at or below cash management cost levels and this should be subject to all Merchants compulsorily paying at the standard MDR fixed by regulators be it government service provider or any other.
- Income tax payments are now mandated to be an e-payment. Payments for goods and services of certain merchant types in towns and cities with a certain population and above should be mandated to be electronic in case the amount is INR 2000 or above.

4. Awareness and education

Background

During the survey it was found that the most of consumers were not fully aware of the available ePayment options. Generally they were familiar with credit and debit card terms but not clear about the difference and what are the benefits of using these over cash. Familiarity with PPIs is very minimal. Most of these people still find the cash as the best, fast and most convenient for retail transactions.

Solution

A massive campaign at the country level by all players Government, regulators and industry needs to be undertaken for at least 3-5 years on continuous basis.

- We need to highlight the options available for epayments for all consumers and benefits over cash.
- We can draw example from the ‘Do Boond’ campaign to eradicate ‘Polio disease’ in the country, a similar exercise at massive scale needs to be undertaken to eradicate the ‘disease of cash usage’ in our country.

Roadmap for the Government

Enterprise payments to the Government should be mandated by cashless means wherever it exceeds a certain amount in certain categories, e.g. Electricity payments over INR 1,000 should be mandated to be paid by cashless means.

- However, the penetration of cashless transactions goes hand in hand with the growth of payment infrastructure, both issuance and acceptance in the country.
- There are close to 500,000 POS terminals in the country for card acceptance. While there has been a reasonable growth in the merchant acceptance infrastructure in the recent years, it is important to note that almost 90% of the acceptance is being done by the top three private banks and a few foreign banks. Public sector banks and non-banks under PASSA have an important role to play in increasing the acceptance infrastructure in the country, which has a direct impact on the penetration of cashless transactions.

The five main reasons (that account for almost 94%) for not using cashless transactions are:

- seller does not accept them
- the transaction amount is small
- extra charges are levied for using non cash instruments
- non-cash expenditures are unsecured transactions, and
- not aware.

Apart from the transaction amount being small, the remaining four reasons for not using cashless instruments can be addressed through appropriate policy framework. We find that the top three reasons for most of the items are the first, second and the last.

- All perceived advantages of cashless transactions have an effect on the bottom line of the business. Hence, direct intervention in terms on incentivising sellers to accept cashless payments would have the highest impact.
- direct incentives given to the sellers
- reduction in transaction fees
- measures that ensure security of financial transactions
- zero liability on customers for unauthorized transactions
- adequate and appropriate marketing of cashless instruments, transactions and benefits.

Roadmap for non-banking intermediaries

While access to banks is of concern to the urban population, the magnitude of the problem fades in comparison to rural India. There are 60,000 villages with a population exceeding 2000 that have no banking facilities. Despite the network of 82,000 bank branches of commercial banks across the country, India's banks cater to only about 5 percent of the villages. There are about 6.3 bank branches for every 100,000 people in India. In terms of geographical accessibility there are, on the average, less than 3 branches per 100 square kilometres. For rural India, the numbers are 3.5 branches per 100,000 people and less than 1 branch per 100 square kilometres of land area. These numbers alone are sufficient to infer that the simple task of accessing the nearest bank branch is often the most severe challenge. Therefore, the necessary condition for cashless—households being financially included—is not met in rural parts. The natural question therefore is to ask, which institutions can play the most prominent role here.

Roadmap for Micro-financing institutions (MFIs)

In India, non-banking institutions such as MFIs have a widespread reach. There are more than 74 million MFI clients (IDF 2011a). Around 54 million of these clients are served by NGOs and self-help groups (SHG) that are linked to banks. The remaining clients are served by various organization and lending types. While the growth outreach of the NGO-SHG programme in 2009-10 was 8.5 percent, the growth outreach of other MFIs during this period was 18%. Given the MFI reach (and particularly in rural India as 80 percent of MFI clientele is in rural India), it is natural to look at the role of MFIs for the half that is financially included. In particular, we are interested in the question: What has been the role of the MFI in promoting financial inclusion among the population who do not have any access to formal financing?

MFIs with their reach among the rural areas often assume the role of financiers of an entire community. Apart from disbursing the loans, they also play another important role—that of creating awareness and promoting financial literacy. Financial literacy through prudent financial decision-making is essential for MFIs to impart to their clients to maintain the high repayment rates. Therefore, MFIs have some natural advantages that can be exploited and therefore entrust them in creating and maintaining this network. As argued earlier, some of the major advantages that MFIs have over other institutions are:

- their spread and access to households below poverty line (especially in rural parts)
- their access to the financially excluded population
- being the nodal point of financial transactions in village communities;
- their ability to generate financial awareness among the community.

Even if the MFIs are able to convert a mere 5% grocery transactions into cashless transactions, given that groceries form 60% of rural household budget, this would mean a 0.15% commission on total rural household expenditure, involving over 400 million households! Clearly, if one were to add the direct costs of going cashless, one finds a huge space to structure these incentive figures appropriately.

Therefore, the incentive will be now for the MFIs to ensure that both households as well as store owners transact in cashless instruments. Given that cashless transactions will leave digital footprints, misreporting of cashless transactions will also be entirely avoided. The stumbling blocks can now be avoided as the MFI will dissipate the advantages of going cashless to both parties. Additionally, given the size of the market, competition among MFIs would soon follow. This would mean that the eventual share will reduce. However, the network would develop by then, ensuring that exogenous incentives are no longer needed to sustain cashless transactions ⁵⁵.

In other words, there is a perfect platform for MFIs to promote financial inclusion if one identifies the correct instrument, the process and then see how MFIs fit in.

⁵⁵Bappaditya Mukhopadhyay and Sambit Rath (2011), "Role of MFIs in Financial Inclusion" (forthcoming), Review of market Integration.



Appendix

Section 3

Table 3.1a: Currency in India

Year	Currency in Circulation	Cash on Hand with banks	Currency with Public	Demand Deposits with Banks	Other Deposits with RBI	Total (E+F)	M1	Post Office Savings	M2	Time Deposits with Banks	M3
	A	B	C	D	E	(E+F)	G	H	I	J	K
2008-2009	6,81,099	25,703	6,65,450	5,88,688	5,570	5,94,258	12,59,707	5,041	12,64,748	35,35,105	47,94,812
2009-2010	7,88,279	32,056	7,67,492	7,17,970	3,839	7,21,809	14,89,301	5,041	14,94,342	41,13,430	56,02,731
2010-2011	9,36,935	35,351	9,14,170	7,13,735	3,740	7,17,475	16,31,645	5,041	16,36,686	48,60,111	64,91,756
April 2011	9,70,209	35,770	9,47,024	6,58,496	3,374	6,61,870	16,08,894	5,041	16,13,935	50,32,053	66,40,947



Section 3

Table 3.2a: Some key indicators of banks in India

	Public Sector Banks	Private Banks	Foreign Banks	All Scheduled Commercial Banks
No. of Offices	61301	10387	310	71998
No of Employees	734594	182284	27742	944620
Deposits (in INR crore)	3691802	822801	237853	4752456
Business per employee (in INR lakhs)	870.29	798.37	1445.07	873.32
Profit per employee (in INR lakhs)	5.34	7.19	17.09	6.05
Wages (% of total expenses)	14.76	12.76	23.48	14.83
ROA	0.97	1.28	1.26	1.05

Table 3.3a: Retail electronic payment systems transactions numbers

Retail Electronic Payment Systems: Numbers (in lakhs)						
Year	Total Electronic Payments	ECS(Credit)	ECS(Debit)	NEFT	Credit Card	Debit Card
2003-04	1,669.44	203.15	78.74	8.19	1,001.79	377.57
2004-05	2,289.04	400.51	153.00	25.49	1,294.72	415.32
2005-06	2,850.13	442.16	359.58	30.67	1,560.86	456.86
2006-07	3,787.09	690.19	752.02	47.76	1,695.36	601.77
2007-08	5,353.09	783.65	1,271.20	133.15	2,282.03	883.06
2008-09	6,678.24	883.94	1,600.55	321.61	2,595.61	1,276.54
2009-10	7,181.62	981.33	1,492.81	663.38	2,342.42	1,701.68
2010-11	9,085.91	1,173.00	1,567.39	1,323.44	2,651.45	2,370.63

Source: www.rbi.org

Section 3

Table 3.3b: Retail electronic payment systems transactions numbers(Percentage share)

Retail Electronic Payment Systems: Numbers (Percentage share)						
Year	Total Electronic Payments	ECS(Credit)	ECS(Debit)	NEFT	Credit Card	Debit Card
2003-04	100.00	12.17	2.72	0.49	60.01	22.62
2004-05	100.00	17.50	6.68	1.11	56.56	18.14
2005-06	100.00	15.51	12.62	1.08	54.76	16.03
2006-07	100.00	18.22	19.86	1.26	44.77	15.89
2007-08	100.00	14.64	23.75	2.49	42.63	16.50
2008-09	100.00	13.24	23.97	4.82	38.87	19.11
2009-10	100.00	13.66	20.79	9.24	32.62	23.69
2010-11	100.00	12.91	17.25	14.57	29.18	26.09

Source: www.rbi.org

Table 3.4a: Retail electronic payment systems amount

Retail Electronic Payment Systems: Amounts (in INR crore)						
Year	Total Electronic Payments	ECS(Credit)	ECS(Debit)	NEFT	Credit Card	Debit Card
2003-04	52,142.78	10,228.00	2,253.58	17,124.81	17,662.72	4,873.67
2004-05	1,08,749.83	20,179.81	2,921.24	54,601.38	25,686.36	5,361.04
2005-06	1,46,382.68	32,324.35	12,986.50	61,288.22	33,886.47	5,897.14
2006-07	2,35,693.12	83,273.09	25,440.79	77,446.31	41,361.31	8,171.63
2007-08	10,41,991.93	7,82,222.30	48,937.20	1,40,326.48	57,984.73	12,521.22
2008-09	5,00,321.79	97,486.58	66,975.89	2,51,956.38	65,355.80	18,547.14
2009-10	6,84,886.20	1,17,612.60	69,523.87	4,09,507.47	61,824.15	26,418.11
2010-11	13,08,686.93	1,81,685.79	73,645.78	9,39,149.03	75,515.68	38,690.65

Source: www.rbi.org

Section 3

Table 3.4b: Retail Electronic Payment Systems Amount (percentage share)

Retail Electronic Payment Systems: Amounts (percentage share)						
Year	Total Electronic Payments	ECS(Credit)	ECS(Debit)	NEFT	Credit Card	Debit Card
2003-04	100.00	19.62	4.32	32.84	33.87	9.35
2004-05	100.00	18.56	2.69	50.21	23.62	4.93
2005-06	100.00	22.08	8.87	41.87	23.15	4.03
2006-07	100.00	35.33	10.79	32.86	17.55	3.47
2007-08	100.00	75.07	4.70	13.47	5.56	1.20
2008-09	100.00	19.48	13.39	50.36	13.06	3.71
2009-10	100.00	17.17	10.15	59.79	9.03	3.86
2010-11	100.00	13.88	5.63	71.76	5.77	2.96

Source: www.rbi.org

Table 3.5a: Retail Electronic Payment Systems Amount per transaction

Retail Electronic Payment Systems: Amount per transaction (INR)						
Year	Total Electronic Payments	ECS(Credit)	ECS(Debit)	NEFT	Credit Card	Debit Card
2003-04	3,123.37	5,034.70	2,862.05	2,09,094.14	1,763.12	1,290.80
2004-05	4,750.89	5,038.53	1,909.31	2,14,207.06	1,983.93	1,290.82
2005-06	5,136.00	7,310.56	3,611.57	1,99,831.17	2,171.01	1,290.80
2006-07	6,223.59	12,065.24	3,382.99	1,62,157.27	2,439.68	1,357.93
2007-08	19,465.24	99,817.81	3,849.69	1,05,389.77	2,540.93	1,417.94
2008-09	7,491.82	11,028.64	4,184.55	78,342.21	2,517.94	1,452.92
2009-10	9,536.65	11,985.02	4,657.25	61,730.45	2,639.33	1,552.47
2010-11	14,403.48	15,488.98	4,698.63	70,962.72	2,848.09	1,632.08
2011-12						

Source: www.rbi.org

Section 3

Table 3.6a: Top 50 cities with banking potential sort by ranking

Centre Name	Deposit Amount (INR crore)	Deposit growth (%)	Credit Amount (INR crore)	Credit growth (%)	Total Volume (INR crore)	Composite growth (%)
Greater Mumbai	10,07,712	18	938300	23.4	19,46,012	21
Delhi	5,97,101	11.9	501279	37.6	10,98,380	24
Bengaluru	2,05,437	20.6	158956	19.2	3,64,393	20
Chennai	1,42,967	15.3	200129	23.8	3,43,096	20
Kolkata	1,56,974	11.1	147783	27	3,04,757	19
Hyderabad	1,12,541	21.7	151834	30.4	2,64,375	27
Ahmadabad	67,874	27	65281	30.5	1,33,155	29
Pune	66,724	16.9	52104	26.3	1,18,828	21
Jaipur	32,518	26.3	52602	36.1	85,120	32
Lucknow	52,950	20.5	29562	60.2	82,512	35
Chandigarh	32,571	16.8	48102	18.5	80,673	18
Kochi	26,085	20.1	28520	51.1	54,605	36
Vadodara	27,213	20.8	24934	30.5	52,147	25
Ludhiana	17,380	15.5	31858	31.2	49,238	26
Coimbatore	18,246	23.1	28718	19.4	46,964	21
Bhubaneswar	27,337	30.8	19520	45.3	46,857	37
Gurgaon	30,881	29.5	14062	63	44,943	40
Noida	30,582	26.1	13289	41.8	43,871	31
Bhopal	28,607	38.4	15195	43.6	43,802	40
Indore	19,256	18.5	23633	40.5	42,889	31
Nagpur	24,182	27	16568	38.8	40,750	32
Patna	31,537	30.8	7338	35.1	38,875	32
Kanpur	24,868	31.4	9597	20.9	34,465	28
Thiruvananthapuram	19,807	14.2	13152	32.7	32,959	22
Surat	16,908	21.3	14456	32.5	31,364	26
Visakhapatnam	15,812	33.4	12809	51.9	28,621	42
Guwahati	20,644	24.2	7899	30.7	28,543	26
Raipur	13,936	32.8	13100	35.4	27,036	34
Panchkula Urban Estate	12,741	53.8	11303	31	24,044	43
Dehradun	19,090	2.3	3769	23.8	22,859	6
Jalandhar	15,828	13.1	6737	20	22,565	15
Navi Mumbai	16,090	40.8	5342	42.4	21,432	41
Ghaziabad	13,201	16.2	7405	13.9	20,606	15
Patiala	6,936	11.3	13175	30.8	20,111	24
Thane	13,575	19.4	6211	49	19,786	29
Faridabad	12,612	16.2	7161	27.5	19,773	20



Section 3

Centre Name	Deposit Amount (INR crore)	Deposit growth (%)	Credit Amount (INR crore)	Credit growth (%)	Total Volume (INR crore)	Composite growth (%)
Rajkot	10,147	17.5	8032	41.4	18,179	28
Amritsar	12,201	26	5796	23.3	17,997	25
Ranchi	13,221	19.5	4603	31.4	17,824	23
Mangalore	11,559	19.6	5689	19.5	17,248	20
Agra	11,202	27.6	5436	25.3	16,638	27
Madurai	8,432	14.6	7507	19	15,939	17
Varanasi	12,248	24.3	3550	35.5	15,798	27
Srinagar	9,343	31.1	6433	4.2	15,776	20
Tiruppur	3,913	21.2	11662	19.3	15,575	20
Mysore	9,520	16.3	5924	23.9	15,444	19
Vijayawada	7,234	17	7795	21	15,029	19
Bidhan Nagar	11,076	20.1	2815	47.4	13,891	26
Allahabad	11,093	20.6	2445	15.7	13,538	20
Jamshedpur	7,984	11.8	5147	17.4	13,131	14
ALL INDIA	49,54,727	18.1	37,78,512	26.6	87,33,239	22



Section 4

Table 4.1: Retail sector in India (2003-2007)

Consumption Sectors	2003-04		2004-05		2005-06		2006-07		2004 to 2007	
	Amount (INR billion)	Orga-nized retail (%)	Amount (INR billion)	Orga-nized retail (%)	Amount (INR billion)	Orga-nized retail (%)	Amount (INR billion)	Orga-nized retail (%)	CAGR (Re-tail %)	CAGR (OR %)
Food & Grocery	7028	0.55	7064	0.62	7418	0.67	8680	0.70	7.29	16.08
Beverages	212	5.19	309	3.88	373	3.49	518	3.09	34.69	13.30
Clothing and Footwear	777	21.62	993	19.03	1036	20.46	1356	18.51	20.40	14.32
Furniture, furnishing appliances	512	13.09	656	11.43	746	11.39	986	10.24	24.41	14.66
Non Institutional healthcare	950	1.47	972	1.85	1022	1.86	1159	2.07	6.85	19.68
Sports goods, entertainment, equip-ments and books	212	11.79	272	12.13	308	14.29	395	15.95	23.05	36.08
Personal care	371	2.96	433	3.46	465	4.73	617	5.35	18.48	44.22
Jewellery, watches etc	530	3.40	610	3.93	655	5.04	862	5.68	17.60	39.63
All India	10592	3.33	11309	3.63	12023	3.98	14573	4.10	11.22	19.21

Source: ICRIER (2008)⁵⁶

⁵⁶ICRIER (2008), "Impact of organized retailing in the unorganized manufacturing sector" <http://www.icrier.org/page.asp?MenuID=24&SubCatId=175&SubSubCatId=258>

Section 4

Fig 4.2a: Share of each sector (in %) in organized retail

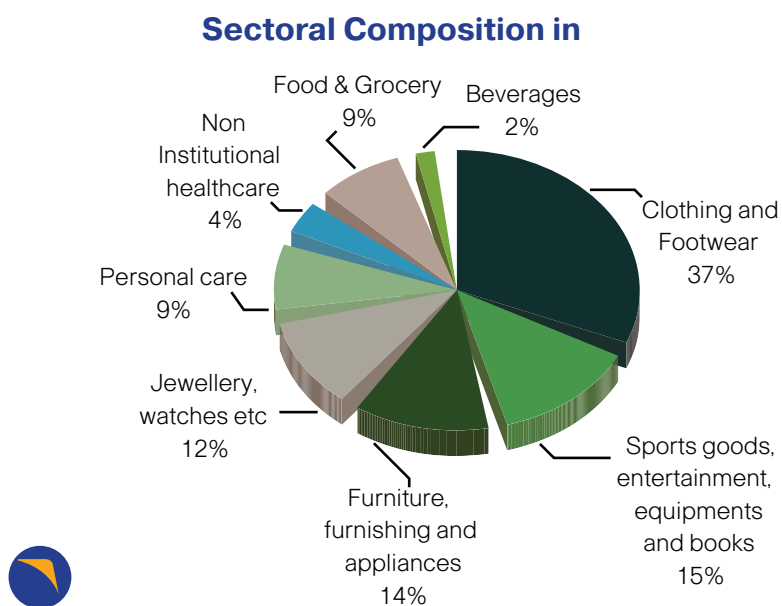
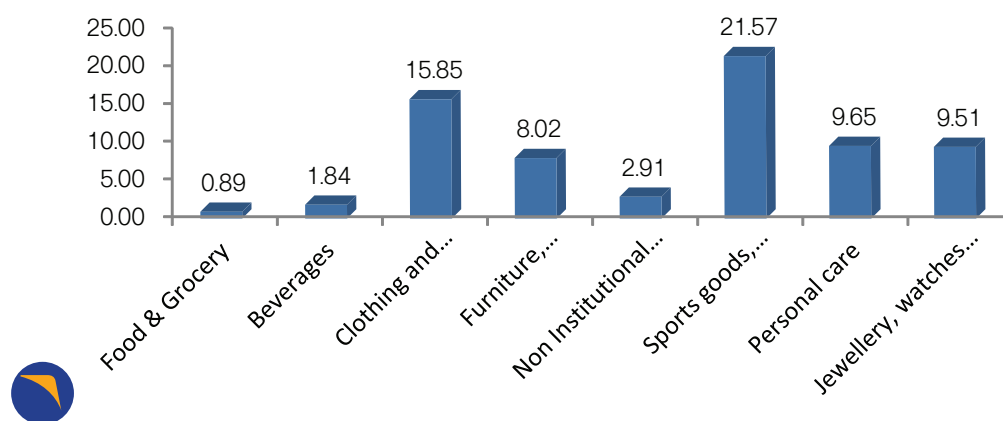


Fig 4.3a: Share of organized retail (in %) in total retail by sector
OR as a share of retail (%)



Section 4

Figure 4.4a: Breakup of monthly consumption expenditure (Rural)

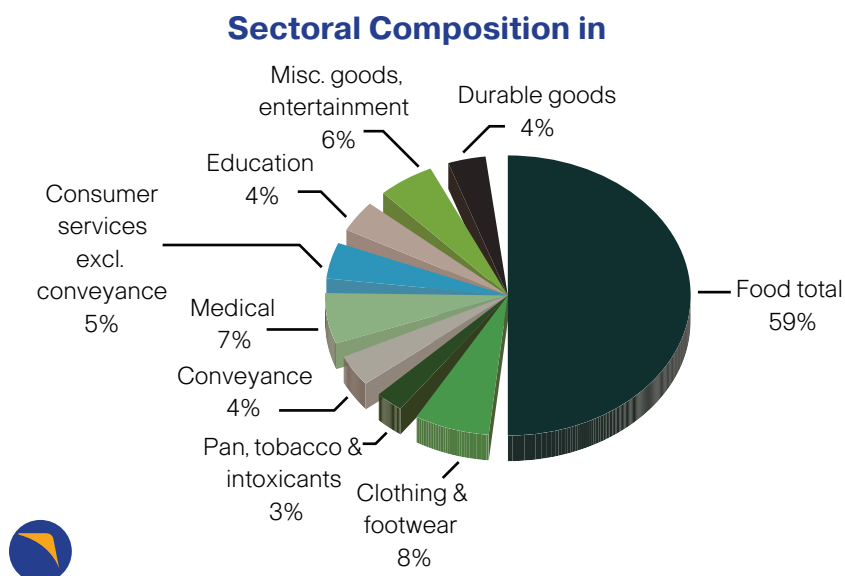
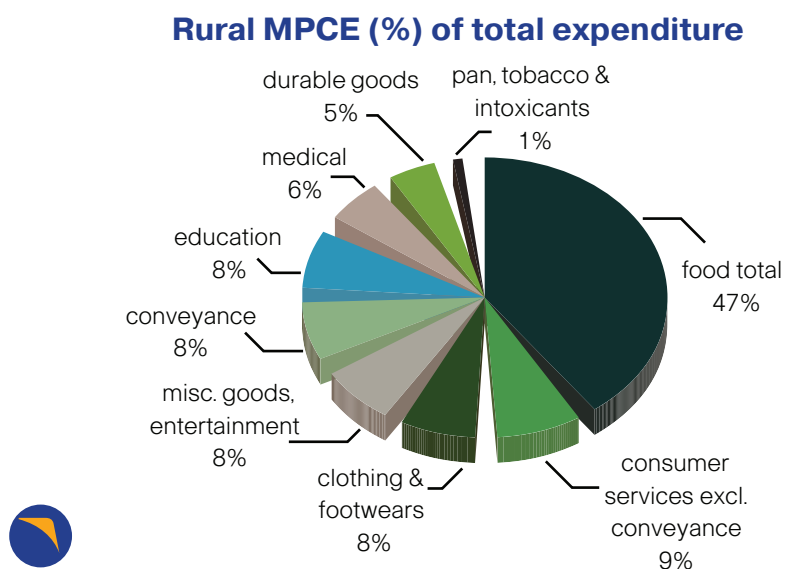


Figure 4.5a: Breakup of monthly consumption expenditure (Urban)



Section 4

Figure 4.6a: Breakup of monthly food item expenditure (Rural)

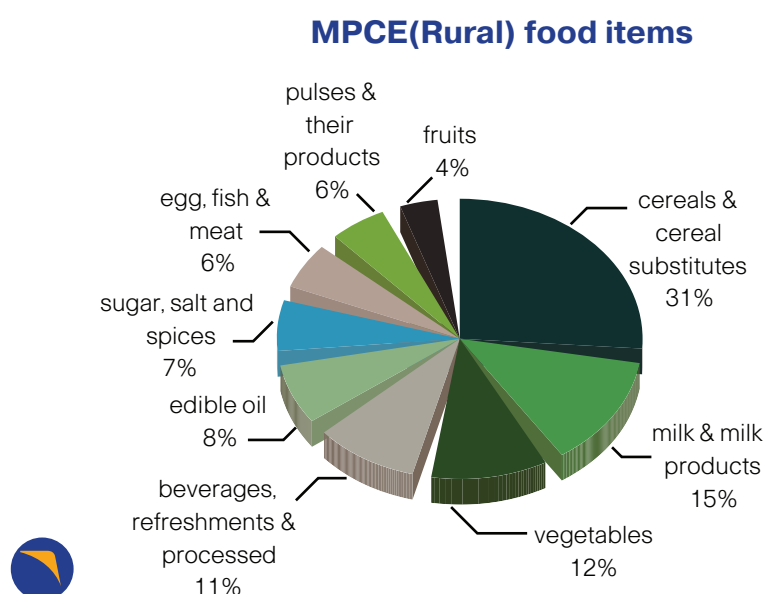
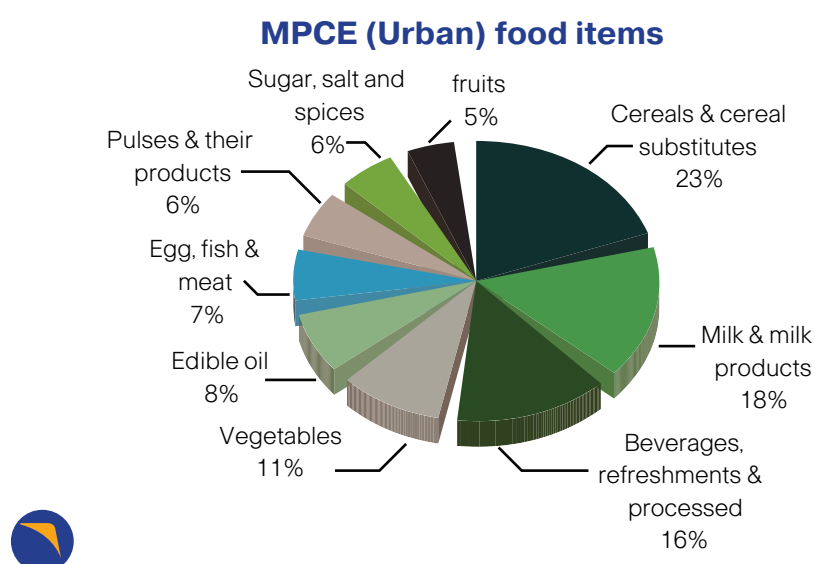


Figure 4.7a: Breakup of monthly food item expenditure (Urban)



Section 4

Table 4.8a: Sample framework for Enterprise Survey (all)

INDUSTRY TYPE	Delhi	Mumbai	Benga- luru	Kolkata	Total	Delhi	Mumbai	Bengaluru	Kolkata	Total
	Retailers	Retailers	Retailers	Retailers	Retailers	Wholesalers	Wholesalers	Wholesalers	Wholesalers	Wholesalers
Education (Schools)	15	15	15	15	60					
Medical Shop *	10	10	10	10	40					
Nursing Home/Hospitals	10	10	10	10	40					
Cab Service Providers	10	10	10	10	40					
Truck Owners	10	10	10	10	40					
Mobile service Providers	10	10	10	10	40					
Travel Agencies	10	10	10	10	40					
Consumer durables*	10	10	10	10	40					
Groceries*	40	40	40	40	160	10	10	10	10	40
Clothing and Footwear*	10	10	10	10	40	10	10	10	10	40
IT AMC Providers	10	10	10	10	40	10	10	10	10	40
Total	145	145	145	145	580	30	30	30	30	120

Total 700

* Only those shops that have POS devices installed

Education (Schools) Private schools (kindergarten, primary and secondary)

Cab Service Providers Cab services that are either (a) part of an agency (e.g., call centre cabs) or (b) cabs that accept

cashless (e.g., MERU services)

Groceries Shops that are located in super markets or registered markets

IT AMC Providers Those who maintain hardware as well as software

Appendix

Section 4

Table 4.9a: Sample framework for Enterprise Survey (greater than 10 employees)

INDUSTRY TYPE	Delhi Retailers	Mumbai Retailers	Bengaluru Retailers	Kolkata Retailers	Total Retailers	Delhi Wholesalers	Mumbai Wholesalers	Bengaluru Wholesalers	Kolkata Wholesalers	Total Wholesalers
Education (Schools)	10	10	10	10	40					
Medical Shop*	0	0	0	0	0					
Nursing Home/Hospitals	10	10	10	10	40					
Cab Service Providers	10	10	10	10	40					
Truck Owners	10	10	10	10	40					
Mobile service Providers	0	0	0	0	0					
Travel Agencies	5	5	5	5	20					
Consumer durables*	10	10	10	10	40					
Groceries*	40	40	40	40	160	10	10	10	10	30
Clothing and Footwear*	5	5	5	5	20	10	10	10	10	40
IT AMC Providers	5	5	5	5	20	10	10	10	10	40
	105	105	105	105	420	30	30	30	20	110

Total 530

*Only those shops that have POS devices installed

Education (Schools) Private schools (kindergarten, primary and secondary)

Cab Service Providers Cab services that are either (a) part of an agency (e.g., call centre cabs) or (b) cabs that accept cashless (e.g.,

MERU services)

Groceries Shops located in super markets or registered markets.

IT AMC Providers Those who maintain hardware as well a software

Section 4

Table 4.10a: Sample framework for Enterprise Survey (less than equal to 10 employees)

INDUSTRY TYPE	Delhi Retailers	Mumbai Retailers	Bengaluru Retailers	Kolkata Retailers	Total Retailers	Delhi Wholesalers	Mumbai Wholesalers	Bengaluru Wholesalers	Kolkata Wholesalers	Total Wholesalers
Education (Schools)	5	5	5	5	20					
Medical Shop*	10	10	10	10	40					
Nursing Home/Hospitals	0	0	0	0	0					
Cab Service Providers	0	0	0	0	0					
Truck Owners	0	0	0	0	0					
Mobile service Providers	10	10	10	10	40					
Travel Agencies	5	5	5	5	20					
Consumer durables*	0	0	0	0	0					
Groceries*	0	0	0	0	0	0	0	0	10	10
Clothing and Footwear*	5	5	5	5	20	0	0	0	0	0
IT AMC Providers	5	5	5	5	20	0	0	0	0	0
	40	40	40	40	160	0	0	0	10	10

Total 170

*Only those shops that have POS devices installed

Education (Schools) Private schools (kindergarten, primary and secondary)

Cab Service Providers Cab services that are either (a) part of an agency (e.g., call centre cabs) or (b) cabs that accept cashless (e.g.,

MERU services)

Groceries Shops located in super markets or registered markets.

IT AMC Providers Those who maintain hardware as well a software

Appendix

Section 4

Table 4.11a: Some relevant sample characteristics

	Retailers		Wholesalers		Bengaluru		Kolkata		Total		Delhi	Mumbai		Bengaluru		Kolkata		Total	
	Bank A/C (%)		POS (%)		Average Age of Enterprise(years)		Average Employees		Bank A/C (%)		POS (%)	Average Age of Enterprise(years)		Average Employees		Wholesalers		Wholesalers	
Cab services providers	88.10		9.52		11.86		20.00												
Clothing	91.77		100.00		9.50		12.53		95.21		100.00	13.59		25.77					
Consumer durables	97.56		100.00		13.05		20.00												
Footwear	93.28		100.00		11.30		9.04		92.16		100.00	16.05		18.21					
Groceries	84.05		100.00		11.31		20.00		90.00		100.00	15.10		20.00					
It a mc service providers	81.99		12.24		8.29		10.56		89.72		33.97	12.11		13.05					
Medical shops	90.64		100.00		8.57		4.72												
Mobile phone kiosks	81.25		39.06		5.83		3.05												
Nursing homes/ hospitals	87.80		12.20		14.20		20.00												
Schools(kindergarten, primary school, secondary schools)	91.68		0.00		22.52		17.94									10		10	
Transporters or truck owners	85.37		0.00		16.44		20.00									0		0	
Travels agencies	96.86		5.05		8.07		15.93									0		0	
Average	89.65		42.53		12.87		17.01		92.21		88.13	14.31		20.33					



Section 4

Table 4. 14a: Analysis by ownership type

Ownership Type	Cash	Cheques	Debit Card/ Credit Card	Dont Know Cant say	Online Payment	Grand Total
Dont Know/Cant say	67%	33%	0%	0%	0%	100%
Ownership By A Co- Operative Society	67%	14%	10%	10%	0%	100%
Partnership Amongst Memebers From The Same Household	63%	5%	25%	5%	2%	100%
Partnership Amongst Persons Not Necessarily From The Same Home	92%	8%	0%	0%	0%	100%
Private Limited Company	63%	5%	32%	0%	0%	100%
Proprietary Ownership By A Female	76%	6%	18%	0%	0%	100%
Proprietary Ownership By A Male	77%	11%	10%	3%	0%	100%
Public Limited Company	63%	6%	25%	6%	0%	100%
Overall	73%	9%	14%	3%	0%	100%

Table 4. 15a: Reasons for not using cashless transactions

Ownership Type	Do not accept cash- less trasac- tions	Result in high service charge	Don't know/ can't say	Wor- ried aboutt secu- rity	Need cash for work- ing capital	Delay in receipt	Internet problem	Trans- action amount small	Grand Total
Dont Know/Cant say	11%	22%	0%	11%	0%	11%	22%	22%	100%
Ownership By A Co-Op- erative Society	14%	19%	0%	24%	0%	5%	10%	29%	100%
Partnership Amongst Me- mebers From The Same Household	30%	28%	2%	12%	7%	5%	5%	12%	100%
Partnership Amongst Persons Not Necessarily From The Same Ho	16%	36%	4%	12%	4%	4%	8%	16%	100%
Private Limited Company	23%	42%	3%	3%	3%	8%	6%	11%	100%
Proprietary Ownership By A Female	6%	29%	6%	29%	0%	18%	6%	6%	100%
Proprietary Ownership By A Male	14%	38%	2%	18%	5%	3%	3%	16%	100%
Public Limited Company	31%	25%	6%	13%	0%	0%	19%	6%	100%
Overall	17%	37%	2%	15%	4%	4%	5%	15%	100%

Section 4

Table 4.16a: Advantage of using cashless transactions

Ownership Type	Don't know/ Can't say	No need to manage CCY	Sales increase	No need to deposit	Transaction amount are not consistent	Grand Total
Dont Know/Cant say	0%	22%	44%	0%	33%	100%
Ownership By A Co-Operative Society	0%	43%	38%	0%	19%	100%
Partnership Amongst Memebers From The Same Household	0%	28%	42%	7%	23%	100%
Partnership Amongst Persons Not Necessarily From The Same Ho	0%	32%	24%	16%	28%	100%
Private Limited Company	3%	37%	21%	11%	28%	100%
Proprietary Ownership By A Female	6%	47%	12%	12%	24%	100%
Proprietary Ownership By A Male	2%	37%	22%	5%	35%	100%
Public Limited Company	6%	56%	25%	6%	6%	100%
Overall	2%	37%	24%	6%	31%	100%

Table 4.17a: Why risky?

Ownership Type	Cheques May Not Be Honoured	Dont Know Cant say	always a delay in receipt	Internet security is risky	Grand Total
Dont Know/Cant say	0%	0%	67%	33%	100%
Ownership By A Co-Operative Society	11%	0%	67%	22%	100%
Partnership Amongst Memebers From The Same Household	12%	47%	18%	24%	100%
Partnership Amongst Persons Not Necessarily From The Same Home	0%	38%	50%	13%	100%
Private Limited Company	22%	7%	22%	48%	100%
Proprietary Ownership By A Female	14%	43%	29%	14%	100%
Proprietary Ownership By A Male	12%	38%	24%	26%	100%
Public Limited Company	29%	0%	0%	71%	100%
Overall	13%	32%	27%	29%	100%

Section 4

Table 4.18a: Preferred mode for transactions: Educational qualification-wise

Education Level	Cash	Cheques	Debit Card/ Credit Card	Dont Know Cant say	Online Payment	Grand Total
Attended Some College But Not A Qualified Graduate	72%	2%	21%	4%	0%	100%
Dont Know/Cant say	60%	0%	40%	0%	0%	100%
Graduate/Post Graduate – Professional	74%	13%	7%	5%	0%	100%
Graduate/Post Graduate– General	69%	11%	17%	2%	0%	100%
Literate – But No Formal Education	100%	0%	0%	0%	0%	100%
Literate – Schooling 5th Standard To 9th Standard Only	100%	0%	0%	0%	0%	100%
Literate – Schooling Up to 4th Standard Only	100%	0%	0%	0%	0%	100%
SSC/HSC Passed Only	81%	7%	10%	2%	1%	100%
Overall	73%	9%	14%	3%	0%	100%

Table 4.19a: Preferred mode of payment acceptance by business sector

Business Sector	Cash	Cheques	Debit Card/ Credit Card	Dont Know Cant say	Online Payment	Grand Total
Cab services providers	55%	21%	10%	12%	2%	100%
Clothing	74%	5%	21%	0%	0%	100%
Consumer durables	73%	7%	20%	0%	0%	100%
Footwears	76%	5%	19%	0%	0%	100%
Groceries	75%	1%	23%	1%	1%	100%
It amc service providers	78%	20%	2%	0%	0%	100%
Medical shops	70%	2%	28%	0%	0%	100%
Mobile phone kiosks	93%	2%	5%	0%	0%	100%
Nursing homes/ hospitals	68%	7%	15%	10%	0%	100%
Schools(kindergarten, primary schools or secondary schools)	74%	14%	3%	9%	0%	100%
Transporters or truck owners	56%	37%	0%	7%	0%	100%
Travels agencies	76%	11%	13%	0%	0%	100%
Overall	73%	9%	14%	3%	0%	100%

Section 4

Table 4.20a: Reasons for not using cashless transactions

Business Sector	Do not accept cashless txn	Result in high ser chg	Dont Know Cant say	worried abt security	need cash for workg cap	delay in receipt	internet problem	Trxn amt small	Grand Total
Cab services providers	10%	50%	0%	17%	0%	5%	7%	12%	100%
Clothing	21%	27%	5%	18%	3%	5%	5%	16%	100%
Consumer durables	15%	27%	0%	20%	2%	12%	5%	20%	100%
Footwears	7%	45%	7%	14%	2%	5%	2%	17%	100%
Groceries	19%	38%	1%	12%	3%	5%	6%	16%	100%
It amc service providers	11%	49%	6%	14%	4%	1%	6%	9%	100%
Medical shops	19%	35%	2%	16%	5%	0%	5%	19%	100%
Mobile phone kiosks	7%	40%	0%	19%	5%	0%	0%	29%	100%
Nursing homes/ hospitals	17%	41%	2%	10%	0%	10%	10%	10%	100%
Schools(kindergarten, primary schools or secondary schools)	32%	18%	0%	22%	9%	5%	3%	11%	100%
Transporters or truck owners	20%	24%	0%	24%	12%	5%	2%	12%	100%
Travels agencies	15%	41%	2%	11%	7%	4%	4%	15%	100%
Grand total	17%	37%	2%	15%	4%	4%	5%	15%	100%

Table 4.21a: Advantages of using cashless transactions

Business Sector	Dont Know Cant say	No need to manage ccy	Sales increase	no need to deposit	Trxn amt are not con	Grand Total
Cab services providers	2%	43%	26%	5%	24%	100%
Clothing	2%	34%	26%	8%	31%	100%
Consumer durables	0%	37%	27%	0%	37%	100%
Footwears	0%	40%	24%	7%	29%	100%
Groceries	1%	38%	26%	5%	30%	100%
It amc service providers	4%	35%	18%	9%	34%	100%
Medical shops	0%	28%	28%	2%	42%	100%
Mobile phone kiosks	0%	38%	24%	7%	31%	100%
Nursing homes/ hospitals	0%	37%	22%	5%	37%	100%
Schools(kindergarten, primary schools or secondary schools)	2%	49%	17%	12%	20%	100%
Transporters or truck owners	10%	29%	24%	7%	29%	100%
Travels agencies	2%	28%	24%	4%	41%	100%
Grand total	2%	37%	24%	6%	31%	100%

Section 5

Table 5.1a: Urban SEC

Occupation	Education						
	Illiterate	Less than 4 yrs in school	5-9 yrs of school	School certificate	Some college	Graduate	Post-graduate
Skilled	E2	E1	D	C	C	B2	B2
Unskilled	E2	E2	E1	D	D	D	D
Shop owner	D	D	C	B2	B2	A2	A2
Petty trader	E2	D	D	C	C	B2	B2
Employer of above 10 persons	B1	B1	A2	A2	A1	A1	A1
Employer of below 10 persons	C	B2	B2	B1	A2	A1	A1
Employer of none	D	C	B2	B1	A2	A1	A1
Clerk	D	D	D	C	B2	B1	B1
Supervisor	D	D	C	C	B2	B1	A2
Professional	D	D	D	B2	B1	A2	A1
Senior executive	B1	B1	B1	B1	A2	A1	A1
Junior executive	C	C	C	B2	B1	A2	A2



Table 5.2a: Rural SEC

Education level	Type of house		
	Pucca	Semi-pucca	Kuchcha
Professional degree	R1	R2	R3
Graduation/ PG	R1	R2	R3
College	R1	R2	R3
SSC/HSC	R2	R3	R3
Class 4-Class 9	R3	R3	R4
Up to class 4	R3	R3	R4
Self-learning	R3	R4	R4
Illiterate	R4	R4	R4



Section 5

Table 5.3a: Number of households, per cell in '000

	All India	Delhi	Kolkata	Mumbai	Bengaluru	Kanpur	Jaipur	Surat	Vizag
SEC									
A1	2707	470	159	327	65	29	31	25	13
A2	5079	479	321	335	162	45	65	72	41
B1	6190	441	357	499	199	71	52	53	24
B2	6059	374	286	373	189	60	48	71	18
C	14824	722	552	1150	556	117	105	226	87
D	16018	631	740	978	371	130	128	295	82
E1	7734	217	365	378	112	47	67	108	41
E2	11914	432	509	401	155	98	78	115	87
R1	7111	-	-	-	-	-	-	-	-
R2	22122	-	-	-	-	-	-	-	-
R3	64508	-	-	-	-	-	-	-	-
R4	67893	-	-	-	-	-	-	-	-
Total	232159	3767	3290	4442	1808	596	575	966	393

Source: IRS (India Readership Survey), Q3, 2010

Section 5

Table 5.4a: Expenditure by cash (percentage)

Rural/Urban	Urban	Rural	Grand Total
Total	95%	98%	96%
Cereals	95%	98%	96%
Milk and Milk Prd	99%	100%	99%
Edible oils	98%	100%	98%
Eggs, Fish and Meat	99%	100%	99%
Veg and Fruits	99%	100%	99%
Sugar and Salt	99%	100%	99%
Beverages and Refreshment	97%	100%	97%
Intoxicants	99%	99%	99%
Proccessed Food	98%	100%	98%
Electricity	95%	99%	96%
LPG and Other Fuels	99%	100%	99%
Entertainment	96%	99%	96%
Other Consumer Services	97%	98%	97%
Servant/Cook/Sweeper	99%	100%	99%
Barber/Beautician/Tailor	99%	100%	99%
Tel/Mobile	95%	100%	96%
Conveyance	94%	99%	95%
Rent	88%	100%	89%
Durable Goods	91%	98%	92%
Clothing and Footwear	92%	98%	93%
Education	96%	98%	96%
Med, Institutional	97%	98%	97%
Med, Non-institutional	97%	98%	97%
Personal care	94%	99%	95%
Rail/Air Travel	96%	98%	96%

Table 5.5a: Reasons for not accepting cashless payments across categories

	Seller does not accept them	Not aware that such payments can be made through cards/cheque	Transaction amount is too small	I am worried about security of the transactions	Extra charges are levied if I use card/cheque	(Blank)	Has no Credit Card / Cheque	Don't like transaction through Credit Card / Cheque (Like o	Don't have Debit Card	Cash is always handy	Don't use credit card	This service is not available	There is no fixed expense	There is no big shop/Shop-ping mall in our village	We have our own shop	Grand Total
Cereal	1413	424	386	287	181		116	68	29	15	16	4	1	2	3	2945
Milk	1387	417	380	285	180	102	116	68	29	15	16	4	1	2	3	3005
Edible Oil	1374	416	379	286	178	68	115	66	29	15	16	4	1	2	3	2952
Egg/Fish/Meat	793	242	227	176	104	40	33	9	2	1	2	1				1630
Veg and Fruit	1387	421	384	286	180	112	115	68	29	15	16	4	1	2	3	3023
Sugar and Salt	1375	417	384	286	181	89	111	66	27	15	16	4	1	2	3	2977
Intoxicants	481	157	142	158	71	44	26	36	6	5	4				2	1132
Beverages and Refreshment	997	307	246	221	133	82	61	56	12	7	10	2		1	3	2138
Proc Foods	730	262	244	225	133	44	23	48	4	5	3	2		2	3	1728
Electricity	1369	418	379	279	179	88	115	65	27	15	15	4	1	2	3	2959
LPG and other Fuels	1361	416	377	285	174	104	110	67	28	15	16	4	1	1	3	2962
Entertainment	995	352	310	232	154	72	43	52	7	13	8	2		2	3	2245
Domestic help	401	109	107	128	49	49	22	24	2	3	1					895
Beautician/Tailor	1303	384	344	264	169	104	90	63	16	15	14	2	1	2	3	2774
Other Consultancy Services	671	228	165	174	119	62	22	38	2	5	4				1	1491
Tel and Mobile	1350	403	363	276	173	88	113	67	28	15	16	4	1	2	3	2902
Convey	1152	358	319	244	159	90	77	61	13	14	12	2		2	3	2506
Rent	396	107	111	95	52	23	22	5	6	1	1	1				820
Durable Goods	513	142	139	105	85	20	19	31	6	12	2	2		1	3	1080
Clothing and Footwear	1269	416	357	274	173	68	105	60	28	13	16	4	1	1	3	2788
Education	1032	339	272	236	140	80	82	60	24	12	12	4	1	1	3	2298
Medical-Non-institutional	759	251	248	221	125	37	32	46	3	9	3	4		1	3	1742
Medical-Institutional	782	320	251	179	142	44	45	55	10	10	10	4		2	3	1857
Personal care	1270	392	330	273	173	76	93	63	13	14	13	3	1	2	3	2719
Rail and Air	742	266	255	187	115	58	28	27	5	4	4	2	1	1		1695

Apart from the transaction amount being small, the remaining four reasons for not using cashless instruments can be addressed through appropriate policy framework. We find that the top three reasons for most of the items are the first two and the last in the list above.

Section 5

Table 5.6a: Cash expenditure by cities (percentage)

CITY	Bengaluru	Delhi	Mumbai	Kolkata	Jaipur	Kanpur	Surat	Vizag	Grand Total
Total	87%	97%	94%	99%	96%	98%	94%	98%	96%
Cereals	86%	99%	98%	99%	98%	99%	93%	100%	96%
Milk n Milk Prd	98%	99%	98%	99%	99%	100%	99%	100%	99%
Edible oils	88%	100%	99%	100%	100%	100%	98%	99%	98%
Eggs, Fish n Meat	99%	100%	97%	98%	99%	100%	100%	100%	99%
Veg nFruits	100%	100%	96%	99%	99%	100%	99%	100%	99%
Sugar n Salt	93%	100%	98%	100%	100%	100%	99%	100%	99%
Bevg n Ref	97%	99%	89%	99%	98%	100%	100%	100%	97%
Intoxicants	100%	100%	100%	98%	100%	100%	100%	98%	99%
Proc Food	95%	99%	98%	100%	97%	99%	100%	100%	98%
Electricity	86%	95%	87%	100%	99%	99%	95%	100%	96%
LPG n Oth Fuels	97%	100%	95%	99%	100%	100%	98%	100%	99%
Entmnt	96%	100%	87%	100%	96%	100%	99%	100%	96%
Oth Consu Services	96%	100%	93%	97%	98%	96%	100%	100%	97%
Servant/Cook/Sweeper	98%	99%	98%	100%	100%	100%	100%	100%	99%
Barber/Beautician/Tailor	98%	100%	99%	99%	99%	100%	100%	100%	99%
Tel/Mobile	85%	98%	88%	99%	100%	99%	97%	100%	96%
Conveyance	94%	95%	95%	96%	92%	99%	93%	97%	95%
Rent	87%	97%	68%	99%	58%	100%	100%	100%	89%
Durable Goods	79%	97%	89%	100%	96%	98%	89%	96%	92%
Clothing n Footwear	80%	96%	95%	97%	92%	98%	87%	96%	93%
Education	89%	95%	95%	98%	96%	98%	96%	99%	96%
Med, Institutional	86%	100%	96%	99%	99%	100%	98%	98%	97%
Med, Non-institutional	88%	99%	94%	100%	99%	97%	99%	100%	97%
Personal care	79%	98%	96%	100%	97%	97%	89%	100%	95%
Rail/Air Travel	92%	92%	95%	100%	95%	98%	98%	99%	96%

Section 5

Table 5.7a: Cash expenditure by income

Income Band	Upto Rs. 2,000	Rs. 2,001 - Rs. 5,000	Rs. 5,001 - Rs. 10,000	Rs. 10,001 - Rs. 15,000	Rs. 15,001 - Rs. 20,000	Rs. 20,001 - Rs. 30,000	Rs. 30,001 - Rs. 40,000	Rs. 40,001 - Rs. 50,000	Rs. 50,001 - Rs. 75,000	Rs. 75,001 - Rs. 100,000	Above Rs. 100,000	No Answer / Refused	Grand Total
Total	97%	97%	97%	97%	96%	96%	89%	83%	93%	66%	99%	95%	96%
Cereals	100%	99%	99%	98%	95%	92%	83%	87%	100%	88%	100%	98%	96%
Milk n Milk Prd	100%	100%	99%	99%	99%	99%	99%	96%	100%	100%	100%	98%	99%
Edible oils	100%	98%	100%	99%	99%	97%	90%	92%	100%	96%	100%	100%	98%
Eggs, Fish n Meat	100%	99%	99%	99%	100%	96%	99%	100%	100%	86%	100%	100%	99%
Veg n Fruits	100%	100%	100%	99%	99%	99%	99%	96%	100%	75%	100%	99%	99%
Sugar n Salt	100%	99%	100%	100%	99%	98%	96%	98%	100%	62%	100%	100%	99%
Bevg n Ref	100%	100%	99%	99%	99%	93%	98%	96%	62%	65%	88%	100%	97%
Intoxicants	100%	99%	99%	100%	99%	99%	100%	100%	100%	100%	100%	100%	99%
Proc Food	100%	100%	99%	95%	99%	99%	99%	96%	82%	88%	100%	100%	98%
Electricity	89%	99%	99%	99%	95%	94%	89%	74%	100%	84%	100%	97%	96%
LPG n Oth Fuels	93%	100%	100%	100%	99%	99%	95%	88%	100%	92%	54%	100%	99%
Entmnt	100%	100%	99%	99%	95%	94%	90%	94%	96%	80%	100%	100%	96%
Oth Consu Services	100%	100%	96%	98%	99%	94%	94%	98%	100%	91%	100%	100%	97%
Servant/Cook/Sweeper	100%	100%	100%	100%	100%	98%	99%	97%	100%	100%	100%	100%	99%
Barber/Beautician/Tailor	98%	97%	99%	99%	100%	100%	99%	90%	97%	100%	100%	100%	99%
Tel/Mobile	100%	100%	99%	99%	97%	91%	88%	81%	100%	53%	100%	100%	96%
Conveyance	100%	100%	97%	98%	96%	84%	95%	92%	100%	83%	100%	99%	95%
Rent	41%	100%	90%	97%	97%	92%	69%	68%	100%	51%	100%	100%	89%
Durable Goods	100%	100%	96%	94%	96%	90%	81%	85%	98%	39%	#DIV/0!	95%	92%
Clothing n Footwear	99%	94%	96%	96%	93%	94%	79%	87%	85%	56%	100%	87%	93%
Education	99%	97%	97%	98%	96%	99%	93%	71%	89%	68%	100%	93%	96%
Med, Institutional	100%	98%	99%	99%	99%	98%	94%	49%	100%	54%	100%	98%	97%
Med, Non-institutional	100%	96%	97%	97%	97%	97%	98%	86%	100%	100%	#DIV/0!	100%	97%
Personal care	97%	100%	98%	97%	98%	91%	83%	77%	90%	68%	100%	98%	95%
Rail/Air Travel	100%	100%	97%	95%	98%	99%	94%	99%	97%	29%	100%	90%	96%

Table 5.8a: Cash expenditure by occupation (percentage)

Occupation	Shop owners	Clerical / Salesman	Skilled workers	Supervisory level	Businessmen/ Industrialists with No Employee	Officers / Executives - Junior	Businessmen/ Industrialists with 1-9 Employee	Officers / Executives - Middle / Senior	Petty traders	Self employed professionals	Businessmen/ Industrialists with 10+ Employee	Grand Total
Total	96%	97%	98%	96%	97%	94%	94%	91%	91%	84%	89%	95%
Cereals	96%	98%	98%	97%	97%	92%	90%	91%	95%	76%	95%	95%
Milk n Milk Prd	99%	100%	100%	99%	99%	97%	100%	98%	98%	90%	100%	99%
Edible oils	98%	100%	99%	99%	100%	96%	97%	93%	98%	79%	96%	98%
Eggs, Fish n Meat	99%	98%	99%	98%	100%	98%	96%	99%	100%	100%	93%	99%
Veg nFruits	99%	99%	100%	98%	99%	99%	99%	100%	100%	86%	92%	99%
Sugar n Salt	100%	100%	100%	97%	100%	97%	100%	95%	98%	90%	87%	99%
Bevg n Ref	98%	99%	100%	94%	100%	97%	89%	95%	99%	96%	84%	97%
Intoxicants	99%	100%	100%	99%	100%	98%	100%	100%	100%	100%	100%	99%
Proc Food	97%	100%	98%	98%	96%	99%	96%	99%	100%	96%	95%	98%
Electricity	94%	97%	98%	96%	98%	97%	93%	93%	97%	84%	88%	95%
LPG n Oth Fuels	98%	99%	100%	99%	98%	98%	98%	98%	100%	94%	97%	99%
Entmnt	94%	99%	100%	98%	100%	90%	85%	96%	100%	95%	92%	96%
Oth Consu Services	96%	96%	99%	98%	100%	92%	96%	98%	98%	94%	98%	97%
Servant/Cook/ Sweeper	97%	100%	100%	100%	100%	99%	99%	100%	100%	97%	100%	99%
Barber/ Beautician/Tailor	98%	99%	100%	100%	98%	99%	100%	100%	100%	85%	100%	99%
Tel/Mobile	97%	96%	98%	93%	99%	91%	97%	93%	94%	78%	85%	95%
Conveyance	94%	87%	100%	97%	99%	89%	100%	98%	99%	79%	85%	94%
Rent	86%	93%	99%	91%	100%	86%	91%	72%	86%	60%	100%	88%
Durable Goods	95%	91%	96%	85%	90%	85%	94%	91%	75%	93%	84%	91%
Clothing n Footwear	93%	93%	96%	96%	96%	91%	94%	77%	86%	73%	82%	92%
Education	96%	97%	99%	97%	98%	97%	89%	92%	93%	83%	97%	96%
Med, Institutional	98%	99%	100%	96%	96%	92%	99%	97%	94%	92%	97%	97%
Med, Non-institutional	97%	100%	98%	97%	93%	97%	99%	84%	94%	100%	99%	97%
Personal care	96%	98%	98%	97%	95%	94%	90%	97%	73%	81%	78%	94%
Rail/Air Travel	97%	96%	99%	100%	93%	98%	96%	100%	92%	96%	43%	96%

Section 6

No tables and graphs in this section

Section 7

Table 7.2: Cashless Roadmap for Households

Layout towards moving to cashless for households						
Sectors	Consumption items	Current status	Why no cashless	Recommended option model	Recommendation category: Awareness, Option or Mandate	Rationale and future implications
Food, Beverages & Groceries	Cereals, Milk and Milk Products, Edible oils, Eggs, Fish and Meat, Vegetables & Fruits, Sugar and Salt, Beverages and Refreshments, Processed Foods	Low Acceptance	Limited volume through Organized Retail. Further, Low value transactions, awareness that such payments can be made and sellers' not accepting cashless payments	Encourage organized retail	Lower MDR, Awareness about cashless transactions necessary	The growth of organized retail is yet to outpace growth of retail. Encouragement of organized retail growth is necessary. Incentives for organized retailers to accept cashless must be given. This sector forms close to half of household expenditure and hence requires immediate attention. Cashless transactions especially linked to cereals, milk products and beverages needs to be incentivized.
Pan, Tobacco and Intoxicants	Pan, Tobacco and Intoxicants	Near zero acceptance	Almost entirely unorganized	Low priority on cashless. Can be skipped		
Clothing & Footwear	Clothing & Footwear	Moderately Low Acceptance (although highest among all consumption sectors)	Only possible through organized retail; Main factors affecting cashless transactions are acceptability by sellers, small amounts, awareness, security and transaction costs	Encourage organized retail	Lower MDR, Awareness about cashless transactions necessary	Growth and share of organized retail is impressive. This sector already sees significant cashless. More can be incentivized to households with explicit rewards etc if cashless transactions are used.

Section 7

Sectors	Consumption items	Current status	Why no cashless	Recommended option model	Recommendation category: Awareness, Option or Mandate	Rationale and future implications
Durable Goods	Durable goods; Furnitures and furnishings	Low Acceptance ; with large potentials	Mostly through organized retail; Main factors affecting are acceptance by sellers and security of transactions	Lower MDRs as most items are one time investments	Payments will usually involve large amounts hence security is important	Encourage merchants to accept cashless at various stores by incentives
Electricity	Electricity	Only cash / cheque acceptance at physical collection centres, Online payment option available	Awareness, collection centres prefer cash	Mandate only collection through electronic means even at physical collection centres if the amount exceeds a given level	Awareness & Mandate, Zero KYC easy payment card to be made available at collection centres.	Almost every resident household pays electricity bills and this will enable usage behaviour for electronic transactions among every household. It also solves the cash handling issues at collection centres. The zero KYC card will enable customers who do not have cards to buy one spontaneously and use the same for payments.
LPG and Other Fuels	LPG and Other Fuels	Only about 25% of fuel outlets accept electronic payment	Awareness, collection centres prefer cash	Mandate the option at 100% outlet. Mandate only collection through electronic means for a value above Rs 500	Awareness & Mandate, Zero KYC easy payment card to be made available at fuel outlets.	All individuals who use electronic payment cards will get discounts.



Section 7

Sectors	Consumption items	Current status	Why no cashless	Recommended option model	Recommendation category: Awareness, Option or Mandate	Rationale and future implications
Entertainment and Related Expenses	Entertainment and Related Expenses; movie plexes, music and other online entertainment instruments	Electronic payment Acceptance only at multiplex & DTH; however most of online entertainment are paid cashless; low cashless are primarily due to low acceptance and low transaction amounts	Awareness, Acceptance	The option of accepting payment electronically by all service providers paying entertainment tax	Awareness & Option to be mandatory	This will create acceptance points and thus providing customers an option to pay electronically. However, with online entertainment being increasingly popular, some amount of growth in cashless will be automatic
	Hotel & Dining	Limited acceptance	Awareness, Acceptance	Mandate the option at 100% outlet, Mandate only collection through electronic means for a value above Rs 1000	Awareness & Mandate, limited KYC (only Id based) payment card to be made available at fuel outlets	Most people who avail of this service are above the poverty line. With this mandate, all such individuals will be mandated to pay electronically for a high value txn in this category ie above Rs 1000

Section 7

Sectors	Consumption items	Current status	Why no cashless	Recommended option model	Recommendation category: Awareness, Option or Mandate	Rationale and future implications
Miscellaneous expenses	Domestic Servant, Cook and Sweeper; other expenses	Almost zero	This are usually salaries but of lower amounts. Households can be encouraged to deposit the salaries by cheque to respective accounts. Appropriate tax benefits (say a deduction of taxable income with a ceiling) given to amounts paid by cheque			This forms a significant chunk of unorganized employment. A modest growth in cashless would have tremendous impact both in term of volume and also in terms of financial inclusion
Telephone expenses	Telephone and Mobile Charges	Only cash acceptance at retail outlet (other than company franchisee), Online payment option available	Awareness, retailers operate in cash	Mandate only collection through electronic means for all postpaid connection, Mandate on all channel transactions to be non-cash	Awareness & Mandate	This will force customers who have access to cards to make payment electronically which they do through cash. For mobile enabled payments, these require maximum effort. Various cashless financial inclusion models are already based on these and should be encouraged.



Section 7

Sectors	Consumption items	Current status	Why no cashless	Recommended option model	Recommendation category: Awareness, Option or Mandate	Rationale and future implications
Travel related expenses	Conveyance	Only cash acceptance	Acceptance	Options to accept electronic payment by all 4 wheelers, State public transport	Awareness & optional Mandate (to be rolled out in Metro cities first). However, salary components (organized employment) often 'reimburse' travel expenses. This leads to a moderate cashless growth.	Create acceptance points in state transport and thus enabling electronic transactions
Rent	Rent	Mostly cash acceptance unless rent can be claimed by the households for reimbursement	Awareness, acceptance	Optional mandate to receive rent in non-cash manner	Awareness & optional Mandate;	This will make sure that people who can make cashless transactions are enabled to do so. Further increasing the network of people who comes under the ambit of 'reimbursable' house rent allowance will make the households have incentive to make cheque payments.

Section 7

Sectors	Consumption items	Current status	Why no cashless	Recommended option model	Recommendation category: Awareness, Option or Mandate	Rationale and future implications
Education	Education	Mostly cash acceptance	Awareness, acceptance	Mandate the option at 100% institutes for non-cash acceptance, Mandate only collection through electronic means for a fee value above Rs 1000 per month	Awareness & Mandate	Mandating Institutional payments above a certain value ensures that at least people who have access to cards do pay electronically. Further, employment contracts that would reimburse or incentivize education for employees can be made mandatory towards cashless payments.
Medical	Medical Non Institutional	Mostly cash acceptance for non institutional	Acceptance	Medical shops can be mandated to use cashless		
Medical	Medical Institutional	Large amount of medical institutional are through cashless medical insurance cards	Awareness, acceptance	Mandate the option at 100% institutes for non-cash acceptance	Awareness & option Mandate; competition among medical insurance providers will automatically increase cashless	Mandating Institutional payments above a certain value ensures that atleast people who have access to cards do pay electronically. Medical insurance and RSBY will be two primary drivers.
Personal Care	Personal care products, barbers etc	Mostly non cash	Awareness and acceptance	Products bought from organized retail outlets can be mandated	Organized retail can have mandates	This is another growing sector which will see more and more involvement of the middle class. Organized retail is growing. Cashless transactions can be mandated.

Section 7

Sectors	Consumption items	Current status	Why no cashless	Recommended option model	Recommendation category: Awareness, Option or Mandate	Rationale and future implications
Travel related expenses	Air Travel	Limited acceptance at Agents, Online payment option available	Awareness, Acceptance	Mandate only collection through electronic means even at Agent location	Awareness & Mandate, Zero KYC easy payment card to be made available at collection centres	All person doing air travel have access to cards and they should be forced to pay electronically
Travel related expenses	Rail	No acceptance at Railway ticket counters, Online payment option available	Awareness, Acceptance	Optional mandate to accept electronic payment	Awareness & optional Mandate, Zero KYC easy payment card to be made available at collection centres	Create acceptance points and thus enabling cashless transactions

Section 7

Table 7.3: Cashless Roadmaps for Enterprises

Layout towards moving cashless for enterprises						
Sectors	Consumption Items	Current status	Why no cashless	Recommended option model	Recommendation category: Awareness, Operation or Mandate	Rationale and future implications:
Food, Beverages & Groceries	Cereals, Milk and Milk Products, Edible oils, Eggs, Fish and Meat, Vegetables & Fruits, Sugar and Salt, Beverages and Refreshments, Processed Foods	Low Acceptance	Limited volume through Organized Retail. Further, Low value transactions, security of such payments and transaction costs inhibit cashless transactions	Encourage organized retail	Lower MDR, Awareness about cashless transactions necessary	Encouragement of organized retail growth is necessary. This sector forms close to half of household expenditure and hence requires immediate attention. A target of organized retail being 10% of all retail would mean increased cashless transactions by approximately Rs 550 billion next year
	Clothing & Footwear	Reasonably high acceptance (almost 16% of all transactions are in cashless)	Only possible through organized retail; Main factors affecting cashless transactions are delay in payments and hence managing daily working capital requirements	Encourage organized retail	Ensure that delay in payments is avoided. Encourage POS devices.	Growth and share of organized retail is impressive. This sector already sees significant cashless. A 10% increase in cashless transactions would mean Rs 400 billion cashless transaction
Durable Goods	Durable goods; Furniture and furnishings	Moderately high acceptance (10%) ; with large potentials	Mostly through organized retail; Main factors affecting are acceptance by sellers and security of transactions	Lower MDRs as most items are one time investments	Payments will usually involve large amounts hence security is important	Encourage merchants to accept cashless at various stores by incentives. An increase of organized retail share to about 30% would mean a cashless transaction of Rs 250 billion

Section 7

Sectors	Consumption Items	Current status	Why no cashless	Recommended option model	Recommendation category: Awareness, Option or Mandate	Rationale and future implications:
Energy	Electricity, LPG and other Fuels	Only cash / cheque acceptance at physical collection centres, Online payment option available	Awareness, collection centres prefer cash	Mandate only collection through electronic means even at physical collection centres if the amount exceeds a given level	Awareness & Mandate, Zero KYC easy payment card to be made available at collection centres.	Almost every resident household pays electricity bills and this will enable usage behaviour for electronic transactions among every household. It also solves the cash handling issues at collection centres. The zero KYC card will enable customers who do not have cards to buy one spontaneously and use the same for payments.
Entertainment and Related Expenses	Entertainment and Related Expenses; movieplexes, music and other online entertainment instruments	Electronic payment Acceptance only at multiplex & DTH; however most of online entertainment are paid cashless; low cashless are primarily due to low acceptance and low transaction amounts	Awareness, Acceptance	The option of accepting payment electronically by all service providers paying entertainment tax	Awareness & Option to be mandatory	This will create acceptance points and thus providing customers an option to pay electronically. However, with online entertainment being increasingly popular, some amount of growth in cashless will be automatic

Section 7

Sectors	Consumption Items	Current status	Why no cashless	Recommended option model	Recommendation category: Awareness, Option or Mandate	Rationale and future implications:
Telephone expenses	Telephone and Mobile Charges	Only cash acceptance at retail outlet (other than company franchisee), Online payment option available	Awareness, retailers operate in cash	Mandate only collection through electronic means for all postpaid connection, Mandate on all channel transactions to be non-cash	Awareness & Mandate	This will force customers who have access to cards to make payment electronically which they do through cash. For mobile enabled payments, these require maximum effort. Various cashless financial inclusion models are already based on these and should be encouraged.
Travel related expenses	Conveyance	Only cash acceptance	Acceptance	Options to accept electronic payment by all 4 wheelers, State public transport	Awareness & optional Mandate (to be rolled out in Metro cities first). However, salary components (organized employment) often 'reimburse' travel expenses. This leads to a moderate cash-less growth.	Create acceptance points in state transport and thus enabling electronic transactions



Section 7

Sectors	Consumption Items	Current status	Why no cashless	Recommended option model	Recommendation category: Awareness, Option or Mandate	Rationale and future implications:
Education	Education, Books and periodicals	Mostly cash acceptance	Awareness, acceptance also low organized retail.	Mandate the option at 100% institutes for non-cash acceptance, Mandate only collection through electronic means for a fee value above Rs 1000 per month	Awareness & Mandate	Mandating Institutional payments above a certain value ensures that at least people who have access to cards do pay electronically. College fees etc are now mostly paid by cheques. This sector has also high growth potential.
Medical	Medical Non Institutional	Mostly cash acceptance for non institutional	Acceptance	Medical shops can be mandated to use cashless	Thrust required to increase organized retail share as well as cashless	An increase in organized retail to about 10% of total retail and encouraging cashless transactions to about 40% of all organized retail will generate Rs 100 billion of cashless transaction.
Medical	Medical Institutional	Large amount of medical institutional are through cashless medical insurance cards	Awareness, acceptance	Mandate the option at 100% institutes for non-cash acceptance	Awareness & option Mandate; competition among medical insurance providers will automatically increase cashless	Mandating Institutional payments above a certain value ensures that at least people who have access to cards do pay electronically. Medical insurance and RSBY will be two primary drivers.

Section 7

Sectors	Consumption Items	Current status	Why no cashless	Recommended option model	Recommendation category: Awareness, Option or Mandate	Rationale and future implications:
Personal Care	Personal care products, barbers etc	Mostly non cash	Awareness and acceptance	Products bought from organized retail outlets can be mandated	Organized retail can have mandates	This is another growing sector which will see more and more involvement of the middle class. Organized retail is growing. Cashless transactions can be mandated.
Travel related expenses	Cab service	Limited acceptance at Agents, Online payment option available	Awareness, Acceptance	Mandate only collection through electronic means even at Agent location	Awareness & Mandate, Zero KYC easy payment card to be made available at collection centres	Call a cab services are among the fastest growing services in urban metros. Most of them catering to the information sector employees. This is a high growth sector
Travel related expenses	Rail and Airways	Online payment options are most prevalent especially for air travels. However travel agencies seldom accept cashless.	Awareness, Acceptance	Optional mandate to accept electronic payment	Awareness & optional Mandate, Zero KYC easy payment card to be made available at collection centres	Given the transaction costs involving standing at queues and retail counters, this sector will itself gradually move towards cashless

The Visa logo is centered on a blue background with abstract, curved lines. It features the word "VISA" in a bold, white, sans-serif font. A small, stylized orange and yellow checkmark-like graphic is positioned to the left of the letter "V".

VISA