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### An Economic and Environmental Approach of Credit Cards in India

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#### Abstract:

*Credit cards are not just convenient, they stimulate economic growth. Credit cards have had a meaningful impact on the economy. Apart from its property of user friendliness and feasibility, it is eco-friendly for the environment. In this paper an attempt has been made to analyse the environmental impact of card payment system of India and comparison of this with other modes of payment system. It also includes some suggestions for future.*

**Keywords:** Card Payment, PVC (polyvinyl chloride), Environmental friendly, Electronic payments, paper mode of payment

#### Introduction:

Credit card is a plastic card which allows consumers to purchase products or services without cash and to pay them at a later date. According to Naim (1995) credit card is “a contract whereby the card issuer be committed to credit a certain amount of money for someone who is the cardholder in order to meet her or his personal purchases from shops that are associated with the issuer of the card with a contract to accept the fulfillment of cardholder’s purchases, and that is the final settlement after each specified period”. A credit card is different from a debit card because debit card removes money from the user’s savings account after every transaction. There is no interest charged in case of debit cards.

On February 28, 1950 – A Diners club card, the first multiuse credit card was issued. This marked the beginning of the era of plastic money. Diners card was launched in the Indian market in 1960. The Central Bank of India was the first bank in the country to introduce credit card system in August 1980, followed by several other banks. In India, both foreign and Indian banks are doing credit card business.

Credit and Debit cards or Plastic money has played a pivotal role in the economic growth of India. Over the years, plastic money has managed to make it to almost everyone’s purse and has thus

changed the way of spending. User friendliness and feasibility are the main advantages of plastic money that have made it popular not only in India but also all over the world. Apart from this, use of plastic money instead of cash also helps in saving trees and thus creates an eco-friendly environment. Plastic money, thus is an integral part of modern India and the percentage use of plastic money is increasing day by day.

## **Objectives:**

The main objectives of this paper are:

1. To discuss the environmental impact of using card payment system in India.
2. To discuss the positive and negative sides of using credit and debit cards.
3. To analyse the trend of Electronic payment systems (Debit and Credit Cards) of India.
4. To analyse the trend of Cheque clearing system (paper mode of payment) in different metro cities of India.

## **Study Area:**

In this paper all India basis data are analysed and comparison is made between different metro cities of India and different modes of payment system.

## **Methodology:**

The first part of this study is mainly based on secondary data collected from Census of India, Reserve bank and other bank reports. The second part is based on literature survey. After collection, the data are analysed and interpreted. The data are analysed on the basis of percentages and suitable cartographic techniques are used to represent the data. Comparison is made between different cities of India on the basis of the available data.

## **Discussion:**

### **Ecofriendly advantages of credit cards:**

**Environment Friendly** - One of the major causes of deforestation is paper and this is where plastic money is better than paper money as it reduces deforestation.

**Paperless options abound** - With the advent of the Internet, there's no reason to receive a paper bill or receipt for spending. After swiping a card receipt is sent through mail and monthly bills can be paid online without using any paper. This cuts down on the trees that need to be harvested to create paper cheques, bills and currency.

**Reusable** - One credit card is valid for years, whereas paper money is constantly going in and out of circulation. This means that credit cards are the ultimate reusable item. If more people adopted a plastic-only lifestyle, paper consumption would fall.

**Rewards can be donated to green groups** -Usually rewards are generated by paying with plastic consistently. One way to make that cash-back count is to donate it to a green organization, like the Sierra Club. Some credit card issuers allow doing this directly.

### **Other advantages of credit cards:**

**Convenience** - Credit and debit cards offer no-hassle shopping – no cash, no cheques, no additional identification.

**Security** - Lost cash can be used by anyone. If debit or credit card is lost, 24x7 helpline numbers has to be called and report has to be sent to the bank and this can protect from unauthorized use of card.

**Emergency Protection** - A credit card can help in almost any emergency. It's like a security blanket that covers many purposes for e.g. airline insurance, life insurance etc depending upon the credit card.

**Universal Acceptance** - Most credit and debit cards are accepted worldwide. When needed cash can be withdrawn from ATMs or banks around the world that accept credit or debit card.

**Simplified Record Keeping** - Credit and debit cards give a record of all transactions for the month, so a track of money spend can be kept.

**Hygienic** - Paper money is dirty and unhygienic as it travels from one person to another whereas on the other hand plastic money usually remains with 2 or 3 individuals maximum therefore it is clean and hygienic.

**Value-Added Benefits** - Many credit cards offer rebates, cash refunds, contributions to various charities, or other special value-added benefits. Consumers do not get these benefits when they pay by cash.

### **Analysis:**

Due to the above mentioned benefits there is rapid increase in electronic payment system over the years (Fig.1). These changes are more prominent from the trend of different modes of payment systems over the years. Trends of mode of payments which are analysed include

- **Retail Electronic Payment Systems**

Total Electronic Payments which include-Electronic Clearing Services (Credit and Debit), National Electronic Fund Transfer(NEFT) and Card payment ( Debit and Credit).

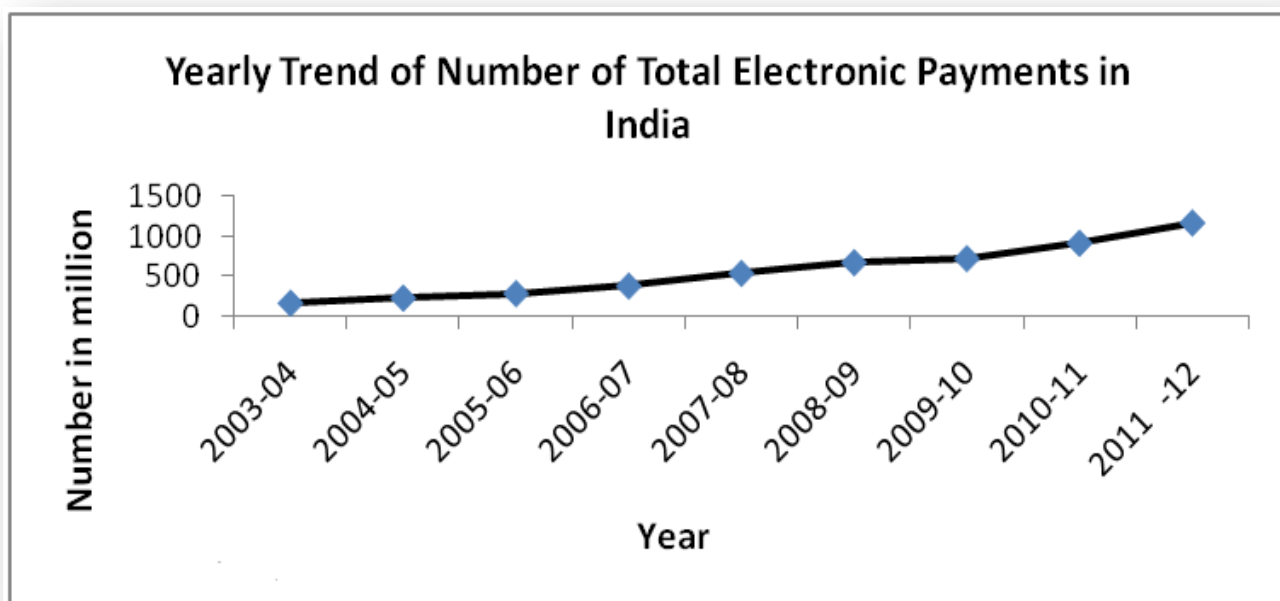


Fig.1  
2012)

Source: RBI Monthly Bulletin (2003-

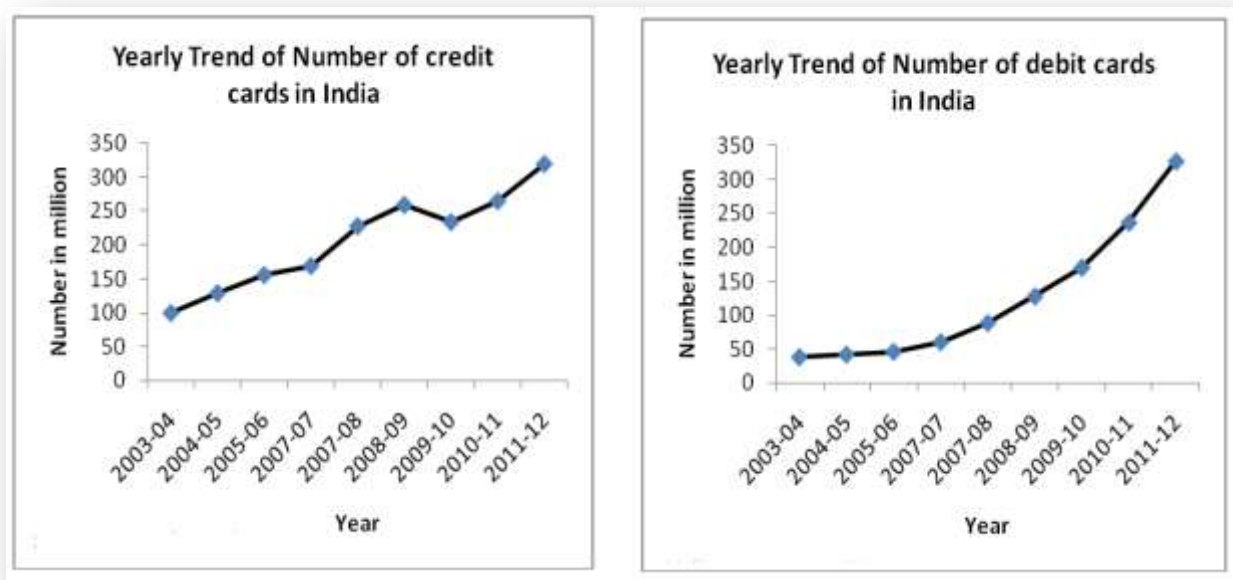


Fig.2 and 3 Sources: RBI Monthly Bulletin (2003-2012)

- Cheque clearing data (Paper mode of payment)**

On one side retail transactions show an increasing trend of electronic payments (Fig.1, 2, 3), on the other side paper transactions show a declining trend over the years (Fig.4). This is mainly due to increased penetration of Internet transactions, on line payment systems, wide coverage of ATMs

(Automated Teller Machine) and spread of Credit and Debit cards. This has resulted in change in consumption pattern.

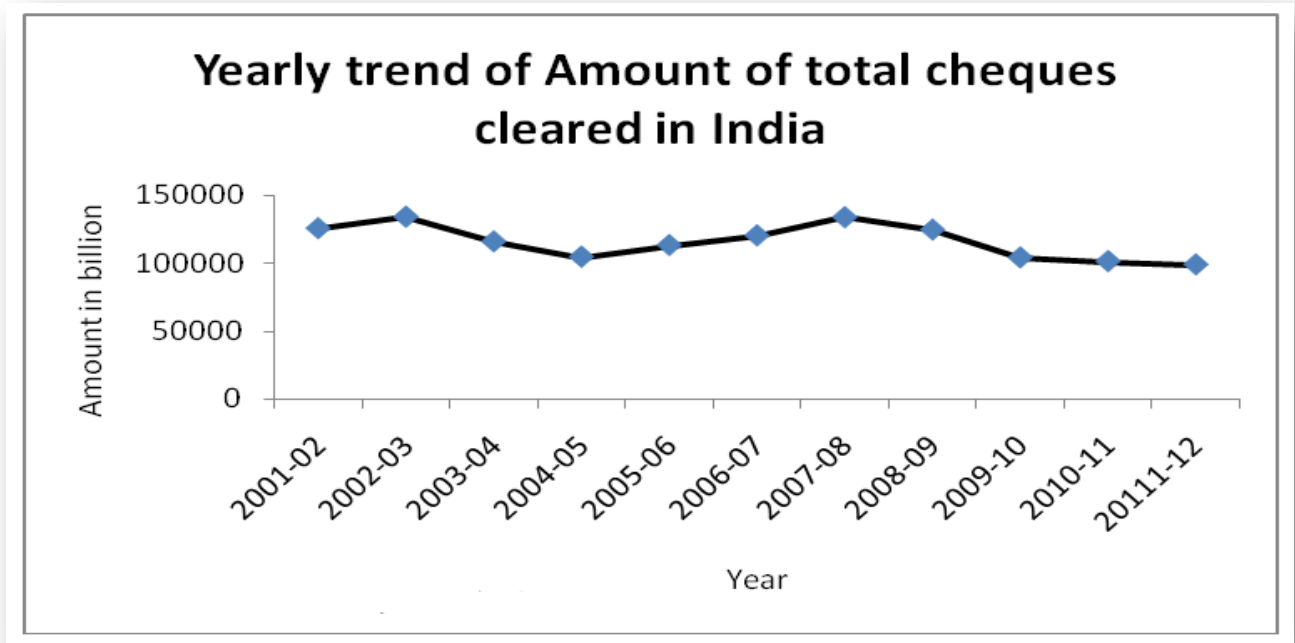


Fig.4

Source: RBI Monthly Bulletin ( 2001-2012)

Metro City wise cheque clearing data are shown to make a comparison among the cities. These are the cities with highest percentage of credit card usage. All of them show a declining trend in terms of amount of cheques cleared. (Table 1 and Fig.5)

Table 1				
Amount of cheques cleared in different Metrocities of India(Amount in billion)				
Year/Period	Kolkata	New Delhi	Mumbai	Chennai
2001-02	3731.31	9903.15	82178.16	5008.72
2002-03	4191.64	13196.25	76947.48	5529.13
2003-04	4653.08	13546.77	55112.93	6121.58
2004-05	5606.6	17736.1	37536.7	7598.83
2005-06	6586.4	16975.83	33428.29	6552.78
2006-07	6823.58	17735.48	33190.9	6922.02
2007-08	7783.04	18009.76	36854.07	7788.54
2008-09	7530.68	16647.09	27997.65	8019.64
2009-10	6582.29	12990	19393.27	6311.01
2010-11	5393.11	14391.16	17069.12	5498.87
2011-12	4666.86	13839.75	16283.13	5032.37

Source: RBI Monthly Bulletin ( 2001-2012)

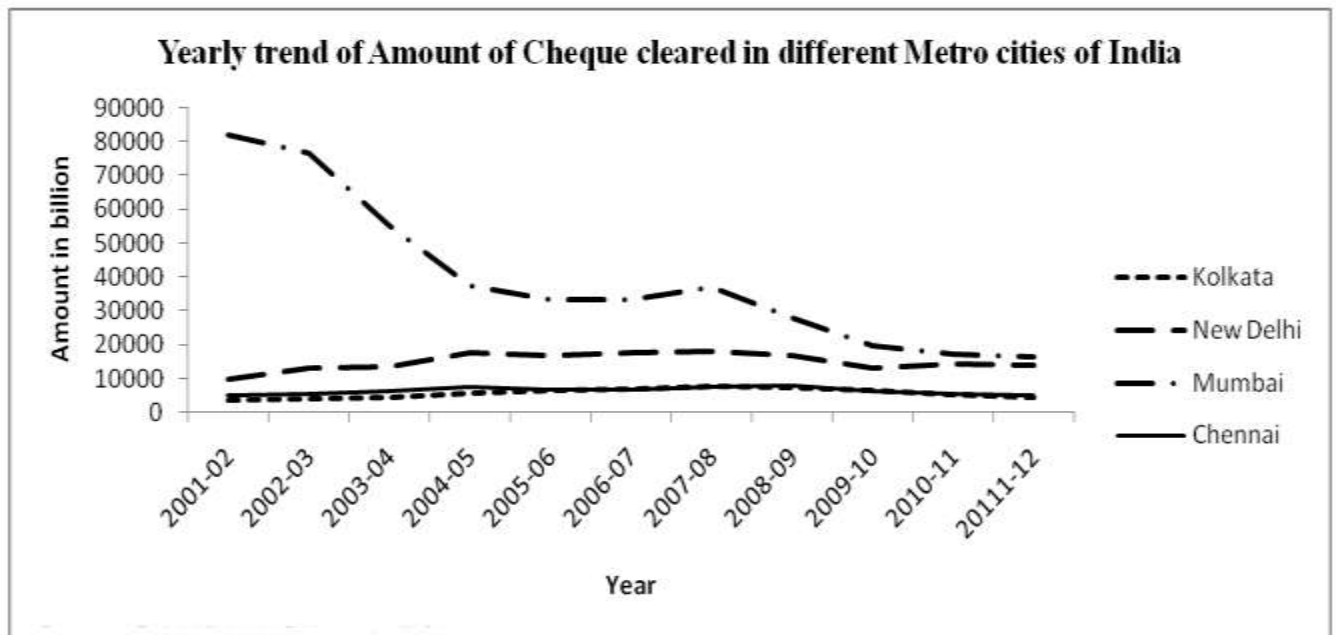


Fig.5

Source: RBI Bulletin (2001-2012)

As paper based transactions (cheques, DDs) continue to fall the retail payment sphere is turning to electronic based and card based transactions. (Fig .6 and 7)

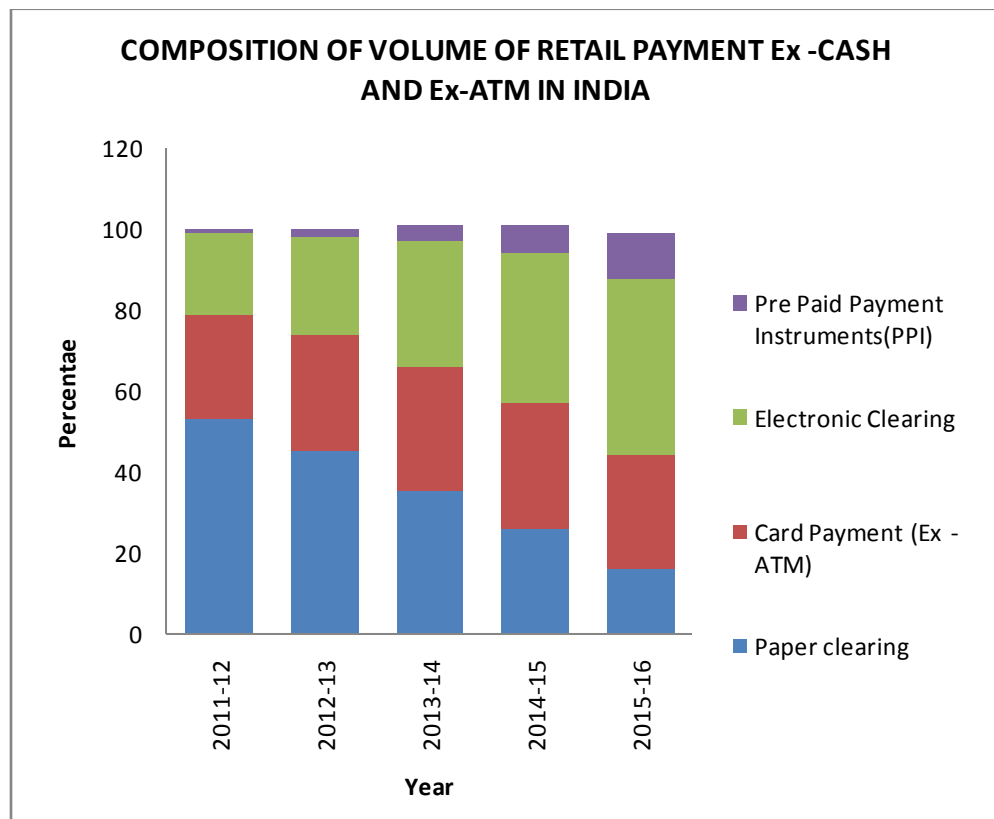


Fig.6 Source: RBI

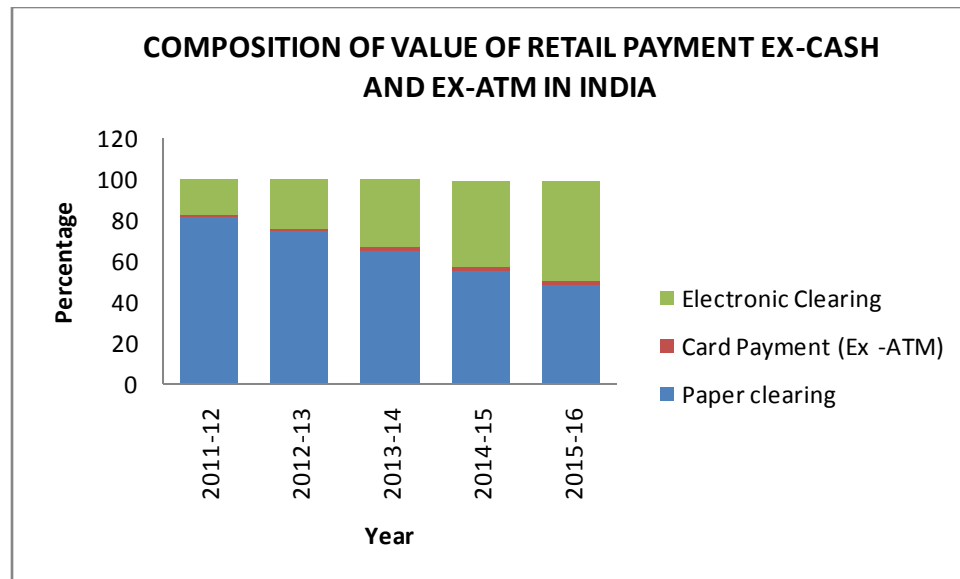


Fig.7 Source: RBI

### Disadvantages of credit cards from environmental perspective:

Credit cards have the potential to keep our environmental impact low. But there are some disadvantages of credit cards:

**It's tough to recycle the plastic** – One of the major drawbacks to credit cards from an environmental perspective is the plastic they're made of. Most payment cards (debit, credit, gift cards) are made of PVC plastic. This is tough to recycle, which is why many expired credit cards end up in landfills.

The raw materials of plastic cards are harmful. Most credit cards are made out of polyvinyl chloride. PVC, like all conventional plastics is not environmental friendly. It takes about 4.25 grams of petroleum to manufacture one 5-gram credit card. PVC is rarely accepted by recycling programs and can produce harmful dioxins if incinerated. The card industry is starting to experiment with compostable PVC and biopolymers, but it will take some more time.

- Paper money has its downsides, too. The currency itself is made from a blend of cotton and linen products that may be renewable but whose cultivation requires a lot of land and other resources.
- Paying with paper and coins both has disadvantages. Extracting metals is not only environmentally taxing; it's also energy-intensive. Mining, milling, and smelting of metals are very expensive.



**Consumers will buy more stuff with credit** – “Reduce, reuse, recycle” has been the motto of the environmental movement for years. But credit cards have been shown to encourage to do just the opposite of “reduce.” With credit cards people buy more.

### **Conclusion:**

In conclusion it can be said that using a credit card can be an environmental-friendly move if the following right steps are taken:

- By switching to paperless billing and paperless receipts
- By stopping credit card pre-approvals from being mailed to home
- Mobile payment system should be considered to eliminate both paper and plastic from normal spending routine
- By keeping mindful of credit card spending — only buy the necessary items
- Expired credit cards should be shredded and taken to a PVC recycling center in the nearby area.
- By donating rewards to an environmental organization
- Using a debit or credit card instead of a cheque will also eliminate the paper used to print the cheques . Online payment will save paper, postage and the fuel required to mail the envelope.
- When credit cards expire, instead of cutting them and throwing them away. Instead, the old plastic can be used in some surprising ways. Expired credit and debit cards can be used as gift and coupon cards, to make fun sculptures with your kids by making slits in the cards so they fit together like a house of cards.

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