India: Results of demonetization 2016

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Abstract

The government of India demonetized the 500 and 1,000 Rupee notes on November 8, 2016 with the purpose of identifying the size of the formal economy and also for reducing the size of the parallel economy. In this sense, the article aims to analyze the results of this demonetization. It is concluded that the measure generated shortages of cash, changes in the consumer preferences, a greater use of electronic transfers, increased inflation, decrease in the growth of productive activity, and a new distribution of the monetary cone.

Keywords: India, economics, demonetization, money, monetary policy.

India: Resultados de la desmonetización 2016

Resumen

El gobierno de la India desmonetizó el 8 de noviembre de 2016 los billetes de 500 y 1.000 rupias con el propósito de identificar el tamaño de la economía formal y reducir la magnitud de la economía paralela. En este sentido, el artículo tiene por objetivo analizar los resultados de esta desmonetización. Se concluye que la medida generó escasez de efectivo, cambios en las preferencias de los consumidores, mayor uso de transferencias electrónicas, aumento de la inflación, disminución en el crecimiento de la actividad productiva, y una nueva distribución del cono monetario.

Palabras clave: India, economía, desmonetización, dinero, política monetaria.

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1. Introduction

Demonetization is a measure of monetary policy where the circulation of all or part of the pieces of the monetary cone is declared illegal. It usually occurs when there is an economic, political and social crisis that leads to a change of national currency by replacing the old monetary unit with a new one; front high levels of hyperinflation that generate recurrent updates of the monetary cone through the abandonment of the pieces of smaller denomination and its replacement by new notes of greater nominal value; the falsification and money laundering processes; the excessive storage of foreign currencies and national currency in cash; and the recurrent acts of corruption.

When the authorities decide to demonetize one or more bills they strip those circulating pieces of their status as legal tender. In this sense, it corresponds to a measure taken by governments to reduce the problems generated by the falsification of money, the smuggling of coins and notes and the movement of funds obtained from illegal economic activities. With short-term results, demonetization is used to legalize funds from the underground economy.

In this sense, India´s economic system is vulnerable to the impact of the illegal economy due to the role of black money, corruption and financial crimes in the activities of economic agents (Rani, 2016; Kotnal, 2017). The incidence of false banknotes in the country has increased and, due to its similarity to genuine banknotes, they are increasingly difficult to differentiate (Ramdurg and Basavaraj, 2016). Thus, illegal money is used to finance terrorist activities, drug trafficking and serve as an incentive to commit acts of corruption, becoming one of the factors restricting the country's economic dynamics.

In order to reduce the risks faced by society in the face of the widespread activities of the informal economy, it is necessary to reduce the role of counterfeit notes and black money in the economic system. In this regard, the government of India undertook on November 8, 2016 the process of demonetization of the 500 and 1,000 rupee notes, a strategy to reduce the impact of illegal activities in the economy, eradicate black money and minimize corruption. In a context of reduced banking inclusion, high financial illiteracy (Rani, 2016), and high dependence on cash transactions (Gajjar, 2016), demonetization was presented and applied as a radical policy to mitigate the parallel economy and redefine the formal economy (Saitya, 2017; Dash, 2017; Kaur, 2017).

In this sense, the present article aims to analyze the results of demonetization applied by the government of India. For this, the origin of the demonetization measure is presented. The objectives proposed by the government authorities are listed below. In the fourth section, the theoretical effects of the demonetization measure are identified, taking into account the existing academic literature. The results obtained by this government policy are presented below and, in the last section, the conclusions are identified.

2. Origin of demonetization in India

On November 8, 2016, through Official Gazette No. 2,652, the Government of India decreed the circulation of 500 and 1,000 Rupees (Government of India, 2016), the pieces that represented the highest value of money in hands of the public for that moment. The authorities announced that from midnight on that day the possession of both types of banknotes would be illegal, that is, they would not be accepted by anyone except the organizations defined by the government. In this order, both the banks and the post offices were authorized until December 30, 2016 to receive both tickets and make the exchange for other pieces of the monetary cone. The announcement of the demonetization ceased the commitment of the authorities of the Reserve Bank of India (RBI) to the holders of the demonetized notes, since these were no longer legal and could not be used as money in any transaction after the measure, they were only worth to replace them by the coins and notes that with other denominations remained legal (Ramdurg and Basavaraj, 2016). It corresponded to the third process of this type implemented in India, after similar policies put into practice on January 12, 1946 to take out the circulation of 10,000 Rupees and on January 16, 1978 when the 1,000, 5,000 and 10,000 Rupees (Lahiri, 2016).

The measures complementary to this announcement included the government's commitment to put into circulation immediately two new notes to the current monetary cone, the 500 and 2,000 Rupees; authorization to the population to deposit the demonetized banknotes in the banks and post offices from November 10 to December 30, without any type of limit to the amounts deposited; restrictions on withdrawal of funds by customers in the banking system, beginning with 10,000 Rupees per day and 20,000 Rupees per week, for November 25 the weekly limit was increased to 24,000 Rupees and the daily restriction was eliminated; maximum amount of 4,000 Rupees, then extended to 4,500 Rupees, for the exchange of banknotes declared illegal by the old notes of 2, 5, 10, 20, 50 and 100

Rupees or by the new ones of 500 and 2,000 Rupees in authorized banks , as well as in the main postal offices and sub-offices until November 24, whenever the client presents his personal identification; no type of restriction for the use of cashless payment systems, including checks, credit and debit cards, electronic purses and electronic funds transfer; it was established that the exchange of the 500 and 1,000 rupee notes after December 30, 2016 was the responsibility of the RBI; it was defined that on November 9 and 10 the ATM network would not provide service, and in the days following its entry into operation it would include a limit to the withdrawal of 2,000 Rupees per card per day, an amount that was later increased to 4,000 Rupees; and tax incentives were given to encourage the change of illegal tickets and avoid the use of money from activities outside the law (Government of India, 2016, Ministry of Finance, 2016, RBI, 2016).

3. Objectives of demonetization in India

Demonetization is the act of modifying the legal character of a monetary unit (Ramdurg and Basavaraj, 2016) and represents government action where it stops producing and circulating particular forms of currency (Kaur, 2017). A monetary policy measure where the legality of one or several pieces of the monetary cone in circulation is eliminated, under the commitment of the local monetary authorities to cover the demand for money of the population by putting into circulation new notes that allow updating the monetary cone or replacing it with a new one.

It is a measure that central banks and governments of different countries of the world have implemented, mainly to try to identify the size of the formal economy and reduce the magnitude of parallel economies. A way to promote the uniform economic development and the greater economic and social equity of the population, forcing higher income economic agents to declare and pay taxes. It is used as a policy of liquidity shock for the achievement of various objectives, which domestic authorities are responsible for defining considering the characteristics and particularities of each of the economies.

In this sense, the objectives of the demonetization of the 500 and 1,000 rupee notes were: 1) to eliminate illegal money; 2) to eradicate the smuggling of money; 3) to fight against terrorism; 4) to stop money laundering; and 5) reduce corruption (Government of India, 2016). Goals that corresponded to a governmental effort to transform the Indian economy by changing the institutions that govern its dynamics as well as the relationships between economic agents. It is the largest step that the Indian government has taken in a long time to reduce the impact of the parallel and illegal economy on the Indian economic system (Tharoor, 2017).

Thus, the authorities of the Government of India and the RBI proposed in November 2016: a) stop the financing received by terrorist activities from the falsification of rupee notes and the use of funds obtained in subversive activities such as espionage , the smuggling of weapons and drugs; b) eliminate the use of illegal money obtained from tax evasion, the smuggling of coins and bills and organized crime, which have generated a broad economy parallel to the formal economic activities carried out in the country; and c) eliminate corruption, reducing the incentives that public officials have to use government resources privately.

4. Theoretical effects of demonetization in India

After the demonetization measure was presented and implemented, the theoretical and empirical analysis of the effects of this policy on the Indian economy gathered the interest of academics and economic policy analysis firms to identify the macroeconomic and microeconomic effects of this policy. Highlights studies about the changes generated in the decision making of producers, consumers, investors and representatives of government institutions; the measurement through monetary aggregates of the impact of the measure on the Indian economy as a whole; and the conjunctural and perspective analysis of the effects of demonetization, considering the short and long term as a temporary space.

Sabnavis, Sawarkar and Mishra (2016) in their theoretical analysis of the consequences of demonetization of 500 and 1,000 Rupees note the following effects: 1) effects on the parallel economy; 2) effects on the supply of money; 3) effect on demand; 4) effects on prices; 5) effects on different sectors of the economy; 6) effects on the Gross Domestic Product (GDP); 7) effects on banking activity; and 8) effects in online transactions and alternative payment systems, before the reduction of cash. In this sense, the authors highlight that in the short term middle class citizens benefited from the fall in prices and the implementation of the platform for alternative payment systems, while the holders of illegal money lost to the extent that they could not re-enter their resources into the economy; In the long term, the consolidation of the system for online payments will have a positive impact on the functioning of the economy by facilitating the activities of economic agents.

Rani (2016) conducted an empirical analysis to determine the effects of demonetization. The descriptive component of his research highlights: 1) that 80% of store owners interviewed said they increased their sales by 20% between 9 and 10 December 2016 as a result of their willingness to accept old tickets, but acknowledged that after December 10, sales decreased by 50% due to cash shortages; 2) the wholesalers refused to extend their lines of credit; 3) the vendors began to provide payment facilities and to allow payment by check to consumers, highlighting that 70% of the store owners interviewed increased the payment systems used and extended the time for payment of the credit; 4) expenditure per consumer at each visit to commercial establishments fell by 40%; and 5) items purchased by consumers decreased by 20%. In the analysis by product categories, the author highlighted the decrease in sales of: salty snacks in 10%, chocolates in 50%, cookies in 20%, soft drinks in 50%, juices and fruit drinks in 20%, cigarettes in 10%, bath soaps in 10%, hair dyes in 10%, mobile phones and computers in 70% and durable goods in 60%, while it verified the 70% increase in the sale of gold. In this regard pointed out that the demonetization, led sellers and consumers to adopt means of payment without cash, from the use of checks and cards to the use of Internet banking, to buy goods and services.

Mahajan and Singla (2017) estimated the effects of demonetization on the financial inclusion of India, highlighting the high impetus that this measure has generated in the sector, mainly due to the increase in deposited funds, but also due to the standardization of the use of accounts banking. In detail, the following effects of demonetization on different sectors of society stand out: 1) ordinary citizen, who continues to make a large number of transactions in cash, through ATMs or through regular visits to the bank, which makes it difficult to travel towards the economy without money and raises the costs of demonetization, due to the scarce formation of the population in digital finance; 2) informal economy, large sectors of the economy that depend completely on cash, that is, they receive income and make payments in their entirety with coins and notes, economic agents that mostly do not have an account in the banks, for which they face impacts Negatives of demonetization; 3) rural population, due to its limitations of accessibility to banking and other financial institutions, high costs of financial intermediation and limited ATM and credit and debit cards services; 4) small and medium rural enterprises, despite their large number, this sector is affected by demonetization to the extent that it does impossible to accumulate the cash needed to cover your daily operations; 5) microfinance institutions and their clients, who maintain a relationship based on the accumulated resources in small periods of time, daily or weekly, the demonetization caused the funds that can be accumulated to be reduced, the possibility of non-payment will increase and the access to loans; and 6) internet sales companies and electronic wallets, due to the increase in the use of digital financial services, evidenced a greater number of transactions and web visits from both the rural and urban areas of India.

Singh and Singh (2016) point out that the main effects of the demonetization have been: a) the fall in more than 15% of the sectorial index BSE Realty; b) the decrease in about 20% of the share price of DLF Ltd; c) the reduction of the activities of the companies that concentrate a large number of cash operations; d) the fall in the shares of jewelry companies, such as Titan Industries Ltd, which saw its price decrease by about 11%, because a part of the purchase of gold is made in cash; e) the reduction in a range 8-10% of the shares of small and medium financial companies as a result of the decrease in cash payments; and f) the fall in about 3 % of the market value of the shares of technology and information companies, a sector less affected by demonetization but which receives the impacts of the trade policies of the government of India and the governments of the rest of the world.

Jasmine Shirley (2017) focused her analysis on the impact of demonetization on the common citizen and on the macroeconomic reality of India. Stresses as the first effects of the government measure the decrease in the speed of growth of the Indian economy, the fall in the growth of indicators of sales, income, production and employment of traders, producers and workers, the closure of small businesses dependent on cash transactions, the reduction of employment opportunities due to the shortage of cash to pay for working hours, the duty of companies to reduce labor costs, the collapse of the informal financial sector in the country, and the obligation of consumers to adapt to new forms of payment of goods and services. Thus, the author recognizes that demonetization is an established practice in monetary policy to reduce illegal money, but raises the need to understand that not all illegal money is in cash and not all cash comes from illegal activities.

Dash (2017) indicates that demonetization affected the economy through a restriction on liquidity. In this context, it considers that the intensity of the effects of this measure depends mainly on the duration of the liquidity shock. And in this regard infers the presence of two types of impact: 1) social impact, effects of different nature, negative when the indisposition of health services is evident, among other services, to receive the payment with notes of the old monetary cone and the deep shortage of cash that increased as the length of the calibration process of the ATM network extended; whereas it indicates as positive the increase in the use of electronic money and the entrance in disuse of the physical money that will reduce in some places the crime rate; and 2) economic impact, the banking sector was able to recover some bad loans and improve its financial position, increased the number of transactions made in the economy through the formal banking sector, and increased the transparency of people and companies with obligations tributary It also highlights the government's goal of moving India towards a cashless economy, therefore, it underlines the impact of demonetization on the less favored groups of the population that are affected by the difficulty of accessing alternative means of payment.

The shortage of cash resulting from the policy of demonetization led to the suspension of the free and rapid convertibility of the funds that citizens kept in checking and savings accounts of banks. Thus, companies and individuals with availability of resources in banking institutions could not transform them into cash, and to have a portion of those funds in coins and bills it was necessary to remain for a long time outside banks; and the production and exchange activities of sectors of the informal economy highly dependent on cash were negatively influenced. On the other hand, the benefits of alternative payment systems were enhanced, relaunching the role in the economy of credit and debit cards, electronic transfers, and mobile payments, among others. Given these effects, the demonetization in India is different from other similar policies because it included the circulation of two high-denomination notes, which were replaced by two new notes of high nominal value (Lahiri, 2016).

For Tharoor (2017) the initial effects of demonetization were evident in the daily dynamics of consumers, producers and savers. In this sense, the initial reaction of the population to the measure was panic before the eminent expiration of the legality of the 500 and 1,000 Rupees, since the announcement people began to queue in front of the headquarters of the banks to change and depositing the old bills, sectors of the economy dependent on cash transactions stopped their activities, and the demonetized bills began to be returned.

Tabla 1. Theoretical effects of demonetization India 2016.

Efectos	Autores
Disminución en el corto plazo de la oferta de dinero	Sabnavis, Sawarkar y Mishra (2016), Dash (2017), Tharoor (2017)
Limitaciones para el manejo de fondos	Lahiri (2016), Tharoor (2017)
Pérdidas a la economia paralela por fondos no depósitados	Sabnavis, Sawarkar y Mishra (2016)
Caida en la demanda de bienes y servicios	Rani (2016), Sabnavis, Sawarkar y Mishra (2016), Mahajan y Singla (2017), Singh y Singh (2017), Jasmine Shirley (2017), Tharoor (2017)
Reducción de la inflación	Sabnavis, Sawarkar y Mishra (2016)
Desestimulo a la producción y caida del PIB	Rani (2016), Sabnavis, Sawarkar y Mishra (2016), Mahajan y Singla (2017), Jasmine Shirley (2017), Lahiri (2016), Tharoor (2017)
Aumento de la actividad bancaria	Sabnavis, Sawarkar y Mishra (2016), Mahajan y Singla (2017), Dash (2017), Tharoor (2017)
Incremento en el uso de sistemas de pago alternativos	Rani (2016), Sabnavis, Sawarkar y Mishra (2016), Mahajan y Singla (2017), Jasmine Shirley (2017), Dash (2017), Lahiri (2016)
Caida en el rendimiento de los mercados financieros	Singh y Singh (2017), Jasmine Shirley (2017)
Mejora en la transparencia de empresas y personas con obligaciones tributarias	Dash (2017)

Source: Own elaboration.

5. Results of demonetization in India 2016

Taking into account the information presented by the government of India and the RBI, as well as the evolution of the macroeconomic indicators, before, during and after the demonetization measure, the results of the government's decision to take the two higher denomination tickets. Beyond a change in the public perception about the willingness of the authorities to fight against corruption, the illegal money market, the contraband and the falsification of banknotes, the implemented policy generated a liquidity shock that altered the evolution of the economy.

The size of the liquidity shock that faced the Indian economy can be seen in figures 1 and 2. The evolution of monetary aggregates was modified by demonetization, mainly due to the definition of initial limits to the withdrawal and deposit of cash in the banking entities, the operations to absorb excess liquidity and the rapid process of remonetization of the economy, which changed the stability of the aggregates reached before November 2016 through the RBI's effort to balance the liquidity of the monetary system through open market operations.

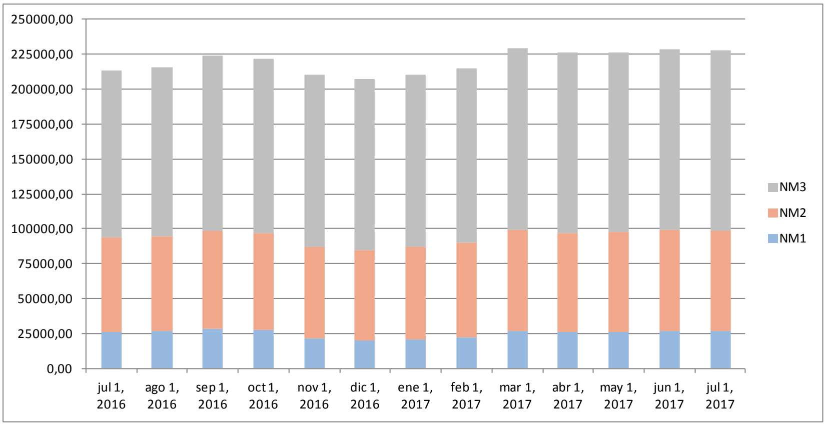

Figure 1. Monetary Aggregates Source: RBI (2017b).

The policy reduced the level of cash in the hands of the public that went from representing 16,621.65 trillion Rupees in July 2016 to constitute 14,691.77 trillion Rupees in July 2017, with a fall of 53.92% in this indicator between October 28 and December 23, 2016. At the same time, the demand for deposits by the population increased from 9,730.24 billion in July 2016 to 11,905.67 billion in July. 2017, variable that grew 35% between October 2016 and March 2017, just in that period the RBI managed to reverse the role of cash and deposits in the economy, highlighting the preponderant role that publicly owned funds began to have deposited in the accounts of the Indian banking system. As of April 2017, this situation changed, returning cash to be the main means of payment used by the population, but with a significant decrease in the gap between this asset and the role that deposits began to have after it was announced the demonetization.

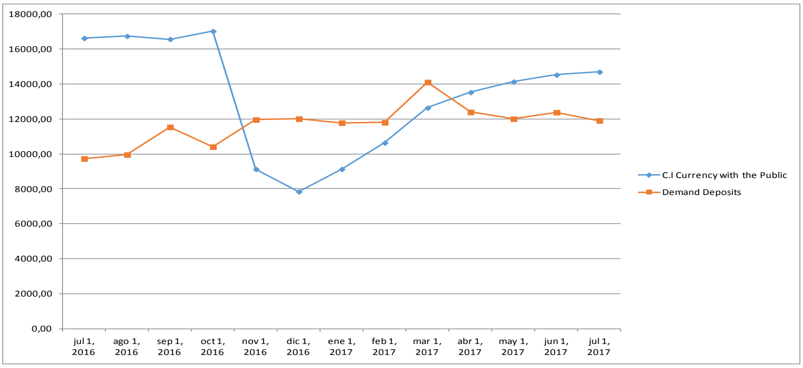

Figure 2. Currency with the Public and Demand Deposits
Source: RBI (2017b).

The increase in funds received by banks via deposits from their clients boosted the economy's credit activity. The loans granted by the RBI and the banking system to the government sector and to the commercial sector grew; the former went from representing 40,476.32 trillion Rupees at November 2016 to 41,002.95 trillion Rupees in July 2017, and the second ones passed from 85,352.92 trillion Rupees in November 2016 to 88,819.17 trillion Rupees in July 2017 (RBI, 2017). In the framework of the policy of reducing the use of cash in the economy, both commercial and governmental activity managed to access a greater amount of funds.

Regarding the effect on payment systems used in the economy, demonetization increased the importance of cashless payment systems. Thus, the payments for electronic transfers went from 10,000 trillion Rupees in April 2016 to surpass 17,000 trillion Rupees in March 2017, and then surpassed the threshold of 16,000 trillion Rupees after December 2017. On the other hand, the use of credit and debit cards that showed a decrease before the demonetization measure, after being announced, evidenced an increase of 34,3% between December 2016 and December 2017. The use of mobile banking services was increased from April 2016 to May 2017 to then contract and stabilize at a level of 34,342 billion Rupees. While the prepaid instruments had an incipient growth, despite this, they constitute the alternative cash payment system less used by the population.

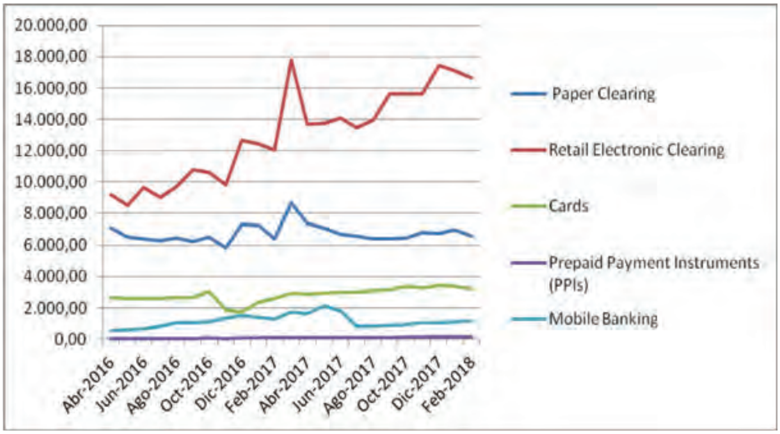

Figure 3. Alternative payment systems
Source: RBI (several years).

According to the RBI (2017b) in its annual report for the period 2016-2017, during the six months after the announcement of the decision to demonetize, 15.44 billion Rupees expressed in 500 and 1,000 notes were out of circulation. Of this amount the Indian banks received 15.28 trillion Rupees through deposits from the public, that is, 99% of the invalid tickets. This means that 89 million units of 1,000 rupee notes, worth Rs 8,900 *Croce*, were lost because they could not be exchanged or deposited because of their origin in the underground economy.

Between 2016 and 2017 the strategy to reduce the effects of the shortage of money as a result of the demonetization led the RBI to increase the amount in circulation of the notes of 20, 50 and 100 Rupees, by 52%, 45, 31% and 37.59% respectively. The new distribution of the monetary cone led to the new 2,000-rupee note becoming the piece with the highest circulation, reaching a total of 6,570.63 billion Rupees, 50.15% of all the money of the Indian economy, while the new piece of the 500 rupee note went on to represent the second highest circulation ticket, accounting for 22.45%; followed by the 100 rupee note that increased its preponderance, going from constituting only 9.61% of the currency in 2016 to representing 19.29% of the money in circulation in 2017.

Table 2. Banknotes in circulation, billions of Rupees and Percentage.

Banknotes	2014-15	2015-16	2016-17	2014-15	2015-16	2016-17
₹ 2	8,54	8,53	8,53	0,06	0,05	0,07
₹ 5	37,02	36,80	36,45	0,26	0,22	0,28
₹ 10	303,04	320,15	369,29	2,12	1,95	2,82
₹ 20	86,99	98,47	203,15	0,61	0,60	1,55
₹ 50	174,36	194,50	355,64	1,22	1,18	2,71
₹ 100	1502,65	1577,83	2528,01	10,52	9,61	19,29
₹ 500	6563,91	7853,75	2940,98	45,94	47,84	22,45
₹ 1000	5612,45	6325,68	89,25	39,28	38,53	0,68
₹ 2000	-	-	6570,63	-	-	50,15
Total	14.288,96	16.415,71	13.101,93	100	100	100

Source: RBI (several years).

This situation modified the distribution of banknotes in circulation in the economy, by passing the highest denomination piece to constitute the most available monetary unit. This allowed a quick replacement of the demonetized banknotes and reduced the transaction costs of the population; but it makes the economy of India more vulnerable to smuggling, money laundering and corruption, since a high-denomination bill reduces the costs of these illegal activities by facilitating the accumulation and mobility of large amounts of resources.

In another order, the putting into circulation of the new 500 and 1,000 rupee notes as a complementary measure to the demonetization represented an expense of 7.965 million Rupees, which generated a significant increase in the costs of printing banknotes from the issuing entity if compares this amount with the 3,420 million Rupees destined for the same purpose during the period 2015-2016. In this context, due to the policy of demonetization, the income of the RBI decreased by 23.56% and its expenses increased by 107.84% between the 2015-2016 and 2016-2017 periods, which brought pressure to the activity of the institution and caused its profits to decrease by 53% to 30,659 million Rupees compared to the 65,876 million Rupees obtained in the previous fiscal year (RBI, 2017b).

Likewise, the issuing body stands out among the results of demonetization (RBI, 2017b): a) the elimination of more false banknotes as a consequence of the 20.4% increase in the detection of false banknotes by banks during the lapse 2016-2017, in comparison with the previous year; b) the increase in banking transactions of dubious origin, verified in the increase of the register of suspicious transactions made by banks in 2016-2017, which reached the level of 473,003 transactions, well above the 106,273 transactions of this type registered during 2015-2016; c) the increase in electronic payments that went from 93,94 billion Rupees in November 2016 to 113,7 billion Rupees in July 2017; d) the increase in bad loans in public sector banks, since for the 2016-2017 period of every 100 Rupees lent by the banks, it was unlikely that they would recover 12 Rupees, a situation that put pressure on the capital position of the banks and limited their ability to lend; e) the reduction in the growth rate of loans granted by banking institutions, because banks were focused on the elimination of bad loans and investments in the economy remained weak; f) the proliferation of agricultural loan exemptions to put pressure on the finances of the state government, as a result of pressures from farmers, increased the risk of dismantling the credit culture of the sector and discouraging the timely payment of commitments by borrowers; g) slow growth of investments, despite the fact that interest rates lowered the low growth of the industry conditioned the dynamics of investments in the country; and h) broad consumer demand in the 2016-2017 period, with the possibility of boosting the growth of the economy as the generalization of the new payment systems and the arrival of more foreign currency to the country will boost consumer demand. With respect to the evolution of the economy, India's GDP reduced its growth rate to 6.1% during the first quarter of 2017, after reaching a rate of 7% in the last quarter of 2016.

Another result of the demonetization was the significant weakening of local money market interest rates, which were aligned to a downward bias since December 2016 as a consequence of the RBI management. In this regard, the Indian issuing entity acknowledged that the evolution of the monetary and liquidity conditions of the economy were conditioned by its liquidity management position, the presence of global factors and the measure that took 500 and 1,000 Rupees out of circulation. It went from a cycle of expansion of the working capital in the economy during the months prior to November 2016 to a phase of decreasing the amount of money in circulation resulting from demonetization, which caused an increase in the liquidity of the banking system and the complementary decision making of the RBI to manage it.

According to the monetary authority, its balance changed in size after demonetization, decreased by 0.8 trillion Rupees, 2.4% of its total size, during the period between November 4, 2016 and March 31, 2017 (RBI, 2017a). Due to changes in the composition of its accounts, on the liabilities side, there was an abrupt decrease in cash in circulation and, on the side of assets, the decrease in loans granted by RBI to other banks as a consequence the increase of cash in the hands of banking institutions.

Despite the good results of the anti-inflationary policy of the RBI during the second half of 2016, the circulation of the 500 and 1000 rupee notes caused the increase in inflation in the first quarter of 2017. This was due to the shortage of cash, the advancement of purchases by consumers, doubts about the legality of accepting the demonetized bills and the uncertainty of what to do with them. The increase in the final price of the merchandise was the way in which the producers and merchants were protected against the risk of accumulating funds in demonetized banknotes as a result of their legal activities. This reversed the downward trend in prices maintained in the second half of 2016. Given the risks for the economy of greater price volatility due to the effects of demonetization, the increase in public spending, and the uncertainty surrounding the impact of the monsoon rains during the rest of the year, the reserve bank directs its monetary policy towards the goal of inflation by objective from April 2017 concentrating its efforts on improving liquidity, by putting more pieces of circulation into circulation the new 500 and 2,000 rupee notes, as well as the elimination of restrictions on withdrawal of funds at the bank teller's offices (February 2017) and effect on ATMs (March, 2017), together with a reduction in fees interest to help the recovery of the economy. The results were not as expected and inflation begins a new escalation from June 2017, a path of price growth that remained until reaching its highest point of 5.27% in December 2017, as a result of the increase in the public spending for investment in infrastructure and roads, recurrent fiscal deficits to finance it, and transportation and communication difficulties in the economy.

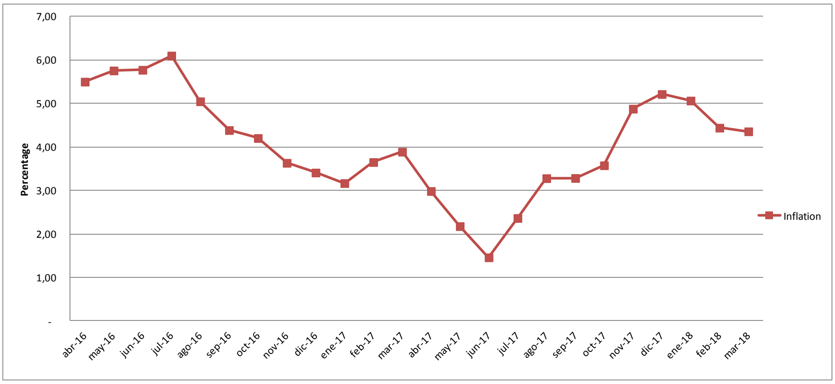

Figure 4. Inflation growth rate
Source: RBI (several years).

The productive activity reduced its growth rate even more after the measure that took the 500 and 1,000 Rupees out of circulation. After the fall in the growth rate of India's real gross domestic product in the two quarters prior to the monetary measure, the shortage of cash, the uncertainty about the future of funds expressed in demonetized notes, the high risk faced by the activities of production, distribution and commercialization of merchandise in cash-dependent sectors reduced the growth dynamics of the Indian economy that went from growing 9.2% in the first quarter of 2016 to growing 6.1% in the first three months of 2017 , a trend that was maintained for the next quarter. Only in the second half of 2017 was it possible to increase the speed of economic growth as a result of government fiscal incentives, the solution to the liquidity problems of the economy, the incentives to alternative payment systems and the stimulus to investment through a low interest rate policy.

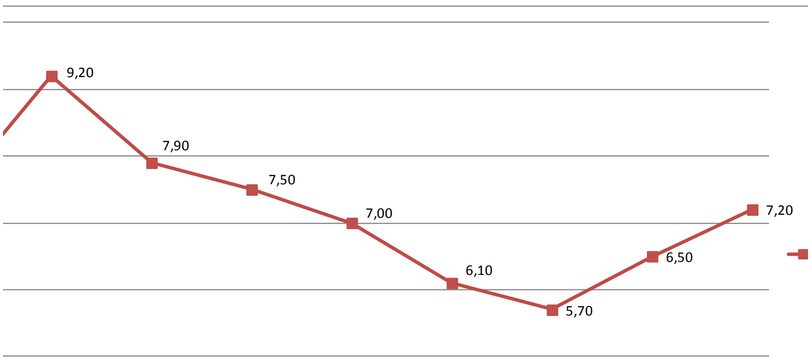

Figure 5. Real GDP growth rate
Source: RBI (several years).

From the results thus presented it is important to highlight the ability of the Indian banking system to respond to its customers and collect a large number of tickets in a short time; the impact of public action in reducing funds from illegal activities; the change in the country's economic dynamics as a result of the liquidity shock implemented; and the effect that the measure produces on the perception of the population about the government's fight against inequality, money laundering and smuggling, and corruption. In this context, the change in the preconditions of the monetary system produced short-term inflationary pressures and discouraged productive activity that grew at a lower rate than in previous periods.

6. Conclusion

Given the existence of falsification and money laundering processes, the excessive storage of foreign currencies and national currency in cash, and evidence of recurrent acts of corruption in the Indian economy, the Narendra Modi government decided on November 8, 2016 to take of circulation 500 and 1,000 Rupees. This policy represented a liquidity shock that altered the evolution of the economy and required complete measures to mitigate its negative effects on the welfare of the population.

Among the results obtained from the demonetization are: 1) shortage of cash, because the demonetized bills represented the pieces of greatest circulation in the economy, the lowest denomination banknotes did not cover the demand for cash for part of the population; 2) change in consumer preferences, described first by replacing coins and notes with deposits, as a way to safeguard individual assets and comply with the established legal framework and, secondly, after April 2016, by the greater demand for cash compared to deposits in the banking system; 3) increase in the use of electronic transfers, the alternative cash payment system with the greatest acceptance by the population, above cards, checks, mobile banking and prepaid services; 4) an increase in inflation due to the shortage of coins and bills, the advancement of purchases, and doubts about the legality of accepting illegally declared tickets; 5) decrease in the speed of growth of productive activity, due to the uncertainty about the future of the funds expressed in demonetized notes and the paralysis of production activities, distribution and commercialization of goods in sectors dependent on cash; 6) decrease in the profits of the RBI as a consequence of the increase of its expenses of issuing coins and notes; and 7) change in the distribution of the monetary cone, highlighting that the 2,000 Rupees note is, at the same time, the one with the highest denomination and the one that circulates the most in the economy, a situation that threatens the stability of the Indian economy by generating incentives for smuggling, counterfeiting and money laundering, as well as corruption.

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