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## Demonetization in India: An Analysis of an Instant Decision

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# **Demonetization in India: An Analysis of an Instant Decision**

An Honors Thesis submitted in partial fulfillment of the requirements for Honors in  
*College of Business Administration*

By  
*Jaymin Patel*

Under the mentorship of *Dr. Axel Grossmann*

## **ABSTRACT**

This analytical study examines the impact of demonetizing the Rs. 500 and the Rs. 1000 legal tender in India, which occurred on November 8<sup>th</sup>, 2016. The study analyzes impacts on the GDP of India, employment rate, stock market volatility, agriculture sector, and the overall economy. The study shows that the demonetization movement had more short-term impacts than long-term and it generally failed to achieve its main objective.

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## **1. Introduction**

On November 8th, 2016, Narendra Modi, the 14th Prime Minister of India, declared that the Rs. 500 and Rs. 1000 would not be considered legal tender. The two forms of currency were *demonetized* from the market. Demonetization refers to the act of stripping a currency from its status as being a legal tender (Kenton, 2019). The decision shocked the country as the most common medium of exchange was cash. The two forms of currency accounted for 86% of cash circulation in the economy. This created havoc in the nation, and the citizens started to panic. What was the reason after all for Modi to take such a step? Through the movement of demonetization, Modi hoped to reduce funds to terrorism, decrease the corruption rate, eliminate counterfeit notes, and open gates for a cashless economy. Unfortunately, there were soon indications of what went wrong in the decision. For example, the Indian National Rupee depreciated by 3.03% relative to the United States Dollar within a week after the call of the ban of Rs. 500 and Rs. 1000 notes.

The purpose of this paper is to investigate the impacts of demonetization on the local and national economy of India. I discuss the advantages of demonetization as well as the possible disadvantages that occurred after the decision was implemented and analyze the results. More specifically, I investigate the gross domestic product, the amount of unemployment especially in the agriculture sector, the stock market, banking sector, and other related sectors that were influenced by one of the boldest decisions in the history of the Indian Government. The study shows that the stock market was more impacted in the short-run, but not in the long-run. The study also shows an impact on the GDP, which indicates a slower growth following the demonetization compared to previous years as well as a negative impact on the unemployment rate. The agriculture sector faced a huge crisis with regards to the access of raw materials and

direct labor. Financial institutions were unable to generate loans as most banks were busy exchanging notes for citizens. Additionally, the paper assesses to which extent the goals of demonetization were accomplished and offers suggestions on how the negative impacts can be prevented in the future.

## **2. Legal Tender**

According to Investopedia, *legal tender* refers to a medium of payment which is recognized by the government to fulfill financial obligations (Frankenfield, 2018). Legal tender can only be issued by the country in which the legal tender is to be accepted. For example, in the United States of America, the U.S. Treasury issues new currency to be launched into the market. Legal tender can exist in different forms of denominations. For example, the US Dollar has denominations varying from a \$1 bill to a \$100 bill. Not only can legal tender exist with paper but can also exist in coins. In the US, coins can range from \$0.01 to \$1.00 and are known as cents. On the other hand, one may ask if a credit card or a personal check is considered a legal tender. Credit cards and other non-cash payment methods are usually not considered legal tender.

### *2.1 Forms of Legal Tender in India*

Similarly, in India, the Reserve Bank of India (RBI) prints the legal tender which is known as the Indian National Rupee (INR). The currency sign for the INR is Rs. On a contrast though, the range of legal tender in India is different compared to the US. The bank notes range from Rs. 1, Rs. 2, Rs. 5, Rs. 10, Rs. 20, Rs. 50, Rs. 100, Rs. 200, Rs. 500, Rs. 1000 and Rs. 2000.

Table 1 provides examples of different forms of legal tender in different countries.

<u>Country</u>	<u>Form of Legal Tender</u>
Australia	Australian Gold Nugget
Germany	Euro
Switzerland	Swiss franc

*Table 1 Different forms of legal tender in different countries*

## *2.2 History of the Legal Tender in India*

Compared to the rest of the world, India is a relatively new nation with respect to the duration since its independence in 1947. Prior to the Indian National Rupee, the medium of exchange was controlled by the British ruling party. Prior to the British rule, the prime medium of exchange between parties were conducted using silver. In fact, the term *rupee* is a Sanskrit word which means a silver coin. The term of exchange changed in 1861, though, when the British government introduced the Paper Currency Act of 1861 (Mittal, 2017). Before 1861, the right of issuing notes in India belonged to three private banks: Bank of Bengal, Bank of Madras, and Bank of Bombay. In total, these 3 private banks accounted for 50 million rupees in circulation. By the mid-1840s, the public in general started to believe that the responsibility of the currency should be in hands of the government rather than private institutions. In 1860, an act was launched stating that the government should possess a monopoly and would issue new notes in different denominations to meet financial obligations for all. The Victoria series of bank notes were launched in 1867 with the portrait of Queen Victoria. In 1935, the Reserve Bank of India (RBI) was created. The RBI was now in charge of issuing the bank notes. When India became a Republic in 1950, India printed its first note after gaining independence. The symbol for this

currency was the Lion Capital of Ashoka<sup>1</sup>. Finally, in 1996, the RBI announced the Mahatma Gandhi Series into the nation as the form of legal tender. Ever since 1996, the form of currency has remained constant and has not changed (Mittal, 2017).

### *2.3 Counterfeit Notes*

Counterfeit notes refer to currency that are not genuine according to the local and national governments. These notes are highly used to conduct illegal activities such as funding terrorism. In the Indian economy, the rate of counterfeit notes are high because the population is much larger and the large population uses cash as the primary legal tender. According to data released by the Reserve Bank of India, in 2015-2016 there were a total of 632,926 notes detected. In the year of 2016-2017, there were a total of 762,072 notes detected (Nayak, 2017). Another usage of counterfeit notes is used to finance terrorism. For example, conducting illicit trades using counterfeit notes would be a common practice for terrorist groups.

## **3. Demonetization**

According to Investopedia, demonetization is the action of making a form of currency in the market an illegal tender (Kenton, 2019). A form of currency loses its status in the market and is worth of no value. The old currency is then replaced with a new form of currency. History suggests that a nation may choose to demonetize a set of legal tenders for several reasons. Firstly, a country may choose to demonetize a form of currency in order to fight inflation. Secondly, demonetization helps to combat crime rates. With a lower supply of legal tender in the market, the circulation of currency becomes low. With a low supply of legal tender, crime rates drop as illegal activity comes to a brief stop. Thirdly, demonetization can take place if the

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<sup>1</sup> The Lion Capital of Ashoka is a pillar that resembles the Four Noble Truths. During the Maurya Dynasty, King Ashoka developed several monuments. One of the monuments was the Lion Capital.

country wants to make a transition to a cashless economy. A point to make clear here from the previous section is that digital forms of payment are not considered legal tender. Then why implement a cashless society? A cashless society may result in a less circulation of counterfeit notes. Lastly, demonetization may take place in order to facilitate trade (Kenton, 2019).

For instance, a currency may get demonetized so that it is replaced by another form of currency in order to make trading easier for territories. The trading market is also impacted as the currency depreciates in value causing investors to lose trust in the market.

Throughout the world, there have been several instances of demonetization. The leaders of various nations have been either forced to withdraw money out of the market or have willingly decided to cut the circulation of a specific tender for the well-being of all.

### *3.1 History of Demonetization*

Example #1: Prior to 1971, pound and penny currencies were in effect in the Great Britain. In order to bring consistency in currency, the government of Great Britain recalled the circulation of the old currency and introduced an alternative currency. The new currency consisted of five and 10 pounds. The British government had planned for this two years ahead of time and, therefore, the plan was executed smoothly (Archana, 2017).

Example #2: In 1987, Myanmar demonetized around 80% of its currency in order to fight the increase of funds in the black market. This decision led to economic unrest with inflation rates skyrocketing and there was a crisis in demand of commodities. The citizens of Myanmar protested, and thousands were killed in military action (Archana, 2017).

Example #3: In the 1990s, Dictator Mobutu Sese made changes to the currency in order to ensure the economy ran smoothly in Congo. Unfortunately, the manipulation of currency did not result in any changes in the economy as the corruption rate remained unchanged. Thus, the

launch of the movement resulted in an increase in violence through ethnic wars and eventually led to the downfall of the leader (Archana, 2017).

Example #4: On January 1, 2002, the Euro became the official currency in the European Union. This was the biggest change in monetary policy Europe had ever experienced. The system of replacing the new Euro with the old currency worked out well. With efficient management, in the next five days, 50% of all cash transactions were made using the Euro. The Euro's main purpose was to make traveling easier within the union, make prices stable, improve the image of the European Union, and to integrate financial markets (Archana, 2017).

Taking the above examples into account, demonetization has resulted in the removal of power of national leaders. The move proves to be risky if enough thought is not put into the process as the failure of demonetization can ruin an entire economy. Though if management adapts to the situation and accounts for failures into its pre-planning, the change in legal tender would not prove to be too rough as seen in the example with the European Union.

#### **4. Demographics and Economy of India**

India is a country in southeast Asia accounting for the second highest population in the world after China with a total of more than 1.3 billion citizens. The nation is composed of 29 states and seven union territories. The nation became independent in 1947 from the British rule. Since independence, India has had 14 Prime Ministers. India operates in a mixed economy (Sheth, 2017). A mixed economy is a type of economy in which there is a blend of capitalism and socialism. Capitalism is a type of economic ideology in which capitals are owned by private entities. Socialism is a type of economic ideology in which there is an equal distribution of goods and is based on common ownership. Another example of a mixed economy would be the

France, because private businesses have freedom but are controlled time to time by the government.

India accounts for 17% of the global population and has an economy that is ranked 6th in the world. According to the data from the World Bank, the annual gross domestic product (GDP) accounts to about 2.607 trillion USD. The annual growth rate of the GDP for the country stands at a 7.11% for the 2016-2017 base year (World Bank, 2017). With a growing GDP and a healthy GDP, the country still faces immense poverty. This can be attributed to corruption but more importantly to an exponentially growing population. The current population stands at 1.339 billion people as of 2017 (FocusEconomics, 2019). Compared to the United States of America, the population of India is three times larger with a landmass that is three times less. Figure 1 shows the growth in population over the past 4 decades. The population grew each decade by an average of 18.4%.

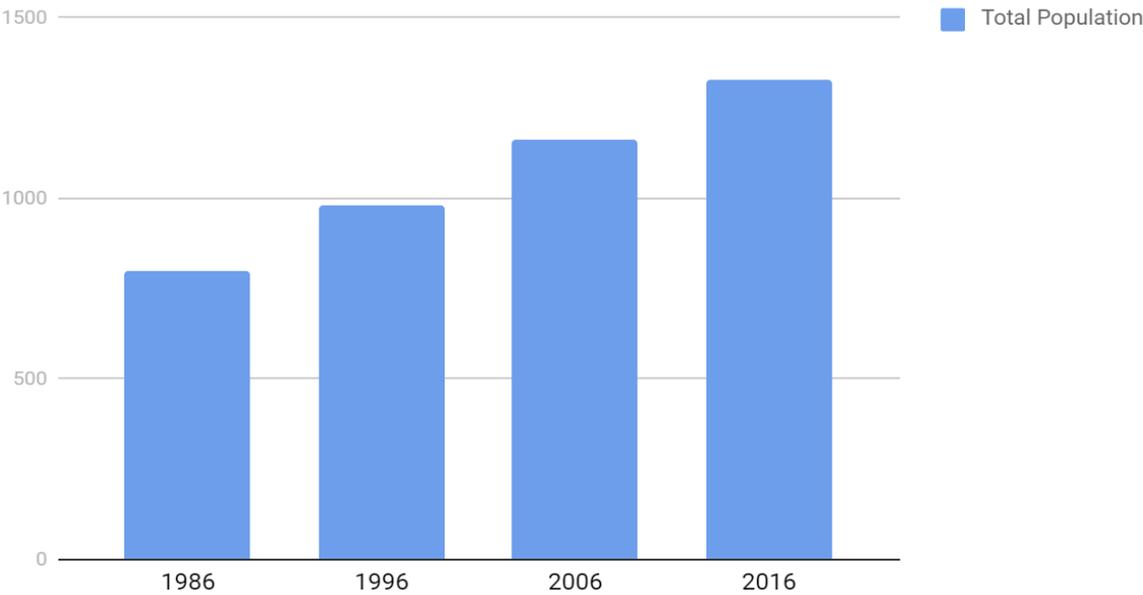


Figure 1 The growth in population (in Millions) of India in the past 4 decades (World Bank, 2017)

#### *4.1 Newly Elected Government in 2014*

With a growing population and an increasing poverty rate, the newly elected government in 2014, the Bhartiya Janata Party (right-wing political party of India) leader Narendra Modi had priority issues to deal with. In office, the 14th Prime Minister of India brought several missions such as the Swachh Bharat India (Clean-Up India) and the Pradhan Mantri Fasal Bima Yojana (Prime Minister Agriculture Relief Fund). Prior to taking office as Prime Minister of India, Modi served as the Chief Minister of the western state of Gujarat. Modi has held the record for serving the greatest number of days (2063) as the Chief Minister of Gujarat. While being Chief Minister of the state, Modi transformed the state. After being elected in October 7th, 2001, Modi brought electricity to all villages, lowered the poverty rate, and improved the infrastructure of the state (Sharma, 2007).

#### *4.2 Gross Domestic Product (GDP)*

Gross domestic product is the total amount of services and goods a nation produces in an interval time period. In most cases, the time period is annual (Kenton, 2003). A common approach to calculating gross domestic product can be calculated with this formula:

$$\text{GDP} = C + G + I + \text{NE}$$

In the formula above, C is the consumer spending of citizens in the nation, G is the amount of spending done by the government, I is the total gross investments, and NE is the net exports which is the difference between exports and imports.

In terms of GDP, there are two types of GDP. The nominal GDP, which measures the value of goods and services produced by a country over a quarter or a year. Real GDP adjusts nominal GDP by inflation and is sometimes also called the constant GDP. The real GDP is less than the nominal GDP as the inflation rate discounts the total value (Kenton, 2003).

### 4.3 GDP of India

As mentioned previously, India's gross domestic product is steadily growing. The gross domestic product and the population have a positive correlation in India. For a growing and developing nation, these are results that every leader wants. With such a large population, though, the numbers could be better. The GDP of India is composed of three sectors which are agriculture, industry, and services. The agriculture sector of India contributes the least to the GDP but employs the most amount of people. The services sector is the highest contributor towards GDP (Statistics Times, 2017). The services sector is composed of financial services such as retail banks, hotels, education, real estate, media, information technology, electricity, etc. The industry sector is the sector which specializes in construction and manufacturing. In terms of employment, agriculture is rated first while services is ranked second. This leaves industrial as the lowest employer by sector. The current labor force of India represents 41.8% of the national population (Statistics Times, 2017). Figure 2 shows the break-down of employment in India according to each sector.

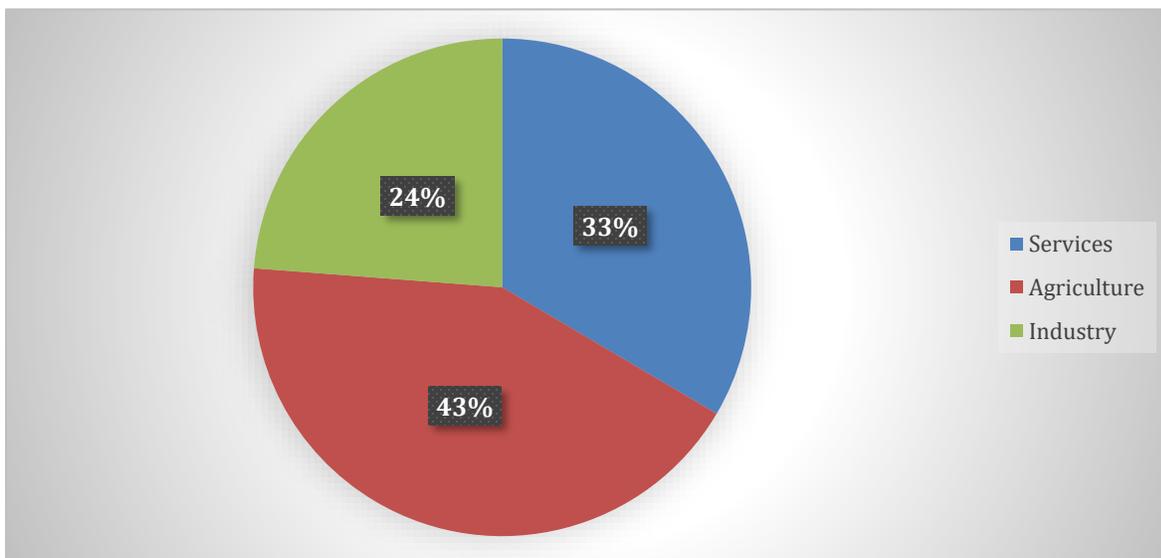


Figure 2 Employment of India according to each sector as of 2017 (Statistics Times, 2017)

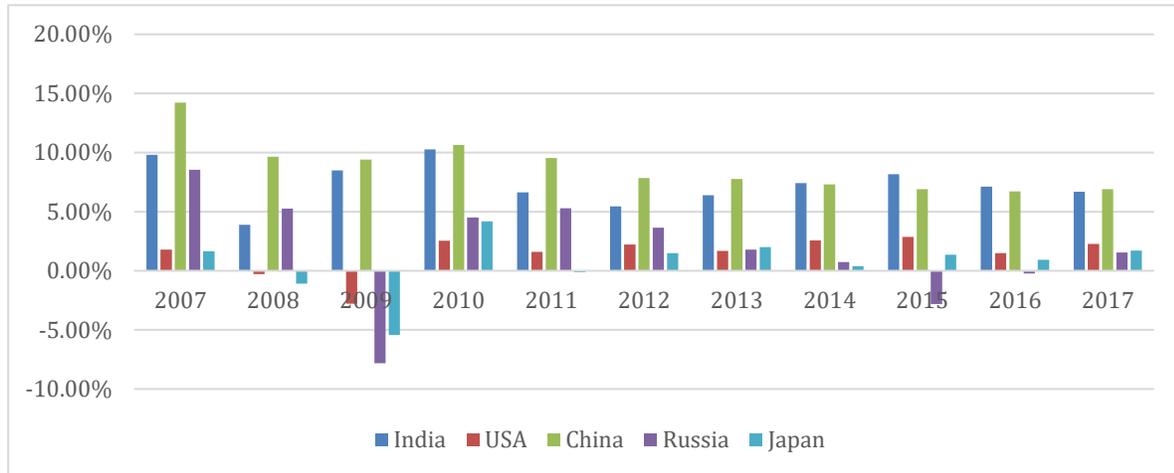


Figure 3 The GDP growth of five nations for the past ten years (World Bank, 2017)

Figure 3 demonstrates that India and China are the countries with the fastest growing GDP's in the world. The GDP growth in both countries is partially related to the relatively high and constant growth of their population and the growth in GDP shows that.

### 5. Rhetorical Analysis of Modi's Speech

On November 8th, 2016, Modi broadcasted live from the Capital in Delhi making a generous appeal. In the beginning of the speech, Modi talked about history. He mentioned how even after 65+ years of independence, India is well behind compared to the world. Also, he mentioned how he went to the BRICS<sup>2</sup> Summit and how he seemed nervous compared to the other leaders there. He brought up the drought that took place two years back in 2014 with a 12% deficit in rainfall. The drought had a significant impact in the state of Maharashtra. This is significant because Maharashtra is the second most populous state in India. By relating to the crisis the people of India faced, he created a common atmosphere. The BRICS Summit serves as ethos, because it is a professional event which takes place amongst famous leaders. Despite the high

<sup>2</sup> BRICS - The BRICS summit is an event in which five nations meet to discuss current and emerging issues such as terrorism and global warming. The five nations are Brazil, Russia, India, China & South Africa. Therefore, the acronym BRICS represents the five respective nations.

amount of corruption, he stated that India is still a “bright spot”. Not only did he say he believes that, he also included the International Monetary Fund (IMF) and the World Bank in his speech. The IMF is important in the context of the speech as the IMF is an organization composed of 189 countries which work together to increase trade, decrease global poverty, and to promote monetary cooperation. The World Bank provides financing to underdeveloped countries for the purpose of reconstruction. Such institutions add more expertise in the speech. The educated people and the people who have some knowledge in the World Bank would automatically feel that the good remarks made by the IMF and the World Bank hint at a positive economic progress.

Modi realized this after serving the nation and he stated in his speech, “In a country’s history, there come moments when every person feels he too should be part of that moment, that he too should make his contribution to the country’s progress” (Business Standard, 2016). Through this speech, Modi was able to convey the main factors that influenced his decision. They include, but are not limited to, a shadow economy, counterfeit notes, and terrorism.

## **6. Shadow Economy**

Through the speech, Modi indicated that India operates under a shadow economy. What is a shadow economy and how does it affect the progress of a nation? In a shadow economy, the primary medium of exchange for a service is cash. In the exchange for service, taxes are not reported and are not paid (Constable, 2017). A shadow economy affects a government negatively because enough revenue is not generated through taxes, and it results in a deficit. For example, a business may report only 75% of sales tax collected. The other 25% becomes part of an income that is not reported, and hence, becomes a transaction under a shadow economy.

Because of transactions occurring in a shadow economy, the true gross domestic product is not reported. In fact, the growth rate of a developed country can be heavily deflated.

### *6.1 India's Shadow Economy*

With such a large population, “under the table” transactions are common practices. In India, the phrase “black money” is commonly used to categorize illegal cash activity. Most businessmen and high-income citizens that participate in the shadow economy of India have their assets held in Swiss Banks. According to the Hindu, the Swiss Banks are the best place to deposit “black money” as the Banking Law of 1934 in Switzerland made it illegal to reveal the name and details of an account holder in the financial institutions (2018). As of 2015, Swiss Banks accounted for 1668 depositors from India with 2699 bank accounts. The total assets held in the Swiss Banks by Indian citizens accounted for 4.1% of their total funds.

## **7. Impact of India's Demonetization on the Economy**

The demonetization movement impacted the economy negatively, which was also reflected in economic indicators such as the GDP, the short-term stock market index, and the inflation rate.

The decision raised questions whether demonetization was a good move and if it solved some of the problems addressed in Prime Minister Modi's speech. Many analysts and citizens believed that the demonetization movement should have been a more thoughtful process; while others felt that the move was the best move to eliminate the unethical practices in India.

### *7.1 Financial Markets*

In India, the benchmark index for the stock market is the Standard & Poor's Bombay Stock Exchange also known as the S&P BSE index. Another index in the Indian Stock Market is the NIFTY 50. The NIFTY 50 takes 50 companies into account and represents the weighted

average of those 50 stocks. Upadhyay and Suvarna (2018) investigated the impact of demonetization on the 30 stocks in the S&P BSE Sensex index. By using the daily closing prices of the securities in the index from February 8th, 2016 to August 8<sup>th</sup>, 2017, Upadhyay and Suvarna (2018) detected the abnormality of the returns. By performing a Durbin-Watson test<sup>3</sup>, the statistical study concluded that there was no real impact of demonetization on the S&P BSE Sensex.

I calculated the short-term, medium-term, and long-term returns surrounding the date of the demonetization to the S&P BSE Sensex and the Nifty 50 and compared them to two benchmarks, the S&P 500 and the Nikkei 225.

Figure 4 compares the returns of the S&P 500 and the Nikkei 225 versus the S&P BSE Sensex and the Nifty 50 one year before, one year after, and two years after the demonetization in India and Table 2 provides the actual returns in percent. During the year preceding the demonetization, the S&P BSE Sensex showed a total return of 5.12% and the Nifty 50 showed a total return of 7.35%. Both Indian indices outperformed the S&P 500, which provided a total return of 2.55% as well as the Nikkei 225, which provided a total return of 2.55%. The year following the demonetization announcement, the Nifty 50 returned 20.60% and the S&P BSE Sensex returned 20.40%; while the S&P 500 returned 21.26% and the Nikkei 225 returned 33.44% (“S&P 500 (^GSPC) Stock”, 2016). Thus, both Indian stock indexes underperformed their benchmark slightly. During the two years after the demonetization, the S&P 500 as well as the Nikkei 225, outperformed the Indian stock indexes significantly. A reason the S&P 500 outperformed the other indexes was related to the fact that on November 8, 2016, Donald Trump was elected the 45<sup>th</sup> President of the United States, which was followed by an immediate

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<sup>3</sup> According to Investopedia, the Durbin Watson test is a statistical test for autocorrelation in the residuals from a statistical regression analysis with a value between 0 and 4 (Kenton, 2003).

stock market rally in the United States. Despite the declaration of demonetization in India and the good sentiment of the S&P 500, the Sensex still managed to provide a two-year return of 27.71%.

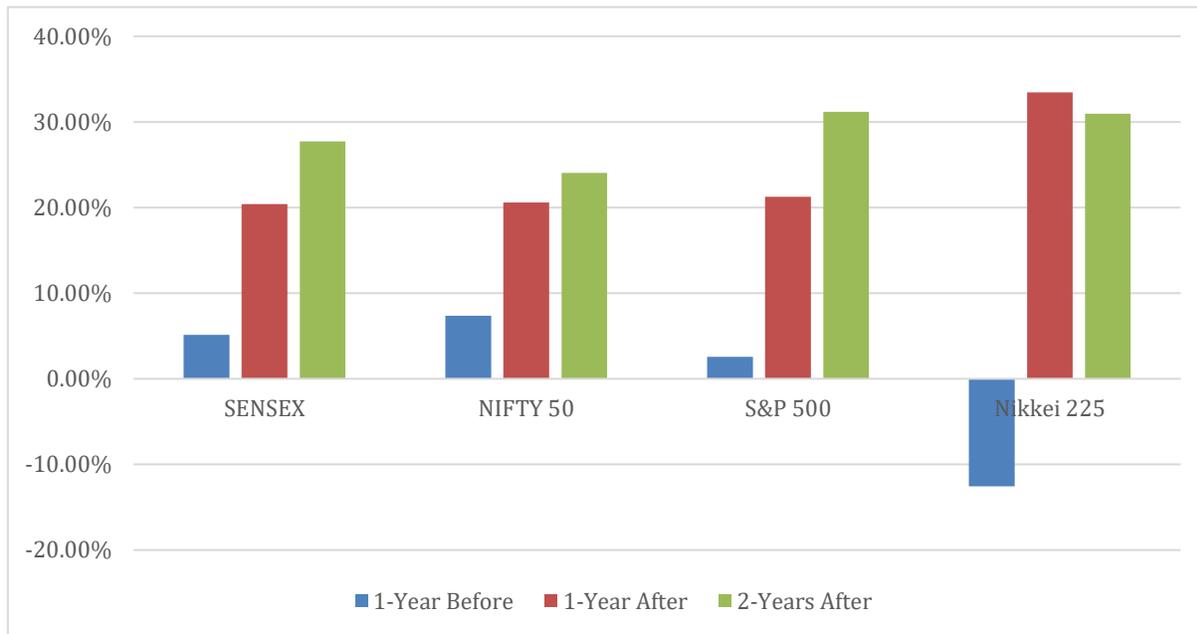


Figure 4 The average monthly returns before and after the demonetization

Index	Nov 7, 2015 – Nov 7, 2016	Nov 8, 2016 – Nov 8, 2017	Nov 8, 2016 – Nov 8, 2018
S&P BSE SENSEX	5.12%	20.40%	27.71%
NIFTY 50	7.35%	20.60%	24.05%
S&P 500	2.55%	21.26%	31.19%
Nikkei 225	-12.55%	33.44%	30.96%

Table 2 Index Returns Table

Figure 4 shows that S&P BSE Sensex had lower returns during the two-years after the announcement of the demonetization compared to the S&P 500 but recovered well for the long-term. On the other hand, the Nifty 50 only managed to return 2.68% two years after

demonetization. Thus, I did not find much evidence for a negative long-term impact of the demonetization on the stock market in India.

Figure 5 suggests, at first glance, that the medium-term returns from the S&P BSE Sensex and the Nifty 50 were not negatively impacted by the demonetization. Although, both Indian stock indexes show a negative return the month following the demonetization, both indexes also provided a significant negative return for the month preceding the demonetization. For example, in the month following the demonetization, the Nifty 50 had a monthly return of -0.471%, while the S&P BSE Sensex had a monthly return of -0.099%. A month before the announcement of demonetization, the S&P BSE Sensex was down by 4.612% and the Nifty 50 was down by 4.787% (“S&P 500 (^GSPC) Stock”, 2016). Nevertheless, Figure 5 provides some evidence for a negative impact of the demonetization, as the S&P 500 as well as the Nikkei 225 outperformed both Indian Stock Indexes the month preceding as well as the month following the event. This may also raise the question if some investors had some insider information about the demonetization the month preceding the event.

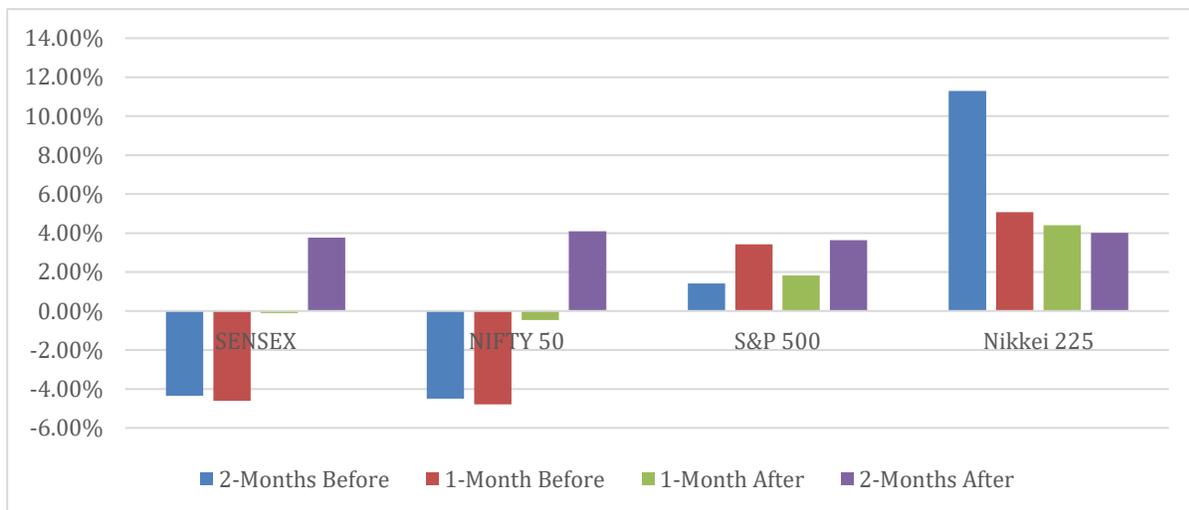


Figure 5 The medium-run returns before and after demonetization

Figure 6 shows that the short-term returns of the S&P BSE Sensex and the Nifty 50 after the demonetization announcement were strongly negative; while the S&P 500 provided positive returns. After the announcement of demonetization, the S&P BSE Sensex and the Nifty 50 were down almost down by 5%. Meanwhile, the S&P 500 was up by 1.91% and the Nikkei was up by 2.89% five days after the announcement of demonetization. The short-term returns show that instant decisions, such as the demonetization, can have a direct impact on the stock market.

After the day of November 8<sup>th</sup>, 2016, the S&P 500 was up by 1.11%. The S&P 500 increased by a total of 24 points going from 2139 to 2164. The S&P BSE Sensex, on the other hand, fell by 338 points going from 27591 to 27252. The Nifty 50 also decreased by 111 points going from 8543 to 8432 (“S&P 500 (^GSPC) Stock”, 2016).

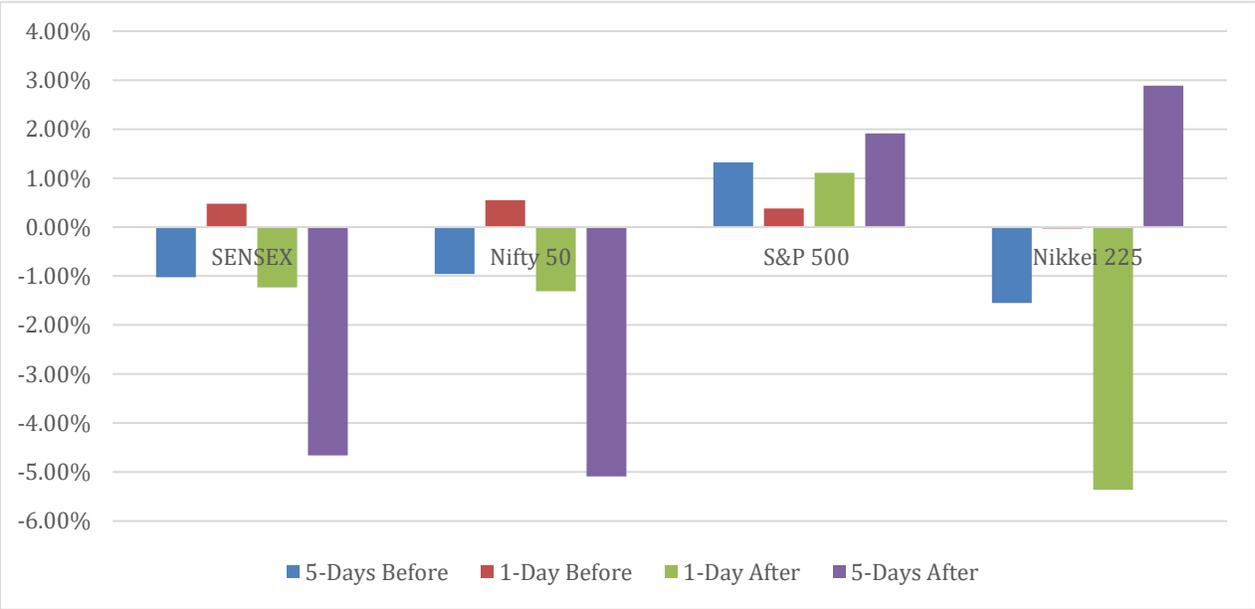
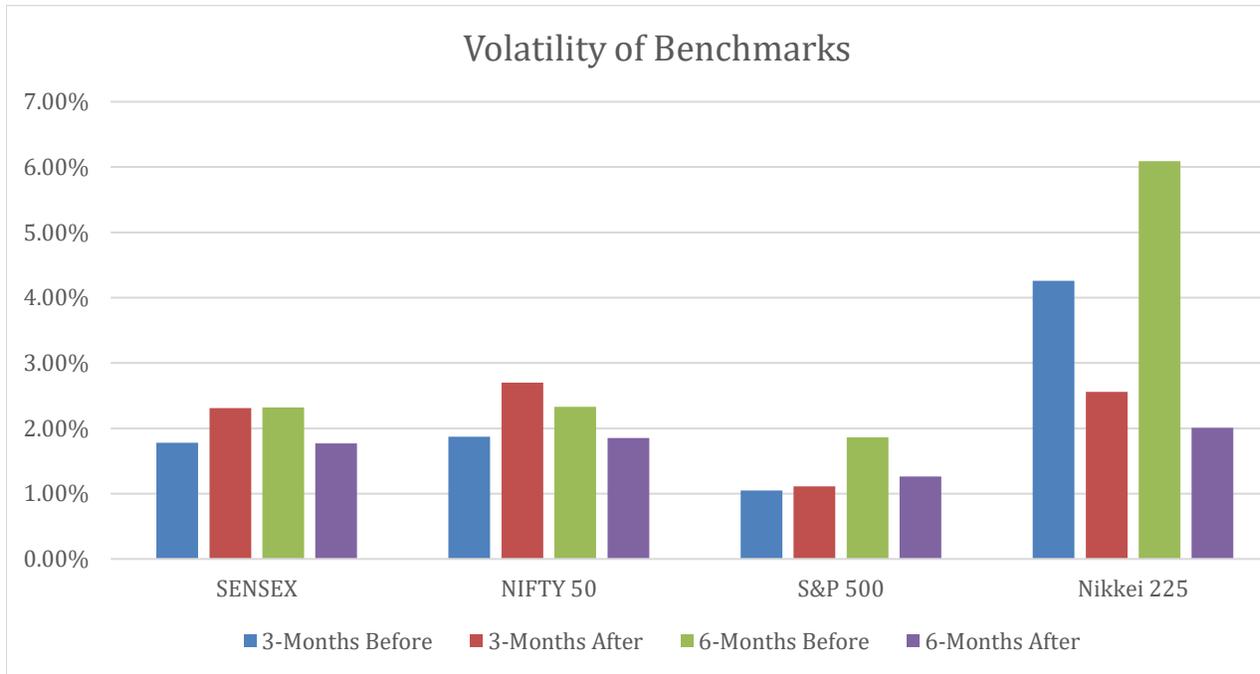


Figure 6 Short-term returns of the benchmarks before and after the demonetization



*Figure 7 Volatilities of the stock market indexes before and after the demonetization*

Looking at the volatility of the benchmarks in Figure 7, the standard deviation shows that the S&P BSE Sensex and Nifty 50 had a higher volatility three months after demonetization with a standard deviation of 2.31% for the S&P BSE Sensex and 2.70% for the Nifty 50. After six months, though, the standard deviation for the S&P BSE Sensex was 1.77% and the Nifty 50 was 1.85%. The standard deviation decreased over the time indicating that the volatility decreased over time.

By analyzing the returns and the volatility, demonetization affected the S&P BSE Sensex and Nifty 50 benchmarks in the short-term period (three months) but corrected itself in the relative long-term (six months). No specific sector in either the S&P BSE Sensex and the Nifty 50 was hurt specifically. Overall, because demonetization was a decision made for a long-term impact, the event did not seem to have affected the stock market in the long-run; while we provide some evidence that it interrupted the market in the short-run.

## *7.2 Agriculture Sector*

In the agriculture sector, the primary method of payment and processing is cash. In India, close to 75% of the nation depends on agriculture as it provides the daily means of survival. Bisen (2017) states the demonetization announcement came at the peak of activity for the farmers. November is the post Kharif<sup>4</sup> season and current Rabi<sup>5</sup> season. Bisen (2017) also analyzes the hardships the farmers had to deal with because their day-to-day operations were dealt with cash. Examples of hardship mentioned in his research were the availability of labor, the access to agriculture products such as fertilizers, and the selling of Kharif crops in the market. In Bisen's (2017) research, he surveyed a total of 40 farmers. Out of the 40 farmers, seven were large farmers, eighteen were medium farmers, and fifteen were small farmers. Out of the three categories of farmers, the small farmers were affected the most. Another study conducted by Bisen (2017) demonstrated that only 70% of the farmers were aware of what government provisions were available. Because the banks were limited with other forms of notes, the amount of withdrawals were limited. Because of a limited withdrawal, farmers were unable to pay for seeds or fertilizers. With a country of 263 million farmers, the local farmers were shocked not only by the decision, but also by when the decision was delivered. Farmers were unable to harvest their winter crops. Not only that, the country had just faced a drought for the past two years in the states of Uttar Pradesh and Maharashtra.

In India, there are two types of farmers. Sumathy (2017) explains the effects on the cash-dominated society. First, there are farmers that have Kisan Credit Cards (KCC), which is a form of credit cards for farmers. Second, there are farmers that do not have the KCCs. The way the KCC operates is that the State Bank of India issues short-term loans to the farmers so that the

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<sup>4</sup> Kharif is the farming season in India which starts in July and ends in October.

<sup>5</sup> Rabi is the farming season in India which starts in October and ends in March.

farmers can meet their short-term needs. With the KCC, farmers can withdraw up to Rs. 25,000 per week to help the sowing of crops. The farmers use their crop loans as collateral. With the farmers that got the loan prior to the announcement of demonetization, they were still responsible for the old money. Thankfully, the government let them use the old Rs. 500 bills and Rs. 1000 to buy seeds and to continue operations. For farmers that do not have a lot of hectares of land, it is easier for them to liquidate their cash position compared to farmers with higher hectares of land (Sumathy, 2017).

Despite being such an informal sector, the agriculture sector showed strong resilience in the short-term. The farmer did face difficulties in terms of productivity and employment, but the farmers recovered well through the usage of family labor. The prices in products, such as tomato and banana, fell but that was due to the increase of supply. Because of the increase in supply and lower demand, the short-term wastage of perishable fruits added up quickly. In big cities, such as Nagpur and Baroda, the amount of wastage added up to 50 million INR, which is approximately \$713,400 (Chauhan, 2016).

Overall, the agriculture sector faced short-term challenges but recovered around March 2017. With government assistance and through digital technology, the farmers were able to make their ends meet.

### *7.3 Banking Sector*

Demonetization brought in a lump sum of cash amounts into the bank. Post demonetization, the financial institutions had higher deposits. Agarwal and Reddy (2018) define the influences of demonetization in the banking sector into four categories: increase in deposits, fall in the cost of funds, demand for government bonds, and low volume in lending. Banks were able to increase their deposits with higher inflows. The banks in the public sector put excessive funds into

government bonds. Through the return on investment from the government bonds, the banks added 15-20% in increased earnings.

According to Agarwal and Reddy (2018), the pros included free flow of deposits, improved digital interface, increased deposits, and increase number of account holders. With more money in the bank, citizens moved more of their deposits into money markets. Through demonetization, citizens that were classified as having a non-income could also open a bank account.

Another study conducted by Punia, et al. (2018) show the benefits demonetization left on the financial institutions of India especially with the public sector banks (PSB). Because the PSB have three times more branches than private sector banks, the PSB banks were loaded with higher deposits.

Despite the perks of demonetization on the banking sector, the sector also faced heavy losses. Citizens were able to withdraw money out of the ATM and were not responsible for the transaction fee of Rs. 20. Banks also lost money because they were unable to sell loan products as most of the management was busy in exchanging currency notes. Table 4 shows that the rural part of India was most affected with the amount of loans processed. Despite having a more formal urban economy, the urban areas of India also showed a -45.53% decrease in processed loans in 2017. A decrease in the processing of loans indicated a lower revenue for the financial institutions. Instead, the banks invested the inflow of currency into the bond market. The opportunity cost for the financial institutions was the extra amount of profits the interest of loans would have generated compared to bond yields. For example, Table 3 indicates that rural India experienced a period of very small loan growth of 2.5% in the second half of 2017, which represented a reduction of loans by 80.60% compared to the second half of 2016.

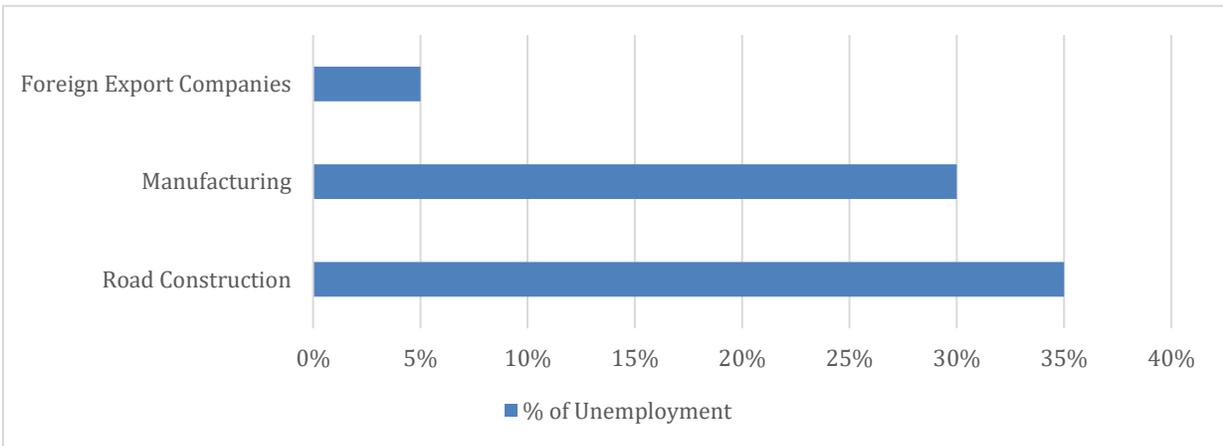
<b>Region</b>	<b>Second Half of 2016</b>	<b>Second Half of 2017</b>	<b>Percentage Change</b>
Rural India	12.9%	2.5%	-80.60%
Semi-Urban India	11.9%	6.4%	-46.21%
Urban India	11.2%	6.1%	-45.53%

*Table 3 Change in percentages of how the note ban pulled down the growth of loans*

#### 7.4 Unemployment

Employment in India is broken down into two categories: blue collar and white collar. Blue collar refers to jobs that must deal with physical labor while white collar refers to corporate style jobs. In most cases, cash would be the most common form of payment to blue collar workers.

According to IAS Score (2019), close to 1.5 million workers were left unemployed after demonetization. Figure 8 shows how many workers were left unemployed in each industry. After the end of 2016 and the start of 2017, the unemployment rate increased. It went from



*Figure 8 The percentage of lost jobs in medium sized companies after demonetization*

3.49% to 3.52% from 2015 to 2017. Prior to 2015, the unemployment rate was 3.41%. The unemployment rate can be contributed to the lower rates of investments occurring in the market. Ajit Karnik (2016) also agrees that demonetization had a negative impact on employment. The labor force participation rate (LPR) was lower than forecasted in October of 2017. In October 2017, the Centre for Monitoring Indian Economy predicted the LPR to be 49.67%. Instead the demonetization movement was announced, and the rate grew to 46.28% (Karnik, 2016). The rate hit a low of 45.8 % in November and December of 2016. Figure 8 shows that the road construction sector had to lay off close to 35% of workers due to demonetization. The manufacturing sector also had to lay off approximately 29%.

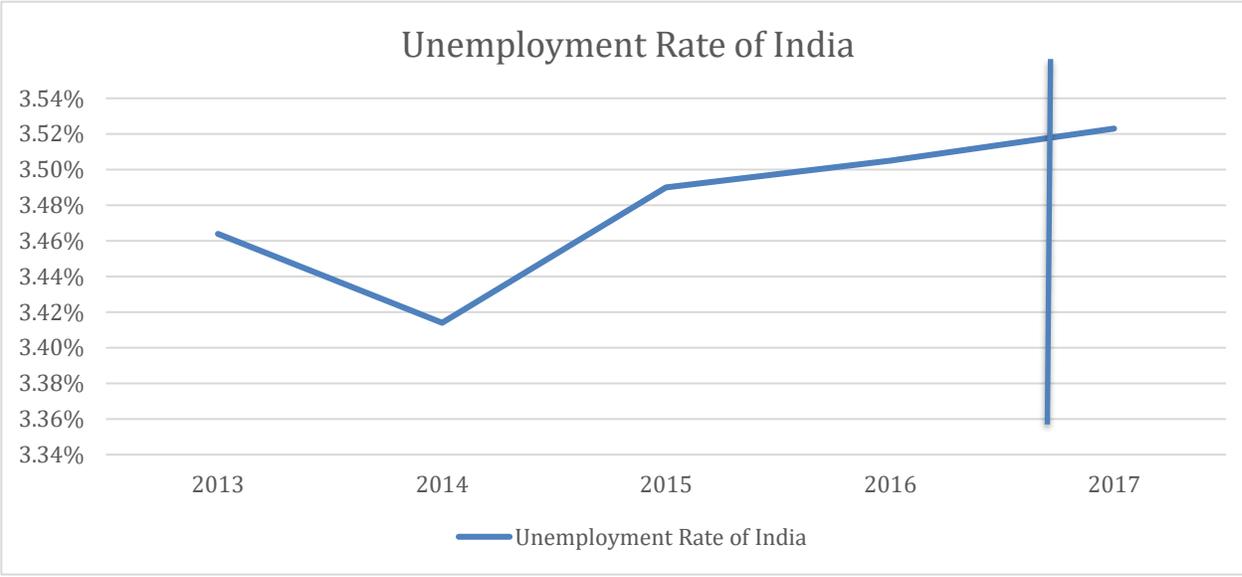


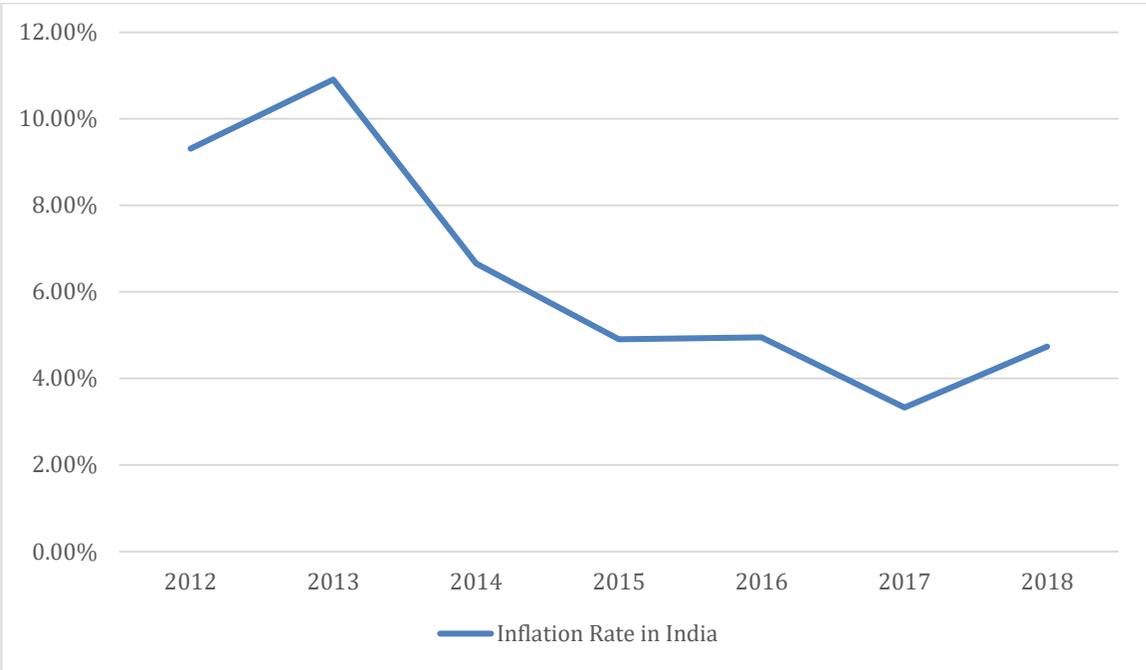
Figure 9 The unemployment rate of India from 2013-2017

Figure 9 demonstrates that India experienced the highest unemployment rate of 3.523% in 2017. The straight line in the graph shows an approximation of when the announcement of demonetization was made in India. Overall, demonetization impacted the unemployment rate because India operates on a cash basis with an informal economy.

### *7.5 Overall Economic Impact*

According to a quantitative analysis conducted by Kumar (2018) on the Indian economy, the GDP had a growth of 7.11% in the base year of 2016-2017 compared to a growth of 8.01% in the base year of 2015-2016. The gross value added decreased for all the sectors except for a few. The trade, hotel, transport, communication, public administration, and defense all registered a growth in the gross value added. Overall, the gross value added dropped from 7.6% to 5.6% from 2016-2018 (Kumar, 2018). The sectors which had a negative impact also employed the highest number of citizens, which in turn affected the unemployment rate.

Because India operates on such a huge cash basis, the total sales of consumer durables dropped in the short-term. A study by Rajiv Chopra (2017) shows that the volume and the value growth for consumer durables such as microwaves, refrigerators, air conditioners, washing machines, and flat panel televisions all decreased by an approximate average of 30%. Another economic impact to consider is the impact of demonetization on inflation. According to Anirban Nag and Kartik Goyal (2017), the inflation rate has slowed down in India. In 2013, the inflation rate in India was around 11% but decreased until the end of 2017, where it hit a record low. Figure 10 demonstrates the decrease in inflation rates from 2013 to 2015, when it stabilized at around 5%. However, after the demonetization in 2016, inflation decreased to a record low of 3.33%. This additional drop in inflation might be explained by consumers reluctant to make non-essential purchases due to the demonetization. A decrease in the inflation rate, as seen in Figure 10, indicates the supply was greater than the demand in the economy. After 2017, though, the inflation rate went back to the 5% rate, which might suggest that the impact of the demonetization on inflation was rather short-lived.



*Figure 10 The inflation rate in India from 2012-2017 (Nag & Goyal, 2017)*

### **8. Objectives of Demonetization**

The movement of demonetization was implemented for three reasons: to eliminate counterfeit notes, to fight the shadow economy of India, and to implement a cashless economy. Analyzing the aftermath of demonetization, Modi’s objectives for the declaration failed. The first objective was to eliminate counterfeit notes. The total amount of counterfeit notes detected in 2017-2018 were 522,783 pieces. In 2016-2017, the total amount of counterfeit notes detected were 762,072. Although there was a decrease in the number of counterfeit notes, the amount of fake Rs. 2000 notes plunged. In 2016-2017, there were 638 notes detected but a year later, the amount increased to 17,929 notes (Vikas, 2018). Overall, the number of counterfeit notes did take a hit in the short-term but are circulating back into the market over time.

Another objective was to fight the shadow economy. In total, 99.3% of the Rs. 500 and Rs. 1000 notes made it back to the Reserve Bank of India. This means that the citizens found a

better way to turn corrupt money into legal assets.

Implementing a cashless society was the third objective of the Prime Minister. After the new currency started to circulate in the market, cash-based operations started to increase. Following the month of demonetization, there were a total of 957.5 million of electronic transactions. In January, the number of electronic transactions fell to 870.4 million. In February, the number decreased even further to 763 million (PTI, 2017).

## **9. Conclusion**

This study analyzes the impact of demonetization on a growing economy like India. After looking at facts from the various sectors and economic indicators, demonetization had a more severe short-term impact than a long-term impact. The conclusion can be attributed to the higher cash circulation contributing to the economy of India. This study also shows that the government under Prime Minister Modi did not execute the decision to its upmost potential. The idea of removing 86% of the currency did have logic, but the planning and opportunity costs were not taken into consideration. In the short-term, the movement had social impacts on citizens. The stock market fell in the short-term despite global optimism. The agriculture sector had to recuperate during their peak season. The banking sector had an increase of deposits but could not convert those deposits into higher profits, because citizens were not interested in loans. The unemployment rate increased and the labor force participation rate decreased. The inflation rate decreased to record lows but then increased by almost 1%, indicating that the impact of the demonetization on inflation was rather short-term. Demonetization also resulted in the deaths of hundreds of citizens as they were not able to use cash for healthcare services and not access basic needs for survival. In the long-term, the movement did not have much of an

impact as “black-money” holders were able to invest their illegal income into other assets, such as gold. For future leaders, this study conveys the message that all factors and economic indicators in the nation should be taken into consideration with evidence through statistical tests and proper management. Overall, demonetization did not impact India in the long-term. Instead, it created disruption in a growing economy and added more chaos.

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