

“Impact of Demonetisation on the Indian Economy: A Comparative Study of Pre- and Post-Demonetisation Periods”

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Abstract: Demonetisation was announced by the Government of India on 8 November 2016, when ₹500 and ₹1,000 currency notes were withdrawn from circulation. The decision affected different parts of the Indian economy, including economic activity, prices, banking transactions and the use of digital payments. This study examines the impact of Demonetisation on the Indian economy by comparing selected economic indicators before and after Demonetisation. The study uses secondary data on Gross Domestic Product (GDP) growth and Consumer Price Index (CPI) inflation. Five years before Demonetisation (2011–12 to 2015–16) and five years after Demonetisation (2017–18 to 2021–22) are considered for the comparison, while 2016–17 is treated as the year of Demonetisation. Mean, standard deviation, percentage change and the t-test are used for data analysis. The findings show that average GDP growth was lower in the post-Demonetisation period, while average CPI inflation also declined. The statistical results indicate that the difference in GDP growth was not significant, whereas the difference in CPI inflation was significant. The study also considers the effect of other major events, particularly the COVID-19 pandemic, while interpreting the results.

Key words: - Demonetisation, GDP Growth, CPI Inflation, Economic Growth, Comparative Analysis.

Introduction:-

Demonetisation is an important economic event in the history of India. On 8 November 2016, the Government of India announced the withdrawal of the legal tender status of ₹500 and ₹1,000 currency notes. These notes represented a major part of the currency in circulation at that time. The main purpose of the decision was to address issues such as unaccounted money, counterfeit currency and illegal activities. The government also expected demonetisation to encourage formal banking transactions and promote digital payments.

The announcement had an immediate effect on the daily economic activities of people and businesses. People had to exchange or deposit the old currency notes within a specified period. Due to the shortage of cash, many small businesses, daily wage workers and cash-dependent sectors faced difficulties. At the same time, banks experienced a large increase in deposits as people deposited their old currency notes. Digital payment methods also received greater attention during this period.

The effect of demonetisation on the Indian economy has been discussed from different perspectives. Some studies have focused on its effect on economic growth, while others have examined inflation, banking activity, employment and digital payments. However, economic performance after 2016 was also influenced by several other factors. In particular, the COVID-19 pandemic had a major effect on India's economy during 2020–21. Therefore, changes observed after demonetisation should not automatically be considered the result of demonetisation alone.

The present study makes a simple comparison of selected economic indicators during the periods before and after demonetisation. GDP growth is used to understand changes in economic growth, while CPI inflation is used to examine changes in the general price level. The study considers five financial years before demonetisation, from 2011–12 to 2015–16, and five financial years after demonetisation, from 2017–18 to 2021–22. The year 2016–17 is considered separately because demonetisation was announced during that financial year.

The study uses secondary data and applies simple statistical techniques such as mean, standard deviation, percentage change and the t-test. The purpose is not to establish that every economic change was caused by demonetisation, but to compare the economic indicators before and after the event and examine whether the observed differences are statistically significant.

Literature Review: -

Demonetisation in India has attracted considerable attention from researchers, economists and policymakers. Different studies have examined its effect on economic growth, inflation, banking activities, employment and digital transactions. The findings of these studies are not completely similar.

Rangarajan (2017) discussed the broader economic effects of demonetisation and highlighted that the sudden withdrawal of high-value currency notes affected cash-based economic activities. The study also noted that the effects were different across sectors depending on their dependence on cash.

Chodorow-Reich et al. (2020) examined the short-term effects of demonetisation on economic activity. Their study found that the policy created a temporary disruption in economic activity, particularly in areas and sectors that depended heavily on cash transactions. The study also suggested that the effects became weaker as the supply of currency improved.

Kaur and Kapuria (2018) examined the impact of demonetisation on the Indian economy and observed changes in consumption, investment and economic activity. They pointed out that cash shortages affected businesses and households during the initial period after the announcement.

Das and Kundu (2018) studied the effect of demonetisation on inflation and economic growth. Their findings suggested that demonetisation had a short-term effect on economic activity and contributed to changes in the inflation trend. However, they also noted that other economic factors influenced these indicators.

Reserve Bank of India (2017) examined the monetary and banking effects of demonetisation. A large amount of the withdrawn currency was deposited with banks, resulting in a substantial increase in bank deposits. The period also witnessed changes in currency circulation and liquidity conditions in the banking system.

RBI reports in the years following demonetisation also show considerable growth in digital payment activity. The increase in electronic payment methods indicates that demonetisation was followed by changes in the way financial transactions were carried out in India. However, the continued rise in currency demand in later years shows that digital payments did not completely replace cash.

Several researchers have therefore reached different conclusions regarding the long-term economic impact of demonetisation. Some studies mainly focus on the immediate disruption caused by the cash shortage, while others examine changes in banking and digital transactions. There is also a need to consider other major events that occurred during the post-demonetisation period.

The present study differs from these studies by making a simple comparative analysis of two important economic indicators—GDP growth and CPI inflation. It compares five years before demonetisation (2011–12 to 2015–16) with five years after demonetisation (2017–18 to 2021–22), while keeping 2016–17 as the

demonetisation year. This approach helps to understand whether there was a measurable difference in economic growth and inflation between the two periods.

Research Gap

The existing literature provides different views about the economic effects of demonetisation. Many studies have examined the immediate effects of the policy, while some have focused on specific sectors or financial activities. There is scope for a simple comparison of important macroeconomic indicators over a longer period before and after demonetisation. Therefore, the present study compares GDP growth and CPI inflation for five years before and five years after demonetisation. The study also considers 2016–17 separately and recognises the influence of other major events, particularly the COVID-19 pandemic, during the post-demonetisation period.

Research Methodology: -

OBJECTIVES OF THE STUDY

1. To compare GDP growth before and after demonetisation in India.
2. To compare CPI inflation before and after demonetisation in India.

Research Design

The present study is descriptive and analytical in nature. It uses a comparative approach to examine the changes in selected economic indicators before and after demonetisation in India. The study focuses on GDP growth and CPI inflation.

Study Period

Demonetisation was announced in India on 8 November 2016. For the purpose of comparison, the study covers a period of ten financial years. The five financial years from 2011–12 to 2015–16 are considered as the pre-demonetisation period, while 2017–18 to 2021–22 are considered as the post-demonetisation period. The financial year 2016–17 is treated separately because demonetisation took place during this year.

Sources of Data

The study is based entirely on secondary data. Data relating to GDP growth and CPI inflation are collected from official sources such as the Reserve Bank of India (RBI) and the Ministry of Statistics and Programme Implementation (MoSPI), Government of India. Relevant reports, publications and official statistical documents are also used for supporting information.

Variables Selected

Two economic indicators are selected for the study:

1. GDP Growth Rate (%) – used to examine changes in economic growth.
2. CPI Inflation Rate (%) – used to examine changes in the general price level.

Statistical Tools

The following statistical tools are used:

- Mean, Standard Deviation, Percentage Change, t-test

The level of significance is taken as 5% (0.05).

Hypothesis Testing

The study tests the following null hypotheses:

H₀₁: There is no significant difference in GDP growth between the pre- and post-demonetisation periods.

H₀₂: There is no significant difference in CPI inflation between the pre- and post-demonetisation periods.

Scope of the Study

The study is limited to India and focuses only on GDP growth and CPI inflation. It compares the selected indicators during the five years before and five years after demonetisation. The findings are interpreted carefully because several other factors also affected the Indian economy during the post-demonetisation period, particularly the COVID-19 pandemic during 2020–21.

Data Analysis & Interpretation: -

1. GDP Growth Rate

Table 1: GDP Growth Rate Before and After Demonetisation

Financial Year	GDP Growth Rate (%)	Period
2011–12	5.2	Pre-demonetisation
2012–13	5.5	Pre-demonetisation
2013–14	6.4	Pre-demonetisation
2014–15	7.4	Pre-demonetisation
2015–16	8.0	Pre-demonetisation
2016–17	7.1	Demonetisation year
2017–18	6.8	Post-demonetisation
2018–19	6.5	Post-demonetisation
2019–20	3.9	Post-demonetisation
2020–21	-5.8	Post-demonetisation
2021–22	9.7	Post-demonetisation

Source: Ministry of Statistics and Programme Implementation (MoSPI), Government of India.

Interpretation of GDP Growth

The table shows that GDP growth increased gradually during most of the pre-demonetisation period. It increased from **5.2% in 2011–12 to 8.0% in 2015–16**. This indicates that economic growth was relatively stronger towards the end of the pre-demonetisation period.

In 2016–17, the year in which demonetisation was announced, GDP growth was **7.1%** in the cited MoSPI series. Therefore, it is not appropriate to treat the whole of 2016–17 as either a normal pre-demonetisation or post-demonetisation year.

After demonetisation, GDP growth was **6.8% in 2017–18** and **6.5% in 2018–19**. It then declined to **3.9% in 2019–20**. The largest decline was seen in 2020–21, when GDP growth was **–5.8%**. This year was strongly affected by the COVID-19 pandemic and the associated restrictions. Therefore, the decline in 2020–21 cannot be attributed to demonetisation alone.

GDP growth recovered strongly to **9.7% in 2021–22**. This recovery indicates that the economy started recovering after the major disruption caused by the pandemic.

Table 2: Descriptive Statistics of GDP Growth

Measure	Pre-Demonetisation	Post-Demonetisation
Number of years	5	5
Mean	6.50%	4.22%
Standard Deviation	1.20	5.97
Minimum	5.20%	-5.80%
Maximum	8.00%	9.70%

Interpretation

The average GDP growth during the five years before demonetisation was **6.50%**. After demonetisation, the average GDP growth declined to **4.22%**.

The difference between the two averages is **2.28 percentage points**. In percentage terms, the average GDP growth in the post-demonetisation period was about **35.08% lower** than the pre-demonetisation average.

The standard deviation was also much higher in the post-demonetisation period. It increased from **1.20** to **5.97**. This shows that GDP growth was more variable during the post-demonetisation period. The very low growth rate of **–5.8%** in 2020–21 is an important reason for this high variation.

Therefore, the data show that the average GDP growth was lower after demonetisation. However, this result should be interpreted carefully because the post-demonetisation period includes the COVID-19 pandemic.

2. CPI Inflation Rate

Table 3: CPI Inflation Before and After Demonetisation

Financial Year	CPI Inflation (%)	Period
2011–12	8.4	Pre-demonetisation
2012–13	10.0	Pre-demonetisation
2013–14	9.4	Pre-demonetisation
2014–15	5.9	Pre-demonetisation
2015–16	4.9	Pre-demonetisation
2016–17	4.5	Demonetisation year

Financial Year	CPI Inflation (%)	Period
2017–18	3.6	Post-demonetisation
2018–19	3.4	Post-demonetisation
2019–20	4.8	Post-demonetisation
2020–21	6.2	Post-demonetisation
2021–22	5.5	Post-demonetisation

Source: RBI/NSO CPI data.

Interpretation of CPI Inflation

The data show that inflation was relatively high during the earlier part of the pre-demonetisation period. CPI inflation was **8.4% in 2011–12**, increased to **10.0% in 2012–13**, and remained high at **9.4% in 2013–14**.

After that, inflation declined to **5.9% in 2014–15** and **4.9% in 2015–16**.

In 2016–17, the demonetisation year, CPI inflation was **4.5%**. In the first two years after demonetisation, inflation remained comparatively low at **3.6% in 2017–18** and **3.4% in 2018–19**.

Inflation increased to **4.8% in 2019–20** and **6.2% in 2020–21**. It then declined slightly to **5.5% in 2021–22**.

Thus, the data show a lower level of average inflation in the post-demonetisation period compared with the five years before demonetisation.

Table 4: Descriptive Statistics of CPI Inflation

Measure	Pre-Demonetisation	Post-Demonetisation
Number of years	5	5
Mean	7.72%	4.70%
Standard Deviation	2.22	1.20
Minimum	4.90%	3.40%
Maximum	10.00%	6.20%

Interpretation

The average CPI inflation during the pre-demonetisation period was **7.72%**. It declined to **4.70%** during the post-demonetisation period.

The difference between the two averages is **3.02 percentage points**. In percentage terms, the average CPI inflation was approximately **39.12% lower** in the post-demonetisation period.

The standard deviation also declined from **2.22** to **1.20**. This indicates that inflation was less variable in the post-demonetisation period than in the pre-demonetisation period.

The reduction in inflation can be seen clearly from the yearly data. Inflation was above 9% in 2012–13 and 2013–14, whereas it remained below 5% in 2017–18, 2018–19 and 2019–20.

However, it would not be correct to say that the entire reduction in inflation was caused by demonetisation. Inflation is affected by many factors, such as food prices, fuel prices, monetary policy, international commodity prices and overall demand in the economy.

3. Comparison of Pre- and Post-Demonetisation Periods

Table 5: Overall Comparison

Indicator	Pre-Demonetisation Mean	Post-Demonetisation Mean	Difference	Percentage Change
GDP Growth	6.50%	4.22%	-2.28	-35.08%
CPI Inflation	7.72%	4.70%	-3.02	-39.12%

Overall Interpretation

The comparison shows different changes in the two selected indicators.

The average GDP growth decreased from **6.50% before demonetisation to 4.22% after demonetisation**. This represents a decline of 2.28 percentage points. However, the post-demonetisation period includes the COVID-19 pandemic, particularly the sharp economic contraction in 2020–21. Therefore, the lower post-demonetisation average should not be considered as the effect of demonetisation alone.

The average CPI inflation also decreased, from **7.72% before demonetisation to 4.70% after demonetisation**. This is a decline of 3.02 percentage points. The post-demonetisation period therefore recorded lower average inflation than the pre-demonetisation period.

These descriptive results provide a basic picture of the changes. To determine whether these differences are statistically meaningful, a t-test is applied.

4. Hypothesis Testing

An independent-samples t-test is used to compare the average values of the two periods. The level of significance is **5%**.

Table 6: Results of t-Test

Indicator	t-value	p-value	Decision at 5% level
GDP Growth	0.838	0.427	Not Significant
CPI Inflation	2.672	0.028	Significant

Hypothesis 1

H₀₁: There is no significant difference in GDP growth between the pre- and post-demonetisation periods.

The calculated p-value for GDP growth is **0.427**. This value is greater than 0.05.

Therefore, the null hypothesis is **not rejected**.

This means that, based on this simple five-year comparison, the difference in average GDP growth between the two periods is **not statistically significant at the 5% level**.

Although the post-demonetisation average is lower, the statistical test does not provide sufficient evidence to conclude that the difference is significant.

Hypothesis 2

H₀₂: There is no significant difference in CPI inflation between the pre- and post-demonetisation periods.

The calculated p-value for CPI inflation is **0.028**. This value is less than 0.05.

Therefore, the null hypothesis is **rejected**.

This indicates that there is a **statistically significant difference in average CPI inflation** between the pre- and post-demonetisation periods.

The average inflation rate was lower in the post-demonetisation period.

5. Major Findings from the Analysis

The analysis gives the following main findings:

1. The average GDP growth rate declined from **6.50%** in the pre-demonetisation period to **4.22%** in the post-demonetisation period.
2. The difference in average GDP growth was **not statistically significant** at the 5% level.
3. The average CPI inflation rate declined from **7.72%** before demonetisation to **4.70%** after demonetisation.
4. The difference in average CPI inflation was **statistically significant** at the 5% level.
5. GDP growth showed greater variation in the post-demonetisation period, mainly because of the sharp contraction in 2020–21.
6. CPI inflation was comparatively less variable during the post-demonetisation period.
7. The results should be interpreted with care because the post-demonetisation period includes other important economic events, especially the COVID-19 pandemic.

Overall, the analysis shows that the two selected indicators moved differently during the post-demonetisation period. GDP growth was lower on average, while CPI inflation was also lower and the difference in inflation was statistically significant. These findings describe the difference between the two periods but do not by themselves prove that demonetisation was the only cause of these changes.

Conclusions: -

Demonetisation was an important economic decision taken by the Government of India in November 2016. The present study compared GDP growth and CPI inflation for five years before and five years after demonetisation. The purpose was to understand whether there was a noticeable difference in these two economic indicators between the two periods.

The analysis shows that the average GDP growth declined from 6.50% in the pre-demonetisation period to 4.22% in the post-demonetisation period. However, the t-test result shows that this difference was not statistically significant at the 5% level. Therefore, the study does not find a statistically significant difference in GDP growth between the two periods.

The study also shows a decline in average CPI inflation. The average inflation rate decreased from 7.72% before demonetisation to 4.70% after demonetisation. The t-test indicates that this difference was statistically

significant at the 5% level. Thus, the post-demonetisation period recorded a significantly lower average inflation rate.

The findings should be interpreted carefully. The post-demonetisation period also includes several other economic developments, particularly the COVID-19 pandemic in 2020–21. Therefore, the changes observed in GDP and inflation cannot be attributed to demonetisation alone.

Overall, the study shows that GDP growth was lower on average in the post-demonetisation period, while CPI inflation also declined significantly. The findings provide a simple comparison of the two periods and help in understanding the changes in selected economic indicators following demonetisation.

Suggestions:-

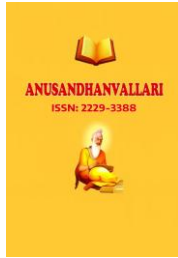
Based on the findings of the study, the government should take suitable measures to support stable economic growth and reduce difficulties for small businesses and cash-dependent sectors. Easy access to banking services and credit facilities can help small businesses manage their financial needs during major economic changes. Digital payment facilities should also be made simple, safe and easily available in both urban and rural areas. Public awareness about the safe use of digital payments can further encourage their use.

Maintaining price stability is also important for the economy. Appropriate monetary and fiscal measures should be taken to control inflation and protect consumers from a sharp rise in the prices of essential goods and services. Before implementing major economic policy changes, the possible effects on households, small businesses and informal-sector workers should be carefully considered. Clear and timely information should be provided to the public so that people can understand and respond to major policy changes properly.

Finally, future economic studies should consider other important factors along with government policy decisions. In particular, events such as the COVID-19 pandemic should be considered while analysing the post-demonetisation period. Future researchers may also include employment, bank deposits, digital payments, investment and consumption to obtain a wider understanding of changes in the Indian economy.

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