SEYBOLD Report
ISSN: 1533 - 9211
https://seyboldreport.net/

POST-DEMONETISATION EFFECT ON FINANCIAL INVESTMENT

Tarnnum Shekh
Research Scholar, Department of Management, Sharda University, Greater Noida, Uttar Pradesh – 201310, Email id: tarnnumshekh24@gmail.com

Pramod Kasana
Research Scholar, Department of Management, Sharda University, Greater Noida, Uttar Pradesh – 201310, Email id: Pramodkasan2@gamil.com

Dr. Anoop Pant
Professor, Department of Management, Sharda University, Greater Noida, Uttar Pradesh – 201310, Email id: pantanoop@gmail.com

Abstract
Demonetization refers to the process by which any money is stripped of its status as legal tender. There are four main reasons why governments around the world think a ban on certain currencies is necessary, these are to reduce inflation, corruption, money counterfeiting, and reliance on cash transactions. The best course of action for the development of any country, including India, is to find ways out of this kind of predicament.

This study discusses the current theories and hypothesis on the effects of demonetization on several kinds of investments in India, corporate investments, household investments, and even outward FDI from other countries. The impact of Demonetization on Savings in the Indian Economy is examined using the elementary Theoretical tools of Macroeconomics, International Economics, and Econometric analysis. "The investment decisions at business cycle frequencies are mostly determined by internal financial concerns", has been taken as basic premises for this research. When trying to explain changes in investment at business cycle frequencies, internal cash flow is a more important determinant than user cost of capital or average Q. We also find that the neoclassical and Q models are unstable at business cycle frequencies, but the expanded models are stable when internal cash flow is incorporated into the empirical specification.

Key Words: Demonetisation, Investment cycle, Market Equilibrium, Currency supply, Filtered Cash flow, Investments Filter.

Introduction

The Government of India announced on November 8th, 2016, to devalue the heist-value currency. The scarcity of cash due to demonetization caused turmoil as people struggled to deposit and exchange new notes for the old ones. As a result, the Purchasing Managers Index (PMI) decreased, causing a slowdown in the manufacturing and service industries. Demonetization has resulted in primary economic problems in India. Although various studies and reviews have been conducted, none have thoroughly assessed the impact of cash circulation due to demonetization and its subsequent impact on the investment cycle. This study is one of the critical efforts to overcome this gap in understanding the impact of cash circulation on investment in various ways. At the end of this study, you will be able to:

Understand demonetization and its broader implications
The Effect of Demonetisation on Total Cash Circulation
The effects of demonetization on investment as a result of disruption

Demonetisation

This is known as demonetization, when a country decides to intervene economically by switching to a new currency. As part of demonetization, previously-accepted currencies gradually retire from circulation in favour of new ones. People are given time during the process to swap their existing banknotes and coins for the new money before it is officially terminated. A currency that has been discontinued is no longer legal tender and has no monetary value.

Demonetization can take several forms: a country may introduce new banknotes or coins or create an entirely new form of currency. However, demonetization is an extreme action that occurs infrequently and can potentially disrupt society if performed incorrectly. Countries may also elect to reintroduce defunct money as legal tender as part of remonetization.

Reasons for Demonetization

Although demonetization is uncommon, countries worldwide have implemented it for the following reasons.

- Governments may choose to demonetize if the currency spirals out of control owing to issues such as hyperinflation.
- Demonetization can deter criminal behavior such as counterfeiting, terrorism, and tax evasion.
- Demonetization may also occur in order to create a new currency standard.

For example, in 2002, the European Union established the euro, a significant currency that would replace various nations' previous currencies. Countries around Europe abandoned their currencies to embrace the euro as the norm across the European Union.

The Benefits and Drawbacks of Demonetization

Currency demonetization can provide a country with benefits ranging from crime prevention to increased currency standards.

One of the advantages of demonetization is that it reduces many sorts of illegal behavior. Because the currency is no longer legal tender, those engaging in unlawful acts, such as terrorism, effectively lose their money supply. It enables the authorities to purge the system of counterfeit currencies. The government can catch those who have dodged taxes during the currency exchange procedure and tax their unreported revenues retroactively. Demonetization can also accelerate the transition to a cashless economy by slowing the circulation of real currency and shifting toward more digital possibilities.

However, there may be significant drawbacks to the demonetization process. One of the early disadvantages is the cost of printing new banknotes and minting coins and the cessation of existing currency. Criminal activities, because criminals' assets may be kept in different forms, such as gold or real estate. If the demonetization process is not correctly performed, it can cause turmoil among the population as individuals hurry to exchange their currency before it is discontinued.

History of Demonetization

Demonetization has been proposed to reduce criminal activity, tax avoidance, and black market transactions. In this vein, one of the more notable recent contributions is Ken Rogoff's (2016, 2017). The argument in this paper is predicated on the idea that large-denomination currency notes are used to finance a variety of illegal economic operations around the world. Britain and other European governments demonetized significant denomination currencies after World War II to counteract illegal wartime speculative profits. The U.S. government stopped honoring bills of $500 or more in 1969, while the European Central Bank stopped honoring the 500-euro bill in 2017.

Remarkably, India took this step during a relative economic calm but gave the public almost no notice to convert their demonetized bills. Because the demonetized bills were so often used, particularly the 500-rupee denomination (equivalent to around US$14 at current exchange rates), there was a significant chance of disruption and discomfort. While it was unprecedented in the modern era, the Demonetization of 2016 was not the first time such a thing happened in India. Both the 1946 incident and the 1978 incident, which occurred after WWII, had suspiciously similar explanations.

All bills of 500 rupees or more were demonetized by the Government of India on January 12th, 1946, shortly after the end of World War II. After World War II, the Bank of England demonetized currency, which Sir Archibald Rowland, a member of the Executive Council of the Governor General of India, cited as "one more tangible precedent for the Indian government to follow in its struggle against black market money and tax evasions, which have already attained huge proportions." 1 It is true that some high-ranking government officials were skeptical of the measure's effectiveness, including India's previous Governor and Deputy Governor. After the dust settled from all the transactions, it was found that 94% of the demonetized currency had been handed back to the RBI. While some money was recovered from unclaimed currency, the policy was highly panned because it brought great hardship to the general public. All the larger denomination bills had also been reissued by 1954.

This kind of thing happened again in 1978. On January 16th, 1978, all invoices of one thousand rupees or more were deemed illegal by the government. Approximately 1.5% of all currency in circulation was impacted by the 1978 action, while 86% of all cash was demonetized in 2016. That is why there was not much of an impact on the populace. The then-governor of India's central bank, I.G. Patel, also voiced opposition to this move. To wit, Patel (2002) claims that "such an endeavor rarely provides significant results" and that "the notion that black money or riches is preserved in the form of notes tucked away in suit bags or pillowcases is nave." Eighty-six percent of the demonetized currency was exchanged for lower-value bills, making a move marginally more effective than the 1946 experience.

The motivation for both events and the skepticism over whether or not they accomplished their declared goals were strikingly similar between 1946 and 1978. Moreover, the public successfully converted most of the demonetized currency in both prior incidents. The primary aim of taxing unreported wealth was thus thwarted.

Revisiting Past Literature

(Saraswati et al., 2022)Households are essential economic agents. Consumer spending in the home is a significant economic element. The absolute income hypothesis is used in this study to examine how financial technology influences household consumption. We use the partial adjustment model (PAM) and the Chow test to discover structural changes in the consumption function of Indonesian families from 1990 to 2017. The findings suggest that the consumption function of Indonesian households has altered structurally since 2000. According to the partial adjustment model, financial technology positively impacts both short- and long-term Indonesian household expenditure. According to the findings, Indonesia should rely on fintech to improve economic growth. Fintech encourages consumers to spend more, which may boost inflation.

(Wu et al., 2022) This research is intended to look at the immediate impact of India's 2016 demonetization on Micro Finance Institutions (MFIs), their assets portfolio performance, and unanticipated social consequences. In response to India's Demonetization in 2016, MFIs lowered their 30-day and 90-day portfolio at risk (PAR) and bolstered customer protection measures. Businesses, especially those catering to the low-income population, also benefited from demonetization. After demonetization, the return on investment for MFIs financing women's education dropped. This analysis uncovers the unanticipated consequences of Demonetization on MFIs and makes policy recommendations.

(Shabu and Ramankutty 2022)New financial instruments emerge as banking and financial instruments evolve with the economy and businesses. Banks have evolved from moneylenders to a modern banking system with core banking and digitalization. Fintech and blockchain are used in digitalized banking. Individuals have favored digital payments and net banking after demonetization and the coronavirus outbreak. Online shopping, e-wallets, and digital payment apps are becoming more popular. As a result, digital dependability improves. Neobanking is a Fintech-powered concept that involves no physical banks and only virtual operations. As a result, Neobanking has become a viable financial institution. Customers are also rewarded. This article explores Neobanking in India and its opportunities and challenges from the customer's point of view. The content and thematic approach of all Twitter customer answers are also evaluated to estimate the likelihood of gaining clients and their favorable or unfavorable attitude toward the Neobanking system in India. The analysis received excellent feedback from Neobanking customers.

(Kothiwal 2022) In India, FII and DII support the economy. FII and DII contribute significantly to capital formation, which aids in asset formation and stock market trading. FII funds have an impact on the Indian financial system and economic growth. During 2019, the Indian economy witnessed significant changes that affected DII and FDI funding. The study report examines FII and DII fund variations caused by pandemics and other events. Design/Methodology/Approach- The study employs exploratory quantitative research. Secondary data for FII and DII funding in India for COVID-19 cases was obtained from www.moneycontrol.com and www.statista.com (January 2020 to December 2020). SPSS 20 was used to analyze the data. Correlation, regression, and ANOVA were used to get the

conclusions. Compared to pre-COVID, FII and DII altered dramatically during COVID's initial wave. Because FII and DII are critical for any country's economy, studying them, particularly during COVID, is critical for the future. This report is unique since no extensive research has been conducted on FII and DII during COVID.

(Bahl, Kibran, and Sharma 2022)This essay investigates the effects of digitization, demonetization, and bank consolidation on training and development. Banks are today's actual GDP contributors. Data from senior, middle, and lower-level Indian bank officers are used in the study. The balanced scorecard assesses bank performance regarding finances, customers, innovation, and expansion. Job enrichment offers value to employees through techniques and projects. The PLS-SEM method investigated the link between change drivers, job enrichment, and Banking Sector Performance. It investigates how training mediates change in drivers' relationship with banking sector performance. Training, selected drivers, and job enrichment all impacted bank performance, with an adjusted R2 of.668. According to a recent study, digitization, demonetization, and bank consolidation all improved banking performance with training. This study also discovered that special training has a larger weight, meaning that special training should be prioritized in order to increase banking performance.

(Sabyasachi Chiranjibi Panda 2021)Demonetization is the process of removing a currency's legal tender status. Currency bans are deemed required by world governments for four reasons. They are involved in the fight against inflation, corruption, counterfeit currency, and cash transactions. Developing countries, such as India, must find solutions to these problems. This study intended to investigate the impact of Demonetization on Indian stock markets, investment, and outbound FDI. Using simple macroeconomic, international economic, and econometric methodologies, it also investigated the impact of Demonetization on Indian savings.

(Mader et al. 2022) Sub-Saharan Africa has seen rapid growth in digital financial services (DFS). They vow to eradicate poverty, empower women, aid in developing enterprises, and improve macroeconomic outcomes and government performance. Governments saw DFS income and profits as potential tax money as they grew in popularity. Understanding the enablers, limits, and ramifications of DFS taxation is required for evidence-based policy on DFS taxation.

(Thaker, Charles, and pant 2022)We assess the impact of Demonetization and Financial Inclusion on Indian bank performance across size and ownership groups. From 2011 to 2019, Data Envelopment Analysis (DEA) is used to assess bank efficiency. Second, we utilize Repeated ANOVA to compare the influence of events between groups. Size and ownership significantly influence, but not across groups, events, or efficiency categories. Frontier banks expanded. These initiatives resulted in cost and profit efficiency gains for SBI, the largest state-owned bank. Our study is the first to use DEA and repeated ANOVA to quantify the impact of demonetization and financial inclusion on the banking industry. Our research has managerial and policy implications and scientific proof for the impact debate.

(Kuh and Meyer 1955) The influence of ratio transformations on correlation and regression estimations is investigated in this work. After explaining the concept of “spurious ratio

correlation," it has also specified what must hold for the correlation between two series with the same denominator to be equivalent to the partial correlation between numerator series while maintaining the exact impact of the deflating variable. The best linear unbiased least squares estimates for regression coefficients are supplied when the data is in ratio form. Cross-section data will fit these criteria more frequently than time series data. Chenery's capacity principle tests empirical attributes that are then re-evaluated. Chenery's research demonstrates that ratio conversions on cross-sectional data should be cautiously approached.

(Bernanke and Gertler 1990)This connection is examined in our article. We create an investment finance model with asymmetric knowledge about project quality and borrower effort. When the borrower's financials are wrong, this technique increases the cost of obtaining external investment financing (i.e., the lower his net worth). A borrower's net worth significantly impacts the number of projects funded by limitless first-best and their average quality. When bad balance sheets cause a company to underinvest, misallocate investment funds, or even fail to invest, the company is said to be "financially fragile." In times of extreme economic distress, government "bailouts" of financially troubled borrowers may be an option worth considering.

(Burns, Mitchell, 1946) Methodologies for measuring specific and reference cycles, one series, monthly bituminous coal production in the United States, is wholly calculated (Table 13). This activity closely follows economic cycles but exhibits various anomalies not found in the coke case from Chapter 2. Other series are used to describe procedure steps and outcomes. It also demonstrates how to modify the techniques for quarterly and annual data.

Methodology

This research paper is mainly intended to investigate whether the demonetization impacted investment in India and the extent of that impact. The primary outcome of the disruption was the money circulation and supply. Thus the basic premises of this research are money supply, internal cash flow, and aggregate money. I intended to draw the relationship between these disruptive outcomes with the investment cycle. To establish this relationship, we studied the money supply data for pre- and post-demonetization periods (2013-19). These data have helped to formulate a business cycle filter. Based on this formula and investment made during this period in the particular sector on a different component of production, a correlation has been drawn between internal cash flow and investment.

In the second part of the research, an investment made during the said period in the most capital-intensive sectors, which is also the core of the economy, was analyzed using the "Interest sensitivity- and Liquidity of money (IS-LM) model ."This model assumes that the aggregate price level (Or the GDP Inflator) is fixed. By definition, the nominal money supply equals the total currency circulation in the economy plus the total bank deposits. Here the money market equilibrium has been applied to gauge the household ad sectorial investment data.

The Money Supply

The money supply is the total amount of currency in circulation. Currency and demand deposits make up the bulk of the money supply. Currency includes both coins and paper notes issued by governments and banks. The money supply is the sum of all cash in circulation plus all deposits

from non-banking institutions held by commercial banks. In addition to currency and other liquid assets, the money supply also includes deposits created inside the banking system due to the multiplier effect of currency movement within the banking system.

The value of all coins and paper currency issued by the Reserve Bank of India minus the value of all withdrawals from circulation is the value of the currency in circulation. The public's money consists of the total supply of banknotes and coinage currently in circulation. It represents a large hole in the financial health of a central bank. Money Aggregates typically measure the quantity of money.

Until 1968, the RBI released a single money supply metric, M/M. It was characterized as public currency and demand deposits. It was referred to as the narrow measure of the money supply. After 1968, the RBI began publishing a larger measure of money supply known as aggregate monetary resources (AMR), defined as M or M1 plus the public's net time deposits in banks (M3). Central bank money is designated M0 in money supply data, whereas commercial bank money is classified into M1 and M3 components. Post-office deposits are also included in the M2 and M4 components. M1 refers to a restricted category for money issued by commercial banks, whereas M2 and M3 refer to broader categories for money issued by commercial banks valued at more significant sums. Due to M3's status as the largest M1-M3 money aggregates, M2 and M4 are included in the broader M1-M4 money aggregate. They are categorized as follows:

M0 (Reserve money): The currency issued by a central bank and known by various other names, such as base money, central bank money, or even super money. If you like, you could call it the "kingpin" of the monetary system. Put another way, it is the sum of money in circulation plus the reserves held by commercial banks at the Reserve Bank of India.

“M0 = Currency in Circulation + Bank Deposits with the RBI + Other Deposits with the RBI”.

“M0 = Net RBI credit to the government + RBI credit to the commercial sector + RBI claims on banks + RBI net foreign assets + Government currency liabilities to the public - RBI net non-monetary liabilities”.

“M1 (Narrow Money) = Public currency + Public deposit money (Demand deposits with the banking system + 'Other' deposits with the RBI)”.

“M2 = M1 + savings deposits with post office savings banks”.

“M3 (Broad Money) = M1 + time deposits with the banking system”.

“M3 = Net bank credit to the government + Bank credit to the commercial sector + Net banking sector foreign exchange assets + Government's currency liabilities to the public - Net banking sector non-monetary liabilities (Other than Time Deposits)”.

“M4 = M3 Plus all post-office savings bank deposits (excluding National Savings Certificates)”.

ISSN: 1533 - 9211

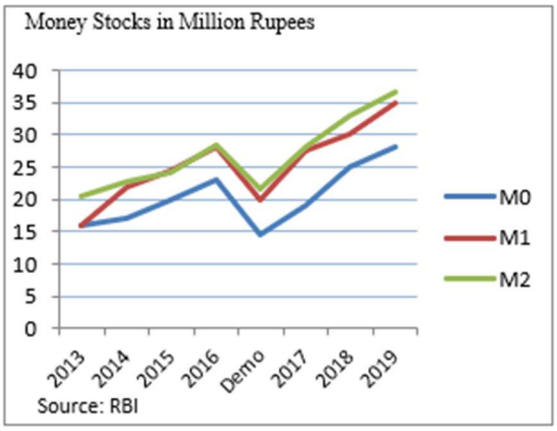


Figure1 (Panel A): Money Stocks of M0, M1, and M2

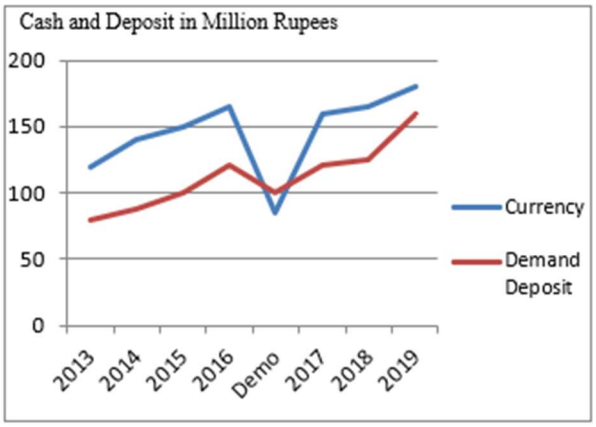


Figure1 (Panel B): Currency in circulation and DD

Around March 2017, the Panel A of Figure-1 reported that M1 and M2 were only down 2.1% and 2.9% from October of the previous year. The money supply (M0) remained 15% lower than it had been before demonetization. It took until January 2018 for M0 to reach its level before the demonetization.

Indian citizens had the option of depositing the demonetized cash into bank accounts or exchanging it for fresh money (subject to daily restrictions). Currency in flow and bank deposits (including savings and checking accounts) behaved differently during the period, as seen in Panel B of Figure 1. About 8.4 trillion rupees were removed from circulation between October-December, 2016, whereas just 1.5 trillion rupees were added to bank deposits during that time. Time deposits surged by more than 400 billion rupees due to the demonetization of currency.

After receiving the refunded monies, the banks deposited them with the Reserve Bank of India, first as bankers' deposits and later as RBI particular purpose bonds. Total RBI liabilities hardly changed throughout the crisis because most of the demonetized currency was later restored.

Internal Cash Flow as a Determinant of Investment

Unresolved: if internal cash flow affects corporate investment spending. This research will focus on business cycle behavior to assess how demonetization affects aggregate investment spending. The time series periodicities that make up the business cycle are apparent. Isolating and extracting this spectrum of periodicities while filtering out the noise that does not pertain to the economic cycle is what filters do.

Liquidity has long determined aggregate investment. Investing and one's financial resources (earnings, cash flow, etc.) have been statistically significant. 75% of manufacturing investment is self-funded (Kuh and Meyer 1955). Internal financing lacked theoretical support in empirical investment models (Chirinko 1993). Investment is only based on factor prices and technological advancements in a perfect capital market because capital costs are unrelated to monetary concerns. Internal finances are irrelevant because external money can be obtained at the exact cost (Modigliani and Miller 1958).

Neoclassical investment theory emphasizes optimization. Investment spending is derived from natural factors like the cost of capital (Christensen and Jorgenson 1969). The financial variables disappeared from investment models. When the economy is doing well, a company's net worth

rises, allowing them to spend more on investments while paying less for its outside capital. Money's value and people's willingness to invest drop when currency is devalued. We analyze the correlation between filtered ICF and investment as a two-way variable.

Business Cycle filters

A class of exponential smoothing filters13 (moving average/band-pass filters) is designed to isolate the investment cycle elements of the reported time series. When these filters are implemented to assess data, a filtered series is produced which preserves investment cycle elements while omitting trends and variation of highest-frequency. Think of a sequence of times y_t by filtering y_t^* with a symmetric moving average is obtained as-

$$y_t^* = \sum_{k=-\infty}^{\infty} a_k \; y_{t-k}$$

Where $a_k = a_{-k}$. Since we are only interested in components characteristic of business cycles, the problem of filtering boils down to selecting weightage $\{a_k\}$ so they$_t^*$ keeps investment cycle components while excluding trend and components of highest-frequency. The filter's frequency response function is defined as follows:

$$a(\omega) = \sum_{k=-\infty}^{\infty} a_k \; e^{-i\omega k}$$

Where $a(\omega)$ is Fourier transform of $\{a_k\}$. The frequency response function is periodic and can be defined over 2π intervals. Business cycle filter building begins in the frequency domain with a (ω=0).

Filtered Cash flow and investments filtered.

Using the filter described above, half-yearly data is calculated from before demonetization through 2018-19—this filtered real investment and internal cash flow for the period in table - 1. The inferred GDP deflator deflates unspent demonetization funds and capital consumption allowances to arrive at real internal cash flow. Non-financial corporate investment is a real investment.

Changes in cash flow tend to come first, followed by changes in investment, as seen in Figure 1. There is a positive correlation between cash flow fluctuations and investment shifts.

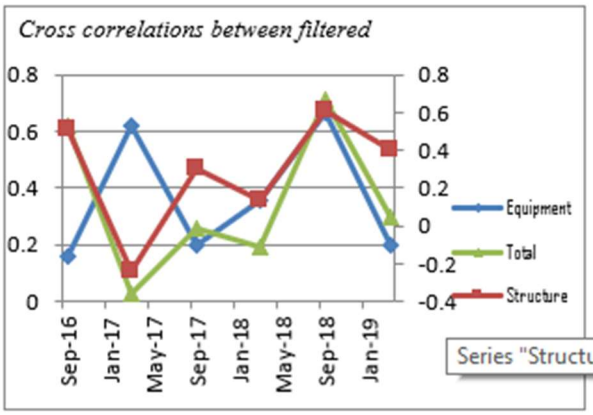


Figure 2: Correlations between filtered liquidity and Investment

Cross correlations between filtered data			
	Equipment	Structure	Total
Sep-16	0.15	0.52	0.63
Mar-17	0.61	-0.22	0.04
Sep-17	0.3	0.4	0.25
Mar-18	0.37	0.15	0.18
Sep-18	0.66	0.62	0.72
	0.3	0.5	0.4

Table 1: Investment on equipment and structure of Production

The investment and cash flow of the two filters are compared in Table-1. Inducing stationary but non-business-cycle components and distorting business-cycle frequencies is the hallmark of first-difference filters. There is a big difference of the two filters.

Data filtered using the first differences are depicted in figure-2. Total investment by non-financial companies and cash flow reveal filter design inconsistencies. When comparing the first difference and business-cycle filters, the contemporaneous correlation is greater with the latter (0.18 vs. 0.04). Expenditures on different pieces of equipment have equivalent cross-correlations. Investment structures have unique cross-correlations. There is a negative connection between cash flow and investments in the present, but a positive one with a lag of two years. Constructional time-lags explain the discrepancy, but Table-1 demonstrates, investing in both buildings and machinery at business cycle frequencies is profitable.

Impact on Household and Firm Investment

Impact on Household and Firm Investment

The Interest Sensitivity and Liquidity of Money (IS-LM) model assesses the potential effects of demonization on household and company investment. Even if the government's objectives were admirable, the unexpected departure of a significant portion of the economy's currency notes (about 86%) caught the populace off guard and unleashed unparalleled monetary turmoil1. The nominal money supply is the total currency circulation in the economy plus the total bank deposits. Assume that is the proportion of money held by all households and $(1 - c)$ is the fraction of money saved by households. Furthermore, the savings-investment identity2 is assumed to be maintained in the economy. Then $M = CU + D = cM + (1 - c)D$ is calculated. In addition, the institutionally mandated minimum cash reserve ratio is θ. To begin, he believes that all banks are fully loaned. That is, $\frac{\text{Reserve (R)}}{\text{Deposite (D)}} = \theta$. Before Demonetization, High Power Money4 (H) is

$$H = CU + R = cM + (1 - c)M.$$

$$\Rightarrow M = \frac{H}{c + \theta\,(1 - c)} \qquad where\ \frac{1}{c + \theta\,(1 - c)}, is\ the\ money\ multiplier$$

Assumes that c represents the proclivity to transact in cash and that it is unaffected by demonization. This is due to the financial system's failure to reach broad rural areas. Below are the aggregate balance sheets of the RBI and commercial banks.

Prior to the announcement of demonetization, the value of assets matched the number of liabilities on both balance sheets. So we have $B_R + O = R_c + CU + R_g$ for RBI. We have $R_c + B_c + L = D$ for commercial banks. The government had also imposed a time restriction (say $\overline{T}$) for depositing old notes to get fresh ones. There was also an upper limit for deposits (say $\overline{N}$) and withdrawals (say $\overline{W}$).

Public deposits D were raised alongside commercial bank reserves R_c in the aggregate commercial bank's account. The minimal withdrawal amount was smaller than the minimum deposit amount. This was because consumers were only permitted to withdraw one 2000 rupee note but may deposit any amount of cash once approved by the authority. As a result, $\overline{W} \leq \overline{N}$ and reserves R_c increased more than the deposit. This disparity lowered the money multiplier. The government absorbed surplus liquidity from the system by raising the bond holding ceiling under the market stabilization scheme4. Let the extra notes deposited in banks be ΔCU and the increase in commercial bank reserves be ΔR_c, where $\Delta R_c = \Delta CU$ changes the liabilities in the RBI's balance sheet. Furthermore,V represents the amount of money that the government believes will not be returned to the banking system. For V>0, we have

$$R_c + \Delta R_c + CU - \Delta CU - V + R_g < B_R + O$$
$$\Rightarrow R_c + CU - V + R_g < B_R + O$$

However, according to the Governor of the Reserve Bank of India, V will continue to be the RBI's liability. However, V≠0 roughly maintains the high power money unchanged. The money demand curve appears to be as follows:

Result (Money Market Equilibrium)

The money demand curve can be expressed as $\left(\frac{M}{P}\right) = \frac{M}{P}(Y, i), where \frac{M}{P}$ represents real money, Y as aggregate output and i represents the nominal interest rate on government bonds. The accompanying diagram depicts the equilibrium value of i with a minimal money supply. Due to demonetization, the money supply in the economy reduces from (M/P) to (M/P). Given the decrease in money supply, there is an excess demand for money at the former equilibrium rate. As a result, individuals and financial institutions sell their bonds. This reduces the bold price while raising the interest rate. From $LM^1 \; to \; LM^2$ the Liquidity of Money curve swings upward, decreasing aggregate output[5] and rising interest rates.

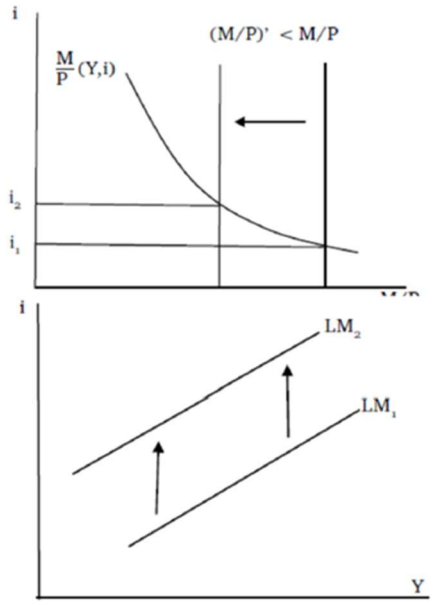
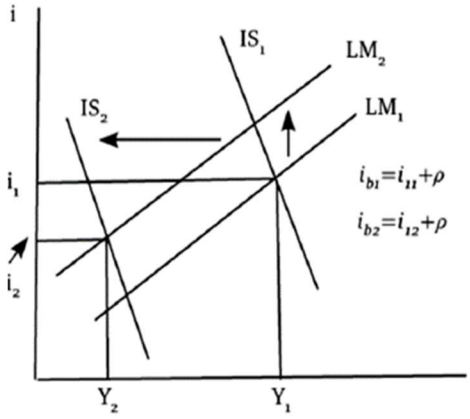


Figure 3: Money market equilibrium

Model of Goods Market Equilibrium:



From the general Goods market equation, we get

$$Y = c\,(Y) + I(i) + G$$

It recommends four changes to the consumption function:

1. It is the inverse ofi_b, which represents the interest rate on bank loans6. We also suppose that the bank loan's interest rate includes a risk premium$\rho > 0$.

2. It has a direct relationship to$e$. Here, e is an index representing the ease with which transactions can be completed[7].

3. It has a direct relationship to theφ. In this case, φ is a variable that measures consumer confidence in the economy [8].

4. It has a direct connection to W. This demonstrates that the consumption function is a natural balance effect of the type (Patinkin 1965) that represents the impact of wealth on consumption.

As a result, the Goods Market equilibrium is

$$Y = C(Y, i_b + \rho, \partial, \varphi, W) + I\,(i_b + \rho, e) + G$$

Result for Goods Market Equilibrium:

The adverse effects of the collapse in e , φ and W push the interest sensitivity curve to the left. The greater the consequences, the more significant the potential drop in expenditure and output. As a result, the LM curve shifts from LM^1 to LM^211, and the IS curves fromIS^1 to IS^2. This lowers the value of aggregate output and the interest rate; since output fell due to demonetization, the goal was achieved at the expense of lower interest rates. In addition, if production drops, the country's GDP can fall 9.

Based on his findings, the author thinks the short- and long-term variables are not as promising. None of the critical economic variables will change in a positive direction. Furthermore, if corruption persists in the economy, we may soon find ourselves in a situation where new black money drives out old black money in a short period. The author offers some macroeconomic advice from the rational expectations school of thought. Even if the profession as a whole no longer subscribes to the theoretical foundations of that school, one of its policy conclusions probably cannot be ignored, especially in light of the Indian government's claim that it decided to catch the public off guard in order to ensure the success of its demonetization drive. In his demonization framework, he claims what Robert Lucas predicted10 is correct.

Impact on India's Outward Foreign Direct Investment

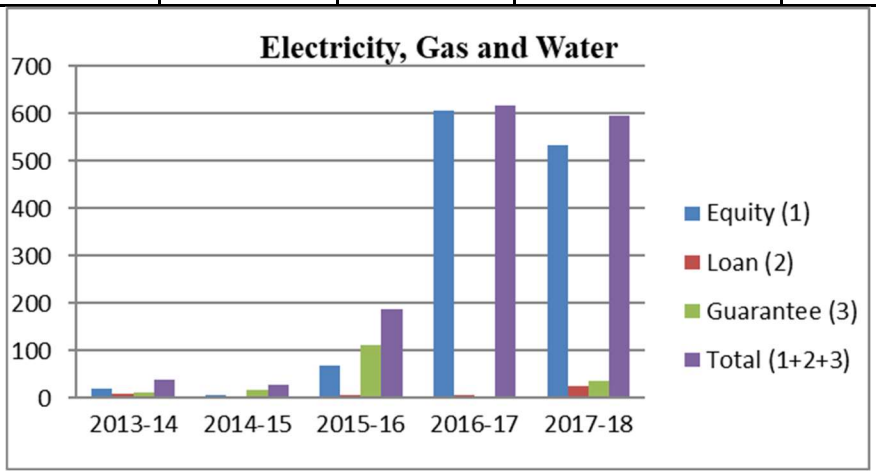
Based on data collected from numerous sources, including the RBI, Asian Development Bank reports, World Investment Reports, the state department of UNO , Outlook for Asian Development, and Country specific Reports on Economic Policy, from April 2013-14 to March 2018. OFDI11 grew substantially during the initial phase of India's Globalization of Economic Reforms in 1991 but has declined as the global financial crisis demotivated investment in host and foreign countries (Khan 2019). He also claims that India has taken the lead in establishing commerce and trade with Developed Overseas Economies such as the United States, the United Kingdom, China, and Australia. It has also competed with other growing economies, except China. It has been early in the pharmaceuticals, grains, software, and tobacco industries. OFDI boosts the country's GDP growth while encouraging international investors to achieve and capture markets. He believes that Indian markets are too small and that Indian firms should enlarge their arms to reach greater heights14. The observations for the five sectors are listed below.

Results for OFDI

Investment on Electricity, Gas and Water

Electricity, Gas and Water					(In Million $)
S.	**Year**	**Equity(1)**	**Loan (2)**	**Guarantee (3)**	**TOTAL (1+2+3)**

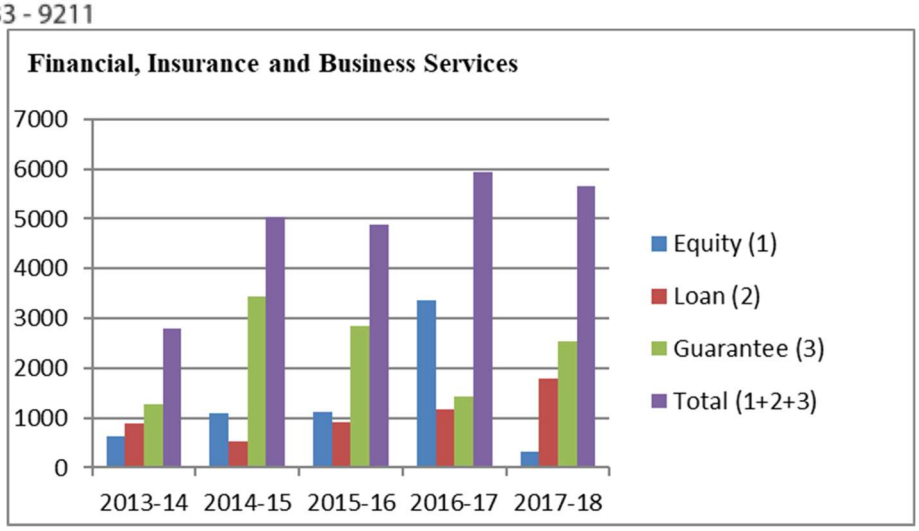
No.					
1	2013-14	21.12	9.86	9.81	40.79
2	2014-15	7.27	4.11	17.63	28.98
3	2015-16	68.11	5.83	112.84	186.79
4	2016-17	607.48	6.94	2.21	616.63
5	2017-18	534.37	25.45	35.95	595.74



Electricity, gas, and water consumption increased by 1397% between fiscal years 2013-14 and 2017-18. Furthermore, it has discovered that before and after demonetization, most OFDI was noted in equity as opposed to debt and guarantee.

Investment on Financial, Insurance, and Banking Services:

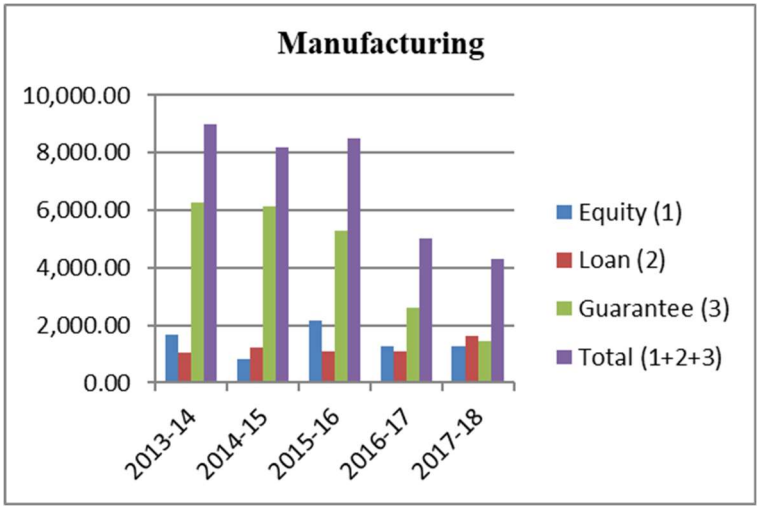
Financial, Insurance and Business Services					
S. No.	Year	Equity(1)	Loan (2)	Guarantee (3)	Total (1+2+3)
1	2013-14	634.62	897.26	1,267.27	2,799.13
2	2014-15	1,087.33	518.65	3,441.34	5,043.28
3	2015-16	1,115.02	907.38	2,852.86	4,875.23
4	2016-18	3,371.33	1,158.76	1,417.98	5,948.07
5	2017-18	325.29	1,778.88	2,548.11	5,652.23



This sector has had extraordinary growth of roughly 102% in all outward foreign direct investment categories from selected fiscal year statistics (equity, debt, and guarantee).

Marketing:

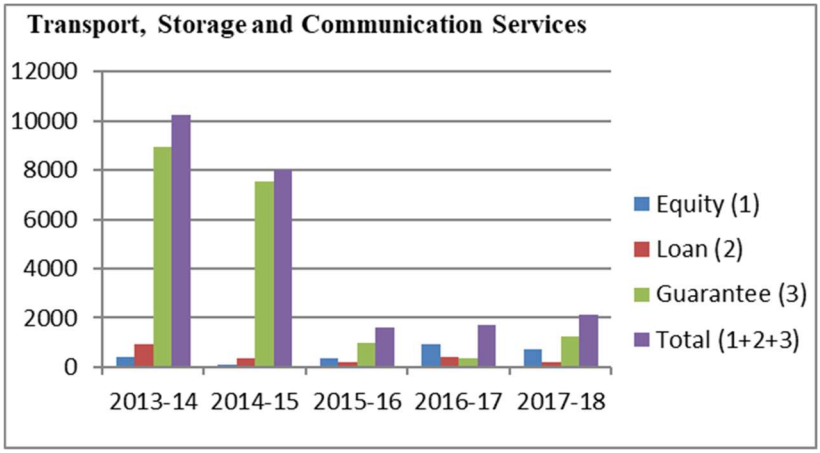
Manufacturing					
S. No	Year	Equity (1)	Loan (2)	Guarantee (3)	Total (1+2+3)
1	2013-14	1,687.32	1,068.39	6,252.27	9,007.99
2	2014-15	841.99	1,239.15	6,116.81	8,198.11
3	2015-16	2,142.15	1,081.71	5,295.54	8,519.38
4	2016-17	1,274.75	1,112.09	2,625.35	5,012.17
5	2017-18	1,251.87	1,611.69	1,443.88	4,307.47



From the financial year 2013-14 to 2017-18, the negative growth rate was 109%. That is, while there is some increase initially, the post-demonetization phase shows negative growth, as shown quantitatively in the research.

Transport, storage, and communication:

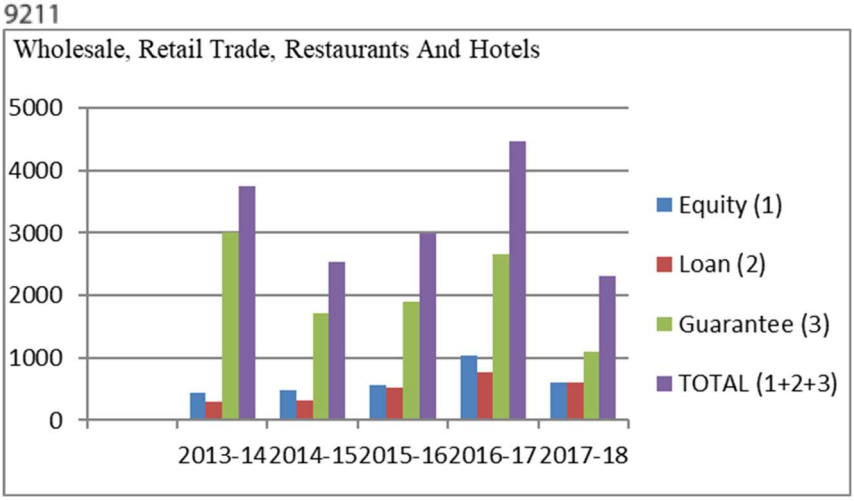
Transport, Storage and Communication Services					
S. No	**Year**	**Equity (1)**	**Loan (2)**	**Guarantee (3)**	**Total (1+2+3)**
1	2013-14	385.67	933.33	8,924.85	10,241.87
2	2014-15	95.96	338.11	7,557.49	7,989.55
3	2015-16	353.16	227.15	1,006.25	1,588.57
4	2016-17	922.22	407.34	382.72	1,711.26
5	2017-18	702.24	181.78	1,253.58	2,137.57



The investment analysis on marketing data shows there were 79% decrease in all types of OFDIs post demonetization. This was the most affected sector among all, this is because the money circulation reduced drastically.

Wholesale, Retail Industry, Restaurants, and Hotels:

Wholesale, Retail Trade, Restaurants And Hotels					
S No.	**Year**	**Equity (1)**	**Loan (2)**	**Guarantee (3)**	**TOTAL (1+2+3)**
1	2013-14	433.15	294.35	3,017.17	3,744.69
2	2014-15	488.59	312.46	1,724.95	2,525.98
3	2015-16	569.67	521.17	1,896.87	2,987.67
4	2016-17	1,038.71	777.55	2,661.13	4,479.32
5	2017-18	598.57	612.97	1,092.27	2,303.81



In this sector Negative growth of roughly 38% observed from the fiscal year 2013-14 to the fiscal year 2017-18.

Result Summary:

Overall, data analysis shows that, except for two sectors, e.g., Electricity, Gas, and Water, and Financial, Insurance, and Business Services, the remaining sectors have shown negative growth on investment front. Implies sector heavily depend on outward flow of fund was felt the heat after demonetization. This analysis also affirmed by data released by Centre for Monitoring Indian Economy Pvt. Ltd (CMIE). According to CMIE fresh investment was first to felt the heat of demonetization.

Conclusion and Discussion

Demonetisation is hurting the economy as predicted. According to the Centre for Monitoring Indian Economy Pvt. Ltd (CMIE), fresh investment proposals have started falling days after the announcement of demonetization. Nikkei Markit India's Manufacturing Purchasing Managers' Index (PMI) affirmed a similar phenomenon. Core sector growth dropped to 4.9% in November, down from 6.6% in October.

Initially, economists and global financial institutions cut India's growth projections for 2016-17 to less than 7%, citing a slowdown in the economy due to demonetization. On the final count, it was 7.6% in 2015-16. According to CMIE data, investment proposals reached Rs1.25 trillion in the October-December quarter, compared to an average of Rs2.36 trillion per quarter during the last two years. Investment activity dropped far more after demonetization in the December quarter than before. While 227 fresh investment ideas worth Rs 81 800 crores were published until November 8th, only 177 investment proposals worth Rs 43 700 crores were announced between November 9th and December 31st. Demonetisation's uncertainty has reduced investment flow. The poor investment climate persists. CMIE predicts this will continue to be weak.

According to Nikkei Markit India Manufacturing PMI, manufacturing in December declined for the first time from 52.3 to 49.6. A reading less than 50 indicates a decrease from the previous month. Declines in new work and productivity were observed in 2016 for the first time. The

Nikkei attributed the contraction to money's partial demonetization.
According to RBI data, in November, bank lending to numerous businesses fell sharply to 4.8%, reflecting a slowing economy. Banks had no time to analyze investment applications; thus, credit disbursement halted.

Index

- Due to a lack of habit, illiteracy, the absence of bank services in significant non-metropolitan areas, and many other factors, cashless transactions are still a pipe dream for many.
- The savings-investment identity states that all household savings are placed in banks (and then lent to individuals as bank loans). This is because money deposited in a bank can earn interest, whereas it cannot earn interest at home.
- High Force Money is the Federal Reserve Bank's (Fed) Monetary Liability accounting value.
- When the system has abundant liquidity, a market stabilization mechanism is implemented. The issued securities are government bonds known as market sterilization bonds. The Federal Reserve sells and issues these government-owned assets (RBI)
- The interest rate on bank loans is roughly equivalent to the interest rate on savings accounts. The bank's operations are funded by the difference between the interest rate on bank loans and savings accounts.
- A decline in XX is anticipated to increase the aggregate demand for bank loans from both consumers and businesses. The decline in XX is also believed to reduce the value of expected bank loan interest rates XX. This both raises the demand for durable consumer products and the supply of such goods (X)
- The non-recognition of banknotes in the economy is a barrier to economic spending. In addition, the delayed delivery of the new 2000 rupee notes and the lack of other denominational notes contribute to this issue.
- Consumer confidences are an index that gauges the degree to which households are optimistic about the state of the economy. The demonetization was an unexpected shock to the consumer, leading to a decline in consumer confidence and decreasing predicted consumption and savings.
- Typically, a decline in the money supply would result in a rise in the interest rate, but in this case, rates have declined. This is due to the severe fall in activity in the industrial and residential sectors.
- In one of his lectures, Nobel laureate Robert Lucas (1997) stated, "Unexpected monetary contractions can cause despair." India's arbitrary demonetization initiative may serve as a test case for Lucas's forecast.
- An OFDI (Outward Foreign Direct Investment) is an investment made by a domestic enterprise in a foreign firm in order to expand into other profitable markets.
- It is essential to distinguish Outward Foreign Direct Investment (OFDI) from foreign direct investment (FDI). Foreign direct investment is when a non-resident invests in the

shares of a domestic company. An example of overseas direct investment (ODI) is an investment by a domestic firm in a foreign subsidiary or joint venture taxed in the latter's home country is an example of overseas direct investment (ODI).

- Band-pass filters allow just business cycle frequency components to get through while excluding non-business cycle frequency components.

References

Modigliani, F., & Miller, M. H. (1958). The Cost of Capital, Corporation Finance and the Theory of Investment. The American Economic Review, 48(3), 261–297. http://www.jstor.org/stable/1809766

Hall, R. E., & Jorgenson, D. W. (1967). Tax Policy and Investment Behavior. The American Economic Review, 57(3), 391–414. http://www.jstor.org/stable/1812110

Baxter, M., & King, R. G. (1999). Measuring Business Cycles: Approximate Band-Pass Filters for Economic Time Series. Review of Economics and Statistics, 81(4), 575–593. https://doi.org/10.1162/003465399558454

Bernanke, B., & Gertler, M. (1990). Financial Fragility and Economic Performance. The Quarterly Journal of Economics, 105(1), 87. https://doi.org/10.2307/2937820

Chirinko, R. S. (1993). Multiple capital inputs, Q, and investment spending. Journal of Economic Dynamics and Control, 17(5–6), 907–928. https://doi.org/10.1016/0165-1889(93)90022-K

Christensen, L. R., & Jorgenson, D. W. (1969). THE MEASUREMENT OF U.S. REAL CAPITAL INPUT, 1929-1967. Review of Income and Wealth, 15(4), 293–320. https://doi.org/10.1111/j.1475-4991.1969.tb00814.x

Damodaran, H. (n.d.-a). What's become of money—Before and after the 'demonetisation'? 11.

Ferber, R. (Ed.). (n.d.-a). Determinants of Investment Behavior. Nat. Bureau of Econ. Research.

Kuh, E., & Meyer, J. R. (1955). Correlation and Regression Estimates when the Data are Ratios. Econometrica, 23(4), 400. https://doi.org/10.2307/1905347

Lahiri, A. (2020). The Great Indian Demonetization. Journal of Economic Perspectives, 34(1), 55–74. https://doi.org/10.1257/jep.34.1.55

Laurent, R. D. (1974). Currency in Circulation and the Real Value of Notes. Journal of Money, Credit and Banking, 6(2), 213. https://doi.org/10.2307/1991026

Sabyasachi Chiranjibi Panda. (2021a). Impact of Demonetization on Investment in India. https://doi.org/10.13140/RG.2.2.35913.88162

Terra, P. R. (2008a). The cost of capital, corporation finance and the theory of investment. Revista de Administração e Contabilidade Da Unisinos, 5(2), 154–155. https://doi.org/10.4013/base.20082.07

Vilasuso, J. R. (1997c). The relationship between cash flow and investment in the United States at business cycle frequencies. Applied Economics, 29(10), 1283–1293. https://doi.org/10.1080/00036849700000018

Bahl, K., Kiran, R., & Sharma, A. (2022). Impact of Drivers of Change (Digitalization, Demonetization, and Consolidation of Banks) With Mediating Role of Nature of Training and

Job Enrichment on the Banking Performance. SAGE Open, 12(2), 215824402210973. https://doi.org/10.1177/21582440221097393
Bangur, P. (2019). Investment Certainty and Demonetization: Evidence from India. The Journal of Private Equity, 22(4), 60–69. https://doi.org/10.3905/jpe.2019.1.086
Bhagwan, P. (2018). A conceptual study on demonetization: An analysis of impact of demonetization on rural India. Journal of Educational and Social Research, 11.
Bodla, B. S., Sharma, R., Kumar, A., & Kishan, J. (n.d.). Contemporary Issues in Banking, Insurance and Financial Services. 465.
Chandigarh University, & Maurya, S. K. (2022). Comparative Analysis of the effect of demonetization on the financial performance of SMEs. YMER Digital, 21(05), 564–578. https://doi.org/10.37896/YMER21.05/65
Charoenwong, B., & Reddy, P. (2022). Using forensic analytics and machine learning to detect bribe payments in regime-switching environments: Evidence from the India demonetization. PLOS ONE, 17(6), e0268965. https://doi.org/10.1371/journal.pone.0268965
Kakumanu, K. R., Srikanth, M., Gavali, R. S., Kalloor, V. J., & Mukate, S. V. (n.d.-a). PROJECT REPORT ON DEMONETISATION AND ITS IMPACT ON INDIAN AGRICULTURE: A CRITICAL ANALYSIS. 71.
Kothiwal, D. R. (2022). IMPACT ON FII & DII IN COVID FIRST WAVE: INDIA. SPECIAL EDUCATION, 13.
Mader, P., Duvendack, M., Lees, A., Larquemin, A., & Macdonald, K. (2022b). Enablers, Barriers and Impacts of Digital Financial Services: Insights from an Evidence Gap Map and Implications for Taxation. Institute of Development Studies. https://doi.org/10.19088/ICTD.2022.008
Nagar, S. (n.d.). CENTRE FOR STUDIES OF NATIONAL DEVELOPMENT. 178.
Nawo, L., & Njangang, H. (2022). The effect of covid-19 outbreak on foreign direct investment: Do sovereign wealth funds matter? Transnational Corporations Review, 14(1), 1–17. https://doi.org/10.1080/19186444.2021.1964313
Nilam Panchal, & Gupta, M. (2017). Demonetisation and its impact on Indian financial markets. https://doi.org/10.13140/RG.2.2.35598.18241
Saraswati, B. D., Maski, G., Kaluge, D., & Sakti, R. K. (2022). THE IMPACT OF FINANCIAL TECHNOLOGY ON CONSUMPTION FUNCTION OF THE THEORY OF ABSOLUTE INCOME HYPOTHESIS: A PARTIAL ADJUSTMENT MODEL APPROACH (THE INDONESIAN EVIDENCE). Business: Theory and Practice, 23(1), 109–116. https://doi.org/10.3846/btp.2022.10789
Shabu, K., & Ramankutty, V. (2022). Neobanking in India: Opportunities and Challenges from Customer Perspective. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.4037656
Thaker, K., Charles, V., & pant, abhay. (2022). Demonetization, Financial Inclusion and Bank Efficiency: Evidence from India. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.4116318
Thaker, R. (n.d.). COVID-19 AND ITS IMPACT ON INVESTMENT. 10.
Tiwari, A. K., Abakah, E. J. A., Karikari, N. K., & Gil-Alana, L. A. (2022). The outbreak of

COVID-19 and stock market liquidity: Evidence from emerging and developed equity markets. The North American Journal of Economics and Finance, 62, 101735. https://doi.org/10.1016/j.najef.2022.101735

Uddhav, T. A. (2022). The Study Of Different Factors Which Affect Investment Decision Of Investors In Financial Asset Dr. Devkate Balaji N. 6.

Wu, W., Lin, Z., Oghazi, P., & Patel, P. C. (2022). The impact of demonetization on microfinance institutions. Journal of Business Research, 153, 1–18. https://doi.org/10.1016/j.jbusres.2022.08.009