

**IMPACT OF DEMONETIZATION ON NON FUND BASE
INCOME OF PUBLIC SECTOR BANKS IN INDIA**

CHAPTER :- 3

RESEARCH METHODOLOGY

3.1 Defining Statement Of The issue

3.2 Research Gap

3.3 Identify Need For The Study

3.4 Objectives Of The Study

3.5 Hypothesis Of The Study

3.6 Research Methodology

3.6.1 Scope Of The Study

3.6.2 Sampling Size

3.6.3 Sampling Technique

3.6.4 Period Of The Study

3.6.5 Source Of The Study

3.6.6 Financial Tool

3.6.7 Statistical Tool

3.7 Nature Of The Study

3.8 Significance Of The Study

3.9 Limitation Of The Study

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

3.1 Defining Statement Of The Issue

Particularly PSBs, the Indian banking system is instrumental in directing financial resources and helping to stabilize the economy. Income for these banks has historically come mostly from fund-based activities like loan interest and advances. Non-fund-based income (NFBI)—which includes fees, commissions, service charges, trading income, and other off-balance sheet activities—has grown in importance as a key revenue source along with the changing regulatory scene and economic reforms. Against this changing backdrop, the Indian government's policy of demonetization carried out on November 8th 2016 signaled a momentous and disruptive change in the financial ecology.

By invalidating high-value currency notes, demonetization resulted in a significant cash scarcity in the economy that forced people and companies to deposit money into the official banking system. This unexpected rush of deposits changed the liability profile of banks and promoted a quick increase in alternative banking methods and digital transactions. Therefore, even if fund-based income first stagnated because of weaker credit demand and interest rate pressures, non-fund-based revenue channels like transaction fees, digital service fees, card commissions, and cross-selling of financial products showed significant swings.

But in the framework of PSBs, the real effects of demonetization on NFBI remain not well investigated. Questions arise regarding whether the increase in digital adoption and financial inclusion efforts post-demonetization translated into sustained improvements in NFBI for public banks, or whether these gains were short-lived and uneven across institutions. Moreover, it is unclear whether structural changes caused by demonetization caused a long-term strategic change in PSB revenue models or just spurred temporary financial adjustments.

It is imperative to evaluate the degree to which NFBI has helped public sector banks' resilience or vulnerability given the fiscal limitations, growing non-performing assets (NPAs), and pressure on interest spreads in the post-demonetization years. Policy-makers, banking regulators, and financial strategists have to address this gap so as to assess the effectiveness of major monetary policies and their wider effects on the revenue diversification of public sector banks.

IMPACT OF DEMONETIZATION ON NON FUND BASE

INCOME OF PUBLIC SECTOR BANKS IN INDIA

Out of All past study on this topic we seen there is very less focus on NFBI in banking sector. This income highly affect to maintain banking

stability. After the demonetization people move forward to secure their income with expecting high return. Here we focusing on All 12 public sector banks. Researcher want to study impact of demonetization on NFBI selecting 10 years of time period before and after demonetization .the title of the exploration issue, chose for this current review :

“IMPACT OF DEMONETIZATION ON NFBI OF PUBLIC SECTOR BANK IN INDIA”

In NFBI have various components. Researcher want to focus on service charges on deposits accounts, trading revenue, fee and other income. After demonetization people wanting secure their money and earn high return in least time period

Therefore, this study aims to explore and assess how demonetization affects the non-fund-based income of PSBs in India, examining pre- and post-demonetization trends, pinpointing the underlying elements influencing NFBI, and analyzing the strategic changes in income composition in reaction to this economic reform.

3.2 Research Gap

Announced in India on November 8, 2016, demonetization was a transforming financial occurrence that started major modifications in the framework and operation of the Indian banking system. Though extensive research exists on the macroeconomic effects of demonetization—that on GDP, liquidity, employment, and inflation—its particular consequences for the revenue structure of PSBs, especially the non-fund-based income (NFBI), remain much uninvestigated.

Most research on demonetization and the banking industry have concentrated mostly on fund-based indicators like credit disbursement patterns, deposit growth, Int. Income trends, and loan performance (e. g. , NPA levels). Particularly as PSBs have progressively diversified their income streams in reaction to tightening interest margins and legislative changes, these studies often neglect the expanding part non-fund-based revenue as a strategic income component.

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

Furthermore, the body of current research that does address NFBI usually regards it as a secondary or unintentional factor rather than the main topic of study. These studies either show combined findings without distinguishing public and private sector banks or neglect to consider pre- and post-demonetization comparative trends using empirical evidence. Limited understanding results from this regarding the patterns, volatility, and drivers of NFBI in the PSB sector and how demonetization might have changed those dynamics.

Moreover, much of the current research does not look into bank-specific or service-specific causes of NFBI, including commission (e. g. , insurance or mutual fund selling), remittance or transaction-related charges, and fee-based services (e. g. , ATM utilization, mobile banking charges), All of which saw post-demonetization changes owing to rising digital adoption. This omission results in a gap in knowledge of the qualitative change of income distribution in public banks, which are intended to meet wider socio-economic objectives while still being economically viable.

Furthermore lacking is longitudinal research employing thorough data sets contrasting NFBI performance before and after demonetization across several PSBs. Such a temporal and institutional approach is essential for determining if observed changes in NFBI are transitory spikes or reflect ongoing structural changes driven by policy measures.

Given rising regulatory scrutiny, fintech competition, and expectations for operational efficiency in PSBs, it's imperative to know whether demonetization was a catalyst for a more robust and varied income portfolio or if it only caused transient changes without long-lasting effect.

Based on quantitative trends, comparative analyses, and structural insights, **the research gap is thus in the absence of focused, in-depth, and bank-specific study into the effect of demonetization on PSBs' non-fund-based revenue. By investigating the degree, sources, and sustainability of NFBI changes in India's public banking sector after demonetization, this study hopes to fill this gap hence adding new knowledge to the academic and policy discussion on bank resilience and reform results.**

3.3 Identify Need For The Study

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

Particularly PSBs, the Indian banking system is a major cornerstone for promoting financial inclusion, credit delivery, and economic growth. Historically dependent on fund-based income mostly derived from interest on loans and advances, PSBs have come under growing pressure to diversify their revenue streams following collapsing interest margins, growing non-performing assets (NPAs), and fierce rivalry from PB and fintech players. Non-fund-based income (NFBI), which encompasses commissions, fees, and service charges, has become a vital element of sustainable banking profitability in this context.

November 8, 2016, demonetization policy—which abruptly nullified ₹500 and ₹1000 currency notes—marked a watershed moment in India's monetary and financial scene. This change in policy caused a quick and coerced influx of money into the banking system, which caused temporary liquidity excesses, more activity in bank accounts, and a spike in digital payments. Although a lot of the academic and policy attention has concentrated on the macroeconomic implications and fund-based performance of banks post-demonetization, not enough research has been done on the particular effect of this change on NFBI—particularly within public sector banks.

This study is absolutely necessary for a number of good reasons. Strategic Significance of NFBI in PSBs: NFBI offers a comparatively consistent and fee-driven revenue source as interest-based income becomes more volatile due to economic cycles and policy rate changes. Assessing the adaptive capacity and financial condition of PSBs depends on knowing how demonetization affected this element.

Revenue diversification and resilience: Demonetization resulted in more cross-selling of third-party goods, ATM transactions, fund transfers, and digital banking service use. NFBI benefits from these services among others. Determining whether these developments resulted in significant and long-lasting NFBI expansion can inform future plans for revenue diversification.

The government and the RBI (RBI) started demonetization with larger objectives including controlling black money, encouraging digitizing, and formalizing the economy. Studying its effects on PSBs' NFBI can offer a feedback mechanism to evaluate the financial sector results of this strategy and improve next monetary actions.

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

With a majority of market share in Indian banking, PSBs serve a big, sociolect-economically varied clientele. Most of the published research, however, concentrate on private and foreign banks or generalize results across All banks. Concentrating on PSBs addresses a critical gap in academic investigation and offers ideas for government-run financial institutions.

Post-demonetization banking transformation has redefined service delivery paradigms in PSBs by way of forced digitizing and structural changes in client behavior. This study has to find out whether these developments have caused lasting changes in revenue generated from non-traditional sources.

Clear knowledge of how NFBI reacted to demonetization will assist bank executives and regulators in creating superior strategic, technical, and operational systems to boost income sustainability, especially in the face of impending policy shocks or market turmoil.

In summary, this research is not only vital to close knowledge gaps but also to provide empirical and pragmatic observations on how India's most important banking sector's financial architecture might be impacted by a large-scale economic event such Demonetization. It hopes to enable policymakers, regulators, and banking executives to make wise choices regarding income plans, policy design, and institutional resilience.

3.4 Objectives Of The Study

This research seeks mostly to investigate how the 2016 demonetization policy affected the non-fund-based income (NFBI) of PSBs in India. By doing so, the research aims to examine how a significant financial intervention affected income streams' composition, structure, and growth patterns outside of conventional interest earnings. Its purpose is to determine if demonetization served as a catalyst for greater dependency on fee-based services including digital transaction fees, ATM costs, commissions from third-party product sales, and service charges on remittances and cash handling. One main goal is to assess the relative trends in NFBI before and following demonetization to see if the seen changes were short-term reactions to the policy or reflected more permanent structural alterations. Along chosen public sector banks, the research also aims to pinpoint variations in NFBI performance and

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

investigates the institutional and operational causes driving such differences. Moreover, it aims to learn to what degree formal banking activities following post-demonetization translated into ongoing NFBI improvements and growing digital adoption. Ultimately, the research aims to offer financial regulators, bank managers, and policy-makers ideas that may help them to create more resilient and varied income plans for PSBs in the changing economic environment.

- **To analyze impact of demonetization on NFBI in public banks.**
- **To study the future growth of NFBI in PSBs.**
- **To examine before and after demonetization impact on NFBI in PSBs.**

3.5 Hypothesis Of The Study

This research builds on the theory that the demonetization policy introduced in November 2016 had a major and measurable impact on Public Sector Banks' (PSBs) non-fund-based income (NFBI) in India. It is proposed that demonetization caused a positive change in the production of fee-based revenue streams by fostering a rapid inflow of cash deposits, hastening the adoption of digital banking platforms, and necessitating greater reliance of customers on formal banking channels. Income from transaction processing, service fees, digital banking use charges, and commissions on All ied financial services are among these. The study next speculates that, depending on variables like technical readiness, customer base composition, and operational efficiency, the shifts in NFBI seen during the immediate post-demonetization period may vary in degree and sustainability across several PSBs. The main assumption also ponders the possibility that while demonetization could have sparked a short-term increase in NFBI because of more banking activity and digital transactions, the long-term effect may not have been consistent throughout every institution. Thus, the research examines if demonetization has caused a statically significant and long-lasting change in the NFBI profile of PSBs, hence supporting their income diversification and financial stability in a changing economic scene.

- **Null hypothesis (H0) :-** There is no significant effect on NFBI of PSBs before and after demonetization.

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

- **Alternative hypothesis (H1) :-** There is significant effect on NFBI of PSBs before and after demonetization.

3.6 Research Methodology

To investigate and assess the effects of demonetization on the non-fund-based revenue (NFBI) of PSBs in India, this study employs a descriptive, analytical, and quantitative research approach. Secondary data from verified and recognized sources including yearly financial reports of chosen PSBs, RBI (RBI) statistical releases, Indian Banks' Association records, Ministry of Finance documents, and financial databases like CMIE Prowess, Capitalize, and bank disclosures are used for the study. With data spanning ten years—from the financial year 2011–12 to 2020–21—therefore spanning five years before and five years after demonetization, the study uses a longitudinal design. This timeline enables a better knowledge of the structural change brought on by demonetization, if any, and helps to find NFBI patterns both short-term and long-term.

Representative set of prominent PSBs like SBI, PNB, BOB, Canara Bank, and Union Bank Of India are chosen using a deliberative sampling method. These banks have been selected on their size, consumer base, national presence, and data accessibility on a regular basis. Emphasis is on the non-fund-based income, which covers revenue from fees, commissions, service charges, transaction fees, and cross-selling of financial products. The study considers demonetization as the main independent variable, classified according to pre- and post-demonetization periods; NFBI serves as the dependent variable. Control variables like total business, branch network, digital transaction volume, and Int. Income are also taken into account to address the scale and operational capacity of each bank.

Descriptive statistics for summarizing trends and performance; paired sample t-tests to compare NFBI before and after demonetization; Analysis of Variance (ANOVA) to assess changes throughout time intervals and institutions; and regression analysis to investigate the strength and nature of the association between demonetization and NFBI, while controlling for other influencing variables are some statistical tools and techniques used to interpret and validate the data. Software applications like SPSS,

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

Excel, or STATA help to execute the analysis efficiently and guarantee statistical accuracy.

This approach generally offers a systematic and evidence-based framework to investigate the connection between a major monetary reform—demonetization—and an important element of bank income—NFBI. It lets the researcher reach insightful conclusions regarding the efficacy of policy actions and their financial consequences for PSBs in India.

3.6.1 Scope Of The Study

The effect of demonetization on the non-fund-based income (NFBI) of chosen PSBs in India is the scope of this study. Giving a complete perspective of trends before and after the demonetization event of November 2016, it spans 2011–12 to 2020–21. The study focuses especially on NFBI elements like commission income, service charges, transaction fees, processing fees, income from digital banking, and revenue from third-party product distribution—All of which are major sources of income not directly connected to lending activity. The investigation is restricted to significant PSBs like SBI, PNB, BOB, Canara Bank, and Union Bank Of India—chosen for their size, public ownership, and access to credible financial information.

Geographically limited to India, the research deliberately eliminates foreign banks and the private sector in order to preserve a uniform framework for analysis and especially evaluate the policy effect on publicly owned organizations. The study employs secondary data sources including government publications, RBI reports, and audited financial statements, then uses several statistical methods to assess NFBI variations over time. Although the research mostly looks at quantitative financial metrics, it also tries to analyze the larger policy ramifications of demonetization on PSB revenue diversification, digital transformation, and service distribution strategies. It does not, however, get into the customer-level behavioral features or the qualitative experiences of bank staff or consumers. The conclusions of this research seek to assist financial regulators, legislators, and banking companies in grasping the financial repercussions of major-scale monetary policy changes and in planning strategic reactions to future systematic shifts.

Concentrate on income not founded on funds:

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

Particularly on the non-fund-based income of public sector banks—income from service fees, commissions on outside goods, processing charges, transaction fees, digital banking fees, and other non-interest-based sources—the study focuses. It neither examines fund-based revenue such as interest from loans or investments.

Time Range:

The study spans a decade, from 2011–12 to 2020–21, hence five years before and five years following demonetization. This lets the research assess both immediate effects and long-term structural changes brought on by the policy.

India's geographical scope:

Geographically limited to India, the research examines solely the Indian banking industry, especially PSBs active in the nation.

Institutional Orientation: PSBs

The investigation only covers banks owned by the government. These are institutions where the Indian Government has most of the ownership. To keep consistency in ownership structure and policy effect, the performance of private, foreign, collaborative, or regional rural banks is excluded.

Bank selection criteria:

Based on their size, national presence, market share, and data availability, a few prominent PSBs are chosen. These might include SBI, PNB, BOB (BOB), Canara Bank, and Union Bank Of India. These Indian banking institutions are examples of the greater public sector.

Use of Secondary Data:

The study depends entirely on secondary information from CMIE Prowess as well as annual reports of banks, RBI papers, Ministry of Finance documents, Indian Banks' Association (IBA) reports, and financial databases. No original data—surveys or interviews—is gathered.

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

Comparative Analysis:

This makes it easier to determine whether demonetization caused a structural change or only a transient disturbance in income patterns.

Quantitative and Statistical Methodology:

To assess the relevance of changes in NFBI over the chosen institutions and period, the research employs quantitative approaches backed up by statistical tools including descriptive analysis, paired sample t-tests, ANOVA, and regression analysis.

Income Linkage and Digital Banking:

The study investigates how demonetization affected digital banking adoption, which is highly related to non-fund-based income via transaction fees, digital service charges, and sales of digital products.

Policy-Oriented Insights:

By emphasizing the need of NFBI during significant changes in monetary policy, such as demonetization, the research intends to provide bank managers, legislators, regulators, and academics with important insights. It offers evidence to back up strategic planning and income diversification in PSBs.

3.6.2 Sampling Size

To choose a representative group of PSBs in India for this study, a purposive sampling method has been used. Five main PSBs that are nationally significant in terms of size, customer base, asset volume, and availability of reliable financial data make up the sample. Directly affected by policy developments including demonetization, these banks have a widespread operating footprint across India. Selecting this sample size guarantees depth and comparability while also keeping data analysis manageable over a 10-year period (2011–12 to 2020–21). This sample should represent more general industry patterns in non-fund-based income (NFBI) across the public banking environment in India. The choice of banks also takes into account data completeness and homogeneity in financial indicator reporting pertaining to NFBI. The sampling size strikes a balance between broad coverage and focused study, guaranteeing meaningful interpretation of results without sacrificing data quality.

**IMPACT OF DEMONETIZATION ON NON FUND BASE
INCOME OF PUBLIC SECTOR BANKS IN INDIA
PUBLIC SECTOR BANKS**

NO.	LIST OF PUBLIC SECTOR BANKS
1.	BOB
2.	SBI
3.	BOI
4.	BOM
5.	Central Bank Of India
6.	Canara Bank
7.	Indian Bank
8.	Indian Overseas Bank
9.	PNB
10.	Union Bank Of India
11.	UCO Bank
12.	P&S Bank

3.6.3 Sampling Technique

The study uses census sampling, whereby the sample comprises All PSBs active in India. This approach is selected to guarantee thorough coverage and to prevent sampling bias. Being government-owned institutions, PSBs have comparable regulatory frameworks, governance arrangements, and developmental goals, therefore they are appropriate for comparative analysis. Including All PSBs improves the representativeness of the study and offers a whole picture of how demonetization affects their non-fund-based income (NFBI). Furthermore, this inclusive strategy helps one to more precisely evaluate industry-wide trends, institutional differences, and the general impact of legislative actions. Data from RBI publications, bank annual reports, and

IMPACT OF DEMONETIZATION ON NON FUND BASE

INCOME OF PUBLIC SECTOR BANKS IN INDIA

vetted financial databases is gathered to guide selection depending on data availability, reporting consistency, and relevance to the research issue. Covering the whole PSB population guarantees statically valid, policy-relevant, and reflective findings of the actual conditions in India's public banking scene.

3.6.4 Period Of The Study

Chosen to examine the effects of demonetization on the non-fund-based income (NFBI) of PSBs in India, the ten financial years from **2011–12 to 2020–21** make up the time under study. This ten-year period is divided into two different phases: **the pre-demonetization period (2011–12 to 2015–16) and the post-demonetization phase (2016–17 to 2020–21)**. The pre-demonetization phase offers a baseline for comparison by capturing the typical operations and income structure of PSBs under constant financial circumstances. Conversely, the post demonetization stage shows how the banking industry reacted to the sudden and large-denomination currency withdrawal on November 8, 2016, which resulted in more banking activity, a rise in deposits, quick digital adoption, and shifts in consumer attitude.

This time period helps the research to investigate whether the rapid short-term effects of demonetization on NFBI—such as higher service charges, ATM consumption fees, and digital transaction income—also reflected sustained, long-term changes in the income models of public sector banks. Post-demonetization, too, has significant outside events including bank mergers, the drive for digital India, and the COVID-19 epidemic, All of which are thoroughly examined to ascertain the long-run consequences on NFBI. Studying a balanced period before and after demonetization helps the study provide a thorough grasp of how this big financial change affected the diversification, stability, and development of non-Int. Income in India's public banking system.

3.6.5 Source Of The Study

To guarantee the validity and credibility of the research results, this study depends entirely on secondary data obtained from trustworthy, genuine, and publicly accessible sources. Secondary data fits this study especially well as it entails the examination of historical financial trends across a specified period (2011–12 to 2020–21), spanning the years prior and after demonetization. Annual reports of PSBs are

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

one of the main sources of information as they include thorough financial disclosures pertaining to non-fund-based revenues including fees, commissions, service charges, and other operating income. Published and audited yearly, these reports provide homogeneous and standardized data across banks in statutory documents.

Along with bank reports, the study makes use of data from RBI (RBI) publications, including Statistical Tables Relating to Banks in India, Report on Trend and Progress of Banking in India, and Handbook of Statistics on the Indian Economy. These sources offer summarized and comparative statistics on banking performance, legislative developments, and industry-wide financial indicators. Further, information is gleaned from reports released by the Ministry of Finance and the Indian Banks' Association (IBA), as well as from confirmed financial databases like CMIE Prowess and Capitoline, which collect thorough financial statements and ratios throughout time.

Using secondary data Allows for effective longitudinal analysis across several institutions and years, therefore guaranteeing the objectivity and repeatability of the research. Without the prejudices that may come from primary surveys or interviews, this approach helps a methodical and data-driven assessment of how demonetization affected non-fund-based revenue in public sector banks.

3.6.6 Financial Tool

Five main financial indicators are used as analytical instruments in this study to evaluate how demonetization affects the non-fund based income (NFBI) of PSBs in India. The objective of these ratios is to provide a thorough knowledge of how non-fund income helps to the financial performance and structural stability of banks. The proportion of non-interest revenue in the total income flow, emphasizing the degree of income diversification, is measured by the Non-Fund Based Income to Total Income Ratio. The ratio of non-fund-based income to total assets assesses how effectively assets are used to produce service-based income. Likewise, the Ratio of Non-Fund Based Income to Investments reveals how effectively a bank uses its assets to generate non-lending revenue including commissions and fees. While the Ratio of Non-Fund Based Income to Long-Term Funds offers information on the productivity of long-term financial resources in supporting sustainable non-fund income, the Ratio

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

of Non-Fund Based Income to Owner's Fund evaluates how successfully the bank is using shareholders' equity to create alternate revenue. Offering insightful information on the operational flexibility and financial resilience of PSBs in the face of significant economic change, these financial instruments together allow a thorough and comparative study of income trends before and after demonetization.

Here researcher used five accounting ratios for the study. List is given below.

- 1) Ratio of NII(NII) to total income of PSBs.
- 2) Ratio of NII to total assets of the PSBs.
- 3) Ratio of NII to investment of the PSBs.
- 4) Ratio of NII to owner's fund of the PSBs.
- 5) Ratio of NII to long term fund of the PSBs.

3.6.7 Statistical Tool

Two statistical techniques—Two-Way ANOVA and the Paired t-Test—were used to evaluate whether demonetization had a notable effect on the Non-Fund Based Income (NFBI) of public sector banks. These instruments evaluate statistics across time periods and among several financial institutions to see if the noted discrepancies are statically meaningful.

1. Two-Way Analysis of Variance

Goal:

Components of formula:

Based on the number of groups, degrees of freedom (df) are

Mean Square (MS):

$F\text{-statistic} = \text{MS between} / \text{MS within}$ $F\text{ calculated} > F\text{ critical}$

Application in Study:

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

Used to compare NFBI ratios across many banks (rows) and years (columns) to find notable variance owing to demonetization and institutional differences.

2. Paired t-Test

Uses:

Lets Mean of the paired value differences.

s = Standard deviation of the differences.

n: Number of pairs

The t-statistic is next:

Decision Rule: reject the null hypothesis if $|t \text{ calculated}| > t \text{ critical}$;

Application in Study:

To evaluate the effects of demonetization, each bank's NFBI ratios in the pre-demonetization period (2011–2016) were compared to those in the post-demonetization period (2017–2021).

Conclusion:

Backed by their own formulas and significance thresholds, Two-Way ANOVA and Paired t-Test give a statically valid approach for assessing whether demonetization had a significant influence on NFBI in public sector banks. These instruments enable time-series as well as cross-sectional knowledge of the impact of the policy change.

3.7 Nature Of The Study

Descriptive and analytical in character is the study "Impact of Demonetization on Non-Fund Based Income of PSBs in India. " Before and following the demonetization incident of November 2016, it seeks to identify and characterize the patterns and trends in non-fund based income (NFBI) among public sector banks. Using a longitudinal methodology, the study spans ten financial years (from 2011–12 to 2020–21), thereby encompassing the time both before and after demonetization, which Allows for a clear temporal comparison to evaluate long-term effects. Based on numerical data including financial ratios and performance indicators obtained from secondary sources like RBI publications, bank annual reports, and government

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

databases, the study uses a quantitative approach. Its design is empirical since it is grounded in real data rather than theoretical hypotheses, therefore the results are more realistic and useful.

The study employs suitable statistical techniques—specifically Two-Way ANOVA and Paired t-Test—to examine if the observed changes in NFBI are statically significant in order to guarantee precision in measuring the impact of demonetization. By paying attention to public sector banks, one can ensure consistency in goals and operational characteristics, therefore averting sample bias and making the study sector-specific. Furthermore, the study has a policy-evaluation direction that examines how a significant government action affected the change from conventional fund-based to digital and fee-based income. The comparative design of the study, including several banks and time frames, helps to pinpoint how various institutions were differently affected based on elements including technical advancement, customer base, and operational preparedness. Descriptive, analytical, and empirical components are integrated in this work to offer a thorough view of how demonetization affected non-fund-based revenue in India's public sector banking sector.

3.8 Significance Of The Study

➤ Understanding the Structural Change in Bank Revenue Models

Revealed in November 2016, demonetization caused a massive change in income creation by PSBs in India. These banks had depended mostly on fund-based income—mostly interest made on loans and advances—traditional. But, because of muted credit demand and a liquidity overhang, demonetization caused a rapid influx of deposits, decreased cash flow, and a brief decrease in borrowing activities.

Banks were therefore forced to broaden their revenue sources to maintain profitability throughout this period of economic transformation. This circumstances caused a fresh emphasis on non-fund-based income (NFBI)—including service charges, transaction fees, commissions on insurance and mutual fund sales, remittance services, and digital banking services. Directly supporting a rise in fee-based income was the increase in digital transactions (via UPI, NEFT, RTGS, IMPS, debit/credit cards, etc.).

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

Moreover, banks began taking advantage of chances like debit card distribution, payment processing, value-added services provision, and third-party financial product sales to create consistent non-interest revenue. This change signaled a major change in the revenue strategy from interest-concentric to service-oriented income creation.

Studying this structural change aids one in grasping how policy initiatives such as demonetization could alter the financial environment, hence pushing companies to be creative and change their business models. It emphasizes the urgent necessity for Indian PSBs to create a more diversified and resilient income base that may resist economic swings and lessen overdependence on conventional lending-based revenues.

➤ Assessing Bank Adaptability and Resilience

The research looks at how PSBs reacted to the abrupt and unsettling policy shift brought about by demonetization. Examining NFBI before and after the event offers knowledge about the resilience and flexibility of banks in times of crisis. Some banks with strong digital infrastructure and a wide range of services were able to swiftly adapt and seize on the change in consumer behavior. The study clarifies which organizations were more agile and tech-ready, therefore teaching the need of operating agility and digital preparedness in the face of economic downturns.

➤ Helping to shape policy formation and assessment

Important economic changes with broad consequences resulted from demonetization. This study offers actual knowledge about how such policy measures impact the internal financial dynamics of banks, particularly in terms of income composition. For legislators and regulators wanting to grasp the real effects of economic policies, the results are quite important. The results can help guide the development of next policies aimed at modernizing banking, accelerating digital acceptance, and improving public sector income diversification.

➤ Helping to direct upcoming revenue diversification initiatives

The study shows that non-fund based income was essential to keeping financial stability throughout the post-demonetization era when conventional lending income was under strain. This highlights how crucial it is to diversify sources of revenue beyond Int. Income. The results suggest a strategic change toward fee-based products

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

and services, including financial advisory, digital banking offerings, and third-party product distribution (insurance, mutual funds, etc.), therefore assisting banks in the long run in developing sustainable, low-risk revenue portfolio.

➤ Contribution to Academic Literature

By concentrating on non-fund based income—a rather understudied field—this study adds value to academic and empirical debates on banking and economic policy. It offers clear data and analysis on the effects of demonetization on a main component of bank profitability. The study enhances the body of literature on income structure changes and strategic adaption in public sector banking by bridging the gap between macroeconomic policy events and micro-level financial performance.

➤ Improving Customer Service Systems

The study indirectly looks at consumer interaction with digital platforms and their willingness to pay for services by assessing the rise in income generated from service-based activities. This knowledge enables financial institutions to reevaluate their fee arrangements, customer segmentation, and service delivery systems. Encouraged by the findings, banks should improve user experience, customize digital products, and approach a more customer-centric perspective to increase both usage and income.

➤ Comparative temporal and institutional analysis

The study examines NFBI trends across a decade (2011–2021), so encompassing both pre- and post-demonetization eras. Furthermore, it enables inter-bank comparisons among top public sector banks, therefore highlighting best practices and operational inefficiencies. Such comparative insights are essential for bench marking performance, spotting strategic gaps, and promoting the use of successful models across institutions.

➤ Promoting Digital Invention

Strong motivation for banks to keep investing in technology, internet channels, and cyber security comes from the proof of NFBI expansion resulting from digital banking services following demonetization. The research highlights the direct economic advantages of digital innovation, therefore emphasizing the necessity of modernization and technological-driven transformation in PSBs to stay competitive and ready.

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

➤ Standard for upcoming studies

The results of this study establish a starting point for subsequent research on financial reforms and their microeconomic repercussions. It offers a benchmark against which policy-driven impacts may be assessed by linking demonetization with changes in NFBI. Researchers can build upon this work to investigate comparable income effects in other sectors or countries, particularly in developing economies with extensive public banking infrastructure.

3.9 Limitation Of The Study

➤ Time-Bound Analysis

In order to assess the effect of demonetization on the non-fund based income (NFBI) of public sector banks, the study concentrates on a particular time period—2011–12 to 2020–21. Although this time spans the immediate years before and following the demonetization event of November 2016, it may not adequately represent the long-term structural and behavioral changes in the banking environment.

Non-fund based revenue sources—namely service fees, digital transaction fees, and commission-based services—often see incremental and compounding effects determined by customer acceptance, digital literacy, infrastructure growth, and policy changes. Particularly in a developing country like India, where uptake of new banking technology and methods can vary greatly across areas, these changes might take several years to settle or fully appear.

External developments like the growth of fin tech, government-led financial inclusion initiatives (such as PMJDY), and the COVID-19 epidemic in 2020 have also contributed to the quickening of digital adoption and to alter customer behavior. Within the chosen study window, these several interacting elements might either conceal or amplify the effects ascribed just to demonetization.

Although the 10-year period yields insightful information, it is insufficient to properly distinguish brief events from permanent trends or to capture ongoing changes. To assess post-demonetization maturity effects including the stabilization of digital platforms, fee structure changes, and normalization of consumer transaction behavior, one would need a longer or rolling time-series study stretching beyond 2020–21.

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

➤ Limited Scope Of Bank

The sole concentration of this study on chosen PSBs while leaving other significant areas of the Indian banking environment such as private sector banks, cooperative banks, regional rural banks (RRBs), and foreign banks outside is one of its main drawbacks. Although PSBs are quite important in the Indian financial system particularly for outreach and government-driven directives, excluding other banking companies limits the scope, variety, and comparative richness of the investigation.

Private sector banks, for example, often have quicker adoption of digital systems and technological agility as well as sometimes more dynamic fee-based income models. Their reaction to demonetization might have varied greatly from that of PSBs, especially in fields including digital banking, UPI integration, and service innovation. Particularly when evaluating non-fund based income (NFBI) growth, ignoring these organizations can lead to missed alternative models of resilience and adaptability.

Cooperative and local rural banks likewise serve a sizable rural and semi-urban population whose digital adoption and banking practices clearly vary. Their demonetization experience might provide insightful financial inclusion and service-based income potential in under banked regions in both difficulties and opportunities in fee-based services.

Furthermore, though fewer in number, foreign banks operating in India adhere to global standards and mostly emphasize wealth management, trade finance, and cross-border transactions—All major contributors to NFBI. Omitting these institutions means foregoing a possibly illuminating worldwide comparison or benchmark on how banking strategies adjusted to abrupt policy changes.

The overall generalization of the results is impacted by this limited range. The results obtained are mostly representative of PSBs and might not precisely capture the more varied Indian banking scene. One cannot confidently apply the understandings about the performance, resilience, or revenue diversification strategies of banks during demonetization to the whole industry.

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

Focusing on PSBs therefore enables depth in one area but also restricts the whole knowledge of the system-wide effects of demonetization on non-fund based income. Future studies might help to improve the relevance, accuracy, and applicability of results to the changing financial scene of India by means of a comparative multi-bank analysis across several types.

➤ External Economic Factors Not Controlled

The inability to completely segregate the effect of demonetization from other significant macroeconomic and policy-driven events during the study period (2011–12 to 2020–21) is another major drawback of this study. Although the study seeks to determine how demonetization affects non-fund based income (NFBI) of public sector banks, the Indian economy saw many concurrent events that could have simultaneously impacted banking performance and income models.

One such event is the adoption of the Goods and Services Tax (GST) in July 2017, a major tax change that completely changed the way companies run, report, and handle cash flows. Direct consequences of GST are seen in banking services, particularly in business transactions, service charges, trade finance, and compliance-based fee revenue. It is challenging to assess how much of the variation in NFBI during the post-demonetization phase results directly from demonetization as opposed to GST-related business reorganization or new banking service requirements.

In 2018, the Infrastructure Leasing and Financial Services (ILandFS) crisis shook the financial markets and resulted in major credit restrictions, decreased investor confidence, and more general liquidity issue in the banking and NBFC industries. Banks' investment behavior, risk appetite, and perhaps their non-fund based activities including guarantees, underwriting, and fee-based services—particularly in infrastructure-connected industries—were all affected by this crisis.

Adding yet more complexity to the study is the COVID-19 epidemic in 2020, which brought unheard-of economic shocks including lockdowns, fewer branch client visits, lower economic activity, and government-mandated loan repayment moratoriums. These factors changed consumer behavior, transaction volumes, and the application of digital banking services rather dramatically. The ensuing changes in NFBI—whether boosts from more digital activity or decreases caused by fee waivers and economic

IMPACT OF DEMONETIZATION ON NON FUND BASE INCOME OF PUBLIC SECTOR BANKS IN INDIA

stress—may not represent the after-effects of demonetization but rather the immediate fall out from a worldwide crisis.

These events have temporal coincidence with the study period and may have independently or together affected the NFBI of public sector banks. Because the study does not use a model able to account for or separate these exterior influences, there is a possibility that the observed variations in NFBI could be partly or mostly assigned to these other causes rather than just demonetization.

Finally , although the research provides insightful knowledge about the trends of NFBI during the demonetization time, it cannot claim a clear causal relationship because other significant economic events are also present. Further studies using econometric modeling or time-series intervention analysis could enable the unfixing of these intersecting consequences for a more obvious attribution of cause and effect.