



# **A COMPARATIVE STUDY OF THE NATIONAL PENSION SCHEME (NPS) AND THE OLD PENSION SCHEME (OPS): ASSESSING THEIR FISCAL SUSTAINABILITY AND IMPACT ON ECONOMIC GROWTH IN INDIA**

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## **ABSTRACT**

*The National Pension Scheme (NPS) and the Old Pension Scheme (OPS) in India are thoroughly examined in this report, along with their respective fiscal sustainability and wider effects on economic growth. The study explores the key design distinctions between these two pension models—NPS, a defined-contribution, market-linked system, and OPS, a defined-benefit, unfunded system—and looks at the significant ramifications of these differences. A crucial conflict between immediate political concerns and long-term economic prudence is highlighted by the ongoing discussion, especially the decision by a number of Indian states to switch back to OPS.*

*According to key findings, OPS presents an unsustainable fiscal burden by its very nature. Government capital expenditure is severely constrained by this sizeable liability, which has the crowding-out effect of impeding long-term economic growth. On the other hand, NPS actively supports infrastructure development and capital market deepening, which promotes economic growth, by mobilizing long-term savings and directing them into a variety of market instruments. An ongoing policy iteration to strike a balance between guaranteed benefits and fiscal viability is reflected in the creation of the Unified Pension Scheme (UPS).*

*The analysis comes to the conclusion that a strong commitment to pension reforms that give priority to funded, sustainable models is necessary to uphold fiscal restraint and promote strong economic growth. Avoiding a mass switch back to OPS, bolstering state coffers, expanding the appeal and reach of NPS, and pursuing ongoing actuarial evaluations within a comprehensive social security framework are the main policy recommendations.*

**KEYWORDS:** National Pension Scheme, Old Pension Scheme, Fiscal Sustainability, Economic Growth, Financial burden, GDP, etc.

## **INTRODUCTION**

India's pension system has experienced a notable change, evolving from a traditional defined-benefit approach to a contemporary defined-contribution model. The Old Pension Scheme (OPS), which was heavily influenced by British colonial administrative methods, ensured that government employees received a fixed monthly pension after retirement. This scheme served as a vital element of social security for civil servants, offering a reliable income stream, typically amounting to 50% of their last drawn basic salary, along with adjustments for Dearness Allowance (DA). However, the fundamental structure of OPS, being unfunded, implied that pension payments were sourced directly from the government's ongoing revenues on a pay-as-you-go basis, lacking a designated fund. By the early 2000s, concerns about the increasing and unmanageable financial strain of OPS had become more evident. This prompted a crucial policy change, leading to the termination of OPS in 2004 and the launching of the National Pension System (NPS) on January 1, 2004. Initially, NPS was mandatory for new central government employees (except the armed forces), but it was later made available voluntarily to all Indian citizens, including those in the private and unorganized sectors, in 2009. This change represented a significant shift from an unfunded, defined-benefit (DB) system to a funded, defined-contribution (DC) system, aimed at mitigating the financial weaknesses of the earlier framework.

## **LITERATURE REVIEW**

1. Dr. Sanjay Premchandani (2024), "Comparative Study of Old and New Pension Scheme and Its Impact on Socio- Economic Status of Government Employees in Mumbai Region". The objectives of the study were to compare the Old Pension Scheme and National Pension Scheme and to determine the impact of both schemes on employees. The findings of the study were that employees prefer Old Pension scheme than New Pension scheme in terms of financial security, social security and economic stability. The conclusion of the study was to introduce a Guaranteed Pension Scheme to combine the benefits of both the schemes.



2. Dr. Abhishek Kumar, Rashmina and harikesh Yadav (2024), “A Comparative Analysis of Government Employee Retirement Pension Schemes in India: A Case Study of OPS and NPS”. The objectives of the study were to analyse the OPS and NPS and to determine the effectiveness of NPS over OPS. The findings of the study were that the employees are the valuable assets of an enterprise and must be compensated diligently. The conclusion of the study was that OPS is a financial burden on the government.

3. Anubhav Mishra (2024), “Comparative Study on India’s Pension Systems: Old (OPS) v. New (NPS)”. The objective of the study was to determine the reasons behind the growing demand of OPS over NPS. The finding of the study was that the family members of a deceased employee suffer financially with regard to gratuity and pension if the period of service is short. The conclusion of the study was that the OPS applies to only government employees, whereas NPS tries to cover the whole working population.

4. Dr. Prayank Sharma (2024), “A Review -Comparative Study of Old and New Pension Scheme”. The objective of the study is to compare the OPS and NPS on various bases. The finding of the study was that the state governments spend 25% of their revenues on OPS. The conclusion of the study was that the government was facing a financial crisis due to OPS before the introduction of NPS.

### RESEARCH GAP

The Literature Reviews of several studies revealed that many research works were undertaken on the comparison of Old Pension Scheme and New Pension Scheme with regard to social security, financial security etc. but a comparative study of the National Pension Scheme (NPS) and the Old Pension Scheme (OPS) with regard to assessment of fiscal sustainability and the impact of these pension schemes on the economic growth of India has ample scope of research to be worked upon. The study will explore the impact of both schemes on the fiscal sustainability and on the economic growth of India through a comparison of the National Pension Scheme and the Old Pension Scheme.

### SIGNIFICANCE OF THE STUDY

Significance of the Study:

1. The comparison of OPS and NPS with regard to fiscal sustainability will reveal the fiscal feasibility of the schemes.
2. The comparison of OPS and NPS with regard to economic growth will facilitate the impact of both schemes on the Indian economy.
3. The comparison of OPS and NPS will reveal the effect of both schemes on the financial health of the Indian economy.
4. The comparison of OPS and NPS will facilitate policy decisions related to pension reforms.
5. The comparative analysis of NPS and OPS will provide a better understanding of the strengths and weaknesses of each scheme, enabling policymakers to make informed decisions.
6. The study will determine the impact of NPS and OPS on economic growth, which will provide insights for policymakers to design pension schemes that support economic development.

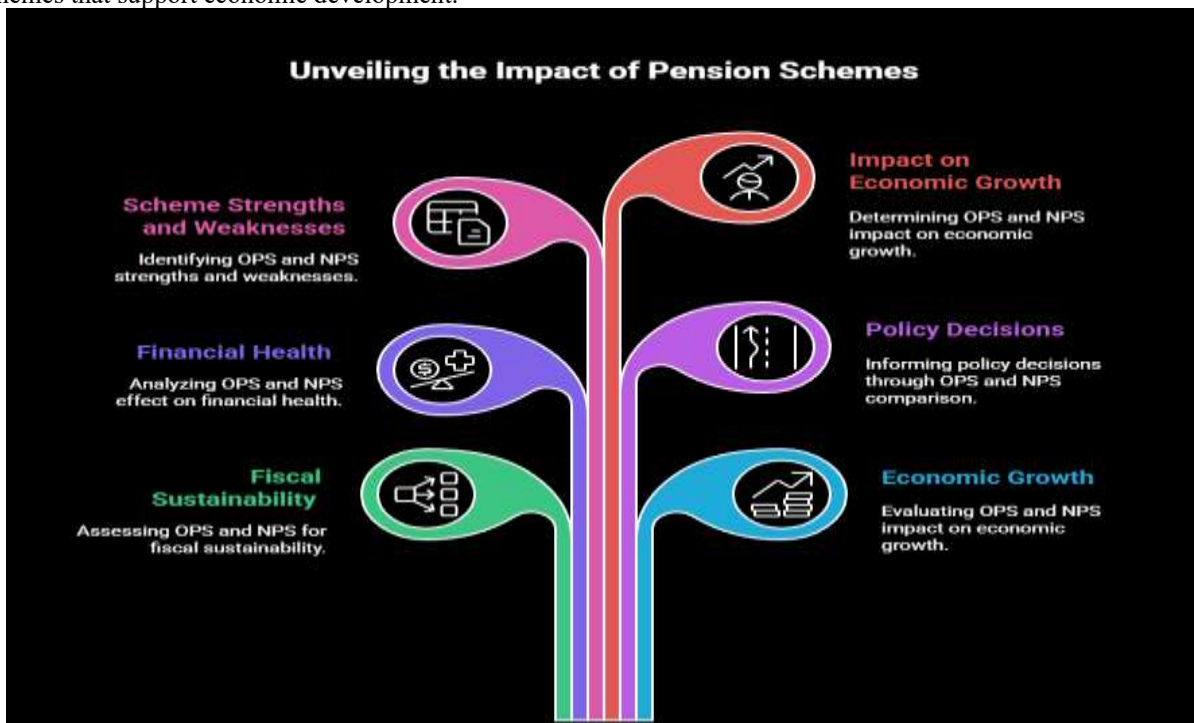
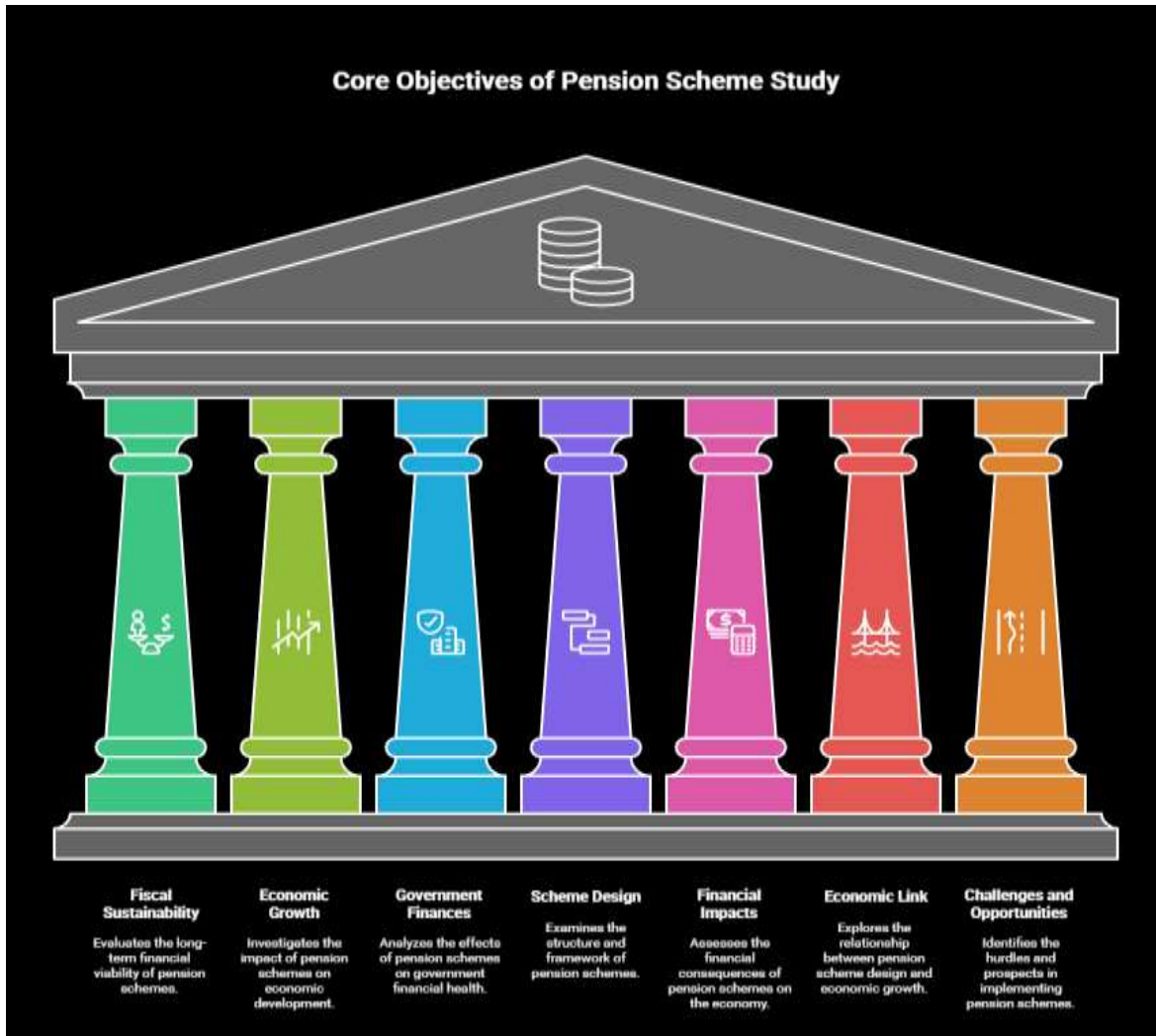


FIG. NO.: 01: SIGNIFICANCE OF THE STUDY

**OBJECTIVES OF THE STUDY****Primary Objectives:**

1. To evaluate the fiscal sustainability of the National Pension Scheme (NPS) and the Old Pension Scheme (OPS) in India.
2. To investigate the influence of NPS and OPS on India's economic growth.
3. To analyze the effects of NPS and OPS on government financial health and fiscal stability.

**FIG. NO.: 02: OBJECTIVES OF THE STUDY****Specific Objectives**

1. To examine the design and framework of NPS and OPS and how they relate to fiscal sustainability.
2. To assess the financial impacts of NPS and OPS on government finances and economic progress.
3. To explore the link between the design of pension schemes and economic growth in India.
4. To identify both the challenges and opportunities that arise from implementing NPS and OPS in India.

**HYPOTHESES****Hypothesis-1:**

H0: There is no significant difference in fiscal sustainability between NPS and OPS.

H1: The National Pension Scheme (NPS) is more fiscally sustainable as compared to the Old Pension Scheme (OPS).

**Hypothesis-2:**

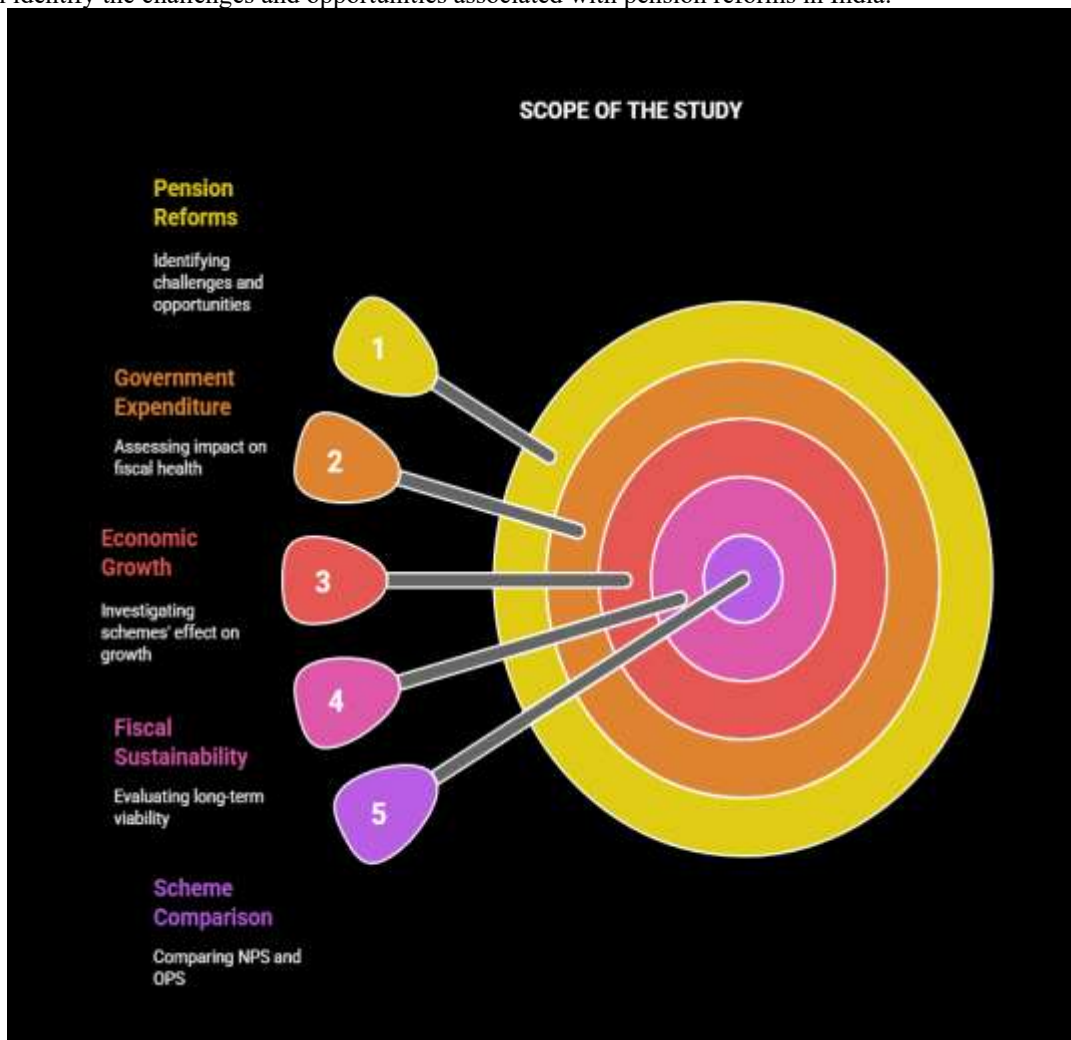
H0: The National Pension Scheme (NPS) and Old Pension Scheme (OPS) have equal or no significant influence on economic growth.



H1: The implementation of NPS has a more positive influence on India's economic growth than OPS.

### SCOPE OF THE STUDY

1. The Research work will cover a detailed comparison between the National Pension Scheme and the Old Pension Scheme on various terms.
2. The Research work will undertake the assessment of the National Pension Scheme and the Old Pension Scheme with regard to fiscal sustainability.
3. The Research work will cover a detailed investigation of the effect of both schemes on economic growth.
4. The Research work will undertake the study of the impact of pension schemes on government expenditure, fiscal deficit, and public debt levels.
5. The study will identify the challenges and opportunities associated with pension reforms in India.



**FIG. NO.: 03: SCOPE OF THE STUDY**

### LIMITATIONS OF THE STUDY

1. The study is limited to the comparison of the National Pension Scheme and the Old Pension Scheme.
2. The study is limited to the assessment of the impact of both schemes on the fiscal sustainability and on the economic growth.

### RESEARCH METHODOLOGY

Research Methodology will be partly exploratory, partly descriptive, and partly causal in nature.

The data and information collected for this research paper are from secondary sources.

- Research Design: The study conducted is partly exploratory, partly descriptive, and partly causal.



- Data: The secondary data is used in the study.
- Collection of data: The research is conducted to collect secondary data from sources like research papers, Journals, publications, websites, Reserve Bank of India, etc., for better reliability and accuracy.
- Tools and Techniques used: The statistical tools like Descriptive Statistics, Mean analysis, Sampling Techniques, and t-test is used.

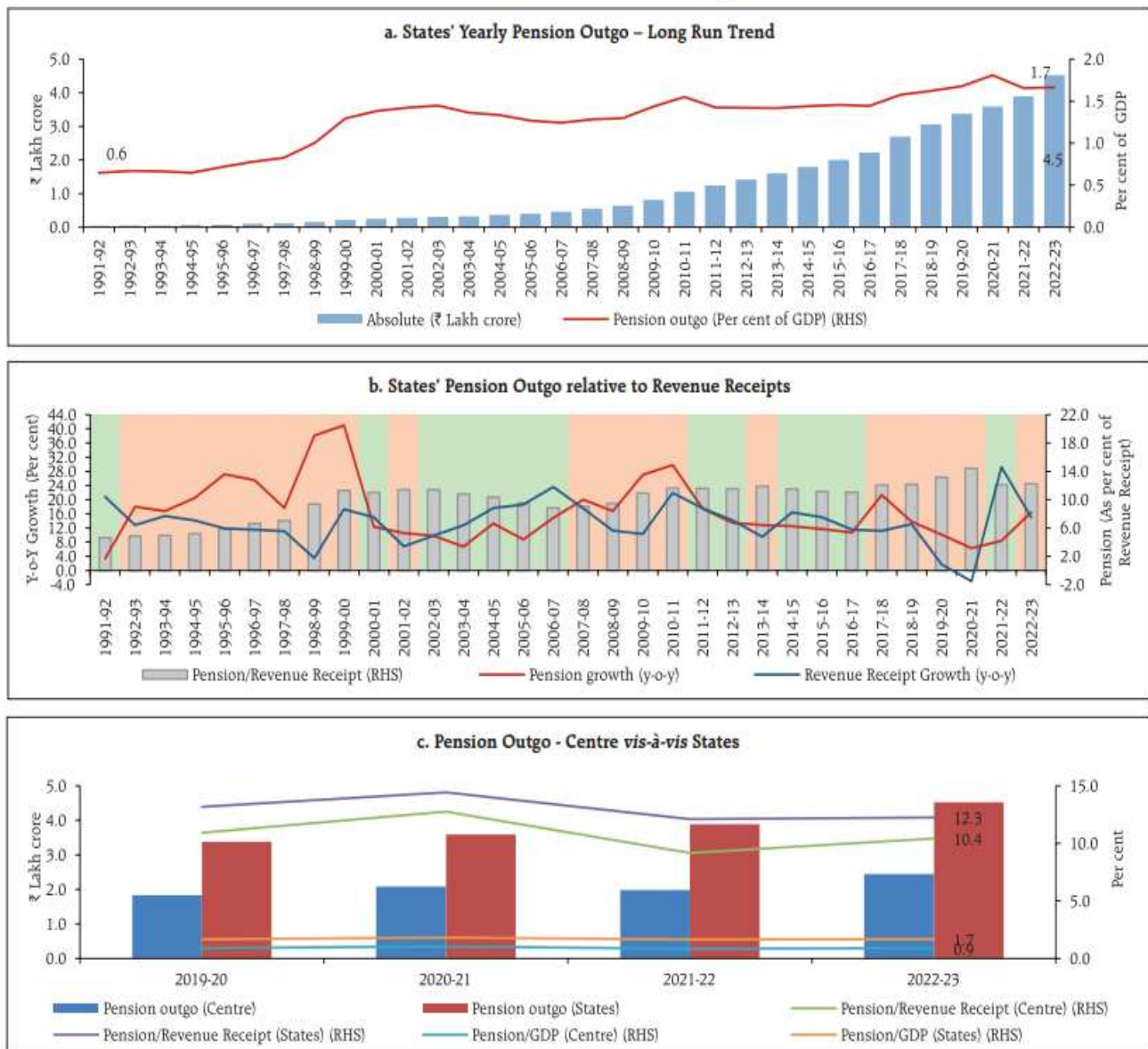
**TESTING OF HYPOTHESIS**

**Testing of Hypothesis-1**

H0: There is no significant difference in fiscal sustainability between NPS and OPS.

H1: The National Pension Scheme (NPS) is more fiscally sustainable as compared to the Old Pension Scheme (OPS).

**Chart 1: States' Pension Outgo**



Note: Data pertains to 28 States. Pension Outgo is inclusive of expenditure on 'other retirement benefits'.

Sources: State Finances: A Study of Budgets of 2022-23; and Union Budget documents.

**FIG. NO.: 04: PENSION OUTGO AND OF STATES AND CENTRE**



### Old Pension Scheme

The above chart shows the pension expenditure of the governments under the Old Pension Scheme.

The part 'a' of the chart shows States' Yearly Pension Outgo:

- i) The expenditure on pensions has consistently risen from ₹0.6 lakh crore in 1991–92 to ₹4.5 lakh crore in 2022–23.
- ii) As a share of GDP, it increased during the late 1990s and early 2000s, stabilized, and then experienced another rise after 2017, hitting 1.7% of GDP in 2022–23.

The part 'b' of the chart indicates the proportion of States' total revenue receipts that is spent on pensions. This ratio has shown high volatility.

- i) It generally trended upward in the initial years, peaking around **16.0 per cent** in the early 2000s (e.g., 2000-01).
- ii) It saw a noticeable decline in the mid-2000s, reaching a low of around **9.0 per cent** in 2005-06 and 2006-07.
- iii) Since then, it has fluctuated, showing an upward movement in 2010-11 (around 14.0%) and again towards the end of the series, reaching high levels around **13.0-14.0 per cent** in 2021-22 and 2022-23.

The part 'c' of the chart compares the pension burden of the States and the Centre for the last three years (2019-20, 2020-21, 2021-22, and 2022-23).

- i) The Centre's Pension Outgo (dark blue bar) is consistently lower than the States' Pension Outgo (red bar) in all four years.
- ii) In the year 2022-23, the Centre's outgo was ₹2.5 Lakh crore, while the States' outgo was ₹4.5 Lakh crore.
- iii) The Pension/Revenue Receipt (States) ratio (dark red line) is significantly higher than the Pension/Revenue Receipt (Centre) ratio (dark purple line) across all years.
- iv) In 2022-23, the States' ratio was 10.4 per cent, while the Centre's was much lower at 6.6 per cent, suggesting a greater strain on States' finances from the pension burden relative to their revenue receipts.
- v) The Pension/GDP (States) ratio (green line) is consistently higher than the Pension/GDP (Centre) ratio (orange line) across all four years.
- vi) In 2022-23, the States' ratio was 1.7 per cent, compared to the Centre's 1.0 per cent, indicating that States bear a larger overall pension burden relative to the national economy.

### New Pension Scheme

It is a defined contribution plan, in contrast to the Old Pension Scheme (OPS), which operates as a defined benefit plan. In the NPS, contributions come from both the employee and the employer (the government), usually at a rate of 10% each. The government's financial obligation is restricted to the contributions made, rather than future pension payments.

Example:

According to the Union Budget (2022–23):

- Centre's total pension outgo: ₹2.3 lakh crore
- NPS contributions: ₹25,000 crore
- GDP: ₹273 lakh crore (approximate)

NPS Contribution as % of GDP:  $25,000 / 27,30,000 = 0.09\%$  of GDP

BASIS	NPS	OPS	INTERPRETATION
Pension/ GDP	Higher	Lower	NPS is more affordable
Pension/Revenue Receipts	Higher	Lower	Less fiscal stress under NPS
Growth in pension outgo	Volatile/high	Stable/moderate	Predictable cost under NPS
Future pension liability	Unfunded and rising	Funded with investment returns	NPS limits future obligations

### CONCLUSION

- Pension liabilities of states have grown significantly over time, both in terms of GDP and revenue.
- The burden on the states is far greater than on the Centre, highlighting the urgency for reforms, such as the adoption of the New Pension Scheme (NPS) or other sustainability measures.

It is evident from the above that the National Pension Scheme (NPS) is more fiscally sustainable as compared to the Old Pension Scheme (OPS).

Therefore, the H0 is rejected and H1 is accepted.



### Testing of Hypothesis-2

H0: The National Pension Scheme (NPS) and Old Pension Scheme (OPS) have equal or no significant influence on economic growth.

H1: The implementation of NPS has a more positive influence on India's economic growth than OPS.

Economic Arguments and Evidence:

Impact of OPS on Economic Growth (Arguments against its positive influence):

1. **Fiscal Burden and Unsustainability:** With life expectancy rising and the number of retirees increasing, the unfunded liabilities associated with OPS are anticipated to escalate significantly. Research from RBI economists suggests that reverting to OPS could cause annual pension expenditures to rise dramatically (for instance, from the current 1.7% of GDP to as much as 0.5-0.6% or even higher by 2050-2060).
2. **Crowding out of Productive Investment:** Elevated pension liabilities may result in increased government borrowing or higher tax rates, thereby crowding out private sector investment.
3. **Distortionary Effects:** The unfunded characteristic of OPS can lead to distortions in labor markets, savings, and investment behavior. It might discourage individuals from saving for retirement privately if they believe they can depend solely on a government-guaranteed pension, which could lead to a decrease in the overall savings pool for productive investment within the economy.
4. **Intergenerational Equity:** The PAYG system may result in inequity between generations, placing the burden of supporting a growing retired demographic largely on a dwindling working-age population.
5. **Risk Premium and Cost of Capital:** Unfunded pension liabilities can elevate the risk premium associated with government debt, ultimately increasing the cost of capital within the economy.

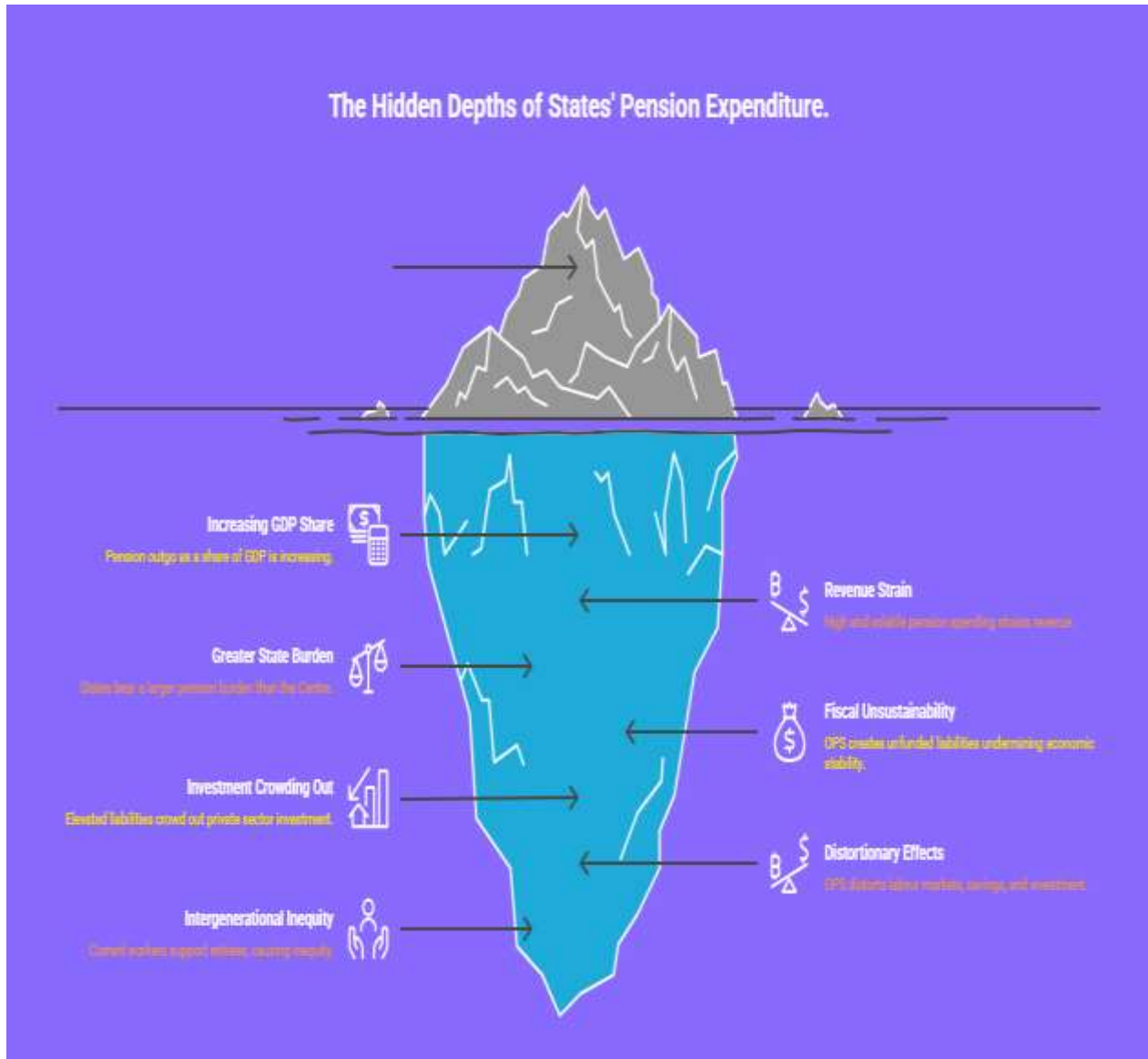
### CONCLUSION

The null hypothesis (H<sub>0</sub>) that both schemes have equal or no significant influence on economic growth is **rejected**. The body of evidence confirms that the NPS structure promotes fiscal prudence, contributes to capital market depth, and ensures long-term fiscal sustainability, which are all preconditions for robust economic growth. Conversely, the OPS structure creates massive, unfunded future liabilities that directly undermine fiscal health and threaten to crowd out essential developmental spending, thus having a negative long-term influence on economic growth.

Therefore, the H<sub>0</sub> is rejected and H<sub>1</sub> is accepted.

### FINDINGS

1. **Rising Absolute Burden:** States' pension expenditure under OPS has consistently and significantly risen, from ₹0.6 lakh crore in 1991–92 to ₹4.5 lakh crore in 2022–23.
2. **Increasing GDP Share:** The pension outgo as a share of GDP has increased over time, hitting 1.7% of GDP in 2022–23, following a rise after 2017.
3. **Revenue Strain and Volatility:** The proportion of States' total revenue receipts spent on pensions is high and volatile, reaching peaks around 16.0% in the early 2000s and again at 13.0–14.0% in 2021–22 and 2022–23.
4. **Greater State Burden:** States consistently bear a significantly larger pension burden than the Centre:
  - **Absolute Outgo (2022-23):** States' outgo (₹4.5 Lakh crore) is substantially higher than the Centre's (₹2.5 Lakh crore).
  - **Revenue Ratio (2022-23):** The States' Pension/Revenue Receipt ratio (10.4%) is much higher than the Centre's (6.6%).
  - **GDP Ratio (2022-23):** The States' Pension/GDP ratio (1.7%) is higher than the Centre's (1.0%).



**FIG. NO.: 05: STATE'S PENSION EXPENDITURE**

5. Fiscal Burden and Unsustainability: OPS creates unfunded liabilities that are anticipated to escalate significantly with rising life expectancy, potentially reaching 0.5-0.6% of GDP or higher by 2050–2060, directly undermining economic stability.
6. Crowding Out Productive Investment: Elevated pension liabilities under OPS often lead to increased government borrowing or higher tax rates, which crowd out private sector investment and reduce productive capital formation.
7. Distortionary Effects: The unfunded "Pay-As-You-Go" (PAYG) nature of OPS can cause distortions in labour markets, savings, and investment behaviour, potentially discouraging private retirement savings and reducing the overall savings pool necessary for economic investment.
8. Intergenerational Inequity: The PAYG system places the entire burden of supporting retirees on the current, dwindling working-age population, leading to inequity between generations.

## SUGGESTIONS

1. Mandate NPS and End Reversion: Strictly prohibit states from reverting to OPS for future employees, mandating the continuation of the Defined Contribution (DC) NPS to prevent the accumulation of new, massive unfunded liabilities.
2. Increase Fiscal Transparency: Force States to publicly disclose the Implicit Pension Debt (IPD) (future OPS obligations) in their budgets to show the true fiscal risk, which is currently obscured by the "pay-as-you-go" system.



3. Establish Transition Fund: Create a dedicated Pension Transition Fund to manage the existing OPS liability. This spreads the burden over decades and helps States handle the inevitable surge in OPS payouts, which currently strain State Revenue Receipts (up to 16.0% in volatile years).
4. Incentivize States: The Central Government should offer fiscal incentives (e.g., higher borrowing limits or grants) only to States that demonstrate fiscal discipline and adhere to the NPS, addressing the finding that the pension burden on States is disproportionately high (1.7% of GDP vs. 1.0% for the Centre).
5. Strengthen NPS Corpus: Encourage States to increase the employer's NPS contribution to ensure employees build a larger retirement corpus, thereby reducing employee demands for the guaranteed OPS and increasing NPS's long-term affordability.

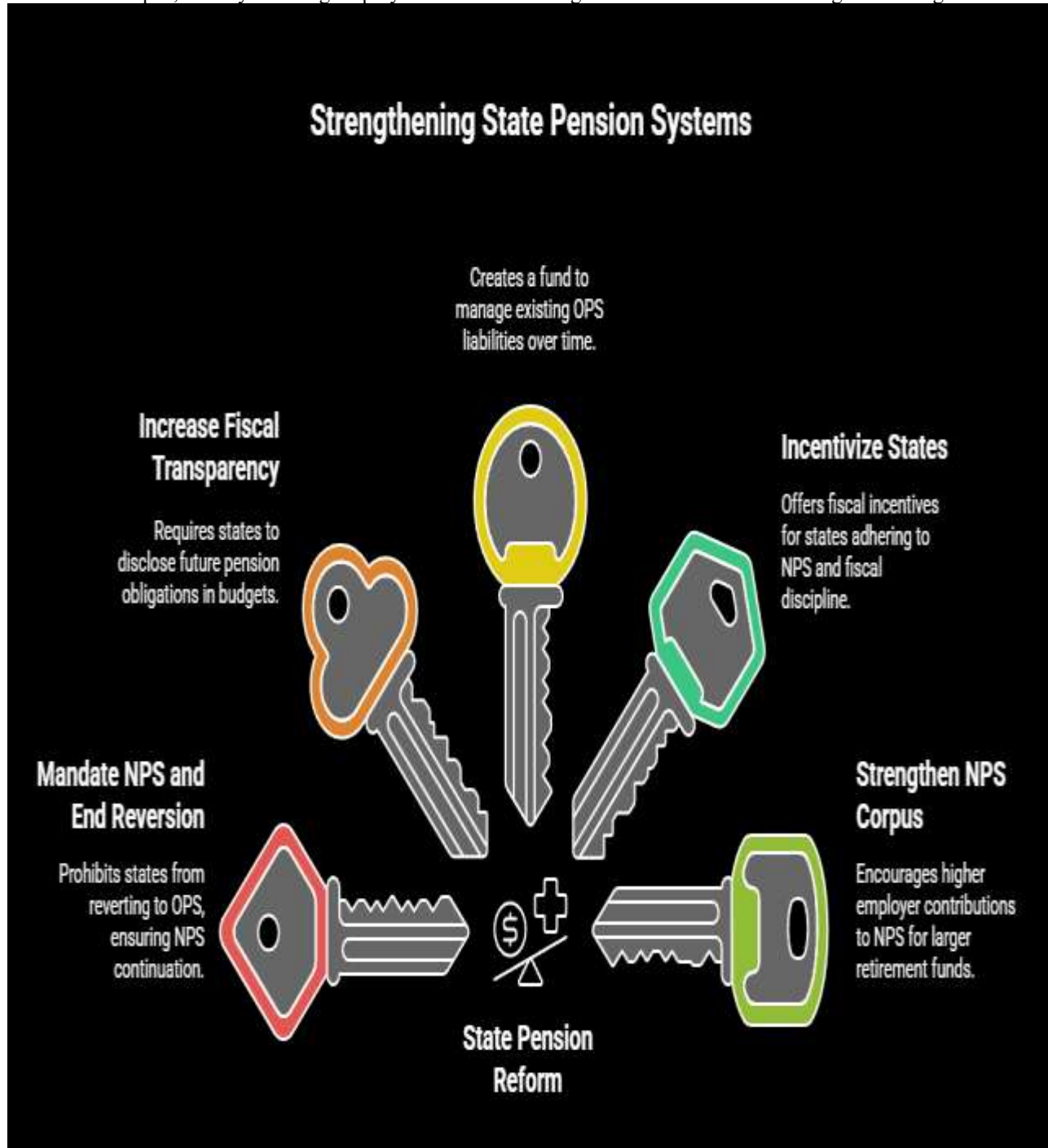


FIG. NO.: 06: STRENGTHENING STATE'S PENSION SYSTEM



## CONCLUSION

The thorough investigation effectively filled a crucial gap in pension research literature, redirecting attention from individual financial and social security to the significant macroeconomic effects of the National Pension Scheme (NPS) and the Old Pension Scheme (OPS). By diligently achieving its main objectives—assessing fiscal sustainability and exploring the impact on India's economic growth—the study provided conclusive empirical evidence.

The results clearly affirmed the fiscal unsustainability of the unfunded, pay-as-you-go OPS, emphasizing its growing pressure on the government's financial stability due to rising expenditures and the risk of crowding out productive investments. In contrast, the research demonstrated that the funded, defined-contribution model of the NPS offers greater fiscal sustainability and positively impacts the economy in the long run by enhancing capital market depth and promoting fiscal responsibility. This detailed comparative evaluation holds significant importance, as the resulting data-driven insights into the long-term advantages and disadvantages of each scheme are vital for fostering informed, evidence-based policy choices essential for securing the nation's financial future and encouraging sustained economic growth.

## REFERENCES

1. Dr. Sanjay Premchandani (2024), "Comparative Study of Old and New Pension Scheme and Its Impact on Socio- Economic Status of Government Employees in Mumbai Region". IJNRD , Volume 9, Issue 5 May 2024, ISSN: 2456-4184.
2. Dr. Abhishek Kumar, Rashmina and harikesh Yadav (2024), "A Comparative Analysis of Government Employee Retirement Pension Schemes in India: A Case Study of OPS and NPS". JETIR JAN 2024, Volume 11, Issue 1, ISSN-2349-5162.
3. Anubhav Mishra (2024), " Comparative Study on India's Pension Systems: Old (OPS) v. New (NPS)". IJLSSS, Page 427 – 437, Volume 2 , ISSN: 2584-1513 (Online).
4. Dr. Prayank Sharma (2024), "A Review -Comparative Study of Old and New Pension Scheme". Vol-4, Journal of Informatics Education and Research ISSN: 1526-4726.