

# Nine Years Of APY: A Comprehensive Analysis of The Government of India's Defined Contribution Guaranteed Pension Scheme

Mr. Prodepto Chatterjee<sup>1\*</sup>, Prof. Tanuj Nandan<sup>2</sup>

<sup>1\*</sup>Research Scholar, School of Management Studies (SMS), Motilal Nehru National Institute of Technology (MNNIT) Allahabad, Prayagraj. [prodepto.2021rms58@mnnit.ac.in](mailto:prodepto.2021rms58@mnnit.ac.in)

<sup>2</sup>Professor & Head- School of Management Studies (SMS), Motilal Nehru National Institute of Technology (MNNIT) Allahabad, Prayagraj. [tanuj@mnnit.ac.in](mailto:tanuj@mnnit.ac.in)

**\*Corresponding author:** Mr. Prodepto Chatterjee

\*Email: [prodepto.2021rms58@mnnit.ac.in](mailto:prodepto.2021rms58@mnnit.ac.in)

## Abstract

This study analyzes the 9-year growth of Atal Pension Yojana (APY) since its launch in FY 2015-16, using secondary data from PFRDA and population projections from the Ministry of Health & Family Welfare. It moves beyond prior studies analyzing APY awareness and moves onto examining enrolment dynamics, revealing low penetration despite a large eligible population. While female enrolment growth outpaces males, cumulative numbers lag. Gender, geographic and zonal disparities persist. Post-pandemic, dropout rates increased, yet remaining subscribers show strong remittance persistence. High dropout rates suggest potential mis-selling, economic distress, or eligibility changes. A surge in low pension slab accounts may indicate perverse distribution incentives or money illusion. The research should therefore be useful to academic scholars in field of behavioural finance and micro-pensions, as also practitioners of governance and institutions involved in public policy in the field of old age income security.

**JEL Classification-** H55, J16, J18

**Keywords-** APY, enrolments, age, gender disparity, geographical disparity

## 1. Literature Review

(Shankar & Asher, 2011) while exploring the micro-pensions sector in India state that it should be voluntary, portable and flexible, enabling experimentation in design and service delivery to suit the varied needs of the bottom of the pyramid populace. The further state that such a scheme should operating on the defined contribution platform and rely on voluntary, long-term savings managed by professional fund managers with options for lump sums, phased payouts, or annuities at withdrawal. (Shankar & Asher, 2011) further add that to address challenges like high transaction costs and limited accessibility, micro-pensions must leverage technology, ensure low-cost operations and provide frequent, small-value contribution options through convenient collection mechanisms while maintaining simple product features to complement the comprehension of the cohort with limited financial literacy. According to (Basu, 2015), incentivizing intermediaries is crucial for boosting APY account openings and sustaining contributions. To mitigate risk of pension inadequacy, Basu recommends investing a significant portion of scheme funds in index stocks. Research by (Arora & Kundu, 2018; Basu, 2015; Panicker & Cherian, 2021; Sudindra, 2016) highlights concerns about the low interest rates during the accumulation phase and the inadequacy of APY's guaranteed pension for ensuring retirement security. The "bottom of the pyramid" population, characterized by low formal education, faces challenges with financial literacy. (Arora & Kundu, 2018; Basu, 2015; National Centre for Financial Education, 2019) point out that APY investors may struggle with

money illusion. NCFE's Financial Literacy and Inclusion in India - 2019 (NCFE-FLIS 2019) report indicates low financial literacy and awareness of APY, with account usage significantly lower than awareness levels (National Centre for Financial Education, 2019). (Devi.S, 2020) study in Thiruvananthapuram District shows a lack of awareness among individuals, leading to low enrolment in APY. (Balamurugan, 2022) identifies insufficient pension amounts and lack of awareness due to inadequate advertising as major reasons for low APY adoption. (Bhattacharjee & Rengma, 2020) note differing attitudes toward APY among government and private employees, with the latter cohort seeking guaranteed and regular income. (Arora & Kundu, 2018) propose extending the co-contribution period, adjusting pension amounts through indexation, auto-enrolment via employers in the informal sector, raising the entry age to 50 years and modifying annuity options to enhance APY's effectiveness. Moreover, (Basu, 2015) suggests increasing government co-contributions to incentivize participation further. Research by (Mohanty et al., 2022a) suggests a correlation between banking infrastructure, state-level income, life expectancy and APY enrolment, with higher enrolment observed in states with more rural populations. (Renugadevi & Kavaya, 2023) while studying the attitude towards APY in Coimbatore, state that the scheme's effectiveness is limited by low public awareness, insufficient training of distribution channel, lack of flexibility in contributions, inadequate pension amounts and concerns about its continuity due to political changes.

## **2. Introduction**

### **2.1 Inception of APY**

The transition from the traditional pension pay-as-you-go/ defined benefit pension system to the National Pension System (NPS) in 2003 was a significant reform in India (Mohanty, 2022), initially applicable to government employees and later extended to the general public, including the informal sector, through the All-Citizen model in 2009 (PFRDA, 2016a). To further incentivize participation, the Swavalamban Scheme was introduced in the 2010-11 Union Budget. Under this scheme, the government contributed Rs. 1,000 annually to NPS- Lite accounts opened during that financial year, aimed at individuals making minimum contributions of Rs. 1,000 annually (Mukherjee, 2010). Managed by professional private pension funds, the scheme offered market-linked returns. However, despite efforts, enrolment remained low, with only 41.5 lakh enrolees by March 2015, attributed to the lack of guaranteed returns (Arora & Kundu, 2018; Vats, 2016). Responding to this, the APY was launched in 2015, providing a defined pension based on contributions, with the government contributing 50% of beneficiaries' premiums for five years for accounts opened before December 31, 2015. This aimed to provide much-needed income security for individuals in the unorganized sector (Budget Speech, 2015).

### **2.2 Features of APY**

The APY offers subscribers the choice of a monthly pension ranging from Rs. 1,000 to Rs. 5,000, based on their age and contribution at enrolment. Upon reaching 60 years, subscribers receive a government-guaranteed fixed monthly pension, ensuring financial security during retirement. To join, individuals aged 18 to 40 must have a savings bank account (PFRDA, 2022a).

Key benefits of APY include:

- **Guaranteed minimum pension:** Subscribers receive Rs. 1,000 to Rs. 5,000 monthly, from age 60 until death.
- **Spousal benefit:** After the subscriber's death, the spouse receives the same pension until their demise.
- **Nominee provision:** Upon both the subscriber and spouse's death, the nominee receives the accumulated pension wealth.

Initially, the union government offered a co-contribution for five years (Dept of Financial Services,

2015) to incentivize enrolment, applicable until March 31, 2016 (Dept of Financial Services, 2016). Some state governments are also providing additional benefits to the subscribers from the state viz. SG of Himachal Pradesh (HP, 2022). Subscribers enrolled by September 30, 2022, can continue contributions regardless of tax status (PFRDA, 2022a). The existing subscribers of Swavalamban scheme in the age group of 18-40 years were also given an option to migrate to APY unless they exercised an option to opt-out. As per the recent notification of August 2022, if a person is a tax payer, he/she cannot be part of the scheme (Dept of Financial Services, 2022).

Contributions vary based on age and chosen pension amount, with early enrolment resulting in lower monthly contributions. Late payments incur overdue interest. Subscribers can adjust pension amounts annually without additional payments (PFRDA, 2022a). Subscribers of the APY have the flexibility to adjust their pension amount annually during the accumulation phase. This process follows a prescribed refixation methodology outlined by the PFRDA (PFRDA, 2022a). Voluntary exit is permitted before age 60, with contributions refunded, excluding government co-contribution for pre-2016 subscribers. In case of subscribers' death, the spouse can continue the account or receive the accumulated corpus.

### 2.3 Distribution of APY and Incentives for distribution channel

APY uses the NPS infrastructure to onboard subscribers. Enrolment is facilitated by state government entities, public sector banks, regional rural banks, microfinance institutions, non-banking financial companies private sector entities (Arora & Kundu, 2018). PFRDA outlined the following incentive structure for mobilizing APY subscribers through its circular dated May 19, 2015 (PFRDA, 2015).

- Per capita incentive- Rs.100/-
- Incentives for P&D for mobilizing each account-

**Table 1- Incentives for P&D (2015 up to 31<sup>st</sup> March 2022)**

S No.	Number of subscribers under APY with each Bank	Incentive for promotional efforts (only for new accounts opened during FY)
1	No. of Subscribers < 1 lakh	Rs.20
2	1 Lakh < No. of Subscribers ≤ 3 Lakh	Rs.30
3	3 Lakh < No. of Subscribers ≤ 5 Lakh	Rs.40
4	No. of Subscribers > 5 Lakh	Rs.50

Initially, banks and APY Service Providers (APY-SPs) were instructed to split their incentives with distribution channel partners, in a 50:50 ratio, with half of the incentive going to the bank (PFRDA, 2015). However, in 2016, PFRDA removed this ratio requirement, allowing APY-SPs to determine their own sharing patterns (PFRDA, 2016b). In May 2022, PFRDA revised the structure, implementing a following new incentive system starting from April 1, 2022 (PFRDA, 2022b).-

- Per capita incentive- Rs.75/-; although, a new incentive head as “persistency incentive” has been introduced in the new structure. However, no definition for persistency incentive has been provided in the said circular.
- Yearly persistency incentive- Rs.50 per persistent APY account.
- Incentives for P&D for mobilizing each account-

**Table 2- Incentives for P&D (01<sup>st</sup> April 2022 onwards)**

S No.	Number of subscribers under APY with each Bank	Incentive for promotional efforts (only for new accounts opened during FY)
1	No. of Subscribers < 1 lakh	Rs.20
2	1 Lakh < No. of Subscribers ≤ 3 Lakh	Rs.30
3	3 Lakh < No. of Subscribers ≤ 5 Lakh	Rs.40
4	No. of Subscribers > 5 Lakh	Rs.50

## 2.4 Allocations of investments into assets & Returns since Inception

Under APY, subscriber isn't provided choice of PF (Pension Fund) or asset allocation. The investments in the APY scheme are managed as per the following asset allocation pattern. The funds are invested in three public sector PFs viz. LIC Pension Fund Limited, SBI Pension Funds Ltd and UTI Retirement Solutions Ltd (PFRDA, 2024b).

**Table 3- Allocations of Investments into assets APY Scheme**

Particulars	Exposure limits (in %)
Government Securities & related investment	Up to 65%
Debt instruments and related investment	Up to 45%
Short term debt instruments and related investments	Up to 10%
Equity and related investments	Up to 15 %
Asset backed, trust structured and Miscl. Investments	Up to 5%

Since inception the scheme has provided a weighted average return of approx. 9.12% (NPS Trust, 2025). The PF wise returns of the scheme are as follows –

**Table 4- APY Scheme Returns since inception**

Pension Fund	Return since inception
LIC Pension Fund Limited	9.30%
SBI Pension Funds Ltd	9.00%
UTI Retirement Solutions Ltd	9.25%

(as on 13<sup>th</sup> January 2025; *source- NPS Trust*)

## 2.5 Analysis of internal rate of return (IRR) under APY

Analyzing the income streams for individuals over 60 years old, who join the schemes at various ages between 18 and 40 and assuming a monthly pension of Rs. 5000 with a minimum indicative corpus of Rs. 8.50 lakh, we find that APY offers an IRR between 7.79% and 7.99%.

However, if the accumulations grow at the current rate (weighted average return of approx. 9.12% as on 13<sup>th</sup> January 2025; *source- NPS Trust*), the APY IRR would be much higher, ranging from 7.99% to 8.26%; the higher IRR being available to the early joiners. The higher IRR is primarily on account of the larger final accumulated corpus to nominee.

**Table 5- APY IRR\***

Age of Joining	XIRR for Rs.5,000 pension (assuming indicative pension Rs.8.50 Lakh)	XIRR for Rs.5,000 pension (assuming pension corpus growth as per present returns)
18	7.99%	8.26%
19	7.98%	8.26%

20	7.97%	8.24%
21	7.97%	8.24%
22	7.96%	8.23%
23	7.96%	8.22%
24	7.95%	8.21%
25	7.94%	8.20%
26	7.94%	8.19%
27	7.93%	8.18%
28	7.92%	8.17%
29	7.91%	8.16%
30	7.91%	8.14%
31	7.90%	8.13%
32	7.88%	8.11%
33	7.88%	8.10%
34	7.86%	8.09%
35	7.86%	8.07%
36	7.84%	8.06%
37	7.83%	8.04%
38	7.82%	8.02%
39	7.80%	8.00%
40	7.79%	7.99%

(Author calculations)

**\* Notes towards assumptions for calculating the IRR of APY**

- Min investment assuming subscriber joins at 18 & 40 years and contributes regularly for the next 42 & 20 years, respectively.
- Regular and monthly remittance of funds by subscriber without default for a Rs.5000 per month (i.e. Rs.60,000 p.a.) pension.
- Total pension pay-out period assumed- 19 years; assuming primary subscriber male (life expectancy at 60 years for male- 17 years) with spouse female (life expectancy at 60 years for female- 19 years) and return of purchase price to nominee after 19 years of pension payment (Life expectancy data source- <https://www.population-trends-asiapacific.org/data/IND>).

**3. Data & Methodology**

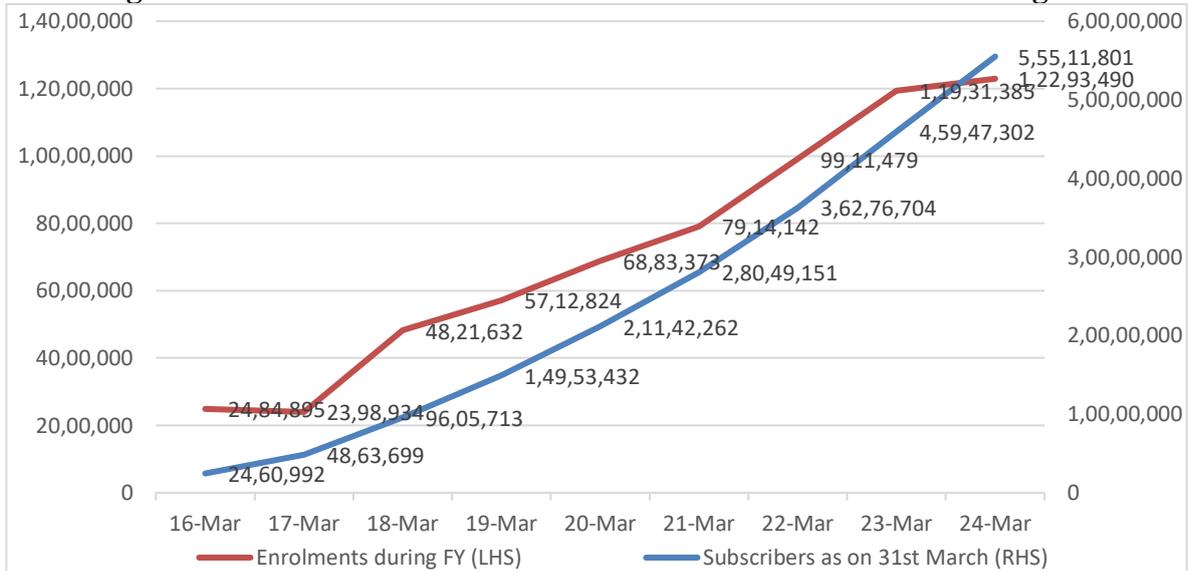
The study is based primarily on the secondary data, at aggregate level made available by the PFRDA, administering the scheme through its "Handbook of National Pension System Statistics (2024)". We use population projections from the Census of India 2011 to estimate the eligible population for APY enrolment, focusing on individuals aged 15-49 years in 2021- the age range thus, includes those eligible for APY and those who turned 18+ during the first 9 years of the scheme. We assume the population proportion in 2024 remained the same as in 2021. Detailed age-wise projections were unavailable for Union Territories, Goa and some Northeast states due to their minimal population share.

**4. Data Analysis & Discussions**

**4.1 Growth in Number of APY Subscribers**

The figures presented in the Handbook depict the status of subscribers in the APY scheme as of the last day of the fiscal year, i.e., 31st March. These figures represent "net" numbers, indicating the subscriber count of accounts registered or enrolled, net of accounts that have been deactivated or closed (PFRDA, 2024a)

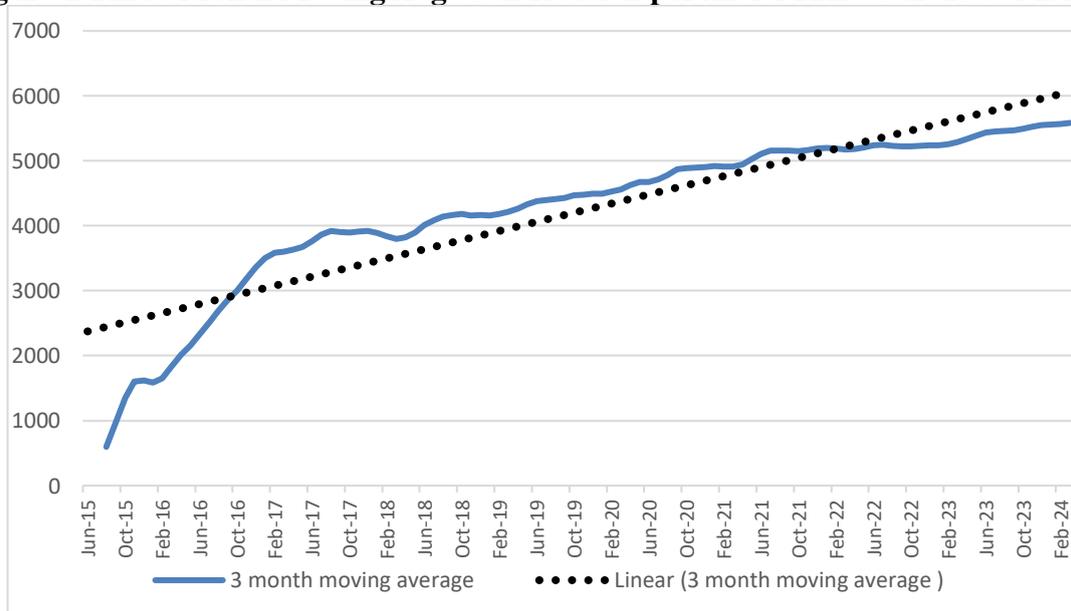
**Figure 1- Subscribers as on 31<sup>st</sup> March of FY and Enrolments during FY**



**4.2 Average Contribution per PRAN**

The 3-month moving average for the Contribution per APY PRAN indicates a positive trend from June 2015 to March 2024. Although the average levelled off slightly after the two COVID-19 waves in 2020 and 2021, it has continued to show an upward trajectory, demonstrating strong fund remittance persistence amongst the subscribers continuing in the scheme.

**Figure-2 Three-Month Moving Avg. Contribution per APY PRAN- Jul '15 to Mar '24**



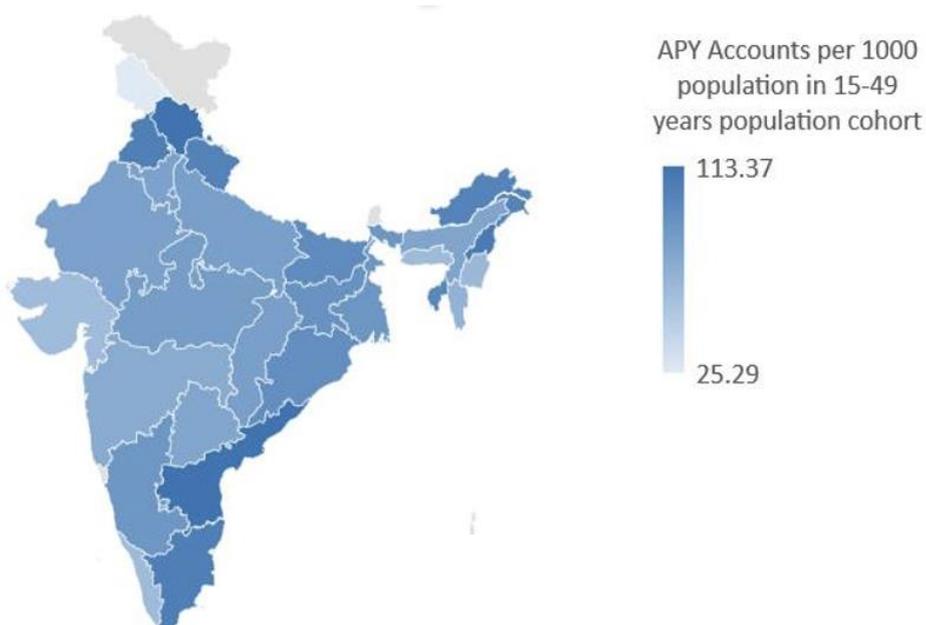
**4.3 Analysis of Growth in APY enrolments**

**4.3.1 APY Enrolment and Enrolment Density**

Despite the commendable growth in enrolments over the past nine years, this growth has not been evenly distributed. As expected, states with larger populations have higher shares of APY enrolments. Mohanty et al. highlight the strong connection between banking infrastructure (more bank branches and PMJDY accounts) and APY coverage, evident from states like Andhra Pradesh, Assam, Bihar, Tamil Nadu, Uttar Pradesh and West Bengal (Mohanty et al., 2022b). Additionally, there's a positive

correlation between APY coverage and state-level per capita income, with Andhra Pradesh, Himachal Pradesh, Karnataka and Punjab, which have high per capita incomes, showing better APY coverage ((Mohanty et al., 2022b). The study further notes that APY penetration is more in rural population as states with higher rural population had more APY subscribers. To calculate APY enrolment density, we normalize the enrolment figure by the projected population in the 15-49 age bracket, resulting in "APY accounts per 1000 population." India's overall density is 84.78 accounts per 1000. While most states are below the national average, the East, Northeast and South zones have higher densities.

**Figure-3- Geographical Heat map- APY Accounts per 1000 population\***



(Note- Sikkim, being outlier, has been kept out of the heat map for better visualization and effective contrast.)

#### **4.4 Analysis of Gender-wise growth and Distribution**

##### **4.4.1 Gender wise growth**

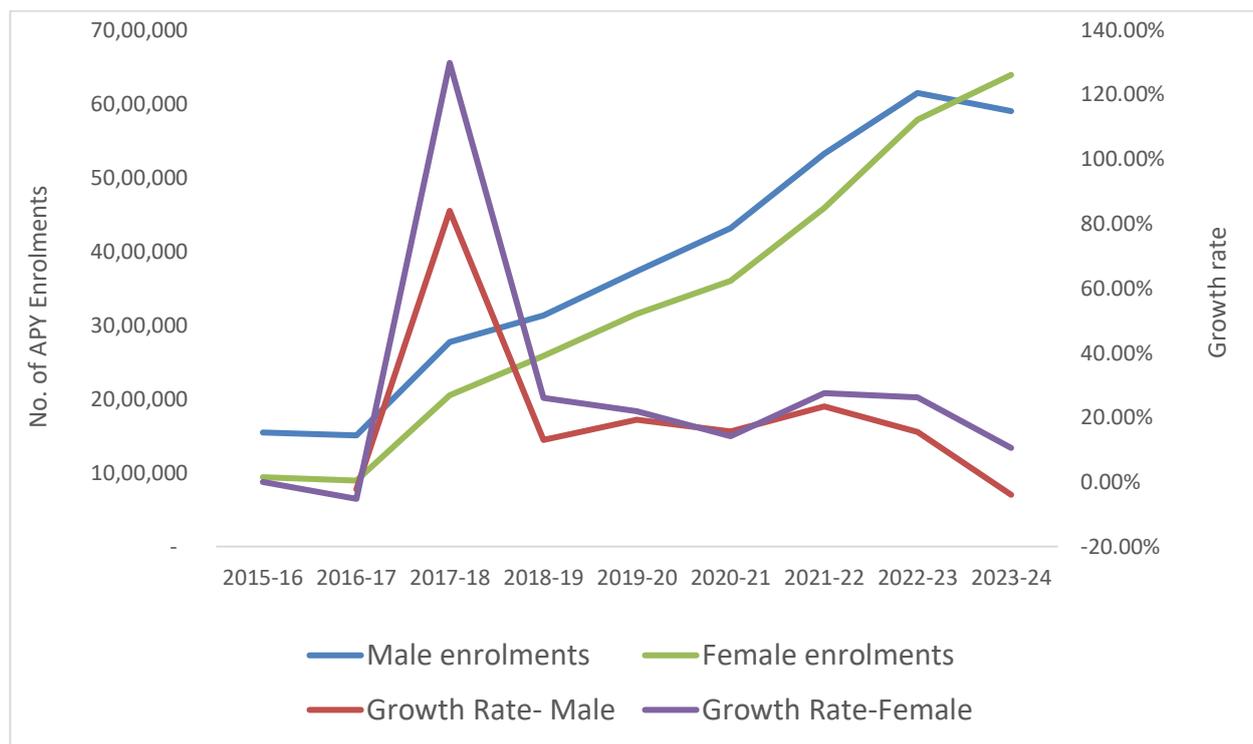
The enrolment figures from FY 2016 to FY 2024 reveal a heartening trend: the gender gap in program enrolment had been steadily closing with FY 2024 seeing more female enrolments than males. As against FY 2016's, ratio of 62:38 (*Male: Female*), it has narrowed significantly and reversed to 48:52, in favour of females. Incidentally, in FY 2023-24 the female enrolments have been more than male enrolments for the first time in the last 9 years. This suggests that more women are actively participating, which is a positive development and a testament towards the financial inclusion efforts of the government (refer Table 7 and Figure 4 & 5). While the overall number of female enrollees might still be lower, it's important to note their impressive year-over-year growth rate. This growth significantly outpaces that of male enrolments. This could be attributed to several factors, including *firstly* Government and financial regulators' initiatives promoting financial inclusion for women and *secondly* increased awareness among women about the importance of financial security.

**Table 7- Male: Female APY Enrolments Growth Rate**

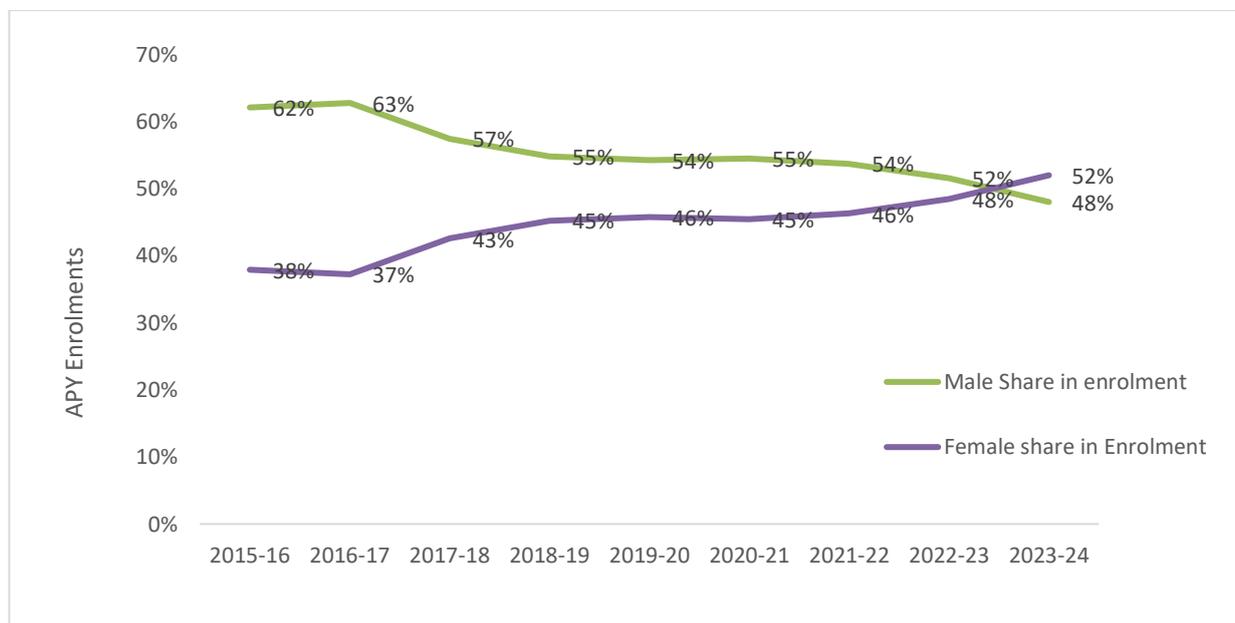
FY	Male	Female	Male: Female Ratio	Growth Rate- Male Enrolments	Rate- Growth Female Enrolments
<b>2015-16</b>	1,542,423	942,217	1.64		
<b>2016-17</b>	1,505,420	892,827	1.69	-2.40%	-5.24%
<b>2017-18</b>	2,769,170	2,051,316	1.35	83.95%	129.76%
<b>2018-19</b>	3,127,814	2,583,457	1.21	12.95%	25.94%
<b>2019-20</b>	3,731,079	3,150,428	1.18	19.29%	21.95%
<b>2020-21</b>	4,313,980	3,598,832	1.20	15.62%	14.23%
<b>2021-22</b>	5,323,011	4,585,739	1.16	23.39%	27.42%
<b>2022-23</b>	6,144,328	5,782,686	1.06	15.43%	26.10%
<b>2023-24</b>	5,899,893	6,389,075	0.92	-3.98%	10.49%
<b>Total</b>	<b>34,357,118</b>	<b>29,976,577</b>	<b>1.15</b>		

Author Calculations

**Figure 4- Gender based enrolments and Growth rates in enrolments**



**Figure-5 Gender Share in APY Enrolments**



#### 4.4.2 Zonal Gender Disparity in Enrolments

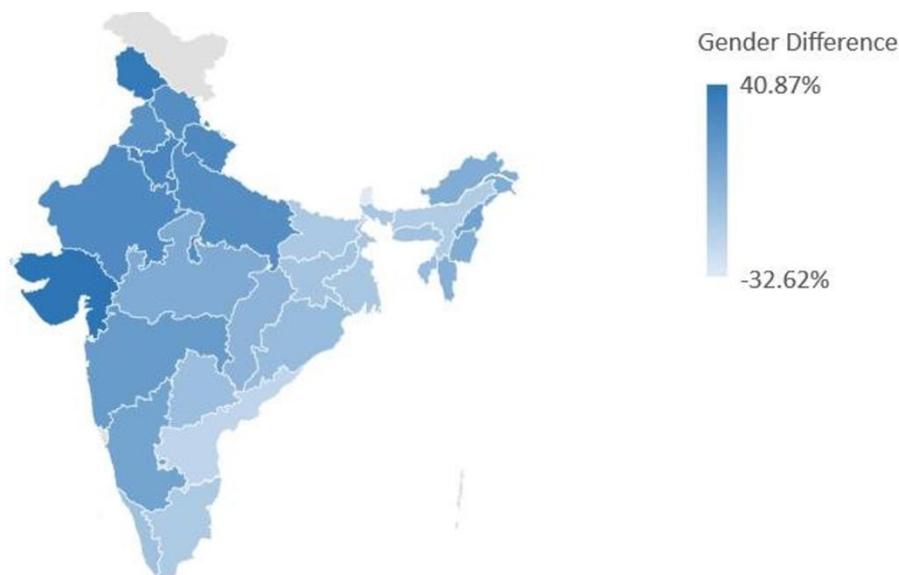
Although the gender ratio in enrolments has improved over the past 9 years, this progress has not been consistent across all zones and states in the union (refer Figure 6). Figure 7 illustrates the position of each state regarding gender-based enrolment ratios. With the dotted line depicting an equal 50:50 position, we find that 21 states/UTs have enrolments skewed towards males with significantly heavy skewness in states like UP, Delhi, HP, Uttarakhand, Gujarat and J&K.

#### 4.4.3 State-wise Gender Difference in APY Coverage and APY Enrolment Density

We analyze the gender difference in APY coverage across states, calculated as the percentage of male enrolments *minus* the percentage of female enrolments. A higher positive value indicates a larger gap in the male-to-female enrolment ratio. This gender difference is plotted against the APY enrolment density for each state (i.e., APY accounts per 1000 population). The national average of 84 APY accounts per 1000 population is marked as a vertical dotted line (refer Figure 9).

A correlation analysis between the gender difference and APY enrolment indicates a moderate but statistically significant negative correlation,  $r(27) = -0.45$ ,  $p = .016$ , between APY enrolment density and Gender differences, suggesting that as the gender difference in coverage tends to decrease, the overall APY coverage increases and vice versa.

**Figure-6 Geographical heat map- Gender Difference in APY Coverage 2015-2024\***



(\*Gender Difference = Male enrolment density minus Female enrolment density)

#### 4.5 Analysis of Age bracket-wise growth and distribution

##### 4.5.1 Age-bracket wise growth rate

It is evident that over the years, there has been a consistent increase in the share of enrolments in mid-age bracket (26-35 years). We further observe that post the Covid-19 waves, more people (31-40 years) are joining APY after Covid 19, which is suggestive of the fact that the pandemic might have intensified the interest of the populace towards old age income security and retirement savings (refer Table 8 and Figure 10). The funnel graph (refer Figure 10), also shows the proportion of 31-40 years enrolments increasing in the post-pandemic years i.e. FYs 21-22, 22-23 and 23-24.

**Table 8- Age-bracket wise Growth rate Y-o-Y**

FY	18-20	21-25	26-30	31-35	36-40
2016-17	26%	12%	-2%	-12%	-24%
2017-18	142%	120%	95%	87%	72%
2018-19	42%	23%	15%	9%	8%
2019-20	40%	27%	16%	9%	9%
2020-21	25%	17%	12%	10%	6%
2021-22	24%	22%	23%	28%	35%
2022-23	16%	16%	23%	25%	25%
2023-24	2%	0%	2%	8%	7%

Author Calculations

##### 4.6 Pension slab wise enrolment growth rate

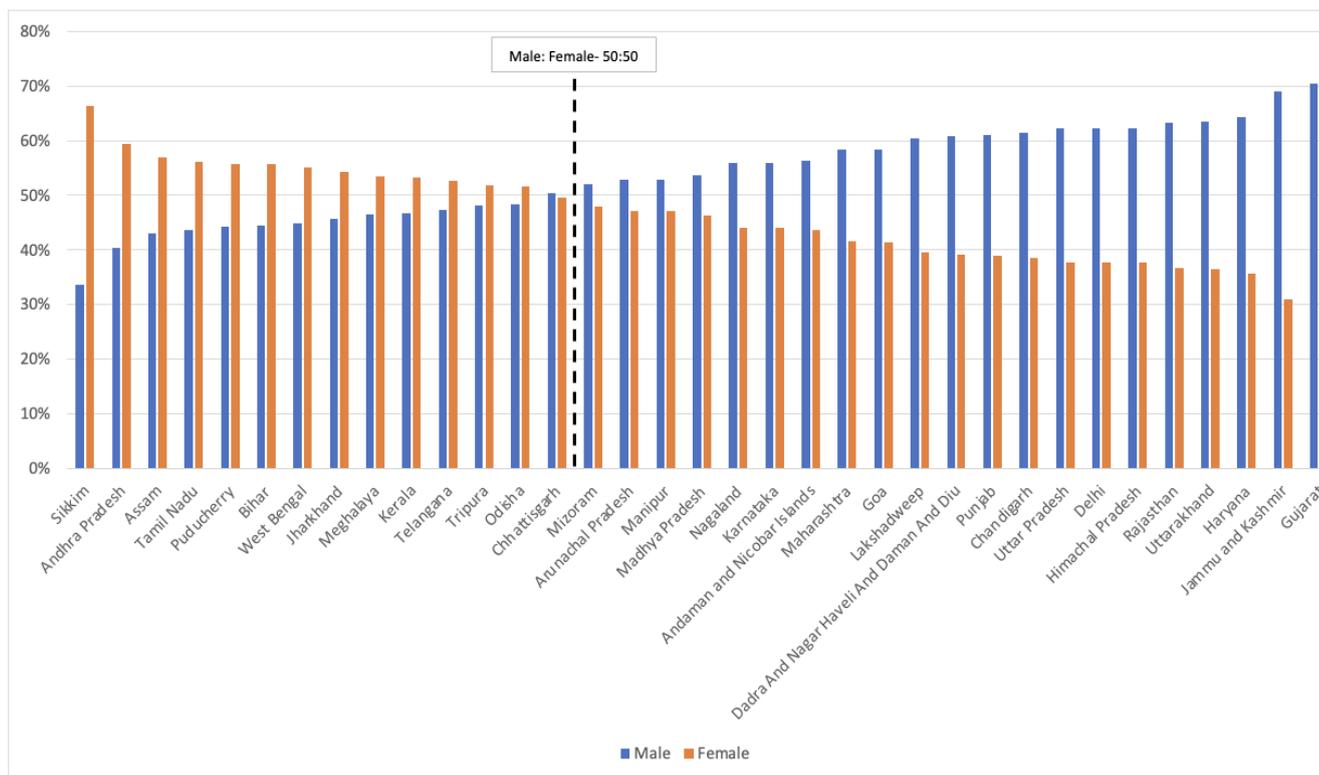
From Table 9, it is evident that the share of the lowest pension slab of Rs.1000 has increased threefold, from 38.57% in FY 2015-16 to 93.70% by FY 2023-24. This substantial increase has coincided with a decline in the share of enrolments in higher pension slabs (refer to Figure 11).

**Table 9- Pension-slab wise No. of subscribers and share in overall Enrolments FY-wise**

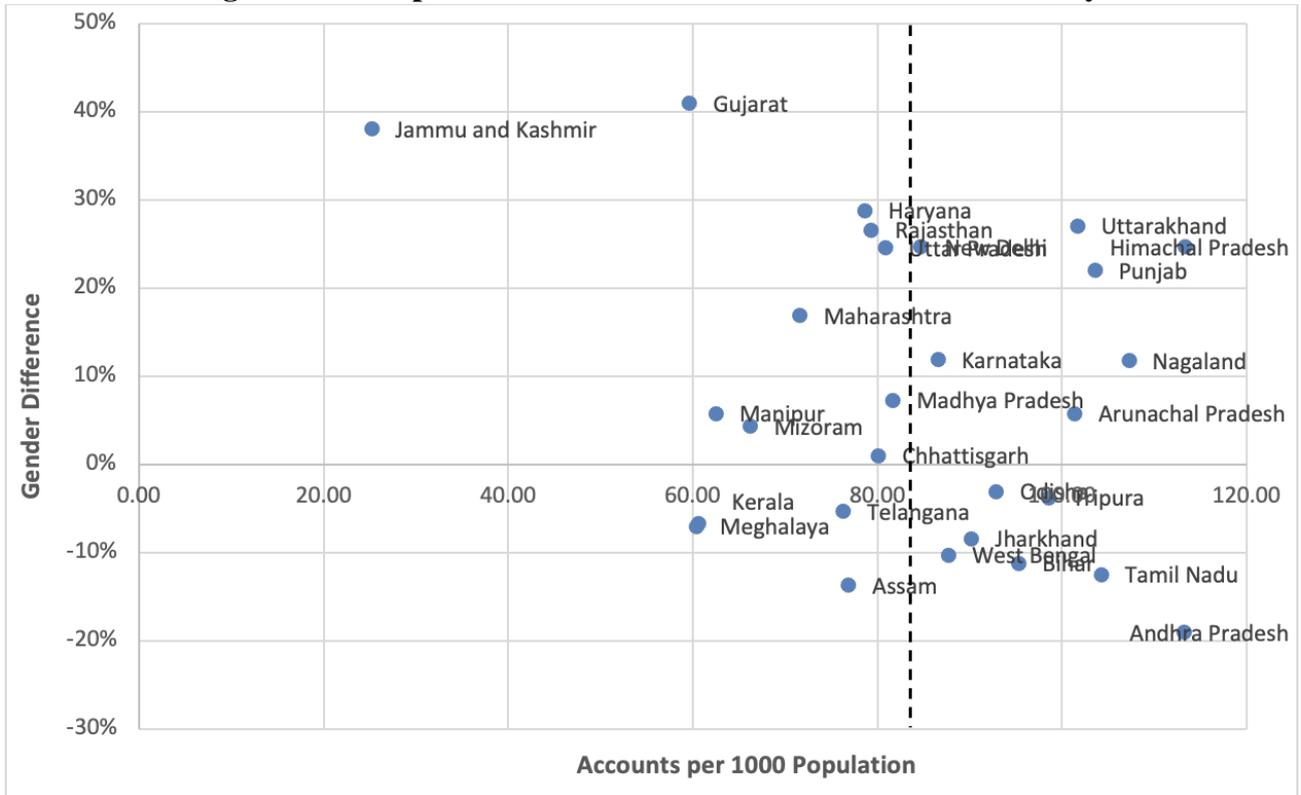
FY	1000	Share in Overall Accounts for respective FY	2000	Share in Overall Accounts for respective FY	3000	Share in Overall Accounts for respective FY	4000	Share in Overall Accounts for respective FY	5000	Share in Overall Accounts for respective FY	Total Enrolments
2015-16	958,411	38.57%	195,705	7.88%	123,215	4.96%	55,891	2.25%	1,151,673	46.35%	2,484,895
2016-17	1,504,299	62.71%	181,149	7.55%	93,586	3.90%	38,385	1.60%	581,515	24.24%	2,398,934
2017-18	3,481,067	72.20%	314,534	6.52%	150,690	3.13%	60,551	1.26%	814,790	16.90%	4,821,632
2018-19	4,518,175	79.09%	287,377	5.03%	132,917	2.33%	51,328	0.90%	723,027	12.66%	5,712,824
2019-20	5,781,150	83.99%	270,939	3.94%	133,197	1.94%	46,627	0.68%	651,460	9.46%	6,883,373
2020-21	6,900,120	87.19%	258,506	3.27%	112,708	1.42%	39,343	0.50%	603,465	7.63%	7,914,142
2021-22	8,866,840	89.46%	252,402	2.55%	112,985	1.14%	40,174	0.41%	639,078	6.45%	9,911,479
2022-23	10,994,389	92.15%	239,071	2.00%	103,726	0.87%	35,915	0.30%	558,284	4.68%	11,931,385
2023-24	11,519,258	93.70%	206,486	1.68%	87,299	0.71%	30,609	0.25%	449,838	3.66%	12,293,490
<b>Total</b>	<b>54,523,709</b>	<b>84.73%</b>	<b>2,206,169</b>	<b>3.43%</b>	<b>1,050,323</b>	<b>1.63%</b>	<b>398,823</b>	<b>0.62%</b>	<b>6,173,130</b>	<b>9.59%</b>	<b>64,352,154</b>

Authors calculation

**Figure 7- State-wise Gender wise Enrolments**

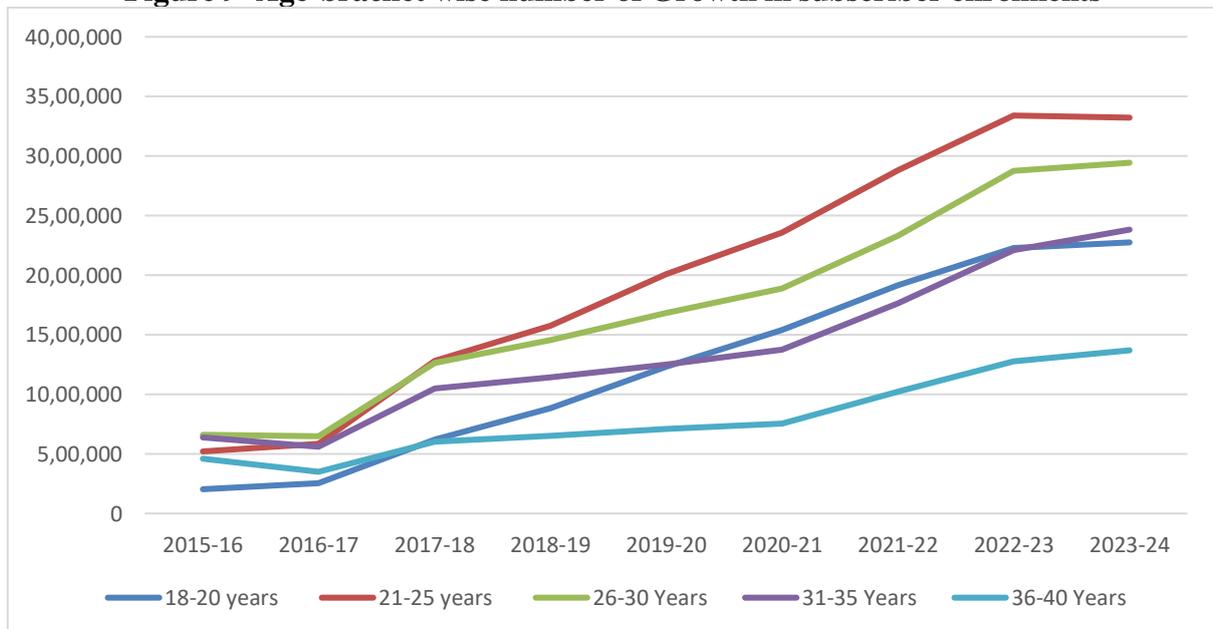


**Figure-8 Scatterplot- Gender Difference vs APY Enrolment Density**

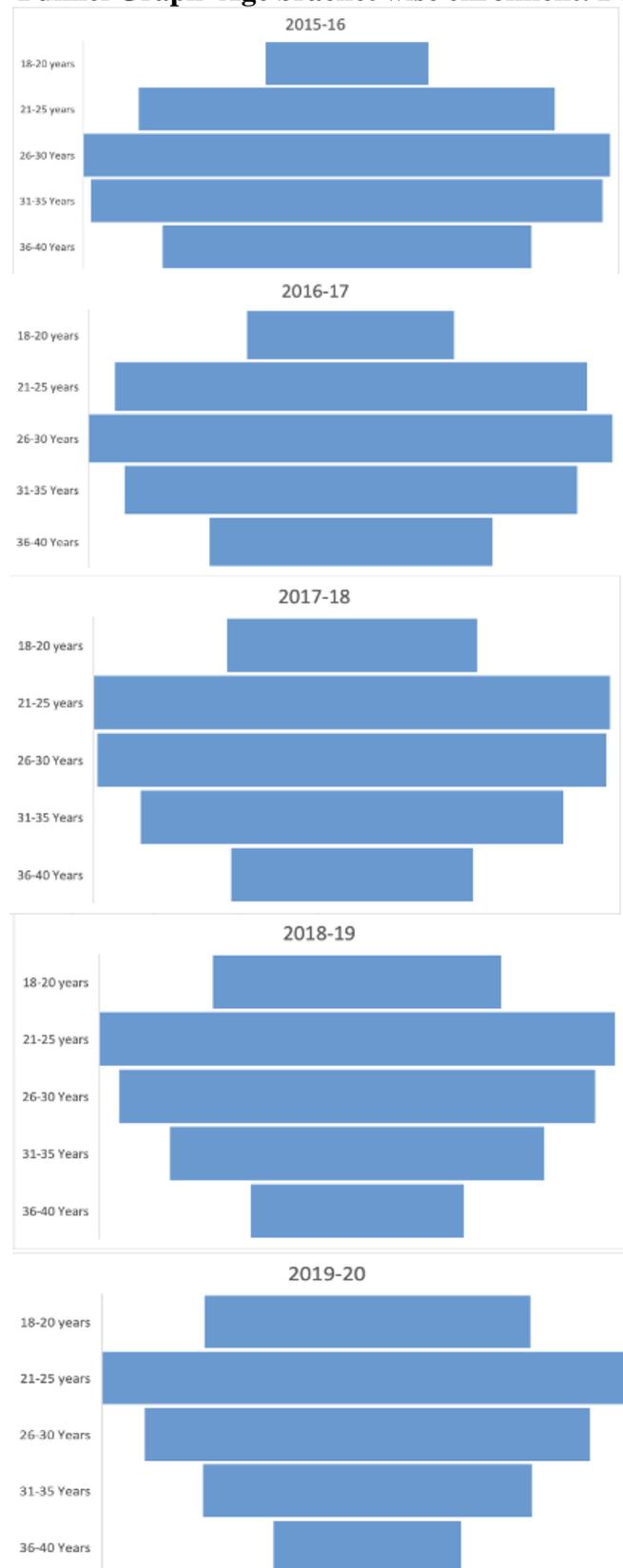


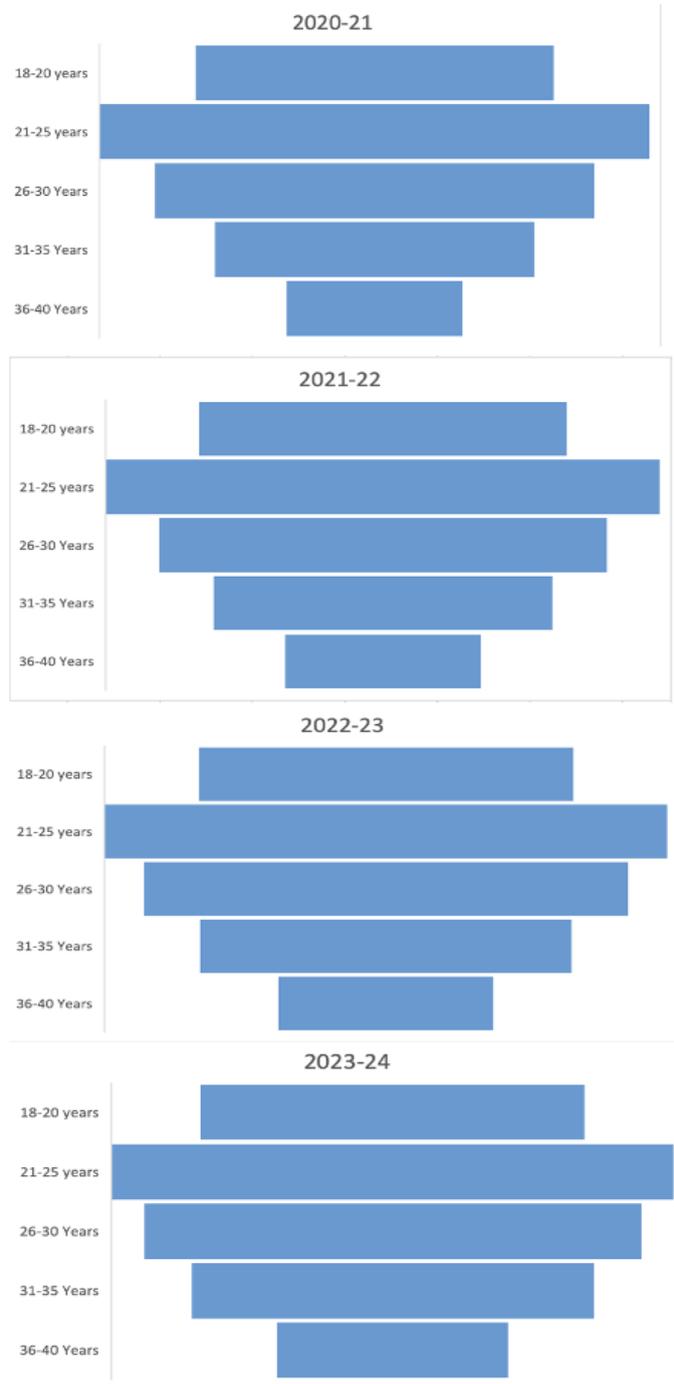
(Note- Sikkim, being outlier, has been kept out for better visualization)

**Figure 9- Age-bracket wise number of Growth in subscriber enrolments**

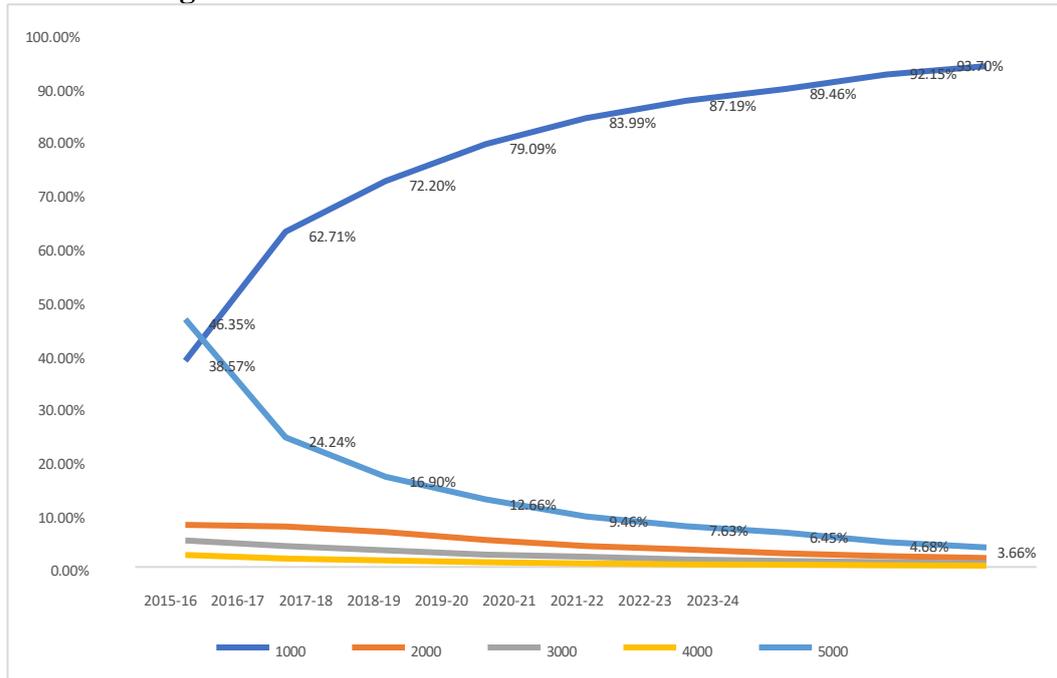


**Figure 10- Funnel Graph- Age bracket wise enrolment: FY Year wise**



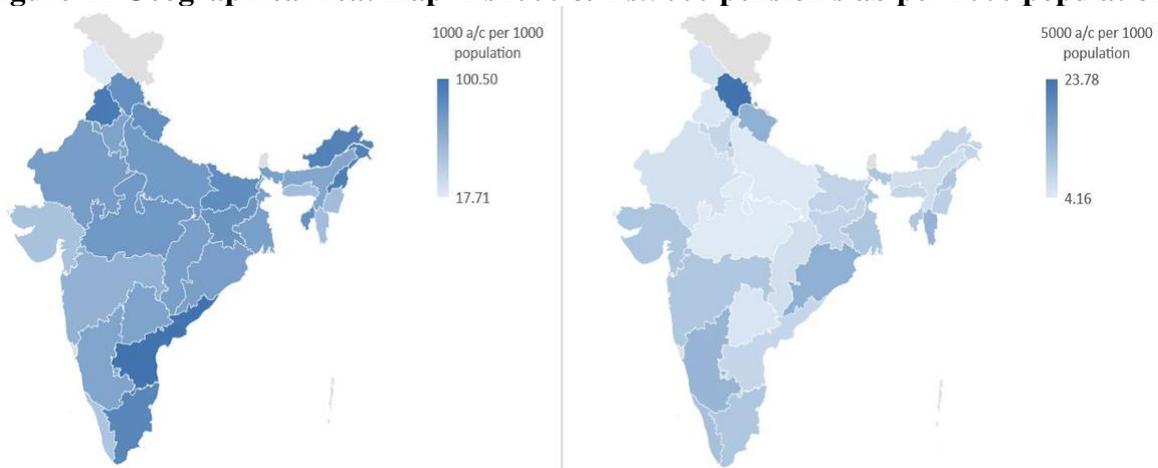


**Figure 11- Pension slab wise share in enrolments FY wise**



We further attempt a geographical heat map of the Rs.1000 pension slab accounts and Rs.5000 pension slab accounts per 1000 population. The contrast in the two maps further substantiates the absolute pervasiveness of the lower pension slab account across the country. We observe that although the lower pension slab is all pervasive, its presence is more pronounced in the Southern states (AP & TN), North (Haryana, HP, Uttarakhand) and Northeast (Arunachal Pradesh, Tripura). The higher pension slab accounts are prevalent in states/UT of North (Delhi-NCT, HP, Uttarakhand), West (Maharashtra, Gujarat), South (Karnataka), Northeast & East (Mizoram and Odisha). It may be noted that our analysis is limited by the absence of gender/age data regarding pension-slab-wise enrolment in the Handbook. However, the PFRDA Pension Bulletin of July 2022, as cited by Singh (2022), provides some indication on these aspects. (Singh, 2022) suggests that the 25-34 years age group has a relatively high share in the Rs.5,000 pension slab and that the lower age groups are more inclined towards lower pension slabs.

**Figure-12 Geographical heat map- Rs1000 & Rs.5000 pension slab per 1000 population**



*(Note- Sikkim, being outlier has been kept out of the heat map for better visualization and effective contrast.)*

## 5. Observations, Discussions and Suggestions

### 5.1 Voluntary Drop-outs and Funding Persistency of APY Subscribers

- i. We define drop-out from scheme as premature closure of the accounts and the drop-out rate as the ratio of the Drop-out count to Subscriber count, assuming 100% continuance (refer Table 10).
- ii. We observe that the dropout rate has gradually increased over the years and there is a notable steepening post FY 2016-17. Also, the rate has tripled since the onset of the Covid-19 pandemic- from 3.01% in FY 2019-20 it has reached to 13.74% in FY 2023-24 (Figure 13). It is further observed that the period and the rapid rise also coincides with the Govt. directive of excluding tax payers from the eligible APY subscribers (Dept of Financial Services, 2022).
- iii. However, counterintuitively we observe that the funding persistency has been consistently improving. Despite slight levelling after the COVID-19 waves in 2020 and 2021, it continues to rise, indicating strong fund remittance persistence among subscribers continuing in the scheme.
- iv. A Business Standard article of March 2024 suggests a likely reason (Rajora, 2024) for the rise in drop- out rates. Referring to an ICSSR-sponsored study on APY (N=2461), Shiva Rajora reports that 32% of drop-out subscribers did so because their accounts were opened without explicit permission. This hints at potential premature closures due to non-voluntary enrolments, raising concerns about potential mis-selling in APY. In their exploration of the micro-pensions sector of India, (Shankar & Asher, 2011) have also highlighted that the regulator needs to play a development role by promoting professionalism and that suitable regulations should oversee selling malpractices.
- v. However, a more thorough analysis of demographics, pension levels and geographical regions related to voluntary exits is needed to draw any firm conclusions as to whether the drop-outs are related to potential mis-selling or underlying economic distress in the population cohort towards which this scheme is directed or change in eligibility criteria or a mix of all the above confounding variables in varying degrees.
- vi. Moreover, to address the mis-selling issue, as highlighted in the Business Standard article, it's crucial to mandate branch-level operational, KYC and system audits by distribution channel partners.

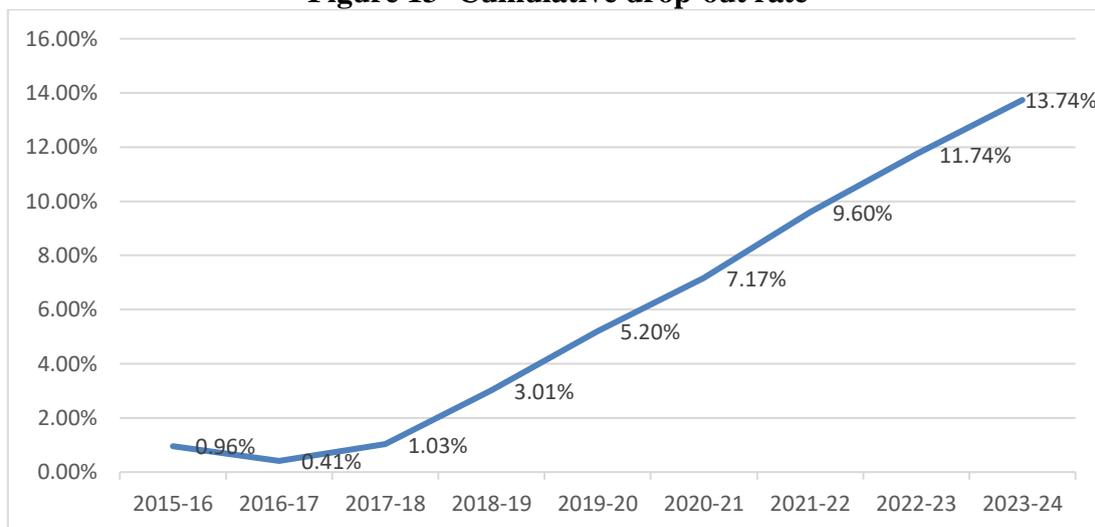
**Table 10- Cumulative Drop-out rates Y-O-Y**

		Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Mar-23	Mar- 24
1	Subscribers as on 31st March	2,460,992	4,863,699	9,605,713	14,953,432	21,142,262	28,049,151	36,276,704	45,947,302	55,511,801
2	Enrolments during FY	2,484,895	2,398,934	4,821,632	5,712,824	6,883,373	7,914,142	9,911,479	11,931,385	12,293,490
3	Subscribers assuming 100% persistency i.e. no drop-outs	2,484,895	4,883,829	9,705,461	15,418,285	22,301,658	30,215,800	40,127,279	52,058,664	64,352,154
4	Cumulative Drop-outs (3-1)	23,903	20,130	99,748	464,853	1,159,396	2,166,649	3,850,575	6,111,362	8,840,353
5	Cumulative Dropout rate (4/3)	0.96%	0.41%	1.03%	3.01%	5.20%	7.17%	9.60%	11.74%	13.74%

$$\text{Formula for Cumulative Drop-out rate} = \frac{\text{Cumulative Drop-out count}}{\text{Subscriber count assuming 100\% continuance of APY accounts}}$$

*Authors calculation*

**Figure 13- Cumulative drop-out rate**



*Authors calculations*

### **5.2 APY Penetration: Current Low Levels but having Immense Potential**

- i. The Atal Pension Yojana (APY) program has great potential due to its large target audience. Yet, participation remains low (only 8.48%). Worryingly, female participation (8.14%) falls below the national average and trails behind men (8.79%).
- ii. India's young population needs a robust pension system by 2047. However, low APY participation highlights the need for increased efforts by distribution channels.
- iii. Over the period analyzed, there has been an improvement in the gender-based enrolment ratio at the national level, favouring females. Despite the overall improvement in gender-based enrolment ratios, this progress has not been consistent across all zones and states. In the Central, North and West zones, female enrolment ratios remain below the national average.
- iv. Interestingly, the zones with lower female enrolment ratios, also exhibit lower APY enrolment densities compared to the national average. This suggests that without contemporaneous improvements in both male and female enrolments, overall APY penetration and enrolment will continue to face challenges. Therefore, improving gender-based enrolments at the state level is essential for enhancing overall APY enrolment density.
- v. Academic studies have further pointed out that states with strong banking infrastructure (more branches, PMJDY accounts), higher per capita income and larger rural populations tend to have higher APY enrolment.

### **5.3 Preponderance of low pension slab account enrolments**

- i. The share of lower pension slab accounts in APY enrolments has seen a significant increase over the years. From approximately 4 out of every 10 accounts enrolled in FY 2015-16 in the Rs.1000 pension slab, the share has risen to 9 out of every 10 accounts by FY 2023-24.
- ii. There is a trend where a higher percentage of individuals opting for the Rs.5000 pension slab are in the higher age bracket of 34 years or above, while lower age groups are more inclined to choose lower pension slabs.
- iii. These observations raise several investor behavioural issues with potential long-term implications:
  - APY service providers' incentives: The incentive structure for APY enrolment only considers the number of accounts opened, not the pension slab chosen by the enrollee. This may have led to a focus on enrolling maximum accounts in the minimum pension slab, as it yields the same financial incentives for distribution channel partners. The recent downward revision of the incentive structure may have further exacerbated this trend.

- Enrollee response to low cost: Enrollees may be opting for the Rs.1000 pension slab due to its low-cost outlay. The required contribution for a Rs.1000 pension slab is relatively low, making it more accessible to individuals.
- Money illusion: Many enrollees choosing the minimum Rs.1000 pension slab may be influenced by money illusion, perceiving the nominal value of the pension at age 60 rather than considering its real monetary value.
- iv. These factors likely contribute to individuals' preference for lower pension slabs. However, it's important to note that the APY scheme allows enrollees to upgrade their pension slab, suggesting that behavioural patterns may change over time.
- v. Further research into the behavioural aspects of APY account maintenance, particularly regarding shifts to higher pension brackets post-enrolment, could provide valuable insights for policymakers and regulators.

## 6. APY Bridging the Gap

By implementing the below-mentioned suggestions, India can unlock the full potential of APY and empower its citizens to build a secure and prosperous future.

- i. Unlock the Potential of APY: Targeted media campaigns and social media outreach can spread the word about the benefits of APY, particularly reaching low-income urban cohorts, women and rural populations. Regional languages, short, engaging videos and collaborating with trusted local voices & influencers can help build excitement and understanding about the scheme.
- ii. Extending co-contribution as a “Nudge”- Extending the government co-contribution period can give savings a valuable boost as well as a “nudge” to prospective subscribers to enroll. Further, exploring auto-enrolment possibilities for informal sector workers can simplify participation and secure their future.
- iii. Partner for Success: A Market Development Assistance Fund (MDAF) can empower distribution channels to create localized awareness campaigns about APY. This collaborative effort will ensure everyone has the information and support they need to join the program. Also, programs may be designed specifically to address the needs of female entrepreneurs or working professionals.
- iv. Boosting APY Effectiveness- Rewarding Growth: The government can unlock even greater potential within the Atal Pension Yojana (APY) program by introducing new incentives for distribution channels. This could involve rewarding them for successfully encouraging participants to upgrade to higher pension slabs. A "pension slab-wise upgradation incentive" would create a win-win situation. Distribution channels would be motivated to raise awareness about the upgrade option, educating participants about its benefits. At the same time, participants would be empowered to choose a plan that better aligns with their long-term financial goals.
- v. Expanding Pension slab Options: The Govt. may consider extending the maximum entry age and offering a wider range of pension slabs, going beyond the present Rs. 5,000. This would allow prospective subscribers to choose the plan that best fits your needs and goals.
- vi. Modifying the asset allocation pattern: Considering the fact the any increase in the guaranteed pension slabs would put fiscal pressure on the finances, the Govt. should consider increase the asset allocation to equities from the present max. limit of 15%. Increasing the said limit would have three potential benefits-
  - Reduced Government Burden: Potentially lower government funding needed to meet guaranteed pension shortfalls.
  - Enhanced Returns: Potential for higher returns due to the long investment horizon (20-42 years).
  - Project Funding: Long-term APY funds could be used for infrastructure projects with extended payback periods.

## 7. Limitations and Opportunities for future research

While our study has provided insights based on limited datasets of the Handbook, it presents some potential areas and avenues for future research and exploration:

- a. Assessment of population awareness: Investigation of the level of awareness among the population regarding the benefits of the APY scheme. This could involve conducting surveys or interviews to understand people's knowledge about the scheme and their perceptions of its advantages.
- b. Reasons for choice of pension slab: Exploring the factors influencing individuals' choices of pension slabs within the APY scheme. This could involve examining demographic variables, financial literacy levels and other socio-economic factors that may impact decision-making.
- c. Factors contributing to early dropouts: Investigation of the reasons behind early dropouts from the APY scheme. This could involve analyzing demographic characteristics, financial circumstances and other factors, including distribution channel mis-selling activities that may eventually lead individuals to discontinue their participation in the scheme prematurely.
- d. Impact of incentives on distribution channel: Examining how incentives provided to distribution channels effect their behaviour and performance in enrolling individuals in the APY scheme. This could involve studying the effectiveness of different incentive structures and their impact on enrolment rates.
- e. Strategies to increase penetration and enrolment: Exploring potential strategies and interventions aimed at increasing the penetration and enrolment in the APY scheme. This could involve pilot programs, policy interventions, or targeted awareness campaigns designed to reach underserved populations and increase participation rates.

By delving deeper into these areas of inquiry, researchers can further identify opportunities to improve its effectiveness in providing retirement security for India's population.

## 8. Conclusion

India's young population will benefit greatly from a robust pension system by 2047. APY program offers a great opportunity for a vast section of the population to secure their future. The ongoing growth in APY participation demonstrates a commitment to achieving this goal. Distribution channels are actively working to expand outreach and make APY accessible to everyone.

While participation is already increasing, there's room for even greater inclusivity. Notably, female enrolment is steadily catching up, with a national trend showing a positive shift towards women joining the program. Although, national statistics show encouraging progress in female enrolment, there are regional variations.

Interestingly, regions with lower female enrolment also tend to have lower overall APY enrolment, evidencing that increasing participation across genders is crucial for maximizing the program's impact. By focusing on regional equity and encouraging both men and women to join, a significant boost in overall enrolment density can be achieved.

Targeted media campaigns and extensive use of social media outreach through regional language short videos and/or local influencers can further enhance engagement and raise awareness, especially among low-income urban population cohorts, women and rural populations. By working together and focusing on inclusivity, the APY has the potential to empower a significant portion of India's population to secure a bright and financially secure future.

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