GOVERNMENT OF THE PUNJAB

Lahore, Pakistan

ACTUARIAL EVALUATION

of

Employee's Defined Benefit Pension Scheme

And

Defined Contribution Pension Scheme of New Employees

from 8th January 2024

April 15, 2025

TABLE OF CONTENTS

INTRODUCTION

This Report has been prepared as part of our Contract with Punjab Pension Fund (PPF) dated 7th June 2024 for the Actuarial Evaluation of the Pension Schemes of the Employees of the Government of Punjab as at 8th January 2024. The Deliverables specified in the Contract are mentioned in Annexure III of this Report. The data according to our specifications, in respect of the Active employees and Pensioners as at the Evaluation date was provided by Punjab Pension fund, from Accountant General's (AG's) Office, Government of Punjab.

The overall accuracy of the data provided was much better than the data which has been made available for previous Actuarial evaluations. We understand that this has only been possible through the efforts of the General Manager of Punjab Pension Fund and his colleagues.

On 8th January 2024 the Government of Punjab introduced a new Defined Contribution Pension Scheme (DC) for all new employees, as from this date.

Then on 2nd December 2024 the Government of Punjab made amendments in the Benefits payable under the existing Defined Benefit Scheme (DB)

This Report consists of the following two Parts:

Part I:
Defined Benefit Pension Scheme
(applicable to employees existing as on 7th January 2024)

This Part determines the Deficit in the Pension Fund as at 8th January 2024 and as at 30th June 2024.

The calculations have also been made showing the financial impact due to Amendments in the Benefits as from 02 December 2024 onwards.

Part II:
Defined Contribution Pension Scheme-
(This scheme applies to new employees recruited on or after 08th January 2024.)

PART I

DEFINED BENEFIT PENSION SCHEME

EXECUTIVE SUMMARY

1.1 Purpose of the Report

This part of the Report relates to the Actuarial Evaluation of the Government of Punjab Employees' Defined Benefit Pension Scheme as on 8th January 2024 and 30th June 2024. It also addresses the financial impact resulting from the amendments introduced to the Pension Scheme Rules effective from 2nd December 2024.

A. Data for Active Employees and Pensioners

The summary of the salient features of the data used for Actuarial Evaluation of the Pension Fund liabilities are as follows:

More comprehensive Analysis of the data is shown in Section 2.

Active employees

Summary of Data Used	
Number of Active Employees	**968,520**
Total monthly pensionable pay	Rs. 36,685.033 million
Average monthly pensionable pay	Rs.37,877
Average age	41 years
Average past service	15.5 years

Pensioners

Summary of Data Used	
Number (including Family pensioners)	**572,568**
Total monthly pension	Rs. 28,156.674 million
Average monthly pension	Rs 49,176

B. Summary of the Actuarial Evaluation assumptions

The assumptions with relevant explanations are given in Section 3.

a) Financial

i) Discount rate: 14% as recommended by PSoA.
ii) Rate of Increase in Pensionable pay: 13%
iii) Rate of Increase in Pension: 12%
iv) Rate of Increase in Medical Allowance: 7.25%
v) New Entrants for Cash Flow Projections: Nil, (New DC Pension Scheme is applicable for all new entrants from 8th January 2024.)

b) Demographic

i) The State Life Mortality Table (SLIC) has been used with different adjustments in age for Active employees, Pensioners, Widow/widowers, Invalid Pensioners.
ii) The Withdrawal and Ill health rates used are those which are generally used for Public sector Organisations in the country.

C. Pension Fund Liability for Active employees & Pensioners

i. Total Accrued Actuarial Liability of the Pension Fund as at January 8th, 2024 and 30th June 2024 is as shown below:

Description	As at 8th January 2024 (Rs. Million)	As at 30th June 2024 (Rs. Million)
Accrued Actuarial Liability on account of:		
a) Active Employees	4,994,162	5,103,381
b) Pensioners (including Family pensioners)	6,634,726	6,779,823
Total Accrued Actuarial Liability	**11,628,888**	**11,883,204**
Fund Assets	123,685	140,125
Unfunded Accrued Liability	**(11,505,203)**	**(11,743,079)**
Required Contribution Rate, as %age of Pensionable pay, to fund *Future Accrual* of Pension liability.	45.35%	45.46%

D. Amendments in Pension and other Benefits as from 2nd December 2024

On the request of the Government of Punjab, we recommended certain Pension Reforms/Amendments with the expected reduction in the Pension liability with respect to each Reform. Our Recommended Pension Reforms are given in Section 7.

Finally, on 02 December 2024 the Government of Punjab made the Amendments in the benefits payable. The copies of the relevant Notifications are given in Annexure IV of this Report.

	After Amendments of 2nd December 2024
	Accrued Actuarial Liability (Rs. Million)
Accrued Actuarial Liability on account of:	
a) Active Employees	2,367,241
b) Pensioners (including Family pensioners)	4,018,402
Total Accrued Actuarial Liability	**6,385,643**
Fund Assets	140,125
Unfunded Accrued Liability	**(6,245,518)**
Required Contribution Rate, as %age of Pensionable pay, to fund *Future Accrual* of Pension liability.	19.26%

Reductions in Liability:

ii. The total accrued actuarial liability has reduced from **Rs. 11,883.204 billion** to **Rs. 6,385.643 billion** (i.e. **43% reduction**).

iii. The required contribution rate to fund future pension accruals has also dropped substantially, from **45.46%** to **19.26%** of pensionable pay (**i.e. 57.6% reduction**).

E. The Impact on Projected Cash payments as a result of the Amendments (as on 2nd December 2024) of Pension Scheme Benefits.

The Cash Flow Projection of the Pension and Commutation amounts payable over next twenty years are shown below.

Year	Rules before 02 December 2024 (Rs. billion)	Amended Rules as from 02 December 2024 (Rs. billion)	Reduction In Cashflow (Rs. billion)	Percentage Reduction
2024-25	423.092	393.450	58.760	7%
2025-26	510.909	447.530	96.849	12%
2026-27	590.399	494.623	134.014	16%
2027-28	689.563	551.956	181.167	20%
2028-29	799.784	613.333	235.965	23%
2029-30	908.256	669.821	294.007	26%
2030-31	1,025.420	727.289	359.714	29%
2031-32	1,165.844	794.574	439.062	32%
2032-33	1,324.343	867.368	531.189	35%
2033-34	1,500.991	944.406	637.275	37%
2034-35	1,703.072	1,029.480	761.008	40%
2035-36	1,921.971	1,117.133	899.476	42%
2036-37	2,152.627	1,203.695	1,051.333	44%
2037-38	2,422.105	1,304.000	1,229.300	46%
2038-39	2,727.808	1,415.900	1,433.117	48%
2039-40	3,067.321	1,538.713	1,661.288	50%
2040-41	3,446.979	1,674.493	1,918.207	51%
2041-42	3,899.163	1,843.836	2,216.814	53%
2042-43	4,415.184	2,041.717	2,554.216	54%
2043-44	4,921.301	2,218.807	2,903.938	55%

DEFINED BENEFIT PENSION SCHEME

<u>MAIN REPORT</u>
SECTION 1

1.1 Introduction

This part of the Report relates to the Actuarial Evaluation of the Government of Punjab Employees' Defined Benefit Pension Scheme as on 8th January 2024 and 30th June 2024. It also addresses the financial impact resulting from the amendments introduced to the Pension Scheme Rules effective from 2nd December 2024.

1.2 Data of Active Employees and Pensioners

The relevant data in respect of total Active Employees and total Pensioners was provided by the PPF.

Finance Department/Accountant General's Office gave separate information for Active employees and Pensioners to PPF. After checking for the data's reasonableness PPF made some corrections to increase the accuracy of the information provided.

i. Active Employees

Table No.1A below shows the summary of the data provided of the Active Employees and used for the Actuarial evaluation.

Table No. 1A

Summary of Data Used	
Number of Active Employees	**968,520**
Total Monthly Pensionable pay	**Rs. 36,685.033 million**
Average Monthly Pensionable pay	Rs.37,877
Average age	41 years
Average past service	15.5 years

ii. Pensioners

Table No.1B below shows the summary of the data provided of the Pensioners, used for the Actuarial evaluation.

Table No. 1B

Summary of Data Used	
Number of Employee Pensioners	381,011
Monthly Pension	Rs. 21,659,601,187
Number of Family Pensioners	191,557
Family Monthly Pension	Rs. 6,497,072,577
Total Pensioners	**572,568**
Total Monthly Pension	**Rs. 28,156,673,764**

ANWAR ASSOCIATES
Consulting Actuaries

1.3 Pension Fund Assets

Table No.1C below shows the detail provided of the Pension Fund Assets as on 8th January 2024 and 30th June 2024.

Table No. 1C

Rs. Million

Assets Type	January 2024	June 2024	Percentage
PIBs – Floating Rate	44,910	50,896	36.31%
National Saving Schemes	24,502	27,755	19.81%
PIBs – Fixed Rate	15,325	17,358	12.39%
Mutual Funds – Equity	11,911	13,496	9.63%
Shares of Listed Companies	3,574	4,047	2.89%
Corporate Bonds & Preference Shares	5,875	6,657	4.75%
Short Term Bank Deposits	4,675	5,292	3.78%
Mutual Funds – Fixed Income	5,801	6,568	4.69%
Term Deposit Receipt	4,502	5,100	3.64%
Accrued Markup & Others	2,610	2,956	2.11%
Total Fund Size	**123,685**	**140,125**	**100.00%**

*Other assets include prepaid expenses for management of PPF and book value of fixed assets (vehicles, computers etc.) of PPF.

SECTION 2

Data Analysis

2.1   Active Employees

Table No. 2A below shows the distribution of 968,520 Active Employees according to **Basic Pay Scale:**

Table No. 2A

Pay Grade	Number of Employees	% of Total Number	Cumulative %	Average Monthly Pensionable Pay (Rs.)
1	89,194	9.209%	9.209%	16,254
2	45,469	4.695%	13.904%	20,561
3	19,806	2.045%	15.949%	24,141
4	17,540	1.811%	17.760%	29,400
5	57,473	5.934%	23.694%	26,709
6	4,815	0.497%	24.191%	32,772
7	158,909	16.407%	40.599%	26,168
8	1,268	0.131%	40.730%	37,741
9	54,198	5.596%	46.326%	28,881
10	3,002	0.310%	46.635%	35,367
11	53,533	5.527%	52.163%	33,034
12	13,788	1.424%	53.586%	38,592
13	537	0.055%	53.642%	45,111
14	201,891	20.845%	74.487%	38,037
15	84,427	8.717%	83.204%	44,486
16	88,487	9.136%	92.341%	61,414
17	46,621	4.814%	97.154%	70,386
18	18,618	1.922%	99.077%	101,541
19	6,858	0.708%	99.785%	145,626
20	1,498	0.155%	99.939%	184,608
21	266	0.027%	99.967%	227,263
22	32	0.003%	99.970%	248,929
Other	290	0.030%	100.000%	90,639
Total:-	**968,520**	**100%**		37,877

ANWAR ASSOCIATES
Consulting Actuaries

Tables and Figures below show the distribution of the Active Employees according to Age groups, Past service groups and Pensionable pay groups, of the employees:

Table No. 2B

Age Group Wise Distribution of Active Employees				
Age Group		Number	% of Total Number	Cumulative %
0	To	19	560	0.1%	0.1%
20	To	24	26,492	2.7%	2.8%
25	To	29	86,062	8.9%	11.7%
30	To	34	174,092	18.0%	29.7%
35	To	39	177,989	18.4%	48.0%
40	To	44	153,522	15.9%	63.9%
45	To	49	109,034	11.3%	75.1%
50	To	54	114,274	11.8%	86.9%
55	To	59	119,764	12.4%	99.3%
60 and above			6,731	0.7%	100.0%
Grand Total			968,520	100%	

Figure No. 2B(i)

Age Group Wise Distribution of Active Employees

Figure No. 2B(ii)

Age Group Wise Distribution of Active Employees
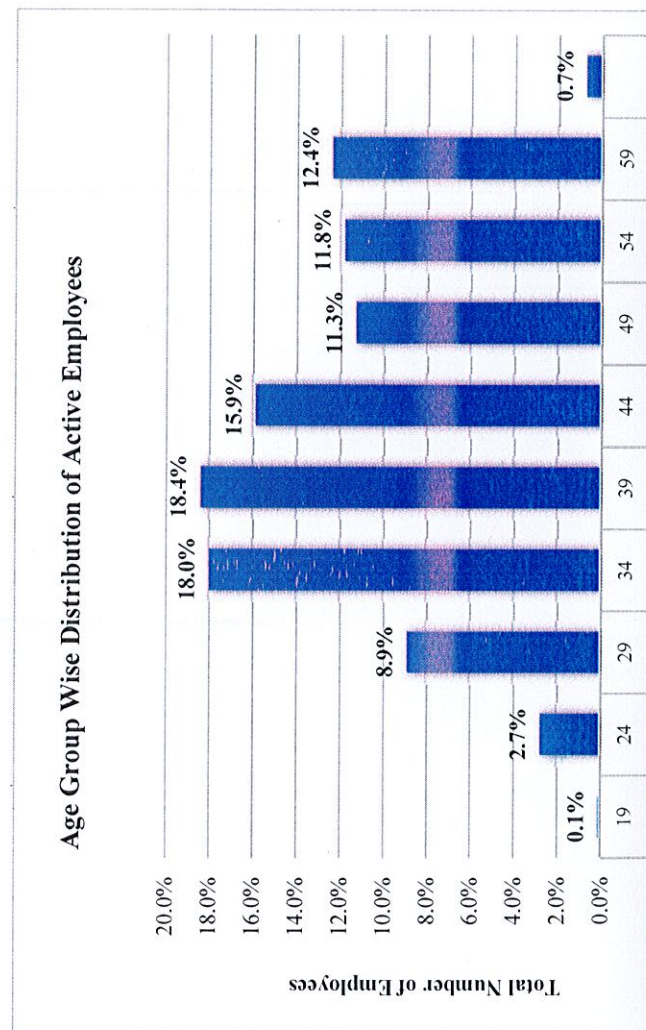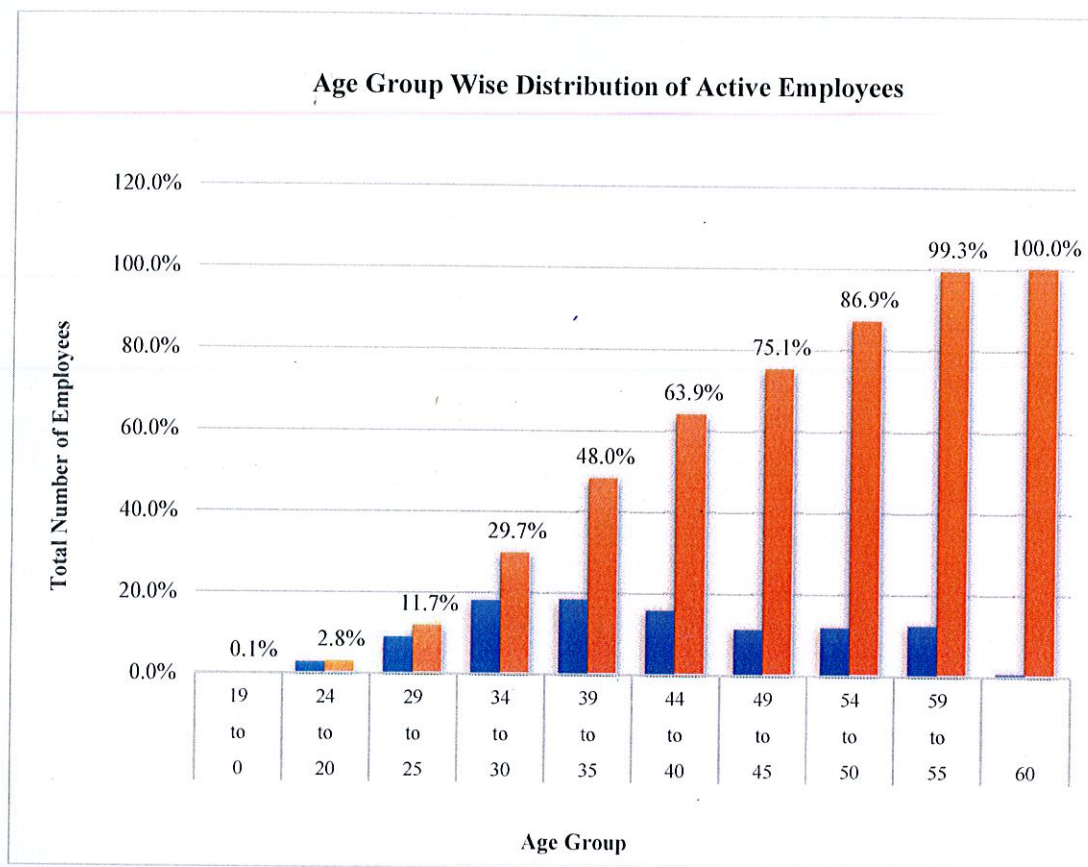
Table No. 2C

Past Service Wise Distribution of Active Employees					
Past Service (years)			Number	% of Total Number	Cumulative %
0	To	5	108,466	11.2%	11.2%
5	To	9	257,491	26.6%	37.8%
10	To	14	199,479	20.6%	58.4%
15	To	19	137,335	14.2%	72.6%
20	To	24	60,510	6.2%	78.8%
25	To	29	70,608	7.3%	86.1%
30	To	34	80,146	8.3%	94.4%
35	To	39	52,103	5.4%	99.8%
40	To	44	2,382	0.2%	100.0%
45	and Above		-	0.0%	
Grand Total			968,520	100%	

Figure No. 2C(i)

Past Service Wise Distribution of Active Employees

ANWAR ASSOCIATES
Consulting Actuaries

Figure No. 2C(ii)

Past Service Wise Distribution of Active Employees
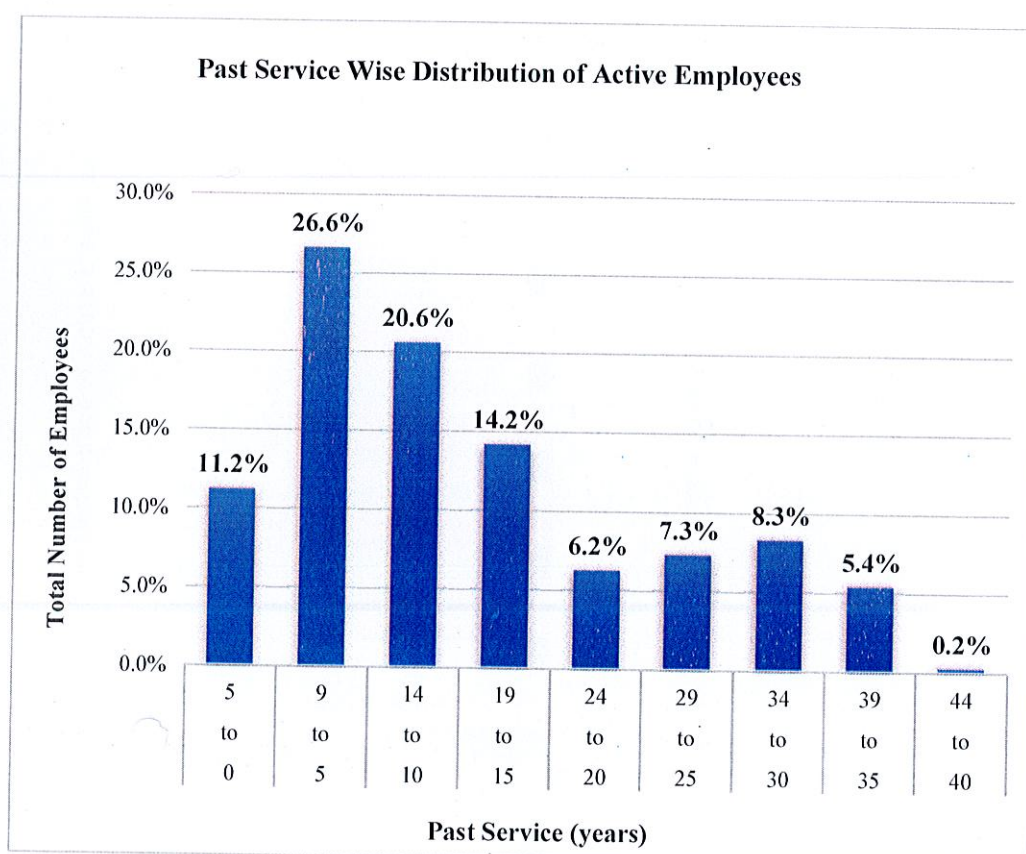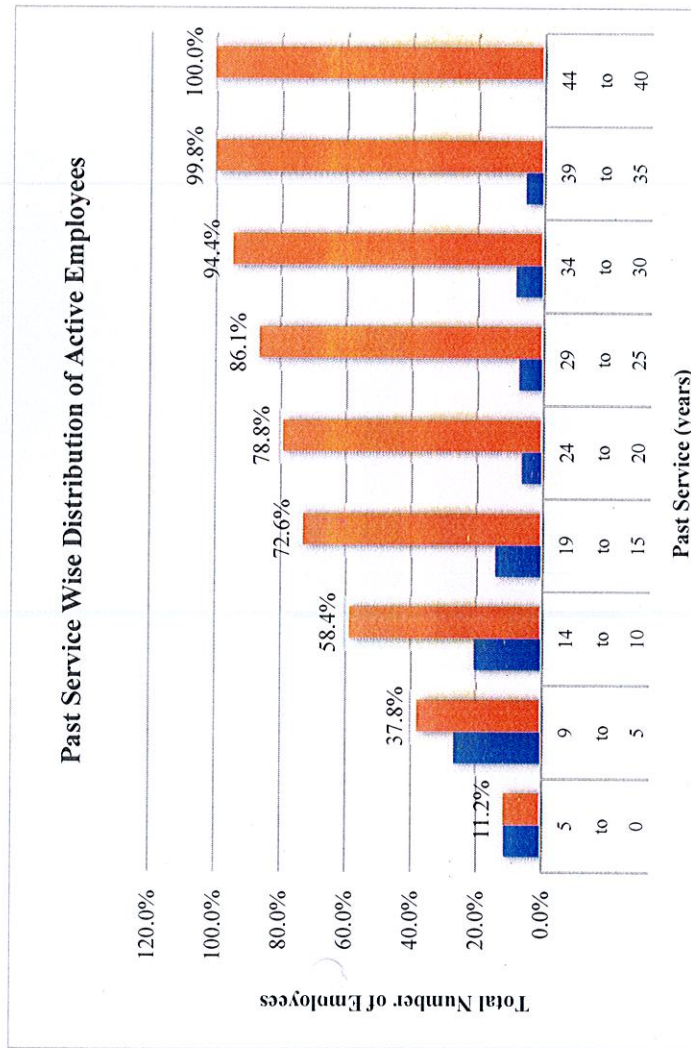
Table No. 2D

Monthly Pensionable Pay Wise Distribution of Active Employees					
Monthly Pensionable Pay (Rs.000's)			Numbers	% of Total Number	Cumulative %
0	To	10	121	0.0%	0.0%
11	To	20	156,638	16.2%	16.2%
21	To	30	333,654	34.4%	50.6%
31	To	40	188,373	19.4%	70.1%
41	To	50	87,307	9.0%	79.1%
51	To	60	75,274	7.8%	86.9%
61	To	70	43,913	4.5%	91.4%
71	To	80	28,246	2.9%	94.3%
81	To	90	19,666	2.0%	96.4%
90	To	100	12,743	1.3%	97.7%
100 and Above			22,585	2.3%	100.0%
Grand Total			968,520	100%	

Figure No. 2D(i)

Monthly Pensionable Pay Wise Distribution of Active Employees

Figure No. 2D(ii)

Monthly Pensionable Pay Wise Distribution of Active Employees
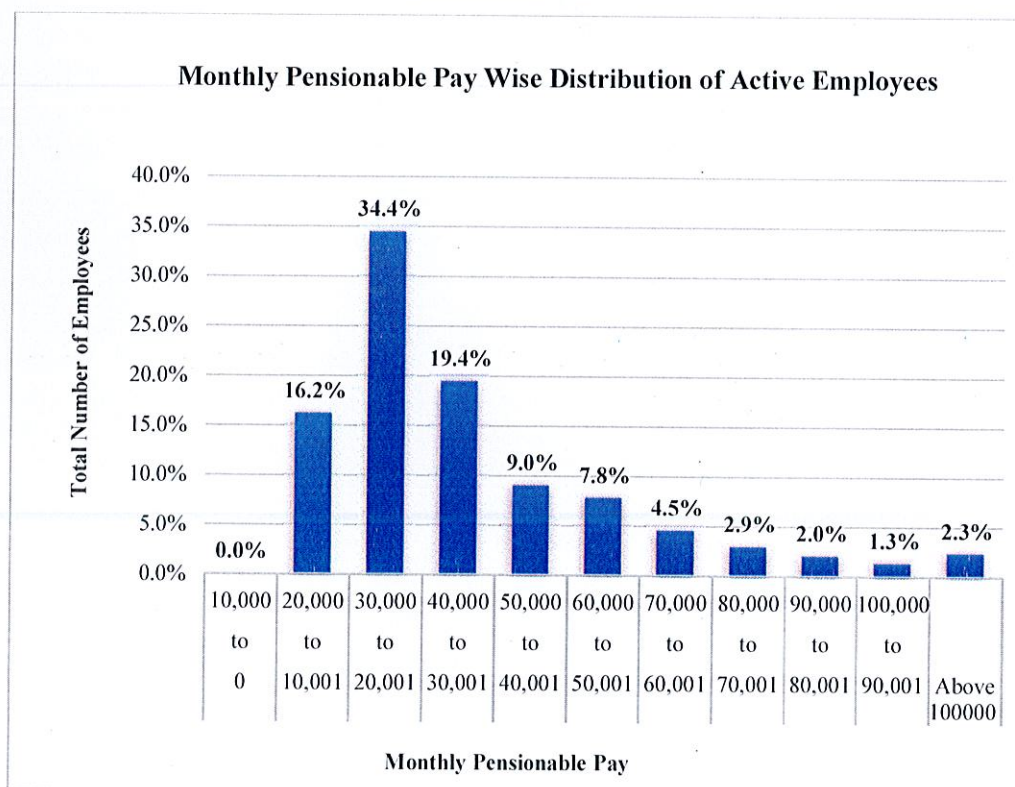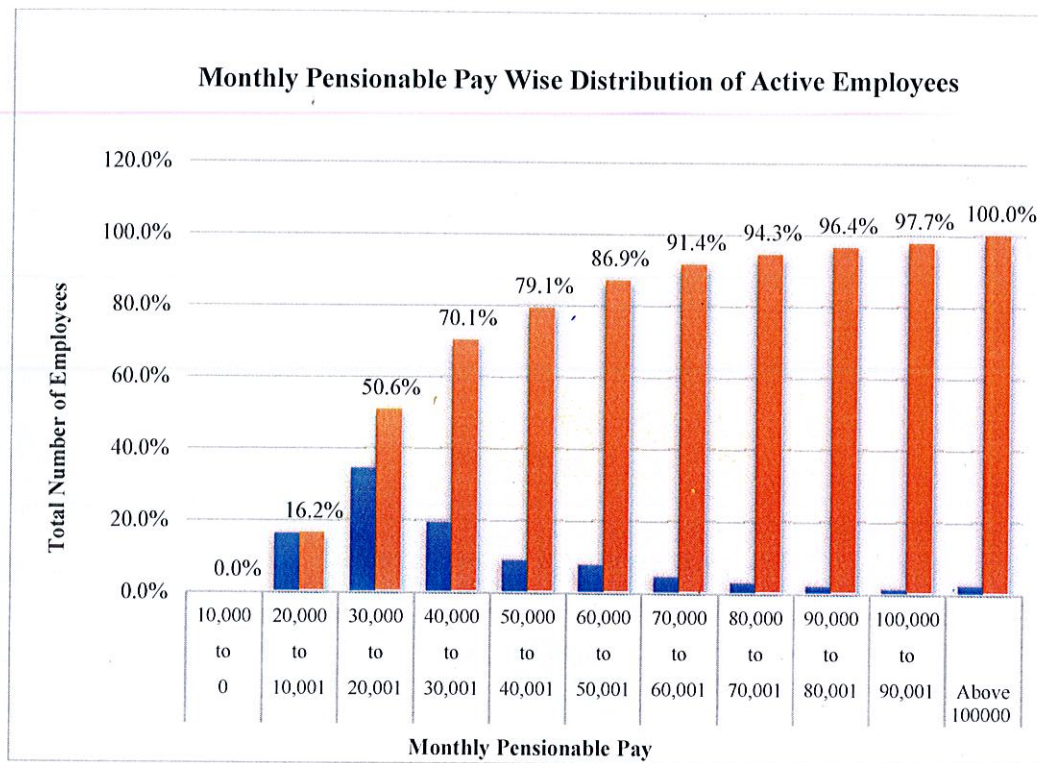
2.2 Pensioners

Table No. 2E below shows the bifurcation of 572,568 Pensioners between Retired Employee Pensioners and Family Pensioners

Table No. 2E

Number of Retired Employee Pensioners	381,011
Monthly Pension	Rs. 21,659,601,187
Number of Family Pensioners	191,557
Family Monthly Pension	Rs. 6,497,072,577
Total Pensioners	**572,568**
Total Monthly Pension	**Rs. 28,156,673,764**

Figure No. 2E
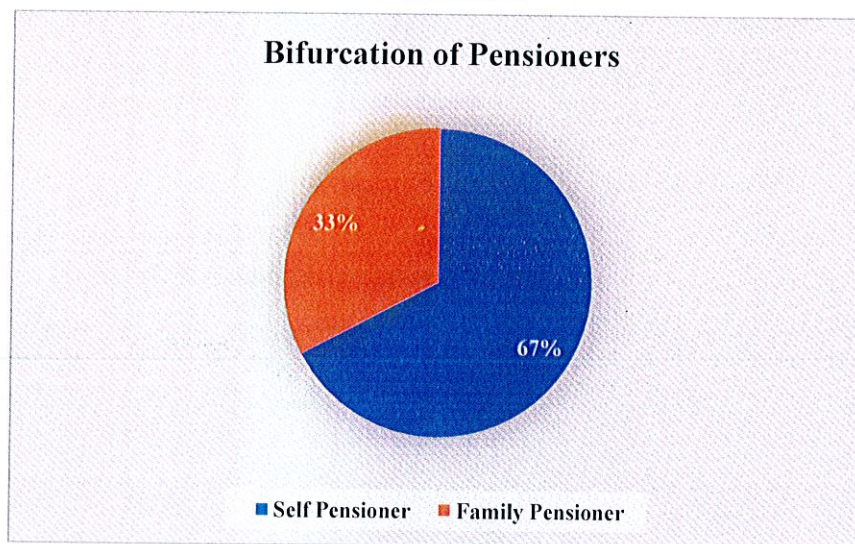
Tables and Figures below show the distribution of All Pensioners according to Age groups, and Monthly Pension amount groups.

Table No. 2F

Age Group Wise Distribution of Pensioners			Number	Distribution	Cumulative Distribution
Age Group					
25	to	45	759	0.1%	0.1%
46	to	50	2,896	0.5%	0.6%
51	to	55	24,633	4.3%	4.9%
56	to	60	86,591	15.1%	20.1%
61	to	65	139,652	24.4%	44.5%
66	to	70	106,986	18.7%	63.1%
71	to	75	73,657	12.9%	76.0%
76	to	80	49,905	8.7%	84.7%
81	to	85	38,242	6.7%	91.4%
85	to	90	24,442	4.3%	95.7%
Above 90			24,805	4.3%	100.0%
Grand Total			572,568	100%	

Figure No. 2F(i)

Age wise Distribution of Pensioners

Figure No. 2F(ii)

Age wise Distribution of Pensioners
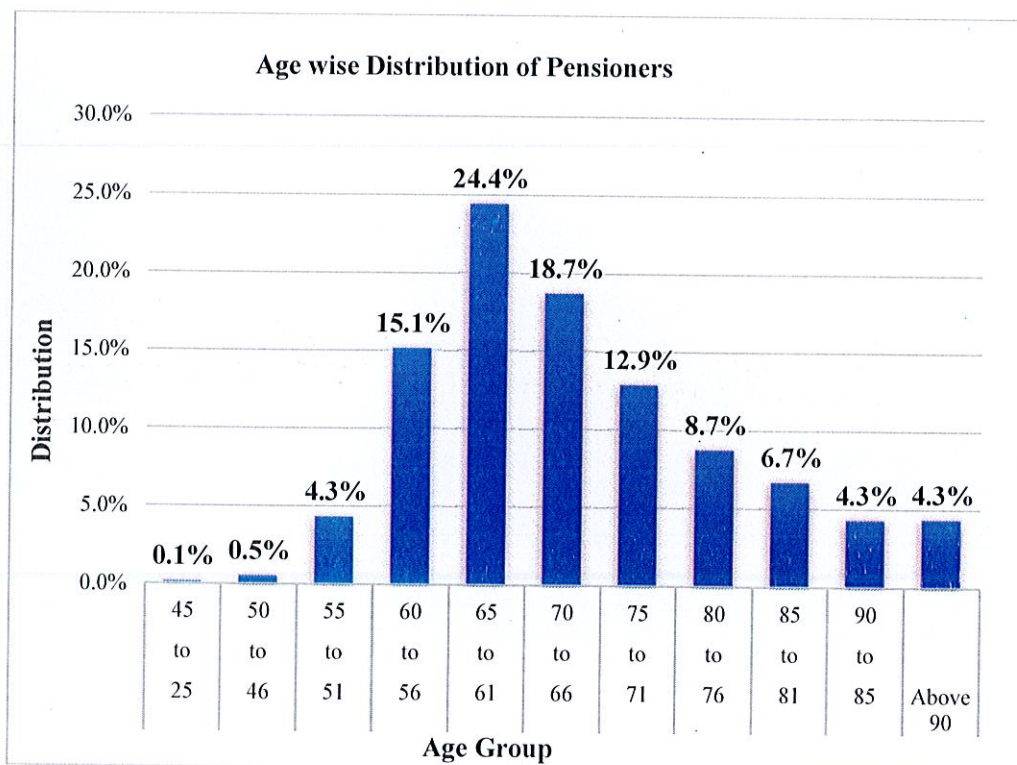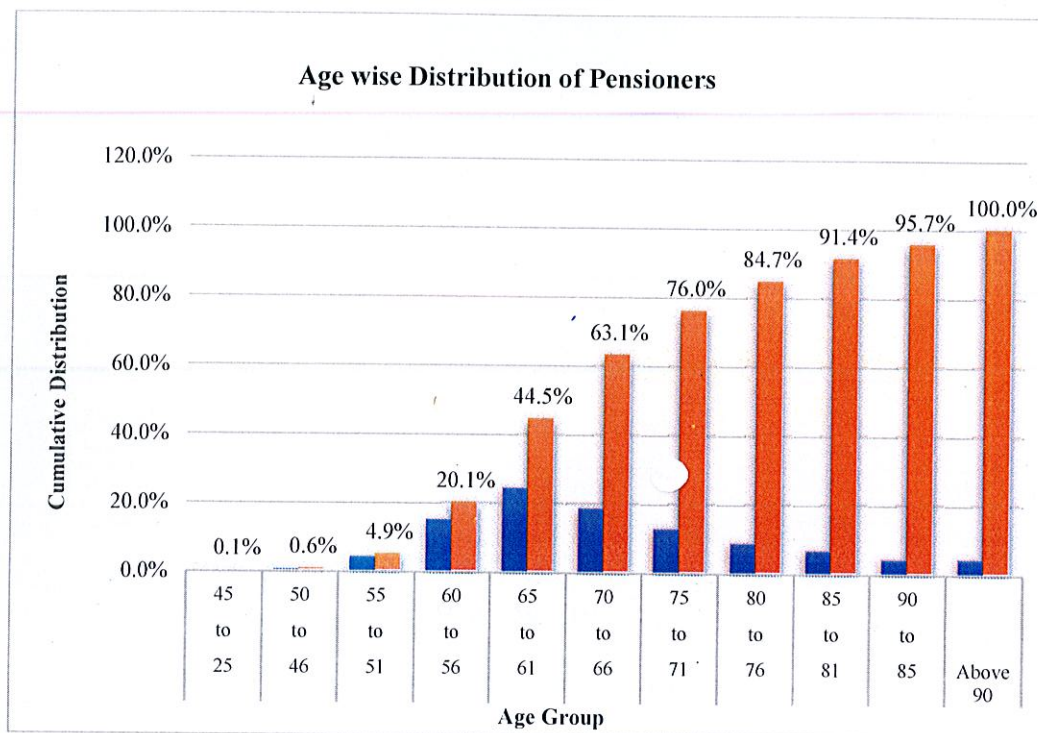
Table No. 2G

Monthly Pension Amount Wise Distribution of Pensioners			Number	% of Total Number	Cumulative %
Monthly Pension Amount					
0	To	10,000	2,744	0.5%	0.5%
10,001	To	20,000	104,733	18.3%	18.8%
20,001	To	30,000	118,635	20.7%	39.5%
30,001	To	40,000	100,229	17.5%	57.0%
40,001	To	50,000	78,241	13.7%	70.7%
50,001	To	60,000	56,210	9.8%	80.5%
60,001	To	70,000	30,085	5.3%	85.7%
70,001	To	80,000	17,475	3.1%	88.8%
80,001	To	90,000	11,809	2.1%	90.8%
90,001	To	100,000	8,723	1.5%	92.4%
Above 100,000			43,684	7.6%	100.0%
Grand Total			572,568	100%	

Figure No. 2G

Monthly Pension wise Distribution of Pensioners

Monthly Pension wise Distribution of Pensioners
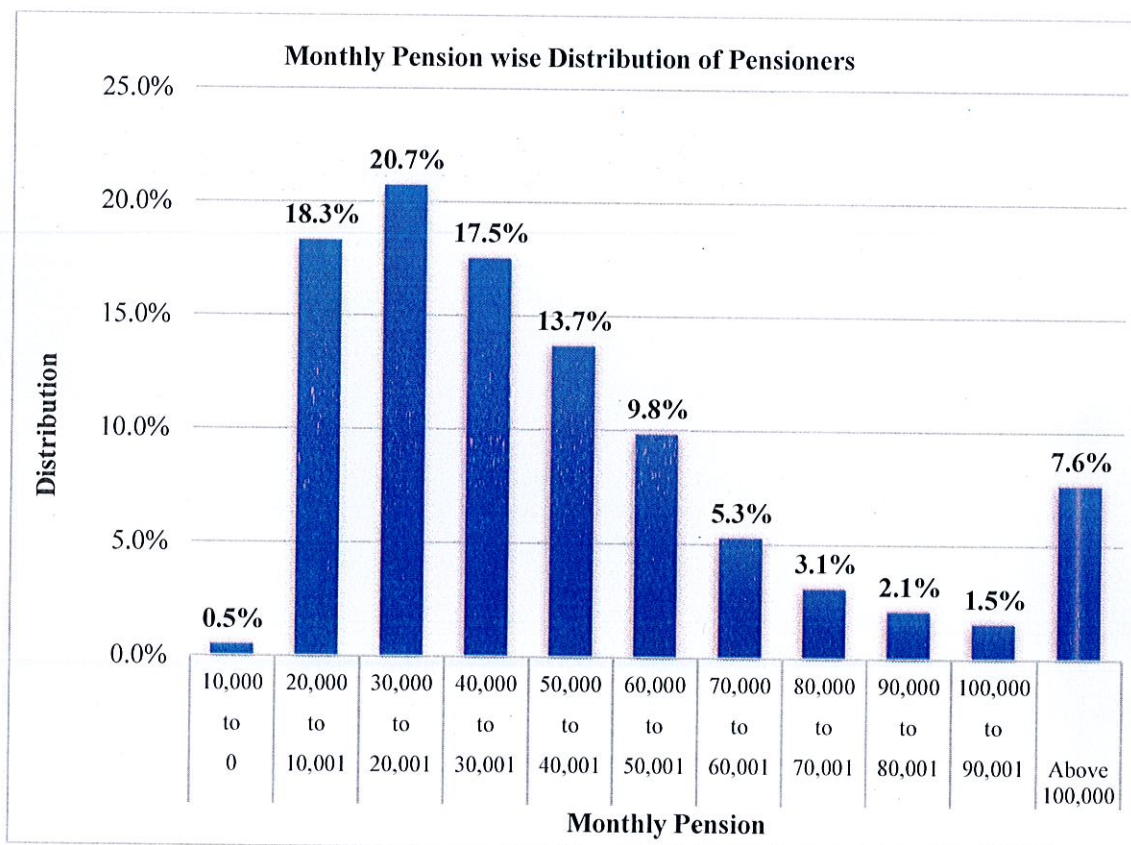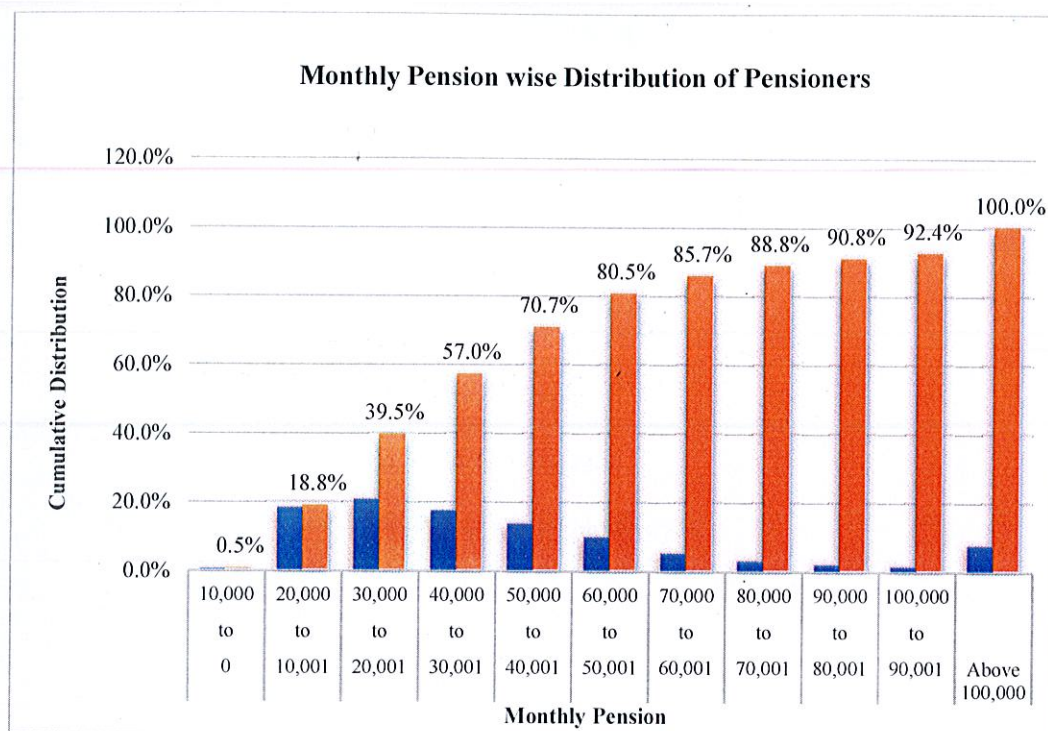
SECTION 3

3.1 Assumptions used for the Actuarial Evaluation

The Assumptions used for the purpose of the Actuarial Evaluation comprise of Financial assumptions, Demographic assumptions, and Other General assumptions

The key components, of Financial assumptions are:

- o Discount Rate
- o Rate of Increase in Pensionable pay
- o Rate of Increase in Pensions
- o Rate of increase in Medical allowance

The key components of Demographic assumptions are:

- o Mortality Rate
- o Withdrawal Rate
- o Disability (Ill-health) Rates
- o Early Retirement Rates-assuming retirement after 25years of service, with age restriction of 55years.

The Other General assumptions relating to:

- o Expenses of Management
- o Nature of the Group
- o The Benefit structure of the Fund
- o Immediate (Ad-hoc) Pension Increases for New Retirees

3.1.1 Financial assumptions

i.   Discount Rate

The Committee of the Pakistan Society of Actuaries (PSoA) on Discount Rate issues recommendations on quarterly basis, as regards the Discount Rates applicable for different weighted average durations of the Pension and Gratuity Funds. While determining these Discount Rates the Committee takes into consideration the yields on PIBs of different terms, issued by the State Bank of Pakistan.

Thus, a Discount Rate of 14% is used, which is according to the Committee's Rates recommendations issued as per PSoA GN 4.

ii. Rate of Increase in Pensionable pay

The Discount rate and the Rate of increase in Pensionable pay are usually inter-related since during periods of inflation, both tend to rise in conformity with each other.

From actuarial evaluation point of view, it is the difference between these two rates that matters, and not their individual values in isolation.

It has been assumed that the long-term Rate of increase in Pensionable pay will be 13% per annum.

The difference of 1% between the Discount Rate and the long-Term Rate of increase in Pensionable pay is considered appropriate and is within the internationally and locally recognized norms.

At the last actuarial evaluation in 2019 this difference was also 1%

iii. Rate of increase in Pension

The long-term Rate of increase of pension has been assumed as 12% per annum. This is based upon past-history of increases/indexation allowed by the Punjab Government from time to time and future expectations because of likely higher future rate of inflation.

According to the amendments dated 02 December 2024, future pension increases for pensioners are established at 50% of the annual rise in pensionable pay. Consequently, with an annual pay increase rate of 13%, the corresponding pension increase will be 6.5% per annum.

iv. Rate of Increase in Monthly Medical Allowance

It has been assumed that the monthly Medical Allowance will increase at 7.25% per annum.

3.1.2 Demographic assumptions valuation

i. Mortality Rates

It has been assumed that the Mortality experience of the Active Employees will be according to SLIC (2001-2005) Mortality Table with 1-year set-back.

The Mortality experience of the pensioners has been assumed to correspond to SLIC (2001-2005) Mortality Table with 1 years set-back.

The Mortality experience of the widow pensioners has been assumed to correspond to SLIC (2001-2005) Mortality Table with 4-year set-back.

It has been assumed that the female spouse of a male employee is five years younger than her husband.

ii. Withdrawal, Ill-health, and Early Retirement Rates

The Active Employee's Withdrawal, Ill-health and Early Retirement Rates used are based on the experience of the Public-sector employee benefit Funds in Pakistan. All the above-mentioned Rates are shown in Annexure I.

Early Retirement is after 25years of service with condition of the age being 55years, as are the existing conditions.

   a. Early Retirement Deductions as per amendments dated 02 December 2024: Employees opting for voluntary retirement before attaining the age of 60 will face deductions in their pension benefits based on their retirement age:

Here's the table that summarizes the retirement reductions based on age:

Retirement Age	Reduction Percentage
59 years	2%
58 years	4%
57 years	6%
56 years	8%
55 years	10%

Other General assumptions

i. Expenses of Management

As in the previous Actuarial valuation it has been assumed that the expenses for the management of Pension Fund/ would be borne by Government of Punjab, and accordingly no provision has been made in the actuarial evaluation of the liability.

ii. Nature of the Group

From 8th January all new entrants will be members of the DC scheme. Thus to determine the Actuarial Liability a closed Group has been assumed, which means that there will be no new entrants in the existing group of Active Employees.

iii. Benefit Structure under the Defined Benefit Pension Scheme

The Scheme rules applicable as of 8th January 2024 and 30th June 2024, including amendments effective from 2nd December 2024, are provided in Annexure II.

iv. Immediate (Ad-hoc) Pension Increases for New Retirees

Provision has been made while determining the Actuarial Liability as of 8th January 2024 and 30th June 2024 for the increase in pension allowed by the Government according to notification No. FD-SR-III-4-130/2024 dated 12th July 2024 to the new Retirees as from 1st July 2024 also allowing for the previous three increases in pension amounts.

According to notification No.FD.SR-III-4-244/2023(A) and No.FD.SR-III-4-244/2023(B) dated December 2, 2024, the annual pension increase granted through previous circulars has been discontinued for **future retirees.**

SECTION 4

Method used for the Actuarial Evaluation of the Pension Fund Liability

The Actuarial Method used to determine the past service liabilities and contribution rate is known as Projected Unit Credit Method (PUCM). This method is also mandated by the International Public Sector Accounting Standard 39 (IPSAS-39).

PUCM *allocates the projected pension benefit uniformly over the years of total service* rendered (subject to max 30 years). The actuarial present value as at the valuation date of one year's benefit summed for all active employees is called "Current Service Cost (CSC)". The sum of the actuarial present value of benefits accrued up to the valuation date summed for all active employees and the actuarial present value of future benefit payments summed for all current pensioners is the Past Service Accrued Liability.

SECTION 5

Actuarial Evaluation Results

5.1 Pension Fund Liability for the Active Employees and Pensioners

The Accrued Actuarial Liability for the past service of the Active Employees and all current Pensioners as at January 8th 2024, and 30th June 2024, based on the data provided and the assumptions (closed group) outlined in Section 3 of this Report, is as shown in Table No.5A below:

Table No. 5A

Description	As at 8th January 2024 (Rs. Million)	As at 30th June 2024 (Rs. Million)
Accrued Actuarial Liability on account of:		
c) Active Employees	4,994,162	5,103,381
d) Pensioners (including Family pensioners)	6,634,726	6,779,823
Total Accrued Actuarial Liability	**11,628,888**	**11,883,204**
Fund Assets	123,685	140,125
Unfunded Accrued Liability	**(11,505,203)**	**(11,743,079)**
Required Contribution Rate, as %age of Pensionable pay; to fund *Future Accrual* of Pension liability.	45.35%	45.46%

Total Accrued liability of the Pension Fund as at 08.01.2024 is **Rs. 11,628.888** billion.

Funding Deficit as at 08.01.2024 works out to **Rs.11,505.203** billion.

To fund the **future** liability as it accrues, the required annual contribution rate payable to the Pension Fund is **45.35%** of pensionable pay.

5.2 Cash Flow Projection of Pension Payments for next 30 years

The Cash Flow Projection of Pension payments comprising all types of pension payments and commutation (**applicable before amendments on 02 December 2024**) over the next 30 years, as from the financial year 2024-25 (starting from 1st July 2024), using the assumptions of closed group as outlined in Section 3, are as shown in Table No. 5C below.

Table No. 5C

Year	Cash Flow Projection of Pension Payments (Rs. Billions)		
	Commutation	Pension	Pension + Commutation
2024-25	49.700	373.392	423.092
2025-26	75.734	435.175	510.909
2026-27	83.427	506.972	590.399
2027-28	99.154	590.409	689.563
2028-29	113.779	686.005	799.784
2029-30	115.470	792.786	908.256
2030-31	113.938	911.482	1,025.420
2031-32	118.907	1,046.937	1,165.844
2032-33	124.466	1,199.876	1,324.343
2033-34	126.241	1,374.750	1,500.991
2034-35	133.048	1,570.024	1,703.072
2035-36	146.636	1,775.335	1,921.971
2036-37	161.841	1,990.787	2,152.627
2037-38	188.920	2,233.185	2,422.105
2038-39	220.631	2,507.177	2,727.808
2039-40	257.868	2,809.454	3,067.321
2040-41	298.895	3,148.083	3,446.979
2041-42	368.194	3,530.968	3,899.163
2042-43	454.389	3,960.795	4,415.184
2043-44	492.797	4,428.504	4,921.301
2044-45	536.456	4,938.513	5,474.969
2045-46	607.206	5,498.891	6,106.097
2046-47	674.385	6,109.755	6,784.141
2047-48	745.416	6,775.269	7,520.685
2048-49	803.347	7,496.250	8,299.597
2049-50	869.823	8,276.884	9,146.707
2050-51	927.270	9,120.497	10,047.766
2051-52	1,030.600	10,041.618	11,072.218
2052-53	1,104.752	11,038.623	12,143.375
2053-54	1,049.638	12,085.449	13,135.086

SECTION 6

Sensitivity Analysis of the Pension Fund Liability as of 08th January 2024

To determine the variations in the Pension Fund liability because of changes mainly in the economic assumptions, the liability has been calculated assuming different Discount rates, Percentage increases in Pensionable pay and Expected Rate of increases in Pension. The Results of different Scenarios are shown in the Tables below.

Table No. 6A

Scenarios	Assumptions		
	Discount Rate	Expected Increase in Pensionable Pay	Expected Rate of Pension Increase
Base Scenario	14%	13%	12%
Sensitivity-I	**15%**	13%	12%
Sensitivity-II	**13%**	13%	12%
Sensitivity-III	14%	**14%**	12%
Sensitivity-IV	14%	**12%**	12%
Sensitivity-V	14%	13%	**13%**
Sensitivity-VI	14%	13%	**11%**

The following Table No.6B summaries the effect of various Scenarios on the Pension Fund liability as at 08.01.2024 the % age change in Accrued Pension Liability.

Table No. 6B

Scenarios	Accrued Pension Liability as at 08.01.2024 (Rs. million)	%age Change in Accrued Pension Liability
Base Scenario	**11,628.888**	
Sensitivity – I	10,037.178	-13.7%
Sensitivity – II	13,567.477	16.7%
Sensitivity – III	12,092.095	4.0%
Sensitivity – IV	11,224.373	-3.5%
Sensitivity – V	12,998.574	11.8%
Sensitivity – VI	10,419.982	-10.4%

SECTION 7

Recommended Pension Reforms/Amendments
As from 1st July 2024

In Table 7A outlines various pension reform options and their impact on the Accrued Liability and Contribution Rate with reference to the Actuarial Valuation as of **30th June 2024.**

The most significant reduction of **52.16%** in Accrued Liability is achieved when all reforms are implemented together given in option 8.

Benchmarking pension increases to **50% of salary increase** results in a **38.55%** reduction, with the Contribution Rate decreasing to **29.04%**.

Other notable reforms include removing the **Medical Allowance for existing and future retirees**, which reduces liability by **6.07%**, and eliminating **Ad-hoc pension increases for future retirees**, reducing it by **8.25%**.

Implementing a **2% annual discount factor** for early retirees has a minimal effect, reducing liability by just **0.11%**. Additionally, the option of basing pensions on the average of the last three years of pensionable pay reduces liability by **4.75%**, while restricting **family pension to spouses of new retirees** results in a **0.68%** reduction.

Overall, the most substantial reductions in both liability and contribution rates come from benchmarking pension increases and the combined implementation of all options.

Table No. 7A

	Total Accrued Liability as at 30.06.2024 (Rs. million)	Reduction in Total Accrued Liability (Rs. million)	Percentage Reduction in Total Accrued Liability	Contribution Rate to fund Future Accrual of Pension liability
Pension Scheme with Existing Benefits (Early Retirement after 25 years of service)	11,883,204			45.46%
Pension Reforms Options				
1. No Medical Allowance payable only for future retirees	11,462.416	420,787	3.54%	41.66%
2. No Medical Allowance payable to Existing Pensioners and future retirees	11,161.522	721,681	6.07%	41.66%
3. Removal of Ad-hoc Pension Increase for future retirees	10,903.357	979,847	8.25%	36.74%

	Total Accrued Liability as at 30.06.2024 (Rs. million)	Reduction in Total Accrued Liability (Rs. million)	Percentage Reduction in Total Accrued Liability	Contribution Rate to fund Future Accrual of Pension liability
4. Restricting Family Pension to Spouse for new Retirees and Existing Self Pensioners.	11,802.974	80,230	0.68%	45.06%
5. Gross Pension based on average of 'last 3 years' Pensionable Pay' instead of 'Last Drawn Pensionable Pay' only for future retirees	11,318.604	564,600	4.75%	40.43%
6. Applying annual Discount Factor of 2% for each year of early Retirement for new Retirees retiring between 55 and 60 years of age	11,869.661	13,542	0.11%	45.39%
7. Benchmarking of Pension Increases to the 50% of the Salary Increase	7,302.780	4,580,424	38.55%	29.04%
8. Combined Impact of following; i. No Medical Allowance payable to Existing Pensioners and future retirees ii. Removal of Ad-hoc Pension Increase for future retirees iii. Reducing Maximum Rate of Commutation to 25% for new Retirees iv. Restricting Family Pension to Spouse for new Retirees. v. Gross Pension based on average of 'last 3 years' Pensionable Pay' instead of 'Last Drawn Pensionable Pay' only for future retirees vi. Applying annual Discount Factor of 2% for each year of early Retirement for new Retirees retiring between 55 and 60 years of age vii. Benchmarking of Pension Increases to the 50% of the Salary Increase	5,685.486	6,197,718	52.16%	17.31%

7.1 Increase in Retirement age for future retirees

As part of the proposed pension reforms, two options have been evaluated to increase the statutory retirement age for future retirees. The first option suggests raising the retirement age from the current **60 years to 63 years**, while the second proposes an increase to **65 years**.

These adjustments are intended to enhance the long-term financial sustainability of the pension scheme by extending the period of active employment. This not only reduces the duration over which pension benefits are paid but also increases the total contributions made to the fund.

Raising the retirement age is a globally recognized reform measure, often adopted in response to rising life expectancy and escalating pension liabilities.

Based on actuarial estimates, increasing the retirement age to 63 years would result in a **3.61%** reduction in the present value of future pension liabilities, whereas an increase to 65 years would lead to a more substantial **5.34%** decrease.

	Total Accrued Liability as at 30.06.2024 (Rs. million)	Reduction in Total Accrued Liability (Rs. million)	Percentage Reduction in Total Accrued Liability	Contribution Rate to fund Future Accrual of Pension liability
Pension Scheme with Existing Benefits (Early Retirement after 25 years of service)	11,883,204			45.46%
1. Increase in Retirement age for future retirees to 63 years	11,454.392	428,811	3.61%	39.67%
2. Increase in Retirement age for future retirees to 65 years	11,248.891	634,313	5.34%	36.49%

7.2 Impact of Recommended Pension Reforms on Projected Pension Payments

The Cash Flow Projection of the Commutation amounts and Pensions payable over next twenty years are shown below. This Projection is based on the *pension scheme rules as at 30th June 2024* vs *proposed reformed rules after combined impact mentioned in number 8 above* excluding the assumption for the new entrants.

Rs. Billion

Year	Current Rules as at 30th June 2024	Recommended reformed Rules from 1st July 2024	Reduction
2024-25	423.092	364.332	58.760
2025-26	510.909	414.060	96.849
2026-27	590.399	456.385	134.014
2027-28	689.563	508.396	181.167
2028-29	799.784	563.819	235.965
2029-30	908.256	614.249	294.007
2030-31	1,025.420	665.706	359.714
2031-32	1,165.844	726.782	439.062
2032-33	1,324.343	793.154	531.189
2033-34	1,500.991	863.716	637.275
2034-35	1,703.072	942.064	761.008
2035-36	1,921.971	1,022.495	899.476
2036-37	2,152.627	1,101.294	1,051.333
2037-38	2,422.105	1,192.805	1,229.300
2038-39	2,727.808	1,294.691	1,433.117
2039-40	3,067.321	1,406.033	1,661.288
2040-41	3,446.979	1,528.772	1,918.207
2041-42	3,899.163	1,682.349	2,216.814
2042-43	4,415.184	1,860.968	2,554.216
2043-44	4,921.301	2,017.363	2,903.938

Cash Flow Projection of Pension Payments of the Closed Group Defined Benefit Pension Scheme as per Currrent Rules as at 30th June2024 vs Proposed Reformed Rules
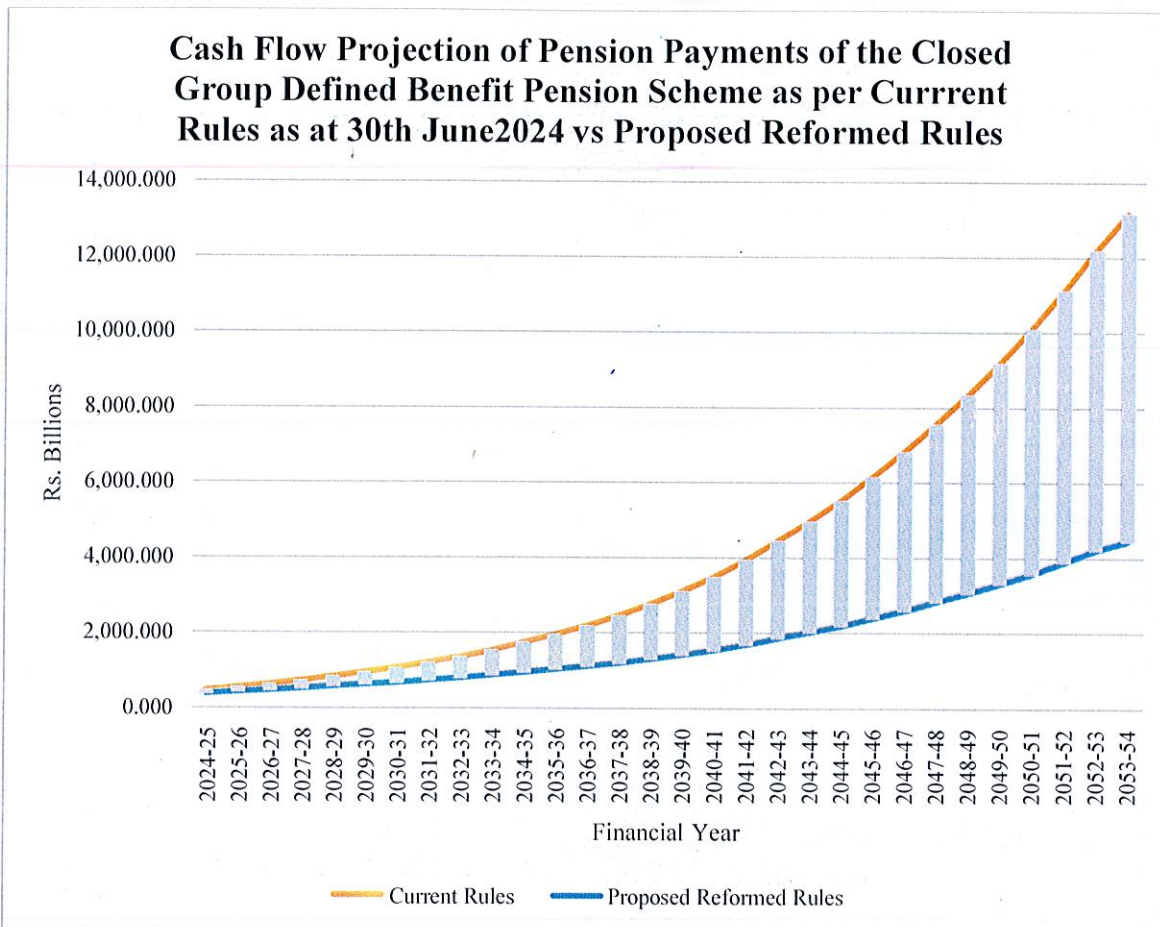
SECTION 8

Amendments in Pension Benefits as per notification of 2nd December 2024

8.1   Implemented Reforms/Amendments

On December 2, 2024, according to notification No.FD.SR-III-4-244/2023(A) and No.FD.SR-III-4-244/2023(B) the Government of Punjab implemented the following reforms to its Employees' Defined Benefit Pension Scheme:

1. The annual pension increase granted through previous circulars has been discontinued for **future retirees**.
    The pension increases allowed under the following circulars have been withdrawn:
    i.   No.FD.PC.2-1/2011 (Dated 11.07.2011)
    ii. No.FD.SR.III-4-259/2015(A) (Dated 23.07.2015)
    iii. No.FD.SR.III-4-160/2021 (Dated 21.07.2022)

2. Amendment in Punjab Civil Services Pension Rules

    i.   Early Retirement Deductions: Employees opting for voluntary retirement before attaining the age of 60 will face deductions in their pension benefits based on their retirement age:
         Here's the table that summarizes the retirement reductions based on age:

Retirement Age	Reduction Percentage
59 years	2%
58 years	4%
57 years	6%
56 years	8%
55 years	10%

    ii. Pension will be calculated based on the average pensionable pay of the last **three years** instead of the last drawn pensionable Pay.

         The new formula:

         The rate of pension at normal retirement age is (7/300) 2.33% of the **Average** pensionable Pay for each year of service subject to a maximum service period of 30 years. The maximum pension amount is thus limited to 70% of the **Average** pensionable Pay

    iii. Family Pension Revision:

Family pension will now be restricted to the spouse for 10 years or until remarriage, whichever is earlier. If the spouse is issueless, the pension will continue for life or until remarriage. In the case of multiple widows, the pension will be equally divided.

iv. Reduction in Commutation of Pension:
The commutation percentage is reduced from 35% to 25%, meaning retirees will receive a lower lump-sum payout at the time of retirement.

v. Future Pension Increase Policy for pensioners:
Annual pension increase shall be granted at the rate of 50% of the ad-hoc relief allowance sanctioned for the respective year.

8.2 Revised Financial Assumptions

Rate of increase in Pension

Based on the assumption that the long-term rate of pensionable pay increase is 13% per annum, the future pension increase rate for pensioners under the new policy is set to be 6.5%. This represents the 50% of the 13% annual pensionable pay increase.

8.3 Pension Fund Liability for the Active Employees and Pensioners

The Accrued Actuarial Liability based on the above Implemented Reforms and revised financial assumption is below:

Table No. 8A

	Amended Rules as from 02 December 2024	Rules before 02 December 2024
	Accrued Actuarial Liability (Rs. Million)	Accrued Actuarial Liability (Rs. Million)
Accrued Actuarial Liability on account of:		
e) Active Employees	2,367,241	5,103,381
f) Pensioners (including Family pensioners)	4,018,402	6,779,823
Total Accrued Actuarial Liability	**6,385,643**	**11,883,204**
Fund Assets	140,125	140,125
Unfunded Accrued Liability	**(6,245,518)**	**(11,743,079)**
Required Contribution Rate, as %age of Pensionable pay, to fund *Future Accrual* of Pension liability.	19.26%	45.46%

The amendment made in pension scheme rules as of December 02, 2024, show a significant reduction in liabilities and contribution rates.

For active employees, the accrued actuarial liability has decreased from **Rs. 5,103.381 billion** to **Rs. 2,367.241 billion**, while the liability for pensioners has dropped from **Rs. 6,779.823 billion** to **Rs. 4,018.402 billion**.
As a result, the total accrued actuarial liability has reduced from **Rs. 11,883.204 billion** to **Rs. 6,385.643 billion**.

The required contribution rate to fund future pension accruals has also dropped substantially, from **45.46%** to **19.26%** of pensionable pay.

8.4 Cash Flow Projection of Pension Payments for next 30 years
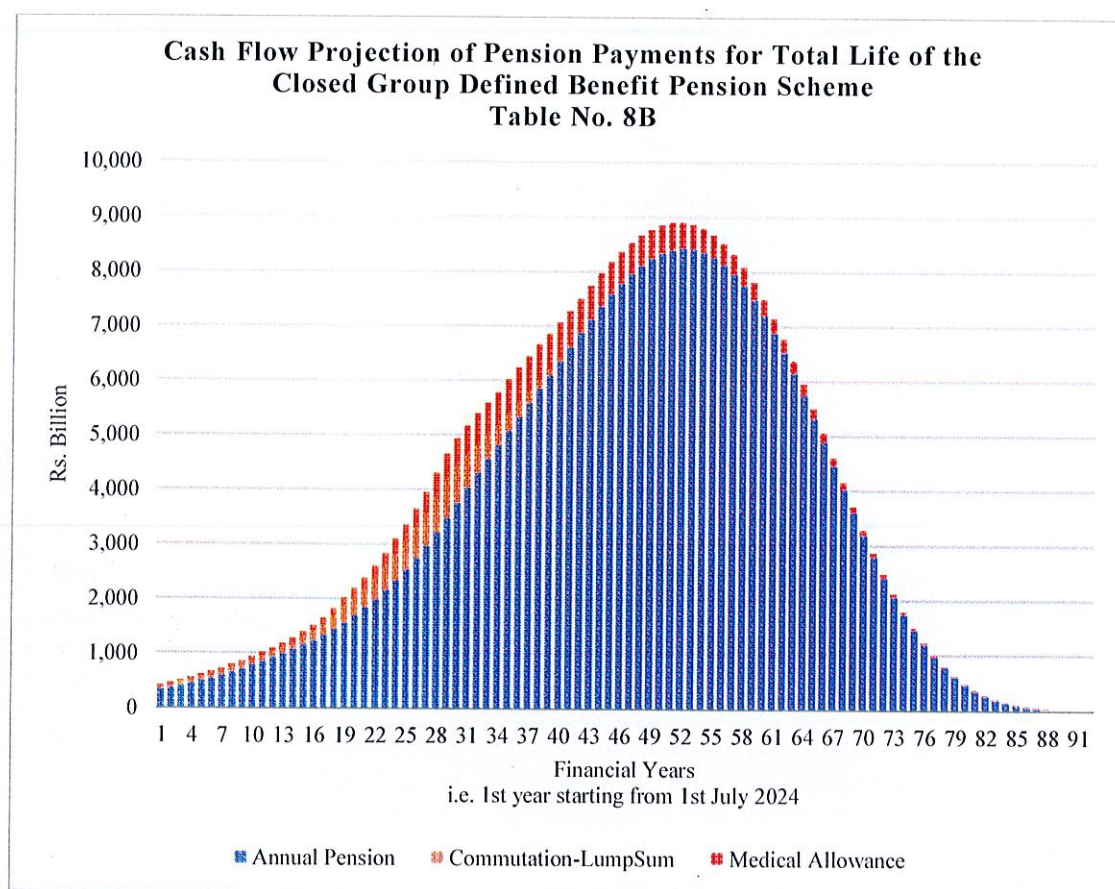
The Cash Flow Projection of Pension payments comprising all types of pension payments and commutation over the next 30 years, as from the financial year 2024-25, using the above amendments and revised financial assumption, are as shown in Table No. 8B below;

Table No. 8B

Year	DB Pension Scheme (after amendments on 02 December 2024)				Before amendments
	Annual Pension	Commutation	Medical Allowance	Total Payments	Total Payments
2024-25	331.454	32.781	29.215	393.450	423.092
2025-26	364.316	49.443	33.771	447.530	510.909
2026-27	401.385	54.473	38.765	494.623	590.399
2027-28	443.022	64.596	44.338	551.956	689.563
2028-29	488.755	74.010	50.568	613.333	799.784
2029-30	537.662	75.230	56.929	669.821	908.256
2030-31	589.576	74.441	63.271	727.289	1,025.420
2031-32	646.914	77.818	69.841	794.574	1,165.844
2032-33	709.106	81.605	76.657	867.368	1,324.343
2033-34	777.801	83.045	83.560	944.406	1,500.991
2034-35	850.991	87.737	90.752	1,029.480	1,703.072
2035-36	921.857	96.795	98.481	1,117.133	1,921.971
2036-37	989.978	106.932	106.785	1,203.695	2,152.627
2037-38	1,063.208	124.640	116.153	1,304.000	2,422.105
2038-39	1,143.788	145.345	126.768	1,415.900	2,727.808
2039-40	1,230.249	169.602	138.862	1,538.713	3,067.321
2040-41	1,325.660	196.289	152.544	1,674.493	3,446.979
2041-42	1,433.987	240.887	168.962	1,843.836	3,899.163
2042-43	1,556.723	296.113	188.880	2,041.717	4,415.184
2043-44	1,687.577	321.003	210.227	2,218.807	4,921.301
2044-45	1,827.972	349.231	233.132	2,410.335	5,474.969
2045-46	1,981.916	394.576	258.731	2,635.223	6,106.097
2046-47	2,148.919	437.492	286.842	2,873.253	6,784.141
2047-48	2,330.365	482.678	317.598	3,130.641	7,520.685

Year	DB Pension Scheme (after amendments on 02 December 2024)				Before amendments
	Annual Pension	Commutation	Medical Allowance	Total Payments	Total Payments
2048-49	2,525.537	519.469	350.409	3,395.415	8,299.597
2049-50	2,736.219	561.595	385.577	3,683.391	9,146.707
2050-51	2,962.841	597.839	422.650	3,983.330	10,047.766
2051-52	3,212.945	662.889	463.550	4,339.385	11,072.218
2052-53	3,483.995	709.038	507.076	4,700.109	12,143.375
2053-54	3,758.947	672.935	547.743	4,979.626	13,135.086

Cash Flow Projection of Pension Payments for Total Life of the Closed Group Defined Benefit Pension Scheme
Table No. 8B

Financial Years
i.e. 1st year starting from 1st July 2024

■ Annual Pension   ■ Commutation-LumpSum   ■ Medical Allowance

The cash flow profile for the Closed Group Defined Benefit Pension Scheme follows a bell-shaped trajectory, with liabilities peaking at Rs. 8,901.539billion in Year 52 (FY2076-77), assuming the first-year cash flow corresponds to FY2024-25. This pattern reflects the gradual retirement of the closed membership base.

Initially, outflows are lower, but they rise as active members retire, leading to increased monthly pension, commutation, and medical allowance payments. The peak in Year 52 marks the point of maximum liability exposure, after which obligations decline naturally due to attrition among retirees.

SECTION 9

Observations and Funding Strategy

9.1 Observations

1. The Actuarial Evaluation was performed using the data of the Active employees and the Pensioners provided by the PPF. This data was made available in the shortest possible time and the accuracy of the data seemed to be most reasonable.

2. The Cash Flow Projections were made of the Pension and commutation payments for the next thirty years and the Results are shown in Section 8. These are based after taking into account the amendments made in the scheme rules on 02 December 2024.

3. The Total accrued Actuarial Liability of the Pension Fund is determined to be Rs. 6,385.643billion based on amendments implemented w.e.f. 02 December 2024.

   The Liability relating to past service of the Active Employees is Rs. 2,367.241 billion (37.07%) and the remaining Liability of Rs. 4,018.402billion pertain to all categories of Pensioners.

9.2 Recommended Future Funding Strategy

It will be seen that over the years it has not been possible by the Government to follow the recommended Funding Strategies mainly because of financial constraints. These financial constraints are very likely to continue in future, as well, and thus there is no reason to continue following similar types of Strategies.

For a normal Pension Fund of any Organisation, it would be prudent to set up a Pension Fund which should always be adequate to meet the Actuarial Liability of the benefits payable to the existing members of the Fund. This is purely necessary to guarantee the payment of future cash benefits and pensions to the employees, even in the event the Organisation becomes insolvent

In our opinion, for a Pension Scheme for Civil Servants, where benefits are guaranteed by the Government, it is not prudent that the Scheme should be fully Funded, especially when the Government is already borrowing funds for current and developmental expenses. Such a type of Funding Strategy is only feasible where the Government have surplus funds or there are specific donations from foreign donors for this purpose.

Thus, it is suggested that the payments each year should be on 'Pay as You Go' basis.

We may also mention that the above recommended Funding method is being followed even in quite several economically developed countries.

Under this Method, at the time of each Actuarial Study of the Pension Liabilities after every three years, the Consultant may recommend an annual Rate of contribution, as percentage of the Provincial Revenue, which should be payable to the Pension Fund during the next three years.

Annual Contribution Rate on 'Pay as You Go' Funding basis.

On the basis of our study/analysis of the past experience and future projections of the expected Government Revenues, and Pensions outgo **(based on amendments made on 2nd December 2024)**, and making necessary provision for likely variations in the assumptions, we are of the opinion that a Contribution of **10%** Revenue of the Government of the Punjab each year over the next three years, beginning from 2024-25, to the Pension Fund, will be adequate to meet the Pension expenditure during this period.

This rate was 18.5% as per our previous actuarial valuation report as at 30.06.2019.

The suggested Contribution rate may be reviewed at the next Actuarial evaluation of the Pension Fund, by the then appointed Consultants.

The following Table No.9A summaries the Projected Pension Payments against projected Government of the Punjab Revenue for next 20 years:

Table No. 9A

Rs. Billion

Year	Annual Pension	Commutation	Medical Allowance	Total Payments	Projected Revenue*	Pension Expense as % of Revenue
2024-25	331.454	32.781	29.215	393.450	4,643.446	8.5%
2025-26	364.316	49.443	33.771	447.530	5,107.791	8.8%
2026-27	401.385	54.473	38.765	494.623	5,618.570	8.8%
2027-28	443.022	64.596	44.338	551.956	6,180.427	8.9%
2028-29	488.755	74.010	50.568	613.333	6,798.470	9.0%
2029-30	537.662	75.230	56.929	669.821	7,478.317	9.0%
2030-31	589.576	74.441	63.271	727.289	8,226.149	8.8%
2031-32	646.914	77.818	69.841	794.574	9,048.764	8.8%
2032-33	709.106	81.605	76.657	867.368	9,953.640	8.7%
2033-34	777.801	83.045	83.560	944.406	10,949.004	8.6%
2034-35	850.991	87.737	90.752	1,029.480	12,043.904	8.5%
2035-36	921.857	96.795	98.481	1,117.133	13,248.295	8.4%
2036-37	989.978	106.932	106.785	1,203.695	14,573.124	8.3%
2037-38	1,063.208	124.640	116.153	1,304.000	16,030.437	8.1%
2038-39	1,143.788	145.345	126.768	1,415.900	17,633.480	8.0%
2039-40	1,230.249	169.602	138.862	1,538.713	19,396.828	7.9%
2040-41	1,325.660	196.289	152.544	1,674.493	21,336.511	7.8%
2041-42	1,433.987	240.887	168.962	1,843.836	23,470.162	7.9%
2042-43	1,556.723	296.113	188.880	2,041.717	25,817.179	7.9%
2043-44	1,687.577	321.003	210.227	2,218.807	28,398.896	7.8%

*It has been assumed that long-term growth in Government Revenue would not be less than 10% per annum from FY2025-26 onward.

PART II

DEFINED CONTRIBUTION PENSION SCHEME

SECTION 10

10.1 Introduction

This part of the report covers the Defined Contribution Pension Scheme introduced by the Government of Punjab for all new employees recruited on or after 8th January 2024. This arrangement accumulates retirement benefits based on contributions made by both employees and the employer. The Government of Punjab contributes 12% of employees' salaries, while employee's contribution share is 10% of the salaries.

10.2 Data of Active Employees and Pensioners

The relevant data in respect of total Active Employees was provided to us by the PPF.

Finance Department/Accountant General's Office gave separate information for Active employees and Pensioners to PPF. After checking for the data's reasonableness PPF made some corrections to increase the accuracy of the information provided.

i. Active Employees

Table No.10A below shows the summary of the data of the Active Employees used for the Actuarial evaluation.

Table No. 10A

Summary of Data Used	June 30, 2024
Number of Active Employees	5,441
Total Monthly Pensionable pay	Rs. 106,906839
Average Monthly Pensionable pay	Rs.19,648
Average age	26 years
Average past service	0.31 years

SECTION 11

Data Analysis

11.1 Active Employees

Table No. 11A below shows the distribution of 5,441 Active Employees according to **Basic Pay Scale**:

Table No. 11A

Pay Grade	Number of Employees	% of Total Number	Average Monthly Pensionable Pay (Rs.)
1	1,735	16.79%	15,495
2	77	1.02%	19,681
3	31	0.45%	14,865
4	11	0.18%	16,479
5	79	1.12%	18,646
6	18	0.25%	49,186
7	2,130	39.26%	16,367
9	127	3.76%	19,618
10	1	0.03%	22,810
11	530	14.40%	19,423
12	64	2.13%	24,697
14	226	7.33%	26,642
15	44	1.46%	30,723
16	105	3.42%	37,723
17	229	7.27%	50,903
18	28	0.93%	75,258
19	1	0.03%	115,020
20	4	0.12%	206,768
21	1	0.03%	217,670
Total	**5,441**	**100.00%**	**19,648**

SECTION 12

Actuarial Evaluation Results

12.1 DC Pension Fund Members Liability as per amended Defined Benefit Pension Scheme Rules

The Accrued Actuarial Liability for the past service of the Active Employees as at 30.06.2024, on the basis of the data provided and the assumptions outlined in Section 3 of this Report, is as shown in Table No.12A below:

Table No. 12A

	Amended Rules as from 02 December 2024	Rules before 02 December 2024
	Accrued Actuarial Liability (Rs. Million)	Accrued Actuarial Liability (Rs. Million)
Accrued Actuarial Liability on account of:		
a) Active Employees	74.350	160.043
Total Accrued Actuarial Liability	74.350	160.043
DB Fund Assets	**Nil**	**Nil**
Unfunded Accrued Liability	74.350	160.043
Required Contribution Rate, as %age of Pensionable pay, to fund *Future Accrual* of Pension liability.	19.14%	40.55%

For the members of the DC Pension Scheme, under the amended pension rules, the unfunded accrued liability stands at Rs. 74.350 million for the employees hired after January 08, 2024, with a required contribution rate of 19.14% of pensionable pay to fund future pension accruals.

The contribution rate payable by the government is 12% and for the employees it is 10% under the DC scheme. However, if there is no DC Scheme the Government Contribution rate would be 19.14% to fund the DB scheme for the employees hired after January 08, 2024.

The total estimated value of the DC Pension Fund is projected to be at least **Rs. 58.562 million.**

12.2 Comparison of Funding Cost of Government for DC and DB Pension Scheme during the next 30 years

i. **As per amended DB Pension Scheme Rules applicable w.e.f. December 02, 2024**

Rs. Million

Year	New Members after January 08, 2024	Average Pay	Govt. DB Pension Scheme Contribution Cost i.e. 19.14% of Pensionable Salary	Govt. DC Pension Scheme Contribution Cost i.e. 12% of Pensionable Salary	Saving the for Government	Employee DC Pension Scheme Contribution Cost i.e. 10% of Pensionable Salary
2023-24	5,441	37,169	232.3	145.6	86.6	121.3
2024-25	9,514	41,101	898.2	563.1	335.1	469.3
2025-26	19,124	44,725	1,964.5	1,231.7	732.9	1,026.4
2026-27	28,830	48,657	3,221.9	2,020.0	1,202.0	1,683.3
2027-28	38,632	52,993	4,702.2	2,948.0	1,754.2	2,456.7
2028-29	48,533	57,446	6,403.7	4,014.8	2,388.9	3,345.6
2029-30	58,533	62,426	8,392.6	5,261.7	3,130.9	4,384.8
2030-31	68,633	68,086	10,733.0	6,729.0	4,004.0	5,607.5
2031-32	78,834	74,538	13,496.5	8,461.6	5,034.9	7,051.3
2032-33	89,136	81,666	16,719.7	10,482.4	6,237.3	8,735.3
2033-34	99,542	89,765	20,523.3	12,867.0	7,656.3	10,722.5
2034-35	110,052	98,862	24,989.6	15,667.2	9,322.5	13,056.0
2035-36	120,667	109,033	30,218.9	18,945.6	11,273.3	15,788.0
2036-37	131,388	120,280	36,297.9	22,756.8	13,541.1	18,964.0
2037-38	142,216	132,836	43,390.8	27,203.7	16,187.1	22,669.8
2038-39	153,153	146,562	51,556.0	32,322.9	19,233.2	26,935.7
2039-40	164,199	161,838	61,035.6	38,266.1	22,769.6	31,888.4
2040-41	175,356	178,588	71,929.0	45,095.6	26,833.4	37,579.7
2041-42	186,624	197,199	84,528.5	52,994.8	31,533.7	44,162.4
2042-43	198,004	217,155	98,759.0	61,916.6	36,842.4	51,597.1
2043-44	209,499	239,130	115,066.2	72,140.3	42,925.9	60,116.9
2044-45	221,108	263,927	134,035.8	84,033.2	50,002.6	70,027.7
2045-46	232,834	291,458	155,866.9	97,720.2	58,146.8	81,433.5
2046-47	244,676	322,176	181,058.0	113,513.6	67,544.4	94,594.7
2047-48	256,638	356,604	210,203.0	131,786.0	78,417.0	109,821.6
2048-49	268,719	395,181	243,907.9	152,917.1	90,990.8	127,430.9
2049-50	280,920	438,676	283,047.3	177,455.4	105,591.9	147,879.5
2050-51	293,244	487,353	328,250.0	205,795.1	122,454.9	171,495.9
2051-52	305,691	542,400	380,832.6	238,761.5	142,071.0	198,967.9
2052-53	318,262	603,676	441,286.8	276,663.1	164,623.7	230,552.6

Under the reformed pension rules, the DB scheme requires a contribution rate of 19.14% of pensionable pay.

Comparison of Government Funding Cost for DC and DB Pension Schemes
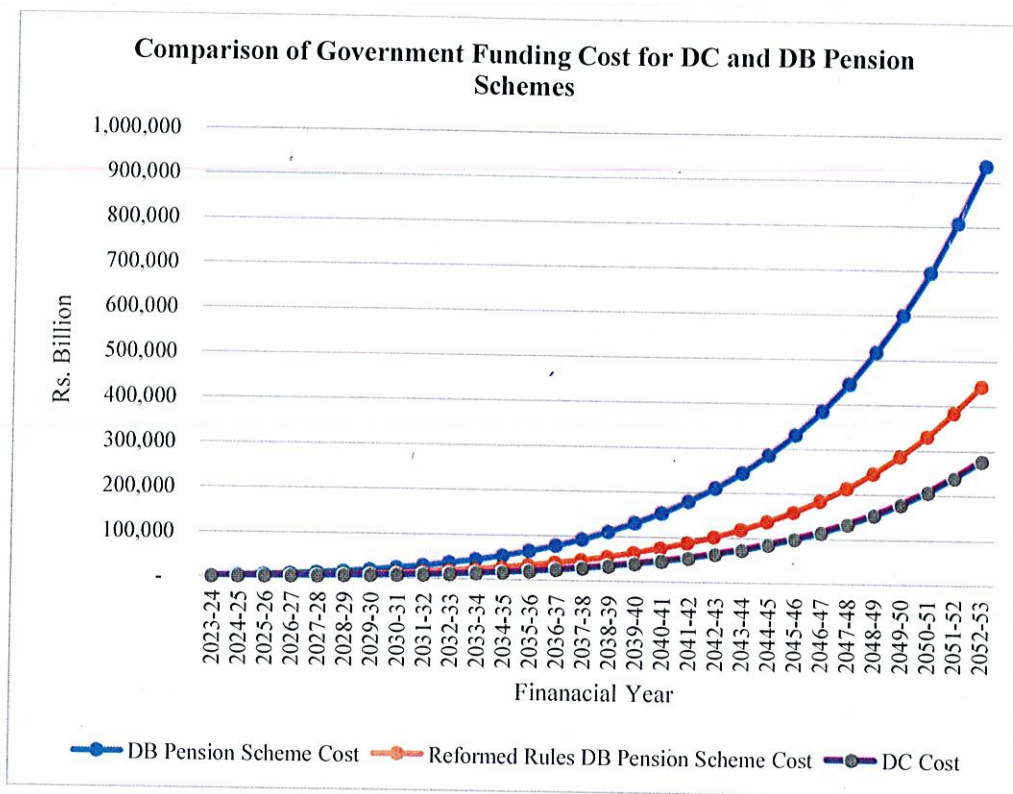
However, the DB scheme still carries the risk of increasing unfunded liabilities if actual experience deviates from actuarial assumptions, potentially leading to future funding challenges. This contrast underscores the financial prudence of the DC scheme, which offers greater cost stability and long-term sustainability compared to the DB scheme.

SECTION 13

Replacement Rate Comparison

13.1 Replacement Rate Comparison: Defined Benefit (DB) vs. Defined Contribution (DC) Pension Schemes

The replacement rate, which represents the percentage of an employee's pre-retirement salary replaced by pension benefits, varies between the Defined Benefit (DB) and Defined Contribution (DC) pension schemes and this depends mainly on the total amount being contributed to the DC scheme.

Under the DB scheme for the Punjab Government, the replacement rate for retirees is set at 70% of the last three years average pensionable pay for as per amendments made on December 2, 2024.

In contrast, the DC scheme does not guarantee a fixed replacement rate. Instead, the final pension benefits depend on factors such as contribution rates, age of entry, investment returns, and annuity rates at retirement. With a fixed contribution rate of 12% of pensionable pay for Government and 10% for employees, the projected replacement rate at retirement under the DC scheme for different entry ages is estimated as percentage of last three years pensionable pay.

Entry Age	Replacement Rate	Employer Contribution Rate	Employee Contribution Rate
25 years	77.65%	12%	10%
30 years	70.68%	12%	10%
35 years	57.94%	12%	10%

General Remarks

This report details the revised Accrued Liability of the Pension Fund as at 30.06.2024 and records the recent reforms. It outlines the structure and funding status of both the Defined Benefit and Defined Contribution Schemes.
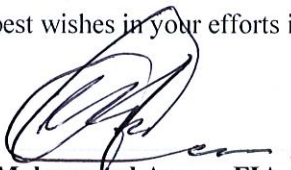
Additionally, our analysis of the Defined Contribution Scheme in Part II highlights its cost efficiency, full funding for past service liabilities, and predictable contribution requirements. The comparison between DC and DB schemes provides valuable insights, ensuring a financially stable and sustainable pension framework for the Government in respect of new hire.

We greatly appreciate the amendments introduced by the Government of Punjab to the Defined Benefit Pension Rules, as these changes have significantly enhanced the financial sustainability of the scheme in future.

We further commend the dedicated efforts of the General Manager and his colleagues in promptly providing highly accurate data and offering valuable suggestions throughout the actuarial evaluation process.

Please feel free to contact us as and when necessary, in respect of any matter relating to this Report.

With all the best wishes in your efforts in the implementation of the Reforms.

Chaudhary Mohammad Anwar FIA, FPSoA, FLMI
Chief Executive Officer and Chief Actuary

15/4/25

BABER KHAN
DEP. MANAGER.

ANNEX I

Mortality Rates

The following table shows the age-based in-service mortality rates used for the purpose of valuation. The rates are those of the standard SLIC 2001–05 Mortality table used for actuarial work in Pakistan.

Age	Mortality Rates	Age	Mortality Rates
20	0.000958	64	0.02168
21	0.000974	65 ˙	0.02305
22	0.000991	66	0.02439
23	0.001011	67	0.02569
24	0.001032	68	0.02751
25	0.001057	69	0.02946
26	0.001084	70	0.03225
27	0.001115	71	0.03533
28	0.001150	72	0.03876
29	0.001190	73	0.04242
30	0.001235	74	0.04638
31	0.001287	75	0.05070
32	0.001345	76	0.05544
33	0.001413	77	0.06065
34	0.001489	78	0.06623
35	0.001577	79	0.07223
36	0.001678	80	0.07871
37	0.001793	81	0.08571
38	0.001924	82	0.09328
39	0.002075	83	0.10139
40	0.002248	84	0.11005
41	0.002445	85	0.11926
42	0.002671	86	0.12904
43	0.002928	87	0.13942
44	0.003221	88	0.15066
45	0.003554	89	0.16261
46	0.003932	90	0.17532
47	0.00436	91	0.18899
48	0.00484	92	0.20397
49	0.00538	93	0.22061
50	0.00599	94	0.23947
51	0.00667	95	0.26084
52	0.00742	96	0.28496
53	0.00824	97	0.31235
54	0.00915	98	0.34366
55	0.01013	99	0.37921
56	0.01120	100	0.41967
57	0.01234		
58	0.01354		
59	0.01481		
60	0.01613		
61	0.01750		
62	0.01888		
63	0.02028		

Withdrawal, Ill-Health and Early Retirement Rates

The Withdrawal, Ill-Health and Early Retirement rates used in the Actuarial Evaluation are shown in the Table below. These Rates are based on the experience of public-sector Employee Benefit Funds in Pakistan.

Age	Withdrawal Rates	Ill Health Rates	Early Retirement Rates
20	0.10000		
21	0.08570		
22	0.09680		
23	0.06530		
24	0.04400		
25	0.02970		
26	0.04790		
27	0.03110		
28	0.02040		
29	0.01350		
30	0.00900	0.00050	
31	0.00600	0.00055	
32	0.01500	0.00059	
33	0.00940	0.00064	
34	0.00600	0.00069	
35	0.00390	0.00074	
36	0.00260	0.00078	
37	0.00170	0.00083	
38	0.00730	0.00088	
39	0.00450	0.00092	
40	0.00280	0.00097	
41	0.00180	0.00102	
42	0.00120	0.00106	
43	0.00080	0.00111	
44	0.00050	0.00116	
45	0.00040	0.00121	0.01205
46	0.00020	0.00125	0.01440
47	0.00010	0.00130	0.01675
48	0.00010	0.00135	0.01950
49	0.00010	0.00141	0.02145
50	0.00010	0.00147	0.02380
51	0.00010	0.00154	0.02100
52	0.00010	0.00162	0.01900
53	0.00010	0.00171	0.01700
54	0.00010	0.00181	0.01500
55	0.00010	0.00192	0.01300
56	0.00010	0.00204	0.01100
57	0.00010	0.00217	0.00900
58	0.00010	0.00231	0.00700
59	0.00010	0.00246	0.00500
60	-	-	1

ANNEX II

Summary of the Benefit Structure of Punjab Pension Scheme

All regular employees of the Government of Punjab, who are members of Pension Scheme are entitled to the following benefits on normal and early retirement, death and disability:

Normal Retirement Pension at age 60years

<u>If service is less than 5 years:</u>

- Nil Benefit

<u>If service is greater than 5 and less than 10 years:</u>

- A lump sum gratuity is payable. The rate of gratuity is calculated as per the following formula:

Gratuity=Last Drawn Pensionable Pay x Pensionable Service

<u>If service is 10 years or greater:</u>

- The rate of pension at normal retirement age is (7/300) 2.33% of the last drawn pensionable Pay for each year of service subject to a maximum service period of 30 years. The maximum pension amount is thus limited to 70% of the last drawn pensionable Pay

According to notification No.FD.SR-III-4-244/2023(A) and No.FD.SR-III-4-244/2023(B) dated December 2, 2024, Pension will be calculated based on the average pensionable pay of the last **three years** instead of the last drawn pensionable Pay.

The new formula:

- The rate of pension at normal retirement age is (7/300) 2.33% of the **Average** pensionable Pay for each year of service subject to a maximum service period of 30 years. The maximum pension amount is thus limited to 70% of the **Average** pensionable Pay

The employees can surrender up to a maximum of 35% of the gross pension in lieu of a lumpsum-commuted value. The commuted value at age 60 shall be calculated as per the following formula:

Commuted Value =12.37 x amount of pension surrendered x 12

According to notification No.FD.SR-III-4-244/2023(A) and No.FD.SR-III-4-244/2023(B) dated December 2, 2024, the commutation percentage is reduced from 35% to 25%, meaning retirees will receive a lower lump-sum payout at the time of retirement.

Early Retirement Pension after 25years of service and 55years age

Early retirement Pension is being paid on retirement after completion of 25 years of service and 55 years of the age of the retiree. The rate of pension at early retirement age is 2.33% of the last drawn pensionable Pay for each year of service subject to a maximum service period of 30 years. The maximum pension amount is thus limited to 70% of the last drawn pensionable Pay.

The employees can surrender up to a maximum of 35% of the gross pension in lieu of a lumpsum-commuted value. The age-based commutation factors are set out in the table (later in the section).

According to notification No.FD.SR-III-4-244/2023(A) and No.FD.SR-III-4-244/2023(B) dated December 2, 2024, the commutation percentage is reduced from 35% to 25%, meaning retirees will receive a lower lump-sum payout at the time of retirement.

For the base calculations, the Early Retirement is after 25years of service with condition of the age being 55years, as are the existing conditions.

According to notification No.FD.SR-III-4-244/2023(A) and No.FD.SR-III-4-244/2023(B) dated December 2, 2024, employees opting for voluntary retirement before attaining the age of 60 will face deductions in their pension benefits based on their retirement age:

Here's the table that summarizes the retirement reductions based on age:

Retirement Age	Reduction Percentage
59 years	2%
58 years	4%
57 years	6%
56 years	8%
55 years	10%

Death in Service (Please also see Note below)

If service is less than 5 years:

- Nil Benefit

If service is greater than 5 and less than 10 years:

- A lump sum gratuity is payable. The rate of gratuity is calculated as per the following formula:

Gratuity = 1.5 x Last Drawn Pensionable Pay x Service

If service is greater than 10 years or more-Pension to the Widow/widower/children

- The basic pension shall be 2.33% of the last drawn pensionable Pay for each year of service subject to a maximum service period of 30 years

Widow/widower's Pension=75% x basic pension

Widow/widower's pension is paid to eligible children in case of death of the widow/widower. Eligible children are defined as legal male child under the age of 21 years and legal unmarried daughter

In addition to the above, the Widow/widower is entitled to 25% of the commuted value of gross pension. The age-based commutation factors are set out in the table (later in the section)

Note: According to the Notification Number **No.FD-SR-l/3-10/2004** Dated August 15th 2017 issued by the Government of Punjab, with effect from 22nd February 2017, the deceased's family shall be allowed, salary till the date of superannuation of the deceased civil servant. After the date of superannuation Family pension shall be allowed.

For Actuarial Evaluation we have assumed that Family pension shall be payable from age 60 of the deceased employee. We have not made any provision for the salary payable to the family from the date of death till the date of superannuation, of the deceased employee.

According to notification No.FD.SR-III-4-244/2023(A) and No.FD.SR-III-4-244/2023(B) dated December 2, 2024, family pension will now be restricted to the spouse for 10 years or until remarriage, whichever is earlier. If the spouse is issueless, the pension will continue for life or until remarriage. In the case of multiple widows, the pension will be equally divided.

Death after Retirement

In case of death after retirement, the Widow/widower is entitled to receive 75% of the pension being received by the retiree.

Widow/widower's pension is paid to eligible children in case of death of the widow/widower. Eligible children are defined as legal male child under the age of 21 years and legal unmarried daughter.

Ill-health Retirement Pension

If service is less than 5 years:

- Nil Benefit

If service is greater than 5 and less than 10 years:

- A lump sum gratuity is payable. The rate of gratuity is calculated as per the following formula:

Gratuity = 1.5 x Last Drawn Pensionable Pay x Service

If service is 10 years or more:

- The basic pension is 2.33% of the last drawn pensionable Pay for each year of service subject to a maximum service period of 30 years.

The employee can surrender up to a maximum of 35% of the gross pension in lieu of a lumpsum-commuted value.

Immediate (Ad hoc) Pension Increase

According to the notifications issued by the Government of Punjab, with effect from 1st July 2024, the Net Pension amount payable for new retirees will increase by 42.17% after allowing for the previous increases as follows:

Year	Effective Date	Rate of Increase
2011	01.07.2011	15%
2015	01.07.2015	7.50%
2022	01.07.2022	15%

The reasoning for the continuation of these increases is said to be to adjust for the anomaly arising from providing pension increases but no increase in pensionable wage: a person retiring before effective date would receive pension increase whereas similar person retiring afterwards would not and hence receive lesser pension.

According to notification No.FD.SR-III-4-244/2023(A) and No.FD.SR-III-4-244/2023(B) dated December 2, 2024, the annual pension increase granted through previous circulars has been discontinued for **future retirees**.

The pension increases allowed under the following circulars have been withdrawn:
- iv. No.FD.PC.2-1/2011 (Dated 11.07.2011)
- v.   No.FD.SR.III-4-259/2015(A) (Dated 23.07.2015)
- vi. No.FD.SR.III-4-160/2021 (Dated 21.07.2022)

Minimum Pension

Minimum pension payable to a retired employee is Rs.10,000/- per month. Minimum pension payable to a Family pensioner is Rs. 7,500/- per month (i.e. 75% of Rs.10,000).

Commutation Table

Following is the age – based commutation table showing commutation factors at ages 20 – 60.

Age	Commutation Factors	Age	Commutation Factors	Age	Commutation Factors
20	40.5043	36	28.3362	52	17.0050
21	39.7341	37	27.5908	53	16.3710
22	38.9653	38	26.8482	54	15.7517
23	38.1974	39	26.1009	55	15.1478
24	37.4307	40	25.3728	56	14.5602
25	36.6651	41	24.6406	57	13.9888
26	35.9006	42	23.9126	58	13.4340
27	35.1372	43	23.1840	59	12.8953
28	34.3750	44	22.4713	60	12.3719
29	33.6143	45	21.7592		
30	32.8071	46	21.0538		
31	32.0974	47	20.3555		
32	31.3412	48	19.6653		
33	30.5869	49	18.9841		
34	29.8343	50	18.3129		
35	29.0841	51	17.6526		

Restoration

The retirees shall be entitled to pension restoration of their commuted part with indexation after lapse of the whole number of years of the commutation factor.

Medical Allowance

All the retirees retiring in Basic Pay Scales (BPS) 16 to BPS-22 and in BPS 1 to BPS 15 are entitled to Medical Allowance at the rate of 20% and 25% respectively of the net monthly pension at the time of retirement. Medical Allowance is increased by 25% immediately for new pensioner.

ANNEX III

Deliverables

1) Report containing Actuarial Assessment of Pension liabilities as of January 08, 2024. The report must determine the following:

   • Present value on January 08, 2024, of projected pension liabilities, considering the scheme is closed for new entrants.(employees)

   • Present value on January 08, 2024, of projected pension liabilities, considering the scheme is also open to new entrants(employees)

   • Annual pension expenses for both scenarios, including commutation and medical expenses. Cash flows are required for the maximum period.

   • Impact of newly introduced DC pension scheme on liability and cash flows.

   • Contribution rate to fund existing DB pension scheme.

   • Sensitivity Analysis of PV of liabilities & cash flows vis-à-vis key variables, e.g., inflation, interest rates, etc.

2) Evaluate the structure of a new DC pension scheme for its effectiveness. The report must determine the following:

   • Present value on January 08, 2024, of projected pension liabilities.

   • Annual Pension Expenses.

   • The project's likely replacement rate is under the approved scheme.

   • Sensitivity Analysis of PV of liabilities, cash flows & replacement rate vis-à-vis key variables, e.g., inflation, interest rates, etc.

3) Detailed analysis of approved, proposed, and potential pension reforms under the DB pension scheme. The report must include the following:

   • Impact of each reform on the pension liability, cash flows, and contribution rate individually and collectively.

   • Conduct sensitivity analysis and evaluate fiscal sustainability under each reform option.

4) Report on Funding Strategy to Fund. The Report must include the following:

   • Review the existing Funding Strategy to validate its adequacy.

   • Impact of recently notified withdrawal of profits on the funding strategy.

   • Recommendations for future funding strategy for achieving a targeted funded status over the next twenty years.

5) Report identifying reform contours to bring the contribution rate of the existing pension scheme to a manageable level for seeking opinion by the

Fund/Government from legal experts for their acceptability under the current judicial paradigm.

6) Impact of any change in retirement age on pension expenses and liability.

7) Evaluate the impact of reforms implemented/considered under the Punjab Pension Reform Plan on pension liabilities and cash flows.

ANNEX IV

Notification dated December 2, 2024 of the Government of Punjab

NO.FD.SR-III-4-244/2023(A)
GOVERNMENT OF THE PUNJAB
FINANCE DEPARTMENT
Dated: Lahore, the 2ⁿᵈ December, 2024

From

> Mr. Mujahid Sherdil
> **Finance Secretary**

To

1.	Additional Chief Secretary, South Punjab
2.	All Administrative Secretaries to Government of the Punjab
3.	The Secretary to Governor, Punjab, Lahore
4.	The Secretary to Chief Minister, Punjab, Lahore
5.	The Military Secretary to Governor, Punjab, Lahore
6.	All Commissioners in the Punjab
7.	All Deputy Commissioners in the Punjab
8.	All Heads of Attached Departments in the Punjab
9.	The Registrar, Lahore High Court, Lahore
10.	All District & Sessions Judges in the Punjab
11.	The Secretary, Punjab Public Service Commission, Lahore
12.	The Secretary, Punjab Provincial Assembly, Lahore
13.	The Provincial Director, Local Fund Audit, Punjab, Lahore
14.	The Chief Inspector of Treasuries & Accounts, Punjab, Lahore
15.	The Chief Pilot, VIP Flight, Lahore

Subject: **PENSION INCREASES**

I am directed to state that Governor of the Punjab has been pleased to approve that the following increases shall be discontinued with immediate effect to the future retirees retiring after issuance of this letter:

i. Increase in pension as allowed vide Para 12 (i) of this Department's circular letter bearing No.FD.PC.2-1/2011, dated 11.07.2011.

ii. Increase in pension as allowed vide para 1 of this Department's circular letter bearing No.FD.SR.III-4-259/2015(A), dated 23.07.2015.

iii. Increase in pension as allowed vide para 1 of this Department's circular letter bearing No.FD.SR.III-4-160/2021, dated 21.07.2022.

2. All existing rules / orders / notifications / circular / instructions on the subject shall be deemed to have been modified to the extent as indicated above.

(KHALID MAHMOOD) 02/12/2024
ADDL. FINANCE SECRETARY (REG)

NO. & DATE EVEN:

A copy is forwarded for information and necessary action to:

1. The Accountant General Punjab, Lahore
2. All District Accounts Officers in the Punjab
3. Treasury Officer, Lahore

(FAZAL RAHIM) 02/12/2024
SECTION OFFICER (SR-III)

(Contd...P-2)

GOVERNMENT OF THE PUNJAB
FINANCE DEPARTMENT

Dated: Lahore, the 2 December, 2024

NOTIFICATION

NO.FD.SR-III-4-244/2023(B). In exercise of the powers conferred under Section 23 of the Punjab Civil Servants Act, 1974(VIII of 1974), Governor of the Punjab is pleased to make the following amendments in the Punjab Civil Services Pension Rules, with immediate effect:

AMENDMENT

In the Punjab Civil Services Pension Rules:

I. In CHAPTER IV- AMOUNT OF ORDINARY PENSIONS:
a) in Section II - Amount of Full PENSION, in rule 4.4:
   (i) in sub-rule(1):
      i. after the existing proviso, the following shall be inserted:
         "provided further that in case of voluntary retirement, the following reduction factor shall be applicable:

REDUCTION FACTOR BY RETIREMENT AGE	
59 years	2%
58 years	4%
57 years	6%
56 years	8%
55 years	10%

         Provided also that the gross pension shall be calculated on the following formula:
            'Average basic pay as defined in sub-rule (4) x length of service (maximum 30 years) x 7/300'
         Provided also that annual pension increase shall be granted at the rate of 50% of the adhoc relief allowance sanctioned for the respective financial year.";

   (ii) sub-rules (2) and (3) shall be omitted; and
   (iii) for sub-rule (4), the following shall be substituted:

         "(4) The last 03 years average basic pay, including personal pay, of the Government servant starting from first day of July of last 03 years prior to retirement shall be considered for pension calculation.
         Note (1): Service in autonomous or semi-autonomous body - The pay drawn by a Government servant in an autonomous or semi-autonomous body, the authorized capital of which is wholly subscribed by the Federal and / or a Provincial Government, in a post,

-(2)-

appointment to which is, by law, required to be made and the salary or which is required to be fixed by the Federal or Provincial Government, shall be treated as pay drawn in Government service.

Note (2): The term "pay" does not include the pay drawn by a Government servant in Foreign Service or additional pay for performance of additional duties of another post"; and

b) in SECTION III-C- FAMILY PENSION, in rule 4.10:

    (i)   for sub-rules (1) to (6), the following shall be substituted:

"(1) A family pension sanctioned under this rule shall be restricted to the extent of spouse for a period of 10 years or till re-marriage, whichever is earlier:

Provided that in case of an issueless spouse, family pension shall be allowed for life or till re-marriage:

Provided further that in case a Government servant had more than one wife, the pension shall be divided equally among the widows"; and

    (ii)   the existing sub-rules (7) and (8) shall be re-numbered as (2) and (3) respectively.

2.   In CHAPTER VIII - COMMUTATION OF CIVIL PENSIONS, in rule 8.1, for the words "one half", the expression "25%" shall be substituted.

MUJAHID SHERDIL
FINANCE SECRETARY

NO.& DATE EVEN:

A copy is forwarded for information and necessary action to the:

1. Additional Chief Secretary, South Punjab
2. All Administrative Secretaries to Government of the Punjab
3. The Secretary to Governor, Punjab, Lahore
4. The Secretary to Chief Minister, Punjab, Lahore
5. The Military Secretary to Governor, Punjab, Lahore
6. All Commissioners in the Punjab
7. All Deputy Commissioners in the Punjab
8. All Heads of Attached Departments in the Punjab
9. The Registrar, Lahore High Court, Lahore
10. All District & Sessions Judges in the Punjab
11. The Secretary, Punjab Public Service Commission, Lahore
12. The Secretary, Punjab Provincial Assembly, Lahore
13. The Provincial Director, Local Fund Audit, Punjab, Lahore
14. The Chief Inspector of Treasuries & Accounts, Punjab, Lahore
15. The Chief Pilot, VIP Flight, Lahore

02/12/2024

(KHALID MAHMOOD)
ADDL. FINANCE SECRETARY (REG)