

i-TAP Manual

Conceptualised & Developed by
India Pensions Research Foundation*

*i-TAP is only a guide to help you calculate accumulations, charges and benefits in a defined contribution pension scheme. Neither i-TAP nor IPRF guarantee or represent that the earnings rate on your savings will be the percentages set as default values. Actual returns can rise or fall. You should seek financial advise before investing. The returns shown do not take taxes into accountAny commercial loss occurring to any service provider on account of charges indicated as default values is not responsibility of IPRF. Please forward your suggestions and queries to info@iief.com

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1 INTRODUCTION

A defined contribution scheme was introduced for new entrants to the central government starting January 1, 2004. In this scheme employees accrete 10% of their salary to their pension account. The government, as an employer, puts in an additional 10%. These amounts will be passed by a central record-keeping agency to the authorised pension fund managers selected by the member. i-Toolkit for Analysis of Policy (i-TAP) was conceptualised, designed and developed by *India Pension Research Foundation (IPRF)* so as to help the individual members, service providers and the government simulate alternate scenarios in the new pension system.

1.1 Use of i-TAP by individual participants

Individuals may use i-TAP

- To get an estimate of terminal accumulations under various assumptions of contribution rates, various charges and returns.
- To get an estimate of the impact of changing age at entry and exit on terminal accumulations/benefits
- To get an estimate of the monthly pension drawn given the terminal accumulation obtained from above
- To get an estimate of the total amount of money spent by members on charges

1.2 Use of i-TAP by service providers

Service providers may use TAP for

- Assessing and analysing alternative business and promotion strategies

- Building alternative financial models for determination of charges and sustain-ability of a particular entity (with a specific cost structure) in the market

1.3 Use of i-TAP by governments

Governments may use i-TAP for

- Analysing system size in terms of number of members and assets under management
- Pension Market Design. This could involve determining
 - Number of Pension Fund Managers
 - Impact of investment regulations on accumulations
 - Minimum contributions assuming a range of charges for various market players
 - Forming an expectation of the rational range of charges for all market participants
- Impact of government contributions on government budget and therefore possibilities and extent of budgetary support to the pension system

i-TAP essentially provides for three models

- *Analysis for individual participants.* This is for the analysis of the individual member-contributions, accumulations, benefits, money spent on charges etc.
- *Analysis of group.* This is basically for the analysis of a particular homogeneous group of members- contributions, accumulations, benefits, money spent on charges etc.
- *Analysis of system-* This is basically for the analysis of the entire system- total number of contributors in the system, total contributions, total assets in the system, total earnings as charges by various service providers etc.

The manual contains detailed instructions about each of the above. i-TAP assumes

certain default values for a number of variables. The model provides an option to change all of the values. i-TAP calculates all accumulations, charges and benefits at 2003-04 prices. However, there is a provision to calculate all of the above in nominal terms by specifying an inflation rate.

i-TAP can be used by people in other countries as well, by using the numbers relevant for that country.

2 I-TAP FOR INDIVIDUALS

2.1 Required inputs

2.1.1 Select a category

Here you have to select the category of individuals for whom the analysis is to be carried out. The categories available in i-TAP are

- Central government Group A
- Central government Group B
- Central government Group C
- Central government Group D
- State government Group A
- State government Group B
- State government Group C
- State government Group D
- Voluntary members

You have to select the category you belong to.

2.1.2 Salary scales

The salary scales differ for central and state government employees and for individuals

who join the system on a voluntary basis.

If you choose any of the government employee options

In this case the salary scales are divided into four columns

- *Level:* This is the salary slab at which the employee in a particular group joins
- *Initial basic:* This is the initial basic salary of the employee at a particular level
- *Period:* This is the number of years the employee is at that level
- *Increment:* This is the yearly increment in the monthly salary in a particular slab

Government employees join at a particular slab. They are on an average likely to stay in the slab for a particular period before moving on to the next level. While in a particular slab, they enjoy yearly increments. For example, an employee might have a salary of Rs.8000 p.m. in the first year. He might stay in the slab for 5 years. The rate of increment might be Rs.275. This implies that for the first year, the employee will draw Rs.8000 p.m. Next year, he will draw Rs.8275 p.m. The third year he will draw Rs.8550 p.m. After the period gets over (here 5 years), he will move to the next level. Here the next level salary is Rs.10000. i-TAP assumes different salary scales for different groups of government employees. A snapshot is shown in Figure 1 In addition a DA of 59% is assumed.

If you choose the voluntary member option

Here there are no salary slabs. You have to provide the following inputs

- *Age at entry.* This is the age at which the member enters the system.
- *Age at exit.* This is the age at which the member exits from the system.

2.1 Required inputs

Figure 1 Salary structure for government employees

Salary Scales			
Level	Initial Basic ?	Period ?	Increment ?
Level 1	8000 INR	5 years	275 INR
Level 2	10000 INR	6 years	325 INR
Level 3	12375 INR	24 years	375 INR
Level 4	0 INR	0 years	0 INR
Level 5	0 INR	0 years	0 INR

Figure 2 Salary structure for voluntary members

Age at entry	25 years
Age at Exit	60 years
Monthly Salary	3000 INR
Rate of Growth(Compounded Continuously)	2.96 %

- *Monthly salary.* This is the monthly salary of the individual member.
- *Rate of growth.* This is yearly rate of growth of salary.

A snapshot is shown in Figure 2

2.1.3 Contributions

This shows the % contributed by the employee as well as the employer. i-TAP assumes a default of 10% as per the rules for new entrants to the central government in India. No government contribution is assumed for individual members.

2.1.4 Transactions

This shows the total number of transactions that a member will perform. This includes

the number of deposits and the number of switches between schemes of various PFMs. The transactions are assumed to be performed through the network of the service providers such as the points of presence (POPs) and the central record-keeping agency (CRA).

2.1.5 Scheme details

Here you can change the investment pattern of your portfolio. It contains three schemes

- *Safe scheme.* This is the scheme with a greater percentage of investments in debt.
- *Balanced scheme.* This is the scheme with both equity and debt. This scheme is not skewed towards either of the instruments.
- *Growth scheme.* This is the scheme with a greater percentage of investments in equity.

2.1 Required inputs

Figure 3 Scheme details

Investment Scheme	Investment Percentage	Investment Details
Safe Scheme ?	60 %	Safe Investment details
Balanced Scheme ?	20 %	Balanced Investment details
Growth Scheme ?	20 %	Growth Investment details

Figure 4 Composition of a scheme

Safe Scheme Investment Details

	Percentage Invested	Interest Rate (Compounded Continuously)
GSEC	60 %	2 %
Bonds	30 %	4 %
Equity	5 %	6 %
International	5 %	9 %

You have to mention % invested in each scheme (See Figure 3). Alongside are the scheme investment details, wherein you will be shown the composition of each scheme as well as the interest rate for each instrument. Each scheme is composed of government securities, corporate debt, equity and international equity. Here you can change the weight of each instrument in each scheme as well as the interest rate on each investment (See Figure 4).

2.1.6 Charges

Here you can vary the charges charged by the various service providers. In the Indian system, there are four entities: the Points of Presence (POPs) i.e. the interface point between the individual and the system, the

Central Record-keeping Agency (CRA), the Pension Fund Managers (PFMs) and the Pension Fund Regulatory & Development Authority (PFRDA). i-TAP has provisions for each entity to charge the following kinds of charges

- Percentage of contribution (in %)
- Flat annual charge (in INR)
- Rate per deposit transaction (in INR)
- Rate per switch transaction (in INR)
- Assets under management (AUM) based charge (in %)

In addition to provisions for entering these charges, there is another provision for entering a *Productivity rate*. Productivity rate is the rate of reduction in real costs due to technical, allocative and efficiency change. Technical change may be effected by factors

Figure 5 POP charges

Percentage of Contribution	0	%
Flat Annual Charge	0	INR
Rate per Deposit Transaction	25	INR
Rate per Switch Transaction	25	INR
Productivity Rate ²	0	INR

like economies of scale in the provision of the service. For example, as number of members in the system increase, the CRA or the POP might lower charges. The productivity rate will determine the extent to which the CRA for example will be able to lower charges. A snapshot of the POP charges is shown in Figure 5. In a decentralised system the CRA charges can all be set to zero.

2.1.7 Benefit details

You have to fill the details given below. (See Figure 6)

- *Percent annuitised.* This is the percent of your total accumulations from which he/she wish to buy an annuity. The rest of the amount will be treated as a lump-sum withdrawal.
- *Life rate.* This is the monthly life annuity you will get for a single premium of Rs.1000.
- *Survivor rate.* This is the monthly survivor annuity you will get for a single premium of Rs.1000.

2.2 Results

i-TAP will produce the following output

- *Total accumulations with and without charges.* This shows the accumulations in an individuals pension account over time. It also shows

the charge ratio¹ alongside.

- *Accumulation breakdowns in various schemes with charges.* This shows how the accumulations in each scheme have grown over time, net of charges.
- *Accumulation breakdowns in various schemes without charges.* This is the same as above, except that the accumulations are gross of charges.
- *Total contributions* made into the system. This shows the total amount contributed by the employer and employee towards the pension account over the entire period.
- *Breakdown of total charges.* This shows revenues of various service providers in each year.
- *Cumulative charges.* These are the cumulative revenues of various service providers.
- *Life and survivor benefits on accumulations without charges.* This is the monthly pension the member will obtain, were he to annuitise his accumulations obtained without charges.
- *Life and survivor benefits on accumulations with charges.* This is the monthly pension the member will obtain, were he to annuitise his accumulations obtained without charges.

¹Charge ratio is the percentage reduction in accumulations due to charges.

3.1 Required inputs

Figure 6 Benefits

Benefit Details	
Percentage Annuitized ?	40 %
Life Rate ?	86.7 INR
Survivor Rate ?	76.7 INR
LIC Rates ?	

Figure 7 Employee participation

Employee Participation	
Initial Number of Employees	3847049
Retirement Rate	1.75 %
Growth Rate(Compounded Continuously)	0.31 %

3 I-TAP FOR GROUPS

3.1 Required inputs

3.1.1 Select a category

Here you have to select the category of individuals for whom the analysis is to be carried out. The categories available in i-TAP are

- Central government Group A
- Central government Group B
- Central government Group C
- Central government Group D
- State government Group A
- State government Group B
- State government Group C
- State government Group D
- Voluntary members

You have to select which group you want to study.

3.1.2 Employee participation

Using the data provided in this section, i-TAP calculates the number of new entrants in the system. You have to input the following details (See Figure 7)

- *Initial number of employees in the system (in number)*. This is the number of employees in the group for which you are doing the analysis.
- *Retirement rate of employees (in %)*. This is the retirement rate in the particular group every year.
- *Growth rate (in %)*. This is the growth rate in the total number of employees in the particular group every year.

3.1.3 Salary scales

The input on salary scales differs for a central or state government employee and a person who joins the system on a voluntary basis. Please refer to Section 2.1.2

3.1.4 Contributions

This shows the % contributed by the employee as well as the employer. i-TAP assumes a default of 10% of the basic plus DA by employees as well as the employer as per the rules for new entrants to the central government in India. No government contribution is assumed for individual members who enter the system on a voluntary basis.

3.1.5 Transactions

This shows the total number of transactions that a member will perform. This includes the number of deposits and the number of switches.

3.1.6 Scheme details

Here you can change the investment pattern of your portfolio. It contains three schemes

- *Safe scheme.* This is the scheme with a greater percentage of investments in debt.
- *Balanced scheme.* This is the scheme with both equity and debt. This scheme is not skewed towards either of the instruments.
- *Growth scheme.* This is the scheme with a greater percentage of investments in equity.

Please refer to Section 2.1.5 for more details.

3.1.7 Charges

Here you can vary the charges charged by the service providers. In the Indian system, there are four entities: the Points of Presence (POPs) i.e. the interface point between the individual and the system, the

Central Record-keeping Agency (CRA), the Pension Fund Managers (PFMs) and the Pension Fund Regulatory & Development Authority (PFRDA). i-TAP has provisions for each entity to charge the following kinds of charges

- Percentage of contribution (in %)
- Flat annual charge (in INR)
- Rate per deposit transaction (in INR)
- Rate per switch transaction (in INR)
- Assets under management (AUM) based charge (in %)

In addition to provisions for entering these charges, there is another provision for entering a *Productivity rate*. Productivity rate is the rate of reduction in real costs due to technical, allocative and efficiency change. Technical change may be effected by factors like economies of scale in the provision of the service. For example, as number of members in the system increase, the CRA might lower charges. The productivity rate will determine the extent to which the CRA will be able to lower charges. In a decentralised system the CRA charges can all be set to zero.

For the PFM based AUM charges, i-TAP gives you the flexibility to prespecify the changes in the AUM charge as the assets under management increase. There is a provision for five slabs. You can define an asset size for each slab and the AUM charge applicable. For example, in Figure 8, the amount in slab 1 is Rs.15000 crore. This implies that till the assets in the system reach Rs.15000 crore, the AUM charge will be 0.5%. When asset size reaches Rs.15000 crore, an additional license is issued and the AUM charge is assumed to drop down to 0.3%. After this, for every additional Rs.2500 crore growth in assets, the AUM

Figure 8 AUM slabs for group

<i>PFM Aum Based Charge Slabs ?</i>		
	Change in AUM charges	AUM Based charge ?
Slab 1 ?	150000000000 INR	.50 %
Slab 2 ?	250000000000 INR	.30 %
Slab 3 ?	250000000000 INR	.20 %
Slab 4 ?	250000000000 INR	.10 %
Slab 5 ?	0 INR	0 %

charge is assumed to drop by a specified amount.

3.2 Results

i-TAP will provide the following output

- Total accumulations with and without charges. This shows the sum total of accumulations in the group over time. It also shows the charge ratio alongside.
- Accumulation breakdowns in various schemes with charges. This shows how the accumulations in each scheme have grown over time, net of charges.
- Accumulation breakdowns in various schemes without charges. This is the same as above, except that the accumulations are gross of charges.
- Total contributions made by the group. This shows the total amount contributed by the employer and employee towards the pension account of the entire group over the period.
- Breakdown of total charges. This shows the revenues of various service providers in each year.
- Cumulative charges. These are the cumulative revenues of various service providers.
- Total contributors in the group. This shows the new entrants in the group as well as the total employees in the group.

4 I-TAP FOR THE ENTIRE SYSTEM

4.1 Inputs required

For an analysis of the system, i-TAP requires details about each group in the system, central or state. You will have to provide the following inputs.

4.1.1 Member details

Here you will provide all the information about central government employees. This will include

- Employee participation. The principle is the same as discussed in Section 3.1.2
- Percentage of total employees in each group. This means the distribution of employees in each group. For example, in the case of central government employees, we have assumed that out of the total employees, 2.01% are in group A, 4.58% in group B, 63.7% in group C, 29.67% in group D (See Figure 9, 10, 11, 12).
- Scheme details. This includes the % of investment in each scheme (See Section 3.1.6).
- Charges for each service provider. This includes all the charges for each of the service provider (See Section 3.1.7).

Similar details will be required for state government employees and voluntary members.

4.2 Results

i-TAP will provide the following output

- Total accumulations with and without charges. This shows the sum total of accumulations in the group over time. It also shows the charge ratio alongside.
- Accumulation breakdowns in various schemes with charges. This shows how the accumulations in each scheme have grown over time, net of charges.
- Accumulation breakdowns in various schemes without charges. This is the same as above, except that the accumulations are gross of charges.
- Total contributions made into the system. This shows the total amount contributed by the employer and employee towards the pension account of the entire group over the period.
- Breakdown of total charges. This shows the revenues of various service providers in each year.
- Cumulative charges. These are the cumulative revenues of various service providers.
- Total contributors in the system. This shows the new entrants in the group as well as the total employees in the system.

Figure 9 Percentage of employees in Group A

Group A Details	
Percentage of employees	2.01 %

Figure 10 Percentage of employees in Group B

Group B Details	
Percentage of employees	4.58 %

Figure 11 Percentage of employees in Group C

Group C Details	
Percentage of employees	63.72 %

Figure 12 Percentage of employees in Group D

Group D Details	
Percentage of employees	29.69 %