52

PERSONAL TAXATION AND PRIVATE
FINANCIAL SAVINGS IN INDIA

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ABSTRACT

This paper examines rates of return to Indian private financial savings instruments after personal taxation. A sample of about 30 assets is considered, including the most popular savings instruments. It is found that the ranking of assets after income taxes differs across tax brackets, which implies a distortionary tax system. Furthermore, tax deductions favour upper bracket taxpayers the most, so much so that tax incentives for savings may end up discouraging saving in higher brackets due to excessive subsidies. It is also shown that the term structure of interest rates displays only a weakly increasing pattern as the holding period increases. The treatment of assets under current tax practice is also compared to proportional expenditure taxes using the Index of Fiscal Privilege. Budgetary implications of tax concessions are analysed and found, in many cases, to be a cause for concern. Some comments on the implications of these findings for investment and government debt are also made.

PERSONAL TAXATION AND PRIVATE FINANCIAL SAVINGS IN INDIA

1. Introduction

The objective of this study is to analyse the implications of current direct tax provisions in India for rates of return to financial savings instruments and to analyse the consequences for the structure of financial returns and the government budget.

The most widely known financial saving instruments in India are mainly various government bonds and equity shares or debentures from the private corporate sector. The rates of return to government bonds, to the extent that they are influenced by tax treatment accorded to them, have implications at five different levels. First, the after-tax return to savers as opposed to the pre-tax return is relevant for evaluating the cost of bond-financed expenditure. As will be seen, the true cost of bond financial debt often diverges greatly from the announced interest rates when tax concessions are taken into account. Secondly, to the extent that tax concessions lead to divergent rates of return for individuals in different tax brackets, with these rates of return differing from the post-tax yield that would prevail in the absence of concessions, there is an effect on the progressivity of the tax system as a whole. There are also implications for the relative progressivity of taxation of capital and labour incomes. Thirdly, the rates of return have implications for private saving behaviour and relative post-tax rates of return have implications for the mix of public and private sector assets in individual portfolios. Fourthly, tax treatment has implications for capital market distortions which get reflected in the investment mix in the economy and in the efficiency of resource allocation. Finally, actual rates of return to public and private sector assets as also the mode of finance of interest payments on government bonds have implications for crowding out of private investment.

The analysis in this paper permits some conclusions to be drawn about each of these aspects.

The plan of the paper is as follows. Section 2 contains a description of the various tax benefits under the wealth, gift and income tax Acts for the assessment years (AY) 1987-88 and 1988-89. Further, the assets considered in the study are presented and income tax treatment of each asset is outlined. A broad overview of the methodology is presented in section 3. Section 4 presents the computed post-tax rates of return taking into account the income tax on different assets. The pattern of fiscal favour and implications for the structure of interest rates are analysed in section 5. The revenue and budgetary impact of concessions is studied in section 6, while private saving and crowding out implications are commented on in section 7. Section 8 concludes the paper with some policy suggestions.

2. Tax Treatment of Financial Assets under the Income, Wealth and Gift Tax Acts

Income taxes: The sections of the Income-tax Act under which tax concessions on financial assets are given to individuals are Section 10(11), 10(12), 10(13), 10(15), 48, 54E, 54F, 80C, 80CC, 80CCA and 80L. Of these, Section 10(15), 80C, 80CC, 80CCA and 80L are of the greatest importance to the majority of taxpayers.

Briefly, tax concessions to saving fall into three categories: tax concessions of the `yield exemption´ type [Sections 10(11), 10(12), 10(13), 10(15) and 80L], tax concessions of the `immediate deduction´ type (Sections 80C and 80CC) and tax concessions to long term financial capital gains [Sections 54E, 54F and 48(b)]. Finally, the 1987 Finance Act introduced an asset, the National Savings Scheme, which enjoys immediate deduction, but will add back amounts withdrawn to taxable income (i.e. `netting´ treatment) under the new Section 80CCA.

2

Wealth taxes: Section 5 of the Wealth-tax Act exempts a number of assets from annual taxable wealth with or without ceilings. Of particular note is section 5(1A), which contains a list of assets which in aggregate are exempt from wealth tax upto Rs 5,00,000. Post office savings bank accounts, recognised or public provident funds, capital investment bonds and certain bonds of public sector undertakings are some of the financial assets exempt from wealth tax without limit.

Gift taxes: Besides a standard deduction of Rs 20,000 from the total amount gifted in an assessment year, certain types of gifts are exempt from the gift tax under Section 5 of the Gift-tax Act. A few government bonds are included among assets exempted from gift tax.

It should be noted that the gift tax has lost much of its rationale due to the recent abolition of estate duties. With estate duties both asset transfers after death and _inter vivos_ are taxable. However, gift taxes alone still make wealth splitting to lower current (capital) income and wealth tax liabilities less attractive.

Basic tax rates: Table 1 gives details of tax rates for AY 1987-88 and AY 1988-89 for all three direct taxes.

Assets considered: A list of selected financial assets and their tax treatment is given in Table 2. A selection of 32 assets from this table, which includes most of the important financial assets to taxpaying households, is taken up for quantitative analysis. Brief comments on some other assets are also made in the text. The list of assets includes two assets newly introduced in AY 1987-88 and three newly introduced in AY 1988-89.

The majority of assets considered here are government bonds with administered rates of return. Others, like assets of the Unit Trust of India, are issued by Government undertakings. Even commercial bank deposits have interest rates fixed by the

TABLE 1

Marginal Tax Rates of Income, Wealth and Gift Tax for Assessment Years 1987-88 and 1988-89

(Rupees)

Range of base		Marginal tax rate (%)	Tax collection at	
Minimum	Maximum		Minimum	Maximum

Income Tax

Minimum	Maximum	Marginal tax rate (%)	Minimum	Maximum
0	18,000	0	0	0
18,000	25,000	25	0	1,750
25,000	50,000	30	1,750	9,250
50,000	1,00,000	40	9,250	29,250
1,00,000	-	50	29,250	-

Wealth Tax

Minimum	Maximum	Marginal tax rate (%)	Minimum	Maximum
0	2,50,000	0	0	0
2,50,000	10,00,000	0.5	0	3,750
10,00,000	20,00,000	1	3,750	13,750
20,00,000	-	2	13,750	-

Gift Tax

Minimum	Maximum	Marginal tax rate (%)	Minimum	Maximum
0	20,000	0	0	0
20,000	-	30	0	-

TABLE 2

Characteristics and Tax Treatment of Selected Assets for Assessment Years 1987-88 and 1988-89

Sl. No.	Name of asset	Effective holding period (Months)	Income tax benefit u/s	Wealth tax benefit u/s	Remarks
(1)	(2)	(3)	(4)	(5)	(6)

National Savings Schemes

Sl. No.	Name of asset	Effective holding period (Months)	Income tax benefit u/s	Wealth tax benefit u/s	Remarks
1.	Post Office Savings Bank Account	1	10(15)	5(1A)	Half Yearly Compounding. Lottery based prize scheme for accounts with balance of at least Rs 200/-
2.	15-Year Public Provident Fund	180	10(11), 80C	5(1)	Annual Compounding; Loans After One Year; Partial Withdrawals After 5 Years.
3.	National Savings Certificates (VI Issue)	72	80C, 80L	5(1A)	Cumulative; Half Yearly Compounding; 80C not available in last year on reinvested interest.
4.	National Savings Certificates (VII Issue)	72	80C, 80L	5(1A)	Non Cumulative, Half Yearly Compounding
5.	Post Office Time Deposits	12-60	10(15)	5(1A)	Half Yearly Compounding; Premature encashment permitted with 2% penalty after 1 year
6.	5 Year Post Office Recurring Deposit Account	60	10(15)	5(1A)	Half Yearly Compounding
7.	10 Year Social Security Certificates	120	No tax benefit	No tax benefit	Half Yearly Compounding. Tax Treatment follows Latest NSO Brochure.
8.	Indira Vikas Patra	60	48	Not exempt	Bearer Bonds, Money Doubles in 5 Years.
9.	Kisan Vikas Patra	66	48		Money Doubles in 5 years; Introduced in 1988.
10.	National Deposit Scheme (Series I)	48	80L	5(1A)	Non Cumulative; Half Yearly Interest. Interest deduction upto Rs 12,000.
11.	National Deposit Scheme (Series II)	48	-do-	5(1A)	Cumulative; Half Yearly Interest Compounding. Interest deduction upto Rs 12,000.
12.	National Savings Scheme	36	80CCA	5(1)	Tax deductible at time of purchase and withdrawal added to taxable income. Annual compounding. 50% deductible and 50% of withdrawal liable to tax in AY 1987-88.

5

TABLE 2 (CONTD.)

(1)	(2)	(3)	(4)	(5)	
13.	Post Office Monthly Income Scheme	72	80L	5(1A)	Introduced in 1988.

Unit Trust of India

14.	Units Scheme, 1964	0	80L	5(1A)	80L available to Rs 10,000; Sale price per Rs 10 unit: Rs 14.55, Repurchase price Rs 13.60 in February, 1987 and 14.68/13.6 in December, 88. Dividend per Rs 10 unit 15.25% and 16.5% in July 87 July 88.
15.	10 Year Unit Linked Insurance Plan, 1971	120	80L, 80C	5(1A)	80L available to Rs 10,000; Sale price per Rs 10 unit Rs 12.30; Repurchase price Rs 11.90 in February, 87 and December 1988. Dividend 13.5% per Rs 10 unit in July 1988.
16.	Mastershares, 1986	0	80L, 48	5(1A)	80L available to Rs 10,000; 13% dividend in 87-88. Net asset value Rs 14.26 in July 1988 per Rs 10. Pro rata dividend 8% in 1986-87.

Commercial Bank Deposits

17.	Savings Deposits	0	80L	5(1A)	Half yearly compounding.
18.	Fixed Deposits	3-60	80L	5(1A)	Quarterly compounding; Premature withdrawal permitted at 2% interest penalty for all fixed deposits.

Public Sector Bonds

19.	Interest Exempt Bonds (10 Year)	0	Fully tax exempt Income	5(1)	Buy back at par for holdings of less than Rs 40,000 after 3 years. Transferable and quoted.
20.	Interest Deductible Bonds (7 Year)	0	80L	5(1A)	Buy back at par for holdings of less than Rs 40,000 after 3 years. Transferable and quoted.

Private Sector Bonds

21.	Fixed Deposit Schemes	12	No tax benefit	No tax benefit	Half yearly interest. Tax benefit under 80L for bonds of housing finance companies.
22.	Convertible debentures (Reliance, Series 'G')	12	-do-	-do-	Convertible into 2 equity shares after one year; Half yearly interest
23.	Debentures	0	-do-	-do-	Tax benefit under 80L for debentures of housing finance companies.

TABLE 2 (CONTD.)

(1)	(2)	(3)	(4)	(5)	
Life Insurance Corporation					
24.	20 Year Endowment Policy	240	80C	5(1)	Monies received not taxable.
25.	20 Year Money Back Policy	240	80C	5(1)	Premium payable varies with age of purchaser.
Equity					
26.	Short Term Equity	0	80L	5(1A)	Assumed dividend rate 10%. Assumed capital gain rate, 7.8% (RBI share price index average for 1970-1986).
27.	Long Term Equity	36	48, 80L	5(1A)	Either 5(1) or 5(1A) wealth tax benefits on new issues. Dividend
28.	Eligible New Issues	60	80CC, 48	Exempt	exemption upto Rs 10,000 u/s 80L from AY 1988-89.
Other Assets					
29.	Contributory Provident Funds	240 (Assumed)	80C, 10(12)	5(1)	Interest rate as in Feb. 1987 for SIPPP Employees Funds. Matching contributions by employer. Limited loan facilities.
30.	7% Capital Investment Bonds	100	10(15)	5(1)	Gift tax exempt.
31.	National Rural Development Bonds	36	80L, 54E	5(1A)	
32.	Special bearer Bonds, 1991	0	10(15)	5(1)	Gift tax exempt. Bond pays 120% of face value in 1991. Bonds are reportedly traded at a premium in the open market.
33.	Commercial Bank Mutual Funds (7 year)	12	48, 80CC, 80L	5(1A)	80L available to Rs 10,000. Canara Bank 'Canshare' declared maiden dividend of 17.6% in July, 88

Notes: 1. Unless mentioned otherwise, 80L concessions available to Rs 7,000.
2. Bonds purchased through investment firms usually have additional benefits by way of passed down commission.

Reserve Bank of India. Furthermore, commercial banks are mainly in the public sector. Finally, even private sector bonds are subject to interest rate ceilings which are usually binding. Thus the basic rate structure for financial assets is essentially administered with equity shares being the significant exception. This pattern of interest rates is true of the formal financial sector in general and is not limited to the assets covered in the study.

3. Overview of Methodology[1]

The following ten points outline the main features of computations in the next three sections.

a. For each asset, three rates of return are computed:

    i. The rate of return before tax (R_{PRE})

    ii. The rate of return after tax (R_{POST})

    iii. The rate of return after tax under the assumption that no tax concessions (or penalties) are present (R_{NC}).

b. Rates of return are computed for each income tax bracket separately.

c. The annual tax revenue loss per rupee of asset purchased by an individual is computed from the rates of return above. This is defined as $R_{POST} - R_{NC}$.

d. Current tax treatment and treatment under expenditure taxes are compared using the "Index of Fiscal Privilege" which is defined as

$$\frac{R_{POST} - R_{NC}}{R_{PRE} - R_{NC}} \times 100$$

While this statistic is discussed further in Das-Gupta (1988), the following features of the Index are worth noting:

8

i. For proportional expenditure taxes (complete tax offset) the Index taxes on the value 100.

ii. For partial tax concessions the Index lies between 0 and 100.

iii. Index values over 100 indicate that there is a subsidy element to tax concessions, so that the post-tax return exceeds the pre-tax return.

iv. For tax penalties the Index is negative.

v. The statistic may be interpreted as "the number of rupees of tax revenue sacrificed as a fraction of normally collectible tax revenues (multiplied by 100)".

vi. The Index measures relative tax sacrifice as opposed to absolute tax sacrifice discussed at (c) above and is, consequently, useful for inter-asset comparisons.

e. The rates of return R_{POST} and R_{NC} are defined as the internal rates of return of the after-tax cash flow associated with an asset. P_{PRE} is the internal rate of return of the pre-tax cash flow. Justification for using the internal rate criterion as opposed to a present value criterion is to be found in Auerbach (1982).

f. For section 80C, under which immediate deduction incentive is available in slabs, it is assumed that tax concessions are availed of at the maximum rate or not at all. In general, rates of return and government tax sacrifice are both lower for lower deduction slabs.

g. No attempt is made to adjust for the riskiness or liquidity of assets. For the assets in the sample - even equity shares - this does not affect the results materially. The proper interpretation of the equity return is the long-term return to an investor who holds the market portfolio[2]. Liquidity premia should, of course, be reflected in the term structure.

h. For equity shares, the annual trend growth rate for the RBI equity price index for 1970-86 (7.8%) is taken as the

capital gain rate in computations. A uniform dividend rate of 10% per annum has been assumed.

i. Holding periods considered are effective holding periods. That is the minimum period for which an asset has to be held without attracting interest penalties whether due to tax laws or otherwise.

j. Besides the Index of Fiscal Privilege, Spearman rank correlation coefficients between holding periods and after tax returns and between after-tax returns in different tax brackets are used to assess distortions.

4. Comparison of Pre-tax and Post-tax Rates of Return for Different Income Tax Brackets

We now discuss the impact of the various income tax concessions.

(i) Assets enjoying proportional expenditure tax treatment

If tax rates are unchanging over time, then proportional expenditure taxes ensure that pre-tax and post-tax returns are identical. This may be seen by noting that expenditure tax treatment or 'netting' affords 100% deduction of saving and 100% add back of dissaving to the tax base. Thus, if t is the (tax inclusive) tax rate and r is the annual interest rate on a one-year bond costing Re 1, the rate of return is $(1+r)(1-t)/(1-t)-1=(1+r)-1=r$ which is the pre-tax rate of return. The extension to many period assets is straightforward. Therefore, proportional expenditure tax treatment has the same impact as yield exemption which also leaves the pre-tax and post-tax rates of return equal. However, if the tax rates at the time of saving and dissaving are not the same (as may happen with progressive taxes), netting treatment is not the same as yield exemption. The latter continues to leave pre-tax and post-tax returns equal while the former results in higher post-tax returns if the tax rate at the time of saving is higher than that at withdrawal and a lower post-

10

tax return if the reverse is true.

Tables 3 and 4 list assets which enjoy yield exemption treatment in descending order of rates of return for AY 87-88 and AY 88-89 respectively. For comparison, post-tax rates of return in the absence of tax concessions are also presented. The table also lists the effective holding period for each asset. The following observations may be made about the results.

i. For all assets in the table, yield exemption or netting implies an Index of Fiscal Privilege of 100 while the concession applies and zero after the ceiling of the concessions (limited concessions are given by Section 80L).

ii. There is no one-to-one relation between effective holding periods and rates of return. This is so even when one separately considers assets with only partial yield exemption up to a limit or to assets with unlimited yield exemption. This is evidence of a degree of distortion introduced into the term structure.

iii. As is obvious a priori, the difference between the no concession return and the actual post tax return increases with the tax bracket. The progressivity of the tax system is, consequently, diluted.

iv. Comparing AY 87-88 and AY 88-89 we see that there is a general downward trend in interest rates at the upper end. Commercial bank deposits appear to have gained relative to other assets for deposits of upto two years due to recent interest rate changes.

(ii) Assets eligible for immediate deduction

Tables 5 and 6 give details of pre-tax returns, actual and no concession post-tax returns and the Index of Fiscal Privilege for these assets. This category of assets includes the most popular assets from the investor's point of view - as well as the assets with the largest revenue sacrifice from the government's point of view. The main reason for this state of affairs is due to the operation of immediate deduction type incentives (under sections 80C, 80CC). Immediate deduction (as distinct from netting) will, in general, lead to post-tax rates of return higher than pre-tax rates of return. For the one-period bond discussed above, the break-even value for partial immediate deduction can be

TABLE 3

Rates of Return for Selected Assets Entitled to Yield Exemption
(Assessment Year 1988-89)

Sl. No.	Name of asset	Effective holding period (months)	Actual (A)/ no cession (N)	Marginal Income tax rate (%) 0	25	30	40	50
1.	Interest Deductible Bonds of Public Sector Undertakings	12	A	14.49	14.49	14.49	14.49	14.49
			N	14.49	10.87	10.14	8.69	7.25
2.	Post Office Time Deposits (5 Year)	60	A	11.83	11.83	11.83	11.83	11.83
			N	11.83	8.87	8.28	7.10	5.92
3.	Post Office Recurring Deposits (5 Year)	1-60	A	11.46	11.46	11.46	11.46	11.46
			N	11.46	8.60	8.02	6.88	5.73
4.	Commercial Bank Fixed Deposits (5 Year)	60	A	11.46	11.46	11.46	11.46	11.46
			N	11.46	8.60	8.02	6.88	5.73
5.	Post Office Time Deposits (3 Year)	36	A	10.78	10.78	10.78	10.78	10.78
			N	10.78	8.08	7.55	6.47	5.39
6.	Units, 1964	12	A	10.48	10.48	10.48	10.48	10.48
			N	10.48	7.86	7.34	6.29	5.24
7.	Commercial Bank Fixed Deposits (3 Years)	36	A	10.38	10.38	10.38	10.38	10.38
			N	10.38	7.79	7.27	6.23	5.19
8.	Post Office Time Deposits (2 Year)	24	A	10.25	10.25	10.25	10.25	10.25
			N	10.25	7.69	7.18	6.15	5.13
9.	Tax Exempt Bonds of Public Sector Undertakings	12	A	10.25	10.25	10.25	10.25	10.25
			N	10.25	7.69	7.18	6.15	5.13
10.	Post Office Time Deposits (1 Year)	12	A	9.73	9.73	9.73	9.73	9.73
			N	9.73	7.30	6.81	5.84	4.87
11.	Commercial Bank Fixed Deposits (2 Year)	24	A	9.31	9.31	9.31	9.31	9.31
			N	9.31	6.98	6.52	5.59	4.66
12.	Commercial Bank Fixed Deposits (1 Year)	12	A	8.77	8.77	8.77	8.77	8.77
			N	8.77	6.58	6.14	5.26	4.39
13.	7% Capital Investment Bonds	100	A	7.00	7.00	7.00	7.00	7.00
			N	7.00	5.25	4.90	4.20	3.50
14.	Post Office Saving Bank Accounts	0	A	5.50	5.50	5.50	5.50	5.50
			N	5.50	4.13	3.85	3.30	2.75
15.	Commercial Bank Savings Accounts	0	A	5.06	5.06	5.06	5.06	5.06
			N	5.06	3.82	3.57	3.06	2.53

Notes: 1. Special limit on deductions u/s 80L for units.
2. Index of fiscal privilege is 100 in all cases while yield exemption continues.
3. Post office savings accounts provide special benefits in certain cases.
4. For units, 1964 sale and purchase prices are assumed to be identical to the quoted purchase price. The sale price is normally lower than the purchase price to the saver. However, the discounted purchase price normally offered in the month of July is lower than the sale price in other months.

12

TABLE 4

Rates of Return for Selected Assets Entitled to Yield Exemption
(Assessment Year 1988-89)

Sl. No.	Name of asset	Effective holding period (Months)	Actual (A)/ no concession (N)	0	25	30	40	50	Rank in 1987-88	Rank	Interest rate
				Marginal income tax rate (%)							
1.	Post Office Monthly Income Scheme	72	A	11.58	11.58	11.58	11.58	11.58	-	-	-
			N	13.58	10.19	9.51	8.15	6.29			
2.	Interest Deductable Bonds of Public Sector Undertakings	12	A	13.42	13.42	13.42	13.42	13.42	1	Decrease	Decrease
			N	13.42	10.07	9.39	8.05	6.71			
3.	Post Office Recurring Deposits (5 Year)	60	A	11.46	11.46	11.46	11.46	11.46	3	Decrease	Same
			N	11.46	8.90	8.02	6.58	5.73			
4.	Post Office Time Deposits (5 Year)	60	A	11.30	11.30	11.30	11.30	11.30	2	Decrease	Decrease
			N	11.30	9.48	7.91	6.78	5.65			
5.	Units, 1964	12	A	11.24	11.24	11.24	11.24	11.24	6	Increase	Increase
			N	11.24	9.43	7.87	6.74	5.62			
6.	Post Office Time Deposits (3 Year)	36	A	10.78	10.78	10.78	10.78	10.78	5	Decrease	Same
			N	10.78	8.08	7.55	6.47	5.39			
7.	Commercial Bank Fixed Deposits (2 Yrs. and above)	24	A	10.38	10.38	10.38	10.38	10.38	11, 7,5	Increase (2 Yr.)	Increase (2 Yr.)
			N	10.38	7.79	7.27	6.23	5.19			
8.	Post Office Time Deposits (2 Year)	24	A	10.25	10.25	10.25	10.25	10.25	8	Same	Same
			N	10.25	7.69	7.16	6.15	5.13			
9.	Post Office Time Deposits (1 Year)	12	A	9.73	9.73	9.73	9.73	9.73	10	Increase	Same
			N	9.73	7.30	6.81	5.86	4.87			
10.	Commercial Bank Fixed Deposits (1 Year)	12	A	9.31	9.31	9.31	9.31	9.31	12	Increase	Increase
			N	9.31	6.98	6.52	5.59	4.66			
11.	Interest Exempt Bonds of Public Sector Undertakings	12	A	9.20	9.20	9.20	9.20	9.20	9	Decrease	Decrease
			N	9.20	6.9	6.44	5.52	4.69			
12.	Commercial Bank Fixed Deposits (91 days)	3.03	A	8.24	8.24	8.24	8.24	8.24	-	-	-
			N	8.24	6.18	5.77	4.94	4.12			
13.	7% Capital Investment Bonds	100	A	7.0	7.0	7.0	7.0	7.0	13	Same	Same
			N	7.0	5.25	4.90	4.20	3.50			
14.	Post Office Savings Bank	0	A	5.50	5.50	5.50	5.50	5.50	14	Same	Same
			N	5.50	4.13	3.85	3.3	2.75			
15.	Commercial Bank Savings Bank Accounts	0	A	5.06	5.06	5.06	5.06	5.06	15	Same	Same
			N	5.06	3.76	3.54	3.04	2.53			

Notes: See previous table.

13

TABLE 5

Rates of Return for Selected Assets Entitled to Immediate Deduction
Assessment Year 1987-88

Sl. No.	Name of asset	Effective holding period (months)	Actual (A), no concession (N), IFP (I)	Marginal Income tax rate(%)					Rank at 50% tax bracket
				0	25	30	40	50	
1.	Eligible New Equity Issues	60	A	16.60	19.25	20.45	21.95	23.55	4
			N	16.60	12.80	12.00	10.40	8.80	
			I	Unde-fined	180.26	183.70	186.29	189.10	
2.	LIC 20 Year Money Back Policy with Profits (Investment Component)	240	A	13.64	17.89	19.00	21.66	25.18	3
			N	13.64	10.79	10.33	8.98	7.73	
			I	Unde-fined	249.12	251.93	272.10	293.26	
3.	20 Year Contributory Provident Fund	240	A	13.5	15.8	16.3	17.5	18.9	7
			N	13.5	10.6	10.0	8.9	7.6	
			I	Unde-fined	118.18	126.00	140.98	154.17	
4.	National Saving Certificates (VI Issue)	72	A	12.36	21.15	23.35	28.25	34.25	1
			N	12.36	9.27	8.65	7.42	6.38	
			I	Unde-fined	313.59	385.99	413.97	449.67	
5.	National Saving Certificates (VII Issue)	72	A	12.36	19.9	21.8	26.4	32.2	2
			N	12.36	9.27	8.65	7.42	6.18	
			I	Unde-fined	341.94	354.05	385.60	419.35	
6.	15 Year Public Provident Fund	180	A	12.00	15.2	15.9	17.6	19.6	6
			N	12.00	8.6	8.0	6.6	5.3	
			I	Unde-fined	194.18	197.50	203.70	213.49	
7.	UTI 10 Year Unit Linked Insurance Plan (1971)	120	A	10.15	15.16	16.36	19.04	22.20	5
			N	10.15	7.0	6.4	5.2	4.0	
			I	Unde-fined	253.13	260.53	276.00	293.55	
8.	LIC 20 Year Endowment Policy Without Profits (Investment Component)	240	A	8.80	11.14	11.72	12.93	14.38	8
			N	8.80	7.37	7.04	6.36	5.60	
			I	Unde-fined	263.64	265.91	269.26	274.38	

Notes: 1. For assets entitled to benefits u/s 80C, the case of 100% deduction is shown.
2. Assets are ranked in descending order of the pre tax return.
3. All benefits to which assets are entitled and not just immediate deduction taken into account.
4. IFP : Index of Fiscal Privilege.

TABLE 6

Rates of Return for Selected Assets Entitled to Immediate Deduction
Assessment Year 1988-89

Sl. No.	Name of asset	Effective holding period (months)	Actual (A), no conce-ssion (N), IFP (I)	Marginal income tax rate (%)					Rank change for 50% rate	Interest rate change tax
				0	25	30	40	50		
1.	Eligible New Equity Issues	60	A	16.60	19.25	20.45	21.95	23.55	Same	No change
			N	16.60	12.80	12.00	10.40	8.80		Assumed
			I	Unde-fined	180.26	183.70	186.29	189.10		
2.	LIC 20 Year Endowment Policy Without Profits (Investment Component)	240	A	13.84	18.05	19.16	21.81	25.32	Same	Same
			N	13.84	11.02	10.42	9.20	7.92		
			I	Unde-fined	255.24	255.55	271.76	293.92		
3.	20 Year Contributory Provident Fund	240	A	13.5	15.8	16.3	17.5	18.9	Same	No change assumed
			N	13.5	10.6	10.0	8.9	7.8		
			I	Unde-fined	118.18	126.00	140.98	154.17		
4.	15 Year Public Provident Fund	180	A	12.00	15.2	15.9	17.6	19.6	Same	Same
			N	12.00	8.6	8.0	6.6	5.3		
			I	Unde-fined	194.18	197.50	203.70	213.43		
5.	National Saving Certificates (VI issue)	72	A	11.30	19.7	21.8	26.7	32.8	Same	Down
			N	11.30	6.5	7.9	6.8	5.7		
			I	Unde-fined	371.07	386.91	422.90	464.19		
6.	National Saving Certificates (VII Issue)	72	A	11.30	18.5	20.4	24.8	30.4	Same	Down
			N	11.30	8.5	7.9	6.8	5.7		
			I	Unde-fined	331.41	347.91	381.78	423.08		
7.	UTI 10 Year Unit Linked Insurance Plan (1971)	120	A	10.45	15.46	16.66	19.34	22.49	Same	Up
			N	10.45	7.14	6.52	5.28	4.05		
			I	Unde-fined	251.36	256.02	271.95	288.13		
8.	LIC 20 Year Endowment Policy Without Profits (Investment Component)	240	A	8.80	11.14	11.72	12.93	14.38	Same	Same
			N	8.80	7.37	7.04	6.36	5.60		
			I	Unde-fined	263.64	265.91	269.26	274.38		

Note: For notes see previous table.

15

determined from $(1-xt) = (1+r(1-t))/(1+r)$ or $x = r/(1+r)$. Here x is the fraction of the purchase price which is deductible. Thus for the minimum slab of 80C deductions (40%) the provisions of this section lead to higher post-tax rates of return on a one-period bond, provided its rate of interest does not exceed 67%! The value of immediate deduction decreases as the holding period of the bond increases. In fact, for a perpetuity, 100% immediate deduction is equal to yield exemption[3],

In the Indian case, immediate deduction (via section 80C or 80CC) is coupled with full or partial yield exemption (via section 10(11), 10(12); 80L or 48(h)) which makes the assets even more attractive. In fact, in the special case of National Savings Certificates, VI Issue, immediate deduction is not only combined with yield exemption (under section 80L) but also yield deduction (for the first 5 years) since interest income is deemed to be reinvested! This of course favours upper bracket taxpayers to a very handsome degree.

The main features revealed by the tables is as follows.

i.   There is, once more, no one-to-one link between the holding period and the effective interest rate.

ii. Tax favour to upper bracket taxpayers is much higher than for yield-exempt assets as compared to lower bracket taxpayers whether one examines the difference between actual and no concession rates of return or whether one examines the Index of Fiscal Privilege. The progressivity of the income tax is, therefore, even more adversely affected than for yield-exempt assets with the caveat that there are lower ceilings on immediate deduction compared to yield exemption under current tax law.

iii. For the assets with the highest post tax returns, National Savings Certificates, returns for those in the 40% and 50% brackets are higher than even informal loan rates. Informal loans are reportedly available at 2% per month or 26.8% annualised. Thus there are opportunities for profitable arbitrage.

(iii) Long-term assets enjoying capital gains tax benefits

Section 48(b) ensures that capital gains are taxed at a

lower rate than other income provided the finance asset is held
for more than three years (or for more than one year in the case
of equity from AY 1988-89). Sections 54E and 54F provide for fur-
ther tax relief if the sales proceeds are reinvested in specified
assets. These provisions have presumably been enacted to curtail
the so-called "lock-in" effect of capital gains taxes whereby
funds get locked into a low yield asset since high taxes on sale
of the asset result in a sizeable diminution of the asset holder's
funds position[4].

The provisions of section 54F, which provides for propor-
tionate exemption of capital gain if sales proceeds are invested
in housing, ensure that partial tax concessions are given to capi-
tal gains reinvested in housing. When combined with section 48(b),
proportional expenditure tax treatment is possible provided most
of the sales proceeds are invested in housing.

Section 54E provides for proportionate exemption of capi-
tal gains if sales proceeds are invested in specified government
bonds for a three-year lock-in period. These bonds (such as Na-
tional Rural Development Bonds and Units under the Capital Gains
Units Scheme, 1983) typically pay low interest or dividends. Thus
they represent the imposition of an implicit tax on capital gains
by forcing lock-in of funds for three years at a low yield[5]. The
extent of such tax depends on the rate of return on the alterna-
tive asset that could have been bought if funds were not locked
up. Thus, these bonds are more beneficial if the motive for sale
of a capital asset is consumption rather than investment in a
highly profitable venture.

Regarding assets which enjoy capital gains benefits under
section 48(b), three assets in our sample, the Indira and Kisan
Vikas Patras and equity shares held for more than 12 months fall
into this category. The latter enjoy limited dividend exemption
upto Rs 10,000 in AY 88-89 and Rs 7000 in AY 87-88 under section
80L as well. Rates of return for these assets are given in Tables
7 and 8. As can be seen, these provisions result in partial tax

concessions with a fiscal privilege index of about 50. In fact, for purchases of less than Rs 10,000, the Indira Vikas Patras is tax-free for those not paying wealth tax. The same is true of capital gains upto Rs 10,000 and dividends upto Rs 7,000 for long-term equity. Thus, upto a limit of Rs 10,000 of capital gain, yield exemption treatment results for these and other assets yielding only dividends and capital gains.

(iv). Other assets in the sample

Four other quantitatively assessed assets remain in the sample, details of which are in Tables 7, 8 and 9. Of these, company fixed deposits and social security certificates enjoy no tax benefits. Short-term equity holdings enjoy dividend exemption under section 80L but no benefits on capital gain. The former two assets do not benefit from fiscal concessions at all (Index of Fiscal Privilege zero) while short-term equity receives treatment less favourable than expenditure tax treatment, since only the dividend component qualifies for yield exemption.

The National Savings Scheme is in a special class, being the only asset in the sample (and one of two assets in the population) entitled to netting treatment. Since the pre-tax interest rate is a low 11% per annum (9% in AY 87-88) this asset is mainly attractive to those who expect to be in low tax brackets at the time of dissaving and are currently in high tax brackets. As Table 9 shows, this asset has the highest yield in the sample if held for the minimum lock-in period of three years for those in the 40% or 50% income tax brackets at the time of purchase. The comment on arbitrage possibilities made above in connection with National Savings Certificates applies with greater force here. Furthermore, the asset being, high light, of the immediate deduction type, given that most purchasers will be those who expect to be in lower tax brackets at the time of dissaving, clearly goes far beyond expenditure tax treatment with its fiscal concessions. The progressivity implications are especially adverse given that the newly introduced section 80CCA (which governs this

18

TABLE 7

Rates of Return for Selected Other Assets
(Assessment Year 1987-88)

Sl. No.	Name of asset	Effective holding period (months)	Actual (A), no concession (N), IRP (I)	Marginal income tax rate (%)				
				0	25	30	40	50
1.	Short term equity holdings		A	17.80	15.85	15.46	14.68	13.90
			N	17.80	13.85	12.46	10.68	8.90
			I	Unde-fined	56.18	56.18	56.18	56.18
2.	Equity Shares Eligible for Long Term Capital Gain Treatment	36	A	17.10	16.50	16.30	16.10	15.80
			N	17.10	13.10	12.20	10.60	8.90
			I	Unde-fined	85.00	83.67	84.62	84.15
3.	Company Fixed Deposits	12	A	15.56	11.67	10.89	9.34	7.78
			N	15.56	11.67	10.89	9.34	7.78
				Unde-fined	0.00	0.00	0.00	0.00
4.	Indira Vikas Patra	60	A	14.9	13.7	13.5	13.0	12.5
			N	14.9	11.8	11.2	9.9	8.4
			I	Unde-fined	61.29	62.16	62.00	63.08
5.	Post Office 10 Year Social Security Certificates	120	A	11.61	8.70	8.12	6.97	5.81
			N	11.61	8.70	8.12	6.97	5.81
			I	Unde-fined	0.00	0.00	0.00	0.00

Notes: 1. Additional benefit in case of company fixed deposits when purchased from investment brokers possible by way of rebated commission.
2. Post office 10 year social security certificates are not listed as yield exempt in the latest National Savings Organisation Brochure. They are treated as yield exempt in Das-Gupta (1987) and also Patwardhon (1988).

TABLE 8

Rates of Return for Selected Other Assets
(Assessment Year 1988-89)

| Sl. No.	Name of asset	Effective holding period (months)	Actual (A), no concession (N), IFP (I)	Marginal income tax rate (%)					Interest rate change
				0	25	30	40	50	
1.	Short term equity holdings		A	17.80	15.85	15.46	14.68	13.90	
			N	17.80	13.85	12.46	10.68	8.90	
			I	Unde-fined	56.18	56.18	56.18	56.18	
2.	Equity Shares Eligible for Long Term Capital Gain Treatment	12	A	17.80	17.02	16.86	16.55	16.24	Increase
			N	17.80	13.85	12.46	10.68	8.90	
			I	Unde-fined	82.47	82.47	82.47	82.47	
3.	Indira Vikas Patra	60	A	14.9	13.7	13.5	13.0	12.5	Same
			N	14.9	11.8	11.2	9.9	8.4	
			I	Unde-fined	61.29	62.16	62.00	63.08	
4.	Company Fixed Deposits	12	A	14.49	10.87	10.14	8.69	7.25	Decrease
			N	14.49	10.87	10.14	8.69	7.25	
			I	Unde-fined	0.00	0.00	0.00	0.00	
5.	Kisan Vikas Patra	66	A	13.43	12.38	12.16	11.72	11.28	--
			N	13.43	10.93	10.19	8.92	7.65	
			I	Unde-fined	61.40	61.52	62.08	62.80	
6.	Post Office 10 Year Social Security Certificates	120	A	11.61	8.70	8.12	6.97	5.81	Same
			N	11.61	8.70	8.12	6.97	5.81	
			I	Unde-fined	0.00	0.00	0.00	0.00	

Note: For notes see previous table.

20

TABLE 9

Rates of Return to National Saving Scheme

Case	Effective holding period (months)	Actual (A), no concession (N), IFP (I)	Marginal income tax rate at time of purchase (%)				
			0	25	30	40	50
(A) Assessment Year 1987-88							
I	36	A	9.00	13.96	15.07	17.42	19.97
		N	9.00	6.75	6.30	5.40	4.50
		I	Unde-fined	320.44	324.81	333.89	343.78
II	36	A	N.A	13.96	10.06	11.23	11.37
		N	N.A	6.75	6.30	5.40	4.50
		I		320.44	139.26	161.94	152.67
(B) Assessment Year 1988-89							
I	36	A	11.00	22.17	25.01	31.61	39.85
		N	11.00	8.25	7.70	6.60	5.50
		I	Unde-fined	506.18	525.55	568.41	624.55
II	36	A	N.A	22.17	13.58	16.58	17.96
		N	N.A	8.25	7.70	6.60	5.50
		I	N.A	506.18	178.18	232.95	226.55

Notes: 1. Tax treatment is equivalent to yield exemption if tax brackets
           at the time of purchase and sale are identical.
       2. Case I : Zero tax bracket at the time of sale.
          Case II : Tax bracket at the time of sale one lower
                    than at the time of purchase.
       3. For no concession returns, it is assumed that the higher
          tax bracket applies till the day previous to the date of sale.
       4. IFP : Index for Fiscal Privilege.

21
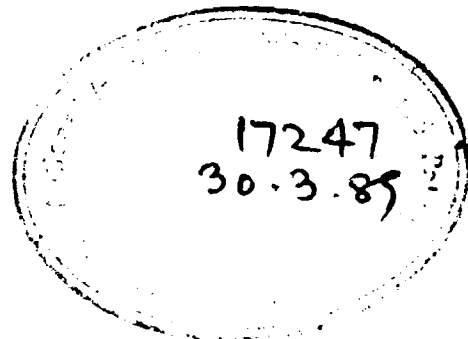
asset) provides an additional Rs 30,000 of de facto 100% immediate deduction (for some individuals) over and above deductions available in other sections of the Income Tax Act.

Of the assets not quantitatively assessed, private sector convertable debentures and commercial bank and Unit Trust mutual funds deserve to be noted. Convertible debentures, while risky, have very high average yields given the normally wide difference between the conversion rate for debentures into equity and the market price of equity shares. For example, Reliance Series 'G' debentures are estimated to have a potential return (for a one-year holding period) in excess of 200%.

Public sector close-ended mutual funds, being entitled to the same immediate deduction benefits as new equity issues and yield exemption upto Rs 10,000, are likely to be high-yielding assets without the high risks usually associated with equity investment. For example, the Unit Trust of India's Mastershares declared a 13% dividend in July 1988 and had a net asset value (computed by the Unit Trust) which implied an annual rate of capital gain of about 19%. Mutual funds clearly result in additional tax favour to upper income brackets while convertible debentures are more egalitarian.

5. The Pattern of Fiscal Favour and Distortionary Consequences of Tax Provisions

(1) Fiscal privilege

A consequence of the diverse pattern of fiscal concessions for different assets is a widely varying pattern of fiscal privilege both across assets and across tax brackets or concession slabs for the same asset. Table 10 provides details of fiscal privilege for assets in the sample, ranked according to the maximum value taken on by the Index of Fiscal Privilege during AY 1988-89. The table shows that of a total of 26 assets or groups of assets, 9 assets (34.6% of the sample) have Index values at maximum in excess of 100 which is the benchmark non-distortionary

TABLE 10

Ranks of Assets by Index of Fiscal Privilege After Income Taxes

Rank	Short name of asset	Assessment year 1987-88 Fiscal privilege		Assessment year 1988-89 Fiscal privilege		Comparison with proportional expenditure tax treatment	Absolute change over 1987-88
		Min	Max	Min	Max		
1.	National Saving Scheme	-163.84	343.78	-674.88	624.55	Better at max, worse at min	Increase
2.	National Saving Certificate VI Issue	0	447.69	0	464.1	-do-	Increase
3.	National Saving Certificate VII Issue	0	419.35	0	423.08	-do-	Increase
4.	LIC 20 Year Money Back Policy	100	293.92	100	295.26	Better	Same
5.	Unit Linked Insurance Plan (10 Year)	0	293.55	0	288.13	Better at max, worse at min	Decrease
6.	LIC 20 Year Endowment Policy	100	274.38	100	274.38	Better	Same
8.	15 Year Public Provident Fund	100	213.43	100	213.43	Better	Same
9.	Eligible New Equity Issues	15.38	189.10	15.38	189.10	Better at max, worse at min	Same
10.	20 Year Contributory Provident Fund	100	154.17	100	154.17	Better	Same
11.	Post Office Recurring Deposits	100	100	100	100	Same	Same
11.	Post Office Time Deposits	100	100	100	100	-do-	Same
11.	Tax Exempt Bonds of Public Sector Units	100	100	100	100	-do-	Same
11.	Post Office Savings Bank Accounts	100	100	100	100	-do-	Same
16.	Post Office Monthly Income Scheme	-	-	0	100	-do-	Same
16.	Interest Deductable Bonds of Public Sector Units	0	100	0	100	-do-	Same
16.	Units, 1964 (Consol)	0	100	0	100	-do-	Same
16.	7% Capital Investment Bonds	0	100	0	100	-do-	Same
16.	Commercial Bank Savings Deposits	0	100	0	100	-do-	Same
21.	Long Term Equity Shares	13.41	85.00	26.29	82.47	Worse	Decrease
22.	Indira Vikas Patra	61.29	63.08	61.29	63.08	-do-	Same
23.	Kisan Vikas Patra	-	-	61.40	62.80	-do-	-
24.	Short Term Equity	0.0	56.18	0.0	56.18	-do-	Same
25.	Company Fixed Deposits	0.0	0.0	0.0	0.0	No privilege	Same
25.	Post Office Social Security Certificates	0.0	0.0	0.0	0.0	-do-	Same

value. A further 6 assets (23.1%) have Index values at maximum below 100. Of the remaining assets a further 4 (15.4%) have Index values at minimum equal to zero. Thus, only 19.2% of assets in the sample have rates of return that are everywhere undistorted by income taxes. More revealing is the fact that the top 8 assets in terms of the Index are public sector saving instruments while 3 of the bottom 6 assets, with an Index of Fiscal Privilege everywhere below 100, are from the private sector.

Comparing AY 1988-89 with AY 1987-88, the one striking change is the sharp increase in the already high Index value for the National Savings Scheme. This is due to the increase in deductibility from 50% to 100% for this asset. No other asset has an improved rank.

Finally, one unexpected finding is the marginal decrease in fiscal privilege at maximum for long-term equity. The change reflects the shortening of the minimum eligibility period - from one year to three years - for long-term treatment and occurs due to the lower assumed rate of capital gain as compared to dividends. For a three-year period (as in AY 87-88), lenient capital gains taxation has less relative importance in such a case than dividend taxation in comparison with a one-year period (as in AY 88-89). There would be no difference in the case of equal rates of dividend and capital gain.

(ii) Consequences for the term structure of rates of return

The impact of tax treatment for the term structure of rates of return can be studied by examining rank correlations of after-tax rates of return and holding periods. Spearman correlation coefficients are given for this in the first three rows of Table 11. Ranks of pre-tax rates of return and rates of return in the 50% tax bracket are also plotted versus holding period ranks in Figures 1 and 2. The most important conclusions which can be drawn are the following.

Figure 1: Plot of Asset Ranks: Effective Holding Period (X axis)
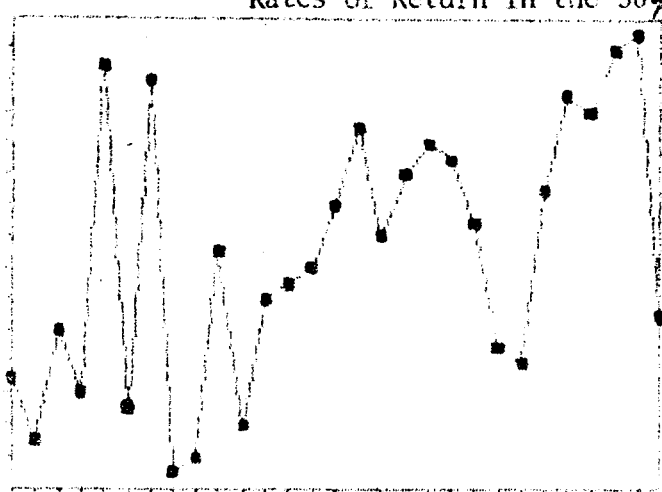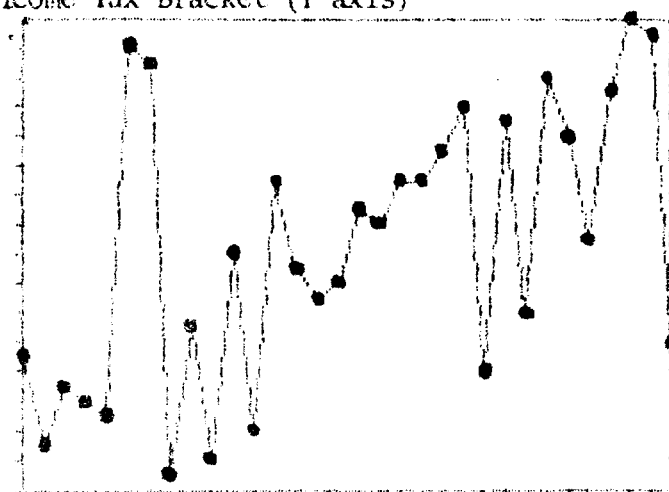Versus Pretax Rates of Return (Y-axis)
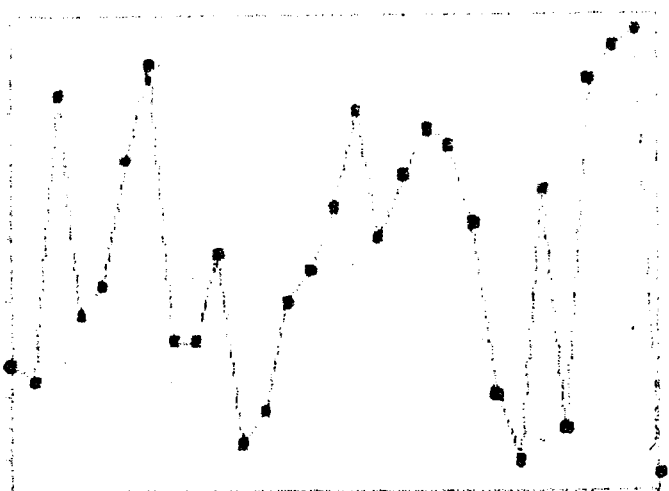
(a) AY 1987-88
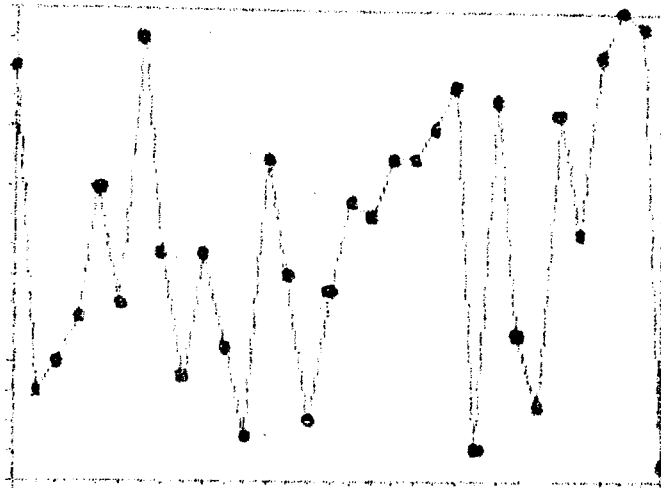
(b) AY 1988-89

Figure 2: Plot of Asset Ranks: Effective Holding Period (X axis) Versus
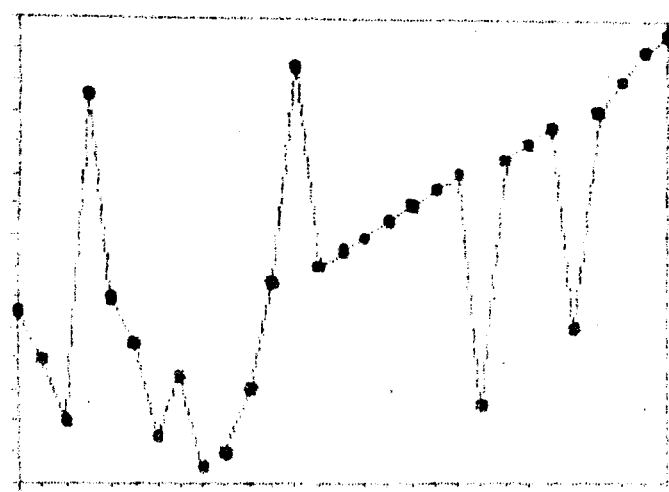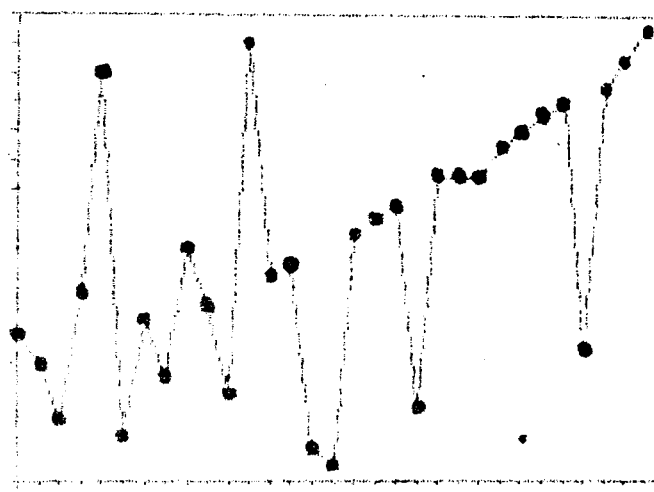Rates of Return in the 50% Income Tax Bracket (Y axis)

(a) AY 1987 88

(b) AY 1988-89

Figure 3: Plot of Asset Ranks: Rates of Return Before Tax (X axis) Versus
Rates of Return in the 50% Income Tax Bracket (Y axis)

(a) AY 1987-88

(b) AY 1988-89

Note: Low ranks indicate short duration/high rate of return.

i. Figure 1 and the first row of Table 11 show that administered interest rates have little correlation with holding periods. The situation has improved marginally from AY 1987-88 to AY 1988-89 as a result of recent changes in some interest rates.

ii. Given pre-existing distortions, distortionary income tax concessions act to improve the correlation between post-tax interest rates and holding periods as is revealed by the second and third rows of Table 11. However, as shown in figure 2, rank reversals still take place even in the 50% tax bracket. Once again, the situation in AY 88-89 is marginally better than in AY 87-88.

The finding regarding the pre-tax term structure, though not the relative improvements in the term structure at higher tax brackets, must be treated with caution due to limitations of the financial rates of return used. The most important limitations are the following.

i. Certain assets, like units and provident funds, can be used as security for loans at interest rates lower than bank lending rates. This has the effect of raising the implicit rate of return due to lower liquidity losses. This would be true even for risk-neutral investors with uncertain future consumption demands.

ii. At least one pair of assets in the sample, the Indira and Kisan Vikas Patras, have rates of return which are made to differ deliberately by varying the holding period. The shorter duration asset, the Indira Vikas Patra, is a bearer bond with attendant risk of theft, loss or mutilation, while the Kisan Vikas Patra is not.

However, against this, several pieces of evidence can be cited to show that deliberate distortions exist in rates of return. A few examples will suffice.

i. Commercial bank fixed deposits have had their rate structure made flat above a two-year period in the current assessment year.

ii. The National Savings Certificates VII Issue, a 6-year bond with 6-monthly interest and limited facilities for use as loan collateral, has a lower pre-tax interest rate than the newly introduced post office Monthly Income Scheme which is also a 6-year bond.

iii. LIC 20-year money back policies are more liquid than LIC 20-year endowment policies since the former pays back por

TABLE 11

Selected Spearman Rank Correlation Coefficients

Sl. No.	Name of first variable	Name of second variable	Spearman Rank Correlation Coefficient (%)	
			AY 1987-88	AY 1988-89
1.	Effective holding period	Pre tax rate of return	15	25
2.	Effective holding period	Rate of return for 25% income tax bracket	39	45
3.	Effective holding period	Rate of return for 50% income tax bracket	52	55
4.	Pre tax rate of return	Rate of return for 25% income tax bracket	82	78
5.	Pre tax rate of return	Rate of return for 50% income tax bracket	63	61
6.	Rate of return for 25% income tax bracket	Rate of return for 50% income tax bracket	93	96

Notes: 1. Tied ranks assigned mid point value.
2. For assets with the same return, the asset with the longer holding period is ranked below the asset with the shorter holding period.

tions of the endowment sum every 5 years. However money
back policies have the higher rate of return.

iv. Post office savings bank accounts offer higher interest
and better tax benefits than commercial bank savings ac-
counts.

Thus, despite the limitations inherent in using unadjusted
financial rates of return, it is safe to conclude that the term
structure of returns is arbitrary and without a carefully thought
out rationale. To the extent that most of the assets in the
sample are successful, significant informational imperfections in
Indian asset markets, even in the organised segment examined here,
can be inferred.

(ii) Distortions in asset ranks across tax brackets

Finally, the distortionary potential - and impact - of the
complicated savings incentives in the Income-tax Act are revealed
by an examination of rank correlations of assets across tax brack-
ets. These are given in the last three rows of table 11 and in
Figure 3. Given correlations as low as 61% and the rank reversals
evident in Figure 3, income tax concessions are seen to have sig-
nificant distortionary potential. While the most serious distor-
tions are created by capital gains taxation[6] this finding takes
on significance in view of the fact that tax concessions have
been extended to a wider group of assets in AY 88-89 with the pos-
sibility of further widening over the next few years.

The main conclusion of this analysis must be that current
rates of return, which are mostly administered, and current tax
incentives lead to a pattern of asset yields with no clear
rationale.

6. Revenue Impact of Tax Concessions

Two criteria are used for analysing the revenue impact of
tax concessions in the absence of quantitative information on the
aggregate value of tax concessions. The first is the minimum

28

government discount rate necessary to make the overall budgetary impact of the asset non-negative. The second is the annual tax sacrifice, in rupees, per Rs 100 of the assets.

The minimum government discount rate is a suitable criterion for evaluating government or public sector bonds. The figure itself is simply the after-tax rate of return on the asset. This may be understood as follows. Since the rate of return on a public sector asset is the return given by the government to the asset holder, it represents the annual cost to the government of these borrowed funds, taking into account both direct interest and amortisation costs and the indirect costs of tax concessions (that is, the entire budgetary impact over the life of the asset). Clearly if this cost exceeds the government's financial discount rate, this makes the asset a money losing proposition for the government. If the financial discount rate is close to the social discount rate, the asset will also cause an intertemporal social welfare loss (since social welfare judgements are reflected in the social discount rate). To the extent that the social discount rate exceeds the financial discount rate, some loss-making assets will still be socially worthwhile. However, this is unlikely to be the case for the most high-yielding assets, especially since only persons in upper tax brackets can benefit from the high rates. Assuming a discount rate about equal to the nominal trend growth the rate of GDP (say about 12%), the top 10 public sector assets in Table 12 as well as the National Savings Scheme would appear to be loss makers. Thus, any savings encouraged by these assets is at too high a cost to the government and perhaps society.

For private sector assets, an appropriate yardstick is the annual tax sacrifice (the difference between actual after-tax rates of return and rates of return in the absence of tax concessions). It is a moot point as to whether the level of sacrifice revealed in the table to encourage savings made available to the private sector is justified, especially in view of the high and growing level of public borrowing and interest payments

TABLE 12

Revenue Impact of Tax Concessions for the 50% Tax Bracket : Selected Assets

Sl. No.	Short Name of Asset	Required discount rate (%) 1987-88	1988-89	Change over 1987-88	Annual tax sacrifice (Rs) 1987-88	1988-89	Change over 1987-88
1.	National Savings Certificates VI Issue	34.25	32.8	(1.45)	28.07	27.10	(0.93)
2.	National Savings Certificates VII Issue	32.2	30.4	(1.8)	26.03	24.70	(1.33)
3.	LIC 20 Year Money Back Policies	25.18	25.32	0.14	17.45	17.40	(0.05)
4.	New Equity Share Issues	-	-	-	14.75	14.75	0.00
5.	10 Year Unit Linked Insurance Plan	22.2	22.49	0.29	18.20	18.44	0.24
6.	15 Year Public Provident Fund	19.6	19.6	0.00	14.3	14.3	0.00
7.	20 Year Contributory Provident Fund	18.9	18.9	0.00	11.1	11.1	0.00
8.	Long Term Equity Shares	-	-	-	6.90	7.34	0.44
9.	LIC 20 Year Endowment Policies	14.38	14.38	0.00	8.78	8.78	0.00
10.	Short Term Equity Shares	-	-	-	5.00	5.00	0.00
11.	Post Office Monthly Income Scheme	-	13.58	-	-	5.79	-
12.	Tax Deductible Public Sector Bonds	14.49	13.42	(1.07)	7.25	6.71	(0.54)
13.	Indira Vikas Patra	12.50	12.50	0.00	4.10	4.10	0.00
14.	Post Office Recurring Deposits (5 year)	11.93	11.46	(0.43)	5.92	5.73	(0.19)
15.	Post Office Time Deposits (5 Year)	11.46	11.30	(0.16)	5.73	5.65	(0.08)
16.	Kisan Vikas Patra	-	11.28	-	-	3.63	-
17.	Units, 1964	10.48	11.24	1.24	5.24	5.62	0.38
18.	National Savings Scheme	9.00	11.00	2.00	4.5	5.5	1.00
19.	Post Office Time Deposits (3 Year)	10.78	10.78	0.00	5.39	5.39	0.00
20.	Commercial Bank Fixed Deposits	9.31 - 11.46	10.38	0.7 - (1.08)	4.66 - 5.73	5.19	0.53 - (0.54)
21.	Post Office Time Deposits (2 Year)	10.25	10.25	0.00	5.13	5.13	0.00
22.	Post Office Time Deposits (1 Year)	9.73	9.73	0.00	4.87	4.87	0.00
23.	Commercial Bank Fixed Deposits (1 Year)	8.77	9.31	0.54	4.39	4.66	0.27
24.	Tax Exempt Bonds of Public Sector Undertakings	10.25	9.20	(1.05)	5.13	4.60	(0.53)
25.	Commercial Bank Fixed Deposits (91 Days)	-	8.24	-	-	4.12	-
26.	Company Fixed Deposits	-	-	-	0.00	0.00	0.00
27.	7% Capital Investment Bonds	7.00	7.00	0.00	3.50	3.50	0.00
28.	Post Office Savings Bank Accounts	5.50	5.50	0.00	2.75	2.75	0.00
29.	Commercial Bank Savings Accounts	5.06	5.06	0.00	2.53	2.53	0.00
I.	National Saving Scheme discontinued when purchaser is in 0 tax bracket	19.97	39.85	19.88	15.47	34.35	14.47
II.	National Saving Scheme discontinued when purchaser is in 40% tax bracket	11.37	17.96	6.59	6.87	12.46	5.59

Notes: 1. Tax sacrifice takes place for Company Fixed Deposits of Housing Finance Companies.
2. National Saving Scheme at Row (18) is when tax bracket on purchase and sale are identical.

on public debt. That only the personal income tax is being studied here should also be recalled.

The case of commercial bank deposits is a hybrid one. For the portion of commercial bank deposits available to the government, the minimum rate of discount criterion is relevant (this should be higher than given if the rate of interest charged from the government exceeds that paid to borrowers). For the portion not going to the government, the tax sacrifice criterion is appropriate.

In assessing the impact of tax concessions on deficits and government debt, three specific points are particularly noteworthy.

i. The absolute increase in the annual interest rate on the national debt per 1% increase in the national debt is equal to 1% of the differential between the interest rate on new debt and that on the existing debt[7]. Thus, for example, given an assumed current interest rate of even 15% on the debt, a 1% increase in debt through the sale of National Saving Certificates, VI Issue, to persons in the 50% income tax bracket raises the annual interest rate to 15.18% or by 1.2%. There is thus a significant impact on the interest burden of the debt.

ii. To the extent that interest rates offered by the government exceed borrowing rates - two examples of this were given in section 4 - savings incentives need not result in any net increase in savings since profitable arbitrage may be used simply to increase current consumption. What is worse, little or no addition to net resources with the government may result. An example will clarify this. In AY 87-88, National Saving Certificates, VI Issue, had a post-tax return of 34.25% for persons in the 50% tax bracket. Furthermore, they could be used as collateral for commercial bank loans at an interest rate of about 18% with banks advancing upto 70% of the purchase price of the bond. Thus a Rs 1000 bond could be purchased with an out-of-pocket expense of Rs

31

500 (the remaining 500 being tax saving) and then be used to get a bank loan of Rs 700 resulting in a clear gain of Rs 200. After meeting bank interest obligations the individual would also receive Rs 122 back from the bank in the sixth year. The reduction in bank loanable funds would be reflected either in reduced accommodation of the government or in reduced bank finance to the private sector. If 50% of the Rs 700 is the extent of decrease in government accommodation, the net cash receipt to the government would be Rs 150 (Rs 1000 less the Rs 500 tax rebate less Rs 350 in bank loans). The cost of this loan of Rs 150 to the government, given further tax relief and interest obligations, would be in excess of 70% per annum.

The case with employee or contributory provident funds is even worse since cheap loans against a high fraction of fund balances are given to members. For saving certificates financed out of provident fund loans the government has a net funds outflow even in the first year.

The two points discussed above and the general analysis preceding them make it clear that the budgetary impact of at least some public saving instruments is almost surely adverse. In fact, for such instruments, lowering the effective yields would in all probability improve resource generation. It is unfortunate that no detailed data are available to make feasible a quantitative assessment of the magnitude of the resource impact.

7. Private Saving and Private Investment

(i) Impact on private saving

Once again, in the absence of adequate data only two qualitative observations on incentive effects are made.

First, the examples of arbitrage in the preceding paragraphs make it clear that the impact of arbitraged purchases on the purchaser is to endow her with a new intertemporal budget

line everywhere outside the initial budget line. An increased slope, implying less attractive current consumption, will also result. This change can be decomposed into (i) a parallel outward shift of the budget line and (ii) a rotation with the current consumption axis as the focus. The parallel shift will clearly result in increased current consumption (if current consumption is a normal good). The rotation will also have a positive income effect on current consumption but a negative substitution effect so that the total effect is uncertain. However, the combined effect is clearly a greater bias towards current consumption than without arbitrage possibilities. Since, in the aggregate, an increase in current consumption must mean a decrease in national saving and since government saving in India is currently negative, a decrease in private saving is the most likely outcome for arbitraged transactions.

Secondly, the well known point that increased saving in public saving instruments may simply reflect a portfolio readjustment and not a net increase in private saving, needs to be reiterated.

(ii) Implications for crowding out of private investment

In a regime in which interest rates are largely administered, the pre-emption of investible funds by the public sector is the main consideration in analysing crowding out. Attention in this section is restricted to such pre-emption. Two ways in which the range of public sector assets analysed crowd out private investment can be identified, one obvious and the other less so.

First, the direct mopping up of household saving either because of forced saving in assets such as provident funds or because of high rates of return on government bonds is the obvious and arguably most important method of pre-empting household saving. It should be noted that household saving mopped up by the government has implications not only for funds available for

33

private investment from the organised sector but also for informal credit and the cost of informal credit.

A second way of pre-empting investible funds is when asset returns are high enough to lead to additional consumption (as with the assets discussed in connection with arbitrage opportunities). In such cases, even if the government does not mobilise any additional resources, there will be a shrinkage in the pool of available resources for private sector investment.

A third, related, factor is when banks lend to households against the security of government bonds. To the extent that such loans are for consumption and to the extent that the government has priority in borrowing from nationalised banks, crowding out results.

In sum, while the magnitude of the effect of government debt instruments on private saving and investment is not estimated, some observations have been made which indicate that, at least for some debt instruments, the effect may be adverse.

8. Policy Suggestions and Conclusions

(i) Policy suggestions

The purpose of saving incentives, as also the array of government bonds, is presumably to promote saving and make current resources available for current government expenditure, provided such resources do not entail excessive future repayment costs.

If this is so, then an almost irresistible conclusion is that the return to the most lucrative government bonds from the saver's point of view should be scaled down. Since such bonds consist entirely of bonds which enjoy immediate deduction treatment along with the National Saving Scheme, it is clear that immediate deduction benefits should be curbed.

This can be done in various ways. If the government wishes to retain provisions conferring immediate tax relief when savings are made, then it can switch to a system of tax credits instead of immediate deduction. This will ensure that any fiscal favour is uniform across tax brackets (up to the amount of taxes paid) and will also make saving incentives progressive. This suggestion is, of course, an old one in the public finance literature.

Two second best measures which could be implemented in lieu of tax credits are, to lower the extent of immediate deduction to taxpayers in upper tax brackets or to increase the lock in period for government bonds entitled to immediate deduction for these tax brackets. It may be recalled from section 4 that immediate deduction at the rate $r/(1+r)$ is equivalent to yield exemption for a one-period bond - provided no other tax benefits are permitted. Since national saving certificates have an annualised interest rate of 11.3%, and have a holding period of 6 years, immediate deduction of 54% for the 50% tax bracket provides yield exemption equivalence - provided other concessions are removed. Alternatively, as mentioned in section 4, lengthening the holding period reduces the value of immediate deduction benefits whether alone or as part of a netting scheme. For example, an effective return of about 20% would result for a saver in the 50% tax bracket who is not taxable when dissaving and who saves in the National Saving Scheme, provided its holding period is lengthened to 9 years. A similar result will obtain if the holding period for National Saving Certificates is increased to 10 years for persons in the 50% tax bracket. Whichever method of amending asset characteristics or tax laws is chosen, it is clearly the case that a careful examination of sections 80C and 80CCA of the Income-tax Act and also characteristics of assets entitled to concessions under these sections, is called for.

(ii) Conclusions

An examination of current financial savings incentives and

capital gains concessions under the Income-tax Act In conjunction with a sample of about thirty government and private sector financial instruments has been carried out. The examination has revealed a structure of asset returns with no apparent overall rationale. Among the more disturbing specific findings are the following.

i.   Relatively greater favour is accorded to upper bracket taxpayers – and, of course, none to non taxpayers – which erodes the progressivity of the tax system.

ii. Relatively greater favour is accorded to government bonds as compared to private sector assets.

iii. Excessively high after-tax returns to some assets for upper bracket taxpayers lead to the possibility that savings may actually be discouraged in these cases.

iv. Some government bonds lead to adverse long-run government budget implications while others may not yield additional resources even in the short run. Such bonds have adverse implications for the effective interest rate on government debt.

NOTES

1. A detailed exposition of the methodology is given in a technical appendix to the earlier study (Das Gupta, 1987), which also contains calculations of the effect of wealth taxes and gift taxes in addition to income taxes. These computations are not reported here to save space since conclusions are qualitatively unaffected.

2. This does not preclude repeated purchases and sales if the investor elects to make use of tax treatment accorded to short-term equity. Thus there is no inconsistency from the point of view of tax analysis.

3. Thus, for example, provident funds for persons nearing retirement will yield much higher benefits (up to 331% for contributory provident funds in the last year before retirement) than for persons starting out in their career. Figures given are for a twenty-year holding period which is near the middle of the range of possibilities.

4. Bandoupadhyay and Dasgupta (1938) suggest that the opposite may in fact be the case and recommend removal of such concessions.

5. See Bandoupadhyay and Dasgupta (1988) for further details.

6. Ibid.

7. If I and dI are respectively existing and incremental interest payments and N and dN are the corresponding figures for the national debt then the interest rate increase is $(I+dI)/(N+dN) - (I/N)$. This equals $[dN/(N+dN)] \times (S-r)$, where $S = dI/dN$ is the interest rate on new debt and $r=I/N$ is that on existing debt.

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