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Impact of Tax Breaks on Household Financial Saving in India[§]

ABSTRACT Academic literature on the effectiveness of tax breaks on financial saving in India is scant. This paper, for the first time, presents macro as well as micro evidence on what has been achieved by tax breaks with regards to financial saving. It uses aggregate national accounts data to study how financial savings have evolved with changes in tax breaks. It studies household portfolios for the financial year 2016–17 using the Consumer Pyramids household survey. It finds that there is no link between tax breaks and overall financial savings. Households that fall in a non-zero tax bracket invest more heavily in the tax-incentivized products. These results have implications for the design of tax policy.

Keywords: *Tax Policy, Tax Incentives, Saving, India*

JEL Classification: E2, H2, H31

1. Introduction

Household saving[1] in India was 32 percent of GDP in 2015–16 (RBI 2017b). However, this has not translated into financial investments. Net financial saving by households was only 7.8 percent of Gross National

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1. To distinguish between the use of the term as stock and flow, we use the term 'saving' to denote flow and 'savings' to denote cumulative stock.

Disposable Income (GNDI) in the same year.[2] Indian households, on average, tend to hold a high fraction of non-financial assets, with particularly high relative weights in real estate and gold (Badarinza, Balasubramaniam and Ramadorai 2017).

A policy lever used in India, as in other countries, to influence saving into financial markets has been tax breaks for certain specified financial products through the Income Tax Code. Tax breaks are often motivated by the need to incentivize households to invest in long-term saving instruments to build assets to finance retirement consumption in old age. For example, new vehicles for individual retirement saving were created through tax legislation in the 1970s and 1980s in the USA. In fact, tax incentives are used by most OECD governments to encourage private retirement saving. The Indian tax incentives are also motivated by the need to promote long-term saving. Assets with exemptions include certain bank deposits, small saving instruments administered by the Government of India, insurance, and pension products.

The standard framework of intertemporal utility maximization suggests that tax incentives alter the after-tax rate of return. This may encourage additional saving, that is, lead to saving that would not have happened had there been no tax breaks. However, it is also possible that this may only encourage diversion of saving to tax preferred instruments, in which case no new saving takes place. This is known as the "infra-marginal" effect, which describes saving that households would have done anyway, except that now they are in the product with the tax break. Theory remains ambiguous on which effect, the income or the infra-marginal, substitution, will dominate.

Empirical evidence from international research on the impact of tax policy on household saving largely points to the infra-marginal effect (Duo et al. 2006; Gale and Scholz 1994; Engen, Gale and Scholz 1996; Engerlhardt and Kumar 2007; Gelber 2011; Poterba, Venti and Wise 1995). For example, Ochmann (2014) studies German data and finds that households with higher tax rates are found to have relatively greater demand for tax-privileged assets. Similarly, Chetty et al. (2014) study Danish households and find that tax subsidies induce relatively few individuals to respond. When individuals do respond, they primarily shift assets to the subsidized accounts. Academic literature on the effectiveness of tax breaks in India is scant (Das-Gupta 1990). There has, however, been a fair bit of discussion in the policy space on the optimal way to tax financial saving. While policy reports (Shome

2. Net financial saving by households is arrived at by subtracting financial liabilities from gross financial saving.

2001; Kelkar, 2002; Malegam 2015) claim that there is only a 'substitution effect' in India, empirical work largely remains absent.

This is mainly because empirical analysis on these questions is best done using survey data that studies investor decisions over time and requires some exogenous variation in eligibility (or some other instrument) to clearly identify the effect of the tax break (Bernheim 2002). Unfortunately, in India such historical micro-data is not available. This paper, for the first time, presents micro as well as macro evidence on what has been achieved by the tax breaks with regard to financial saving. Is it that overall financial saving has increased? Or is it that tax policy has channeled household saving into specific products?

This question assumes importance as individual households are the major contributors to income taxes in India. Out of 49.8 million income tax returns filed for the assessment year 2017–18, 46.6 million returns were filed by individuals (Income Tax Department 2018). After deducting the returns that pay zero tax, 41 million individuals paid income tax in the assessment year 2017–18. This constitutes roughly 15–16 percent of the total households in the country.[3] This is the universe affected by tax policy on financial saving instruments, and while it may appear small, this is the higher income earning section of the economy that has the potential to save large amounts and help towards financialization of the economy. These figures motivate an analysis of the impact of tax policy on household saving.

For a macro-level analysis, the paper uses aggregate national accounts data to study how financial saving has evolved with changes in tax breaks. It enumerates the changes in the taxation of saving instruments for individuals that have taken place since 2001, and studies financial saving over the same period. We find that overall financial saving is not correlated with tax breaks. Financial saving has, in fact, fallen over the period.

For a micro perspective, the paper studies household portfolios for the financial year 2016–17 using the CMIE Consumer Pyramids household Survey (CPHS). This allows us to compare households that fall under the tax bracket with households that do not. One caveat is that the CPHS data only asks if households have investments in specific instruments and does not report the rupee value of saving. The analysis, therefore, is restricted to understanding household investments on the extensive margin. To control for the income effect as distinct from the tax effect, we further compare

3. According to a report, there were 250 million households in the country (Ministry of Statistics and Programme Implementation 2018). However, according to a recent survey by Broadcast India, there were around 298 million households in the country in 2018.

households that have the same household income, but differ in the tax treatment because at least one individual in the household has income that makes him/her fall in the tax bucket. We find that tax-incentivized households are more likely to invest in the products that are given a tax break, especially insurance.

We also evaluate if there is a difference between the household characteristics of those who purchase insurance. If tax incentives matter, then household characteristics should not have any influence on investments in insurance for the group that is taxed. On the contrary, for the group that is not taxed, we should see certain characteristics such as age or household size influencing the decision to invest in insurance. We consider the subset of salaried households and regress the probability of purchasing insurance on the proportion of working members in the household, age, age square, gender, religion, caste, education, total annual income, and region (urban versus rural). We find that most household characteristics do not explain the investments in insurance of taxed households. This is not true for non-taxed households.

The results suggest that tax breaks do not have an impact on increasing overall financial saving and at most lead to a "substitution effect," that is, they lead to households channeling saving into the tax-exempt products without increasing the amount of overall saving. As well, tax breaks give a subsidy to better-off households which fall in the income tax net. This suggests that tax breaks end up benefitting those already at the upper end of the income distribution in India. The Government of India recently set up another committee to redraft the direct tax law.[4] As the new committee deliberates on the direct tax law, there is need to ask what specific objectives the government wishes to meet through tax breaks, and whether the existing tax breaks are designed to meet those objectives. A cost–benefit analysis of such provisions can shape policy in generating saving into financial markets.

The paper proceeds as follows. We describe a conceptual framework for the empirical analysis in Section 2. The institutional setting and the exact nature of the tax breaks are described in Section 3. Section 4 describes the data, while Section 5 presents evidence on the impact on savings. Micro-level evidence on household portfolios is presented in Section 6, and policy implications are discussed in Section 7. Section 8 presents the conclusion.

4. https://www.thehindubusinessline.com/economy/policy/new-task-force-set-up-to-redraft-direct-tax-law/article9969907.ece (accessed on June 3, 2019).

2. Conceptual Framework

There is a large literature, theoretical and empirical, on the effect of tax treatment on saving. In this section, we reproduce the standard framework of intertemporal utility maximization with the objective of anchoring the empirical analysis.[5]

Consider a standard utility maximization of the following form:

$$\sum_{t=0}^{T} u_t(c_t)\rho^t \tag{1}$$

$$s.t. \sum_{t=0}^{T} C_t\beta^{-t} \leq W(\beta) \tag{2}$$

$$W(\beta) = \sum_{t=0}^{T} W_t\beta^{-t} \tag{3}$$

$$\beta = 1 + i(1-m) \tag{4}$$

where $\rho<1$ represents the rate of time preference, $\boldsymbol{W}$ is the value of lifetime resources, and the discount factor, $\boldsymbol{i}$ the pre-tax rate of return, and $\boldsymbol{m}$ the tax rate. The associated level of saving (s_t) in this model is given by the difference between total income (including investment returns) and consumption.

In this set-up, there are two factors that influence saving—changes in the tax rate m, and the pre-tax rate of return i through the after-tax rate of return $i(1 - m)$. An increase in the after-tax rate of return has a substitution effect wherein there is a shift of consumption towards the future, leading to an increase in saving. The income effect leads to an increase in consumption in both periods, leading to a reduction in saving. Theory is silent on which effect dominates.

When tax incentives are provided on specific products, then this reduces the tax rate applicable to saving below some threshold (contribution limit). Saving in a tax-deferred account is then a perfect substitute for other saving, as it generates a higher return. This is evident from the following example.

Consider, once again, a two-period set-up where an individual consumes C_{i1} in period 1 and C_{i2} in period 2. The individual could save in a tax-incentivized account (T) or a usual savings account (S). By saving in the usual savings account, the individual earns i. Returns to saving increase

5. The discussion is borrowed from the analysis of Bernheim (2002) and Chetty et al. (2014).

to $i + \psi$ in the tax-incentivized account, which translates to a net subsidy to the tax-incentivized account. Saving in the tax-incentivized account strictly dominates saving in the taxable account.

Increases in the subsidy should affect saving through three channels: (a) a reduction in the price of the tax-incentivized account should lead to a substitution effect across the two accounts, (b) a reduction in the price of consumption in Period 2 relative to consumption in Period 1 should lead to an increase in saving, and (c) an increase in total lifetime wealth should reduce saving. Prior empirical research (Duflo et al. 2006; Engen et al. 1996; Engerlhardt and Kumar 2007; Gale and Scholz 1994; Gelber 2011; Poterba et al. 1995) suggests that the substitution effect dominates.[6]

3. Institutional Background: Section 80C

We turn next to understanding the institutional structure of the tax system and saving incentives in India. The Income Tax Act, 1961, is the primary law regarding taxation in India. Table 1 shows the tax thresholds as of 2016–17. Individuals with an annual income of less than ₹250,000 are exempt from income tax. The tax rate increases to 5 percent, 20 percent, and 30 percent, respectively, at higher income brackets.

Since our focus is to analyze the impact of tax breaks on household saving, we look at those provisions of the Income Tax Act that provide for various tax deductions and exemptions for individuals. This is primarily possible through Section 80 (Sections 80C, 80CCC, 80CCD[1]) through which a deduction of ₹150,000 can be claimed from total taxable income of an individual in a particular financial year.[7]

TABLE 1. Tax Thresholds

Annual Income	*Tax Rate (%)*
< ₹250,000	Nil
Between ₹250,000–₹500,000	5
Between ₹ 500,000–₹1,000,000	20
> ₹1,000,000	30

Source: Budget document, 2016–17.

6. The dominance on total saving largely depends on the elasticity of intertemporal substitution.

7. Section 80CCE of the Income Tax Act, 1961, restricts the deduction under Sections 80C, 80CCC, and 80CCD(1) to ₹1.5 lakh.

There are exemptions given on four categories of financial products. These include long-term savings, small savings schemes, fixed income products, and investment vehicles including equity products, and collective investment vehicles (Malegam 2015). The following instruments within these categories are eligible for the deduction:[8]

- Long-term instruments
  - Payment of life insurance premium to effect or to keep in force (premium restricted to 10 percent of the actual capital sum assured);
  - Payment made to effect or to keep in force a contract for a deferred annuity (including payment made by government as an employer);
  - Contribution to a provident fund (or superannuation fund);
  - Contribution to a pension fund set up by a mutual fund;
  - Contribution to the National Pension System of the Central Government;
  - Investment in notified fixed deposits with a mandatory lock-in period of five years.
- Fixed income instruments
  - Subscription to such bonds issued by the National Bank for Agriculture and Rural Development;
  - Any subscription made to any such deposit scheme or pension fund set up by the National Housing Bank.
- Small savings instruments
  - Investments in time deposits at the post office;
  - Subscription to any notified security of the Central Government, or saving certificates;[9]
  - Any investment in an account under the Senior Citizens Savings Scheme Rules, 2004.
- Equity instruments and collective investment schemes
  - Subscription to units of any Mutual Fund of Section 10(23D), referred to as equity-linked mutual funds;
  - Subscription to equity shares or debentures forming part of any eligible issue of capital.

The tax structure also taxes some financial instruments through capital gains taxes as well as a dividend distribution tax. For example, in the budget

8. https://taxguru.in/income-tax/income-tax-deductions-section-80c-eligible-investments-expenses.html (accessed on June 3, 2019).

9. National Savings Certificates are issued by the post office and have a minimum lock-in period of five years.

of 2017–18, a capital gains tax was levied on equity investments through mutual funds, but not on unit-linked insurance plans.

Until 2005–06, most of the deductions for individuals were part of Section 88 of the Income Tax Act. They were substituted by Section 80C. The 2005–06 budget speech, which brought in this change, said:

> State must be neutral between one form of saving and another and allow the tax-payer greater flexibility in making savings/investments decisions.

The 2006–07 budget speech included bank fixed deposits for a term of not less than five years as an eligible instrument for tax deduction under Section 80C of the Income Tax Act.

Having said this, the mix of Section 80C exemptions was more or less kept the same as that of Section 88. The exemptions have continued till date with minor changes between instruments. The overall limit was increased from ₹100,000 to ₹150,000 in the budget speech of 2014–15. Through the budget of 2015–16, investments in the National Pension System (NPS) were given an additional tax break of ₹50,000 through Section 80CCD (1B).

From the perspective of "long-term saving," insurance, pensions, and fixed deposits (for a period of five years and above) have been given preferential treatment. Table 2 presents the changes in taxation specifically related to fixed deposits, insurance, and pensions over the last 15 years.

A fixed deposit of a term of not less than five years was included in the list of instruments in the budget speech of 2006–07. The interest income from a bank FD is, however, fully taxable. Banks deduct tax at source (TDS) at the rate of 10 percent if the interest income for the year is more than ₹10,000. If the household is in a higher tax bracket, the additional tax has to be paid through self-declaration when filing returns.[10]

In the case of insurance, the first tax break since 2001 appeared in 2003–04, when any sum that a beneficiary received from the insurance policy (including a bonus) was exempted from income tax. The next change was in 2012–13 when the exemption on deduction for life insurance premium was reduced to 10 percent of the actual capital sum assured, from the earlier 20 percent. Finally, in 2013–14, this exemption was increased to 15 percent for persons with disability and people with diseases or ailments. The first change provides an incentive to save more, while the second change is a reduction in the incentive. The third change improves the incentive to save into insurance, but is not applicable to everyone.

10. If the person has not provided his or her permanent account number (PAN), the bank will deduct TDS at the rate of 20 percent.

TABLE 2. Changes to Fixed Deposits, Insurance, and Pension Taxation in India, 2003–04 to 2015–16

This table presents the changes in taxation specifically related to fixed deposits, insurance, and pensions over the last 15 years.

Year	*Section*	*Tax Changes*
		Fixed Deposits
2006–07	80C	Investment in a term deposit, for a fixed period of not less than 5 years, with any scheduled bank shall be eligible for deduction.
2012–13	80TTA	Deduction of ₹10,000 can be claimed against interest income from a bank savings account.
		Insurance
2003–04	10D/88	Any sum received under a life insurance policy, including the sum allocated by way of bonus on such policy is exempt. Restricted to 20% of the actual capital sum assured.
2012–13	80C	Deduction for life insurance premium, issued on or after April 1, 2012, shall be allowed for only so much of the premium payable as does not exceed 10% of the actual capital sum assured. This is a change from the 20% of capital sum assured earlier.
2013–14	80C	A higher limit of 15% of actual capital sum assured has been provided for persons with disability and people with diseases or ailments.
		Pensions
2004–05	80CCD	Mandatory NPS for new entrants to civil services from January 1, 2004.
2007–08	80CCD	Individuals employed by "other employers," and not just the Central Government, are now included under the purview of this Act.
2009–10	80CCD	NPS extended to "self-employed" also.
2011–12	80CCE	The contribution made by the Central Government or any other employer to a pension scheme shall be excluded from the limit of ₹1 lakh provided under Section 80CCE.
2015–16	80CCD	Additional deduction of ₹50,000 for amount deposited by taxpayer in their NPS account.

Source: Budget documents, various years.

In 2004, the government introduced the National Pension System (NPS), a defined contribution pension plan for new recruits to civil services. In April 2009, this was opened for citizens of India on a voluntary basis. Over the last few years, most of the tax breaks on pensions have revolved around the NPS. The big incentive to the NPS was in the budget speech of 2015–16 where an additional deduction of ₹50,000 (over and above the ₹150,000 overall limit) was provided for investing in the NPS.

4. Data

We use both micro- and macro-level datasets to analyze the impact of tax breaks on household financial savings. Our analysis begins from 2001 since we want to analyze the impact of changes in tax policy governed by Section 80C of the Income Tax Act on household saving.[11]

Data on annual household saving are published by the Central Statistical Office (CSO).[12] Information on financial assets and liabilities of the household sector are also published annually by the RBI as part of the 'Flow of Funds (FoF) Accounts of the Indian Economy'. The RBI has been publishing estimates of household financial assets and liabilities five months ahead of the CSO's release.

We use the RBI data on "Changes in Financial Assets and Liabilities of the Household Sector (RBI)" for data on household financial saving (RBI 2017a). This data focuses only on the assets and liabilities of the household sector and provides us with a time series of financial assets such as insurance, and pension and provident funds.[13]

The table on "Gross Value Added and Gross Domestic Product" provides data on GDP. This is provided as two different series. The first one is the GDP at current prices using the 2004–05 base year series, while the second is sourced from the 2011–12 base year series. Unfortunately, it is not possible to combine these two series into one consolidated GDP series, as the base year change was accompanied by a comprehensive change in the CSO's methodology for computing GDP.[14]

We also source data from the Consumer Pyramids Household Survey carried out by the Centre for Monitoring Indian Economy (CMIE) in three waves a year across India, with a total sample size of about 160,000 households.[15] The survey asks questions on income, consumption, sources of credit, and choice of saving instruments.

We restrict ourselves to the sample of households that are available throughout the financial year 2016–17, which leaves us with about 90,000

11. We source our data from CMIE Economic Outlook that provides a consolidated data release from government sources.

12. See Central Statistics Office (2012) for the sources and methodology of estimating the components of household saving.

13. Financial assets include currency, bank deposits, non-banking deposits, life insurance fund, provident and pension fund, claims on government, shares and debentures, units of Unit Trust of India, and trade debt.

14. For a discussion of the GDP measurement methodology, see Sengupta (2016).

15. To make the sample representative of the household population in India, adequate weights have been provided for the roughly 160,000 households. These weights are based on the Compound Annual Growth Rate from Census data from 2001 to 2011.

households. We analyze household responses on income and consumption for the financial year 2016–17 (April 2016—March 2017). The responses on savings are from the first wave of 2017 (January 2017—April 2017).

The survey asks households if they have outstanding investments in a particular product as of the survey date. We classify households with investments in financial products as those which have outstanding investments in at least one of the following:

- Bank fixed deposits;
- Post office savings;
- National Savings Certificate;
- *Kisan Vikas Patra*;
- Insurance;
- Provident funds/pensions;
- Mutual funds; and
- Listed shares.

We classify households with some investments in physical assets as those which have outstanding investments in at least one of the following:

- Gold, and
- Real estate.

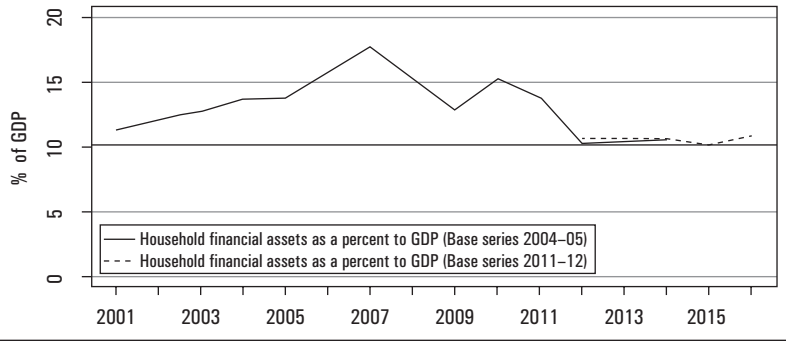
The survey does not ask for the rupee value of saving in each product. As a result, we can only know whether the households have saved in some instrument, but cannot know how much.

To analyze household portfolios on the basis of tax incidence, it is important to classify households on the basis of whether they fall under a non-zero income tax bracket. Since all questions are asked at the household level, it is possible that while total household income seems higher than the income tax threshold, each household member could individually earn less than the threshold. We therefore calculate the total income of each member of the household for the 2016–17 financial year. We then classify each household as "taxed," or "not-taxed" if there is at least one member with annual income greater than ₹250,000, the income tax threshold.

5. Impact on Saving

If tax incentives affect financial saving, then we should see a rise in financial saving over the years, as there has been some tax break or the other given on financial products, especially since 2005. If, on the other hand, there is

FIGURE 1. Household Financial Assets as a Percent of GDP 2001–17



Source: RBI and CSO.

a pure substitution effect, we should see that instruments that have received the most tax breaks see the largest share in total financial saving.

5.1. Overall Financial Saving

Figure 1 shows the time series of household investment in financial assets (representing financial saving) as a percent of GDP. The black line shows the series using data from the 2004–05 base year, while the dashed line shows the data using the 2011–12 base year series. Financial saving had been rising steadily from about 11 percent of GDP in 2001 to a high of about 17 percent in March 2007. The years between 2003 and 2005 did not see any tax breaks, and yet there was a rise in financial savings.

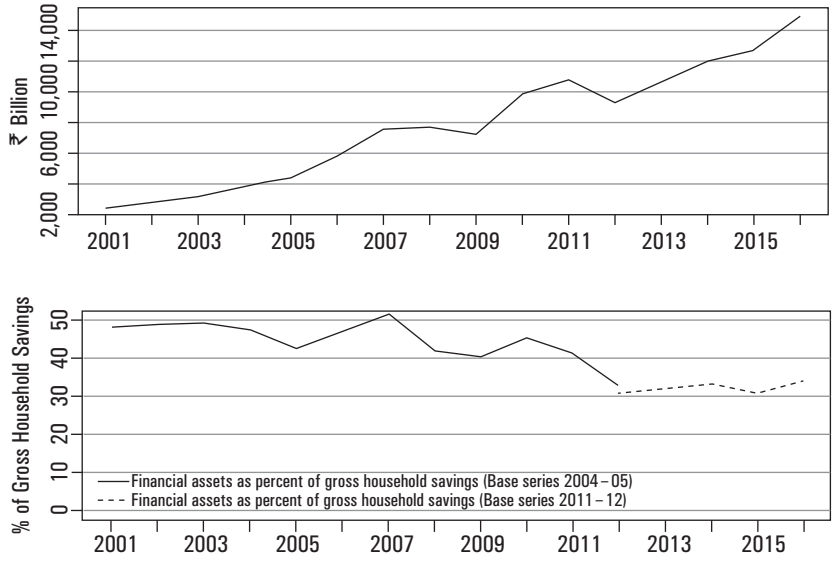
Since 2007, there has been a tax break announced pretty much every year (Table A.1 in the Appendix). And yet financial saving had fallen to about 11 percent of GDP by March 2013. The new series also shows roughly the same estimate. Financial saving as a percent to GDP remained roughly constant through the tax breaks of 2012 to 2015, and increased only slightly as of March 2016. This may be because of the increase in the overall limit of tax exemption from ₹100,000 to ₹150,000 in the 2014–15 budget. The association between tax breaks and financial saving appears weak.

This is reflected in the fall in financial saving as a percent of household gross saving as well. Figure 2 focuses on the time series of the rupee value of financial saving and its share in overall household saving since March 2001. The top panel shows the rupee value of financial saving, while the bottom panel shows financial saving as a proportion of total household saving.

The rupee value of saving has been rising since March 2001. It stayed stable between March 2008 and 2009. Since 2009, it has been rising (barring

FIGURE 2. Total Financial Assets of Households

The figure shows the time series of overall household financial assets since March 2001. The top panel shows the rupee value of financial assets, while the bottom panel shows financial assets as a proportion of total household savings.



Source: RBI and CSO.

a small dip in 2011). The share of household financial saving in total household saving has actually been falling since 2007. The new series suggests that since 2012, this has roughly stayed constant, with a slight increase in 2015—perhaps a response to the increase in the overall exemption limit to ₹1.5 lakh from ₹1 lakh described earlier.

There appears to be no correlation between tax breaks and financial saving. Despite a continuous regime of tax breaks on one product or another, household financial savings have risen in some years, stayed stable in others, and have actually fallen in one year. The share of household financial saving in total household saving is lower in 2016 relative to 2001.

5.2 Composition of Household Financial Saving

Table 3 shows the share of the various savings instruments in the overall household financial saving from 2011–12 to 2015–16. Bank deposits constitute the bulk of household financial saving, though their share in the overall household financial savings has seen a dip from 2011–12 onwards. Shares

TABLE 3. Composition of Household Financial Savings

	2011–12 (%)	*2012–13 (%)*	*2013–14 (%)*	*2014–15 (%)*	*2015–16 (%)*
Currency	11.39	10.48	8.36	10.61	13.19
Deposits	57.95	56.97	56.01	50.94	43.59
Shares and debentures	1.77	1.60	1.59	1.58	2.72
Claims on government	–2.35	–0.67	1.94	0.08	4.38
Insurance fund	20.98	16.91	17.17	23.81	17.50
Provident and pension fund	10.26	14.71	14.93	15.02	18.21

Source: CSO.

and debentures constitute a small part of the overall financial saving of households. Investments in provident and pension funds have seen a gradual rise though they still constitute a small proportion of the overall saving. This could be an outcome of tax incentives announced in the pensions' space. For example, the Budget of 2015–16 announced an additional deduction of ₹50,000 for contribution towards NPS over and above the limit of ₹1.5 lakh under Section 80C. The NPS was till recently operated on an EET (Exempt, Exempt, Tax) basis, wherein 60 percent of the balance that could be withdrawn as a lump sum[16] was taxed (but the original contribution and any accumulation was tax exempt). In a recent decision, the Government has decided to make the 60 percent withdrawable amount tax-free. This move could further enhance the attractiveness of NPS as a saving product.

Table 3 gives us a big picture of the problem of household financial saving. It is instructive to look further at the household data to gain an understanding of household preferences for savings instruments. When we look at the composition of household portfolios, we find a big difference in those households that are taxed versus not taxed (Table 4). In 2016–17, a much larger proportion of taxed households claims to have outstanding investments in fixed deposits,[17] insurance, small savings, and pensions, all of which are instruments covered under Section 80C. For example, 88 percent of households that are not taxed claim to have outstanding investments in fixed deposits, as opposed to 96 percent of taxed households. The next instrument of choice is insurance, with 50 percent of non-taxed households having insurance, as opposed to 90 percent of taxed households, followed by

16. NPS investors have to use 40 percent of the corpus to buy an annuity and can withdraw the remaining 60 percent of the corpus. The annuitized amount is tax-free.

17. The fixed deposits may not be the ones with a tax break.

TABLE 4. Household Portfolios by Tax Status (2016–17)

	Under the Tax Threshold	*Above the Tax Threshold*
Average household income (₹)	161,731.7	551,579.4
Percentage of households with investments in	%	%
Physical assets	99	99
Financial assets	92	99
Fixed deposits	88	96
Insurance	50	90
Provident funds	7	55
Small savings	10	23
Mutual funds/shares	0.3	3.4
Number of households	79,497	7,279

Source: CPHS data.

provident/pension funds where the difference is much more striking; 7 percent of non-taxed households as opposed to 55 percent of taxed households.

6. Impact on Saving: Micro-level Evidence

We turn to estimating the effect of being in a taxable income bracket on the probability of having outstanding investments in specific financial products. We estimate a probit regression as follows:

$$Y = t_i \beta_1 + X_i \beta_2 + \varepsilon_i$$

where Y is an indicator for the latent variable Y*. In this case, Y = 1 if Y* > 0, or Y = 0 otherwise. This indicates if a household i has outstanding investments in a specific financial product. t_i indicates if the household falls in the tax-paying bracket. X_i are the controls which include household characteristics such as age, gender, education, occupation, religion, and caste of the head of the household, the number of earning and non-earning members in the household. ε is normally distributed with mean zero, and variance 1. This analysis does not estimate the determinants of household saving, but instead is focused on understanding the differential in propensity to save in various financial instruments between households that face different tax burdens.

Table 5 shows the results of investments in fixed deposits (Columns 1 and 2), insurance (Columns 3 and 4), pensions (Columns 5 and 6), and small savings (Columns 7 and 8). Columns 1, 3, 5, and 7 show the results without

TABLE 5. Investments in Tax-incentivized Products

This table shows estimates of probit model that explains a dummy variable that is "1" when investment is made in a tax-saving financial product and "0" otherwise. For each financial product, two models are estimated: one in which the explanatory variable is whether the household falls in the tax bracket, and two in which household characteristics such as gender, age, average number of earning members, education, religion, and caste are also controlled for. The results show that controlling for household characteristics, households in the tax bracket are more likely to have outstanding investments in the tax-favored financial products.

	Fixed Deposit		*Insurance*		*Provident Fund*		*Small Savings*	
	(1)	*(2)*	*(1)*	*(2)*	*(1)*	*(2)*	*(1)*	*(2)*
Taxed	0.570***	0.465***	1.282***	0.786***	1.600***	1.037***	0.526***	0.336***
	(0.027)	(0.029)	(0.02)	(0.022)	(0.016)	(0.019)	(0.017)	(0.020)
Constant	1.177***	0.604***	–0.009**	–2.617***	–1.476***	–4.574***	–1.264***	–1.970***
	(0.006)	(0.13)	(0.004)	(0.104)	(0.007)	(0.182)	(0.006)	(0.137)
Observations	86,776	86,776	86,776	86,776	86,776	86,776	86,776	86,776
Log likelihood	–30,324.6	–29,574.6	–57,491.6	–53,025.1	–25,160.9	–19,807.6	–30,314.2	–29,817.9
Additional controls	NO	YES	NO	YES	NO	YES	NO	YES

Sources: CPHS data; Authors' calculations.

Note: $*p < 0.1$; $**p < 0.05$; $***p < 0.01$.

TABLE 6. Marginal Effects: Investments in Specific Instruments

Instrument	*Marginal Effect*
Fixed deposit	0.065***
	(0.003)
Insurance	0.280***
	(0.006)
Pensions	0.202***
	(0.006)
Small savings	0.073***
	(0.005)

Source: CPHS data; Authors' calculations.

any controls, while Columns 2, 4, 6, and 8 control for all the household characteristics.

The results show that controlling for socio-demographic variables, households that fall in the tax bracket are more likely to have outstanding investments in the four tax-favored financial products than households that are not in the tax bracket. This is true for all four savings instruments.

The magnitude of the effect of the tax break is best understood by calculating marginal effects. Table 6 shows the marginal effects of being in a taxable bracket from the probit regressions in Columns 2, 4, 6, and 8, that is, the regressions with the controls. The marginal effect can be considered as an approximation of the effect of a unit change in the independent variable on the probability $P(Y=1|X=x)$. The results show that being in a tax bracket leads to a 6.5 percent higher probability of investing in a fixed deposit, a 28 percent higher probability of investing in insurance, a 20 percent higher probability of investing in pensions, and a 7 percent higher probability of investing in small savings. These results strongly suggest that tax incentives have an influence on the composition of savings.

However, one could argue that this is purely an income effect, and not a tax effect. Those in the tax bracket are also those with higher incomes and would have saved in these products anyway. We, therefore, only consider those in the salaried class, as there is less ambiguity about the tax liability of these households, and because of TDS, we see the highest compliance. We also only consider those households with incomes over ₹250,000, as this is where the incentives will begin to matter. In Table 7, we further divide these households into those that are taxed or not. There may be households whose income may be over the threshold, but no single member may have an income higher than the threshold. This household would not qualify as a taxed household. This gives us tax variation in the same income bracket.

TABLE 7. Tax-incentivized Households in Salaried Class

This table shows the number of households in the Consumer Pyramids data within each income bracket that have a tax liability and those that do not have a tax liability.

Household Income Between ₹	*Under Tax Threshold*	*Above Tax Threshold*
	No. of Households	
250,000–300,000	1,218	323
300,000–350,000	682	680
350,000–400,000	358	766
400,000–450,000	213	651
450,000–500,000	136	427
500,000–550,000	61	282
550,000–600,000	81	363
> 600,000	69	1,309

Source: CPHS data.

As an example, Table 7 shows that there are 1,218 households in the income bracket of ₹250,000–300,000 but since the individual members of such households earn less than ₹250,000, they are not taxed. This approach enables us to isolate the impact of tax policy on the savings of households. As we have only considered those in "salaried" occupations, we are able to control for the potential confounding effect of agricultural income, which is not taxed.

We estimate a probit regression on each of the income categories separately. The regressions control for all the household characteristics. Table A.2 in the Appendix presents the results from the regressions. They suggest that there is a limited "tax incentive effect" on saving in insurance and pensions. Those households within the same income bracket that are exposed to the tax are more likely to have outstanding investments in insurance and pensions than households that are not taxed. The effect is strongest for insurance in the sense that households across the various income groups are more likely to have outstanding investments in insurance if they fall in the tax bracket. There is no difference in savings in FDs and small savings. At incomes of about ₹500,000, there is no difference in the probability of investing in pensions between the taxed and non-taxed households.

Table 8 shows the marginal effects. Here also, we see that the effect is significant mostly for insurance and pensions for households in the income category of ₹350,000 to ₹500,000. For example, those which fall in the tax bracket in the ₹350,000—₹400,000 income category are almost 7 percentage points more likely to have invested in insurance relative to those which do

TABLE 8. Marginal Effects: Outstanding Investment of Salaried Households

This table shows the marginal effect of being taxed on the probability of having outstanding investment in various saving products. The "tax incentive" impact is seen to be the most significant for insurance and pensions.

	Fixed Deposit	*Insurance*	*Provident Fund*	*Small Savings*
Income Category (₹)	*(1)*	*(2)*	*(3)*	*(4)*
250,000–300,000	–0.023	0.033	0.038	–0.010
	(0.10)	(0.024)	(0.033)	(0.024)
300,000–350,000	–0.005	0.038	0.094	0.011
	(0.030)	(0.044)	(0.030)	(0.021)
350,000–400,000	0.007	0.069***	0.163***	0.023
	(0.091)	(0.021)	(0.033)	(0.026)
400,000–450,000	0.002	0.046***	0.109***	0.012
	(0.071)	(0.024)	(0.039)	(0.037)
450,000–500,000	0.003	0.028	0.083*	0.037
	(0.344)	(0.151)	(0.049)	(0.051)
500,000–550,000	0.001	0.028	0.005	0.025
	(0.11)	(0.17)	(0.055)	(0.055)
550,000–600,000	–0.001	0.075	–0.002	0.096
	(0.252)	(0.523)	(0.064)	(0.269)
600,000+	0.002	0.066	0.069	0.039
	(0.102)	(0.040)	(0.059)	(0.054)

Source: CPHS data; Authors' calculations.

not fall in the tax bracket. Those taxed in the ₹400,000—₹450,000 income category are 5 percentage points more likely to have invested in insurance.

Another way to test whether this is a tax incentive effect is to evaluate if there is a difference between the household characteristics of those which purchase insurance. If tax incentives matter, then household characteristics should not have any influence on investments in insurance for the group that is taxed. On the contrary, for the group that is not under the tax bracket, we should see that certain characteristics such as age or household size influence the decision to invest in insurance. We consider the subset of salaried households and regress the probability of purchase of insurance on the proportion of working members in the household, age, age square, gender, religion, caste, education, total annual income, and region (urban versus rural). The results are presented in Table 9.

We find that most household characteristics do not explain the investments in insurance of the taxed households. This is not true for the non-taxed

TABLE 9. Probability of Investment in Insurance of Salaried Households

This table shows the effect of household characteristics on the probability of investment in insurance for taxed and non-taxed households. The table shows that household characteristics drive the decision to invest in insurance for non-taxed households. These characteristics matter less for households having tax liabilities.

	Non-taxed	*Taxed*
Prop. working members	–0.139***	–0.032
	(0.020)	(0.021)
Age	0.030***	0.003
	(0.004)	(0.005)
Age^2	–0.0003***	–0.00005
	(0.00004)	(0.00005)
Gender: male	0.070***	0.025
	(0.016)	(0.017)
Annual income	0.00000***	0.00000***
	(0.00000)	(0.00000)
Religion: Muslim	–0.209***	–0.053**
	(0.023)	(0.025)
Religion: Hindu	–0.025	–0.008
	(0.018)	(0.015)
Caste: intermediate	0.037***	0.009
	(0.014)	(0.012)
Caste: lower	–0.091***	–0.013
	(0.010)	(0.009)
Caste: not stated	0.075***	0.012
	(0.036)	(0.033)
Educ: school	0.186***	0.021
	(0.018)	(0.031)
Educ: diploma	0.245***	0.017
	(0.033)	(0.036)
Educ: graduate/above	0.281***	0.005
	(0.021)	(0.032)
Region: urban	0.033***	0.017
	(0.011)	(0.013)
Constant	–0.361***	0.829***
	(0.093)	(0.120)
Observations	13,065	4,801
Log likelihood	–7,973.669	–485.168

Source: CPHS data, Authors' calculations.
Note: $*p < 0.1$; $**p < 0.05$; $***p < 0.01$.

households. The probability of insurance investments is lower when the proportion of working members is higher, increases with age, and then decreases, is higher for those educated relative to those who are illiterate, and is higher for those in urban regions. The direction of coefficients is what one would expect. While income is statistically significant, the coefficients suggest that it has no economic impact on the decision to invest in insurance. Once the household is in the tax bracket, none of these variables has any effect. This suggests that tax incentives do play a role in the purchase of insurance.

Our analysis suggests a "tax incentive" effect of investments in financial products. Controlling for household characteristics, households that have tax liability are more likely to have outstanding investments in tax-incentivized financial products.

7. Policy Implications

The analysis indicates that tax breaks have no effect on the overall financial saving of households. It also shows that households that are in a non-zero tax bracket are incentivized to save in a specific set of products, in particular, insurance products. In this section, we evaluate the policy implications of the existing system of tax incentives and its impact on household portfolios.

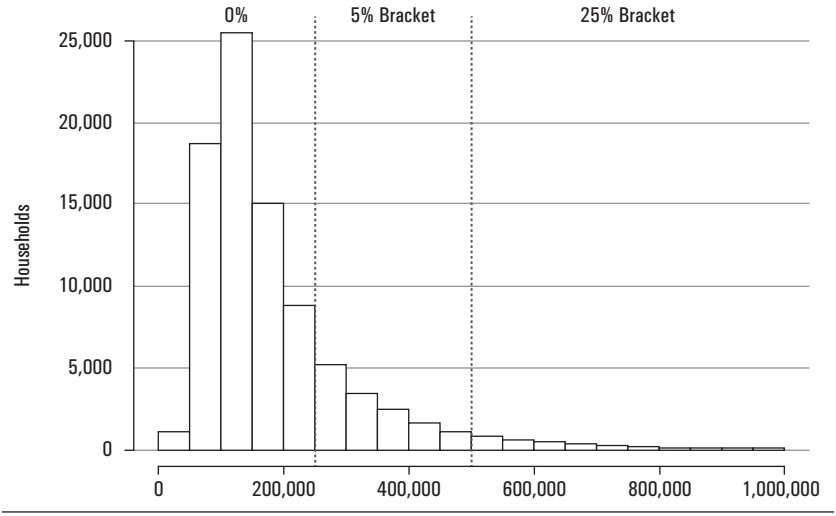
7.1. Low Tax Base

The inability of tax breaks to have any effect on overall financial saving might come from the low tax base in India. As shown in Table 1, individuals with an annual income of less than ₹250,000 are exempt from income tax. The tax rate increases to 5 percent, 20 percent, and 30 percent, respectively, at higher income thresholds.

Given low incomes in India, very few households actually fall into the tax bracket. Figure 3 shows the number of households in the tax bracket in the CPHS dataset. About 92 percent of our sample (79,497) households fall in the 0 percent tax-paying bracket, 7.6 percent fall in the 5 percent tax bracket, while less than 1 percent fall in the 20 percent and the 30 percent tax brackets.

The numbers from the survey data consist of households that have at least one member in the household with annual income greater than the thresholds. It is quite possible that some of this is agricultural income and, therefore, exempt from tax. It is also possible that there is an inconsistency between income declared to the field investigators and the actual income of the household.

FIGURE 3. Number of Households at Different Annual Income Levels



Source: CPHS data.

Note: The dotted lines indicate income tax brackets with no income tax below ₹250,000, 5% thereafter, and then 25% and 30%.

Data from the Income Tax Department shows that 46.6 million individuals filed income tax returns in the assessment year 2017–18. This is less than 3.5 percent of India's total population. Of these, 5.6 million (12 percent of individuals who filed returns) filed zero returns, that is, they had income less than ₹250,000 (Income Tax Department 2018).

It is, therefore, not surprising that tax breaks given by the Government on specific financial products have had little effect on overall financial saving in the economy. Given the low reach of direct tax incentives, the Government should evaluate the benefits of these tax breaks vis-à-vis the cost of revenue forgone, or distortions in the market that get created. For example, the Government's *Economic Survey 2015–16* points out that tax incentives for household savings lead to fiscal loss, distort the interest rate structure "and merely help in mobilising funds to specified savings instruments." The Survey also observes that the "real small savers" are outside the tax net and do not enjoy any form of tax subsidy on their savings.

7.2. Skew toward Insurance

According to a study by Willis Towers Watson (2015), in the year 2014–15, life insurance accounted for 19 percent of total household financial assets in India, second only to the banking sector that holds 46.9 percent. Traditional

endowment products that bundle savings and insurance account for 87 percent of the total business of ₹3.6 trillion in the life insurance market in India (IRDAI 2016). Among the class of tax-incentivized instruments, insurance remains very popular.

The skew toward insurance becomes a concern in the context of the large-scale mis-selling scandals in the sector that have been witnessed over the last decade and half.[18] Mis-selling of bundled insurance products (unit-linked insurance plans) has been estimated to have cost customers around US$28 billion between 2004 and 2011 (Halan, Sané and Thomas 2014). A committee set up by the Ministry of Finance has found that the problem of poor disclosures on products is highest in the context of endowment insurance products (DEA 2015). Audit studies have also provided evidence of poor sales practices, especially with regards to insurance products (Anagol, Cole and Sarkar 2017; Halan and Sané 2017). A committee formed by the insurance regulator on the sale of insurance products through banks has also admitted to mis-selling through banks (IRDA 2011). In such an environment of poor consumer protection, the role of tax breaks on specific products needs to be questioned.

The channeling of savings into insurance and pensions may also not be useful in providing capital to firms, if regulatory mandates inhibit these sectors from investing in assets other than government bonds. For example, the IRDAI (Investment) regulations mandate that not less than 50 percent of the funds of insurers in the life insurance business need to be invested in government securities and other approved investments.[19]

8. Conclusion

While there is an active policy debate on the tax treatment of savings, empirical evidence on the impact of tax breaks on household savings in India is relatively scant. This paper aims to fill this gap. It presents macro- and micro-level evidence on the impact of tax breaks on household financial saving.

The results suggest that overall financial saving is not correlated with tax announcements. Financial saving has, in fact, fallen in the period. Micro-level analysis of household portfolio data suggest a "tax incentive impact" on saving. We evaluate the probability of investments in tax-favored financial products for households having tax liabilities. We find that after controlling

18. For example, see Datta-Ray (2015) and Basu (2015) for commentary on mis-selling.

19. The Budget 2018–19 proposed that regulators should allow investments in below AA-rated bonds to encourage investment in corporate bonds.

for household characteristics, the probability of investments in tax-favored financial products is higher for households that are taxed.

A disaggregated analysis of salaried households suggests that the tax-incentivized impact on saving is highest for salaried households in the income bracket of ₹350,000 to ₹500,000. For households not subject to tax liability, household characteristics drive the probability of investments in insurance products. Thus, while the aggregate financial saving has remained stable, tax breaks have been influential in driving savings into specific products, such as insurance and pensions.

The skew toward insurance becomes a concern in the context of the large-scale mis-selling scandals in the sector that have been witnessed over the last decade and half. The results suggest that policymakers should rethink what policy goals are being served by channeling saving into specific products.

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Appendix Tables

TABLE A.1. Changes to the Tax Structure

	Increase in Tax Break			
	Overall	*Insurance*	*Pensions*	*Other*
2015–16	Yes	NA	Yes	Yes (post office)
2014–15	Yes*	Yes	Yes	NA
2013–14	NA	Yes	NA	Yes (shares)
2012–13	NA	No	NA	Yes (bank)
2011–12	NA	NA	Yes	Yes (bonds)
2010–11	NA	NA	NA	Yes (bonds)
2009–10	NA	NA	Yes	NA
2008–09	NA	NA	NA	Yes (bank)
2007–08	NA	NA	Yes	NA
2006–07	Yes	NA	NA	Yes (bank)
2005–06	Can't say	NA	NA	NA
2004–05	NA	NA	Yes	NA
2003–04	NA	NA**	NA	NA
2002–03	NA**	NA	NA	NA
2001–02	NA	NA	NA	Yes (annuity)

Source: Budget documents.

Notes: *Overall limit increased to ₹1.5L.

**Change under Sec. 88, not under Sec. 80C.

TABLE A.2. Outstanding Investment of Salaried Households

This table shows estimates of a probit model that explains a dummy variable that is "1" when investment is made in a tax-saving financial product and "0" otherwise. The analysis is done on households having tax liabilities in various income brackets. The findings suggest that households subject to tax are more likely to invest in tax-incentivized saving products, in particular in insurance and pensions.

Income Category (₹)	*Fixed Deposit (1)*	*Insurance (2)*	*Provident Fund (3)*	*Small Savings (4)*
250,000–300,000	–0.022	0.032	0.037	–0.012
	(0.017)	(0.025)	(0.032)	(0.025)
300,000–350,000	–0.007	0.041**	0.092***	0.010
	(0.014)	(0.018)	(0.027)	(0.021)
350,000–400,000	0.012	0.071***	0.158***	0.024
	(0.016)	(0.020)	(0.030)	(0.027)
400,000–450,000	0.006	0.050***	0.112***	0.012
	(0.020)	(0.023)	(0.037)	(0.035)
450,000–500,000	0.022	0.034	0.079*	0.036
	(0.021)	(0.030)	(0.046)	(0.044)
500,000–550,000	0.009	0.036	0.004	0.024
	(0.021)	(0.037)	(0.055)	(0.055)
550,000–600,000	–0.015	0.100**	0.0003	0.101
	(0.030)	(0.040)	(0.065)	(0.063)
600,000+	0.039	0.069**	0.070	0.035
	(0.024)	(0.031)	(0.053)	(0.056)

Source: CPHS data, Authors' calculations.

Comments and Discussion*

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Introduction

Historically, savings for retirement has not been a major public policy issue, especially in developing countries where life expectancy and the working life span largely coincided. Increases in life expectancy have increased the number of years a household spends in retirement relative to its working years. Consequently, the issue of motivating time-consistent saving for retirement planning has appeared front and center in the public policy arena. To induce households to save more, governments the world over have resorted to tax-incentivized schemes. A key public policy question is: Do these incentives increase household savings or do they simply result in portfolio rebalancing?

Tax-incentivized schemes increase the after-tax rate of return to a targeted asset class, thereby changing the price of future consumption relative to current consumption. This induces both an income effect and a substitution effect. Making future consumption cheaper induces households to save more. However, tax-free compounding increases the after-tax rate of return on assets; this will, in general, lead to portfolio rebalancing and may induce a household to save less. Economic theory tells us that the net effect of a change in the after-tax return on savings will, in general, be *ambiguous*.[1] Hence, this issue needs to be investigated empirically.

* To preserve the sense of the discussions at the India Policy Forum, these discussants' comments reflect the views expressed at the IPF and do not necessarily take into account revisions to the conference version of the paper in response to these and other comments in preparing the final, revised version published in this volume. The original conference version of the paper is available on www.ncaer.org.

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1. It will depend on the elasticity of intertemporal substitution. We illustrate this in the context of a simple deterministic two-period (partial equilibrium) model where agents have preferences of the form

$$u(c, \gamma) = \frac{c^{1-\gamma} - 1}{1-\gamma}$$

This paper addresses this important question in the Indian context. At the macro-level, the authors examine aggregate national accounts data to study how financial savings have evolved with changes in tax breaks. They find no link between tax breaks and overall financial savings. At the micro-level, using data on household portfolios for the financial year 2016–17 from the CMIE Consumer Pyramids Household Survey, they find that households that are taxed invest more in the tax-incentivized asset classes. The two findings taken together suggest that, in the Indian context, tax-incentivized schemes result in household portfolio reshuffling rather than net additional investment in financial assets.

A Snapshot of Taxation in India

Before discussing the paper, it is useful to examine the taxation landscape, as it puts the findings and the scope of the paper in context.[2] In 2015–16, only 40.7 million individuals, less than 4 percent of the population, filed tax returns. After adjusting for individuals reporting income below the ₹250,000 taxation threshold, the authors conclude that the tax exemptions discussed in the paper are useful to about 18.9 million individuals, less than 2 percent of the population. Hence, any quantitative effects of the policy changes addressed in the paper are likely to be insignificant. The authors are fully aware of this, "It is, therefore, not surprising that tax breaks given by the government on specific financial products have had little effect on overall financial saving in the economy."

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with elasticity of intertemporal substitution $1/\gamma$; $\gamma \geq 0$. In the first period agents work, consume (c_0) and save (s) at the *after-tax return* (r). In the second period (retirement), they consume
(c_1) their savings. Households solve the following problem:

max $u(c_0, \gamma) + \beta u(c_1, \gamma)$ subject to

$c_0 + s \leq Y$

$c_1 \leq s(1 + r)$

The solution is:

$$s = \frac{\beta^{1/\gamma}}{(1+r)^{1-1/\gamma} + \beta^{1/\gamma}} Y.$$

Since

$\frac{\partial s}{\partial r} < 0, = 0$ or > 0 if $\gamma > 1, = 1$ or < 1, the effect of a change in the after-tax return on savings *is ambiguous.*

2. All the figures are from the paper.

A Macro Perspective

The paper begins by documenting the changes to capital taxation over the last 15 years and examining the effects of these changes on savings in financial assets (the stock of assets expressed as a fraction of GDP).

Figure 1 in the paper (reproduced earlier) plots household financial assets as a share of GDP. The lack of any systematic and significant variation in this figure leads the authors to conclude:

> There appears to be no correlation between tax breaks and financial savings. Despite a continuous regime of tax breaks on one product or another, savings have risen in some years, stayed stable in others, and have actually fallen in one. The share of financial savings in total savings is lower in 2016 relative to 2001.

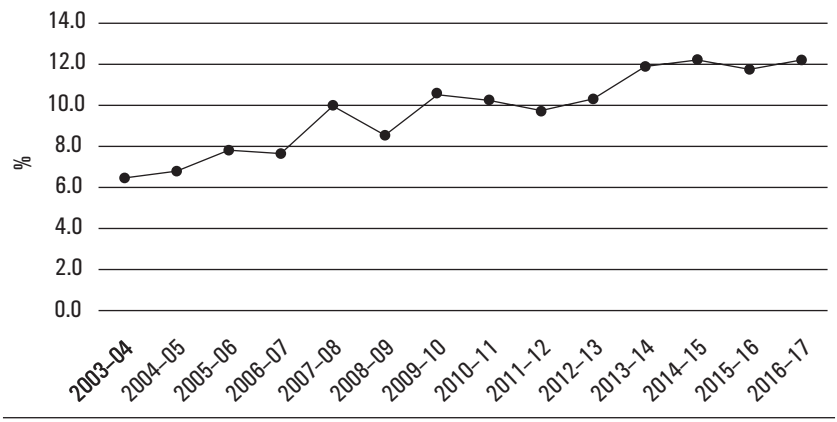
While this may well be true, it is premature to base this conclusion on the evidence presented in Figure 1 of the paper as it confounds two effects: inflows to financial assets and a revaluation of existing assets.

While the stock of financial assets in the economy increases due to inflows, it also changes due to a revaluation of existing assets, both due to tax subsidies and changes in economic conditions. The latter effects may be positive or negative. A better metric would be to examine if flows respond to tax incentives.

Figure 2 presents the annual flows into financial assets as a fraction of GDP over the period 2003–17.

In contrast to the stock values presented in Figure 1, inflows as a share of GDP have increased over time. I have not correlated the inflows with

FIGURE 1. Annual Flows into Financial Assets as Percent of GDP



Source: RBI, CMIE, and IndiaStat.

changes in tax incentives but this is something the authors could explore in their revision.

A Micro Perspective

The authors next estimate the effect of being in a taxable income bracket on the probability of having investments in specific financial products. They do this by examining portfolio formation using the CMIE Consumer Pyramids Household Survey Data for 2016–17[3] and running the following probit regression:

$$Y^* = t_i\beta_1 + X_i\beta_2 + \varepsilon_i$$

The results are presented in Tables 5 and 6 in the paper. While Table 5 shows that the results are statistically significant, the economically interesting results are in Table 6.

The first number, 0.065, implies that in moving from a non-tax-paying bracket to a tax-paying bracket, the probability of investing in a fixed deposit increases by 6.5 percent. The potential confounders in this include income, wealth (financial and non-financial assets), and financial literacy. For example, wealthy people both pay taxes and invest more. This mechanically induces a correlation between paying taxes and investing. The authors are aware of this and attempt to mitigate this by exploiting the differential tax status in income-matched households.

They categorize households based on salary, change *X* from being an indicator variable to one representing category values and re-run the probit regressions. The results are reported in Table 8. In Tables 5 and 6, where the comparison is between households in the non-tax-paying bracket with households in the tax-paying group, the results *are statistically significant*. In contrast, in Table 8, where the comparison is between salaried tax-paying and non-taxpaying households in different salary brackets, *the statistical significance largely vanishes* (except for households in the ₹350,000–400,000 and ₹400,000–450,000 brackets).

On the basis of this mixed evidence, it would be premature to conclude that there exists a "tax incentive" effect of investments in financial products, as the authors conclude.

3. The low tax base presents a challenge, which the authors acknowledge: "About 92 percent of our sample (79,497) households fall in the zero percent tax-paying bracket. 7.6 percent fall in the 5 percent tax bracket, *while less than 1 percent fall in the 20 percent and the 30 percent tax brackets*."

Concluding Comments

The paper documents the response of Indian households to tax-incentivized financial instruments, a relatively new, topical, and important area of public policy research. It is work in progress. I look forward to a more nuanced parsing of its implications for tax policy.

Govinda Rao

National Institute of Public Finance and Policy

This is an important paper by Pandey, Patnaik and Sané. There is very little research on the subject, except an old paper by Arindam Dasgupta in the early 1990s, when we were all talking about tax reform for the Chellaiah Committee, where he calculated after-tax rates of return. In that sense, it is a welcome addition to the empirical analysis.

In India, tax policy is employed to pursue multiple objectives. There are very few studies analyzing the cost and efficacy of achieving these objectives. In that sense, this study is opportune, particularly because Arbind Modi is busy re-redrafting the tax laws because the first Direct Tax Code, which was drafted by him, has gathered dust. Then there was a second version, which again went into oblivion. This is the third version being attempted, and hopefully something will happen.

Now a small clarification: tax incentives are given not just for increasing savings. There are three different objectives of this policy. One is superannuation, or encouraging people to save for their retirement. The second is to insure against the risk to life, and the third is to encourage people to have more financial savings as against physical savings. In that sense, looking at things only from the superannuation perspective is not really appropriate. Of course, the paper doesn't do that. It examines whether tax breaks given to promote financial savings have been effective. As expected, the study concludes that tax breaks have not led to higher financial savings. Using CMIE's consumer pyramids household data, the study concludes that tax-paying households invest more in tax-exempted financial products, and this is done by reducing other financial products. This has important implications for policy, raising the question of whether the tax incentive for promoting savings should continue at all. In fact, the first Direct Tax Code attempted to remove these incentives. So possibly Arbind Modi will return to that in his report.

There is a bit of trickiness in the way in which the tax incentive is given, particularly to fixed deposits. For new entrants to the income tax bracket, the

marginal gain from the tax benefit becomes zero after saving ₹150,000. But for existing tax-payers, if they have saved for five years, they can continue to avail of the benefit without adding any new savings; they can simply roll over the savings in tax-free instruments made six years earlier. In fact, if they have saved for five years, they can simply roll over what they did five years ago, and do not need to save additionally in order to get a tax benefit. Deductible savings have only a five-year lock-in period, after which they can simply be renewed.

While there may not be any dispute regarding the overall conclusions drawn in the study, in my view, the analysis needs to be strengthened. The authors say that this is a work in progress, so possibly they will strengthen it further. The major conclusion that there is no relationship between tax breaks and financial saving may well be true. However, this cannot be merely inferred from the lack of correlation. We need a robust analysis of the determinants of household saving. The increase in investment by households in physical as against financial assets may simply be the result of a higher after-tax rate of return on physical assets.

Given informal markets, it is difficult to calculate after-tax returns on physical assets. The after-tax return on land or immovable property depends on rental income plus capital appreciation, and underestimation of the value of transactions in land and buildings makes it difficult to estimate capital gains. So an increase in investment by households in land and buildings, as against financial assets, may simply be because of the higher after-tax return and lower volatility of the former. After-tax rates of return on various physical and financial assets may vary due to several factors, including the relative inflation rate, volatility in prices and returns, and the state of physical and financial markets. In financial markets, there is a lot volatility if there is a global crisis, and if there is a very high rate of inflation, people would possibly prefer to save more in physical assets rather than in financial assets. So the tax incentive may not be a factor in this case at all.

Trends in the household sector's investment portfolio show an interesting pattern over time. There has been a sharp reduction in bank deposits from 58 percent of the total to 43.6 percent as per Table 3 in the paper. At the same time, the share of provident and pension funds has shown a sharp increase from 10 to 18.3 percent. The authors could explore the possible reasons for this sharp change in the composition of financial savings. Is it due to the high after-tax return or due to the introduction of the National Pension Scheme? In fact, pension funds have longer lock-in periods, unlike fixed deposits, and yet the authors have noted a steady increase in the former over the given time period.

The authors have used CMIE consumer data, but it is a bit tricky to use household data for separating out taxed from non-taxed households. One of the criteria for identifying taxed households is that at least one member of the family should have an income in excess of the threshold. Can we really categorize a household as tax-paying just because one member has an income of more than ₹2.5 lakh? Is it possible that the income of this particular member is agricultural income and therefore he is exempt from paying tax? One needs to find a better method of classifying tax-paying households.

In the probit regression estimates, the coefficients of fixed deposits are consistently lower than those of the other financial assets. One possible explanation for this is that only a small proportion of the fixed deposits constitutes tax savings. People save for a variety of reasons, not just for saving taxes, and this may be particularly true in the case of fixed deposits. In other words, the tax-saving component of small savings is a very small proportion of the total fixed deposits. A major proportion of fixed deposits is actually for less than five years. It may thus be possible to make some inferences by simply looking at the time profile of fixed deposits.

On the whole, this is an important and interesting paper, and I hope this will be the beginning of more incisive analysis by the authors.

General Discussion

Chaired by **Arbind Modi**
Member, Central Board of Direct Taxes

Karthik Muralidharan noted how frustrating it can be talking about something important without data, and thanked the authors for putting the data together. He asked, given that most of the paper's results were on the intensive margin of the volume of savings, rather than the extensive margin of bringing in new savers, whether it would be possible to also look at the extensive margin of the likelihood of using a formal financial savings instrument. He cited the 2016 IPF paper by Badarinza, Balasubramaniam and Ramadorai[1] looking at the distribution of assets of a median household with zero financial savings. Apart from the literature examining the role of tax savings in the overall volume of savings, it would also be useful to think about the number of savers and tax incidence, and therefore where in the distribution one might want to target tax incentives.

[1] Reference is at the end of this section.

Muralidharan made the point about regressivity, something Rajnish Mehra had mentioned, also indirectly what Ila Patnaik was mentioning about tax revenue foregone or tax expenditures. His sense was that a lot of these incentives were regressive. For the most part, the tax incentives were a lump-sum transfer to people who would have already saved. So we could do a fuller analysis of the opportunity cost of these tax expenditures, how we might use the revenue foregone to attain the objectives on the extensive margin. For example, with all the *Jan Dhan* accounts that are inactive or don't have much money in them, are there instruments that can crowd in savings on the extensive margin and reduce the regressivity of the tax incentives? This would be worth pursuing.

Suman Bery noted that the IPF conference was meant to encourage and improve empirical papers, and so he appreciated the spirit in which Ila Patnaik had acknowledged the comments by the discussants. He also thought that the paper would be enriched by a discussion of the motivation behind the focus on financial assets: Rajnish Mehra located this motivation in terms of retirement. This is a big change from where tax incentives in India basically started, which was resource mobilization—the notion that financial savings would be funneled through the banking system to government projects. At the macro level, he felt that providing the rationale for focusing on financial savings would be important.

At the micro level, Bery asked if greater fungibility across financial assets improves household welfare compared to the lumpiness of saving in physical assets. Referring to the Tobin-related literature on portfolio shuffling of households in rich countries, he thought the econometrics used the constraint of overall net worth. So he wondered if there was wealth data that the authors could use, making sure that gold was a part of the wealth constraint as seen by the household. He thought that exploring the overall portfolio allocation problem that Indian households face—for example, how they evaluated their wealth, how capital gains enter into this, as also indicated by Mehra—would enrich the paper.

Mihir Desai appreciated the topic and the paper. First, the paper drew attention to the great need for access to tax return data for this kind of a study. In the USA, access to such data made possible the heavy oversampling of high income households, which needed to be looked at closely for such work. Second, the main story seems to be that substitution is about its effect on intermediation, which is to say that fixed deposits are going down and pension plans are going up. If it is just that, fixed deposits being held inside retirement plans, then there isn't much happening, but if there are real changes in intermediation, that would be interesting. Third, he thought

that the identification strategy using households with different tax incentives was quite nice, but he suggested doing more to show that households on other observable characteristics were similar. Finally, on the phase-out of tax incentives, the way the USA works is to limit revenue loss by phasing out the subsidy or phasing out the advantage to high income individuals. India seems to remove the incentive at a certain savings amount. Phase-outs by income would be a smarter way to limit revenue loss and limit substitutability (a 100-lakh income person is more likely to be substituting than a 10-lakh income person).

Devesh Kapur had two comments for the Chair. Since this analysis is better done using tax return data, he wanted to know why the CBDT is neither doing the analysis itself nor releasing the data to allow others to do it, even though the issues were central to understanding the cost–benefit of tax incentives, a problem that CBDT itself would like to address. He asked a second question about the extent to which the way the government thinks about insurance-linked tax breaks is related to the government's huge stake in the Life Insurance Corporation. He thought there was a clear conflict of interest here.

Poonam Gupta noted, in line with Rajnish Mehra's point, that inflation was a confounder in the regression since it is a tax on financial savings. Controlling for that could change the results quite substantially. Market returns would be endogenous to the policy changes being explored. She also wondered if we could see any impact of demonetization on household savings behavior.

Sandhya Garg wondered if, in talking about national saving, there was a need to study the savings behavior of people who were not in the tax net, such as agricultural households and zero tax-bracketed ones. She also asked if the authors had considered non-linear estimation because a 1 percent tax reduction would mean different amounts of money available for saving for each income level.

Rajesh Chadha asked if the analysis accounted for two types of households: first, those that had net taxable income and paid taxes, and we analyze their saving behavior. But, second, there must be households who are depositing money in provident funds and thereby lowering their taxable income and therefore not paying taxes. If we did not analyze their saving behavior, would this make a difference?

Renuka Sané thanked everyone for the comments and responded to the ones on data. On the good suggestion about looking at the extensive margin, the Consumer Pyramid data were limited and did not give the rupee value of savings, just whether outstanding investments were in a particular product

or not. NCAER's 2004–05 and 2011–12 IHDS data, which is fortunately a panel, did provide a rupee value for savings, so the authors would look at that. Ideally, answering questions on whether cash holdings increased or whether a particular policy had an effect needs continuous panel data. India is seriously short of this kind of panel data: NCAER is the only institution putting out such high-quality national data.

On the comment that Rajnish Mehra made on revaluation of assets, she said that they did worry about this for shares, which fluctuate in market value. They had drawn the graphs without excluding shares and saw a very similar pattern because shares were only 3 percent of total financial assets. But they would look carefully at Mehra's flow data and examine what explained the differences.

Ila Patnaik also thanked everyone for the comments, which they would seek to address in their revision. She thought the objective of tax breaks changing from encouraging savings in financial instruments to encouraging retirement savings and pensions, because of the changing demographics of the population, was an important point and something they had not addressed. She hoped that the Chairman, in rewriting the Direct Tax Code, was spending some time thinking about it. She felt that this was related to the paucity of long-term savings: for example, where do we get the finances for infrastructure? So the issue links to the larger macro question of encouraging savings for retirement as well as to financing long-term investment, particularly in infrastructure.

Arbind Modi (Chair) chose first to respond to the question on why the tax department does not release tax return data and said this is an old problem, something he had been contending with since he started working on tax policy. Initially, the problem was that the authorities did not have the data. In the last decade or so, a large volume of data has been built up. However, the data are fragmented to the point where the tax authorities themselves are not in a position to mine the data and use them against tax evasion. Only recently have they launched "Project Insight," which seeks to create a comprehensive database. Once that is operational, the authorities will explore internally how to share the data, whether individual tax return data or some form of summary data. But that call had not yet been taken. Hopefully, in the next one or two years, we should see some movement on this, making possible higher quality work on tax policy. There is one further complication. There is now a lot of international pressure that data confidentiality needs to be maintained because of FATCA and other factors. So the authorities are looking at appropriate legislation that would ensure confidentiality while releasing the data for doing research. He felt quite optimistic about this.

On the long-standing, thorny question of insurance and tax breaks, he said he had known this problem ever since he joined the Department in 1981. The initial tax incentive was only for life insurance, probably to enable the government to mobilize resources, and the government gave the benefit only to government-managed products. The rationale changed post mid-1990s from mobilization to saving. The Unit Trust of India (UTI) was the first one to be granted the tax exemption, but the UTI was more or less government managed. Then in the late 1980s, when the insurance business was opened to banks, the first was SBI, and that was also when the focus started shifting to savings rather than mobilization. By then, some of these products were so entrenched and vested interest so strong that reform of the savings-related tax provisions had become extremely contentious and difficult. The last time the authorities tried to clean this up was in 2016, and people burnt their fingers. Modi said that another attempt will surely be made in the latest DTC, but some officials involved are worried that this sincere effort may jeopardize the entire DTC. So this remains a difficult issue.

The Chair concluded by thanking everyone for participating in this exciting discussion and for throwing light on some ways in which we could move forward: at least we know better where we stand. So hopefully we may be able to design better tax policies on the savings side.

Reference

Badarinza, Cristian, Vimal Balasubramaniam, and Tarun Ramadorai. 2016. "The Indian Household Finance Landscape," *India Policy Forum*, Vol. 13, 2016–17. New Delhi: National Council of Applied Economic Research.