

Tax compliance and tax rates: India 1996-2010

Feb. 6, 2010

By Surjit S. Bhalla*

* Chairman, Oxus Research & Investments

*Prepared for a festschrift volume for Vijay Kelkar to be presented to him along with the Skoch Challenger Lifetime Achievement Award 2010 on March 18, 2010.

Introduction

It is a privilege to be invited to write this essay honoring Vijay Kelkar. I have known him as a friend, and as a senior policy economist, for the last two decades. He has been at the forefront of economic policy making and in this essay, I would like to talk about his contribution to thinking about tax issues. As India embarks on implementing some radical changes in direct and indirect taxes, it owes an enormous debt of gratitude to Kelkar's thinking and research for the better part of the last decade.

There is another issue of policy in which Vijay was far ahead of the curve, and where his recommendations have had far reaching effects on Indian economic policy, and economic growth. The growth acceleration in the Indian economy is up from a level of 5.5 percent annual GDP growth to the now emerging normal of double digit growth. After the pioneering 1991 reforms and the 1997 tax cut (about which more later), the Indian policy cupboard had been left somewhat bare, and the economy, and industry, was suffering under the yoke of very high real interest rates. In the Budget Speech of Feb. 1999, Finance Minister Yashwant Sinha announced a 50 basis point cut in the interest rate that "small savers" received, as government largesse, and policy, on their deposits. The cut was from truly a princely level of 12.5 percent. Inflation for several years had been in the 3 to 4 percent range, so the real interest rate, on deposits with a government authorized, and mandated, "small savings" scheme, was upwards of 8 percent. Seventy-five percent of the money gathered by this scheme went to the state governments. These governments were *de-facto* not able to borrow from the Reserve Bank of India nor from the market (no state bonds please). This easy access to borrowing, facilitated by the guarantee of the central government, allowed states to operate a Ponzi scheme – keep borrowing from the people and pay interest to old borrowers from investments of new borrowers.

The importance of this cut in interest rates (I called it "The Most Kindest Cut" in my review of the Budget) can be appreciated by understanding the "mind-set" of most politicians, policy makers and economists at that time. Even today, most economists in India are shy of admitting to an important role of interest rates in affecting economic decisions. The belief remains that it is animal spirits and other factors that determine investments, rather than monetary policy. But not so Vijay. It was his influence that guided Mr. Sinha towards reducing the small savings rate. Over the next few years, Mr.

Sinha went on to reduce this rate to 8 percent; in 2003, this policy got the approval of even the conservative RBI, which agreed that the rates on small savings should not be much different from other government borrowing i.e. small savings interest rates should be market determined. The kindest cut led to rates on all government borrowings to drop, and real interest rates in the economy fell by as much as 500 to 600 basis points between 1999 and 2003. The Indian economy changed its growth path; the new Hindu rate of growth became 8 to 9 percent. (See Bhalla(2010) for a detailed discussion about India's growth performance, 1950 – 2008 and particularly, 2003 onwards).

The major reforms in the next few years will be with regard to public finance. And Vijay has had a deep involvement with the suggested reforms. Once the proposed new direct and indirect tax codes (GST) become policy, the economy will move to a more efficient growth path. This essay examines the economics, and the likely impact of the proposed new direct tax code. The results suggest that not only will tax collections be revenue neutral in the face of a large tax cut, they will be revenue enhancing.

Section 2: The Laffer logic of tax reforms

In 2002-3, as Economic Adviser to Finance Minister Yashwant Sinha, Mr. Kelkar published two separate task force documents on taxes – one pertained to indirect taxes, and the other to direct taxes. The proposed new tax codes owe an intellectual debt to these documents. The proposed reduction in the average tax rate for 2010 onwards is about 3.7 percentage points, a large cut by any reckoning, but smaller than the less talked about 2008/9 tax cut (reduction in average tax rate from 15.7 to 9.7 percent) and the 1997 tax cut (reduction from 16.8 to 10.2 percent). . By the time the 2008/9 tax cut came about, tax drift had caused average tax rates to match their pre 1997 levels. With that context, the 2008/9 tax cut was large in absolute terms but not relative to the past. This tax cut has not been commented upon much by the fiscal cognoscenti perhaps because this tax reform was geared towards the lower end of the tax paying distribution.

Many economists question the efficacy of the Laffer curve, a proposition that states that tax revenues will increase with a decline in tax rates. The math behind the proposition is very simple – at zero tax rate, the government receives no revenue; ditto at a 100 percent tax rate. If any tax revenue is collected at any tax rate between 0 and 100, then the Laffer curve exists. Its importance in advanced economies may be questioned; in

such economies, everyone is in the tax net, and tax administration is not lax, or subject to much corruption. In developing economies like India, it is another story. Here, tax administrators gain from high tax rates (and the country loses). Why? Because tax compliance is a matter of negotiation. Under-declaration of income is a trade-off for a lower tax rate. The “rent” from this exchange does not accrue to the government. Hence, the likelihood of a Laffer curve successfully operating in a country like India is very large.

No one suggests that continually increasing the tax rate will lead to an increase in tax revenue; all admit that beyond a point, an increase in the tax rate will be counter-productive. What the inflection peak tax rate is is a matter of debate and research. So when economists question a decline in tax rates, they are implicitly asserting that the tax rate is far from the maximizing tax revenue level; when others (like Vijay and myself) assert that a tax cut is needed, they are contending that the present level of rates are higher than the peak maximum revenue level. The divergence in views should not be a matter of ideology; it should be a matter of research. This paper attempts to provide some research on this important policy subject.

Central to the success of any proposed tax cut is the assumption of an increase in tax compliance. Tax compliance is defined simply as the number of people paying taxes within a tax bracket (or overall) as a percentage of the people who are theoretically in that bracket. The reform proposes to reduce tax rates for all income classes; the new tax schedule is as follows: No taxation for incomes below Rs. 1.6 lacs; between Rs. 1.6 lacs and Rs. 10 lacs a 10 percent tax rate; for incomes ranging from Rs. 10 to Rs. 25 lacs a 20 percent tax rate, and for incomes exceeding 25 lacs, a 30 percent tax rate. At present, the highest tax rate of 30 percent begins at Rs. 10 lacs.

Table 1 documents the tax schedule for 2007/8, 2008/9 and the proposed new tax schedule; the average effective tax rate in each schedule is also reported, as well as the average tax rate of the tax paying population. The proposed direct tax code reduces the effective tax rate by 3.7 percentage points – from 9.7 percent to 6 percent.

Table 1: Tax Codes for 2007-8, 2008-9, 2009-10 and proposed new code

For 2007-8		For 2008-9	
Individual Income (in Rs. lacs)	Tax rate (%)	Individual Income (in Rs. lacs)	Tax rate (%)
0-1.1	0	0-1.5	0
1.1-1.5	10	1.5-3	10
1.5-2.5	20	3.0-5.0	20
2.5-10	30	5.0-10	30
>10	30	>10	30
Effective tax rate	15.7		9.1

Individual Income (in Rs. lacs)	Existing rate 2009-10 (%)	Proposed New Tax rate (%)
0 - 1.6	0	0
1.6 - 3.0	10	10
3.0 - 5.0	20	10
5.0 - 10.0	30	10
10.0 - 25.0	30	20
> 25.0	30	30
Effective Tax rate	9.7	6.0

Source: Ministry of Finance, Tax Schedule

Notes: The effective tax rate is the average tax rate of those who pay some tax.

The new tax code does not change the tax rate for those earning between Rs. 1.6 to Rs. 3 lacs or those earning more than Rs. 25 lacs. For the former, there was a large tax cut in the 2008/9 tax reform. Overall, the new tax code will imply a reduction in the tax rate (of those whose tax obligations are greater than zero) of 3.7 percentage points, a not insignificant amount by any standards. Consequently, some fiscal experts (e.g. Rao-Rao (2009)) have questioned the economic basis of the proposed direct tax reform. The worry is that the reduction in tax rates will lead to a reduction in tax revenue, a prospect that the country can ill-afford at any time, and especially when the economy is operating with large fiscal deficits. "By any reckoning this is a massive reduction in the tax rates involving substantial loss of revenue...At a time when it is necessary to garner higher revenues to return to the path of fiscal consolidation, such a massive giveaway may only make fiscal adjustment process that much more difficult. Such a liberal giveaway does not serve the cause of vertical equity either. For a country with per capita income of Rs.

25,500 (sic), levying the 10 percent tax up to Rs. 10 lac income is tantamount to throwing the baby out with the bathwater". (Rao-Rao, p. 36-37). As the analysis below shows, what Rao-Rao are ignoring is the compliance inducing effects of the tax cut – something that has happened with every tax cut in India, and something that happened as recently as 2008/9.

Somewhat unnoticed by the tax experts (especially outside of the Ministry of Finance), the Indian economy has gone through a major structural transformation over the last decade – a transformation which suggests that the proposed direct tax code is the appropriate tax code for the Indian economy of 2010. Nominal incomes per worker have grown at an average rate of 10.2 percent per annum since the last major tax reform in 1997; for the five years ending in 2008, the growth rate is close to 12 percent. Tax schedules are in nominal terms and this means there has been a substantial shift in incomes towards the higher tax brackets; thus, more nominal income, and more real tax revenues are available from each tax bracket. The impressive gain in tax collections is both a function of this rightward movement in the income distribution and an increase in tax compliance. What tax reform should do is increase compliance (whether income compliance i.e. a more accurate statement of incomes, or return compliance i.e. a larger fraction filing tax returns). Both compliance ratios have risen impressively from the year prior to the first major tax reform of 1997 – from below 30 percent to above 50 percent.

Both income and return compliance in 2008/9 are around the 50 to 60 percent mark. This means that while a considerable portion of the low hanging fruit has been harvested, a lot of fruit still remains to be plucked. Kelkar referred to the "missing middle" in his discussion of direct taxes in the 2002 Task force report. The missing middle is most likely composed of professionals and the self-employed. They need to be targeted for revenue enhancement. The proposed tax changes is aimed at this group. It should allow compliance levels to proceed upwards of 80 percent i.e. almost developed country standards.

Section 3: **Data and Methods**

This section documents the data and methodology used to estimate compliance and the effects of tax changes on tax revenue. Tax return data, according to broad income slabs, are available, from two sources: till 1996/97, from an All India Tax Statistics or AITS publication. This publication documents, for each tax slab, the number of returns, the gross income, net income, and taxes paid. For the years 1997-1998 to 2007-08 the Comptroller Auditor General (CAG) of India) reports contain data on the returns filed across different income classifications (0- Rs. 50,000, Rs. 50,000 – 1 lac, etc.). These data are also reported on the CAG website (<http://www.cag.gov.in/html/unionaudit.html>). In addition, for only the year 2001-02, detailed data on tax returns based on a large 1 million sample of actual tax returns are available (see Kelkar Task Force (KTF), pg. 186-187). The KTF provides an estimate of tax returns separately for salaried and non-salaried taxpayers for 2001-02.¹ The total returns filed in this year are 23.5 million, or about 10 percent higher than obtained from the reduced sample used by the AITS publication.² While the KTF has more accurate data for a single year, the CAG source has the advantage that the data are available for a large number of years. Hence, it is the CAG data that are used in the analysis. (The results are unaffected by source of data).

The CAG tax return data is a quasi-distribution of income *of those filing returns and with incomes as stated by the individuals*. This distribution contains within it the two compliance errors – people not present in the tax distribution because they avoided paying tax altogether, and people present but with understated income. If the “true” distribution of incomes were known, then one could assess the magnitude, and therefore importance, of the compliance errors. This paper generates such a distribution for all the years 1996/97 to 2010/11.

Earners distribution

The National Council for Applied Economic Research (NCAER) is the only organization in India that has systematically (since the mid sixties) collected and tabulated data on

¹ On page 185 of the report, the number of returns filed are reported for the fiscal year (2002-03) or assessment year (2003-04). This number is an estimate and represents a 15 percent increase over the “actuals” reported in the survey.

² In page 73 of the KTF report, the number of taxpayers for 2001-02 are reported as 28.7 million; the reconciliation of the different data series is beyond the scope of this paper; the fact remains that all of them show the same exploding trend after the tax reforms of 1997.

household incomes. The organization has conducted three important income distribution surveys: the 2004/5 household income and expenditure survey, the 1994-195 MIMAP survey and the 1975-76 income distribution survey. The 2004/5 survey has all the information needed on incomes for all classes of households – cultivators, self-employed, wage and salary earners. For purposes of our study, the NCAER data have two drawbacks: the sample size is not very large, 63,000 households or about half the size of the National Sample Surveys (NSS), and the fact that the distribution of income is available at a household level, rather than an earner level. It is the latter which is necessary for construction of an earner distribution.

In contrast, almost every five years, the NSS has conducted employment and unemployment surveys. These surveys contain estimates of earnings for those deriving income from wages and salaries. These data are available (125,000 households or approximately 400,000 earners) for each of the years 1983, 1987/88, 1993/94, 1999/00 and 2004/5. Each of these surveys describes the work, education, and wage activity of the earners. The only drawback to this large wealth of information is that earnings data are not reported for self-employed households (these constitute about half of the total workforce).

Part of this drawback does not affect our analysis because by Indian law, the self-employed cultivators are not eligible to pay tax. So the only worker set for which earnings data are missing in the NSS survey are the self-employed non-agricultural workers. However, analysis of distribution of income in the NCAER survey shows that the distribution of self-employed is virtually the same as the wage and salary earners. Hence, an overall tax earner distribution is obtained by using the NSS distribution of wage and salary income and using the non-cultivator population in the economy as “weights”.

Two problems remain. First, the distribution can change over time. However, the Gini coefficient of *earners* has stayed near constant at around 0.55 since 1993/94 (per capita consumption Gini is at a much lower level of 0.35). The second problem arises from lack of survey capture i.e. the NSS survey mean income per worker is considerably lower than the mean according to national accounts (the latter is the income the tax administrator sees!). If the assumption is made that individual income distribution has

stayed approximately constant at the 1999/00 level, one has an earner distribution for all the years 1996/97 to 2010/11. The distribution remains the same as 1999/00; the mean changes according to mean private income per worker. Private income is obtained from national account statistics; the non-cultivator worker population is obtained from NSS data 1993/94 to 2004/5. Since 2004/5, the worker population is assumed to grow at 2.5 percent per annum. With these assumptions, all the data required for constructing a theoretical tax distribution for each year are available – an income level, the number of earners at that level, and the applicable tax rate for that income. This theoretical distribution is then compared to the actual taxpayer distribution (the AITS data) and estimates of compliance obtained.

The Distribution of Earnings, 1996-2010

The per-earner distribution for 1999/00 and 2009/10 is reported in Table 2. (The two are identical distributions but with means equal to per worker private income in the two years; Chart 1 shows the distribution for three years). The incomes are in current rupees. This estimate of the distribution suggests that only 16 percent of the earner population (from the 85th percentile onwards) was *eligible* to pay taxes in 1999-2000. The mean gross income of the 84th percentile in 1999/00 (not shown in the table) was Rs. 73,000 ; the standard deduction (one-third or Rs. 25,000, whichever is lower) for this individual would be Rs. 24,333. Given the exemption for the first Rs. 50,000 of taxable income, this individual does not belong in the tax bracket.

A decade later, almost the same fraction of people were paying taxes. There is a popular observation of taxes in India - too few people pay taxes. Newspapers, and academic articles, are filled with statements like the following: something has to be done about the tax system because too few people in India pay taxes; only 3 percent of people in India pay taxes. True. But the data contained in Table 3 illustrates that not much more should be expected!

Table 2: Taxable Income Distribution and taxes, in Rs. 1999 & 2009

Percentile	1999		2009	
	Income	Implied Tax	Income	Implied Tax
43			51718	
45			55549	
50			63027	
55			66112	
60			78994	
65			81010	
70			97212	
75			114569	
80			140250	
85	51915	194	190457	3137
90	89665	6048	271623	11497
95	129848	13610	371149	29077
96	147373	16686	414556	38018
97	166767	20695	462591	47914
98	195535	28750	533844	66307
99	253965	45110	678565	110797
100	481216	108741	1233172	282170

Notes: Derived from the NSS employment-unemployment survey for 1999/00. See text for details

The breakdown of the reasoning is as follows. First, the worker population is about 40 percent of the total population. Second, the non-cultivator population, i.e. the population in the tax net, is even smaller. The farmer population (cultivators and farmers outside of food grains) has been steadily declining from about 120 million in the late 1990s. For our simulation purposes, we have taken 100 million as the cultivator population. This brings the population theoretically subject to tax to an average of 30 percent of the population (27 percent in 1996 and 33 percent in 2009). Given that not everybody who earns income is required to pay tax (there is a minimum exemption, which for the fiscal year 2009/10, is Rs. 1.6 lacs per earner) the number of people in the taxable bracket goes down still further.

Table 3: Indian population and tax payer characteristics, 1996-2010

Year	Level of (in millions)				Fraction of (%)				
	Population	Workers non cultivators	Population that should pay tax	Population paying tax	Workers non cultivators	Population that should pay tax	Population paying tax		
1996	930	350	250	37	9	37.6	26.9	4	0.9
1997	950	360	260	39	11	37.4	26.9	4.1	1.2
1998	970	340	240	36	15	34.8	24.4	3.7	1.5
1999	990	370	270	41	17	37.3	27.1	4.1	1.7
2000	1000	380	280	45	23	37.6	27.6	4.5	2.3
2001	1000	390	290	49	26	37.8	28	4.9	2.6
2002	1000	400	300	52	28	38.1	28.5	5.2	2.8
2003	1100	410	310	58	29	38.5	29	5.3	2.6
2004	1100	420	320	63	27	38.8	29.5	5.7	2.5
2005	1100	430	330	61	29	39.2	30	5.5	2.6
2006	1100	440	340	67	31	39.5	30.5	6.1	2.8
2007	1100	450	350	74	33	39.9	31	6.7	3
2008	1100	460	360	62	36	40.3	31.5	5.6	3.3
2009	1200	470	370	69	39	40.8	32.1	5.8	3.3

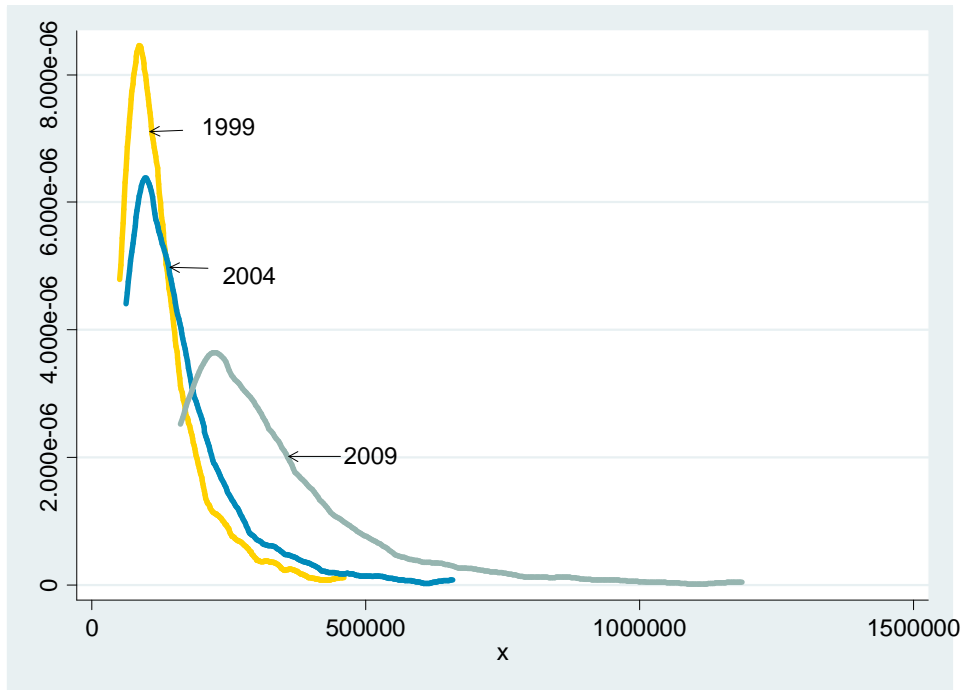
Notes: Population that should pay tax is obtained via matching of income distribution and tax schedules; see text; 1996 refers To the 1996/97 fiscal year etc.

The fraction of people eligible to pay tax has increased from about 4 percent of the overall population in 1996 to close to 6 percent today. In 2007/8, the last year for which returns data are available, about 33 million workers filed tax returns while 74 million “should” have filed returns giving an overall compliance level of 45 percent. While it is true that only 3.3 percent of the population is paying taxes, it is equally true that only 5.8 percent of the population should be paying taxes. This simple fact is often ignored by those who argue that Indian workers are taxed “too little” or have low compliance. As will be shown later, the compliance ratio is most effectively raised by lowering tax rates, not raising them.

There is some interest in the number of individual tax-payers in the above Rs. 10 lac a year class. It is estimated that there are approximately 1.1 million such individuals today,

up from only 65,000 in 1996 and 286,000 in 2001. The sudden increase in this group is the result of a shift in the distribution to the right. Chart 1 below documents this shift

Chart 1: Income Distribution of Taxpayers in India



Note: 1) The distribution is obtained from the NSSO Employment Unemployment Survey 1999-00; the starting point of each distribution is the income level at which taxation begins. See text for details.

Section 4: Tax Compliance in India, 1996-2010

Official data suggests that there were 9 million individuals filing tax returns in 1996-97, 17 million on 1999/00, and 33 million in 2007/8 (the last year for which official CAG return data are available). There is a marked acceleration in the growth rate of tax returns after the 1996 tax reforms. However, this acceleration cannot be taken as indicative of an increase in compliance; because of nominal income drift into higher tax brackets, one would “artificially” obtain more taxable workers over time. Compliance reflects the increase in returns *adjusted* for the fact that because of income drift into higher slabs, there are more taxpayers in each slab.

Table 4 shows the compliance percentages for the two definitions: return (based on the filing of returns) and income (based on how much income is “admitted” to). In both cases the comparator is what is given by the theoretical income distribution. Prior to the major tax reforms of 1997/1998, return compliance was only 24 percent. Since then, return compliance has more than doubled and in 2008/9, was at its peak value of 58 percent. Income compliance defined as the ratio of tax collected to what should have been collected if everyone declared income correctly, has also markedly increased – from 30 percent in 1996 to 64 percent in 2008/9. Also reported in Table 4 is the average rate of taxation. The effect of the 1997 tax reforms is clearly reflected in the data. The average tax rate was close to 17 percent in 1996/97; this declined by about 7 percentage points with the 1997 reforms. Compliance increased markedly, doubling in the space of a few years.

Table 4: Compliance and average tax rates, 1999-2010

Year	Return Compliance (%)	Average Tax Rate (%)	Income Compliance (%)
1996/7	23.8	16.8	30.2
1997/8	27.6	10.2	53.4
1998/9	40.8	11.6	38.8
1999/0	41.6	12.1	42.1
2000/1	50.5	12.4	31.7
2001/2	52.9	12.1	28
2002/3	53.9	13.1	29.4
2003/4	50	13.5	27.1
2004/5	42.6	15	23.8
2005/6	47.5	12.9	26.4
2006/7	45.8	14.3	37.9
2007/8	44.9	15.7	40.4
2008/9	57.5	9.7	64.1
2009/10		9.1	
2010/11 (old)		9.7	
2010/11 (new)		6.0	

Notes: Return compliance is the fraction of people paying tax as a ratio of people who should pay tax; income compliance is a parallel ratio for incomes

A formal relationship between tax compliance and tax rates is explored below for the time-period 1989 to 2007. A dummy variable is inserted for 1997. The dependent variable is the ratio of those paying taxes (obtained from CAG tax return data) to those that should be paying taxes (obtained from the fitted income distribution data for each year and the tax schedule for each year). The independent variable, average tax rate, is obtained as a weighted average tax rate “theoretically” paid by the simulated income and tax distribution. A surprisingly good fit is obtained for the entire period; the coefficient on the tax rate is -6.2, with a t-statistic of -8.4. This implies that for each 1 percentage point cut in the average tax rate, compliance increases by over 6 percentage points. A back of the envelope calculation suggests that this fits the 1997 experience rather well. That reform reduced the average tax rate by 5.3 percentage points, so the average compliance level should have increased by 35 percentage points. Which is almost exactly the increase observed between 1996 (the year before the reforms) and 2008/9 (last year for which tax return data are available).

Table 5: Tax Compliance in India, 1989-2009

Dependent Variable	Constant	1997 Dummy	Ave. Tax Rate	Time Period	R2
Return Compliance	125 (10.8)	-34.6 (-7.6)	-6.2 (-8.4)	1989-2007	0.71
Income Compliance	77.6 (5.9)	6.8 (1.4)	-3.0 (-3.7)	1989-2009	0.59

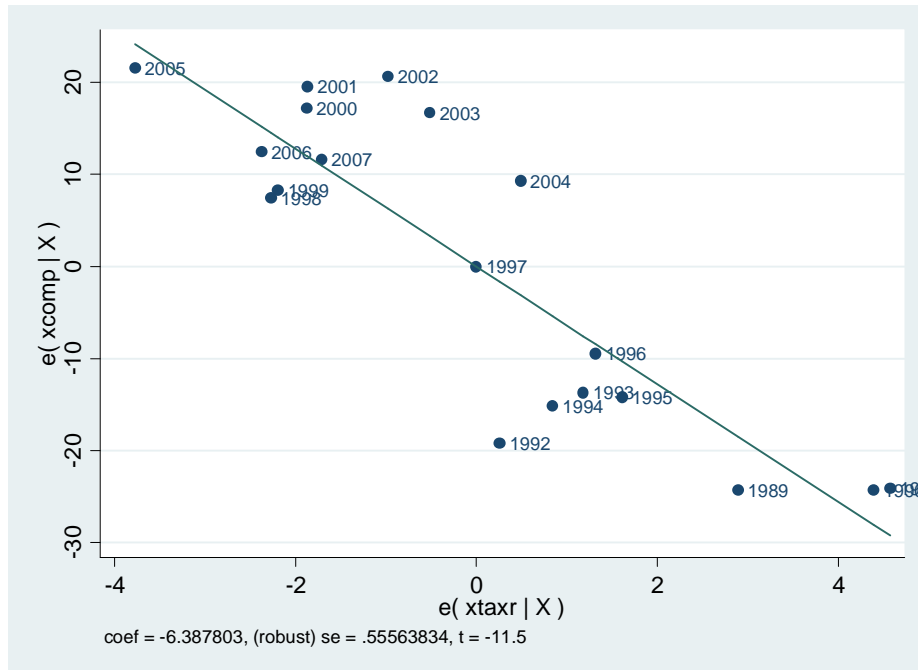
Note: 1) Return compliance is the percent of people who file tax returns as a fraction of those who should be filing taxes.

2) Income compliance is the percent of income on which tax is paid as a fraction of income on which tax should be paid

3) The average tax rate is the tax rate for only those whose incomes are above the minimum level (Rs.1.60 lacs in 2009-10) and who are required to file income tax (e.g. farmers are exempt)

A partial regression plot clearly illustrates the importance of tax cuts for return compliance. If ever there was confirmation needed that the Laffer curve exists, it is provided by Chart 2.

Chart 2: Inverse relationship between tax compliance and average tax rates



Note the tight fit (the reason that 1997 is on the line is because that year is not included in the estimation). Also notable is how the years 2000 to 2004 are above the predicted line i.e. tax returns were of a larger magnitude than that indicated by average tax rates.

While steepness of the tax schedule is an important determinant of compliance, there are other determinants that could be confounding the results reported above. In particular, other policies like the compulsory TDS payments and or the one-in-six scheme adopted by the government of India (i.e. ownership of consumption items like telephone, TVs etc) are believed to have had a major impact on compliance. Both these suggested determinants came into prominence after the tax cut of 1997-98 with the one in six scheme being introduced in 1998-99. This most likely is the effect of improvements in tax administration and the increased use of deduction of tax at source.

Table 5 also reports the regression for “income compliance”. The results are equally strong and the coefficient on the average tax rate suggests that each 1 percentage point decline in the average tax rate should increase income compliance by almost 3 percentage points.

How well the model performs can be seen from its forecasts for the 2008/9 tax cut. In that year, as noted earlier, tax rates for the low income tax payers were drastically reduced. The minimum level at which a tax was applied was raised from 1.1 lacs to 1.5 lacs (Table 1); the second slab was enlarged and included tax-payers from Rs. 1.5 to Rs. 3 lacs; previously, the range for the 20 percent tax bracket was the narrow range Rs. 1.5 to Rs. 2.5 lacs; this was now enlarged to the range Rs. 3 to Rs. 5 lacs. The change in the tax slabs led to a decline in the effective tax rate of 6 percentage points. With no change in compliance, this would have meant a decline in personal income tax collections of about 25 percent. However, the income compliance equation would predict an *increase* in the compliance rate of 6 times 3.0 or 18 percentage points. In 2007/8, the average rate of income compliance was 40 percent; an increase of 18 percentage points would lead one to predict a compliance level of 58 percent; actual income compliance level observed - 64 percent. The actual reality because of the tax cut – personal income taxes *increased* by 3.6 percent.

Evaluating the Tax Revenue implications of the proposed new tax code

The above equations relating compliance to tax changes can also be used to forecast the revenue effects of the new tax code. Simulation of old and new tax rates for incomes during 2010/11 reveal the following. First, the tax reduction for the average tax payer is 3.7 percentage points – from 9.7 percent expected during 2010-11 to the 6 percent proposed level. With no change in compliance, this tax cut is expected to lead to a 13 percent decline in tax revenue. This is comparable to the 25 percent decline in tax revenue that was expected after the previous 2008/9 tax cut. As noted above, instead of declining, tax revenues actually increased in 2008/9; most likely the increase would have even been higher if 2008/9 was not a global, and local, recession year.

What is the likelihood of no increase in compliance? Given the 2008/9 experience, very little. Table 6 documents the trend in actual tax collections, theoretical tax collections, and related data. The ratio of the first two is income compliance. First, a forecast for the

2009/10 tax revenue data. At a 64 percent compliance level, tax returns for 2009/10 should be around Rs. 138,000 crores; this is given by the knowledge that expected theoretical return for the year is Rs. 215,000 crores. Income growth, and drift into higher tax rates suggests that the theoretical revenue should increase from Rs. 215,000 crores in 2009/10 to Rs. 265,000 crores in 2010/11. The predicted income compliance level with the new tax code is 3.7 (the tax cut) times 3.0 (coefficient in regression) or 11.1 percentage points above the observed 2008/9 income compliance level of 64 percent i.e. 75.1 percent.

Table 6: Tax Collections, GDP and related data: India 1996-2010

Level of (in 000 crores)							
Year	GDP	Private Income	Private taxable income	Personal Income Tax collections	Theoretical tax collections	GDP per capita in Rs.	GDP per worker in Rs.
1996	1379	1146	359	18	60	14753	39230
1997	1534	1270	400	22	41	16121	43104
1998	1755	1483	467	21	54	18105	52067
1999	1952	1639	538	27	65	19788	53044
2000	2102	1765	604	24	75	20937	55736
2001	2281	1915	653	22	79	22320	58998
2002	2458	2063	721	28	94	23660	62027
2003	2765	2321	840	31	114	26191	68081
2004	3127	2625	995	35	149	29145	75094
2005	3566	2993	1325	45	171	32727	83555
2006	4086	3430	1569	85	225	36940	93413
2007	4701	3946	1868	118	293	41872	104844
2008	5429	4557	1983	123	191	47661	118129
2009	6189	5195	2360	138*	215	53566	131382
2010*	6994	5871	2736	123*	265	59693	144841

Notes: 1996 refers to 1996/97 etc. Theoretical tax collections are estimated via the income distribution and tax schedule; 2010* tax predictions are based on the new proposed tax code.

If the new lower tax code becomes operational, theoretical tax revenues in 2010/11 drop from Rs. 265,000 crores to Rs.164,000 crores. At a 75 percent compliance rate, tax revenues are projected to be Rs. 123,000 crores. With no new tax code, actual collections are predicted to be 0.485 (obtained from the income compliance equation with an average tax rate of 9.7 percent and the dummy variable for 1997 equal to zero)

times 265,000 or Rs. 129,000 crores. i.e. not much revenue loss or gain. In addition, as has been observed with previous tax cuts, increases in compliance continue to occur after the tax cut. Thus a few years hence, one should not be surprised to see income compliance nearer the 90 percent mark, a level seen in developed economies.

Section 5: Conclusions

The importance of reforming the direct tax code is illustrated by the following simple statistic. In 1996, personal income tax collections were a paltry Rs. 18000 crores, and only 9 percent of total tax revenue. Just 12 years later, personal income tax receipts crossed Rs. 122,000 crores, a near seven fold increase, reflecting an annual growth rate of 16 percent per annum. In contrast, overall tax revenue has increased at a 13.5 percent rate, and GDP at an annual rate of 11.4 percent. In the not too distant future, personal income tax, along with corporate income tax, will account for a lion's share of tax revenue; today, direct taxes (personal plus corporate) account for over 40 percent of total tax revenue, up from 20 percent in 1996/97. It is imperative that policy be geared towards accelerating this forthcoming reality of direct tax domination. The proposed tax code is a step in the right direction.

This paper has provided estimates of a synthetic tax distribution, a distribution based on NSS data for wage and salary incomes in 1999/00 and tax schedules for all the years 1989 to 2010. This synthetic "theoretical" tax distribution was compared to actual tax returns. "Matching" the two distributions yielded estimates of tax compliance for the different years. The result: compliance rates have doubled from pre-1997 levels, and are presently in the 55 to 65 percent range. A strong result of the analysis is that the Laffer curve exists robustly in India. The new proposed direct tax code reduces average tax levels by close to 4 percentage points, a decline that should lead to compliance levels rising by about 18 percentage points (income compliance) and 36 percentage points (return compliance). So far from reducing income tax receipts, *ceteris paribus*, the proposed tax code should lead to increased tax revenue over time and no loss in the year it is enacted. The proposed new direct tax code is very likely to be successful, as all previous tax cuts in India have been.

References

- Acharya, Shankar," Aspects of the Black Economy in India," NIPFP, 1986
All India Tax Statistics, various years, 1988-1997
- Banerjee, Abhijit and Piketty, Thomas, (2003), " Top Indian Incomes, 1956-2000,"
Bureau for Research in Economic Analysis of Development, September 2003
- Bhalla, Surjit. S.,(2010) "Indian Economic Growth, 1950-2008", in Shankar Acharya and
Rakesh Mohan, edited, *Indian Economy: Performance and Challenges, Essays in
Honour of Montek Singh Ahluwalia*, Oxford University Press, new Delhi.
- Bhalla, Surjit S., (2004), "Reform of Personal Income Tax in India,"
<http://www.oxusinvestments.com>, July 2
- Bhalla, Surjit S., (2002), "Tax Compliance in India," <http://www.oxusresearch.com>,
Feb 12, 2002
- Bhalla, Surjit S., "The Most Kindest Cut of All", *Economic Times*, Feb.4,1999
- Das-Gupta, Arindam (2004a), "The Economic Theory of Tax Compliance With Special
Reference to Tax Compliance Costs," March
- Das-Gupta, Arindam, (2004b), "The Compliance Cost of the Personal Income Tax in
India, 2000-2001: Preliminary Estimates," March
- Das-Gupta, Arindam (2002), "Central Tax and Administration Reform in the 1990s: Ann
Assessment," in Rao, Govinda M (ed.) , " *Development, Poverty and Fiscal Policy,
Decentralization of Institutions*, Oxford University Press.
- Directorate of Income Tax Statistics, Ministry of Finance, Government of India
- Kelkar, Vijay, Ministry of Finance and Company Affairs, Government of India (2002),
Report of the Task Force on Direct Taxes, December 2002
- Ministry of Finance and Company Affairs, Government of India (2002), *Report of the
Task Force on Direct Taxes*, December 2002
- National Sample Survey, Employment Unemployment Survey conducted in years 1983, ,
1993-94, 1999-00 and 2004/5.
- NCAER, MIMAP Survey, 1994-1995
- NCAER, National Survey on Household Income and Expenditure, 2004-5, unit level data
set
- Rao, Govinda and Kavita Rao (2009), "Direct Taxes Code: Need for Greater Reflection",
Economic and Political Weekly, September 12.

Shome, Parthasarathi et. al., *Tax policy and Tax Administration for the Tenth Plan*, Planning Commission, Government of India, May 2001

Virmani, Arvind, "Measuring Income Tax Incentives Under Evasion: Effective Average and Marginal Rate Schedules," Development Research Department (DRD) Discussion Paper No. 187, World Bank, September 1986.

Virmani, Arvind, " An Agenda for Tax Reform," Chintan Policy Paper No. 2, May 1997