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TAX AMNESTIES IN INDIA: AN EMPIRICAL EVALUATION

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Abstract

The purpose of this paper is to provide empirical estimates of the revenue impact of Indian income tax amnesties between 1965 and 1993. A theoretical framework in a companion paper examines the role of amnesties in allowing taxpayers to launder assets accumulated by past tax evasion. Based on this theory, a dummy variable technique to study the impact of amnesties on revenue is developed and applied to Indian data. Only the 1975 amnesty appears to have had a positive impact on revenue while other amnesties having negligible or even negative effects. These results support the hypothesis that adverse compliance effects of amnesties or falling penalty collection can overwhelm direct gains from an amnesty.

TAX AMNESTIES IN INDIA: AN EMPIRICAL
EVALUATION¹

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1 Introduction

Failure to impose sufficiently high penalties for tax offences is often cited as a cause of widespread tax evasion, especially in developing countries. This view obtains support from the theoretical analyses of Becker (1968) and Allingham and Sandmo (1972) which predict that tax evasion is unambiguously reduced by higher penalties, thereby suggesting that enforcement policies should optimally involve the use of maximal penalties. In practice, penalties for most offenses tend to be non-maximal. Indeed, a common practice in many countries is to offer amnesties for past offenses in an effort to encourage voluntary disclosure of past tax evasion. Amnesties have been used by both developed and developing countries in recent years. For instance, during the 1980s, tax amnesty programs have been employed in more than half the states in the United States, besides Belgium, France, Ireland and Italy. Amongst developing countries, they have been employed in Argentina, Bolivia, Chile, Colombia, Ecuador, Panama, Peru, Mexico and the Philippines more than once in the recent past.

India has also offered a large number of amnesty programs in past decades: in 1951, 1965, 1975, 1980, 1985, 1986 and, most recently, in 1991. Since 1975, therefore, they have been offered frequently and predictably: once every five or six years. Section 2 of the paper discusses the nature of these programs in more detail. These amnesties have formed part of a general climate of weakening enforcement of the Indian income tax. Other manifestations include a lower intensity of prosecution effort for tax evasion, and the introduction of various forms of out-of-court settlement of evaded income taxes due from large taxpayers.³

The purpose of this paper is to provide empirical estimates of the revenue effects of various (temporary) amnesty schemes offered in India since 1965. The approach used follows the theoretical framework laid out in a companion paper (Das-Gupta and Mookherjee (1995)), which examines the role of amnesty programs in allowing taxpayers to launder previously undisclosed (black) assets. Section 3 of the paper provides a broad summary of the main results of this approach. These results stand in contrast to a number of prevailing views concerning the usefulness of temporary amnesty programs. The differences stem from the indirect revenue effects that arise from the effects of the amnesty on filing behaviour

and on subsequent collections from penalties. Being spread out over a number of years both preceding and following the amnesty year, these indirect effects tend to be less visible than the direct collections from the amnesty. These indirect effects are, however, typically adverse, and can outweigh the direct effects.

Empirical results pertaining to the revenue effects of the amnesties are presented in Section 4. Utilizing aggregate data for the period 1965-66 to 1992-93, these effects are estimated after controlling for other important influences on aggregate income tax revenues. The temporal specification of dummy variables used to capture the effect of amnesties draws on the theoretical predictions described in Section 3.

Based on these estimates, a number of broad conclusions concerning the effect of amnesties in India emerge. The three amnesties that took place before the mid-1980s were arguably unanticipated by taxpayers. Of these, only the 1975 amnesty led to significant revenue gains of the order of 25% of annual revenues. The 1965 and 1980 amnesties had negative overall effects on revenues, even during the amnesty year itself.⁴

Following 1980, amnesties have been periodic and therefore anticipated. Their indirect revenue effects were adverse, and outweighed direct amnesty receipts. Nevertheless, the overall revenue effects of amnesty programs from 1980 onwards have been small relative to aggregate income tax revenues, with estimated effects frequently turning out to be statistically insignificant.

These results provide support for the hypothesis that negative indirect compliance effects or falling penalty collections can overwhelm the direct receipts from amnesties. This is particularly true when amnesties are offered at predictable intervals. In light of this, and the fact that the revenue impact of amnesties appear to be shrinking progressively, Indian tax administrators would be well advised to resort to alternative methods for improving enforcement of the income tax.

2 Tax Amnesties in India

This section describes the main features of various amnesty schemes offered in India since 1950, excluding permanent amnesties.⁵ This serves to provide background information for the analysis of later sections.

Voluntary disclosure schemes were offered during the years 1951, 1965 (two schemes), 1975, 1985 (extended to 1986) and 1991. These schemes provided taxpayers immunity from penalty and prosecution in exchange for disclosures of income which had evaded tax in the past. In 1980 the government introduced a Bearer Bond Scheme. Funds used for their purchase were promised immunity from investigation or prosecution. The bonds had a maturity period of ten years, with a cumulative interest of 20 percent payable at the end of the period. Government sales of these bonds are not reflected in income tax revenue receipts, unlike other amnesties. The invested amount was not subject to income, wealth or gift taxes. Bagchi (1981) calculates that the interest rate was below market rates by almost exactly enough to cancel out the tax benefits, so there was no implicit subsidy on these bonds for the average taxpayer. Table 1 describes the main features of the various non-permanent amnesty schemes between 1951 and 1986; complete details of the 1991 amnesty are not as yet available.

The objective of the Government in introducing these amnesty schemes appears to have been the curbing of tax evasion and to enable taxpayers to disclose their hitherto unreported (black) assets. As the report of the Comptroller and Auditor General on the 1985 amnesty scheme stated:

“To induce the tax-payers to respond and declare larger incomes? the Government further adopted a lenient and sympathetic approach as regards the penal proceedings and offered amnesty to repentant tax-payers to reform themselves and to declare their true income/wealth..... Salient features of the Scheme were — Sole objective of curbing tax evasion and unearthing the considerable amount of black money that is vitiating the nation’s economy — No probe to be made into past assessments and immunity afforded from interest, penalty and pros-

education on true and full disclosures of income or wealth and prompt payment of tax. No undue benefit to repentant tax-payer vis-a-vis honest tax-payer...”
(CAG (1990. p.v)

The stated objectives do not include notions of signalling future enforcement resolve, or the need to **provide** benefits of insurance or consumption smoothing to taxpayers (objectives stressed by a number of amnesties in other countries, as well as most existing theoretical treatments).⁶ The scheme amounted to an admission by the government of its failure to curb tax evasion in the past, and constituted an attempt to provide taxpayers with the **opportunity to launder their black assets into white.**

It is evident from Table 1 that amnesty receipts have formed a shrinking fraction of revenue receipts, falling from about a fifth of total revenues in the 60s and 70s to one-tenth or less during the 1980s. In this sense, the direct returns from the amnesties have been quite meagre **in comparison with** the massive estimates of black money or tax evasion of Acharya et. al. (1985) or Virmani (1986). Due to the poor response, many government committees **have** advised against their use, starting with the 1958-59 Direct Taxes Administrative Enquiry (Tyagi) Committee, the 1971 Direct Taxes Enquiry (Wanchoo) Committee, and going on to Acharya *et.al.* (1985). Nevertheless, the government continues to use amnesty schemes.. most recently in 1991 when four schemes were announced: three aimed at domestic evaders, and one designed to attract foreign capital inflows.’ Revenue estimates for the 1991 schemes are not currently available.

Of the various amnesties offered, the 1975 scheme coincided with the declaration of an internal Emergency, and was associated with a curtailment of civil liberties, stepped up search activity, and an increase in the rate of conviction for tax offenses. Given the ten year gap between this and the previous amnesty: it appears reasonable to suppose that the 1975 amnesty was unanticipated. It may also have been interpreted as a prelude to stepped up enforcement.

TABLE 1: TEMPORARY AMNESTIES IN INDIA

Year	Authority For The Scheme	Tax Rate	Duration	Number of Cases (' 0 0 0)	Income Disclosed (Rs.cr.)	Revenue Yield (Rs.cr.)	Yield As % of Year's Revenues
1951	n.a.	n.a.	May-Oct. 1951	20.9	70.2	10.89	
1965	Finance Act 1965	60%	March-May 1965	2.0	52.18	30.8	18.5†
1965	Finance Act (no.2) 1965	n.a.	Aug 1965-Mar 1966	114.2	145	19.45	
1975	Voluntary Disclosure Act 1976	25-60%	Oct 1975	245.6	746.07	249	20.5
1980	Special Bearer Bond Scheme 1981	*	*		400	160*	10.6*
1985-1986	Finance Act 1985	**	Nov 1985 Mar 1987	1539.9	2940.37	388.03	7.2

Note: *: See text for explanation; † :Aggregate of the two 1965 schemes;
 **: Subject to normal tax rates, but waivers of interest granted. Source: CAG (1990).

The 1965 amnesty was unlikely to have been anticipated, with just one amnesty scheme previously offered in 1951. There is no reason to suppose that the 1980 amnesty was anticipated either, given the unusual circumstances of the previous one. The end of the Emergency in 1977 was followed by a significant dilution of standards of enforcement. This suggests that the introduction of the 1980 amnesty induced taxpayers to associate them with weak enforcement resolve and therefore expect amnesties to be introduced periodically. A policy of repeated amnesties could be favoured by a government, that gave importance to short term revenue gains from amnesty disclosures over long term revenue losses. These expectations came to be realized, of course, with amnesties offered in 1985-86 and again in 1991.⁸

The empirical modelling therefore proceeds under the assumption that the 1965, 1975 and 1980 amnesties were unanticipated. Moreover, it is supposed that the introduction of the 1965 and 1975 amnesties did not lead any fresh amnesties to be anticipated in the future, whereas the 1980 amnesty did lead to such an expectation. Consequently, the 1985-86 and 1991 amnesties are assumed to have been anticipated.

One additional feature of these amnesties deserve to be noted: the tax rate applicable to disclosures were typically below the maximum marginal tax rate on ordinary income disclosures prevailing at the time. In 1965, the maximum marginal rate was 65%, with an additional surcharge of around 2%. The amnesty tax rate of 60% was therefore lower than this rate. In 1975, the top marginal tax rate was 77%, substantially higher than the maximum rate of 60% applied to assets declared in the amnesty. For taxpayers whose disclosures were large enough to fall in the highest income bracket, therefore, these amnesties amounted to allowing a concessional tax rate, relative to taxes liable for earlier (or even contemporaneous) disclosures. Moreover, the 1980 Bearer Bond Scheme effectively amounted to a zero effective tax on the amounts disclosed.⁹ Finally, the 1985-86 amnesty levied tax at the usual rates, but waived interest on the delayed payment. This was tantamount to allowing a concessional tax rate.¹⁰ Consequences of these concessions are discussed below.

3 Theoretical Framework

This section outlines a framework for analysing the effects of a temporary amnesty in inducing voluntary disclosure of black assets to increase government revenues, the stated objective of the Indian amnesty schemes. The main conceptual elements necessary to evaluate the disclosure and revenue effects of amnesties are introduced. This is followed by a summary of predictions concerning these effects that will prove useful in interpreting the empirical results. The theory is developed formally in a companion paper (Das-Gupta and Mookherjee (1995)).

Black assets represent accumulation of past incomes which were not voluntarily disclosed by a taxpayer, nor discovered by tax authorities. These assets are typically invested in the underground economy where **sources** of investible funds are not usually investigated (such as construction, real estate purchases or movie-making). Consequently, the growth of these sectors is related to the accumulation of black assets among citizens. In contrast, **white** assets are invested in 'legal' sectors such as deposits with financial institutions, or shares of legal companies held. The fact that the two kinds of assets are invested in different sectors has two important implications. First, incomes from white assets are easier to monitor by tax authorities. Second, the rates of return on black and white assets typically differ, owing to limited mobility of assets between the two sectors. While empirical evidence on relative rates of return are not available, casual evidence suggests that rates of return are substantially higher in the black sector, though accompanied by higher levels of risk.

Incentives for voluntary disclosure of incomes depend on the probability of undisclosed income being discovered by tax authorities, and the level of penalties imposed for tax evasion. Unlike white incomes, citizens usually have no incentive to voluntarily disclose black assets or incomes from these assets in the normal course. The reason is that the authorities would impose penalties on these disclosures, as they are tantamount to admission of past tax evasion. Penalties differ little from those that would be imposed if the assets were not to be disclosed, and were discovered by the tax authorities instead. The citizen therefore has no incentive to disclose black assets as this would simply increase the likelihood of incurring penalties for past tax evasion.¹¹

An amnesty lowers the penalty rate on voluntary disclosures of black assets, relative to the penalties imposed for discovery of these assets by tax authorities. This promotes the citizen's incentives to voluntarily disclose these assets. The disclosure decision trades off the certainty of having to pay the amnesty fine rate (consequent on participating in the amnesty), with the probability of having these assets discovered later by the tax authorities and having to incur higher penalties (consequent on not participating).

If the taxpayer participates in the amnesty, black assets disclosed will thereafter be converted into white assets. In other words, the amnesty serves as a device for the taxpayer to *launder* black assets into white. Owing to the intrinsic differences between white and black assets described above, this will have an impact on income flows and tax compliance in the future. To the extent that rates of return on white assets are lower than they are on black assets, income flows accruing to the citizen in the future will be diminished. Moreover, since income from white assets are more easily detected by tax authorities, tax compliance in the future is likely to be enhanced.

The idea of encouraging voluntary disclosures of black assets via a temporary amnesty may appear sensible, on the grounds that it would increase revenues directly (in the form of the taxes and penalties owed on the declared assets) during the amnesty as well as in later years by switching income flows of citizens from black to white thus promoting greater compliance. Stella (1990), for instance, suggests that an amnesty may even be a necessary precondition for the success of a program of stepped up enforcement aimed particularly at discovery of undisclosed white incomes.¹²

Countering these beneficial effects is the possible adverse impact on tax compliance in pre-amnesty years, if the amnesty happens to have been anticipated by citizens. In such instances, they will be induced to engage in a form of intertemporal substitution with respect to their voluntary disclosures: disclose less in pre-amnesty years, so as to accumulate more black assets, which are subsequently disclosed in the amnesty. This will generate an adverse revenue impact in years immediately preceding an amnesty which is correctly anticipated. Part of the revenue gains accruing in the form of receipts from the amnesty will thus tend to be illusory, and will be mirrored by revenue losses in pre-amnesty years. This forms the

basis of the view that amnesties are more effective when they are not anticipated in advance by citizens, and when they do not lead further amnesties to be expected in the future. Stella (1990) argues that for this reason amnesties ought to be used sparingly — perhaps on a once-and-for-all basis — otherwise the government will find it hard to credibly commit to not offering additional amnesties in the future.

Nevertheless! a detailed examination of the preceding arguments suggests that they are simplistic and ignore a number of additional compliance and revenue effects of temporary amnesties. These supplementary effects are typically indirect and less visible compared to the direct effects outlined above. Moreover, they usually run in an opposite direction to the direct effects and under fairly natural conditions can overwhelm the latter.

The main issue is the incentive of a citizen with black assets to participate in an amnesty. As explained above: the main motive is to avoid having to incur higher penalties if these assets are not disclosed in the amnesty and are discovered later by tax authorities. The amnesty penalty rate f applicable to the tax due on these assets must therefore be low enough to induce participation, relative to the probability q that they will be subsequently discovered (in the absence of disclosure) and the penalty rate \bar{f} applicable in the latter instance. Suppose that monetary penalties are imposed rather than prosecution or imprisonment: this is a realistic assumption in the current Indian context.¹³

It follows from this consideration that *there is an adverse effect of participation in, the amnesty: the government will forego the revenues that it would have earned from penalties in the future had the citizen not participated in the amnesty, and if black assets were subsequently discovered.* In other words? the increased revenues from the amnesty disclosures will be followed by a subsequent decline in additional collections from penalties, compounding or settlement fees.

How do these two opposite effects on revenues compare with one another? Consider first the case where the pre-tax rates of return on black and white assets are the same and the citizen is risk-neutral. This assumption implies that participation in the amnesty does **not** affect the **stream of total income accruing to the citizen, before taxes and penalties** are accounted for. Then the citizen participates in the amnesty only in the expectation of

lowering total expected (tax and penalty) payments to the government. The consequence must be that *total expected receipts of the government must fall in the long run*. This may appear counterintuitive in circumstances where discovery of black assets is especially unlikely, as that would suggest that the expected reduction in subsequent penalty collections (following amnesty participation) will be small. What such an argument overlooks is that in such circumstances the amnesty fine rate f must be concomitantly lower in order to induce participation in the amnesty.

Now suppose that the expected rate of return on black assets exceeds that on white assets. Then amnesty participation must incur an additional loss to the taxpayer, arising from a reduction in total pretax income which is the result of switching assets from black to white. To induce participation, the amnesty rate must be even smaller: thereby reducing the total revenue effect of the amnesty even further.

A third additional consideration arises when the amnesty is a sale, in the sense that the effective tax rate on these disclosures is less than the tax rate applicable to normal white income disclosures (*i.e.*, the amnesty fine rate f is negative). It has been noted in the preceding section that this appears to have been the case for most Indian amnesties. This creates an incentive for habitual filers to *mis-file*, in the following sense: instead of declaring their white income in the customary fashion in the amnesty year, they declare it as 'previously undisclosed' income in the amnesty in order to avail of the concessional tax rate. 'Since the source of amnesty disclosures are not investigated by the tax authorities: such n&-filing behaviour is difficult to detect. The consequence is a net reduction in total voluntary collections during the amnesty year. Some amnesties which are sales prohibit such diversions explicitly, but the Indian amnesties have been somewhat ambiguous in this regard and do not appear to have successfully deterred such cases of mis-filing.¹⁴ Consequently, some of the receipts of an amnesty may actually represent diversions from taxes that would have been voluntarily paid in the absence of the amnesty.

Why might a government ever want to allow an amnesty to be a sale: *i.e.*, offer concessions on the tax liability, over and above immunity from penalties and prosecution? The main motive may be to ensure that participation in the amnesty is not too limited, which

would make it appear to have failed. It can be shown that habitual non-filers of income tax will participate in an amnesty only *if* it is a sale. In other words: an amnesty which is not a sale will only attract habitual filers of the income tax who by their very nature are unlikely to have accumulated much black assets. In order to widen participation to include non-filers, an amnesty must therefore be a sale. The cost of this is the direct reduction in amnesty revenues from filers who would have participated in the amnesty in any case, in addition to the revenue losses arising from mis-filing by habitual filers.

The preceding arguments indicate why the direct receipts from an amnesty may provide only a very limited perspective on their aggregate revenue effects. Note that the arguments apply to amnesties which are unanticipated. Indeed, such an amnesty may appear to be a success, judging by the direct receipts, as well as by the boost to voluntarily filed taxes in years following the amnesty (owing to the induced asset laundering). The losses resulting from reduced penalties will only appear in the future and will typically not, be identified as a cost attributable to the amnesty. Losses due to mis-filing during the amnesty year also cannot be identified, unless all other factors that help determine the level of tax revenues are explicitly controlled for. An econometric analysis that carefully controls for other determining influences and examines the revenue effects in a number of years following the amnesty, is required in order to estimate the indirect effects and contrast them with the direct revenue receipts. This is the objective of the following section.

Some qualifications to the preceding results concerning the adverse revenue effects of unanticipated amnesties need to be noted. First, if rates of return on black assets are lower than on white assets, the asset laundering effect of an amnesty may increase revenues. Second, if taxpayers are risk averse, then the amnesty has the feature of offering insurance to taxpayers against the risk of their black assets being discovered later. The government could conceivably increase the amnesty fine rate in order to capture the associated risk premium, without jeopardizing participation. Third, if imprisonment rather than monetary penalties result in the event of discovery of black assets by tax authorities, then an amnesty may result in an increase in total revenues owing to an effective conversion of nonpecuniary into pecuniary penalties. Amnesties may also lead to a saving in the cost of prosecuting offenders who would have been detected and prosecuted in the absence of amnesty participation.

How is the analysis modified when an amnesty is anticipated? Somewhat contrary to conventional wisdom, anticipation of an amnesty may have a less adverse impact on revenue than an unanticipated amnesty. Citizens do indeed engage in intertemporal substitution with respect to their payments to the government when they anticipate the amnesty: they accumulate black assets faster in pre-amnesty years and then disclose them in the amnesty. The effect of this is to switch their asset portfolios in favour of black assets in pre-amnesty years. If black rates of return are higher than white rates, the effect of the amnesty is to increase the before-tax total income of the taxpayer. Some of this increase can be appropriated by the government, in the form of a higher tax rate imposed on assets disclosed in the amnesty. As a consequence, it is conceivable that an amnesty which is anticipated generates a favourable effect on aggregate revenues! whereas it would have an unfavourable effect if it were unanticipated. Nevertheless, this can happen only if white *incomes* that are not reported in pre-amnesty years in anticipation of an amnesty are sufficiently large relative to total black assets. Furthermore, it can be shown that an anticipated amnesty will have a negative overall revenue effect if the probability q of discovery of black assets by tax authorities is small, even if the proportion of white assets switched prior to an amnesty is substantial relative to black assets.

Predicted Amnesty Effects This section concludes with a summary of predictions concerning the timing of revenue effects of amnesties that are respectively, unanticipated and anticipated. These will be useful in setting up the dynamic specification of the revenue regressions in the following section and in interpreting the empirical results.

For an amnesty which is unanticipated:

1. Prepaid taxes at the amnesty date increase by the amount of amnesty receipts, or by less if the amnesty induces some taxpayers to mis-file. With sufficient *mis-filing*, they may even fall.
2. Prepaid taxes following the amnesty also increase.
3. Additional collections from penalties decrease at both amnesty and post-amnesty dates, because of the laundering of black assets which would otherwise have been

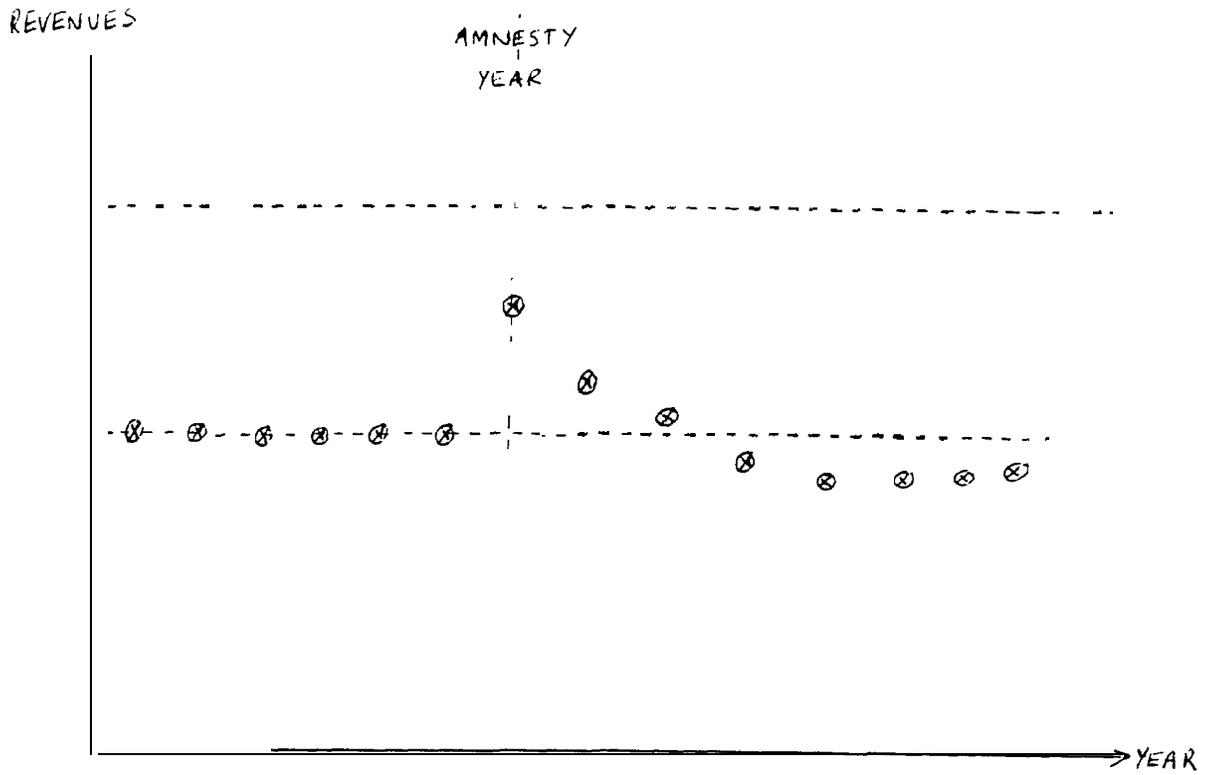


FIGURE 1: PREDICTED REVENUE IMPACT OF AN UNANTICIPATED AMNESTY

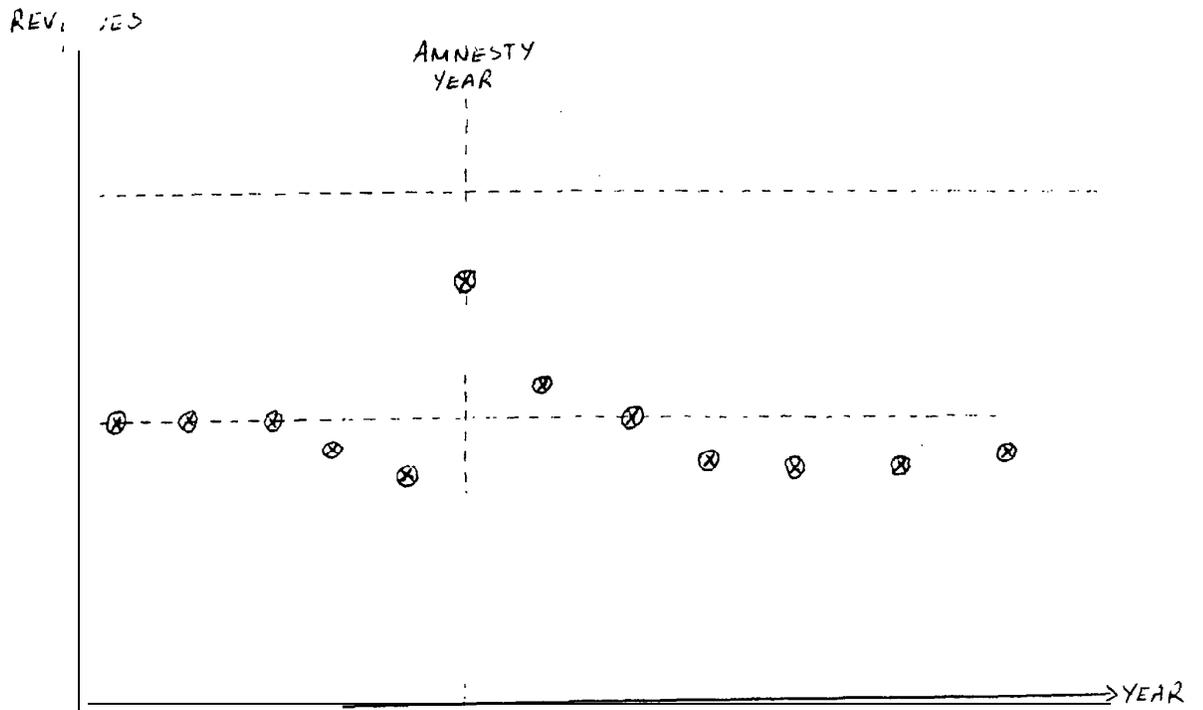


FIGURE 2: PREDICTED REVENUE IMPACT OF AN ANTICIPATED AMNESTY

subject to penalties or settlement fees on discovery.

4. Consequently, total collections (the *sum* of prepaid taxes and additional collections from penalties) increase by less than direct amnesty receipts at the amnesty date and may even fall (owing to mis-filing). At later dates, also, total collections increase less than do prepaid taxes, and could conceivably decrease.
5. If the pre-tax gross return (not adjusted for risk of discovery) on black assets is not lower than on white assets; then the overall revenue effect aggregated across the amnesty and post-amnesty dates, is negative.

If the amnesty is anticipated, then we would expect the same results to hold during and after the amnesty. In addition:

1. Pre-paid collections in pre-amnesty years fall. Additional collections rise! but the effect on aggregate collections in pre-amnesty years cannot be predicted.”
2. The overall revenue effect: aggregated across all dates, is expected to be negative.¹⁶

INSERT FIGURES 1 AND 2

These results are illustrated in Figures 1 and 2, for the case where there are long lags involved in collecting penalties associated with tax offences discovered in any year and losses due to mis-filing are not large. They assume that all other factors are unchanging over the period under consideration, so that revenues would be stationary in the absence of the amnesty. For an unanticipated amnesty, therefore, revenues are not affected in pre-amnesty years. With some (but not excessive) mis-filing, and delayed penalties or settlements of tax evasion cases, revenues increase in the amnesty year, but by less than the direct amnesty receipts. Revenues also increase immediately following the amnesty, owing to the switch from black to white assets by taxpayers, which promote compliance. They fall eventually, however, as the reduced penalties and settlement fees reflect the lower stock of black assets. For an anticipated amnesty, there is the additional effect of a drop in pre-amnesty revenues owing to the intertemporal substitution in compliance.

These figures also depict a situation where the introduction of the amnesty does not signal information to taxpayers concerning future enforcement resolve of the government. Such signalling effects could either serve to step compliance up or down following the amnesty, depending on the precise context. In the Indian context, it may be expected that the 1975 amnesty served to signal tougher enforcement in the years ahead, while the others had the opposite effect. Accordingly, one would expect the amnesty year and post-amnesty effects of the 1975 amnesty to be higher than depicted in Figures 1 and 2, and lower for all the others.

4 Empirical Analysis

This section presents estimates of the revenue effects of various amnesties in India since 1965, after controlling for other determinants of income tax revenues.¹⁷ The estimates are based on yearly data for income tax revenues for the period spanning financial years 1965-66 to 1992-93. Unfortunately, a breakdown of revenues between prepaid taxes and additional collections from penalties is not available for most of this period. This prevents us from being able to test some of the detailed predictions described at the end of the previous section, in which effects on prepaid taxes differ qualitatively from those on additional collections. No information is available concerning the length of lags in collecting penalties associated with tax offences. Consequently, the collection figures in any given year correspond to the sum of prepaid taxes for that year and additional collections associated with tax evasion in a number of previous years.

The revenue effects of various amnesties are estimated by the coefficients of various variables corresponding to pre-amnesty, amnesty and post-amnesty years. As explained in Section 2, the 1965-66, 1975-76 and 1980-81 amnesties are treated as unanticipated amnesties, unlike the subsequent ones. Accordingly, for these three amnesties we do not have any dummies corresponding to pre-amnesty years and instead have one dummy for the amnesty year effect and another for post-amnesty effects. With the 1985-87 and 1991-92 amnesties being treated as anticipated, pre-amnesty effects also have to be incorporated for

these. Since following 1980-81 successive amnesties were spaced only five years apart. the periods **1981-82 to 1984-85** and 1987-88 to 1990-91 can be viewed as combining the post-amnesty effects of the preceding amnesty and the pre-amnesty effects of the **succeeding** one. Consequently, in one specification used below, we simply include a composite dummy variable for the interamnesty years 1981-82 to 84-85 and 1987-88 to 1990-91. In the other, less parsimonious, specification we treat the two years following an amnesty as embodying a post-amnesty **effect** and the subsequent two years a (possibly distinct) pre-amnesty effect in anticipation of the next one.

In estimating the effects of the amnesties, the following influences on tax revenues are controlled for: non-agricultural gross domestic product (NAGDP); the inflation rate (INFL); the effective marginal income tax rate averaged across different income groups (AMTR); the exemption limit for incomes (EXEM) below which taxes are not liable; and two indicators of enforcement effort: the value of assets seized during search and seizure operations (SEIZ), and an index of assessment activity (ASS).¹⁸ Other potentially important variables such as prosecutions in tax evasion cases or the conviction success rates for the Income Tax Department, turn out to be jointly statistically insignificant.¹⁹

The dummy variable approach is subject to certain shortcomings. First, the method itself imputes the entire effect of all influences on tax revenues to amnesties, apart from variables explicitly controlled for. To the extent that variations in enforcement effort are not adequately captured by the variables included in the regression, they could simply reflect an omitted variable bias.²⁰ For instance, the effects attributed to the 1975-76 amnesty could simply reflect the effect of introduction of the internal Emergency, which signalled stronger enforcement resolve. A second problem stems from the fact that assessments and revenue collections for any one year arise partially out of taxes filed for earlier years. This can lead to bias in the estimation of temporal effects of amnesty schemes.²¹

Moreover, the theory says little about the number of years that the pre-amnesty anticipation and post-amnesty laundering effects persist. Given the shortness of the time series used, there is a **need** to use as parsimonious a specification as is permitted by the data, in order to improve the accuracy of the estimates and hypothesis tests. This creates the need

to experiment with different specifications of the temporal structure for these effects. In this respect a general-to-specific methodology was adopted: starting with the most unrestricted specification permitted by the data, successive restrictions were tested in order to arrive at the most parsimonious specification available: *i.e.*, where further simplifying restrictions are rejected.

The completely unrestricted specification (referred to as Specification U below) allowed for distinct Z-period pre and post amnesty effects, and different amnesties to have disparate effects. The most parsimonious specification (referred to as specification P below) uses a single dummy for all interamnesty years following 1980, thereby assuming that the revenue effect was equal across all these years. In addition, the amnesty year effects of the 1985-87 and the 1991-92 amnesties are also assumed to be equal.²² Coefficient estimates corresponding to both specifications are reported in Table 2 below. For each **specification we report** the results of level and first-difference (Engle-Granger) regressions.²³ Fortunately, the results do not vary much between these specifications, suggesting that inferences **concerning** significant influences do not spuriously arise from a common time trend.

4.1 Empirical Results

Table 2 presents estimated coefficients for both parsimonious (P) and unrestricted (U) specifications. All variables are measured in logs, so the coefficients have an elasticity interpretation. In particular, the coefficient of any dummy variable can be interpreted as the percentage change in revenues that can be attributed to the corresponding period. The special circumstances of the 1980 amnesty need to be kept in mind in interpreting these coefficients: the direct revenue receipts from this amnesty are not included in the revenue series used, unlike other amnesties. Hence the coefficient for 1980 represents only the indirect effects of that amnesty during the amnesty year. Government receipts from *the* Bearer Bond Scheme must be added to *the* indirect revenue effect implied by the coefficient to obtain the total effect of the 1980 amnesty. Table 3 presents absolute revenue effects associated with different amnesties with the 1980 estimate adjusted to reflect direct effects of the Bearer Bond Scheme.”

TABLE 2: COEFFICIENT ESTIMATES

Variable	Specification P		Specification U		
	Level	First diff.	Level	First	Diff.
1965	-0.36'	-0.38*	-0.61'	-0.53'	
1966-7	-0.27'	-0.29*	-0.45"	-0.40*	
1975	0.30*	0.27"	0.25'	0.28'	
1976-7	0.04	0.05	-0.01	0.03?	
1980	-0.18'	-0.15*	-0.16*	-0.16*	
1981-2	-0.15"	-0.11?	-0.04	-0.08*	
1983-M	-0.15*	-0.11?	-0.00	-0.07+	
1985-6	-0.11?	-0.04	0.06	0.02	
1987-88	-0.15*	-0.11?	-0.00	-0.07+	
1989-90	-0.15*	-0.11?	-0.07	-0.10*	
1991	-0.11?	-0.04	0.11	0.01	
1992	-0.15*	-0.11?	-0.07	-0.14*	
NAGDP	0.84*	0.89+	0.55'	0.70*	
INFL	-0.91"	-1.00*	-1.48'	-1.11*	
ASS	0.59"	0.67*	1.00+	0.88"	
SEIZ	0.03'	0.03*	0.06"	0.05*	
EXEM	-0.59*	-0.48*	-0.69+	-0.55*	
AMTR	-0.65'	-0.49'	-0.80+	-0.70*	
Error Correction		-0.96*		-1.99*	
R^2	.99	.93	.99	.99	
\bar{R}^2	.98	.84	.99	.99	
SEE	0.05	0.04	0.03	0.01	
d_w	2.10	1.57	2.76	1.90	
3 Period Forecast F	2.20	1.56	4.37	135.9	

* denotes significant at 1%. + at 5%, and ? at 10%.

TABLE 3: ESTIMATED REVENUE EFFECTS OF AMNESTIES
(in crores of 1960 Rupees)

Year	Model P	Model U	Amnesty Receipts	Total Revenues
1965	-119	-144	38	206
1966	-86	-103	0	210
1967	-84	-101	0	205
1975	105	106	90	438
1976	18	11	0	431
1977	14	9	0	339
1980*	-21	-22	43	433
1981	-35	-28	0	357
1982	-34	-28	0	352
1983	-34	-25	0	345
1984	-35	-26	0	362
1985	-6	8	34	442
1986	-7	9	32	470
1987	-47	-34	0	478
1988	-57	-42	0	586
1989	-63	-66	0	650
1990	-61	-64	0	627
1991	-10	7	n.a.	691
1992	-71	-110	n.a.	734

*: Imputed revenue from Bearer Bond Scheme, allocated to 1980.

Upto and including the 1980 amnesty, relevant amnesty and post-amnesty year effects are statistically significant (except for the post-1975 period) and numerically sizeable. Indeed, the 1965 amnesty is estimated to have reduced revenues by as much as 30-40% during amnesty and post-amnesty years, which appears implausibly large. The 1975 amnesty is estimated on the other hand to have increased revenues by about 30% during the amnesty year, with negligible after-effects. The indirect effects of the 1980 amnesty during the amnesty year are estimated to have reduced revenues by 15%, exceeding the direct yield from the Bearer Bond Scheme — resulting in a net reduction of about 5% of annual revenues. With the exception of 1975, therefore, indirect effects associated with amnesties served to substantially reduce revenues even during the amnesty year. While this may be attributed partly to induced mis-filing, it is plausible that the 1965-66 and 1980-81 amnesties also played a role in signalling weak enforcement resolve of the government. The opposite was the case with the 1975-76 amnesty, as it coincided with the onset of the Emergency, causing revenue increases in 1975-76 to exceed the direct receipts from the amnesty.

Following 1980, when five-yearly amnesties came to be anticipated, interamnesty years are associated with a drop of the order of 10% a year. These possibly reflect intertemporal substitution effects, as well as reduced collections from penalties and settlement fees owing to declaration of black assets in previous amnesties. Nevertheless, the revenue effects are less significant during this period. Moreover, the 1985-87 and 1991-92 amnesties appear to have had insignificant revenue effects during amnesty years. The negative indirect effects during interamnesty years definitely overshadowed whatever meagre revenues were yielded directly by these amnesties.

One additional benefit of an amnesty is that it may induce a reduction in the incidence of non-filing behaviour, by drawing more individuals into the tax net. The effect of the Indian amnesties in increasing the total number of filers can be estimated by regressing the number of income tax assesseees on amnesty dummies: after controlling for some basic features of the tax structure and tax base (INFL, NAGDP, AMTR and EXEM).²⁵ The sample period was identical to that of the regressions reported above. The four economic variables were significant and had the expected signs in both level and first difference (Engle-Granger) specifications, except for EXEM which proved to be insignificant in the first-difference

specification.²⁶ None of the amnesty dummy variables were significant with the exception of the 1975 amnesty, which may simply be picking up, -an Emergency effect. Hence there is no evidence that the amnesties served to reduce non-filing behaviour either.

5 Concluding Comments

The empirical results corroborate what one may expect from theory: that the indirect effects of amnesties — arising from reduced collections from penalties, mis-filing and intertemporal substitution — are adverse and can significantly overwhelm the positive direct effects. The negative effects are less visible, being spread out both before and after the amnesty. 'Only the 1975 amnesty appears to have exerted a significant positive effect on revenues: which may simply represent the effect of the state of Emergency that prevailed during the same period. All other amnesties exerted a negative overall effect. Moreover, amnesties appeared to be **increasingly** insignificant after 1980. It is hard to avoid the conclusion that since 1980, **amnesty programs have run into negative or diminishing returns.**

Most amnesties appeared to have been 'sales', in the sense of offering a concession over the tax normally levied on white income disclosures. This may have resulted in 'mis-filing' of white incomes in the amnesty, causing additional revenue losses. Other forms of misfiling include disclosure of **black** assets recently **discovered** by **tax authorities** and disclosure in the name of children, spouses and fictitious entities in order to lower the tax liability in the amnesty.²⁷ The only possible justification for such low rates may have been to attract habitual non-filers to participate in the amnesty.²⁸ Nevertheless, there was no evidence to suggest that amnesty programs served to draw non-filers into the tax net either. If the government must persist with amnesty programs in the future, it should perhaps reconsider whether to continue to design them as sales.

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Notes

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2. A large literature has subsequently explored modifications of the Becker-Allingham-Sandmo model to explain why optimal penalties may be non-maximal. Explanations range from heterogeneity and risk-aversion of offenders and the likelihood of mistaken convictions, to the infeasibility of graduating monitoring effort with the seriousness of the offense, prosecution costs that rise with the penalty, and the impact of the penalty level on the likelihood of conviction. See Andreoni (1991a), Bolton (1986), Malik (1990), Xlookherjee (1989), Xlookherjee and Png (1992, 1994), Polinsky and Shavell (1979, 1993), Shave11 (1991), Stigler (1970) and Wilde (1992).
3. See Das-Gupta, Mookherjee and Panta (1992) for further details.
4. The increase in revenues in 1975 may have reflected the effects of tightened enforcement during the internal Emergency taht was declared in the country, rather than the effect of the amnesty *per se*: it is not possible to disentangle amnesty effects from the impact of the Emergency itself.
5. India has a number of legal provisions that resemble a permanent tax amnesty in many respects. Examples are the Settlement Commission allowing for out-of-court settlement of penalties due and immunity from prosecution if past evasion is voluntarily disclosed: explanation 5 to Section 271(l)(c) of the Income Tax Act for voluntary disclosures during search and seizure operations; and Sections 220(2A) and 273(1) of the Income Tax Act providing respectively for waiver or reduction of interest, and a once-in-a-lifetime amnesty from prosecution.
6. For a review of literature concerning amnesties, see Das-Gupta and Mookherjee (1995).
7. The latter permitted remittance in foreign exchange to any person in India with immunity from all direct tax and exchange control regulations. Of the others, one involved deposits with the National Housing Bank, one amended Section 273A of the Income Tax Act to provide an additional opportunity to declare undisclosed income, and Gold Bonds were put on sale with the sources of funds for their purchase being granted immunity from investigation.
8. The 1985-86 amnesty was, however, introduced amidst the 'raid-raj' of Finance Minister V.P. Singh, and may therefore have signalled temporarily stronger enforcement resolve.
9. Bagchi's (1981) calculation indicates that the tax on income from these bonds was effectively equal to the loss from the deviation below market interest rates. In other words, the disclosures themselves invited no tax, though subsequent income from the disclosed assets implicitly paid tax at the usual rate.
10. The CAG (1990) Report on the 1985-86 amnesty scheme described the offer of blanket waivers of interest on past tax obligations, which amounted to a substantial revenue

loss of Rs. 4712 million (against an overall gain of Rs. 4588 million from income and wealth tax amnesty combined).

11. The discussion here abstracts from the possibility of a taxpayer resorting to a permanent amnesty when discovery of black assets by tax authorities is imminent.
12. Additional advantages flow *from* reducing the size of the underground economy, if the social rate of return is higher in the white than in the black sector.
13. See Das-Gupta, Mookherjee and Panta (1992) for evidence of negligible prosecution effort with respect to tax evasion offences, particularly in recent years. Discovery of tax offenses are penalized more frequently by out-of-court settlement, which essentially involve the payment of *compounding* fees or settlement fees.
14. See, for instance, the list of irregularities reported by CAG (1990) report on the 1985-86 Amnesty Scheme. It reveals that the rate of tax levied on amnesty income disclosures amounted to only 13%!
15. The overall effect depends on the lags involved in levying penalties applicable to black asset discoveries in pre-amnesty years. In the absence of any lags, total collections will rise, **while with** sufficient delays in collecting penalties, they will fall.
16. This is based on the following assumptions: black assets do not earn a lower pre-tax rate of return than white assets, the probability of tax authorities discovering black assets is low and the aggregate stock of black assets is large relative to white income switched to non-disclosure in anticipation of an amnesty.
17. For related empirical estimates of amnesty programs in various state governments in the USA, see Alm and Beck (1993) and Dubin, Graetz and Wilde (1992). The former test the hypothesis that the 1985 Colorado amnesty had no effect on the level or trend of tax collections, using time series data. The latter use a pooled cross-section time series data set for different states to infer that amnesties did have a positive impact on revenue growth rates.
18. This index is provided by the work disposal rate: *i.e.*, the rate at which currently pending assessments are disposed of. This rate has increased steadily in the last **fifteen** or twenty years, following the steep growth of workload of the income tax department relative to available manpower. The consequence has been a declining quality of scrutiny assessments. The upward movement of the work disposal rate is also negatively and strongly correlated with the decline in the fraction of taxpayers audited under the scrutiny assessment scheme. It therefore proxies for both the quality and frequency of income tax audits.
19. The reader is referred to Das-Gupta, Lahiri and Mookherjee (1995) for details of the *definition* and construction of these variables.
20. Nevertheless: the non-amnesty variables included in the regression by themselves explain over 90% of year-to-year variations in revenues.
21. *No significant* lagged variable influences have been detected, however, except those captured in a dynamic error correction effect.
22. The homogeneity restrictions embodied in the parsimonious specification were not rejected by the data at 5% significance level, whereas any further simplifying assumptions were rejected. In particular, the hypothesis that pre- and post-amnesty effects lasted only one year. was rejected.

23. With the exception of the inflation rate, all non-amnesty variables exhibit strong time trends. In particular, they fail Dickey-Fuller stationarity tests. However, it is well known that such tests are not very powerful for series as short as ours. The results are therefore reported for both level regressions and first-difference regressions including a dynamic error correction effect. The regressions happen to pass standard co-integration tests.
24. These are calculated on the basis of the first difference regression coefficients.
25. **Note** that NAGDP is the product of per capita nonagricultural income and total population, so that the effects of both rising taxable income and rising population are incorporated.
26. These results are not reported in the text. The R^2 was **0.98** for the level regression and 0.76 for the first difference regression.
27. Some corroborating information is provided by the CAG (1990) Report on the 1985436 amnesty scheme, which pointed out certain 'deficiencies' in its framing and implementation. "It drew attention to a number of cases of acceptance of disclosures despite evasion already having been detected by the income tax department. Tax on many disclosures were also sought to be avoided by making them in the names of 'ladies, minors and benamis' and by declaring disproportionate income in one year.
28. The analysis of Virmani (1986) suggests that this forms a significant component of the tax evasion problem in India.