

The Revenue Impact of Repeated Tax Amnesties

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Abstract

Proponents argue that tax amnesties raise revenue both in the short-run and long-run, by bringing former non-filers back into the tax system. Opponents contend that amnesties produce little short-run revenue and weaken incentives for long-run tax compliance. However, over the last 21 years, 27 states offered tax amnesties for a second or third time. While previous research has estimated the impact of specific tax amnesties, none have estimated how the impact changes when offered repeatedly. We find these additional tax amnesties generate less short-run revenue than predecessors and tend to magnify revenue losses associated with disincentives for long-run tax compliance.

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1. Introduction

In fiscal year 2004, states faced budget deficits in the range of \$70 billion to \$85 billion, representing between 14.5 percent and 18 percent of all state expenditures. Because of state balanced budget requirements, states must take actions to close deficits through spending cuts, tax increases, or dissaving.¹ As Sobel (1998) shows, tax increases and expenditure reductions can be politically costly for a legislature in terms of reduced chances of reelection. With the pressure to raise additional revenue, many states have begun to offer, and in many cases repeatedly offer, periods of state tax amnesty.² Some states like Arkansas, Mississippi, West Virginia, and Texas conducted an amnesty for a second or third time in 2004.

Tax amnesties are government programs that typically allow a short period of time for tax evaders to voluntarily repay previously evaded taxes without being subject to penalties and prosecution that discovery of such tax evasion normally brings. A typical state tax amnesty has three general characteristics.³ First, a tax amnesty is short lived in nature, generally lasting from two to three months. Second, participation in an amnesty is voluntary. Individuals may decide not to participate; however, consequences of not participating could be such that if they are caught later, they could get a stiffer punishment than before. Finally, an amnesty, as the term implies, generally waives the fines and penalties associated with the evasion but not the principal amount of taxes that is due.

Tax amnesties are a controversial issue.⁴ One argument put forward by Malik and Schwab (1991) in favor of tax amnesties is that some evaders would like to rejoin the tax system, but don't because of fines and possible public embarrassment they might face if they reveal their evasion. If an amnesty is offered, these people can rejoin the tax system without facing fines and

this embarrassment. Cases like this are clearly a *ceteris paribus* Pareto improvement because these individuals gain, and revenue increases, while no one else loses. Government raises more tax revenue not only in the short run from collecting overdue taxes, but also by bringing former non-filers back into the tax system for the long run. On the other hand, some question whether tax amnesties really produce additional revenue given that they simply collect revenue that would (or could) have been raised by normal enforcement procedures anyway (recovered taxes and fines). Critics also contend that tax amnesties provide incentives for otherwise honest taxpayers to start evading taxes because they will anticipate the offering of future amnesties, thereby weakening tax compliance and fostering a perception of inefficiency in the tax system. Moreover, Alm and Beck (1993) and Malik and Schwab (1991), argue that to attribute the revenue collected during an amnesty solely to the amnesty itself is incorrect, because increased compliance efforts are typically announced in conjunction with an amnesty (fostering increased compliance), making it difficult to separate the effects of the amnesty and the threat of increased enforcement. Table 1 gives a more detailed listing of the most common arguments for and against tax amnesties.⁵

[Table 1 about here.]

During the 1982 to 2003 period, twenty-seven states offered a “repeated” tax amnesty (i.e., for a second or third time) to their residents. While previous research has estimated, for individual states, the impact of a specific tax amnesty on state tax revenue, none have explored how the impact of a tax amnesty changes as it is offered more than once. In this paper we explore this issue, using a panel of quarterly tax data for all 50 states for 1980 to 2002. Our results show that the effect of offering an amnesty repeatedly is to change the revenue impact of the amnesty itself. When looking at the impact of a broad-based tax amnesty on total tax

revenue, a state's first amnesty results in a short-run increase in revenue, but is accompanied by a long-run revenue loss, likely due to lower future compliance. Neither the second nor third amnesty produce significant short-run revenue, but they do create significant long-run revenue losses that grow with each amnesty, and grow with how quickly they are repeated within the state. Our results suggest that broad-based tax amnesties should, at a minimum, be used only once, and even then there is a long-run revenue loss whose present value probably exceeds the short-run revenue gain from offering even the first amnesty.

2. Literature Review

Within the standard expected-utility model of tax evasion, it is a puzzle why a tax evader would participate in a tax amnesty. The model clearly predicts that amnesties would have no effect on the behavior of delinquent taxpayers. If an individual evaluates the costs and benefits of evasion, and makes the decision to evade taxes, this decision would be unaffected by the announcement of the amnesty because it doesn't change the expected marginal costs and expected marginal benefits of evasion. This puzzle has been addressed by Malik and Schwab (1991) who show that in an adaptive utility framework, where a taxpayer learns about his or her utility function through experience, the decision to evade could be affected by offering a tax amnesty now that their utility function has been internally updated with revised calculated risks. Furthermore, in practice, amnesties are generally offered in conjunction with an announcement of increased enforcement. The threat of higher enforcement effort in the near future (and the higher expected cost of evasion it entails) works as an additional incentive for an evader to participate in an amnesty program.

Alm and Beck (1990, 1991) and Andreoni (1991) have theoretically analyzed the impact of tax amnesties from a different perspective. Alm and Beck (1990, 1991) show that amnesties may sometimes increase compliance and tax collections, especially if individuals perceive paying taxes is the social norm and the amnesty is accompanied by heightened enforcement efforts. However, amnesty revenues may come at the expense of reduced long-run tax revenues because of the reduction in tax compliance. The authors conclude that although tax amnesties generate short-term revenues, their ability to generate revenues in the long run is ambiguous. Andreoni (1991), on the other hand, examines fully anticipated tax amnesties and finds that evasion rises as a result of the amnesty but tax revenue does not necessarily fall. This is because evasion rises only to the extent that people expect to participate in the amnesty and if they participate in the amnesty, then the government is able to recapture not only the new evasion but also the pre-existing evasion. If the initial evasion is large, then the amnesty may increase tax revenue even if there is an increase in evasion.

Most often the success of an amnesty is measured in terms of revenue yield and attracting participants and retaining them in the tax system in subsequent years. Fisher, Godderis and Young (1989), Joulfaian (1988) and Christian, Gupta and Young (2002) have made attempts to address the latter issue. Analyzing the 1986 Michigan amnesty, Fisher, Godderis and Young (1989) find that most non-filers were out of compliance only for a single year prior to the amnesty, that only a small number of taxpayers evaded large amounts of taxes over long periods of time, and that most taxpayers used the amnesty as an opportunity to pay a relatively small amounts of overdue taxes. Similarly, using 1983 Massachusetts amnesty data, Joulfaian (1988) finds that habitual evaders, or evaders who pay taxes but underreport them, generally did not participate in the amnesty program. This conclusion is at odds with the claim that amnesties

bring habitual evaders back into the system, providing substantial long-run revenue gains. In a recent study of the 1986 Michigan amnesty, in sharp contrast to previous findings, Christian, Gupta, and Young (2002) find that a substantial portion of amnesty program participants subsequently continued to file tax returns. They conclude that the 1983 Michigan amnesty was successful in attracting many participants and in retaining many of them in the system, however, its impact on revenue was negligible (about 0.1 percent of state personal income tax revenue).

In order to examine the long run effects of a tax amnesty, Alm, McKee, and Beck (1990) use laboratory experimental methods and find that compliance falls after an amnesty, however, they also find compliance to rise if post amnesty enforcement efforts are increased. Using cross country experiments in Switzerland and Costa Rica, Torgler and Schaltegger (2003) and Torgler, Schaltegger and Schanffner (2003) find that long-run tax compliance rises if the possible tax amnesty is subjected to a popular vote, regardless of whether the amnesty is passed or rejected. However, Torgler, Schaltegger and Schanffner (2003) also find that the anticipation of a future tax amnesty has a negative effect on tax compliance. Similarly, using state level data, Alm and Beck (1991) show that heightened post-amnesty enforcement encourages greater participation in an amnesty. The U.S. Congress's Joint Committee of Taxation (1998) interprets Connecticut's second amnesty to be consistent with these results. In another study, Alm and Beck (1993) examine the 1985 Colorado tax amnesty using monthly individual income tax revenue data from January 1980 to December 1989 and conclude that the amnesty had no long run impact on the level or the trend of tax collections.

3. A Review of Tax Amnesty Experiences

Many developed as well as developing countries conduct tax amnesties as part of their fiscal program. Just like the U.S. states, some of these countries have made repeated use of amnesties. For example, Argentina, France, India, Ireland and Italy have offered tax amnesties for a number of times and sometimes the repetition of amnesty took place at an interval as short as every two years. Table 2 provides summary information of modern tax amnesty around the world.

[Table 2 about here.]

The terms and conditions of tax amnesties vary from country to country. Many countries have had tax amnesties, both general amnesties and amnesties covering only specific taxes. Some amnesties have not only abated penalties but also interest and even liabilities for tax. For example, the 1996 Venezuela tax amnesty reduced tax liabilities of participating taxpayers by 75 percent and, the 1974 Panama tax amnesty reduced tax liabilities by 80 percent. Many amnesties have allowed taxpayers with accounts receivable or in civil tax litigation to participate. For example, the 1995 Argentina tax amnesty allowed even taxpayers involved in criminal tax proceedings to participate in the amnesty. Likewise, amnesty collection across countries varies quite a lot. For example, the 1995 general amnesty in Argentine yielded about \$3.9 billion, the 1993 general amnesty in India yielded about \$2.5 billion and the Irish amnesty of 1988 yielded more than \$700 million.⁶

[Figure 1 about here.]

Focusing in on the U.S. states, they have offered a total of 76 tax amnesties during the past 23 years. Figure 1 illustrates how frequently some states have offered tax amnesties as of December 2004. Only 10 states have never offered a tax amnesty. Thirteen states have offered a tax amnesty only once. The remaining 27 states have offered tax amnesties on multiple

occasions, 8 of them offering three or more amnesties. Of the 76 amnesties offered during our sample period, 72 included all major state taxes, and 4 were for a specific tax only (e.g. income tax, sales tax and use taxes, etc.). Some of these broad-based amnesties, however, do exclude some taxes (most often property and motor fuel taxes).⁷ Of the four specific amnesties, the focus of the California (1985) and Oklahoma (1984) amnesties was on individual income and sales taxes, whereas the focus of the Arizona (2002) and Idaho (1983) amnesties was individual income taxes.

[Table 3 about here.]

The popularity of states offering tax amnesties begins in the early 1980s. Table 3 shows the number of states offering tax amnesties for each year between 1982 and 2004, and the distribution by whether it was the state's first, second, third, or fourth amnesty. The frequency of tax amnesties rose during the late 1990s, and especially during and after the most recent recession (21 amnesties were offered in 2002 and 2003 combined). The phenomenon of states offering a second, or subsequent, amnesty becomes common only after mid-1990s. As of December 2004, 40 states have offered at least one amnesty and 27 states have offered repeated amnesties. For the 23 years listed in Table 3, at least one state offered an amnesty in all but four of the years.⁸

Table 4 shows that a majority of states sought approval for their amnesty through legislative authorization. Forty-four state amnesties allowed accounts receivable to participate in the tax amnesty. Thirty states allowed taxes to be paid in installments whereas an equal number of states didn't provide any such arrangements.

[Table 4 about here.]

Table 5 shows that the duration of tax amnesties varies widely across states. Although Illinois conducted a short two-week amnesty from December 28, 1991 to January 8, 1992, and Pennsylvania from March 1, 1983 to June 30, 1983, these programs did not correspond to the types of state amnesty programs that began in 1982.⁹ These amnesties, therefore, have not been included in our analysis. During the 1982 – 2004 period, the shortest amnesty was conducted by Kentucky (lasting 15 days in 1988), followed by Texas (20 days in 2004 and 29 days in 1984). The longest amnesty periods were offered by Oklahoma (183 days in 1984), Arkansas (183 days in 2004), Florida (181 days in 1988 and 180 days in 1987). Of the 76 amnesties during 1982 to 2004, four amnesties lasted one month or less, 26 amnesties lasted for more than one month but less than two months, 36 amnesties lasted more than two months but less than three months, 5 amnesties lasted more than three months but less than four months, and 5 amnesties lasted more than four months.

[Table 5 about here.]

Table 5 also shows data on the revenue (in constant 2000 dollars) collected during each amnesty period. This data, however, is the official data reported by each state. As we have discussed earlier, these reported amounts are of little value for research purposes. The data do not control for any offsetting losses, nor for the economic conditions present at the time, they are simply not close enough to satisfying the *ceteris paribus* conditions. Thus, while we present these amounts, we warn the readers that a controlled econometric model (which we use later) is the only way to really assess the true revenue impact of a tax amnesty.

Fourteen state tax amnesties were reported to bring in short-run revenues greater than or equal to \$100 million since 1982. Among those, the three largest revenue yields were in New York (2002-2003, \$582.7 million), Illinois (2003, \$532 million) and in New York (1985-86,

\$401 million). On the other hand, ten state tax amnesties generated \$1 million or less, with the three smallest revenue yields being North Dakota (1983, \$0.2 million), Idaho (1983, \$0.3 million) and Louisiana (1987, \$0.3 million). While, such sharp difference in revenue yields is partially due to population and economic size of these states, there seems to be a large variation in short-term revenue yields across states.

When we look at per capita figures, New Jersey (1996, \$47.75), Illinois (2003, 39.68) and Louisiana (2001, 37.85) have the three largest short-run tax amnesty revenue yields. On the other hand, per capita collections were less than \$1 in thirteen states with the three smallest per capita revenue yields in Missouri (1983, \$0.28), Louisiana (1987, \$0.09) and Texas (1984, \$0.05). Similarly, when amnesty collections are controlled for state personal income, considerably different ranking of states is obtained. The top three tax amnesties in terms of revenue yields per \$100,000 state personal income are Kentucky (1988, \$200.34), Louisiana (2001, \$156.78) and New Jersey (2002, \$144.57).

4. Empirical Analysis and Results

We begin by performing two-way fixed and random effects regression analysis, using a panel of quarterly data on real tax revenue for all 50 states over the 1980-2002 period, resulting in 4,600 observations. Thus, our models include both state and time period controls. Descriptions of our variables, and data sources, can be found in Appendix 1. Our dependent variable is the log of total state tax revenue.¹⁰ As explanatory variables we include our variables of interest (the amnesty variables, to be explained in the next paragraph), and other control variables to explain total tax revenue. These other control variables include the logs of personal income, the average personal income tax rate, the average corporate income tax rate, the sales tax rate, the

unemployment rate, and budget surplus or shortfall as a percent of total tax revenue.¹¹ We include the budget surplus or shortfall variable to attempt to help correct for the tendency of states to offer amnesties during times of fiscal stress. However, we present the results both with and without this variable included given the potentially endogenous nature of it.

Our main variables capture the impact of offering a tax amnesty on real tax revenue, in both the short run and long run. To do this we include two variables for each amnesty offered. The first captures the short-run effect, and is simply a dummy variable equal to one only during the period for which the amnesty is active (which can be one or more quarters). The second, to capture the long-run effect, is a dummy variable equal to zero prior to the offering of the tax amnesty and one for every period after the amnesty is offered, forever. The first of these two variables, the short run effect, captures any upward spike in the revenue collections during the period the amnesty is offered. This would be the revenue generated from the collection of back taxes during the amnesty. The second, the long run effect, captures any permanent shift in the mean of the series that begins with the date the amnesty is offered. This potentially includes two effects, the first being the evaders who now come back into the tax system, permanently increasing revenue, and the second being an increase in tax evasion as other taxpayers see the offering of the amnesty as a sign of a low cost of switching to tax evasion. Note, however, that the true first period effect is the combined effect of both the short and long run coefficients.

Because our focus is on how both the short-run and long-run impact of offering an amnesty change as amnesties are offered repeatedly, we include these two variables separately for the first, second, and third amnesties offered. Because of our use of a fixed (or random) effects model, and due to Louisiana being the only state to offer a fourth amnesty, we were

unable to include a variable for their fourth amnesty (due to perfect multicollinearity). Thus, Louisiana's fourth amnesty is excluded from our analysis.¹²

Our expectation is that the initial (short-run) revenue brought in from overdue taxes will begin positive for the first amnesty, and then decline each time the amnesty is offered repeatedly. Thus, amnesties have a declining marginal benefit to the state offering them in terms of short-run revenue generated. We feel that it is possible, based on our review of the prior research, to be agnostic about the sign of the long-run effect variable. If the dominant effect of the amnesty is to bring evaders back into the tax system, then long-run revenue will rise. On the other hand, if the dominant effect is to discourage future compliance, increasing evasion, then long-run revenue will fall. If both effects are present, the long-run effect will be estimated close to zero. Our expectation, however, is that regardless of its initial value, the value for the second and third amnesties will be lower in value each time, relative to the long run effect of the first amnesty. This is due to both effects potentially becoming lower each time (fewer people brought back in each subsequent time, and as amnesty is repeated people come to expect it more likely again which reduces compliance). In addition, for repeated amnesties, the length of time that has passed since the prior amnesty might have implications for the short-run and long-run revenue effects. Thus, in some specifications we include a variable to capture this time difference.

Because our technique involves so many different dummy variables, we perform a sensitivity analysis by running specifications on important subsets of the data. In particular, we estimate the model on subsets of the data based on the number of amnesties offered by the state. We estimate the regression only among states with zero or one amnesty, then reestimate it expanding the sample to states with two amnesties, then again to states with three amnesties. The results of our fixed effects estimations are shown in Tables 6a and 6b. The Hausman test

statistics, presented in the bottom row of the tables, allows us to use random effects model but as there is no significant gain using the random effects model, we use the fixed effects models.¹³ The alternative estimates from the random effects models are presented in Appendix Tables 2a and 2b.

[Tables 6a and 6b about here.]

Table 6a presents the result of both the fixed and random effects estimations on the specification excluding the budget shortfall variable, while Table 6b shows the results with this variable included. Because this additional variable is significant, and helps to control for the potential bias introduced because amnesties are likely to be timed during periods of fiscal stress, we prefer these estimates to the ones in Table 6a, although it makes only a small difference in the main coefficients of interest. Comparing the first three columns in Tables 6a and 6b, our results are robust to whether we include or exclude the states that have offered multiple amnesties. Focusing on the final two columns, where we control for the time elapsed between cases of multiple amnesties, these variables are generally insignificant, with the one significant result (the long run effect being less harmful given a longer time lag), dropping out when states with more than two amnesties are included. Because of the non-robust nature of the time lag variables, we tend to prefer what we consider our most appropriate ‘full’ model, which appears in Column (3) of Table 6b. The estimates from that model are the ones we will discuss in detail.

The significant, positive short-run coefficient estimate for amnesty 1 can be interpreted to suggest that the average impact of offering the first amnesty in a state is a 4.5 percent increase in real per capita tax revenue during the period of the amnesty due to the increased collections of previous evaders. The significant, negative long-run coefficient estimate for amnesty 1 can be interpreted to suggest that the long run impact of offering this first tax amnesty is significantly

negative on revenue, resulting in about a 3.4 percent ongoing loss each period after the amnesty due to reduced compliance. Actually, the way our empirical model is constructed the true first period impact of the amnesty would be the short run inflow of short run revenue and also the long run revenue loss combined. After the first period, only the long-run impact remains. The results for the short and long-run effects of the second amnesty (amnesty 2) are exactly as we anticipated. The second amnesty does not produce as much short run revenue (in fact, our results are insignificantly different from zero), but does produce a significant and negative long run effect that is greater than the negative long run effect for the first amnesty. Finally, when a state offers a third amnesty, again there is no significant short run revenue produced, and again the negative long run revenue loss is significant, and larger than it was for the second and first amnesties.

Based on these results, we can strongly conclude that if a state is considering offering a tax amnesty to raise total tax revenue, the impact *will* depend on whether the state has previously offered an amnesty, and that it will probably never be a good idea at all. On average, first-time tax amnesties do tend to produce a significant 4 to 5 percent increase in revenue during the period the amnesty is being offered. They, however, also tend to discourage compliance to the magnitude of 3 percent per period, from then on. This certainly doesn't seem like a worthwhile tradeoff, without assuming a fantastically large discount rate. The public choice literature, however, is filled with examples of shortsighted political behavior that could be consistent in explaining why states would still adopt an amnesty given these numbers.

On average, if a state has already offered one previous amnesty, and is considering running a second, they will likely see only a small (insignificant) increase in revenue during the amnesty period, followed by a significant, and larger, negative effect on long run revenue. The

third amnesty continues this trend, with little short run revenue and larger long run revenue losses. These results are consistent with our expectations, and likely make sense to most tax researchers and practitioners. Tax amnesties are similar to the story of the boy who cried wolf. When they are offered on a repeated basis, they tend to discourage compliance to a greater extent than if they are only offered once. In addition, the revenue boost produced by an amnesty as former evaders pay up their tax liabilities during the amnesty period is significant only the first time a state offers an amnesty. This would suggest that the first amnesty to a great extent brings most evaders back into the system that would be willing to do so, and there is little benefit from repeating the amnesty within a short window of time.

[Table 7 about here.]

One difference across states that is not controlled for in the previous regressions is whether the state increased penalties and/or enforcement efforts in conjunction with the amnesty. This could potentially alter the revenue impact of the amnesty. Table 7, from Alm and Beck (1991), offers data on whether states increased penalties and/or enforcement efforts in conjunction with their amnesties during the 1982-1988 period. In an effort to assess what difference this makes, Tables 8a and 8b show the results from our models, run only on the subsample of one amnesty states during this 1982-1988 period, with separate regressions performed for each category of penalty/enforcement combination except funding for enforcement only (because not enough states in this group for estimation).¹⁴

[Tables 8a and 8b about here.]

The results from these estimations confirm what we expected with regard to the long-run revenue effect, but appear opposite of our expectations with regard to the short-run effect. States who use an increase in both penalties and enforcement tend to have a smaller long-run revenue

loss (implying fewer people become evaders in anticipation of a future amnesty). States who increased penalties also had smaller negative long-run effects, but not nearly as large as when these higher penalties are combined with increased enforcement. Interestingly, the short-run revenue effect estimates suggest that the largest short-run revenue gain happens when there is no increase in penalties or enforcement, and the smallest short-run gains happen when they are both increased. We are somewhat puzzled by this result, however there are two possible explanations we find appealing. First, there is likely a selection bias in terms of which states choose to increase penalties and/or enforcement. Perhaps it is those states who have been the easiest on evaders in the past (and thus had a high level of evasion), or possibly those who most increased these items may be the states whose residents are costliest (or hardest) to get to comply with the tax code. Alternatively, these results simply might not be as reliable as the ones earlier due to the limited nature of the sample on which this data was available.

5. Summary and Conclusion

Amid the fiscal stress faced by states during and after the most recent recession, many turned to offering tax amnesties as a way to generate additional tax revenue. In many of these cases the amnesty was the second, third, or even fourth amnesty offered by the state during the last 23 years. In this paper we examined whether the revenue effects of offering a tax amnesty change as the amnesty is offered on a repeated basis, something that has not been previously examined in the literature. We distinguish between the effect the amnesty has on revenue in the period accompanying the amnesty program (the short-run effect) and the effect the amnesty has on the permanent mean level of tax revenue (the long-run effect). We find that overall, when a state offers an amnesty for the first time, it produces revenue during the amnesty period but then

harms revenue in the long run, which is consistent with the theory proposing that people respond to the amnesty by beginning to evade taxes in anticipation of additional future amnesties. Repeated broad-based amnesties fail to produce even additional short-run revenue, while creating significant long-run revenue losses due to reduced compliance that grow as additional amnesties are offered. Based on our results we suggest that states avoid using tax amnesties on a repeated basis, and even the first offering is not clearly a revenue enhancement once the long run compliance effects are considered.

ENDNOTES

¹ Vermont and Wyoming are the two states which do not have balance budget requirement, however, while Vermont's statutory provisions indicate that budget balance is a goal, for practical purpose a strong expectation for a balanced budget was cited as a requirement in Wyoming (GAO 1993).

² For a good discussion of this incentive see NASBO (2004).

³ For alternative definitions of tax amnesty, see U.S. Congress, Joint Committee on Taxation (1998).

⁴ Hasseldine (1998) lists four advantages and four disadvantages of a tax amnesty. For a detailed discussion of the advantages and disadvantages of an amnesty, see Leonard and Zeckhauser (1986).

⁵ See Also Alm (1998, pp. 4) and Torgler, Schaltegger and Schanffner (2003, pp.376).

⁶ See United States Congress, Joint Committed on Taxation (1998) and Alm (1998).

⁷ For a detailed listing see: Federation of Tax Administrators, <http://www.taxadmin.org/fta/rate/amnesty1.html>

⁸ Although Dubin, Graetz, and Wilde (1992) find the main determinant of whether a state offers a tax amnesty to be the level of IRS auditing within the state (inversely, that is, if the IRS is active in a state, then that state is less likely to offer a tax amnesty) and Posner (2000) finds that the likelihood of an amnesty in a given year in a state increases if the government in that state is unstable, a distinct geographic pattern can be seen in our data.

⁹ For Illinois, see FTA (1990) pp.2, n.2 and for Pennsylvania, see Alm and Beck (1991) pp. 1047.

¹⁰ When estimating revenue equations, a logarithmic transformation is used to make the equation linear for operational purposes. If revenue (R) is equal to tax rate (t) multiplied by tax base (B), then $\log(R)=\log(t)+\log(B)$.

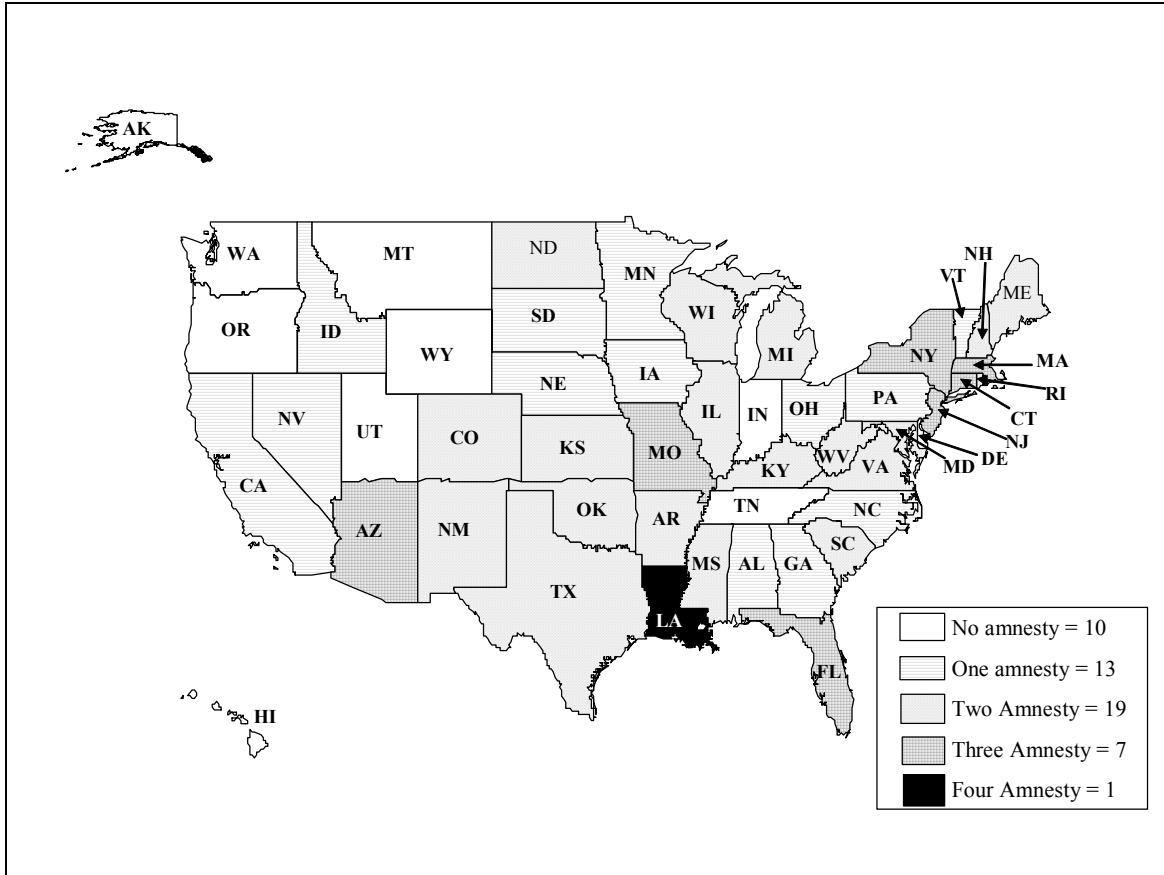
¹¹ The average corporate and personal income tax rates are computed as the simple average of the rates in all brackets in the state for that tax.

¹² Because revenue collection in Louisiana's fourth amnesty is considerably higher than its predecessors, also I run regressions ignoring its first, second or third amnesty one at a time. Although the coefficients of the short run and long run effect of amnesty 2 and 3 change sometimes from negative to positive, they are not significantly different from zero. The coefficient of short run effect of amnesty 1 remains always positive and significant. Likewise the coefficient of long run effect of amnesty 1 remains always negative and significant. The results are available from the authors upon request.

¹³ The parameter estimates obtained from fixed effects model are consistent under H_0 and H_a . The parameter estimates obtained from random effects model are inconsistent under H_a but efficient under H_0 . I perform the Hausman test of the null hypothesis that the difference in coefficients obtained from both fixed effects and random effects models are not systematic. The test statistics in all cases, except reported otherwise, suggest that we cannot reject the null hypothesis.

¹⁴ Enforcement data is not available for all states tax amnesties. The table based on Alm and Beck (1991), lists name of states which increased penalties or greater funding for enforcement of the tax regime after the conclusion of tax amnesties prior to 1988. Because many states listed offered a second or third amnesty since 1988, we restrict the sample to the states which offered their first tax amnesty prior to 1988 and/or which offered a second amnesty after 2002. Similarly, because California (1983-84) and Idaho (1993) conducted amnesties for specific taxes only, they are also excluded from the analysis.

Figure 1. Tax Amnesty Offerings by State (as of December 2004)



Source: Federation of Tax Administrators, January 2005. <http://www.taxadmin.org/fta/rate/amnesty1.html>

Table 1: Arguments in Favor and Against Tax Amnesties

Arguments in Favor:	Arguments Against:
1. Pareto improving because nobody loses and government increases revenue.	1. Undermines tax morale, as honest taxpayers may get upset because moral costs to behave dishonestly decrease.
2. Brings people back to the path of honesty who became tax delinquents or evaders by mistake.	2. Too soft an action to be taken against law breakers.
3. Removes the guilty feeling of otherwise ordinary citizens.	3. Guilty feeling is removed such that honest taxpayers may actually start evading taxes.
4. Most appropriate before increasing penalties and enforcement and to the transition to a new tax regime.	4. Individuals become aware of the presence of rampant non-compliance in the tax system.
5. Sends a signal that the government is committed to tackle the problem of tax evasion.	5. Sends a wrong signal of a weak government, which is unable to enforce the tax code.
6. Enlarges the tax base as many taxpayers are brought back into the tax system.	6. Taxpayers would anticipate future tax amnesties, which will have a negative effect on tax compliance and erodes the tax base.
7. Generates both short run and long run revenues for the government.	7. Experiences indicate that amnesties produce little and/or overstated revenues.
8. Reduces administrative costs of tax collection.	8. The revenues could have been collected with the normal enforcement procedure anyway if waited a little longer
9. Enhances tax compliance by keeping and monitoring taxpayers not previously on the tax rolls.	9. Simply not possible. If it were true, then the amnesty is not required in the first place.

Table 2: International Comparison of Tax Amnesties

Country	Amnesty Year	Form/Main Taxes Covered
Argentina	1987	Previously unreported income for investment purpose
Argentina	1995	General tax amnesty
Australia	Twice during 80s	Participants in specific avoidance scheme, persons not lodging returns
Austria	1982	All tax claims prior to 1979
Austria	1993	Special program to encourage repatriation of untaxed assets
Belgium	1984/1985	Income exempted from tax if invested (e.g. government bonds)
Colombia	1987	Report previously unreported assets or over-reported liabilities
Finland	1982/1984	Surplus Interest Affairs
France	1982	General tax amnesty Special program to encourage repatriation of untaxed assets
France	1986	Second special amnesty for assets held abroad
India	1981	Government bonds designed for untaxed income
India	1997	General tax amnesty
Ireland	1988	General tax amnesty
Ireland	1993	General tax amnesty
Italy	1982	General tax amnesty
Italy	1984	Entrepreneurs and self employed
Italy	2001/2002	Special program to encourage repatriation of untaxed assets
Netherlands	1934, 1940, 1945, 1955	1955, exemption from penalties and interest
New Zealand	1988	General tax amnesty
Portugal	1981, 1982, 1986, 1988	Limited to income taxation
Russia	1993	Enterprises, organizations, private entrepreneurs not liable for any sanctions on unpaid liabilities.
Russia	1996, 1997	Enterprises and organizations were allowed to defer payments on the arrears
Spain	1977	Exemption from penalty for liabilities settled prior to 1976.

Source: Torgler and Schaltegger (2003) pp. 6.

Table 3: Number of States Offering Tax Amnesties by Year

Year	Total number offering amnesties	Number offering first amnesty	Number offering second amnesty	Number offering third amnesty	Number offering fourth amnesty
1982	1	1	-	-	-
1983	4	4	-	-	-
1984	7	7	-	-	-
1985	6	6	-	-	-
1986	5	5	-	-	-
1987	5	4	1	-	-
1988	2	1	1	-	-
1989	1	1	-	-	-
1990	4	4	-	-	-
1991	-	-	-	-	-
1992	1	1	-	-	-
1993	-	-	-	-	-
1994	-	-	-	-	-
1995	2	1	1	-	-
1996	3	-	3	-	-
1997	1	1	-	-	-
1998	2	-	1	1	-
1999	2	1	1	-	-
2000	-	-	-	-	-
2001	4	1	2	-	1
2002	11	1	7	3	-
2003	10	-	6	4	-
2004	5	1	4	-	-
Total	76	40	27	8	1

Table 4: Characteristics of State Tax Amnesties (1982 – 2004)

	Number of Amnesties with Legislative Authorization	Number of Amnesties that Included Accounts Receivable ^a	Number of Amnesties that Permitted Installment Arrangements
Yes	68	44	30
No	7	23	30
No information ^b	4	12	19

Source: FTA, January 2005. <http://www.taxadmin.org/fta/rate/amnesty1.html>. Web access date: 05/08/05.

Notes: ^a California's tax amnesty in 1984-85 allowed known delinquents of individual income taxes to participate in the amnesty but it didn't allow known delinquents of sales taxes to participate in the amnesty.

^b Information on amnesty characteristics was not available from the FTA.

Table 5: State Tax Amnesty Periods and Collections (1982 – 2004)

Name of State	Amnesty Period			Amnesty Collection 2000 S ^a (000)	Amnesty Collection Per Capita	Amnesty Collection per 100,000 State Income
	Begin	End	Days			
ALABAMA	1/20/1984	4/1/1984	72	\$4,730	\$1.20	\$7.50
ARIZONA						
First amnesty	11/22/1982	1/20/1983	59	\$9,201	\$3.10	\$17.31
Second amnesty	1/1/2002	2/28/2002	58	N/A		
Third amnesty	9/1/2003	10/31/2003	60	\$68,869	\$12.34	\$48.57
ARKANSAS						
First amnesty	9/1/1987	11/30/1987	90	\$2,323	\$0.99	\$6.01
Second amnesty	7/1/2004	12/31/2004	183	N/A		
CALIFORNIA	12/10/1984	3/15/1985	95	\$282,582	\$10.69	\$43.94
COLORADO						
First amnesty	9/16/1985	11/15/1985	60	\$9,180	\$2.86	\$12.92
Second amnesty	6/1/2003	6/30/2003	29	\$17,359	\$3.82	\$11.72
CONNECTICUT						
First amnesty	9/1/1990	11/30/1990	90	\$66,184	\$20.12	\$61.89
Second amnesty	9/1/1995	11/30/1995	90	\$50,159	\$15.36	\$44.77
Third amnesty	9/1/2002	12/2/2002	92	\$104,716	\$30.27	\$73.72
FLORIDA						
First amnesty	1/1/1987	6/30/1987	180	\$17,761	\$1.48	\$6.67
Second amnesty	1/1/1988	6/30/1988	181	\$11,097	\$0.90	\$3.93
Third amnesty	7/1/2003	10/31/2003	122	\$75,473	\$4.44	\$15.68
GEORGIA	10/1/1992	12/5/1992	65	\$59,386	\$8.79	\$39.45
IDAHO	5/20/1983	8/30/1983	102	\$460	\$0.47	\$2.96
ILLINOIS						
First amnesty	10/1/1984	11/30/1984	60	\$237,232	\$20.79	\$94.56
Second amnesty	10/1/2003	11/17/2003	47	\$501,895	\$39.68	\$126.62
IOWA	9/2/1986	10/31/1986	59	\$49,263	\$17.64	\$89.11
KANSAS						
First amnesty	7/1/1984	9/30/1984	91	\$887	\$0.37	\$1.80
Second amnesty	10/1/2003	11/30/2003	60	\$50,661	\$18.59	\$66.74
KENTUCKY						
First amnesty	9/15/1988	9/30/1988	15	\$132,111	\$35.90	\$200.34
Second amnesty	8/1/2002	9/30/2002	60	\$96,069	\$23.49	\$96.10
LOUISIANA						
First amnesty	10/1/1985	12/31/1985	91	\$1,721	\$0.39	\$2.25
Second amnesty	10/1/1987	12/15/1987	75	\$410	\$0.09	\$0.57
Third amnesty	10/1/1998	12/31/1998	91	\$1,348	\$0.31	\$1.34
Fourth amnesty	9/1/2001	10/30/2001	59	\$169,044	\$37.85	\$156.78
MAINE						
First amnesty	11/1/1990	12/31/1990	60	\$35,544	\$28.87	\$135.50
Second amnesty	9/1/2003	11/30/2003	90	\$35,472	\$27.09	\$99.52
MARYLAND						
First amnesty	9/1/1987	11/2/1987	62	\$47,270	\$10.35	\$39.45
Second amnesty	9/1/2001	10/31/2001	60	\$38,282	\$7.12	\$20.50
MASSACHUSETTS						

First amnesty	10/17/1983	1/17/1984	92	\$127,854	\$21.89	\$94.19
Second amnesty	10/1/2002	11/30/2002	60	\$92,323	\$14.40	\$38.46
Third amnesty	1/1/2003	2/28/2003	58	N/A		
MICHIGAN						
First amnesty	5/12/1986	6/30/1986	49	\$154,106	\$16.88	\$77.08
Second amnesty	5/15/2002	6/30/2002	46	\$30,454	\$3.03	\$10.50
MINNESOTA	8/1/1984	10/31/1984	91	\$17,885	\$4.30	\$20.28
MISSISSIPPI						
First amnesty	9/1/1986	11/30/1986	90	\$1,404	\$0.54	\$3.78
Second amnesty	9/1/2004	12/31/2004	121	N/A		
MISSOURI						
First amnesty	9/1/1983	10/31/1983	60	\$1,380	\$0.28	\$1.54
Second amnesty	8/1/2002	10/31/2002	91	\$73,397	\$12.92	\$47.46
Third amnesty	8/1/2003	10/31/2003	91	\$18,868	\$3.30	\$12.05
NEBRASKA	8/1/2004	10/31/2004	91	N/A		
NEVADA	2/1/2002	6/30/2002	149	\$7,013	\$3.23	\$10.97
NEW HAMPSHIRE						
First amnesty	12/1/1997	2/17/1998	78	\$13,994	\$11.80	\$38.41
Second amnesty	12/1/2001	2/15/2002	76	\$12,969	\$10.30	\$31.06
NEW JERSEY						
First amnesty	9/10/1987	12/8/1987	89	\$254,796	\$33.22	\$120.76
Second amnesty	3/15/1996	6/1/1996	78	\$382,514	\$47.76	\$144.57
Third amnesty	4/15/2002	6/10/2002	56	\$266,016	\$31.01	\$81.96
NEW MEXICO						
First amnesty	8/15/1985	11/13/1985	90	\$19,508	\$13.56	\$78.27
Second amnesty	8/16/1999	11/12/1999	88	\$45,980	\$26.43	\$118.28
NEW YORK						
First amnesty	11/1/1985	1/31/1986	91	\$563,230	\$31.58	\$125.32
Second amnesty	11/1/1996	1/31/1997	91	\$265,581	\$14.64	\$45.49
Third amnesty	11/18/2002	1/31/2003	74	\$549,726	\$28.61	\$83.66
NORTH CAROLINA	9/1/1989	12/1/1989	91	\$47,863	\$7.29	\$34.72
NORTH DAKOTA						
First amnesty	9/1/1983	11/30/1983	90	\$307	\$0.45	\$2.59
Second amnesty	10/1/2003	1/31/2004	122	\$6,392	\$10.08	\$38.17
OHIO	10/15/2001	1/15/2002	92	\$46,594	\$4.08	\$14.61
OKLAHOMA						
First amnesty	7/1/1984	12/31/1984	183	\$20,545	\$6.25	\$33.23
Second amnesty	8/15/2002	11/15/2002	92	N/A		
PENNSYLVANIA	10/13/1995	1/10/1996	89	N/A		
RHODE ISLAND						
First amnesty	10/15/1986	1/12/1987	89	\$956	\$0.97	\$4.29
Second amnesty	4/15/1996	6/28/1996	74	\$8,417	\$8.52	\$32.10
SOUTH CAROLINA						
First amnesty	9/1/1985	11/30/1985	90	\$10,184	\$3.08	\$18.43
Second amnesty	10/15/2002	12/2/2002	48	\$63,598	\$15.49	\$63.32
SOUTH DAKOTA	4/1/1999	5/15/1999	44	\$511	\$0.70	\$2.72
TEXAS						
First amnesty	2/1/1984	2/29/1984	28	\$739	\$0.05	\$0.23
Second amnesty	3/11/2004	3/31/2004	20	N/A		\$0.00
VERMONT	5/15/1990	6/25/1990	41	\$1,226	\$2.17	\$9.90

VIRGINIA

First amnesty	2/1/1990	3/31/1990	58	\$39,466	\$6.35	\$25.33
Second amnesty	9/2/2003	11/3/2003	62	\$92,737	\$12.59	\$39.55

WEST VIRGINIA

First amnesty	10/1/1986	12/31/1986	91	\$14,689 ^b	\$7.80	\$48.81
Second amnesty	9/1/2004	10/31/2004	60	\$13,465 ^b	\$7.42	\$30.95

WISCONSIN

First amnesty	9/15/1985	11/22/1985	68	\$39,160	\$8.25	\$41.55
Second amnesty	6/15/1998	8/14/1998	60	\$32,030	\$6.13	\$22.28

Source: Federation of Tax Administrators, January 2005. <http://www.taxadmin.org/fta/rate/amnesty1.html>

Notes: ^a Total and per capita tax amnesty collections in the table are reported in constant 2000 (dollars).

^b These figures are based on correspondence with the WV Tax Department as of 05/04/2005.

Table 6a: Regression Results for Per Capita Total Tax Revenue
(Log of per capita total tax revenue as dependent variable and without budget surplus or shortfall variable)

Variable	States with one Amnesty	States with one & two Amnesties	States with one, two, & three Amnesties	States with one & two Amnesties	States with one, two, & three Amnesties
	(1)	(2)	(3)	(4)	(5)
Short-run effect of Amnesty1	.071*** (2.92)	.056*** (3.18)	.046*** (2.85)	.056*** (3.17)	.046*** (2.85)
Short-run effect of Amnesty2		-.046 (1.42)	-.013 (0.54)	-.029 (0.44)	.033 (0.62)
Short-run effect of Amnesty3			-.061 (1.07)		-.064 (1.13)
Long-run effect of Amnesty1	-.063*** (5.92)	-.042*** (4.91)	-.034*** (4.15)	-.041*** (4.78)	-.034*** (4.11)
Long-run effect of Amnesty2		-.024* (1.76)	-.038*** (3.45)	-.093*** (3.32)	-.060** (2.40)
Long-run effect of Amnesty3			-.038 (1.32)		-.031 (1.04)
Time difference between 1 st & 2 nd Amnesty (SR Effect)				-.004 (0.88)	-.005 (1.15)
Time difference between 1 st & 2 nd Amnesty (LR Effect)				.007*** (2.82)	.002 (0.98)
Log of Personal Income	.895*** (10.03)	.981*** (13.81)	.966*** (14.83)	.960** (13.46)	.963*** (14.74)
Log of Personal Income Tax Rate	-.002 (0.16)	-.027** (2.28)	-.006 (0.52)	-.027** (2.33)	-.005 (0.48)
Log of Corporate Income Tax Rate	.071** (2.01)	.011 (0.44)	.042* (1.86)	.007 (0.29)	.040* (1.78)
Log of Sales Tax Rate	.187*** (5.51)	.140*** (6.06)	.134*** (6.11)	.139*** (6.03)	.134*** (6.12)
Log of unemployment rate	-.056*** (3.06)	-.059*** (4.36)	-.069*** (5.70)	-.060*** (4.47)	-.070*** (5.76)
Constant	-2.119** (2.28)	-3.402*** (4.75)	-3.129*** (4.78)	-3.205*** (4.46)	-3.095*** (4.72)
R ²	0.633	0.540	0.597	0.543	0.598
No of Observations	1648	2917	3418	2917	3418
Model Suggested by Hausman Test	Fixed Effects	Fixed Effects	Fixed Effects	Fixed Effects	Fixed Effects
χ^2 value	χ^2 (94)=5.21	χ^2 (96)=8.97	χ^2 (98)=7.87	χ^2 (98)=8.17	χ^2 (100)=7.23

Notes: Figures in parenthesis are absolute t-statistics, ***indicates 1 percent significance level, **indicates 5 percent significance level, *indicates 10 percent significance level.

Table 6b: Regression Results for Per Capita Total Tax Revenue
(Log of per capita total tax revenue as dependent variable and with budget surplus or shortfall variable)

Variable	States with one Amnesty	States with one & two Amnesties	States with one, two, & three Amnesties	States with one & two Amnesties	States with one, two, & three Amnesties
	(1)	(2)	(3)	(4)	(5)
Short-run effect of Amnesty1	.070*** (2.87)	.057*** (3.24)	.045*** (2.86)	.057*** (3.23)	.046*** (2.86)
Short-run effect of Amnesty2		-.041 (1.25)	-.010 (0.42)	-.036 (0.56)	.030 (0.57)
Short-run effect of Amnesty3			-.048 (0.85)		-.052 (0.92)
Long-run effect of Amnesty1	-.062*** (5.90)	-.043*** (5.02)	-.034*** (4.21)	-.042*** (4.89)	-.034*** (4.16)
Long-run effect of Amnesty2		-.025* (1.85)	-.041*** (3.72)	-.103*** (3.67)	-.067*** (2.71)
Long-run effect of Amnesty3			-.050* (1.72)		-.041 (1.39)
Time difference between 1 st & 2 nd Amnesty (SR Effect)				-.004 (0.72)	-.004 (1.06)
Time difference between 1 st & 2 nd Amnesty (LR Effect)				.008*** (3.18)	.003 (1.19)
Log of Personal Income	.898*** (10.08)	.987*** (13.93)	.970*** (14.93)	.964*** (13.55)	.966*** (14.82)
Log of Personal Income Tax Rate	-.004 (0.34)	-.027** (2.29)	-.006 (0.58)	-.028** (2.35)	-.006 (0.53)
Log of Corporate Income Tax Rate	.076** (2.14)	.010 (0.38)	.039* (1.75)	.005 (0.21)	.037* (1.65)
Log of Sales Tax Rate	.170*** (4.90)	.137*** (5.93)	.131*** (5.99)	.136*** (5.89)	.131*** (5.99)
Log of unemployment rate	-.045** (2.47)	-.048*** (3.50)	-.059*** (4.74)	-.049*** (3.56)	-.060*** (4.80)
Budget Surplus or Shortfall as a percent of Total Tax Revenue	.071** (2.49)	.066*** (3.68)	.067*** (3.98)	.071*** (3.93)	.068*** (4.00)
Constant	-2.197** (2.36)	-3.481*** (4.87)	-3.189*** (4.88)	-3.263*** (4.55)	-3.146*** (4.81)
R ²	0.631	0.540	0.597	0.544	0.598
No of Observations	1648	2917	3418	2917	3418
Model suggested by Hausman test	Fixed Effects	Fixed Effects	Fixed Effects	Fixed Effects	Fixed Effects
χ^2 value	χ^2 (95) = 3.89	χ^2 (97) = 8.10	χ^2 (99) = 7.94	χ^2 (99) = 7.03	χ^2 (101) = 6.21

Notes: Figures in parenthesis are absolute t-statistics, ***indicates 1 percent significance level, **indicates 5 percent significance level, *indicates 10 percent significance level.

Table 7: Enforcement and Penalty Information of State Tax Amnesty Program (1982-1988)

Category	No of States	State Amnesties
Increase in both penalties and funding for enforcement	14	Alabama (1984), Arizona (1982-83), California (1984-85), Colorado (1985), Illinois (1984), Iowa (1986), Maryland (1987), Massachusetts (1983-84), Michigan (1986), New Jersey (1987), New York (1985-86), Oklahoma (1984), South Carolina (1985), Wisconsin
Increase in penalties only	7	Arkansas (1987), Florida (1987 and 1988), Mississippi (1986), Rhode Island (1987), Texas (1984), West Virginia (1986)
Increase in funding for enforcement only	3	Kansas (1984), Louisiana (1985), New Mexico (1985)
No increase in penalties or funding for enforcement	5	Idaho (1983), Louisiana (1987), Minnesota (1984), Missouri (1983), North Dakota (1983)

Source: Alm and Beck (1991)

Table 8a: Regression Results for Per Capita Total Tax Revenue
(Log of per capita total tax revenue as dependent variable)

Variable	Increase in both penalties and funding for enforcement	Increase in penalties only	No increase in penalties or funding for enforcement
	(1)	(2)	(3)
Short-run effect of Amnesty ¹	.088* (1.77)	.140** (2.43)	.208*** (3.13)
Long-run effect of Amnesty ¹	-.055*** (2.84)	-.118*** (5.78)	-.144*** (4.48)
Log of Personal Income Per Capita	.834*** (5.24)	.972*** (6.36)	.926*** (5.89)
Log of Personal Income Tax Rate	-.026 (1.29)	.017 (0.91)	-.046*** (2.53)
Log of Corporate Income Tax Rate	-.048 (0.82)	-.068 (1.19)	-.074 (1.10)
Log of Sales Tax Rate	.135** (2.10)	.323*** (5.03)	.114 (1.51)
Log of unemployment rate	-.045 (1.60)	-.073*** (2.81)	-.080** (2.53)
Constant	-2.189 (1.35)	-2.725* (1.74)	-3.115** (1.96)
R ²	0.523	0.574	0.512
No of Observations	733	642	548
Estimated Model	Fixed Effects	Fixed Effects	Fixed Effects
Name of states included:	Alabama, Colorado, Illinois and Iowa + states with no amnesties	Arkansas, Florida, Mississippi, Texas and West Virginia + states with no amnesties	Minnesota and North Dakota + states with no amnesties

Notes: Figures in parenthesis are absolute t-statistics, ***indicates 1 percent significance level, **indicates 5 percent significance level, *indicates 10 percent significance level.

Table 8b: Regression Results for Per Capita Total Tax Revenue
(Log of per capita total tax revenue as dependent variable)

Variable	Increase in both penalties and funding for enforcement	Increase in penalties only	No increase in penalties or funding for enforcement
	(1)	(2)	(3)
Short-run effect of Amnesty ¹	.088* (1.77)	.139** (2.40)	.204*** (3.07)
Long-run effect of Amnesty ¹	-.062*** (3.18)	-.118*** (5.78)	-.149*** (4.60)
Log of Personal Income	.858*** (5.40)	.976*** (6.38)	.935*** (5.95)
Log of Personal Income Tax Rate	-.025 (1.23)	.017 (0.91)	-.047** (2.55)
Log of Corporate Income Tax Rate	-.065 (1.11)	-.065 (1.13)	-.090 (1.32)
Log of Sales Tax Rate	.136** (2.12)	.315*** (4.76)	.140* (1.79)
Log of unemployment rate	-.036 (1.27)	-.068** (2.50)	-.093*** (2.81)
Budget Surplus or Shortfall as a percent of Total Tax Revenue	.093** (2.28)	.027 (0.53)	-.067 (1.26)
Constant	-2.456 (1.51)	-2.787* (1.77)	-3.173** (2.00)
R ²	0.520	0.576	0.500
No of Observations	733	642	548
Model	Fixed Effects	Fixed Effects	Fixed Effects
Name of states included:	Alabama, Colorado, Illinois and Iowa + states with no amnesties	Arkansas, Florida, Mississippi, Texas and West Virginia + states with no amnesties	Minnesota and North Dakota + states with no amnesties

Notes: Figures in parenthesis are absolute t-statistics, ***indicates 1 percent significance level, **indicates 5 percent significance level, *indicates 10 percent significance level.

Appendix 1: Data Description and Sources
(Note: all data are quarterly, and at the state level)

Variable Name (source)	Description
<u>Dependent Variable:</u> Total Tax Revenue Per Capita (1)	Total real tax revenue per capita
<u>Explanatory Variables:</u> Personal Income (2) Average Personal Income Tax Rate (3) Average Corporate Income Tax Rate (3) Sales Tax Rate (3)	Real personal income of residents Average personal income tax rate Average corporate income tax rate Sales tax rate in the state
<u>Amnesty Variables:</u> (all from 4): Short-run effect of Amnesty 1 Short-run effect of Amnesty 2 Short-run effect of Amnesty 3 Long-run effect of Amnesty 1 Long-run effect of Amnesty 2 Long-run effect of Amnesty 3	Equals 1 during period of first amnesty, 0 before or after Equals 1 during period of second amnesty, 0 before or after Equals 1 during period of third amnesty, 0 before or after Equals 1 during and after period of first amnesty, 0 before Equals 1 during and after period of second amnesty, 0 before Equals 1 during and after period of third amnesty, 0 before
<u>Control Variables:</u> Unemployment Rate (5) Budget Surplus or Shortfall (6)	Unemployment rate Budget surplus or shortfall for year, including intergovernmental transfers.

1. U.S. Census Bureau, *State Government Finances*, Washington, D.C.
2. U.S. Department of Commerce, Bureau of Economic Analysis, *State and Local Personal Income*, Washington, D. C.
3. Commerce Clearing House, Inc., *State Tax Handbook*, 1980 – 2003.
4. Federation of Tax Administrators, <http://www.taxadmin.org/fta/rate/amnesty1.html>
5. U.S. Department of Labor, Bureau of Labor Statistics, *Demographics*, Washington, D.C.
6. U.S. Census Bureau, *State Government Finances*, Washington, D.C., Book of the State and Statistical Abstract of the United States.

Appendix Table 2a: Regression Results for Per Capita Total Tax Revenue
(Log of per capita total tax revenue as dependent variable without budget surplus or shortfall variable)

Variable	States with one Amnesty	States with one & two Amnesties	States with one, two, & three Amnesties	States with one & two Amnesties	States with one, two, & three Amnesties
	(1)	(2)	(3)	(4)	(5)
Short-run effect of Amnesty1	.070*** (2.89)	.056*** (3.17)	.045*** (2.83)	.056*** (3.17)	.045*** (2.83)
Short-run effect of Amnesty2		-.046 (1.41)	-.013 (0.54)	-.030 (0.46)	.032 (0.62)
Short-run effect of Amnesty3			-.061 (1.07)		-.064 (1.13)
Long-run effect of Amnesty1	-.062*** (5.85)	-.041*** (4.83)	-.033*** (4.06)	-.040*** (4.70)	-.033*** (4.03)
Long-run effect of Amnesty2		-.025* (1.81)	-.039*** (3.51)	-.094*** (3.40)	-.061** (2.49)
Long-run effect of Amnesty3			-.039 (1.36)		-.031 (1.06)
Time difference between 1 st & 2 nd Amnesty (SR Effect)				-.004 (0.87)	-.005 (1.15)
Time difference between 1 st & 2 nd Amnesty (LR Effect)				.008*** (2.89)	.002 (1.04)
Log of Personal Income	.886*** (10.29)	.938*** (13.84)	.921*** (15.23)	.920*** (13.49)	.920*** (15.13)
Log of Personal Income Tax Rate	.0005 (0.04)	-.023** (2.05)	-.003 (0.26)	-.024** (2.11)	-.003 (0.24)
Log of Corporate Income Tax Rate	.067* (1.94)	.009 (0.38)	.038* (1.76)	.006 (0.25)	.036* (1.68)
Log of Sales Tax Rate	.187*** (5.57)	.138*** (6.08)	.131*** (6.11)	.137*** (6.05)	.131*** (6.12)
Log of unemployment rate	-.056*** (3.10)	-.061*** (4.56)	-.071*** (5.90)	-.062*** (4.65)	-.072*** (5.95)
Constant	-2.031** (2.25)	-2.961*** (4.31)	-2.674*** (4.37)	-2.789*** (4.04)	-2.662*** (4.33)
R ²	0.635	0.546	0.603	0.549	0.603
No of Observations	1648	2917	3418	2917	3418
Model	Random Effects	Random Effects	Random Effects	Random Effects	Random Effects

Notes: Figures in parenthesis are absolute z-statistics, ***indicates 1 percent significance level, **indicates 5 percent significance level, *indicates 10 percent significance level.

Appendix Table 2b: Regression Results for Per Capita Total Tax Revenue
(Log of per capita total tax revenue as dependent variable with budget surplus or shortfall variable)

Variable	States with one Amnesty	States with one & two Amnesties	States with one, two, & three Amnesties	States with one & two Amnesties	States with one, two, & three Amnesties
	(1)	(2)	(3)	(4)	(5)
Short-run effect of Amnesty1	.069*** (2.85)	.057*** (3.23)	.046*** (2.84)	.057*** (3.23)	.045*** (2.85)
Short-run effect of Amnesty2		-.040 (1.24)	-.010 (0.42)	-.037 (0.58)	.029 (0.56)
Short-run effect of Amnesty3			-.048 (0.85)		-.052 (0.92)
Long-run effect of Amnesty1	-.061*** (5.85)	-.042*** (4.95)	-.033*** (4.13)	-.041*** (4.82)	-.033*** (4.09)
Long-run effect of Amnesty2		-.026* (1.90)	-.042*** (3.77)	-.105*** (3.75)	-.066*** (2.78)
Long-run effect of Amnesty3			-.051* (1.75)		-.042 (1.40)
Time difference between 1 st & 2 nd Amnesty (SR Effect)				-.004 (0.71)	-.004 (1.06)
Time difference between 1 st & 2 nd Amnesty (LR Effect)				.008*** (3.24)	.003 (1.24)
Log of Personal Income	.890*** (10.31)	.947*** (13.96)	.927*** (15.35)	.928*** (13.58)	.928*** (15.21)
Log of Personal Income Tax Rate	-.002 (0.17)	-.024** (2.07)	-.003 (0.31)	-.025** (2.15)	-.003 (0.31)
Log of Corporate Income Tax Rate	.072** (2.09)	.008 (0.33)	.036* (1.66)	.004 (0.17)	.034 (1.58)
Log of Sales Tax Rate	.170*** (4.96)	.136*** (5.95)	.129*** (6.00)	.134*** (5.91)	.129*** (6.00)
Log of unemployment rate	-.046** (2.52)	-.050*** (3.68)	-.060*** (4.92)	-.051*** (3.72)	-.061*** (4.97)
Budget Surplus or Shortfall as a percent of Total Tax Revenue	.070** (2.46)	.066*** (3.68)	.067*** (3.98)	.071*** (3.94)	.068*** (4.01)
Constant	-2.118** (2.34)	-3.072*** (4.47)	-2.746*** (4.50)	-2.891*** (4.18)	-2.764*** (4.48)
R ²	0.633	0.546	0.603	0.550	0.603
No of Observations	1648	2917	3418	2917	3418
Model	Random Effects	Random Effects	Random Effects	Random Effects	Random Effects

Notes: Figures in parenthesis are absolute z-statistics, ***indicates 1 percent significance level, **indicates 5 percent significance level, *indicates 10 percent significance level.

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