

**ATTRACTING NONFILERS THROUGH AMNESTY PROGRAMS:
INTERNAL VERSUS EXTERNAL MOTIVATION**

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The authors extend sincere thanks to the administrators and staff of the Arkansas Department of Finance and Administration for their cooperation and assistance in compiling the data for this study.

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ABSTRACT

We investigate a subset of nonfilers by analyzing data provided by the Arkansas Department of Finance and Administration (DFA) from the 1997 Arkansas State Tax Penalty Amnesty. Our data sources include the tax returns filed by amnesty participants, a voluntary, confidential survey completed by approximately 32% of amnesty filers and a list of amnesty participants who received a notice from DFA under the FedState data-sharing program during the amnesty period.

We divide our sample into three groups based upon motivation for participating in the amnesty program. Taxpayers who did not receive a notification from the DFA under the FedState data-sharing program chose to participate in the amnesty independently and are designated as internally motivated. A second group of taxpayers, labeled as externally motivated, received a DFA letter and their survey responses indicate that they would not have known that they were noncompliant otherwise. The third group received a letter but they were aware of their failure to file Arkansas returns. The motivations of this group are mixed.

Using both univariate tests and multinomial logistic regression, we compare these three groups on four dimensions: tax return information, demographic information, excuses for failure to file, and reasons for voluntarily coming forward during the amnesty period. Notable results include, among other differences, income levels and excuses for failure to file a return when due.

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INTRODUCTION

The federal tax gap (the difference between the amount of tax owed and the amount collected) is estimated to be \$282.5 billion for 1998 (Brown and Mazur 2003). The Internal Revenue Service identifies three distinct taxpayer behaviors causing the tax gap: nonfiling, underreporting and underpayment (IRS 2004). Even though nonfiling is the smallest component of the estimated tax gap, “[t]he issue of filing compliance is not trivial.” (Brown and Mazur 2003, 691). An estimated 9 million taxpayers fail to file a federal tax return each year when required (Olsen 2003), with an estimated \$24.3 billion in unreported and unpaid tax (Brown and Mazur 2003). Our study focuses on this group of noncompliant taxpayers – the nonfilers.

How can nonfilers be lured into the system? Two main methods exist, outreach programs that focus on persuasion or enforcement programs that emphasize threats and penalties. Through outreach programs, tax authorities can convince unidentified nonfilers to voluntarily come forward. Education initiatives or amnesty programs emphasize the rewards of voluntarily paying taxes and bring nonfilers into the tax system. Alternatively, when suspected delinquent taxpayers can be identified, tax authorities can pursue individuals with threats of punishment for the failure to file. Detecting nonfilers, who by definition are not currently in the tax system, is difficult. Data matching from other agencies and sources is one key method for targeting these delinquent taxpayers. A number of formal data-sharing programs exist, such as the Southeastern States Exchange Program sponsored by the

Southeastern Association of Tax Administrators (SEATA 2004) and the FedState cooperative efforts through IRS Government Liaison Operations (IRS 2004).

According to the National Research Program Office of the IRS, “The Service ... would be interested in identifying characteristics of those taxpayers who fail to file timely or even at all. ... but the IRS has little information on the income and demographic characteristics of the nonfiling or ‘ghost’ population” (NRP 2003, 15). Through a unique data set collected with the cooperation of the state of Arkansas, we investigate the characteristics of nonfilers, focusing on taxpayers who respond to two types of tax compliance initiatives, enforcement efforts through the FedState data-sharing program and persuasion through a tax amnesty.

In 1997, the Arkansas state legislature authorized a state tax penalty amnesty program. Prior to the amnesty period, the Arkansas Department of Finance and Administration (DFA) contacted suspected state income tax nonfilers from a list of taxpayers filing federal returns from Arkansas addresses, information made available by the Internal Revenue Service. The letters to the suspected nonfilers contained information about the upcoming amnesty. Using data provided by the DFA, we investigate the characteristics and motivations of amnesty participants. We identify three groups of nonfilers: (1) those who were internally motivated to participate in the Arkansas amnesty program and received no personal contact from the DFA, (2) those who participated in the amnesty following external pressure as evidenced by a letter from the DFA through the FedState data-sharing program, and (3) those who participated in the amnesty as a result of both policy initiatives.

In addition to tax return data for these nonfilers, a confidential survey of amnesty participants provides additional information – why the respondents failed to pay tax when

due and why they were motivated to come forward during the amnesty period. We organize the data made available by the DFA into four categories: (1) tax return information, (2) demographic information, (3) excuses for failure to file, and (4) reasons for voluntarily coming forward during the amnesty period.

Using univariate and multinomial logistic analysis, we compare the three nonfiler groups and isolate identifying factors for each group. We find significant differences in the characteristics and motivations of the taxpayers in each of these three groups. The results show that tax amnesties attract taxpayers who wish to avoid penalties and who feel that they have a moral obligation to pay taxes, but it is higher income taxpayers who respond after receiving a data-sharing letter. For every quintile increase in income level, the odds that amnesty participants are in a group that received a letter increase by over 100 percent. We also find that taxpayers fail to file tax returns for one of two main reasons, with differences across groups. Ignorance that any tax is owed is the excuse of those externally motivated to participate in the amnesty, while shortage of cash at the time the return is due is the primary reason for the other two groups. Based upon these findings, we suggest policy changes that could reduce the segment of the tax gap caused by nonfiling for both state and federal taxing authorities.

BACKGROUND

Our study investigates the use of federal tax information in conjunction with a state tax amnesty. These two tax compliance initiatives are integral to state tax compliance.

Federal/State Data-Sharing Program

Federal and state taxing agencies have been involved in cooperative efforts since the 1920's, with formal agreements over the types of information to be shared beginning in 1957. Taxpayer data-tape exchanges began in the 1960's and are one of the oldest FedState cooperative efforts. With the exchange of data tapes, the IRS and the states can identify taxpayers who failed to file returns or may have underreported tax liability (GAO 1996).

The confidentiality of federal income tax information was codified as part of the Tax Reform Act of 1976. Before 1976, tax returns were considered public record accessible by executive order. Concern over the possible misuse of return information by the Nixon administration prompted Congress to amend the Internal Revenue Code (JCT 2002). Section 6130 now insures that tax return information will be held confidential, but contains a number of exceptions to the general rule. Section 6130(d) allows information to be provided to state officials who are "charged ... with the administration of the tax laws." Federal disclosure of tax information to state taxing authority has withstood judicial challenge by taxpayers (Taylor v. U.S., 76 AFTR ¶9505510 (D.C. N. Iowa 1995)).

States use data provided by the federal authorities to identify taxpayers who fail to file state returns or who underreport state income. According to the Federation of Tax Administrators (FTA), "[t]he use of federal tax return information is the cornerstone of state income tax compliance and administration" (FTA 1999). In 1996, the FTA surveyed its member states about the value of the FedState data-sharing program. Those states who responded to the survey reported an annual average additional tax assessment of \$19,923,665 from information received through the information exchange program (FTA 1999, Attachment A).

State Tax Amnesty Programs

Since 1982, forty-one states and the District of Columbia have held tax amnesties (FTA 2005). Generally, taxpayers who file new or amended tax returns during the amnesty period will be free of tax penalties and criminal prosecution, but will be required to pay tax due plus interest. The FTA reports that states have collected an average of over \$55 million during each amnesty period, with revenue numbers growing. Connecticut held its first tax amnesty program in 1990, reporting \$54 million collected (FTA 2005). In its latest tax amnesty between September and December of 2002, Connecticut's goal was to collect \$24 million in back taxes. The program resulted in additional revenue of \$109 million (Gormley 2003). More states are turning to amnesties as a means of increasing state tax revenues in a time of economic recession. At least twenty-five states authorized a tax amnesty program effective sometime between January 1, 2002 and December 31, 2004 (Arizona, Arkansas, Colorado, Connecticut, Florida, Illinois, Kansas, Kentucky, Maine, Massachusetts, Michigan, Mississippi, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New York, North Dakota, Ohio, Oklahoma, South Carolina, Texas, Virginia, and West Virginia) (FTA 2005).

THEORETICAL MODEL AND PRIOR RESEARCH

Prior research on tax compliance has focused on developing a model for tax evasion by investigating the factors related to underreporting taxable income. This can only be examined when the taxpayers have filed and are "in the system". We instead develop a model of tax reporting, depicted graphically in Figure 1.¹ Citizens fall into two groups, those who file tax returns when required and those who do not. Some taxpayers in the nonfiler group may, for a number of reasons, wish they could become tax return filers. These reasons may include guilt for not meeting their obligations, a sense of social responsibility or

morality. They are, however, faced with barriers to joining the tax reporting group. Major barriers are the fear of fines accumulated over a number of years and the fear of prosecution.

[Insert Figure 1]

Tax compliance researchers have investigated the influence of the probability of detection and severity of penalties (Schwartz and Orleans 1967; Friedland 1982; Jackson and Jones 1985; Beck et al. 1992). The results of these studies have been mixed, with evidence indicating that these monitoring techniques are not an effective means of increasing tax compliance in the general population. Certain groups of taxpayers may react to increased probability of detection and severity of penalties more than others (Witte and Woodbury 1985).

Some people who fall into the nonfiler group may be misclassified. They may be generally compliant taxpayers who have not filed returns because they are genuinely ignorant of their responsibility to do so or their failure to do so in a specific instance. These nonfilers cannot be motivated by guilt and must receive some external stimulus to file tax returns. All that is necessary for these nonfilers to become tax return filers is to notify them, though such programs as FedState data-sharing, that they have failed to meet their obligations. Given the opportunity, they will come forward to file tax returns.

A tax amnesty program allows nonfilers to become filers and avoid the barriers of penalties and prosecution. Though research on taxpayers who do not file returns is hampered by data availability, researchers have investigated tax amnesties using aggregate state data focusing on the economic effects of amnesty programs (Mikesell 1986; Alm and Beck 1990).

These studies find that there are variations in the success of amnesty programs across states but that amnesties generally have a positive impact on compliance. Previous studies have also looked at tax amnesty programs in specific states, including Michigan (Christian et al. 2002; Young 1999; Crane and Nourzad 1992b; Young 1994), Colorado (Alm and Beck 1993), and California (Crane and Nourzad 1992a). These studies reveal that tax amnesties bring taxpayers into the tax system, but generally conclude that the long-term revenue impact is low (Alm and Beck 1993; Christian et al. 2002).

This research concentrates on the nonfilers, investigating the characteristics and motivations for taxpayers who apply for tax amnesty. We classify amnesty participants into three groups based upon their motivation for coming forward. Some taxpayers may be externally motivated to become tax filers due to enforcement actions, such as threats of penalty or exposure. Others may be motivated internally through feelings of guilt or morality. A third group may be motivated by a combination of internal and external stimuli. Figure 2 graphically depicts this model of amnesty participation, as further explained below.

[Insert Figure 2]

DATA COLLECTION

The 1997 Arkansas Tax Penalty Amnesty Program

The Arkansas State Legislature enacted a Tax Penalty Amnesty program in 1997. The amnesty program was available to taxpayers for three months from September 1 to November 20, 1997. Taxpayers that participated in the amnesty were forgiven penalties and criminal prosecution if the taxes and interest due were paid within twelve months of filing.

Amnesty was available for individual income taxes, corporate income taxes, sales and use taxes and employee withholding taxes. The DFA publicized the amnesty through mailings from its office (e.g. driver's license renewals, vehicle registration renewals) and through public service announcements in the media.

Data Sources

Our data, provided by the DFA and coded to insure taxpayer anonymity, comes from three sources: (1) the tax forms filed during the amnesty period, (2) the list of taxpayers who received letters from the DFA based on information from the FedState data-sharing program and (3) a survey of amnesty participants. These sources are described briefly below.

Amnesty Tax Forms

The tax forms filed by amnesty participants provided information about filing status, tax withholding, tax due and level of income. The number of tax returns filed during the amnesty was 11,379. Of these, twelve were amended returns which the DFA processed separately, leaving only nonfilers in the amnesty program and a total of 11,367 new Arkansas returns. The set of usable Arkansas returns totaled 10,934 after omitting 2 returns reporting extremely high income² as outliers and 431 returns with incomplete information.

FedState Data-sharing Letter Recipients

The state of Arkansas participates in the FedState data-sharing program. Under this program the IRS provides the DFA with a list of taxpayers who filed a federal income tax return listing an Arkansas address. The DFA matches this list of taxpayers with the state's records. Taxpayers who file federal returns from an Arkansas address but fail to file Arkansas tax returns are identified as possible nonfilers. These taxpayers are notified of their possible state income tax liability. In the month prior to the amnesty period, the DFA sent

approximately 65,000 letters to taxpayers included on the federal tax return lists who failed to file an Arkansas return for the years 1990 through 1995. The letter warned recipients that they should contact the State to avoid future enforcement action. The flyer describing the amnesty program was included in the mailing.

The DFA provided us with coded lists of taxpayers who received notification letters under the FedState data-sharing program. By comparing the list of taxpayers who received a data-sharing letter to the taxpayers who applied for amnesty, we identify those amnesty participants who received the external motivation of the FedState data-sharing letter. Any taxpayer who applied for amnesty without receiving a state letter must have come forward voluntarily. These taxpayers are identified as participating in the tax amnesty due to internal motivation. Of the 10,934 tax amnesty participants, 8,050 received a state notification letter, leaving a group of 2,084 voluntary participants.

Taxpayer Surveys

Taxpayers that wished to take part in the amnesty were required to send applications to the DFA stating their intentions. The DFA responded to the applications with a confirmation letter that included a survey prepared by the researchers. The survey solicited tax and demographic information from the respondents as well as their reasons for failure to file tax returns and for participating in the amnesty. Surveys were received in association with 3,448 amnesty returns for a response rate of approximately 32%. Of these 642 were incomplete, leaving 2,806 valid surveys.

RESEARCH VARIABLES

The data obtained from the sources described above are categorized into four broad categories: 1) tax-related variables, 2) demographic variables, 3) excuses for noncompliance and 4) reasons for amnesty participation. Each of the research variables and supporting prior research is described below.

Tax-related Variables

The income level and total tax due variables were collected directly from the amnesty tax returns. The connection between level of income and taxpayer compliance has long been of interest to tax authorities and researchers. However, the results from past research provide conflicting results about the direction of the relationship. Analytical models indicate that noncompliance varies directly with level of income when individuals exhibit decreasing relative risk aversion (Allingham and Sandmo 1972; Yizhaki 1974). Empirical evidence supports a both a direct relationship (Clotfelter 1983; Young 1994) and an inverse relationship (Alm et al. 1992; Wenzel 2002). Witte and Woodbury (1985) find that the relationship is non-linear as middle income taxpayers were more compliant than high or lower income taxpayers.

We collected two additional tax-related variables from the voluntary survey. First, respondents were asked to indicate the length of time they had known that they owed tax to the state government. Second, participants responded to a statement that they always file a federal return when it due. These variables have not previously been examined empirically.

Demographic Variables

Two demographic variables, age and education level, are gathered from the survey. The majority of research shows that older taxpayers tend to be more compliant (Mason and Calvin 1978; Witte and Woodbury 1985; Baldry 1987; Dubin and Wilde 1988; Feinstein

1991; Wenzel 2002). Clotfelter (1983) finds a different result by showing that middle age taxpayers were less compliant than those both older and younger. Prior work also reports conflicting evidence about the relationship between education and noncompliance. Witte and Woodbury (1985) and Beron et al. (1992) find that more educated taxpayers displayed greater noncompliance, but Dubin and Wilde (1988) report the opposite, that increased education was related to lower levels of noncompliance.

Other demographic variables are collected from the amnesty tax returns. The amount of withholding for each return is used to create the research variable, opportunity to evade. Opportunity to evade correlates with likelihood that the taxpayer is self-employed. Taxpayers that have relatively lower (higher) withholdings have higher (lower) opportunity to evade.³ Young (1994) found the opportunity to evade positively relates to unreported income in his study of the Michigan state tax amnesty. Similarly, Forest and Sheffrin (2002) find that opportunity to evade (measured by taxpayer self-employment) significantly predicts taxpayer intent to evade from survey responses.

The final variable collected from the amnesty returns is taxpayer marital/filing status. Although more than one option exists for married taxpayers in the state of Arkansas – married filing jointly, married filing separately and married filing separately on the same return – we categorize each return as having been filed by either a single or married taxpayer. Results from other studies show that single taxpayers have a higher level of noncompliance than married taxpayers (Clotfelter 1983; Young 1994)

Excuses for Noncompliance

Although substantial work exists identifying the tax factors that relate to noncompliance, researchers have recognized the need to include behavioral factors to better

understand the tax compliance decision. Erard and Feinstein (1994) agree that the standard models for tax compliance fall short because taxpayer motivations are excluded. Similarly, Andreioni et al. (1998) contend that economic models of compliance need to be expanded to include psychological, moral and social factors that affect compliance behavior.

While these factors have been investigated to some extent through laboratory experiments and opinion surveys, this study adds unique and valuable insight by evaluating motivational variables from a group of previously noncompliant taxpayers, amnesty participants. One group of questions answered by survey participants dealt with their original decisions not to comply with the state tax laws. In the first question of this group, respondents indicated whether lack of money was a reason for noncompliance.

The second question relates to the taxpayer's assessment of the fairness of the tax system as a reason for noncompliance. Recent work using survey data (Forest and Sheffrin 2002) shows that taxpayer perceptions of unfairness positively correlate to tax evasion. Experimental research by Alm et al. (1992) confirms this result as does the study by McEwen and Maiman (1986) using judgments in small claims court. However, other researchers (Porcano 1988; Yankelovich et al. 1984) find no relation between compliance behavior and perception of fairness.

The third variable dealing with initial noncompliance is whether the complexity of the tax system caused the respondents not to file and pay their taxes. Complexity is often blamed for taxpayer noncompliance, both intentional and unintentional. This study includes the measure to determine whether previously noncompliant taxpayers attribute their actions to complexity. The majority of prior research (Forest and Shefflin 2002; Slemrod 1989; Witte and Woodbury 1985; Westat 1980) has failed to establish a clear connection between

complexity and compliance, but instead finds that the relationship is confounded by other taxpayer characteristics such as perception of fairness, opportunity to evade and education.

Lastly, respondents were asked whether ignorance of their additional tax liability was the reason for noncompliance. The IRS (1994) acknowledges that a substantial amount of noncompliance is unintentional.

Reasons for Amnesty Participation

Four additional motivational variables are included that focus on the taxpayer's reasons for coming forward during the amnesty. The first variable addresses the possibility that the amnesty participation was motivated by friends and family. Grasmick and Bursik (1990) investigate the influence potential embarrassment of evasion in front of friends and family but fail to find any direct relationship with intent to comply.

Second, respondents are asked whether fear of being caught motivated their participation in the amnesty. Mason and Calvin (1984) show that fear of public disclosure is a powerful predictor of compliance. In addition, McEwen and Maiman (1986) use judgments of small claims court cases to support the fact that fear motivates compliance.

The third question deals with morality as a motivator to become compliant. A number of other studies (Mason and Calvin 1984; Erard and Feinstein 1994; Gordon 1989) investigate the effect of a taxpayer's morality on his decision to comply. Generally, morality positively affects compliance, but the relationship depends on other intervening variables such as perception of fairness and tax rate.

Lastly, respondents were asked whether avoidance of penalties motivated them to file for amnesty. Authorities adjust penalty rates as deterrence to tax evasion. Analytical work by Allingham and Sandmo (1972) and Yitzhaki (1974) suggests that increasing penalties

increases compliance. Because amnesty participants face higher penalties if detected later, this could be an encouragement to comply through the amnesty.

The data from the sources described above were matched and coded to maintain taxpayer confidentiality. The measurement of the variables is summarized in Table 1.

[Insert Table 1 about here.]

RESEARCH METHODS

Partitioning the Sample

Information from the voluntary survey is combined with the list of FedState data-sharing letter recipients to identify which motivation influenced amnesty participants to come forward. The first group is made up of participants that were internally motivated to participate in the amnesty. They did not receive a letter from the DFA. This group, about 20% of the sample, was captured solely by public announcements about the program and personal desire to take part.

In the second group we identify taxpayers that were motivated by the external stimulus created through the DFA letter and data-sharing program. This group is classified based upon the response to the survey questions dealing with ignorance as the reason for original noncompliance and the length of time they knew taxes were due. Individuals who responded positively (agree or strongly agree) that ignorance was the reason for their original noncompliance and that they knew taxes were due for less than a year comprise this group. These amnesty participants were unaware of their tax delinquency and would not have come forward except for the letter. They would not have responded to other public service announcements or brochures because they had no means of knowing that they were not in

good standing with the DFA. This group of taxpayers, about 25% of the sample, is labeled as externally motivated by the enforcement initiative using FedState information-exchange program.

The third group consists of participants that received a data-sharing letter but answered that their nonfiling status was not due to ignorance (neutral, disagree or strongly disagree). This group was stimulated to participate in the amnesty by both the data-sharing program and their own awareness of noncompliance. It is not certain that they would not have responded to other announcements about the amnesty program, but we assume that receiving a personal letter from the DFA contributed to their decision to take part in the amnesty. This group is characterized as having a mixed motivation, both internal and external, for amnesty involvement.

Analysis

Means for tax-related, demographic and behavioral variables are compared among the three groups of amnesty participants – external motivation, internal motivation and mixed motivation.

Multinomial logistic regression is further used to compare the three groups using all of the research variables together. This technique is appropriate for analyzing data with a categorical dependent variable with more than two categories. The dependent variable is the grouping of the amnesty participants by motivation – external, mixed, internal. The tax-related, demographic and behavioral variables from the univariate tests are used as independent variables with the exclusion of the sorting variables – ignorance and time known taxes were due. The multinomial logistic regression makes pair-wise comparisons among the

three categories but is more efficient than estimating three separate binary logistic regression equations.

For the multivariate analysis, the income and tax due variables are ranked and divided into quintiles. This makes the interpretation of the coefficients and corresponding odds ratios more reasonable since a one-unit increase in the level of income (or tax due) relates to the next quintile instead of simply an additional dollar. Quintiles were selected because of the 5-point scale used for many other independent variables.

RESULTS

Amnesty Population

Table 2 gives information about the population of amnesty filers. Eighty-one percent of the population of filers did receive a letter from the DFA. This alone suggests that data-sharing improves the response to an amnesty. However, it is also interesting to see that the letter generated by data sharing brought in a high proportion of taxpayers that were due a refund from the state. Although the policy initiatives were successful in bringing these participants into the system, the effectiveness at raising immediate funds may be limited by the number of refunds paid.

[Insert Table 2 about here.]

Univariate Results for Survey Respondents

The results of the mean comparisons among the three groups of amnesty participants are shown in Table 3.⁴ The mean comparisons of the tax-related, demographic and behavioral variables allow us to form a general description of each of the categories.

The univariate analysis reveals a difference across groups in all of the tax-related variables with the exception of tax and refund due. Even though there is no difference in tax due, there is a difference in total income reported. Those who were internally motivated reported a lower income than the other two groups. The only demographic variable with a difference across the groups is marital status. The internally motivated participants are also more likely to be single than the external or mixed motivation groups. Marital status may explain why these taxpayers report lower income, but report the same tax due.

Taxpayers captured with mixed or internal motivation admitted that they knew taxes were due longer than those receiving only external motivation (sorting variable). These results are consistent with the fact that these taxpayers learned of their delinquent status through the DFA mailing because they were ignorant of their delinquent tax status. The final tax-related variable, file a federal return when required, shows a significant difference among all three categories. The externally motivated amnesty participants report that they file a federal return, followed by the mixed motivation group, while the internally motivated participants file a federal return least often. This confirms expectations for this measure since the internally motivated group did not receive a letter. The only way to receive a letter was through the FedState data-matching program. The internally motivated group represents nonfilers of both state and federal returns.

No differences were noted for the age, education level or likelihood of self-employment among the groups.

When comparing the excuses for original noncompliance, the externally motivated group is significantly different from the other groups on every motivating factor. This group, on average, cites only ignorance (the sorting variable) as a reason for failure to originally file

tax returns. This confirms that the data-sharing program is successful in bringing taxpayers that could be characterized as unintentional evaders into the tax system. Lack of money is the only excuse used, on average, by the other two groups, with those having mixed motivation to participate in the amnesty agreeing most strongly that lack of money was the reason for their original noncompliance.

All groups are equally likely to give a sense of morality as a reason for coming forward during the amnesty period. Taxpayers in the external motivation group report lower scores on all other reasons for participating in the amnesty – family and friends, avoidance of penalties and fear of being caught. Avoidance of penalties was the strongest motivator for the group with mixed motivation.

Generally, we find that externally motivated amnesty participants are higher income taxpayers who are generally compliant but became noncompliant due to ignorance. These amnesty participants generally do not give other excuses for their failure to pay tax or for their decision to come forward. The group prompted both externally and internally also has a higher level of income. These taxpayers generally cite lack of money as the reason they failed to pay tax when due. These taxpayers had prior knowledge that they might owe tax and participated in the amnesty after receiving notice from the state. They may have been relieved to have an amnesty to clear their record. Taxpayers who participated completely from internal motivation resemble the mixed motivation group. The primary exceptions are that this group earns lower income and tends to be single. This group is also least likely to file a federal return when due, which would explain why they would not receive notification under the data-sharing program.

[Insert Table 3 about here]

Multivariate Results for Survey Respondents

The maximum likelihood estimates for the multinomial logistic regression⁵ are shown in Table 4. Each of the two-way comparisons among the three groups is shown. The coefficients are reported along with the corresponding odds ratio for each of the variables.

The tax-related variables in the model include tax due, income level and the filing of a federal return when required. The results show that income level and filing a federal return are both significant in distinguishing among the three categories of amnesty participants. The results for income in the second and third equations show that as income increases, the participants have much higher odds of being in the mixed or external motivation groups than in the internal motivation group. Although income is significant in the first equation comparing external to mixed, the odds of being in the mixed motivation group are only ten percent higher with an increase in income quintile. For each unit increase in the variable for filing a federal return, subjects have greater odds of being in either the mixed or external motivation groups than the internally motivated group. In addition, increases in filing a federal return are associated with greater odds of being in the external group than in the mixed motivation group. These results confirm the univariate results shown in Table 3 for both tax-related variables. The external motivation group can be characterized as taxpayers generally compliant with higher income while the mixed motivation group is less compliant with still relatively high income and the internal group the least compliant of all and the lowest income.

The multivariate analysis adds new insight when comparing the three groups along the demographic variables. Although education and opportunity to evade were not different when considered in isolation, both of these variables distinguish the groups in this model. As

participants increase in education level, they have greater odds of being in the internally motivated group than in either the mixed or external motivation groups (equations 2 and 3); further increases in education are associated with greater odds of being in the mixed group than in the external group. Combining these results with those on the tax-related variables, it is interesting to note that the odds of being in the internally motivated group increase with education but decrease with income. The variable for self-employed/opportunity to evade has a significant coefficient in equations 1 and 2. Increases in the opportunity to evade variable translate to greater odds of being in the external group compared to the mixed group and the internal group. When considered in conjunction with the other independent variables, marital status does not significantly relate to the odds of falling into the three categories.

For the behavioral variables, the multinomial logistic regression corroborates the findings for the lack of money variable. The results for equations 1 and 3 indicate that increases in lack of money produce greater odds of being in either the mixed or internal motivation groups in lieu of the external group. Further, equation 2 shows that as the level of agreement that lack of money is the reason for nonfiling increases, the odds of being in the mixed group exceed those of the being in the internal group. Complexity of the tax system is an important predictor only in equation 1 showing that subjects agreeing that complexity was the reason for nonfiling have are more likely to be in the external motivation group than the mixed group.

For the behavioral reasons to participate in the amnesty, the multivariate analysis generally substantiates the univariate findings for family and friends. Increases in the family and friends variable relate to greater odds of being in the mixed and external motivation

groups compared to the internally motivated group. In contrast, increases in the morality variable associate with higher odds of being in the internally motivated group versus the other two groups. Hence, the internal group appears to be motivated to come forward more than the other groups to by morality, but not friends and family. The final reason for coming forward, fear of being caught, is significant in equations 1 and 3. As participants increasingly cite fear as a reason for amnesty participation, they have greater odds of falling into the mixed or internal groups instead of the externally motivated group. As might be expected, the externally motivated group was not concerned about being caught since they were unaware of their failure to file. Although avoidance of penalties had been different in the univariate comparison, the multinomial logistic regression shows no difference between the groups on this dimension.

The multivariate analysis reinforces many of the conclusions from the univariate analysis and emphasizes the importance of the demographic and behavioral variables in distinguishing among the groups. Lower income individuals are over twice as likely to fall into the internally motivated category as either of the other two groups. As expected, the generally compliant (external) group is twice as likely to report regularly filing a federal return as the internal group and 66% more likely than the mixed group. The mixed and internally motivated groups are more likely than the externally motivated group to cite lack of money as the reason for their original failure to file. Fear of being caught is less likely to be a motivating factor in becoming compliant for the external group.

[Insert Table 4 about here]

LIMITATIONS

The limitations inherent in survey research apply to this study. Since not all amnesty participants completed a survey, selection bias is a possibility. Selection bias was tested by comparing the tax-return variables for participants that completed a survey to those that did not. No significant differences were detected between the groups for level of income, tax due or filing status.

The completion of the survey was performed in an uncontrolled environment. Each of the variables is self-reported and it is not feasible to verify the responses. The conclusions from this study with respect to the survey variables are subject to these limitations. Note, however, that information about the DFA letter mailings and tax-return data were objectively obtained.

CONCLUSIONS

This study contributes to the tax compliance literature by evaluating a subset of noncompliant taxpayers, nonfilers who participate in an amnesty program. The analysis is based upon a unique data set drawn from tax returns, taxpayer surveys and FedState data-sharing lists. We classify nonfilers by their motivation to participate in the amnesty program – external motivation (receipt of a notice from the state questioning their nonfiler status), internal motivation (seemingly voluntary participation in the program), or mixed motivation. Our examination includes tax-related variables, such as income and tax due, and demographic variables, such as marital status, age and education. We further investigate behavioral variables drawn from surveys which identify taxpayer excuses for their failure to file taxes when due and their reasons for participating in the amnesty. Our analysis reveals that there are significant differences across nonfiler groups.

We show that both enforcement measures and outreach programs may be effective means of capturing nonfilers since these methods draw different types of taxpayers. Across all groups, amnesties bring forward taxpayers who wish to avoid penalties and who feel that they have a moral obligation to pay taxes. Tax amnesties alone can lure the intentional, but repentant, nonfilers into the system. However, these who responded to the tax amnesty without receiving DFA notification through the FedState data-sharing were the lower income individuals. Letters generated through the data-sharing program increased amnesty participation by self-employed individuals and those with higher income. As income increased in our sample, participants were more than twice as likely to have received a notification letter than not. Therefore, tax amnesties alone may not target the taxpayers that tax authorities would most like to draw into the system.

The FedState data-sharing program is effective in reaching intentional nonfilers as well as those who may be unaware of their noncompliant status. Recently announced plans to expand data-sharing efforts are to be encouraged (Kenney 2004). However, only a small fraction of taxpayers receiving letters under the data-sharing program participated in the amnesty. It would be interesting to know whether these taxpayers do indeed owe Arkansas tax and if so, their motivation for continuing to evade their state tax liability.

Our research shows that the taxpayer behaviors that cause the tax gap may not be independent. The reason people give for knowingly not filing tax returns is the inability to pay the tax at the time. Nonfiling is linked to underpayment. This suggests other policy initiatives that might increase tax filing and tax receipts. Instituting and publicizing more lenient tax payment programs could encourage taxpayers who owe tax and are aware of their

obligation to file the required return. Many taxpayers may not know that installment or late payment options exist.

We found that many taxpayers who regularly file federal returns are unaware of their state tax liability. Unsolicited comments from survey participants indicate reasons why taxpayers might be federally compliant, but fail to file state returns (Ritsema et. al 2003). Some taxpayers have moved from a state without an income tax. Others place a priority on completing their federal return and just forget about their state tax return.⁶ To become state tax compliant, these taxpayers need only be reminded of their obligation to file a state return. Perhaps the federal authorities could cooperate with the states by including a short reminder on federal forms or on the IRS website that the taxpayer may have also need to file a state tax return. The IRS website already includes a page that lists the states that do not have a state income tax return, but this list is buried in the instructions for electronic filing of state tax returns in conjunction with federal e-filing (IRS 2005). A more prominent reminder with reference to this list might bring these inadvertent state tax nonfilers into the state tax systems.

Our research also emphasizes that taxpayers are different. The groups of taxpayers differed on their reasons for failure to file returns and for coming forward during the amnesty. Those taxpayers who are generally compliant are less likely than the internally other groups to be report fear of being caught as a reason for coming forward. Taxpayers who came forward on their own are more likely to report a sense of morality as a motivating factor and are not as likely to be influenced by family and friends. There is not one profile of a typical nonfiler who participated in the amnesty program. These differences should be considered both by tax authorities and in future tax compliance research.

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Figure 1
Model of Tax Reporting

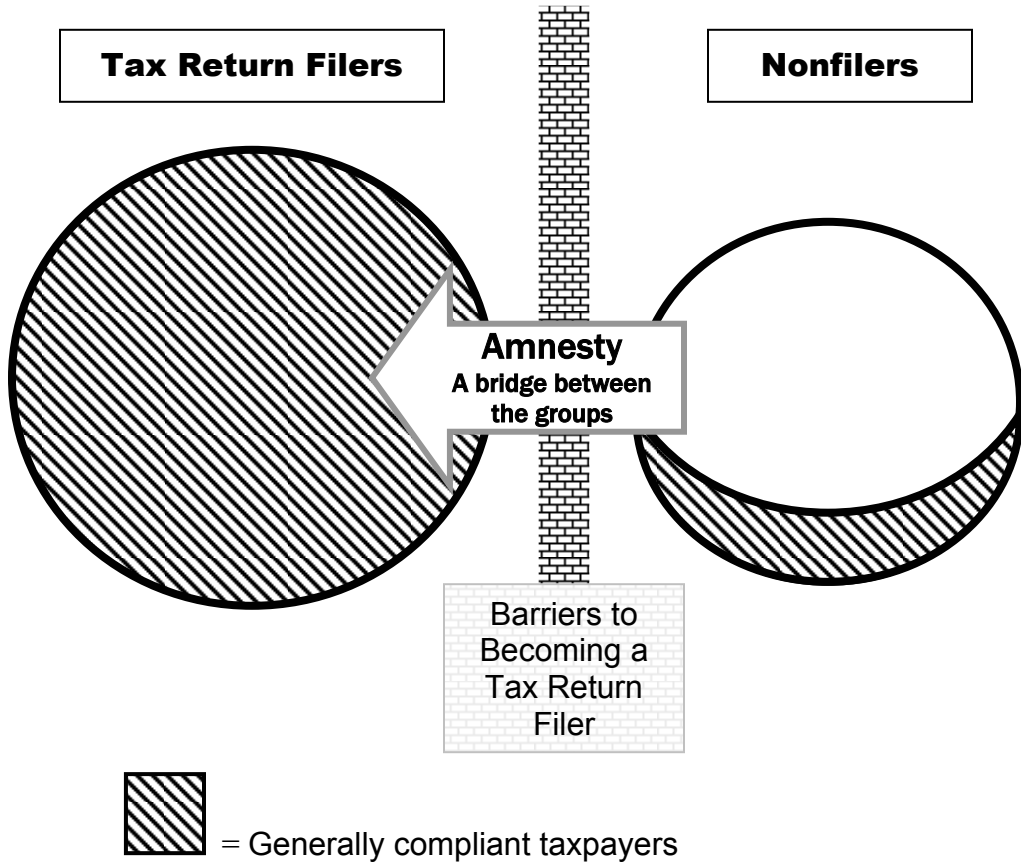


Figure 2
Model of Amnesty Participation Identifying Nonfiler Groups

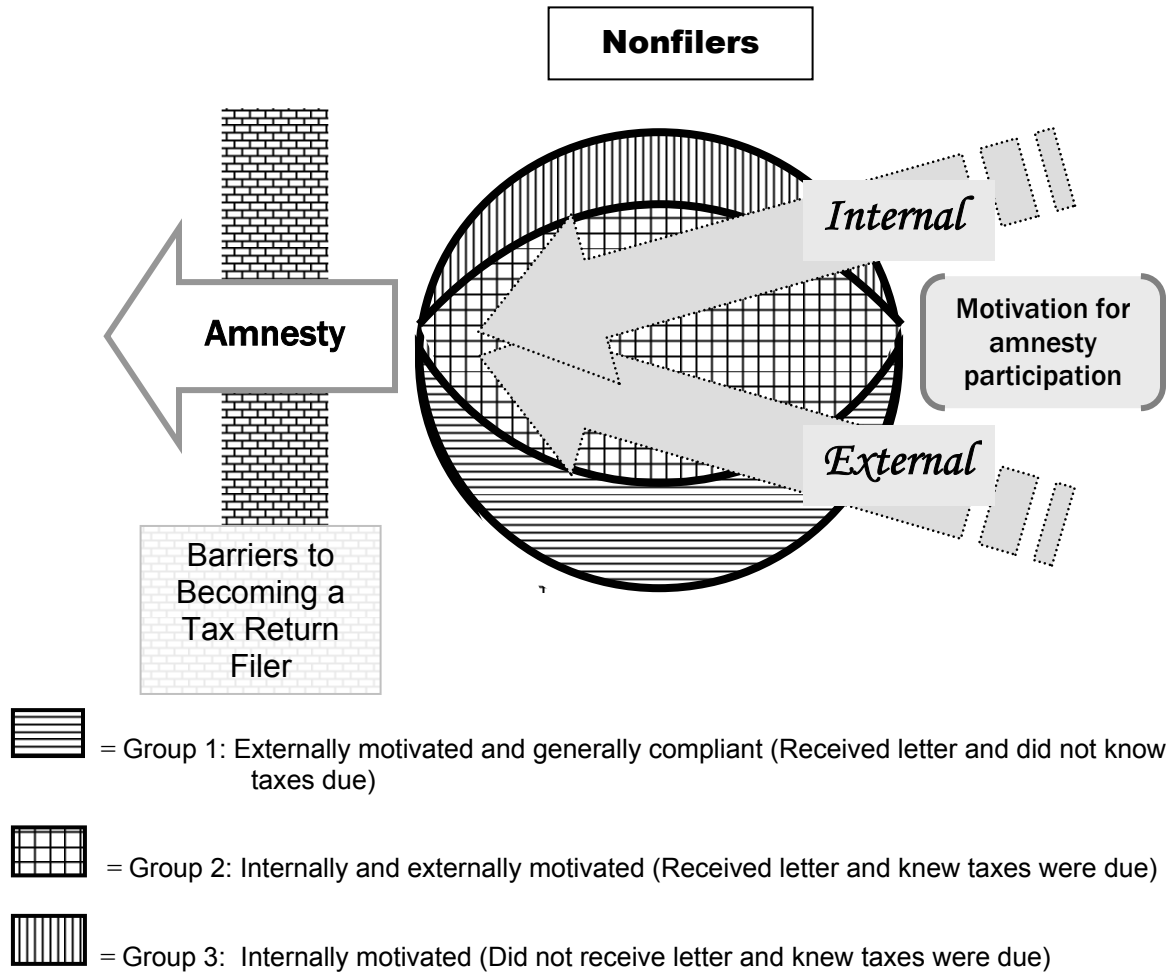


TABLE 1
Measurement of Research Variables

<u>Tax-related variables</u>	
<i>Tax due</i> =	tax liability reported on amnesty return.
<i>Total Arkansas income</i> =	gross income reported on amnesty return.
<i>File a federal return when required</i> =	reported score on a scale of -2 (strongly disagree) to 2 (strongly agree)
<i>Length of time known taxes due</i> =	1, if less than a year 2, if between 1 and 5 years 3, if between 6 and 10 years 4, if more than 10 years
<u>Demographic variables</u>	
<i>Age</i> =	1, if age is less than 30 years 2, if age is between 31 and 40 years 3, if age is between 41 and 50 years 4, if age is between 51 and 60 years 5, if age is over 60 years
<i>Education</i> =	1, less than high school education 2, completion of high school 3, some college courses taken 4, completion of undergraduate degree 5, completion of graduate degree
<i>Self-employed/Opportunity to evade</i> =	$1 - [(\text{withholdings} + \text{prepayments}) / \text{total Arkansas tax liability}]$
<i>Marital/Filing status</i> =	1, if single 0, if married
<u>Excuses for noncompliance</u>	
<i>Lack of money</i> =	reported score on a scale of -2 (strongly disagree) to 2 (strongly agree)
<i>Unfairness of tax system</i> =	reported score on a scale of -2 (strongly disagree) to 2 (strongly agree)
<i>Complexity of tax system</i> =	reported score on a scale of -2 (strongly disagree) to 2 (strongly agree)
<i>Ignorance of tax due</i> =	reported score on a scale of -2 (strongly disagree) to 2 (strongly agree)
<u>Reasons for amnesty participation</u>	
<i>Family and friends</i> =	reported score on a scale of -2 (strongly disagree) to 2 (strongly agree)
<i>Fear of being caught</i> =	reported score on a scale of -2 (strongly disagree) to 2 (strongly agree)
<i>Morality</i> =	reported score on a scale of -2 (strongly disagree) to 2 (strongly agree)
<i>Avoidance of penalties</i> =	reported score on a scale of -2 (strongly disagree) to 2 (strongly agree)

TABLE 2
Summary Information for Population of Returns Filed in Amnesty

	Received Federal Matching Letter	Did Not Receive Federal Matching Letter	Total
<i>Number of usable returns filed from taxpayers¹</i>	8,850 (81%)	2,084 (19%)	10,934 (100%)
<i>Filing Status</i>	Single = 2,678 (30%) Married = 6,172 (70%)	Single = 999 (48%) Married = 1,085 (52%)	Single = 3,677 (34%) Married = 7,257 (66%)
<i>Number of returns due a refund or owe no tax</i>	2,367 (75%)	775 (25%)	3,142 (100%)
<i>Number of returns with tax due</i>	6,483 (83%)	1,309 (17%)	7,792 (100%)

¹ A total of 11,367 individual income tax returns were filed during the amnesty. Certain observations were excluded because they had negative income, missing data or were determined to be outliers.

TABLE 3
Summary of Univariate Results
Comparison of means significant at .05 level shown in bold italics.

		External Motivation to Participate in Amnesty (Received a FedState Letter and did not know taxes were due)	Mixed Motivation to Participate in Amnesty (Received a FedState letter and knew taxes were due)	Internal Motivation to Participate in Amnesty (Did not receive a FedState letter)	Total
		n=683	n=1,574	n=549	n=2806
<i>Tax-related Variables:</i>					
Tax due ²	<i>mean</i>	\$559	\$507	\$532	\$525
	<i>(std. dev.)</i>	(1,527)	(724)	(2,126)	(1298)
	<i>median</i>	213	254	169	230
		n=542	n=1173	n=360	n=2075
Refund due		\$62 (150) 0 n=141	\$64 (143) 0 n=401	\$106 (622) 0 n=189	\$74 (340) 0 n=731
Income		<i>\$38,808^a</i> <i>(38,311)</i> <i>31,875</i>	<i>\$37,120^a</i> <i>(18,196)</i> <i>32,674</i>	<i>\$25,804^b</i> <i>(36435)</i> <i>20,254</i>	\$35,317 (28,712) 30,797
Time known taxes were due		<i>1.00^a</i> <i>(n/a)</i>	<i>1.90^b</i> <i>(.641)</i>	<i>1.88^b</i> <i>(.737)</i>	1.67 (.694)
File a Federal return when required		<i>1.81^a</i> <i>(.531)</i>	<i>1.38^b</i> <i>(.955)</i>	<i>1.13^c</i> <i>(1.27)</i>	1.44 (.973)
<i>Demographic Variables:</i>					
Age		4.01 (1.25)	3.91 (1.08)	3.86 (1.19)	3.93 (1.14)
Education		3.08 (1.17)	3.07 (1.15)	3.19 (1.05)	3.09 (1.13)
Self-employed / Opportunity to evade		.382 (.604) .183	.272 (.397) .125	.167 (3.91) .147	.278 (1.78) .138
Marital / Filing status		<i>Single=31%^a</i> <i>Married=69%</i>	<i>Single=33%^a</i> <i>Married=67%</i>	<i>Single=48%^b</i> <i>Married=52%</i>	Single = 36% Married = 64%
<i>Excuses for Noncompliance:</i>					
Lack of money		<i>-1.22^a</i> <i>(1.16)</i>	<i>.509^b</i> <i>(1.57)</i>	<i>.102^c</i> <i>(1.61)</i>	.008 (1.65)
Complexity of tax code		<i>-.956^a</i> <i>(1.19)</i>	<i>-.668^b</i> <i>(1.16)</i>	<i>-.605^b</i> <i>(1.21)</i>	-.726 (1.18)
Unfairness of tax system		<i>-1.26^a</i> <i>(0.97)</i>	<i>-.774^b</i> <i>(1.14)</i>	<i>-.712^b</i> <i>(1.15)</i>	-.881 (1.12)
Ignorance of tax due		<i>1.76^a</i> <i>(.426)</i>	<i>-.865^b</i> <i>(1.10)</i>	<i>-.302^c</i> <i>(1.54)</i>	-.115 (1.54)
<i>Reasons for Participating in Amnesty:</i>					
Family and Friends		<i>-1.00^a</i> <i>(1.22)</i>	<i>-.795^b</i> <i>(1.26)</i>	<i>-.938^{a,b}</i> <i>(1.24)</i>	-.874 (1.25)
Avoidance of Penalties		<i>.836^a</i> <i>(1.42)</i>	<i>1.22^b</i> <i>(1.11)</i>	<i>1.03^c</i> <i>(1.31)</i>	1.09 (1.24)
Morality		1.03 (1.20)	1.04 (1.13)	1.08 (1.11)	1.05 (1.14)
Fear of Being Caught		<i>-.984^a</i> <i>(1.16)</i>	<i>-.139^b</i> <i>(1.35)</i>	<i>-.270^b</i> <i>(1.44)</i>	-.370 (1.37)

² The sample is divided by whether the taxpayer owed taxes or was due a refund before computing the means.

Variables with significant differences are in bold, italics with superscript letters. Different letters indicate a difference in mean; similar letters indicate no difference.

TABLE 4
Multinomial Logistic Regression Comparing Three Groups of Nonfilers
n=2,806

	<i>Equation 1</i> External Motivation (1) vs. Mixed Motivation (0)	<i>Equation 2</i> Mixed Motivation (1) vs. Internal Motivation (0)	<i>Equation 3</i> External Motivation (1) vs. Internal Motivation (0)
<i>Parameter estimate</i>			
<i>Corresponding odds ratio</i>			
<i>Estimated probability</i>			
Intercept	-1.41*** .25	-1.26*** .28	-2.67*** .07
<i>Tax-related Variables:</i>			
Tax due – Quintiles	.051 1.05	-.042 .96	.009 1.01
Income – Quintiles	-.108** .90	.835*** 2.31	.728*** 2.07
File a federal return	.509*** 1.66	.303*** 1.35	.812*** 2.25
<i>Demographic Variables:</i>			
Age	-.034 .97	.066 1.07	.032 1.03
Education	-.117** .89	-.126** .88	-.243*** .78
Self-employed/Opportunity to Evade	.548*** 1.73	.007 1.01	.555*** 1.74
Marital/filing status	-.159 .853	.047 1.05	-.112 .89
<i>Excuses for Noncompliance:</i>			
Lack of money	-.760*** .47	.222*** 1.25	-.539*** .58
Complexity of tax system	.181*** 1.20	-.086 .92	.095 1.10
Unfairness of tax system	-.008 .99	-.092 .91	-.100 .90
<i>Reasons for Participation in Amnesty:</i>			
Family and friends	.048 1.05	.126*** 1.13	.174*** 1.19
Avoidance of penalties	.007 1.01	.067 1.07	.075 1.08
Morality	.010 1.01	-.124** .88	-.114* .89
Fear of being caught	-.261*** .77	.064 1.07	-.197*** .82

NOTES

¹ Prior compliance research relevant to variable selection is discussed in the Research Variables section of the paper.

² Both had income in excess of ten million dollars.

³ The computation of self-employed/opportunity to evade variable uses total tax liability in the denominator. The sample included 70 observations which reported zero total tax liability. Because the variable could not be computed, a value of zero is assigned for self-employed/opportunity to evade for these observations.

⁴ Tests for differences in the means among the three groups were performed using a significance level of .05, adjusted for multiple comparisons.

⁵ The p-value for the chi-square statistic for the likelihood ratio is .99 indicating that the null hypothesis that the model fits the data cannot be rejected.

⁶ See, Ritsema, et al. 2003 for a summary of the written comments of survey participants. Other excuses for failure to file the state return include personal hardship, divorce, neglect, procrastination, lack of education, or error by a return preparer. Reasons unique to Arkansas include confusion over the border-city exemption and a later filing date for state tax returns. Arkansas has since changed its May 15 due date for individual income tax returns to April 15, corresponding with the better known federal deadline (Ark. Act 774 of 2003).