Reconsidering the Deterrence Paradigm of Tax Compliance[1]

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An extensive literature on the determinants of tax compliance began nearly forty years ago with the theoretical treatments of Allingham and Sandmo (1972) and Yitzhaki (1974). These theories represent applications of the Becker (1968) economic theory of crime in which a rational, expected-utility-maximizing agent chooses how much income to self-report to the government by comparing his consumption when noncompliance is or is not detected. The theory has been dubbed the "deterrence" paradigm as it assumes that taxpayers inherently wish to pay no tax liability and are "deterred" from doing so solely by the risk of audit, detection, and penalty. The model's stylized taxpayer is essentially identical to a gambler who chooses how much to wager based on the odds and payouts of the noncompliance bet.

While the IRS estimated a sizeable $345 billion tax gap for tax year 2001 ($197 billion for individual income tax, see IRS (2007)), one might predict a much greater amount under the classical deterrence theory. Therefore, while the deterrence paradigm represented economists' initial attempt towards understanding compliance, it has fallen out of favor in recent decades. According to Slemrod (2007), "the dismissive argument goes as follows: given the average probability of audit…, the penalties typically assessed for noncompliance…, and what we know about the degree of risk aversion from other contexts, noncompliance should be much, much higher than it apparently is."[2] In other words, the odds and payoffs of the gamble appear so favorable that optimal risk-taking motivations do not appear sufficient to explain observed noncompliance. More assertively, Kirchler *et al*. (2010) states "though the [deterrence theory] provides useful tools for tax policy … empirical evidence for its validity is rather weak."

Given these observations, Alm *et al.* (2010) summarizes that "the puzzle of tax compliance behavior may be why people pay taxes, not why they evade them." To solve this puzzle, economists have offered up many alternative explanations. These alternatives have been broadly categorized as belonging to the "behavioral" paradigm, a catch-all categorization of all other factors that involve "more than amoral cost-benefit calculation." (Slemrod (2007)) Such factors include (but are not limited to) guilt, adherence to social norms, or overestimation of actual audit and penalty rates.

In the paper, I offer an alternative explanation for the relatively low observed levels of noncompliance. However, the current explanation falls within the context of the deterrence paradigm, expanding the classical theory to more realistically model the audit and detection regime that taxpayers face. In particular, I account for the fact that taxpayers do not face a constant likelihood of audit and noncompliance detection; instead, the probability of audit and detection depends on the taxpayer's noncompliance itself.

First, different types of income have different degrees of inherent noncompliance detectability. In particular, I distinguish between "matched" and "unmatched" income, "matched" being income that has been reported to the IRS by a third-party and "unmatched" being that which has not. Any misreporting of matched income leads to a significantly higher probability of detection relative to a correct report of matched income. Misreporting of unmatched income may instead carry a relatively small probability of detection. Second, even if a taxpayer misreports only unmatched income, greater amounts of underreporting increase the likelihood of audit and detection. This arises from the fact that audits are targeted towards those taxpayers who are most likely to have been noncompliant and have the greatest expected amount of noncompliance. Furthermore, increases in underreporting require that taxpayers transition from underreporting income that is relatively undetectable during an audit towards income that is more readily detectable. In Section 2, I discuss in more detail the mechanisms under which audit and detection rates depend on the taxpayer's noncompliance itself.

These realistic features of the examination environment imply that the probability of audit and detection is increasing with respect to the amount that a taxpayer underreports his true tax liability. This in turn implies that taxpayers have some ability to affect the likelihood of detection via their noncompliance behavior; therefore, the stylized taxpayer of the deterrence paradigm has an additional incentive for compliance, even in the presence of low audit and penalty rates. Even though the "gamble" has generous payoffs and odds, the taxpayer may strategically gamble less in order to lessen the suspiciousness of his reported return and in turn tilt the odds in his favor. In Section 3, I discuss how the predictions of the deterrence paradigm change when properly accounting for an environment of targeted audits and endogenous detection rates. In net, the empirical evidence is much stronger in support of this expanded version of the classical deterrence theory, in which case the lessons, motivations, and policy prescriptions of the deterrence paradigm warrant greater authority.

Targeted Audits and Endogenous Detection

Implicit in the criticism of the classical model is an assumption that audit probabilities are constant and exogenous. However, this assumption corresponds to a tax agency audit strategy that consists merely of drawing taxpayers' names out of a hat, with each taxpayer facing the same likelihood of audit independent of his self-reported tax filings or any other characteristics that the tax agency observes. This assumption is unrealistic as the IRS (and other tax agencies around the world) devotes significant efforts towards developing algorithms that successfully target audits towards those taxpayers who are most likely to have underreported liability and to have underreported by the greatest expected amounts.

One straightforward way in which audit probabilities depend on the taxpayer's noncompliance itself relies on the distinction between matched and unmatched income. While misreporting of unmatched income may yield a relatively low probability of audit, the same cannot be said for misreporting of matched income. In the U.S., the IRS's Document Matching Program (or Automated Underreporter Program) uses computer automation to find discrepancies between an individual's reported return and information it has received from third-parties. All returns undergo this document matching, and even when a mismatch is detected and pursued, it is usually cheaper than an in-person audit. Therefore taxpayers face a discrete, large increase in detection probability when matched income underreporting goes from \$0 (i.e. the taxpayer correctly reports matched income) to some strictly positive amount.

Even if the taxpayer correctly reports matched income, greater amounts of unmatched income underreporting also increase the likelihood of audit. This results from the fact that the tax agency observes several variables upon which it can base its targeted audit strategy. The IRS employs both the Discriminant Function (DIF) score that "rates the potential for change, based on past IRS experience with similar returns" as well as the Unreported Income DIF (UIDIF) score that "rates the return for the potential of unreported income." (See IRS press release FS-2006-10.) The IRS is unsurprisingly secretive regarding the inputs and internal mechanism of the DIF and UIDIF scoring, but one can imagine reasonable and intuitive examples of how these procedures might work. For instance, consider a taxpayer who earns \$5,000 in third-party-reported interest income and \$95,000 in unmatched sole proprietor income, for a total income of \$100,000. The taxpayer in turn debates whether to report the full \$95,000 of sole proprietor income, or perhaps only \$45,000 of it. If prior audits have shown the tax agency that interest income typically accounts for 5% of a taxpayer's true total income, the report of \$45,000 may appear more suspicious and face a higher probability of audit than the report of \$95,000.

In this example, the probability of audit depends directly on the taxpayer's self-reported income, as this amount is *ex ante* observable to the IRS. The expectation is that the probability of audit is decreasing in a taxpayer's self-reported income, but this in turn means that the probability of audit is increasing in the amount of underreporting (holding constant the taxpayer's true income).[3] In addition to the taxpayer's self-reported income, the tax agency has access to many other observable characteristics upon which it can base its targeting. It also seems likely that more egregious noncompliance is more likely to lead to mistakes and inconsistencies across the tax return, further increasing suspicion. In sum then, there are several reasons to expect that the probability of audit is generally increasing in the amount of underreporting.

Furthermore, the probability of detection during an audit is also likely to be increasing in the amount of the underreporting. For instance, a taxpayer might start underreporting income paid in cash, with a minimal

corresponding "paper trail," and eventually transition to underreporting income paid by credit card, for which a well-documented "paper trail" exists. Furthermore, if higher levels of underreporting lead to increased suspicion on the part of the tax agency, it may in turn conduct its audit with increased intensity and ultimately detect a greater portion of the noncompliance.

Some evidence of the IRS's ability to effectively target noncompliant returns is given by the fact that 63% of a weighted random sample of taxpayers were found to have correctly reported Form 1040 Total Income (see Phillips (2011)[4]), while the no-change rate among the IRS's targeted operational audits was only 19% (see IRS (2002)). However, it is certainly not the case that any tax agency can perfectly identify, target, and detect even the most egregious instances of underreporting. Instead, the claim is simply that more egregious noncompliance is relatively more likely to result in audit and detection compared to less egregious noncompliance. Even if significant underreporting results in a relatively low audit and detection probability *level*, a strategic incentive for partial compliance remains intact so long as additional compliance results in a *relatively* lower probability.

What Does the Expanded Deterrence Theory Predict?

Properly accounting for targeted audits and endogenous detection rates, the predictions of the deterrence theory differ significantly from when a constant, exogenous probability is assumed. First, the high probability of detection associated with matched income misreporting results in a prediction that taxpayers correctly report matched income. This prediction is consistent even with aggregate data. For instance, IRS (2007) estimates only a 1.2% Net Misreporting Percentage (NMP) for wages, salaries, and tips, 4.5% NMP for income line items subject to substantial information reporting (interest income, dividend income, state income tax refunds, pensions and annuities, unemployment compensation, and Social Security benefits), and 8.6% NMP for income line items subject to some information reporting (partnership income, S-Corp income, estate and trust income, alimony income, capital gains, deductions, and exemptions).[5,6]

Since the deterrence paradigm's predictions regarding matched income are well aligned with observed compliance, we must instead look to unmatched income for evidence that contradicts the theory. IRS (2007) estimates a 53.9% NMP of income items subject to little or no information reporting (Form 4797 income, other income, nonfarm proprietor income, farm income, rents and royalties, and total statutory adjustments). While 53.9% represents a considerable amount of underreporting, aggregate measures of the gamble's payoffs and odds appear so generous that one would predict an even greater NMP.[7]

For example, consider a taxpayer who is choosing how much unmatched income to underreport under the following parameterization of the noncompliance gamble: the probability of audit and detection is exogenously fixed at 11.6%, the tax rate is 35%, and the penalty rate is 75% on unpaid tax liability.[8] Each marginal dollar of underreporting results in the taxpayer retaining 35 cents in unpaid tax liability. With 88.4% probability, the taxpayer is never contacted by the tax agency and he keeps the 35 cents. With 11.6% probability however, the taxpayer is audited, pays back the 35 cents in unpaid tax liability, and pays an additional 35 * .75 = 26.25 cents in penalty. In net, the dollar of underreporting has a large, positive expected payoff of -26.25 * .116 + 35 * .884 = 27.895 cents. In the case of the risk-neutral taxpayer, the deterrence theory (with exogenous audit and detection probability) predicts 100% unmatched income underreporting so long as this net expected payoff is positive, as is the case under most any reasonable parameterization.[9]

However, let us now consider the case where more egregious noncompliance is more likely to result in audit due to the tax agency having a targeted audit strategy. For instance, assume that the taxpayer faces the average 11.6% six-year probability of audit (2.0% annual probability) only if he underreports 57% of his unmatched income (57% being the IRS (2007) estimated NMP for Schedule C sole proprietor income). If he instead underreports 100% of his unmatched income, he faces a hypothetical 35% six-year probability of audit (6.9% annual probability). While a 6.9% annual audit probability is significantly larger than the aggregate annual estimated probability of 2.0%, bear in mind that it applies only to a taxpayer who underreports 100% of his unmatched income. It is not obvious to the author that this is unreasonable for, let's say, a taxpayer who earns $100,000 per year in unmatched sole proprietor income and reports none of it.

If the risk-neutral taxpayer simply faced a constant 35% audit rate, the terms of the gamble are still generous enough that 100% underreporting is predicted: the net expected payoff of each dollar of underreporting

is -26.25 * .35 + 35 * .65 = 13.5625 cents. However, even though the last marginal dollar of underreporting has a positive expected payoff, the taxpayer actually has the opportunity to lessen his underreporting and in turn increase the odds that his remaining underreporting goes undetected. Specifically, if the taxpayer underreports 100% of his unmatched income of *U*, he consumes *U* with 65% probability and *U* – 1.75 * .35 * *U* = .3875 * *U* with 35% probability, for an expected consumption of .35 * .3875 * *U* + .65 * *U* = .785625 * *U*. If he instead underreports only 57% of *U* (and correspondingly reports 43% of *U*), he pays .43 * .35 * *U* = .1505 * *U* in self-reported tax liability, and therefore consumes only *U* - .1505 * *U* = .8495 * *U* if he goes unaudited. If he is audited, he now pays the penalty only on the 57% of *U* which he failed to self-report, for a consumption of *U* - .1505 * *U* – 1.75 * .35 * .57 * *U* = .500375 * *U*. The taxpayer's partial compliance increases the likelihood of the "preferred" state of non-audit and the taxpayer's expected consumption is .116 * .500375 * *U* + .884 * .8495 * *U* = .8090015 * *U*, which is greater than the .785625 * *U* consumption he could have expected under 100% underreporting.

This simplistic example is meant to demonstrate that a taxpayer who is motivated solely by "amoral cost-benefit calculation" may find it beneficial to strategically sacrifice some underreporting in order to appear less suspicious and in turn increase the likelihood that his remaining underreporting goes undetected. Furthermore, the previous example should not be interpreted as saying that *all* taxpayers with unmatched income are predicted to underreport less than 100%. Instead, the deterrence theory with targeted audits and endogenous detection predicts the existence of two types of taxpayers: those who underreport 100% of unmatched income and those who underreport only a portion of unmatched income.

There are two primary factors that determine whether the taxpayer is willing to strategically deviate from 100% underreporting. The first factor is the degree to which marginal increases in compliance decrease the joint audit and detection probability. For instance, if the audit rates are 35% for 100% underreporting and 11.6% for 57% (as above), the reduction in audit probabilities is sufficient to incentivize the partial compliance. On the other hand, if the taxpayer reduces his audit rate from only 12% to 11.6% by switching from 100% to 57% noncompliance, it is unlikely that the 0.4% reduction in probability is worth the 43% decrease in underreporting.

The second factor is the amount of unmatched income that the taxpayer possesses. A taxpayer's willingness to deviate from 100% underreporting will crucially depend on the *difference* in his consumption when he is or is not audited. This stems from the fact that the benefit of a marginal increase in compliance is the increase in likelihood that the "preferred" no-audit state occurs and off-setting decrease in likelihood that the audit state occurs. When the taxpayer considers underreporting 100% of unmatched income, the difference in consumption between these two states is larger when unmatched income is larger.

The two factors each suggest that low-unmatched-income taxpayers are more likely to underreport 100%, while high-unmatched-income taxpayers are more likely to be partially compliant. First, consider a taxpayer with only $1,000 in unmatched income. Whether this taxpayer reports this income correctly, reports only $500, or reports none of it, his probability of audit is unlikely to change very much. Even 100% underreporting represents a relatively small absolute amount of misreporting that is perhaps only slightly more likely to be selected for audit relative to a correct report. On the other hand, a taxpayer with $100,000 in unmatched income is engaging in increasingly egregious noncompliance as he goes from $0 to $50,000 to $100,000 of underreporting; this in turn provides the high-unmatched-income taxpayer with a greater opportunity to influence his likelihood of audit and detection by deviating from 100% underreporting. Second, the $1,000 taxpayer faces a relatively small difference in consumption in the audit vs. no-audit states. For instance, if the taxpayer faces a 35% tax rate and underreports 100% of $1,000 instead of 0% of $1,000, he stands to gain only $350 if unaudited and lose only $262.50 if audited (assuming a 75% penalty). On the other hand, if a taxpayer faces a 35% tax rate and underreports 100% of $100,000 instead of 0% of $100,000, he stands to gain $35,000 if unaudited and lose $26,250 if audited (assuming a 75% penalty). Since 100% underreporting represents such a larger-stakes gamble for the latter taxpayer, he will be more willing to sacrifice some profitable underreporting in order to better ensure that the "preferred" no-audit state occurs.

These predictions imply that aggregate measures of unmatched income misreporting are not sufficient to gauge the empirical validity of the deterrence paradigm. In particular, aggregate measures will entangle the

two types of noncompliant taxpayers, those who are predicted to underreport 100% and those who deviate from 100%. Phillips (2011) finds that the majority of taxpayers with little unmatched income do in fact underreport 100% of unmatched income, with many other low-unmatched-income taxpayers actually underreporting in excess of 100%.[10] Taxpayers with larger amounts of unmatched income are instead found to be more likely to be partially compliant, entirely consistent with the expanded deterrence theory.

The previous discussion focused on the prevalence of 100% underreporting and the incentive for deviations below 100%. However, it is also worth discussing the expanded model's predictions regarding 0% underreporting, i.e. the incidence of any noncompliance. Accounting for the high detection rate associated with matched income misreporting explains a significant portion of the low aggregate incidence of observed noncompliance. For instance, Phillips (2011) estimates that 32.5% of the total population underreports Form 1040 Total Income; however, only 41.0% of the population receives unmatched income. Disaggregating the population into those with and without unmatched income, the rates of underreporting are instead 49.6% for taxpayers with unmatched income and only 20.5% for taxpayers without unmatched income.[11] Furthermore, the underreporting incidences are even higher when one limits the sample to taxpayers with strictly nonnegative unmatched income line items (54%) or taxpayers with positive unmatched Schedule C income (61%).

However, classical deterrence theory predicts that all taxpayers (at least those with unmatched income) will be noncompliant.[12] Even the expanded deterrence theory described in this paper makes a similar prediction. As previously discussed, the benefit associated with marginal increases in compliance is proportional to the difference in consumption between the audit and no-audit states. When the taxpayer considers whether to engage in the very first dollar of underreporting, this difference in consumption is $0; therefore, the taxpayer has no incentive for compliance and is predicted to underreport at least some of his income.[13] While the deterrence theory explains the low incidence of underreporting for the majority of taxpayers with only matched income, explaining the less-than-universal underreporting among the remaining taxpayers still appears to require the addition of alternative determinants.

Conclusion

In this paper, I have discussed an extension of the classical deterrence theory of income tax noncompliance that more accurately accounts for the targeted audit and detection regime that taxpayers face. Of primary importance is the fact that taxpayers have the opportunity to exert some control over the terms of the underreporting gamble, with increases in compliance making taxpayers appear less suspicious and thus reducing the likelihood of audit and detection. Therefore, even a taxpayer who is motivated solely by amoral cost-benefit calculations has some incentive to deviate away from full noncompliance.

With this in mind, I contend that referring to the classical model as a paradigm of "deterrence" may be misleading. The noncompliance gamble clearly has a profitable risk-reward profile (so long as the taxpayer has some income that is not third-party-reported), such that the risk of audit, detection, and penalty is insufficient to "deter" the stylized taxpayer from significant amounts of underreporting. However, this prediction of "lack of deterrence" (i.e. a prediction of 100% unmatched income underreporting) is in fact borne out in the taxpayer-level analysis of Phillips (2011), at least among taxpayers with relatively small amounts of unmatched income. Furthermore, the model predicts only partial noncompliance for high-unmatched-income taxpayers, but it is not the case that these taxpayers are "deterred" from greater amounts of underreporting. Instead, the theory should be considered a paradigm of "strategy" as these taxpayers sacrifice some profitable underreporting in order to tilt the odds of the noncompliance gamble in their favor.

Additionally, I would like to point out that the argument made in this paper should not be read as a refutation of the "behavioral" paradigm of noncompliance. A valuable body of research has confirmed the existence of these alternative margins, beyond amoral cost-benefit calculation, that affect noncompliance. In fact, there is no reason that the "deterrence" and "behavioral" paradigms need be mutually exclusive. Instead, the paper should be read as a defense of the classical deterrence theory's ability to characterize the primary motivations that underlie real-world noncompliance. When one more carefully considers the theory's predictions in a realistic environment of targeted audits and endogenous detection, and furthermore relies on taxpayer-level rather than aggregate measures of underreporting, the empirical evidence in support of the theory is quite strong.

From a policy perspective, this finding implies that the lessons and implications of the deterrence paradigm should not be ignored, as one might be inclined to do when "behavioral" alternatives are thought to primarily explain observed behavior. Namely, policies that directly affect the taxpayer's basic cost-benefit analysis can significantly affect gross noncompliance. Among such policy parameters, the average audit and detection rates are clearly important. However, the paper also demonstrates the equal (or perhaps greater) importance of another policy parameter, the degree to which the tax agency effectively targets and detects the most egregious instances of noncompliance. A successful targeting strategy not only increases the recovery of a given amount of noncompliance, but can also generate an endogenous response of increased self-reported compliance.

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Endnotes

[1] This paper summarizes portions of the content of my 2011 Ph.D. dissertation (Phillips (2011)) for the Department of Economics at the University of Chicago. Part of the dissertation was researched and written while interning with the Office of Research at the Internal Revenue Service. The content of the dissertation and paper is the opinion of the writer and does not necessarily represent the position of the Internal Revenue Service.

[2] It is worth noting that Professor Slemrod is not necessarily endorsing but simply stating this prevailing argument.

[3] Allowing for the endogeneity of audit probability with respect to self-reported income (and therefore

indirectly with respect to the amount of underreported income) has long been a staple of theoretical research on noncompliance, and in fact was included in the original Allingham and Sandmo (1972) theoretical treatment. Such endogeneity has also provided the foundation for an extensive game theoretic literature on noncompliance. The game typically consists of taxpayers who have private information regarding their true income and choose how much to report. The tax agency in turn observes taxpayers' reported incomes and chooses whom to audit based on this signal.

[4] This and all future statistics from Phillips (2011) are based on raw data as detected by auditors in the 2001 National Research Program (NRP) study of individual income tax compliance.

[5] Net Misreporting Percentage is defined as "the net amount of income or offset misreported divided by the amount that should have been reported." The IRS (2007) estimates are based on data from the 2001 NRP study, controlling for noncompliance that was undetectable to NRP auditors. Phillips (2011) instead uses raw NRP data.

[6] The importance of third-party-reporting in the compliance decision has been recognized by many other researchers. See for example Andreoni, Erard, and Feinstein (1998), Slemrod (2007), and Alm et al. (2010).

[7] Andreoni, Erard, and Feinstein (1998) states that "taking information reporting into account, taxpayers still appear to be more honest than might be expected..." Slemrod (2007) instead states that "whether the… noncompliance rate of [unmatched] nonfarm sole proprietors is lower than deterrence theory predicts is less clear."

[8] 11.6% represents the probability that a noncompliant Schedule C (nonfarm sole proprietor) taxpayer avoids audit for six consecutive years, at an annual audit rate of 2.0%. Per the 2001 IRS Data Book, 1.6% of Schedule C returns were examined in tax year 2000. Of these examinations, 77.0% were deemed to have additional liability, reflecting the IRS's ability to target its examinations towards those returns most likely to be noncompliant. Using the Phillips (2011) estimate that 61% of taxpayers with positive Schedule C income are estimated to have underreported income, the aggregate annual rate of audit conditional on having underreported is therefore estimated to be (77%) * (1.6%) / (61%) = 2.0%. The cumulative audit rate over six years is then estimated to be 1 - (1 - 2.0%)6 = 11.6%. 75% is the penalty for "civil fraud" whereas the statutory penalty for "substantial understatement" is 20%. The higher 75% penalty rate is used in the current discussion to demonstrate that aggregate probabilities are so low that the deterrence theory (with exogenous audit and detection probability) nonetheless predicts large amounts of noncompliance.

[9] The prediction of 100% underreporting occurs even when allowing for risk-aversion. For instance, under the current parameterization and assuming that the taxpayer exhibits constant relative risk aversion and has the entirety of his income unmatched, 100% underreporting is predicted so long as the coefficient of relative risk aversion is less than 2.45. If the penalty rate is lower than 75% or only a portion of the taxpayer's total income is unmatched, the critical value of risk aversion required for anything less than 100% unmatched income underreporting is even larger. For instance, a 20% penalty rate increases the critical value of risk aversion to 6.68.

[10] Underreporting in excess of 100% means that taxpayers earned a positive amount of unmatched income and instead reported negative earnings. 100% instead implies that taxpayers earned a positive amount of unmatched income and reported $0 in earnings.

[11] A few notes are in order regarding these estimates. First, the analysis in Phillips (2011) categorizes 2001 Form 1040 line items as either "matchable" or "unmatchable." Matchable income is defined as those income line items that IRS (2007) categorizes as "subject to substantial information reporting and withholding" or "subject to substantial information reporting." Unmatchable income corresponds to line items "subject to some information reporting" or "subject to little or no information reporting," with the exception of capital gain distributions which are considered matchable per Bloomquist (2003). Therefore the statistics presented here are based on imprecise measures of actually "matched" and "unmatched" income. For instance, some of the taxpayers with only "matchable" income may have actually possessed some "unmatched" income that simply appears on "matchable" lines. Furthermore, the statistics in Phillips (2003) are based on raw NRP data and reflect only noncompliance that was detectable to NRP auditors. Therefore estimates of the frequency of underreporting experience downward bias relative to the true frequencies since some of these taxpayers may have underreported but were not detected to have done so.

[12] As previously discussed, the net expected return to a marginal dollar of income underreporting is significantly positive. Even if the stylized taxpayer of the model is highly risk averse, the first marginal dollar of underreporting (i.e. going from $0 to $1 of underreporting) leads to essentially no difference in consumption between the audit and no-audit states and the taxpayer should not be deterred from at least some strictly positive underreporting.

[13] If the audit process itself is costly (in ways beyond penalties that are incurred), the taxpayer does experience some difference in utility between the audit and no-audit states, in which case the expanded model would predict that some taxpayers are fully compliant. However, this explanation seems valid only for those taxpayers who have very little unmatched income and therefore don't consider the small expected gains of underreporting to be worth the hassle of a potential examination. This explanation has little intuitive appeal for explaining the non-0% correct reporting incidence of taxpayers with any significant amounts of unmatchable income.