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Teaching the Economics of Income Tax Evasion

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I. Introduction

The phenomenon of income tax evasion is a common component of both undergraduate- and graduate-level courses in public finance, public economics, and public policy. In the United States, personal income tax evasion effectively consists of taxable income that is either unreported or underreported to the IRS (Internal Revenue Service) by individuals or couples. Income tax evasion can also take the form of spurious or inflated tax deductions, such as might be misrepresented on Form 1040, Schedule A¹ or on Form 1040 Schedule C² by individuals or couples. Income tax evasion, which is illegal, is distinguished from income tax avoidance, which is legal. Income tax avoidance, which can take many different forms, is simply a legal way according to which to reduce one's federal personal income tax liability. An example of the latter is the interest paid on tax free municipal bonds, which is not subject to federal income taxation; to the extent that one owns tax free bonds, one receives a flow of interest income that is exempt from federal government income taxation.

The purpose of this pedagogical Chapter is to provide a straightforward and easily understood framework that can be used to teach the economic behavior underlying income tax evasion. We begin with presenting a brief background that reflects the research that had been done, especially for the case of the United States, on income tax evasion. This brief

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¹ Schedule A is used to report deductions, such as home interest, charitable contributions, and the like

² Schedule C is used to report net profit from independent contractor income.

section is meant to provide the student with some overall perspective on the issue. Once this literature overview is completed, the main section of this study provides a framework, based in cost-benefit analysis, to enable the student to easily understand factors underlying personal income tax evasion.

II. Studies of personal income tax evasion

Studies of income tax evasion behavior essentially fall into three categories. First, there are the principally theoretical models of tax evasion behavior, such as Allingham & Sandmo (1972), Falkinger (1988), Klepper, Nagin, & Spurr (1991), Das-Gupta (1994), Pestieau, Possen, & Slutsky (1994), Caballe & Panades (1997), and Gahramanov (2009). These models tend to be very technical and mathematical in form. Their intent is to identify behavioral factors that would either, *in theory*, create incentives to engage in income tax evasion or disincentives to do so. Such studies are often mathematically elegant, although they typically are not subjected to formal empirical testing.

Second, there are a number of studies that either (a) use questionnaires or (b) undertake experiments, such as Baldry (1987), Alm, Jackson, & McGee (1992), Thurman (1991), and Alm, McClelland, & Schulze (1999). These studies are by nature effectively empirical in nature, deriving the data largely (if not entirely) from the experiments. Certain of these studies indicate an aversion to the prospect of being audited while others reveal a lack of such risk-averse behavior; still others imply that taxpayers may be averse to tax evasion on moral grounds. Additionally, the incentive to try to evade taxation by underreporting income in the face of higher marginal income tax rates is also revealed in most of these studies.

Third, there are those studies that largely or in some cases exclusively adopt what is referred to as "official data," that is, data obtained from the IRS (or its counterpart outside of the USA) and/or some other "official," that is, government source, and/or from a publicly available source. Among, the types of information thusly obtained and analyzed are data on the magnitude of income tax evasion in the economy, income tax rates, and audit rates. Such studies endeavor typically either to estimate the aggregate degree of tax evasion or to identify the determinants thereof (Bawley, 1982; Tanzi, 1982, 1983; Clotfelter, 1983; Carson, 1984; Long & Gwartney, 1987; Musgrave, 1987; Pyle, 1989; Feinstein, 1991; Klepper, Nagin & Spurr, 1991; Erard & Feinstein, 1994; Feige, 1994; Pozo, 1996; Cebula, 2001, 2004, 2008; Ali, Cecil, & Knoblett, 2001; Ledbetter, 2004; Connelly, 2004; Alm & Yunus, 2009; Cebula & Coombs, 2009).

In this literature, it is widely believed that the degree of federal personal income tax evasion in the economy as a whole is positively affected by income tax rates (Tanzi, 1982; Clotfelter, 1983; Feige, 1994). Interestingly, Yaniv (1994) characterizes Clotfelter (1983) as "the most relevant study" with respect to the impact of income tax rates on tax evasion, whereas Cox (1984) questions his findings. In any event, this particular perspective is simple: the higher the income tax rate, the greater the benefit (in terms of a reduced tax liability) from not reporting taxable income, *ceteris paribus*. It is also widely accepted that the *greater* the risk associated with underreporting or not reporting taxable income, the *less* the degree to which economic agents will choose either to not report or to underreport their taxable income (Spicer & Thomas, 1985; Errard & Feinstein, 1994).

III. Expected benefits from and costs to engaging in income tax evasion

The probability that an individual will *not* report all of his/her taxable income to the IRS and/or that an individual will overstate tax deductions or engage in other means to illegally evade income taxation (*PTE*) is treated as positively related to the expected gross benefits (*EGB*) to the individual of engaging in that income tax evasion and treated as negatively related to the expected gross costs and risks (*EGC*) to the individual of engaging in that income tax evasion. Thus, the probability that the individual will engage in income tax evasion can be expressed as:

$$PTE = f(EGB, EGC), f_{EGB} > 0, f_{EGC} < 0 \quad (1)$$

Expected Benefits of Income Tax Evasion

The expected benefits of income tax evasion arguably can assume two different forms: expected *primary* or *direct* benefits and expected *secondary* benefits. Expected primary or direct benefits of income tax evasion can be regarded as obvious or transparent. Expected secondary benefits are less tangible but can nonetheless be very real.

The best example of *direct* benefits from income tax evasion would be the value of the taxes not paid to the IRS (Internal revenue Service). To the extent that an individual engages in income tax evasion and underpays income taxes by, say, \$X, those \$X are a direct benefit to the individual, who can (in theory) spend and/or save the \$X. In this case, the higher the federal income tax rate (*FEDTXRATE*) that the individual is subject to, the greater the pecuniary benefit from under-reporting his/her income and/or from exaggerating tax deductions by any given amount. For instance, if the income tax rate is 10%, tax evasion in the amount of \$5,000 would be expected to yield the tax evader \$500; however, if the individual faced a 25% income tax rate, the expected benefit to this degree of tax evasion would be \$1,250. Thus, it is logical to deduce that, *ceteris paribus*, the higher the income tax

rate, the greater the incentive to engage in income tax evasion because the higher the income tax rate, the greater the expected benefits of the tax evasion behavior.

It is noteworthy that taxpayers living in a state which imposes an income tax (*STXRATE*) are provided an additional incentive to under-report taxable income and/or exaggerate tax deductions or exemptions, namely, they can evade state-level income taxes in addition to federal-level income taxes. This is especially likely since in many states one's state income tax liability is largely based on one's federal taxable income. Thus, the higher the state marginal income tax rate facing the taxpayer, the greater the incentive to evade federal income taxes. This is obviously because the higher the state marginal income tax rate in the individual's state of legal residence, the greater the greater the *total* direct expected benefits to be derived for the individual from income tax evasion behavior in terms of lower taxes paid and hence higher levels of funds to spend and save.

Thus, it is argued that

$$EGB = g (FEDTXRATE, STXRATE) \quad (2)$$

such that the expected gross benefits of federal income tax evasion are positively related to the individual's applicable federal income tax rate and to the individual's applicable state income tax rate.

Aside from the issue of tax rates, persons who have taxable income may be able in certain cases be able to derive *secondary* benefits from income tax evasion behavior. For example, if people disapprove of the way in which the federal government is spending their tax dollars, they may be angered or frustrated. To relieve this anger or frustration, they may consider income tax evasion as an outlet (Feige, 1994).

Consider the case of the federal government's being engaged in an unpopular war (*UNPOPWAR*). For example, there is evidence (Cebula, 2001) that the unpopularity of the Vietnam War so angered the public that many chose to under-report their income and/or to exaggerate their deductions. This form of income tax evasion behavior was undertaken because of the disapproval by much of the *public* of the federal government's involvement in and expenditures to finance the Vietnam War using *their* tax dollars. Whereas the Vietnam War raged on, at least some portion of the public received secondary benefits/gains from the experience that they were with-holding financing of that military action.

Interestingly, other factors can work much the same way. For instance, the greater the public's dissatisfaction with government (*DIS*), the greater the degree to which the public is likely to experience a secondary gain from engaging tax evasion (Feige, 1994). Indeed, a low job approval rating for the sitting President can act in the same way, that is, to induce tax evasion based on secondary gains from tax evasion behavior (Cebula, 2008). Alternatively stated, the higher the President's job approval rating *per se*, the lower the degree of federal income tax evasion because if the President is regarded as doing a good job, there is less (if any) secondary gain from tax evasion.

Thus, equation (2) can be expanded in various ways, as shown in equation (3):

$$EGB = g (FEDTXRATE, STXRATE, UNPOPWAR, DIS) \quad (3)$$

such that the expected benefits from tax evasion are directly related to not only income tax rates (*FEDTXRATE*, *STXRATE*) but also are directly related to the waging of an unpopular war (*UNPOPWAR*) or greater public dissatisfaction with government (*DIS*).

Expected Costs and Risks of Income Tax Evasion

Income tax evasion, because it is illegal, involves certain forms of costs and risks, which in turn lead the individual pondering income tax evasion to have expected probabilities of both detection by the IRS and penalties that would then be imposed by the IRS. These expected costs and risks act to discourage the would-be tax evader. In other words, the expected gross costs of tax evasion are hypothesized to be positively related to the expected risks/costs thereof (Alm, Jackson & McKee, 1992; Pestieau, Possen & Slutsky, 1994; Erard & Feinstein, 1994; Caballe & Panades, 1997; Cebula & Coombs, 2009).

According to this perspective, to the representative individual taxpayer, the expected risks/costs from not reporting or from underreporting taxable income and/or of exaggerating tax deductions to the IRS are increased by an increase in *AUDIT*, the percentage of filed federal personal income tax returns that is formally audited by IRS examiners. Thus, the higher the proportion of income tax returns that is audited by IRS personnel, the greater the likelihood that the tax evasion activities of an individual will be detected. If an individual is selected for an audit, they are typically notified by mail that they must make an appointment for a face-to-face encounter with an IRS agent. The appointment usually occurs at the local IRS offices. The person(s) being audited must bring tax records such as receipts and other records.

Interestingly, if an individual has *not intentionally* engaged in tax evasion, the meeting might be just an inconvenience (the value of lost time), although the possibility that the “innocent” taxpayer has illegally evaded taxes is not 0 because mistakes do happen. For example, a person with a consulting business or with numerous clients might have misplaced or failed to receive his/her Form 1099-MISC and therefore unintentionally evaded income taxation by understating gross income. Alternatively, an individual might

have misunderstood IRS tax forms and made filing mistakes as a result. Thus, even the innocent taxpayer can incur costs from an audit in addition to the value of lost time.

For the taxpayer who *is an actual or would-be* tax evader, the experience of an IRS tax audit could imply non-pecuniary (“psychic”) costs (such as anxiety) along with costs in terms of the value of lost time, as well as pecuniary costs. The latter could involve outlays for legal or other representation above and beyond any potential unpaid taxes, interest, and penalties that are assessed by the IRS on detected unreported taxable income. Clearly, then, the higher the audit rate, the higher the expected costs of tax evasion and the greater the disincentive to evade taxes.

In addition to *AUDIT*, it is hypothesized that the expected risks/costs of tax evasion also include the magnitude of the IRS imposed penalties [*PENALTY*] should one’s tax evasion activities be successfully detected by the IRS. This penalty has two components: (1) interest due on unpaid taxes³ and (2) penalties *per se*. The latter form of penalty kicks in when the individual is found to owe more than \$5,000 in unpaid federal taxes. In such a circumstance, the penalty is 20% of the total amount of the unpaid taxes. Thus, if a tax evader has engaged in substantial tax evasion, the tax liability consists of:

$[(\text{unpaid taxes} + 20\% \times \text{unpaid taxes}) + \text{interest} \times (\text{unpaid taxes} + 20\% \times \text{unpaid taxes})]$

Clearly, the greater the value of *PENALTY*, *ceteris paribus*, the greater the expected costs of income tax evasion and hence the lower the degree of aggregate personal income taxation that is expected (Baldry, 1987; Cebula, 2001).

Accordingly, the expected gross costs of income tax evasion can be expressed as:

$$EGC = h (AUDIT, PENALTY) \quad (4)$$

³ This interest is computed on a monthly basis.

where the expected costs of tax evasion are positively related to the IRS audit rate and the IRS taxes and penalties imposed on detected tax evasion behavior. It should be noted that additional factors could be included among the expected costs of tax evasion. One notable example would be the possibility/probability of imprisonment for felony tax evasion.

IV. The decision to engage in income tax evasion

Once an individual (or couple) evaluates the expected benefits from income tax evasion and the expected costs of income tax evasion, they are so situated as to make the decision as to whether or not to evade income taxes. This in reality requires information on a variety of factors, such as their anticipated tax rate and tax liability if they are in compliance with tax laws, their subjective secondary benefits (if any) from tax evasion, recent if not current IRS audit rates, recent if not current IRS penalty interest rates, and their skills in “hiding income” and/or exaggerating tax deductions.

In theory, if the individual/couple has the above information, a necessary condition for a rational decision maker to engage in income taxation is that,

$$EGB > EGC \quad (5)$$

Naturally, the more risk averse a person is, the greater the weight assigned to the *EGC* factors. Hence, risk aversion would tend to induce a lower probability of income tax evasion.

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