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1. Introduction
Collecting taxes from recalcitrant taxpayers requires effective enforcement rules and a dedicated administration. Over the last 40 years, a large body of literature has investigated the phenomenon of compliance to identify the forces that determine decisions to evade and to devise methods to raise compliance rates. The ‘law and economics’ approach to tax evasion is based on the hypothesis that compliance is essentially an economic decision and can thus be analysed using the tools of standard economic theory.

One of the first attempts to investigate tax evasion using the tools of economics was Cesare Beccaria’s ‘An Attempt at an Analysis of Smuggling’ (1764). Beccaria developed a mathematical model to calculate the likely amount of goods smuggled, given the amount of goods recovered by customs officials. Further inquiries were carried out during the Enlightenment by such precursors of the law and economics approach as Jeremy Bentham and Montesquieu. In that period, scholars sought to devise laws that could withstand rational scrutiny. Sanctions and enforcement were the object of special attention: they had to be such as to attain their purported goal without needless suffering. Law enforcement had to be taken out of the closet of arbitrary power and exposed to the light of reason and public accountability.

The rational approach of the Classical School was soon superseded by alternative theories of the biological and social roots of crime, driving a wedge between crime theory and economic theory. For a long time, the problem of law and tax compliance was separated from the mainstream of economics and essentially left to the police and the courts. The modern use of economic tools for the analysis of tax compliance can be credited to Allingham and Sandmo (1972), who extended Becker’s influential work on law enforcement (1968) to taxation, applying modern risk theory.

In the decades since then, the literature on tax evasion has blossomed. Probably no aspect of tax compliance has escaped at least cursory scrutiny. Detailed introductions to this theme are now available, including notably the monographs of Cowell (1990; theoretically oriented) and Roth et al. (1989; an interdisciplinary perspective), and the surveys of Andreoni et al. (1998; including a thorough discussion of empirical results), Slemrod
and Yitzhaki (2002; with large sections devoted to avoidance and administration), Cowell (2004; emphasising the limits of the traditional model), Marchese (2004; with special emphasis on public choice), and Slemrod (2007; focused on the US).

As a complex phenomenon, tax compliance needs to be addressed from a variety of perspectives. Taxpayers’ behaviour is influenced by many factors, including their disposition towards public institutions, the perceived fairness of the taxes, prevailing social norms, and the chances of being detected and punished. Setting ethical and sociological motivations aside, the economic analysis of tax compliance has focused mainly on deterrence via detection and sanctions. The thesis is that the taxpayer’s behaviour can be fruitfully seen as the result of a rational calculus, a careful assessment of the costs and benefits of evasion. Since even in the simplest tax and enforcement systems the incentive to comply is far from obvious, the economic perspective offers precious insights into proper policy design.

This chapter, which is an updated version of Franzoni (1999), surveys the theoretical and the empirical literature on tax evasion. Section 2 defines tax evasion as opposed to tax avoidance. Section 3 discusses Allingham and Sandmo’s basic (1972) model of tax evasion, briefly reviewing its numerous extensions. Section 4 surveys the empirical evidence on taxpayer compliance. Section 5 deals with optimal enforcement policy and investigates some anti-evasion strategies. Section 6 examines additional policy issues, connected with the institutional and procedural aspects of tax enforcement. Section 7 provides some concluding observations.

2. Definition and extent of tax evasion

By distancing statutory taxes from effective payments, tax evasion defines a specific revenue deficiency, known as the ‘tax gap’. For the 2001 tax year, for instance, the US overall gross tax gap in the United States was estimated at $345 billion, corresponding to a non-compliance rate of 16.3 percent. Similar measures – pointing generally to higher non-compliance rates – have been developed for most countries.

It must be understood from the outset that the tax gap is not equal to the additional revenue that would be collected by stricter enforcement. This is because perfect enforcement would significantly affect the economic scenario (some firms would go bankrupt, taxpayers would modify their labour supply, prices and incomes would change, etc.), so the tax base would surely be altered. As a result, at least in theory, net revenue could turn out to be even smaller. The standard gauges of tax gaps must be interpreted cautiously. They are only roughly suggestive of the likely immediate effects of marginal improvements in enforcement. One should
also be wary of the cliché that statutory taxes represent the ideal world and tax gaps an intrinsic evil. This is not only because taxes may not necessarily be ‘just’, but also because statutory taxes themselves may be enacted by legislators who know they will be only partially enforced and so differ from what would be optimal under perfect enforcement.

On closer scrutiny, then, the estimated tax gap only shows the wedge between economic reality and a legal construct called ‘statutory taxes’. Reality and its legal representation may differ for any number of reasons, among which, as we shall see, the willful misrepresentation of tax liabilities is just one.

In economic terms, the problem of tax evasion originates in the fact that the variables that define the tax base (incomes, sales, revenues, wealth, etc.) are often not ‘observable’. That is, an outsider cannot usually observe the actual magnitude of a person’s tax base and hence cannot know the true tax liability. Sometimes this knowledge can be obtained by means of costly audits, in which case we say that the tax base is verifiable (at a cost). In other cases, as when it is related to cash payments, the tax base cannot be verified at all. Taxpayers can then take advantage of the imperfect information about their liability and escape taxation.

A related concept is tax avoidance (or reduction), by which persons reduce their own tax in a way that may be unintended by tax legislators but is permissible by law. Avoidance is typically accomplished by structuring transactions so as to minimise tax liability. In some cases, avoidance is encouraged by legislation granting particularly favourable tax treatment to specific activities. From a legal standpoint, evasion differs from avoidance in being patently unlawful, and hence punishable (at least in theory). From a functional standpoint, however, they obviously have very strong similarities; sometimes, indeed, they are practically indistinguishable (see, for instance, Slemrod and Yitzhaki, 2002).

Tax administrations and tax courts usually exert considerable effort to limit avoidance. This effort is usually made ex post, on a case-by-case basis, in an attempt to tailor general principles of taxation to specific situations. The standard approach here is to investigate the rationale for particular transactions, to see whether they are motivated by business reasons or by tax reasons (‘business purpose’ doctrine, ‘economic substance’ doctrine). The proper delimitation of these anti-avoidance efforts hinges on the suitable division of power between the legislature (which drafts the tax statute) and the courts (which interpret them and apply them to the individual case). As Weisbach (2002) argues convincingly, by drawing the line between admissible and inadmissible transactions, courts de facto determine the tax base. Thus, analysis of the proper scope of anti-avoidance doctrines to a large extent coincides with analysis of the optimal tax base.
Another problem with the measurement of tax evasion relates to its proper delimitation within the broader framework of the informal economy. No taxes are generally levied on transactions in the home and criminal sectors, which are usually beyond the reach of authorities and official statistics. Hence, proper determination of the boundaries of evasion is a formidable task, in that evasion is often inextricable from other illegal and unrecorded activities (see Gerxhani (2004) for a methodological discussion).

Aggregate estimates of evasion must overcome all these difficulties, in addition to the classic problem of lack of direct data. Various estimation methods have been devised, some based on data collected by fiscal authorities, others – less reliable – on data derived from national accounts and surveys. In Western industrialised countries, evaded taxes appear to amount to between 5–25 percent of potential tax revenue, depending on the country and the method used, with higher figures (up to 30–40 percent) for less developed countries (see Schneider and Enste (2000) and references therein).

As noted, these estimates must be treated cautiously. Essentially, they tell us that statutory taxes are not the whole story. From an economic perspective, what matters is effective taxation, that is, the net tax burden on individuals. This has major implications for the economic consequences of evasion: the main question is not how evasion distorts the statutory allocation of the fiscal burden, but how it constrains the set of possible public policies. When taxes can be evaded, taxation is an imperfect tool for pursuing government aims (be they redistribution, efficiency, or whatever), which will be only partly achieved. For instance, in a country where the more affluent have better opportunities for evasion (or avoidance), progressive taxation may not be an effective tool to pursue equality. Similarly, if the opportunity to evade varies substantially by occupation or business sector, formally fair taxes may result in large horizontal inequality. Empirical studies suggest that evasion is likely to have a strong impact on horizontal equity, a limited impact on vertical equity (see, for instance, Bishop et al., 2000; Galbiati and Zanardi, 2001). On top of horizontal inequality, the unequal distribution of opportunities to evade and of the willingness to seize them is likely to induce production inefficiencies, since evaders compete on unfair terms with tax-compliant firms.

In order to evaluate the way in which non-compliance affects the actual tax payments of individuals, one must examine compliance behaviour more closely. Theoretical models can help predict how taxpayers’ behaviour will be affected by the relevant variables. Section 3 reviews some models and assesses their fit with observed practice.
3. The decision to evade

Compliance with the tax law typically means: (i) true reporting of the tax base, (ii) correct computation of the liability, (iii) timely filing of the return, and (iv) timely payment of the amounts due. The bulk of tax evasion involves the first point. Most evaders either do not declare their liability at all, or declare it only in part. In the following, we concentrate on the problem faced by an individual who has to decide how much, if any, of his aggregate tax liability to report. The focus is on income tax, but the insights apply to other taxes as well.

One of the earliest and most helpful models of tax evasion is that developed by Allingham and Sandmo (1972) and Srinivasan (1973), and revised by Yitzhaki (1974). The Allingham-Sandmo model (A-S) combines the pioneering insights of Becker (1968) on the economics of crime with an analysis of optimal portfolio allocation. It is based on a set of special hypotheses that are necessary to make it tractable. Although these assumptions have been extensively criticised in the literature, the A-S model remains the fundamental first step in understanding the basic issues involved in the evasion decision. For this reason, it is important to explain it in detail.

The main hypotheses underlying the model are the following:

(a) The taxpayer rationally decides the amount of income to report: the aim is to maximise the expected utility from net income. All factors not affecting the taxpayer’s net income are ruled out.

(b) The taxpayer is averse to risk: uncertainty due to the randomness of tax enforcement (the return may or may not be audited) imposes a ‘disutility’ on the taxpayer. The taxpayer is not a ‘gambler’ who enjoys risky choices.

(c) The taxpayer’s real taxable income \( y \) is known to the taxpayer but not to the tax administration, which observes only reported income, \( y - e \) (where \( e \) denotes the amount of income not reported).

(d) Reported income is subject to a simple proportional tax with rate \( t \). Thus, the taxpayer’s upfront payment is \( t(y - e) \). By underreporting, the taxpayer saves on the upfront tax payment.

(e) With probability \( a \) the tax return is subject to a perfect audit, able to reveal the taxpayer’s true taxable income. If underreporting in the amount \( e \) is detected, then the taxpayer has to pay evaded taxes, \( te \), plus a proportional fine \( fte \), where \( f \) is the fine rate.

In light of these assumptions, the evasion decision becomes a matter of optimal ‘portfolio allocation’: taxpayers must decide what portion of their income to invest in the risky activity labelled ‘tax evasion’. If there is no
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audit, net income is equal to true income less taxes on reported income: $y - t(y - e) = y(1 - t) + te$; if there is an audit, it is equal to true income, less taxes on true income, less the fine: $y(1 - t) - fte$.

The taxpayer’s expected utility is thus:

$$EU(e) = (1 - a)u(y(1 - t) + te) + a u(y(1 - t) - fte),$$

where $u$ is the taxpayer’s utility function. This function captures the taxpayer’s attitude towards risk (the more concave, the more risk averse).

To start with, let us calculate the return on the amount of underreported income, $e$. With probability $(1 - a)$, the taxpayer gets: $+te$; with probability $a$, the taxpayer gets: $-fte$. Thus, the expected return to the taxpayer is:

$$ \text{Expected return to evasion} = (1 - a)te - afte = [1 - a(1 + f)]te.$$  

Thus for each dollar of unreported income, the taxpayer gets a net return equal to: $t[1 - a(1 + f)]$. The net return is positive only if $a(1 + f) < 1$, that is, only if the audit probability $a$ and the fine rate $f$ are small. If this condition is satisfied, evasion represents a profitable ‘investment’ opportunity.

Then the question arises: what share of their income will taxpayers conceal? Here, the taxpayer’s attitude towards risk comes into play. In fact, the greater the tax evasion, the bigger the ‘gamble’ by the taxpayer. The gain may be very large, but the loss may also be very large. The reason for not evading one’s entire income, given a positive return on evasion, has to do with the ‘disutility’ of the uncertainty associated with the evasion gamble. Technically, this ‘disutility’ is measured by the risk premium $RP(e)$ of the gamble, which is the amount that the taxpayer would be willing to pay in order to avoid the risk (read ‘uncertainty’) associated with the gamble. The risk premium depends on the taxpayer’s attitude towards risk and increases (approximately) with the square of the tax evaded. Thus, an increase in the amount evaded has a linear impact on the monetary return, but a more than proportional impact on the ‘disutility’ of the risk.

If we account for the risk premium loss, the net benefit from evasion becomes:

$$\text{Net evasion gain} = [1 - a(1 + f)]te - RP(e)$$

The optimal evasion decision will have to balance the gains from underreporting (the larger the amount ‘invested’, the greater the expected return) with the disutility due to the uncertainty attendant on the evasion...
gamble (the larger the amount underreported, the greater the risk). Figure 12.1 illustrates.

The A-S model yields some important results.

1. **Deterrence tools** As expected, the amount of tax optimally evaded by the taxpayer, $te^*$, depends negatively on the audit rate $a$ and the fine rate $f$. Stricter enforcement (larger $a$ and $f$) reduces the expected return to evasion and leads taxpayers to report a higher income.

2. **Full deterrence** For moderately risk-averse taxpayers, evasion drops to zero only if the expected return to evasion is negative. In other words, the fine and audit rates must be sufficiently high: $a > 1/(1 + f)$.

3. **Evasion and risk aversion** Taxpayers who are more averse to risk evade less. At the limit, the extremely risk averse behave ‘as if’ they were audited for sure. To them, the uncertainty created by the gamble is so costly as to completely offset the positive return to evasion: the net evasion gain becomes negative and the optimal evasion amount converges to nil.

4. **Evasion and income** The impact of income level on evasion is less intuitive. As we have seen, the expected return on each dollar of taxes evaded depends only on the audit and the fine rates. But income level is likely to affect taxpayers’ attitude towards risk and thus the size of the risk premium. More precisely, if taxpayers become less risk...
averse as they become wealthier, then we should expect an increase in income to reduce the risk premium and to increase the optimal amount of income concealed. Technically, it can be shown that the amount of underreported income, $e^*$, increases with income if, and only if, the utility function displays decreasing absolute risk aversion, while the share of income underreported, $t^*/y$, increases with the income level if, and only if, the utility function displays decreasing relative risk aversion (see Cowell, 1990).

(5) *Evasion and the tax rate* A similar argument applies to the tax rate $t$. An increase in the tax rate makes the taxpayer worse off in real terms. Thus, it works like a reduction in income. So, as before, if the taxpayer becomes more averse to risk as he becomes poorer, a higher tax rate increases the disutility of risk and reduces the amount of evasion.

(6) *The excess burden of tax evasion* Let us consider the impact of underreporting on tax receipts. The net revenue loss is equal to evaded taxes, $te$, less expected recovery through auditing: $a(1 + f)te$. One can easily see that the net revenue loss for the tax administration exceeds the net evasion gain for the taxpayer: the wedge between the two is equal to the risk premium $RP(e^*)$, which represents an uncompensated loss. Intuitively, for one dollar of expected revenue obtained by the tax administration, the loss for the taxpayer is strictly greater than one dollar: the additional cost borne by the taxpayer is due to his uninsured risk (Yitzhaki, 1987).

**Further considerations**

The basic A-S model gives an account of taxpayers’ evasion decisions in a very simple set-up: taxes and penalties are proportional, the audit rate is constant, and only one form of evasion is available. In addition, the taxpayer is assumed to rely on expected utility theory and to be perfectly amoral, that is, to make compliance decisions with exclusive reference to the consequences for net income. All these assumptions are open to criticism, and models based on alternative assumptions have been developed.

**Ethical behaviour** One standard criticism of the Allingham and Sandmo model is grounded in the belief that compliance decisions depend on moral views. This is clearly a problematic issue, one that cannot be easily captured by the consequentialistic set-up of standard decision theory. Bordignon (1993) makes an interesting attempt to account for non-self-motivated decisions in tax evasion. He develops a compliance model in which taxpayers are guided by suitably defined ‘Kantian principles’, which determine the amount that each taxpayer considers it fair to pay. Under
this assumption, it turns out that tax evasion is generally lower than under selfish behaviour, that compliance depends on the level of public expenditure, and that evasion is likely to increase with tax rates.

**Social pressure** Other authors have stressed the ‘social factors’ underlying taxpayers’ decisions (see Roth et al., 1989, for an excellent account of the sociological research). Economists have emphasised the ‘stigma’ attached to the violation of social norms and shown that tax evasion may have strong spillover effects. Social stigma is likely to give rise to a multiplicity of equilibria: when most people evade, the stigma effect is small and evasion is not in fact discouraged; when few evade, the stigma effect is great and evasion is discouraged. The transition from one equilibrium to the other takes the form of a ‘non-compliance epidemic’: if, for some reason, more people start to evade, the stigma decreases and evasion spreads to an ever larger fraction of the population (see Benjamini and Maital, 1985; Gordon, 1989; Myles and Naylor, 1996; Kim, 2003). Further empirical observations on the impact of sociological factors are reviewed in Section 4.

**Risk allocation** Alm and McCallin (1990), Landskroner et al. (1990), Yaniv (1990), and Wrede (1995) have extended the A-S approach with models in which taxpayers face more complex ‘portfolio’ set-ups offering other risky activities and alternative forms of evasion. Wadhawan (1992) posits that audits detect only a fraction of the taxpayer’s evasion, while Das-Gupta (1994) analyses the case in which the income derives from a multiplicity of transactions.

**Non-expected utility theory** A major effort has been made to develop alternatives to expected utility theory to account for the behaviour patterns observed in experiments and other risk allocation contexts. This strand of research has been at once highly productive and somehow inconclusive: non-expected-utility models have proliferated, but none, so far, has clearly emerged as the definitive alternative to expected utility. Some have been fruitfully applied to the evasion gamble: see, among others, Bernasconi (1998), Eide (2002), and Bernasconi and Zanardi (2004). These models provide for a broader range of taxpayer responses to the evasion challenge, as they allow for the overestimation of low probabilities (for example, in rank dependent expected utility) or differential treatment of gains and losses with respect to a reference point (prospect theory). The comparative statics results of A-S have been shown to carry over to some important families of non-expected-utility models (Eide, 2002), but not to others (Dhami and Al-Nowaihi, 2007). Overall, the actual ‘goodness’
of these models can only be assessed with reference to their ability to fit observed behaviour in specific evasion contexts. An interesting insight from non-expected-utility theory is that advanced by Yaniv (1999): if taxpayers respond asymmetrically to gains and losses, as prospect theory hypothesizes, then compliance can be enhanced by changing the ‘reference point’ for the taxpayer’s evaluation, for instance through a substantial tax payment on account. In this way, a taxpayer reporting his tax liability correctly gets a tax refund when he submits his tax return: compliance turns into a clear ‘gain’ and taxpayer attitude towards risk will change accordingly (in a beneficial way).

**Tax uncertainty**  
Alm (1988), Scotchmer and Slemrod (1989), Scotchmer (1989a), and Snow and Warren (2005) consider the effect of randomness in tax liability assessments. They all conclude that uncertainty over the true liability level or the outcome of the audit increases net tax revenue, either because greater uncertainty makes evasion more costly (when taxpayers are risk averse) or because it may induce taxpayers to underreport their income and so be fined, whereas overreporting yields only a tax rebate. This is not to suggest that the revenue service should deliberately create uncertainty over the application of the law, as this would surely increase the deadweight loss of tax enforcement (see Section 3) and possibly decrease social welfare. Also, vagueness in the formulation of the law would likely embolden confident taxpayers and eventually undermine the credibility of the system. For this reason, most revenue services provide advance rulings on request (OECD, 2007).

**Labour supply**  
Several authors have tried to extend the A-S model to include the labour supply decision, so as to endogenise taxpayers’ gross income (see, among others, Andersen, 1977; Pencavel, 1979; Isachsen and Strom, 1980; Isachsen et al., 1985; and Cowell, 1985). The problem is that as soon as the decision to work is factored in, Allingham and Sandmo’s simple comparative statics are lost. Depending on the taxpayer’s marginal disutility from labour and risk attitudes, every outcome becomes possible. Usually, researchers overcome this problem by imposing strong restrictions on the utility function. Cowell (1985) takes a different course, assuming that decisions are made in two separate stages: first, the taxpayer decides how many hours to work; then he allocates this total labour supply between legal and illegal activities (alternatively, between reported and unreported income). On this assumption, Cowell shows that Allingham and Sandmo’s results carry over (with some qualifications) to the extended set-up if the taxpayer’s labour supply curve is upward sloping. Perhaps more importantly, he shows that the comparative statics results are strictly
dependent on the nature of the evasion choice, as it can be tied either to the amount of income to report (for the self-employed) or to the amount of time spent in ‘off-the-books’ activities (for the moonlighter).

**Evasion of indirect taxes** The insights drawn from the analysis of income tax evasion usually fit other forms of evasion as well. Different considerations may apply, however, when the taxpayer is a firm subject to indirect taxation, for here tax evasion decision may affect output or pricing (tax shifting). However, Marrelli (1984), for the case of a monopolist, derives a result of separability: the evasion and shifting decisions are independent of one another as long as the audit probability is constant (see also Yaniv, 1995). The same result applies to oligopolistic markets when firms compete à la Cournot. The amount of evasion by each firm is shown to depend, aside from the enforcement parameters, on the degree of collusion and on market shares (Marrelli and Martina, 1988). The separability result does not hold, however, if there is free entry into the industry (Goerke and Runkel, 2007) or if the audit rate depends on comparative reporting (Bayer and Cowell, 2006).

Gordon (1990) offers an interesting insight into sales tax evasion. He suggests that under-the-counter cash sales may serve as a means of price discrimination: cash discounts are the best pricing strategy when the demand for cash purchases is highly elastic. He shows further that imposing a liability on detected cash customers could reduce cash sales, but only on condition that this is an additional liability, and not just the transfer of a part of the supplier’s existing liability to the consumer.

**Corporate tax evasion** Tax evasion by corporations raises the important question of who makes the decision whether to comply with the law or not. In a publicly held corporation, this decision is usually delegated to a tax department headed by a specialized manager (chief financial officer (CFO), say, or a vice president for taxation). The problem here is the conflict of interest between shareholders and the officer in charge of the tax returns. Crocker and Slemrod (2005) develop an interesting extension of A-S in which the degree of non-compliance (the amount of illegal deductions claimed) is decided by a CFO whose remuneration depends on ‘performance’ (taxes saved). Only the CFO, however, knows the ‘true’ lawful level of deductions. Thus, his remuneration should give him an incentive to reduce the tax base (illegally), even if this may lead to a personal sanction. The authors show that under these conditions, a sanction on the CFO has greater deterrent power than a sanction on the corporation, since the latter can be passed on only very imperfectly to the party making the decision.

As we have seen, taxpayer non-compliance decisions may be very
complex, and they are likely to be shaped by the practical framework of action. The empirical evidence in favour of this view, which we now briefly review, is quite abundant.

4. Empirical evidence on taxpayers’ behaviour
Evidence on taxpayers’ behaviour is notoriously difficult to come by. Data on the extent of evasion may be confidential (not available for external analysis) or not fully reliable (drawn, say, from national accounting sources). All the same, empirical studies on the determinants of taxpayers’ compliance decisions have proliferated. The most important sources of empirical data are reviewed below.

Compliance measurement programmes
One of the most thorough investigations of tax evasion is the American Taxpayer Compliance Measurement Program (TCMP), conducted on a yearly basis by the IRS from 1963 to 1988 and based on a ‘line by line’ audit of a sample of 45,000 to 55,000 tax returns. This programme has now been replaced by the less ambitious National Research Program, which reviews some 46,000 returns, but not line by line. On the basis of this programme, the IRS estimates that for the 2001 tax year, the overall gross tax gap was $345 billion, corresponding to a non-compliance rate of 16.3 percent. After accounting for enforcement efforts and late payments, the amount was reduced to $290 billion, corresponding to a net non-compliance rate of 13.7 percent. Underreporting (unreported receipts and overstated expenses) accounts for 82 percent of the gross tax gap, underpayment for 10 percent and non-filing for 8 percent. Compliance rates vary widely across tax return classes. About 56 percent of the individual underreporting gap came from understated net business income (for example, unreported receipts and overstated expenses); 28 percent came from underreported non-business income, such as wages, tips, interest, dividends, and capital gains; and the remaining 16 percent came from overstated subtractions from income (that is, statutory adjustments, deductions, and exemptions) and from overstated tax credits (IRS, 2007a).

Ostensibly, compliance is highest where there is substantial reporting of information and substantial withholding of tax. Items subject to withholding and reporting, such as wages and salaries, have a misreporting rate of 1 percent; items subject to substantial information reporting (but no withholding), like interest and dividend income, have an average misreporting rate of 5 percent; items subject to some information reporting, like capital gains, show an average misreporting of 9 percent; while items subject to little or no information reporting, such as farm income and non-farm...
Audit returns were a prime source of data for the early investigations on the evasion phenomenon. In his pioneering analysis, Clotfelter (1983) uses TCMP data for 1969 to investigate the determinants of underreporting, defined as the difference between the income reported and that assessed by IRS examiners. He finds that both the marginal tax rate and after-tax income have significant effects on individual underreporting. In contrast to Allingham and Sandmo’s prediction, he finds that elasticities with respect to marginal tax rates are positive and range from 0.5 for non-farm business to 0.8 for non-business returns. In line with Allingham and Sandmo, elasticities with respect to after-tax income are positive and range from 0.3 for non-business returns to 0.65 for farm returns. Also, wages, interest and dividends are associated with better compliance, while underreporting is higher for the youngest age groups.

Witte and Woodbury (1985) also analyse data from the TCMP for 1969, but focus on the effect of enforcement parameters. They find that the percentage of underreporting is related inversely to the probability of audit (with a lagged effect), and directly to the ‘opportunities’ for tax evasion (absence of withholding and information reporting) and to income, though in a decreasing way. Dubin and Wilde (1988) criticise these results and highlight the potential endogeneity of audit rates. The idea is that audit rates are decided by the IRS in view of their potential yield: a decrease in non-compliance rates reduces the net return from auditing and leads the IRS to devote less effort to auditing. Using the IRS budget per return as an instrumental variable for the audit rates, they find the audit rate to be endogenous in five out of seven audit classes. They also find that audits have a deterrent effect on evasion, and that non-compliance is positively related to the unemployment rate and the non-white fraction of the population. Feinstein (1991) uses a sophisticated estimation technique that allows for partial detection by IRS examiners. His results confirm the great unevenness in compliance attitudes between groups of taxpayers, with ‘own business’ and ‘farm’ filers scoring the lowest compliance rates. Using TCMP data for 1982 and 1985, Feinstein more easily disentangles the effects of marginal tax rates and gross income (taxpayers with identical incomes filing in different years face different marginal tax rates). He finds that the effect of marginal tax rates on evasion is negative and highly significant, while the effect of income is essentially nil. The former finding is consistent with Allingham and Sandmo’s predictions, while the latter is not. Another finding is that a greater propensity to evade is accompanied by a higher detection rate (thanks to greater IRS examination effort).

Studies based on IRS data show that many factors come into the tax-
compliance picture: income source, socio-economic group (age, sex, location, ethnicity), detection probability, marginal tax rate and income level. Strikingly, however, the severity of the sanction does not seem to play a significant role (perhaps because in the US sanctions are rarely inflicted).

One important lesson to be learned from the IRS data is that compliance rates vary enormously across categories and are strongly related to enforcement mechanisms such as withholding and information reporting. This result fits very well with deterrence theory, since it is easier to detect the evasion of liabilities subject to withholding and information reporting. Whether the compliance pattern fits with Allingham and Sandmo’s theory is harder to tell. What one cannot do, in any case, is to take the average number of examinations per taxpayer (which would not exceed 1 percent), plug it into A-S model and claim that the predicted compliance rates are far below actual compliance rates (regrettably, this is a very common mistake). What evidence is available shows precisely this: information reporting and other enforcement mechanisms greatly reduce the chance that even tiny amounts of evasion will go undetected. Just to get a feel for the magnitude of the phenomenon, let us observe that in fiscal year 2007, about 1.82 billion reports were received by the US Internal Revenue Service and matched by computer with taxpayer records (IRS, 2007b). By no means can actual detection probabilities be proxied by the ratio between the number of audits and the total number of taxpayers.

Surveys
Another important source of information on taxpayers’ attitudes is surveys. A good deal of work has been done in this area as well, and the results cannot be easily generalized (see, for instance, Richardson, 2006, and the literature cited therein). On the whole, these studies would appear to support the deterrence hypothesis. Specifically, the following factors have been found to be significant determinants of tax compliance: (1) the perceived probability of detection; (2) the severity of informal sanctions; (3) moral beliefs about tax compliance; (4) experience with other non-compliers and past experience with IRS enforcement (both encouraging evasion), (5) socio-demographic characteristics (older people and women tend to evade less, educated people tend to evade less), (6) the perceived complexity of the tax system (more complexity, more evasion), (7) the perceived fairness of the tax system (greater fairness, less evasion), (8) tax morale (high morale, low evasion). These findings are largely concordant with those based on the TCMP data. The main additional insight relates to the impact of sociological factors, which can hardly be detected by other means.

International comparative studies that try to relate observance of the...
law with the general cultural attitudes of individuals are most interesting in this regard. This line of research originates with the Weberian view that long-term factors like ‘culture’ or ‘religion’, in addition to, or despite, formal institutions (statute law, public governance), affect economic behaviour and possibly the extent to which people are law abiding.

Major surveys of people’s cultural attitudes (for example, the *World Values Survey*) have found a great variety of attitudes around the world. Most of the axiological dimensions measured by the value surveys seem to be strongly correlated across cultural regions (see, for instance, www.worldvaluessurvey.org).

Several of the variables covered in these surveys are relevant to tax evasion. First, and most importantly, looking at responses to the question ‘Is tax cheating justified?’ in the *World Values Survey*, one can get a feel for ‘tax morale’ in different countries. In a comparison between the US and European states, for instance, Alm and Torgler (2006) find that US citizens have the highest tax morale, and that tax morale is strongly and negatively correlated with the size of the shadow economy.

A second interesting focus of research is the relationship between attitudes to obedience to the law and other cultural dimensions of individual countries. Using the Schwartz dataset, Licht et al. (2007) show that views on the ‘rule of law’ and ‘corruption’ are positively correlated with cultural attitudes relating to ‘social embeddedness’ (versus ‘autonomy’) and ‘egalitarianism’ (versus ‘hierarchy’). The world thus seems to be divided into different cultural areas, some characterized by strong social embeddedness, strong hierarchical relationships, widespread corruption and weak rule of law. In turn, the level of the ‘corruption’ variable is shown to be strongly correlated with the size of the unofficial sector – and thus indirectly with tax evasion – in each country. The causal link seems to run from cultural-sociological factors to weak institutions and, finally, to a large unofficial economy.

One implicit lesson to be learned from this cross-cultural literature is that one should be wary of generalizing policy prescriptions. Legal and institutional provisions that work in one country may not work in another. For instance, stiff penalties for cheaters may not reduce tax evasion in a world where formal laws are not respected, and where social pressure and interpersonal relationships are the main forces driving compliance.

**Experiments**

A third, increasingly common empirical approach is based on ‘laboratory’ experiments (see, for instance, Baldry, 1987; Webley et al., 1991; Alm et al., 1993a; Alm et al., 1993b; Alm et al., 1995; Alm et al., 1999; Cadsby et al., 2006). The subjects participate in games simulating tax
compliance, where they can underreport and incur the risk of a penalty. At the end, they receive a real reward proportional to their laboratory performance. The results tend to be highly sensitive to the design of the experiment. In general, this research suggests that audit rates play an important role in compliance decisions (especially for those who have already been audited) and that compliance is an increasing function of income and a decreasing function of the tax rate, while it is hardly affected by the size of fines (unless the audit rate is very high). These experiments also suggest that social norms and ethical attitudes play an important part in evasion choices, that individuals often take an all-or-nothing stance, that they tend to overweight low probabilities, that the structure of taxes is important. While the presence of an authority figure in the room increases compliance (Cadsby et al., 2006), direct appeals to taxpayers’ conscience seem to have no significant effects (Blumenthal et al., 2001; Torgler, 2004).

Empirical investigations of the evasion phenomenon, carried out by economists, sociologists and psychologists, put the ‘law and economics’ approach into perspective. This approach emphasises the relationship between economic behaviour and legal rules, given the sociological and cultural environment (which is of course important, but not central to the analysis). The analysis investigates the impact of the enforcement process on an abstract ‘rational man’ pursuing self-interest. In this case, the rational man aims at minimising net payments to the tax administration (possibly allowing for risk aversion). Civic virtue, moral duty, social pressure, and other moral and social factors remain in the background. The fundamental hypothesis of the classic law and economics approach is that enforcement policy does not crowd out ‘other’ socio-psychological compliance factors. So far, this assumption has not been disproved by empirical research.

In the broad context of obedience to the law, tax compliance is probably one of the areas where the rationality assumption is most realistic. The benefits and costs of non-compliance can be evaluated in strictly monetary terms, possibly with the help of a tax expert; emotional considerations play a limited role – there is basically no ‘victim’ to imagine or sympathise with.

Note further that tax enforcement has traditionally relied on deterrence, rather than other, gentler tools. Since ancient times, taxation has been the visible outcome of the wielding of political and military power. Thus, unlike compliance with more culturally grounded norms – for instance those regulating sexual behaviour or neighbourly behaviour – tax compliance has constantly been anchored to the state’s enforcement power.

The following section considers the question of the optimal design of
tax enforcement policy, focusing on the detection and punishment of evaders.

5. Optimal tax enforcement

Let us go back to the model of Allingham and Sandmo. While it provides a fairly sophisticated description of taxpayers’ evasion decisions, it leaves very little scope for enforcement policy, which is essentially reduced to two parameters: the penalty rate and the audit rate. The main policy prescription implicit in the model and most of its variants is that to curb evasion, audits have to be stepped up and fines increased. And given that raising the audit rate requires public resources while an increase in the penalty rate does not, the end result is likely to be one with Draconian but rare punishment, a rule such as ‘hang evaders with probability (close to) zero’.

This is a difficult prescription to elude. But in fact it is not clear whether curbing or eliminating evasion is always a desirable goal. In general terms, the desirability of perfect enforcement depends on the ‘goodness’ of the tax to be enforced. For instance, when full enforcement of income tax would result in the collapse of an activity, one may well ask whether such unbearable tax rates represent the right policy.

Even if the tax is optimally designed, a Draconian sanction may not be a good policy, especially if the sanction is actually administered and not purely a deterrent. The following arguments against maximal sanctions have been advanced:

(a) Imperfect adjudication. Innocent people may be convicted and guilty ones may be acquitted. In this case, very severe penalties are likely to create great ex-post inequality (unfairness), which may outweigh the beneficial effects of strong deterrence (see Cowell, 1990). The effect is even more problematic if individuals themselves include fairness in their utility function, as Polinsky and Shavell (2000) suggest.

(b) Taxpayer’s error. As before, if huge penalties are levied on taxpayers who have failed to comply merely by mistake, strong ex-post inequality is likely to arise. Thus, the penalty should be mitigated so as to account for good-faith non-compliance. Obviously, this argument presupposes that good faith cannot be faked.

(c) Avoidance costs. If individuals actively seek to avoid conviction, the social cost of enforcement may increase with the penalty. In this case, a smaller penalty may be preferable (Malik, 1990). On the other hand, completely eradicating avoidance would not appear to be a practicable goal.

(d) Reasonable doubt. If the sanction is administered by a body (a judge, a court, an officer) that makes its decision ex post on the basis
of imperfect information, then large penalties may induce greater caution in convictions and possibly reduce the number of convictions (the standard of proof is likely to get tighter). As a consequence, larger sanctions may actually result in weaker deterrence (Andreoni, 1991a).

From a practical point of view, the major impediment to Draconian penalties stems from taxpayers’ limited wealth. Since convicted evaders cannot be forced to labour, they can only pay a penalty as large as their own assets. The Draconian rule thus needs to be rephrased as follows: in the presence of an infallible tax enforcer and perfectly knowledgeable taxpayers, the optimal penalty is that which expropriates the taxpayer of all his wealth (‘maximal sanction’).

No such penalty is actually enforced. While practice varies greatly across countries, a common approach sees penalties for minor offences of the order of 10–30 percent of the tax evaded, while more serious offences involving deliberate evasion are sanctioned with penalties ranging from 40 to 75 percent of evaded taxes (OECD, 2007). Criminal tax fraud may lead to imprisonment.

Optimal auditing
Enforcement policies can be much more sophisticated than a mere combination of two variables, the penalty rate and the audit rate. The audit probability itself, for instance, need not be the same for all taxpayers. Indeed, a simple strategy is to base audits on information specific to the taxpayer, which may include any observable characteristic correlated with real tax liability, from compliance records to consumption patterns. Then, the relationship of an individual’s reported tax liability to the average for similar taxpayers can be used to single out candidates for auditing.

In a classic article, Reinganum and Wilde (1985) show that by making audits conditional on the level of the reported liability, the enforcer can increase net revenue. They postulate a simple cut-off rule that triggers an audit only when reported income is ‘too low’. They demonstrate that this rule is superior to the random audit rule considered by Allingham and Sandmo, and that it is the most economical way to foster truthful reporting when taxpayers are risk neutral and taxes and fines are lump sum. Scotchmer (1987) and Sanchez and Sobel (1993) extend this result and show that the cut-off audit rule is the optimal policy for a net revenue-maximizing enforcer when taxes and fines are proportional and taxpayers are risk neutral. These findings prompt a number of observations.

First, cost-efficient enforcement requires that audits be primarily deterrents, not a means to collect fines. Their function is to foster correct
self-reporting by individuals. Indeed, under the optimal policy, audits will be performed only on people who are found (ex post) to be honest, so no fines will ever be collected.

Second, the optimal cut-off level is strictly dependent on the distribution of income among the population: effective auditing requires reliable information on taxpayers’ liability.

Finally, optimal enforcement is likely to induce a strong regressive bias, as it provides high-income taxpayers with better chances to evade than low-income taxpayers. The idea is that high-income individuals have greater opportunities to misreport, and since it is more costly to deter them from evading, one should let them off the hook (on this, see also Scotchmer, 1992). This problem may be alleviated by shaping audit policy according to indexes correlated with true income (Scotchmer, 1987; Macho-Stadler and Pérez-Castrillo, 2002) and, to a lesser extent, by suitably adjusting the tax rate (Cremer et al., 1990).

A simple variation of the cut-off rule is represented by the FATOTA policy (fixed amount of taxes or tax audit) used in several countries and analysed by Chu (1990). Taxpayers can elect either to pay a fixed amount of taxes set by the tax administration and be exempted from auditing, or to pay only what they themselves claim to owe and be subject to standard tax audits (at a constant rate). This policy dominates the constant-audit rate policy à la A-S in a large variety of settings, including non-linear tax and penalty schedules and endogenous labour supply (see Ueng and Yang, 2001). One may wonder whether in practice this enforcement policy may not simply amount to a modification of the tax schedule, bringing the marginal rate on top incomes down to zero, as suggested by optimal tax theory. In fact, however, the FATOTA is not equivalent to a simple rescheduling of the statutory tax rates, because lower rates also reduce the penalty for underreporting (the penalty is usually proportional to the amount of taxes evaded), whereas the FATOTA reduces the upfront tax payment, but not the penalty (in case of detection, the liability is calculated with reference to the standard tax rate, not the fixed amount).

Border and Sobel (1987), Mookherjee and Png (1989), Marhuenda and Ortuno-Ortín (1997), Chander and Wilde (1998), Hindriks (1999) and Chander (2007) all address the problem of simultaneously setting optimal audit and tax schedules, assuming that taxpayers have limited liability and that the enforcer’s objective is to maximise net tax revenue. The basic finding of this literature is that, at the optimum, effective taxation tends to be regressive and the audit function is non-increasing in reported income. Hence, the implications of non-compliance for effective taxation indicated by Scotchmer (1987) and Sanchez and Sobel (1993) carry over to this more general set-up. An interesting insight (Border and Sobel, 1987) is that...
when sanctions are upper-bounded and taxpayers are risk neutral, it is optimal to have a very small probability of auditing and to provide infinite rewards for truthful reporting.

The approach to enforcement discussed in the foregoing paragraphs is known as the so-called ‘principal-agent’ approach. It is one of the most general frameworks for analysing tax evasion and how it relates to public policy. Its shortcoming is that it makes extremely demanding assumptions concerning the enforcer’s ability to devise and execute the optimal policy. Indeed, one may argue that the characteristics of actual tax enforcers do not always qualify them as ‘rational’. They often have conflicting or ill-defined incentives, their rules may be oriented to ‘process’ rather than ‘outcome’, and they are likely to have short-sighted and perhaps multiple conflicting goals. This suggests that the enforcer may tend to behave myopically and just ‘react’ to impulses from the economic system. The enforcer may, for instance, take the amount of evasion in the economy as given and act only to maximise detection, while disregarding deterrence. This thesis, based on the assumption that the tax enforcer cannot credibly pre-commit to any specific auditing policy, is advanced forcefully by Graetz et al. (1986) and Reinganum and Wilde (1986). Their argument is that as actual audit rates are not observed by taxpayers, the enforcer has an incentive to relax any announced auditing policy once the tax returns are in, that is, once the policy has performed its deterrent effect. Since taxpayers will anticipate the enforcer’s ex-post deviation, they will not believe the announced policy and will engage in greater evasion. The conclusion is that, in equilibrium, audits will be performed on likely evaders rather than on compliant (that is, deterred) taxpayers. This would appear to be a most reasonable prediction, and in fact it tallies with actual enforcement practices.

The insights of the two types of model on tax enforcement differ. ‘Principal-agent’ models (with commitment) are probably best used to define the constraints that tax evasion puts on the effective tax system. They neatly define the set of implementable allocations on the assumption that the enforcer performs at maximum capacity. The ‘no-commitment’ approach, with a lower profile, aims at capturing a version of tax enforcement closer to actual practice.

Several authors have considered the problem of optimal tax enforcement in a repeated-game setting (see, for instance, Landsberger and Meilijson, 1982; Greenberg, 1984; Harrington, 1988). The results are highly instructive. Greenberg (1984) proposes a simple enforcement scheme in which taxpayers are separated into three distinct groups depending on their ‘criminal history’. If an individual is caught cheating once, he is relegated to a ‘purgatory’ state where he can redeem himself by not cheating and
getting back into the ‘paradise’ of non-cheaters. If the individual in purgatory is recidivist and gets caught again, he is sent down to an ‘inferno’ where audits are carried out with a probability of one. The prospect of sure auditing for an infinite time horizon is sufficient to ensure compliance by (almost) everybody at a very low cost. This model shows that the intertemporal dimension, namely the ability to sort individuals according to past behaviour, greatly strengthens standard enforcement tools (the ‘leverage effect’). This theory should be related to the literature on recidivism in criminal law enforcement.

6. Tax enforcement procedure

It is clear by now that compliance decisions in the real world are far more complex than in standard economic models and that enforcement unquestionably means more than the correct combination of the penalty and audit rates. The path from checking tax returns to the conviction of evaders is long and twisted. The process involves various bodies (tax administration, tax courts) and specific procedures (interviews, cross-examinations, settlements, etc.). The shape of the enforcement procedure affects taxpayers’ attitudes towards compliance in two ways. First, it determines the actual probability that a sanction will be imposed on evaders and, possibly, innocent taxpayers; and second, it may affect the degree of ‘hostility’ in taxpayers’ perception of the system.

We will touch briefly on some of these procedural and institutional aspects.

Compliance costs

According to a number of studies, the cost to the taxpayer of compliance with the most common taxes (income and VAT) in industrialised countries can be as high as 10 or 13 percent of the total tax liability (see Gale and Holtzblatt, 2000; Guyton et al., 2003; and references therein). High compliance costs, which may be due to complex tax schedules and rules, not only tilt the ‘cost-benefit analysis’ towards evasion, but may also cause resentment, weakening taxpayers’ moral conscience or even prompting evasion as a form of ‘retaliation’ against the tax administration. Legislatures should accordingly avoid the vicious circle of countering evasion by increasing the complexity of tax regulations, further raising compliance costs with the risk of more evasion.

Tax experts

When tax law is very complicated, taxpayers usually have to turn to tax experts (CPAs or tax preparers), who exert considerable influence on their clients’ attitudes towards evasion, thanks to their superior knowledge of

Defence costs
Audits and tax litigation impose costs on taxpayers, whether compliant or not. According to deterrence theory, honest taxpayers should not bear any cost whatever. On the contrary, optimal enforcement would require that the taxpayer be rewarded when an audit finds that he is compliant (Border and Sobel, 1987; Boadway and Sato, 2000). Apart from the adverse impact on enforcement, defence costs might have the additional disadvantage of prompting ‘nuisance’ auditing by a greedy tax administration: lengthy and invasive auditing whose sole purpose is to extort money from the taxpayer, possibly in the form of a legal settlement (Franzoni, 2000) if not an illegal bribe (Hindriks et al., 1999).

Record-keeping
Costs are also entailed in mandatory record-keeping and reporting, whose role is to increase the visibility of offences, that is, the ‘frequency and ease with which they come to the attention of and can be proved by enforcement officials’ (Kagan, 1989). As noted in Section 4, non-compliance varies greatly with economic grouping, as tax violation by different groups has different degrees of ‘visibility’. Unsurprisingly, therefore, evasion appears to be most widespread among independent contractors, professionals and farmers; compliance highest among payroll employees subject to withholding.

In a technical sense, greater visibility makes it easier both to ‘observe’ the real situation or behaviour of the taxpayer (by signalling potential violations) and to ‘verify’ it (prove it in court). Some forms of mandatory record-keeping, for example, serve a legal evidentiary function, constituting a de facto shift of the burden of proof. It is the taxpayer who has to prove his compliance with the law and bear the costs thereof. The optimal extent of compliance obligations is therefore bound up with the optimal allocation of the burden of proof. Generally, the efficient allocation is that which places the onus of the proof on the party for which it is least costly (given its level of informativeness).

Standard of proof
Another important factor in the ‘visibility’ of tax law violations is the standard of proof. Indeed, the difference between the ‘observability’ and
the ‘verifiability’ of the tax base is precisely defined by the type of evidence that is necessary to assess it legally (and possibly prove that the original payments were not correct). In most countries, tax authorities have the power to estimate the liability by discretionary means when the information supplied by the taxpayer is insufficient or clearly incorrect (OECD, 2007). Clearly, under these circumstances, the standard of proof can be rather lax, and mere statistical evidence can be used as proof of taxpayers’ liabilities. Presumptive taxation is a case in which statistical estimates and proxies are used *ab origine* to define the tax obligation, resulting in the automatic visibility of the activities covered and imposing virtually no compliance costs on taxpayers (see Tanzi, 1990). Note that simplifications and reductions in compliance costs will ordinarily be achieved only at the expense of a reduced ability to discriminate among taxpayers (for purposes of either vertical or horizontal equity). As Kaplow (1996) observes, there is likely to be a trade-off between compliance costs and accuracy of assessment.

**Settlement**

On the procedural side, another important consideration is the possibility of resolving tax disputes by amicable settlement. In most countries, taxpayers can make a ‘deal’ with inspectors and obtain substantial penalty discounts in exchange for collaboration. As the literature on pre-trial bargaining shows (see Chapters 5 and 6 in this Encyclopedia), settlements avoid adjudication costs. However, by reducing the expected payments of violators, settlements may undermine enforcement. For this reason, overall, their desirability remains dubious. Using different models, Macho-Stadler and Pérez-Castrillo (2002) and Franzoni (2004) argue that settlements allow tax inspectors to use their specific information (‘professional judgement’). On this basis, they can ‘price discriminate’ among taxpayers. If the information is precise enough, settlement is unambiguously desirable in tax enforcement.

**Tax amnesties**

Some countries occasionally offer generalised pardons to taxpayers who agree to participate in amnesty programmes. The programmes vary enormously in nature and scope (see Das-Gupta and Mookherjee, 1996, and Franzoni, 1996, for general overviews). In the United States and most European countries, the amnesty programme generally gives taxpayers the chance to pay back taxes at a reduced rate, with no further benefits. In some Latin American countries and in Italy, amnesties can go so far as to provide participants with full indemnity against further liability. The amnesty thus works like a generalised tax settlement, open both to
Taxpayers who are already engaged in litigation with the tax administration and to taxpayers who could start litigation. The rationale for such measures is hard to determine, but can be ascribed to structural problems in the enforcement system (which might be unable to deal with massive non-compliance proceedings), short-sighted revenue needs of government (Stella, 1991) or an inability to lower excessively high tax rates (Franzoni, 2000).

Tax amnesties of narrow scope, like those allowing for the simple possibility of revising one's own tax return, may be a desirable feature of the enforcement system, as they offer taxpayers social insurance against unexpected shocks, allowing them to complete their payments after uncertainty (about their income or their true preferences) has been resolved (Andreoni, 1991b; Malik and Schwab, 1991).

**Private enforcement**

A fundamental problem for the optimal institutional design of tax enforcement is incentives for enforcers. Basically, the question is whether enforcement should be the job of public or private agents. First raised in general terms by Becker and Stigler (1974), the issue has been examined in the specific context of tax evasion by several authors. While in most countries taxes are collected by a public agency, in a few (for example, import duties in Indonesia), collection is delegated to private contractors. Melumad and Mookherjee (1989) show that the delegation of tax enforcement to a private party may be viable (that is, it can replicate the full-commitment solution) if it is backed by an incentive scheme based on publicly observable aggregate variables (audit expenditure, taxes filed and fines collected). This scheme rewards the agent for collecting fines, or, when no fine is collected, for meeting the target audit budget. Toma and Toma (1992) observe that different institutional arrangements may entail different agency costs, so that depending on their incidence, either public or private enforcement may be desirable,

**Corruption**

A key agency cost is generated by the danger of corruption. Since the personal interests of enforcement officers may not correspond to institutional aims, there is scope for collusion with taxpayers. This seriously complicates the analysis, as a third constraint (no collusion) must now be placed on the models. For while it may be contended that combating corruption can help control tax evasion, it may well be that anti-evasion measures as such just increase the scope for and the extent of corruption (see among others Chu, 1990; Chander and Wilde, 1992; Besley and McLaren, 1993; Mookherjee and Png, 1995; Flatters and MacLeod, 1995;
Hindrik et al., 1999). This only confirms that the institutional features of the enforcement system are a point of fundamental importance, as they define the incentive structure governing the conduct of enforcers and determine the actual functioning of all enforcement tools.

7. Conclusion
Of concern to all governments, tax evasion has been subjected to intense inquiry by economists and social scientists. A very large body of literature has been produced, both theoretical and empirical. This literature is of special interest to law-and-economics scholars interested in the mechanism of compliance with the law. Tax evasion, like such other economic crimes as corruption and fraud, can be suitably studied through the lens of the standard rationality assumption. This line of research has stressed the deterrent effect of the enforcement process, with special attention to audit policy and the penalty schedule.

Whereas in other fields of law and economics the insights of psychology and sociology have been applied only recently (Jolls, 2008), in the matter of tax evasion the social sciences have contributed from the earliest stages. Accordingly, no major behavioural revolution in the analysis of the phenomenon is to be expected. This does not mean, however, that there is no need for further research. Many features of the enforcement process remain unexamined, despite their great impact on the incentives for compliance. Among these, the most important are the structure of withholding and information reporting, the procedure for proof of violation (for example, the burden of proof and the standard of proof), the determinants of the taxpayer’s culpability, the structure of the audit process and the litigation procedure, the actual powers of the tax administration to investigate and decide cases. There is a particularly great need for empirical inquiry into the impact of procedural specifications.

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