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Luca Barbone
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International Center for Public Policy
Andrew Young School of Policy Studies
Georgia State University
Atlanta, Georgia 30303
United States of America

Phone: (404) 651-1144
Fax: (404) 651-4449
Email: hseraphin@gsu.edu
Internet: http://aysps.gsu.edu/isp/index.html

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The Costs of VAT
A Review of the Literature

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Abstract

This paper reviews the literature on the costs of VAT, beginning with a review of concepts with regard to different aspects of administrative and compliance costs and then a review of quantitative estimates of such costs. It concludes with a brief discussion of VAT non-compliance and fraud with special reference to European Union case.in the European VAT context, including some suggestive evidence on the trade-off between compliance costs and fraud.

The Costs of VAT: A Review of the Literature[1]

Introduction

> *In the province of Germany it is quite clear that goodness and respect for religion are still to be found in its peoples … When these republics have need to spend any sum of money on the public account … each person presents himself to the tax collectors in accordance with the constitutional practice of the town. He then takes an oath to pay the appropriate sum, and throws into a chest provided for the purpose the amount which he conscientiously thinks that he should pay; but of this payment there is no witness save the man who pays.*
>
> Machiavelli N, *The Discourses*, ed. Bernard Crick (Penguin Books, 1983), pp. 244–45.

Curiously, this rather imaginative description of Germany in the 16th century has a 20th century parallel in the vision of the libertarian thinker Ayn Rand (*The Virtue of Selfishness*, New York, Signet, 1964, p. 117):

> *In a fully free society, taxation—or, to be exact, payment for government services would be voluntary. Since the proper services of a government—the police, the armed forces, the law courts—are demonstrably needed by individual citizens and affect their interests directly, the citizens would (and should) be willing to pay for such services, as they pay for insurance.*

In both these visions of an ideal, law-abiding society – one of a (probably imaginary) past and one of a (probably unrealizable) future – people would voluntarily pay the taxes they owe, and the task of the revenue administration would be little more than to provide the facilities for citizens to discharge this responsibility. Alas, no such country exists, nor—despite what Machiavelli may have thought—has it ever existed.

Compliance with tax laws does not occur without effort: it must be created, cultivated, monitored, and enforced in all countries. In economic terms, of course, effort is just another word for cost, and tax compliance costs have been a concern for centuries. One of Adam Smith's famous 'canons' of taxation, for instance, was that "(e)very tax ought to be levied at the time, or in the manner in which it is most likely to be convenient for the contributor to pay it."[2]

Although a few early attempts were made to measure the cost of tax compliance (e.g. Haig (1935)), the "father" of modern compliance cost studies was undoubtedly Cedric Sandford, who amongst many other works on the subject (e.g., Sandford 1973, 1994) produced the first detailed study of the costs of VAT (Sandford et al. 1981). In this report, we review much of the modern literature on compliance costs with particular attention to the costs associated with VATs, with particular

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[1] An earlier version of this paper appeared as a chapter in the Report "A retrospective evaluation of elements of the EU VAT system - Final report" TAXUD/2010/DE/328, commissioned by the European Commission, under frameworkcontract FWC No. TAXUD/2010/CC/104, and available in its entirety at http://ec.europa.eu/taxation_customs/common/publications/studies/index_en.htm. The authors alone are responsible for its contents, which do not represent the views of the European Commission. © European Commission 2011.:

[2] Smith, *Wealth of Nations*, quoted in http://www.progress.org/banneker/adam.html

reference to the existing VATs in the EU. We also consider some aspects of VAT fraud and non-compliance, as set out in the terms of reference.

Definition and Measurement of Compliance Costs

In recent years, a substantial body of literature has been devoted to the definition and, in many cases, the quantification of the costs of complying with taxation and with regulation in general. In the last decade or so, particularly but not exclusively in the European Union, an increasing proportion of this literature has taken the form of cost estimates based on the Standard Cost Model (SCM). As discussed below, the SCM is in effect a representation of a subset of the broader concept(s) used earlier in the broader Tax Compliance Cost (TCC) literature. This section provides a brief overview of the different concepts of burdens, drivers and methodologies found in both the SCM and the broader TCC literature. While generally speaking these concepts are applicable to all taxes, we point to VAT-specific issues as appropriate.

The Costs of Tax Compliance

A number of important definitional issues need clarification when approaching taxation compliance costs, particularly in view of not only the shifting debates within the EU but also the increasing use of the Standard Cost Model and related approaches recently popularized through such other influential publications as the World Bank's *Paying Taxes 2011*.

In a recent thorough review of the compliance cost literature, Evans (2008) provides a clear and broad definition of terms with respect to the costs of taxation:

> "Modern taxation systems have the capacity to impose a heavy burden on taxpayers, and particularly on small business taxpayers. That burden typically consists of three elements. In the first place there are the taxes themselves (…) Secondly, there are the efficiency costs (variously referred to as deadweight losses or excess burden), involving tax-induced market distortions. And finally there are the operating costs of the tax system: the costs to the government (ultimately borne by taxpayers) of administering and collecting the taxes (usually referred to as "administrative costs"), and the costs expended by taxpayers in complying (or sometimes not complying) with their tax obligations (usually referred to as "compliance costs")."

Evans (2008) goes on to note that "in addition to this generally accepted hard core of compliance costs, there are a number of other costs that need to be considered. For example, there is little doubt that there will always be a measure of psychological cost that is induced by the operation of the tax system. Taxpayers suffer stress, anxiety and frustration as a result of attempting to comply with their tax obligations. Unfortunately, no studies have yet managed to successfully quantify these psychological costs, although research in this area is now taking place." For this reason, we will not pursue this strand of the literature further in the present review, although James and Edwards (2010) list several interesting examples of behavioural and experimental research which appear to offer some promise of future practical relevance (e.g. Coleman et al. 2003). In particular, it is perhaps worth noting that at least one such study (Hasseldine and Hansford, 2002) suggests that psychic costs are positively associated with financial costs of compliance.

In most of the tax compliance cost (TCC) literature surveyed by Evans (2008) (and catalogued extensively by James and Edwards, 2010) the term *administrative costs* refers to the public budgetary costs associated with collecting taxes (including, of course, VAT). Confusingly, however, in such SCM-based studies as SCM Network (2005), this term has the very different meaning of the direct resource costs imposed on taxpayers, assuming full compliance with the law.

Table 1
Compliance and Administrative Costs
(Operating costs = Administrative + Compliance costs)

A. Administrative (or 'enforcement') public sector costs

1. Budgetary costs of revenue department(s)
2. Costs incurred by other departments in providing information
3. Judiciary and other costs related to dispute resolution
4. Interest costs (of 'loans' extended by legal lags in collection)

B. Compliance costs incurred by private sector

1. Direct costs incurred by taxpayers or 'taxpayer costs'(time, labour cost, expert advice, other)
   (a) in complying with legal obligations ("involuntary" or unavoidable costs)
   (b) in tax planning and attempting to evade ("voluntary" or avoidable costs)
   (c) psychic costs (stress, anxiety, frustration)
2. Costs incurred by third parties (information providers, voluntary helpers)

C. Possibly offsetting compliance 'benefits' to private sector

1. Management benefits (from improved accounting required for tax purposes)
2. Cash flow benefits (the private sector side of A.4)

D. Net compliance costs = B-C (in addition, some costs may be reduced to the extent they are tax deductible)

Comments: [1] The SCM model essentially attempts to measure B1(a) – which it calls "administrative burden" – distinguishing it from what is rather confusingly called "administrative cost", by which is meant the ordinary costs of running a business as opposed to the narrower concept of the costs of complying with the specific 'information obligations' imposed by a particular law. [2] Since there may be substantial 'start-up' costs for both the public and private sectors when tax laws and procedures are changed and even the initial operating costs may be reduced ('learning effect') over time, it is sometimes important to distinguish initial from ongoing costs.

Equally confusingly to those familiar with the TCC literature, the SCM studies introduce the term *administrative burden* (AB) to mean those costs that are directly attributable to the various "information obligations" imposed on taxpayers by such regulations as VAT law and procedures, as distinguished from the costs – e.g. of registering a business -- necessary for simple "business as usual" (BAU) operation. Thus defined, "administrative burden" is of course a major component, but not the whole, of the "compliance costs" imposed by VAT on the private sector as discussed and measured in the broader TCC literature. That literature often considers not only the compliance costs imposed on the private sector by taxation but also the public sector's administrative costs. While in some instances administrative and compliance costs may be substitutes and in other instances complements, both constitute real resource costs -- the "operating costs" -- of a given tax system, and should be properly accounted for. Table 1—drawn largely from Sandford, Godwin and Hardwick (1989)—may help the reader disentangle the overlapping but distinct measurement approaches found in the compliance literature. Most of the concepts listed in the table are discussed further in the next section.

Cost Drivers: Administrative and Compliance Costs

Taking as given the standard (OECD 2011) definition of administrative costs as the resources devoted by governments to administer and enforce taxes and regulations (including VAT),[3] a number of studies over time have looked at what makes countries more or less efficient and effective in these tasks. OECD (2011) provides a detailed, and often quantitative, comparison of tax administration practices in EU member states, among others. Unfortunately for our purposes, though understandably, since modern tax administrations are organized not by tax but by function, increasingly with some segmentation of key taxpayer groups (such as large businesses), none of this information is provided on a 'tax' (e.g. VAT) basis. In any case, valuable as they are, the OECD data can only be used for comparative purposes with great care owing to the many comparability problems that remain to be sorted out.

For a first attempt to incorporate some of this information in a more systematic cross-country study, see Slemrod and Robinson (2010). In recent years, a number of attempts have been made to compare such costs, mainly in developing countries, as discussed by Gallagher (2005). In addition, careful studies have been made of the operational efficiency of tax offices in a number of countries such as Belgium (Moesen and Persoon 2002).[4]

Although conceptually quite distinct, administrative costs and compliance costs share certain "drivers": for example, more complex regulations increase the burden on taxpayers and generally also require higher managerial resources on the part of enforcement agencies. However, the burden on the two sides of the process—the taxer and the taxed—is likely to be quite uneven, may differ sharply in different sectors, and at different times and, in the case of VAT, may depend to a considerable extent on such features as rate structure, thresholds, integration with other business taxes, etc. (Cnossen 1994, Evans 2003). Among the 'drivers' of administrative costs – and to a considerable extent of compliance costs also – identified in the literature are:

1. The complexity of legislation (the number of 'lines' to be drawn – exclusions, exemptions, deductions; rate differences; goods/services distinctions, etc.; frequency and nature of changes; costs involved in explaining legislation, making rulings and determinations, etc.). Distinguishing set-up (initial, implementation) costs of changes in these factors from on-going recurrent costs is not always easy.

2. Procedural requirements—the number of returns[5]; requirements for supplementary documentation; treatment of cross-border transactions; and, of course, registration. The latter is an especially key factor in VAT because possession of a VAT number carries with it the potential to, in effect, write a payment order on the Treasury without the Treasury approving it or even being aware of it.

3. The size and nature of clientele (number of taxpayers; structure of economy and of business sector; the importance of B2B (transactions between VAT registrants) relative to B2C

[3] The most useful general discussion of defining administrative costs probably remains that of Sandford, Goodwin and Harwick. (1989).

[4] Other relevant country studies of aspects of this issue, with varying degrees of sophistication, include Hunter and Nelson (1995) on the United States, Klun (2003) on Slovenia, Serra (2005) on Chile, Forsund et al. (2006) on Norway, and von Soest (2007) on Zambia.

[5] For example, the "barriers to business" studies of the World Bank place considerable weight on the number of returns.

(transactions with non-registrants); cross-border transactions; size of threshold). In this connection, note that there are 'marginal costs' associated with the growth of the taxpayer population as well as with policy and procedural changes, and that these categories should in principle be distinguished.

4. The difficulty of verifying 'self-assessed' information, which varies with such factors as the size of the informal sector; the extent and nature of links between formal and informal sectors; 'border effects' on information flows; the extent to which efforts are made with respect to verification and chasing down suspect cases6; extent of e-invoicing; and the role played by tax professionals – accountants in particular.

Compliance Costs and the Standard Cost Model (SCM)

There is also debate about what should be included in the measurement of tax compliance costs. Tax compliance costs are those costs "incurred by taxpayers, or third parties such as businesses, in meeting the requirements laid upon them in complying with a given structure and level of tax" (Sandford, Godwin and Hardwick, 1989, p. 10).[6] Paraphrasing Evans (2008), while this is an area in which there will always be debate, it is possible to identify a "hard core" of costs that are indisputably part of the costs of complying with tax requirements. Typically these will include:

- the costs of labour/time consumed in completion of tax activities. For example, the time taken by a business person to acquire appropriate knowledge to deal with tax obligations such as VAT; or the time taken in compiling receipts and recording data in order to be able to complete a tax return;
- the costs of expertise purchased to assist with completion of tax activities (typically, the fees paid to professional tax advisers); and
- incidental expenses incurred in completion of tax activities, including computer software, postage, travel, etc.

Involuntary vs. voluntary costs

Evans (2008) also notes that there is contention over other aspects of the precise boundaries of compliance costs. For example, compliance costs are sometimes divided into computational (unavoidable or involuntary) and tax planning (avoidable or voluntary) costs (a distinction first made by Johnston (1963)). Many tax lawyers and policy-makers continue to insist that only computational costs constitute legitimate measures of tax compliance costs, and some attempts have been made to disentangle the two (Pope, Fayle and Chen, 1991).

However most major modern studies (for example, Sandford, 1973; Sandford, Godwin and Hardwick, 1989; Allers, 1994; Evans, Ritchie Tran-Nam and Walpole, 1997) have not distinguished computational and tax planning costs in their estimates of compliance costs – if only for the obvious

[6] To illustrate, business surveys (such as KPMG 2010)) often find that the highest and most troublesome operating costs are those associated with audit. Interestingly, OECD (2011) shows that such costs are equally prominent on the other side of the taxing equation.

reason that it is often almost impossible to disentangle the one from the other. Moreover, as noted by Slemrod and Sorum, "both kinds of costs are real resource costs of collecting the taxes" (1984, p. 461). Despite these sound comments, the SCM approach does attempt to distinguish these costs essentially, as discussed further below, by assumption.

Social vs. private (taxpayer) costs

Evans (2008) also points to the distinction between what have variously been termed total, gross or social compliance costs and net or taxpayer compliance costs (Allers, 1994; Evans, Ritchie, Tran-Nam and Walpole, 1997), i.e. the costs to the economy vs. the costs directly borne by taxpayers. Social compliance costs tend to be less than taxpayer compliance costs for two reasons:

> In the first place there are various offsetting benefits that may be generated for taxpayers as a result of compliance with their tax obligations. These include, fairly obviously, certain cash flow benefits that may arise as a result of the timing difference between receipt of funds and payment of tax relating to those funds. Most modern empirical studies quantify the value of these benefits with some certainty. Less obviously, managerial benefits may also occur as a result of tax compliance. For example, better accounts and record keeping may lead to improved business decision-making and reduce the costs of audit for small businesses, resulting in lower accounting fees. Two major studies in the UK attempted, somewhat imprecisely, to quantify the managerial benefits generated for business taxpayers, and concluded that the value of these managerial benefits can be quite significant (Sandford, Godwin, Hardwick and Butterworth, 1981, p. 96; National Audit Office, 1994, pp. 19–20).
>
> Secondly, net taxpayer costs – though not social costs – may be reduced to the extent that they are deductible in computing income tax liability. The tax deductibility of business taxpayer compliance costs has also been taken into account in a few of the major studies but not in most. The three major studies that appear to have factored in a value for the tax deductibility of certain compliance costs are those conducted by Johnston (1963), Allers (1994), and Evans, Ritchie, Tran-Nam and Walpole (1997).

The Standard Cost Model

The Standard Cost Model (SCM), developed in the 1990s in the Netherlands and quickly become the standard bearer of the definition of compliance costs for practitioners, particularly in Europe. The spread of the reach of the SCM is little short of phenomenal. Its features are discussed in a "manual" now widely in use among practitioners (see International Working Group on Administrative Burdens (2004)). Other useful references include Wegrich (2009), from which Box 1 is adapted, as well as a very vibrant on-line debate, best represented perhaps by the network Standard Cost Model, which maintains a growing website community of practice at http://www.administrative-burdens.com/.

As Box.1 discusses, the SCM per se did not introduce particularly innovative concepts or techniques to estimate compliance costs by taxpayers. Its strength, which makes it so appealing to spontaneous replication across many administrations and professional circles, lies in its accounting-like methodology, which promises to quantify costs based on an assumed real-life simulation of what it

takes to comply with legal and administrative whims. In some countries, as discussed in the next section, this approach has produced apparently precise estimates of costs of regulation and taxation (among which VAT features prominently), which have then been used to set the stage for a public debate on creating better business environments. The SCM is also at the root of the World Bank's *Paying Taxes* (2011) methodology, as we discuss later, and this methodology may, over time, produce even more powerful effects on public policy debate, as have the more general indicators and rankings included in the Bank's broader *Doing Business* (2011) studies.

In addition to being restricted to a subset of compliance costs, the SCM is not immune from other criticism. In particular, Weigel (2008) has argued that the model is deficient for a number of reasons:

i) the lack of explicit consideration of the market failures which gave rise to information obligations, which may lead to economically flawed results because the simulation assumes that the costs attributable to the IOs may be eliminated with no detriment to the efficiency or coverage of the tax;

ii) the disregard of other market imperfections that permit strategic actions that may lead to errors in the assessment of tax obligations;

iii) The disregard of the variation in costs of compliance by assuming a "normally efficient" firm—a methodology that to some extent makes the overall result of the exercise almost arbitrary, and certainly far from statistically representative;

iv) Finally, other reasons may lead different firms to perform differently (such as those suggested by the theory of X-inefficiency), so that the reactions of firms to changes in the reduction of compliance burdens may be quite different from those suggested by the SCM numbers (and presumably desired by policy makers).

Box 1. The Standard Cost Model: Rapid Deployment of a Simple Technique

The SCM policy template was developed starting in the early 1990s in the Netherlands (cf. WIFO-CEPS 2006; OECD 2007). The perception of increasing regulatory burdens was a recurring theme on the public sector reform agenda in the Netherlands (Larsen 2006; Toonen and van den Ham 2007). The idea of measuring and quantifying regulatory burdens was part of this debate. However, earlier attempts to measure overall costs of regulation were frustrated by the perceived complexity of such an approach, and also by difficulties in accounting for benefits of regulations.

Rather than developing increasingly complex solutions to these problems, policy development was guided by the idea of reducing complexity by focusing the measurement on a specific component of regulatory costs, namely what came to be defined as administrative costs (see text discussion for semantic differences with earlier literature). Administrative costs in the SCM are defined as those parts of the regulatory (or compliance) costs that are imposed on firms by specific information obligations (IOs) included in laws or secondary legislation. Administrative costs thus defined are then distinguished from so-called *substantial* compliance costs, i.e costs attributable to compliance with regulatory standards (such as emission standards). While the boundary between administrative and substantial costs is difficult to draw and those two types of regulatory costs are clearly related, the key idea is to quantify those costs that are easy to measure in order to permit the setting of quantitative targets for reducing administrative burdens.

The method for measuring administrative costs was developed by research organisations and consultancies over a decade and tested in various pilots. Unlike approaches assessing administrative costs accumulating in companies by focusing on single regulations, the main idea of the SCM is to start from information obligations included in legislation, calculate the time (hence: costs) of work needed in a company to comply with this obligation, and then sum up the number of 'cases' (frequency of occurrence and number of companies affected by the information obligation). The total cost calculated for all the individual information obligation of a regulation is regarded as the quantification of the administrative cost of this regulation. While the calculation of the costs of complying with information obligations is based on information gathering activities, such as interviews or, in some cases, actual time measurement (stopwatch approach), the tool is not meant to present either an exact measurement or a representative sample of the actual costs of compliance for companies. Rather, the idea is systematically to assess what the costs would be in a 'standard' process of compliance with the information obligation. Experiences with the measurement exercise, the development of databases etc. and comparative 'benchmarking' are said to enhance the precision of the assessment. Nevertheless, the quantification remains a proxy of a cost measurement that is supposed to allow tracking change (as well as benchmarking across jurisdictions) over time and hence evaluate the effectiveness of reduction measures. The method does not account for different administrative implementation styles of regulations in terms of over- or under-enforcement by agencies, and of course takes no account of any possible benefits from the regulations, e.g., by improving management's information on operations.

Diffusion of the SCM policy template in Europe

From its very inception, the SCM has enjoyed almost unparalleled popularity among both practitioners and policymakers, and consequently it has rapidly spread as the standard tool for quantification of costs of taxation and regulation, particularly in the EU. Taking for instance the starting point as 2003 when the Netherlands carried out the SCM baseline measurement (accounting for all regulations as by end of 2002), by 2004, only two other countries were engaged in any activity of administrative costs measurement and reduction. However, by the end of 2007, 15 out of 29 EU-25/EFTA member states had developed such programmes (with two further countries having expressed the general plan to engage in SCM measurement exercises). Almost all EU-15 member states have adopted this approach. Moreover, so have two larger EFTA countries (Norway and Switzerland). As yet, however, smaller EU-15 member states, most of the new member states of the 2004 enlargement and the two small EFTA countries have done relatively little along these lines. Still, the scope of diffusion in western Europe is striking – all larger western European countries are involved in some kind of emulation of the SCM policy template. Interestingly (but beyond the scope here), South Africa was the first non-European country to adopt the SCM approach, and other non-European countries (Australia, Canada, US, Australia, New Zealand) are involved in the OECD's project related to the SCM method (Red Tape Scoreboard, OECD 2007).

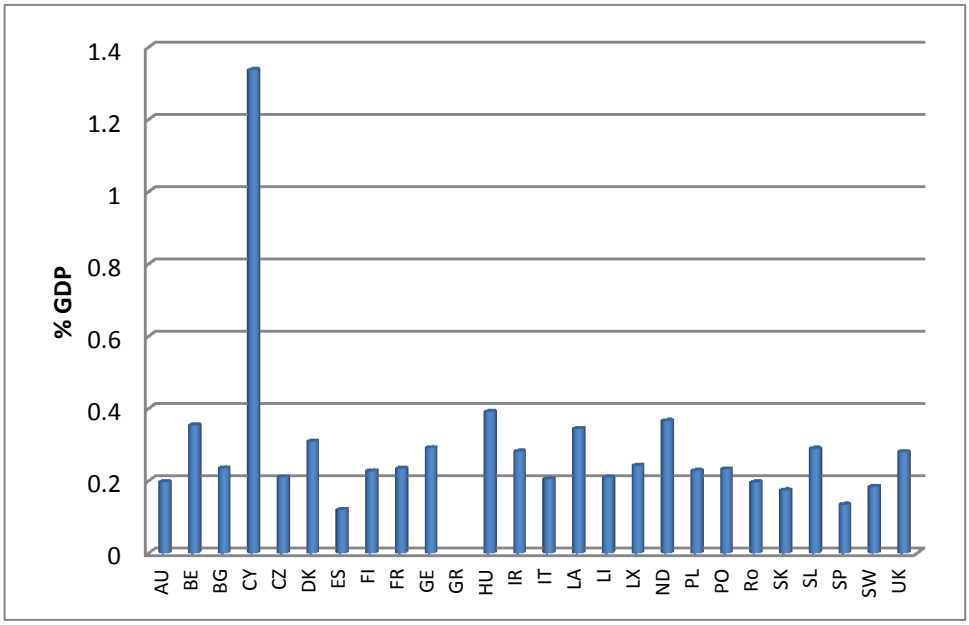
Estimates of Compliance and Administrative Costs

With the observations just discussed on concepts and definitions, we now review in turn evidence on administrative and compliance costs.

Administrative Costs

Administrative costs imposed on the public sector by VAT are largely captured in the budgetary allocation of the revenue department(s). The OECD (2011), in its biannual publication on comparison of tax administration performances, provides detailed country-by country data on budgetary allocations for different tax administration (though not divided by tax, something which is obviously very difficult to quantify with precision). Figure 1 provides a snapshot for 2009, the latest comparable data period (note that Greece does not report such data).

Figure 1. Tax administration budgetary allocations



Thus defined, tax administration costs in the EU averaged 0.29 percent of GDP, ranging from a minimum of 0.12 percent in Estonia to 1.3 percent of GDP in Cyprus (an outlier, with the second-highest country being Hungary with 0.34 percent of GDP). Although the OECD study warns of the pitfalls of international comparisons of such ratios, it also provides data on other measures of administrative efficiency of such expenditures, such as the ratio of expenditures to tax collections.

Of course, not all administrative costs are attributable to VAT. On the other hand there are additional administrative costs that can and should also be taken into account e.g., other government departments, judiciary, etc.[7] It should also be mentioned that budgetary numbers often do not convey the economically relevant facts: for example, many countries do not charge appropriate 'rents' for the office facilities used by tax agencies to the budgets of those agencies and capital outlays (e.g. not simply buildings and computers but also such outlays as training costs and 'taxpayer services') are seldom depreciated appropriately from an economic perspective. In sum, it appears that as yet no attempt has been made to develop as detailed an approach as the SCM to

[7] See for one such wider approach Vaillancourt, Clemens and Palacios (2008), for Canada.

allocating the costs of tax departments to the various ways and amounts in which real resources are devoted to either on-going VAT activities or the impact of changes in legislation or procedures.

In part perhaps because of the increasing extent to which tax administration is organised by function rather than by tax, little information on administrative costs by tax is available In the UK, however, a recent report shows that the cost of administering VAT in that country is 0.7 percent of VAT revenues.[8] Occasionally in other countries budgets, annual reports, and so on sometimes provide indications of the cost effect of changes in various aspects of VAT administration.[9] As an example, the recent incorporation of the provincial sales tax into the national VAT system was reported in the budget of the province of Ontario to reduce the province's administrative costs by $500 million in 2010-11: although no details were reported, it is likely that this outcome reflects the fact that the new tax, unlike the previous provincial sales tax, would be administered at no cost to the province by the Canada Revenue Agency.[10]

Overall, in this area what has been done in terms of understanding of and estimating administrative costs appears to have been governed far more by the availability of data than by any rigorous consideration of what should be done to obtain the most useful or relevant measures for the purpose at hand. Of course, this is both understandable and acceptable; but perhaps more thought should be given to how we might obtain the 'correct' economic information or at least to thinking about the possible extent and direction in which the numbers we do have might be altered if we were able to take such information—even if it proves unattainable in practice—into account.

Estimates of Compliance Costs

The SCM approach

The spread of the SCM discussed above has produced a flurry of estimates of compliance costs by countries, some of which are based on very detailed analyses of business processes and obligations resulting from tax legislations and other regulations.

KPMG (2006) reports a detailed study of the "administrative burden" (compliance burden in our terminology) for a number of tax and other obligations for the UK for the year 2005. According to the study, the total compliance burden can be quantified at £5.1 billion (or about 0.42 percent of GDP), of which costs attributable to VAT would amount to about £1 billion, or 0.08 percent of GDP. The report also provides estimates of costs based on types of obligations, as well as on the size of the business units. As is typical in such studies, smaller businesses (if subject to VAT obligations) are reported to bear a disproportionately large share of the total burden.

SCM Network (2005) reports estimates of what it labels "administrative burden of VAT" arrived at using the SCM methodology for four countries, Denmark, Netherlands, Norway and Sweden, based on the year 2003 structure of VAT in each country. As shown in Table 1, this SCM concept is roughly equivalent to the compliance costs incurred directly by taxpayers as measured in most studies of

[8] See p. 13 of http://www.hmrc.gov.uk/about/annual-report-accounts-1011.pdf

[9] For a detailed consideration of comparative information on the costs and requirements of administering a tax system, including a VAT, see Australian Government (2007), a research guide which compares approaches to information management, risk management and internal organizations among several large administrations (Australia, Canada, United States, the "OECD model", etc.).

[10] See http://www.fin.gov.on.ca/en/budget/ontariobudgets/2010

compliance cost, and is henceforth referred to simply as "compliance costs." According to this study, compliance costs on businesses (per average business unit) range from a low of Euro 180 in Denmark (which, multiplied by the number of businesses reported by the study, yields a "total cost" amounting to 0.3 percent of VAT collections, or 0.03 percent of GDP), to a high of Euro 807 for the Netherlands (for a total of 2.17 percent of VAT collections and 0.17 percent of GDP), with Norway at Euro 430 (0.64 percent of VAT collections and 0.06 percent of GDP) and Sweden at Euro 344 (0.75 percent of VAT collections and 0.07 percent of GDP). The authors advance a number of explanations for this wide range. Inspection of the rate structure, filings, thresholds, registration requirements etc. reveals a number of differences across countries that without pointing to a single culprit, give food for thought. For instance, it is notable that Denmark is the country of the group with the least differentiation in rates, so that the other countries' businesses are burdened with somewhere between 2 and 48 extra hours per year for the administration of multiple rates. Similarly, Denmark's filing procedures are more lenient than in Norway or Sweden, again resulting in cost advantages for Danish businesses. For example, a business with limited liability and a turnover of 200 000 euro must file four times per year in Denmark, six times per year in Norway and 12 times per year in Sweden. The differences between the countries can also be seen by looking at the proportion of businesses in each respective country that file different number of times per year. 44 percent of the businesses obliged to pay VAT in Sweden file 12 times per year, in Denmark the same proportion is only 10 percent.

For SCM studies of recent or possible future accession countries, see Klun (2003) for Slovenia, and Blažić (2004) on Croatia. The latter specifically addresses the issue of regressivity of taxation (and of VAT in particular). It finds that VAT compliance costs amount to 3.9 percent of turnover for individual entrepreneurs, while falling to 1.5 percent for firms with more than 6 employees. The study comes to the conclusion that "The regressive effect of tax compliance costs is proven in the case of Croatian small business (businesses that pay personal income tax), even with respect to micro businesses. In the cost structure the time cost, predominantly the owner's time, is predominant" (Blažić 2004, p. 15).

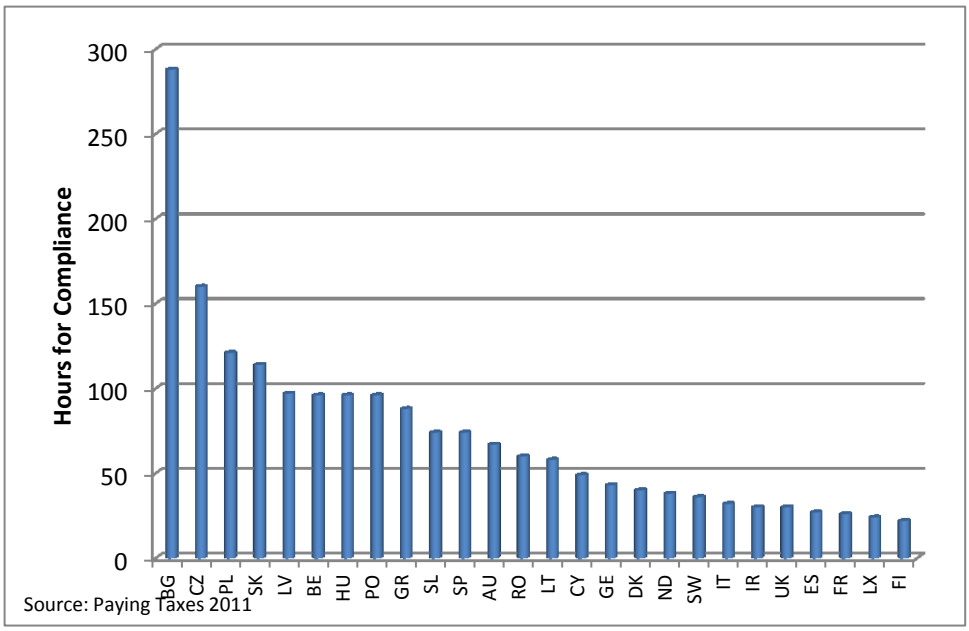
Another approach to the use of the SCM (again, not limited to VAT taxation) concerns the performance of public institutions in reducing the cost of doing business through streamlined/reduced/abolished regulation. As an example, see Agence pour la Simplification Administrative (2009), which reports on detailed cost reductions by government departments in Belgium, in the context of a multi-year program for simplification (no such studies seem to have concentrated on VAT). [11]

The World Bank/International Finance Corporation (IFC) (in collaboration with PriceWaterhouse Coopers/PWC) has developed and publicized an ambitious and wide-ranging effort to quantify compliance costs using the SCM methodology.[12] The main value added from this work comes from the comparability of results across countries, and over time. The methodology employed produces cost estimates in the form of man-hours required to fulfil different types of tax obligations. It thus shares with other SCM studies the shortcoming of not estimating actual as opposed to theoretical

[11] For a discussion of the potentials for application of the SCM to the case of Italy, see Cavallo et. al. (2007).
[12] For the latest Paying Taxes 2011 Report, see http://www.doingbusiness.org/~/media/fpdkm/doing%20business/documents/special-reports/paying-taxes-2011.pdf. Available on the website are also a number of more detailed country studies, e.g. Ukraine, Armenia, South Africa.

costs. Nor does it yield cost estimates that can be related to tax avoidance or tax evasion activities. *Paying Taxes* is not concerned at all with administrative costs as discussed in the preceding section. It does, however produce figures on consumption taxes compliance burdens (of which VAT is the overwhelming component) that are, by design, comparable, as shown in Figure 2.

Figure 2. VAT/consumption taxes compliance burdens



As one can see, the *Paying Taxes* methodology results in a tremendous range of "potential" burden to taxpayers (and by extension to the national economy) from compliance with taxation requirements, with some of the more recent members imposing very high hourly requirements (Bulgaria being a stupendous outlier), and the more advanced/older member economies being at the low end of the spectrum.[13]

The *Paying Taxes 2011* study also offers six general lessons and one interesting observation on the relative importance of the drivers for compliance costs (in terms of time requirements), based on the universe of all the 145 countries where VAT (or a VAT-equivalent tax) is present. These lessons are:

v) It takes less time on average when all indirect taxes (VAT, excises, customs) are administered by the same tax authority (this lesson is also confirmed by a recent World Bank study on costs and benefits of integrating tax administration (World Bank 2010));

vi) It takes less time on average in countries where business uses online filing and payment (see on this OECD (2010), esp. Tables A8 and A12);

vii) The frequency at which VAT returns are required impacts the time to comply;

[13] Note also that the data for the Netherlands in Figure 2 is sharply lower than the one reported by the just-quoted SCM study: this is a reflection of the simplification program embarked upon in 2005 by the Dutch authorities, which has resulted in steadily declining hours for complying with taxes as documents by the various *Paying Taxes* reports.

viii) The more information is required in the VAT return, the more time is needed[14];

ix) The requirement to submit invoices or other documents with the return adds to compliance time;

x) Changes to the rules and regulations can increase compliance time.

An interesting observation is that there is a positive correlation between the VAT compliance burden and the time delay in receiving a VAT refund.

Comparison between SCM measures and the TCC literature

The definition of compliance costs by Evans (2008) cited earlier in many ways approximates more or less what the SCM *administrative cost* measure attempts to measure through its survey-cost allocation procedure. In addition, however, as mentioned above taxes may occasion both psychic and social costs that are obviously not included in such measures. Such costs, however, seem sufficiently politically relevant to be recognized in some EU-related work in general terms as *costs of irritation* or *perceptual* aspects of taxation that should be taken into account in developing ways of redressing problems with the present VAT system. Obviously, such "soft" notions are difficult to quantify and even harder to interpret meaningfully.

A more important difference between most compliance cost studies and the SCM work mentioned earlier is that the latter explicitly excludes three components of compliance cost included in most other studies in the TCC literature:

- costs (and benefits) not directly reflected in outlays or attributable to simply being in business rather than being taxed,
- costs incurred by others than direct taxpayers,
- and costs related to activities facilitating not tax payment but tax non-payment through (legal) tax avoidance or (illegal) tax evasion.

The first of these exclusions is presumably in accordance with the mandate of the EU studies to measure the direct *administrative burden*—as defined earlier—on taxpayers. While the EU studies do clearly try to disentangle *tax* compliance costs from *business-as usual* or *core* accounting costs they inevitably do so, as did earlier studies (like Plamondon 1993) on the basis of expert judgments that are inherently rather arbitrary. On the other hand, this approach deliberately omits some relevant resource costs (and benefits) of VAT compliance. Again, most of these factors were set out fairly clearly in the pioneering book by Sandford et. al. (1981) such as the opportunity cost of cash-flow benefits (and costs) and the possible *managerial benefits* accompanying the requirement for

[14] To cite a rather old example (Bird 1999), in the early 1990s at around the same time the VAT return in the UK, a country with perhaps the most complex VAT in the EU in some respects, was simplified to one page, Poland, then a relatively new VAT adopter, increased the number of items required on VAT forms from 61 to 105 on a form that called for 12 separate arithmetical manipulations. The design of tax forms – the direct interface (whether in paper or web form) between taxpayers and the administration – and in particular not asking for information that is not directly relevant and is seldom used, remains an important and too often inadequately considered driver of compliance costs.

better accounting in a VAT system. Evans (2008) refers to estimates including such factors as estimates of 'social' rather than 'taxpayer' costs.

One reason such omissions matter is because they may affect the significance of the results emerging from the SCM approach. As an illustration, note that the cash-flow aspects of public and private costs do not cancel out because the two sectors can borrow at different rates. Moreover, within the private sector any gains from such interest-free loans are presumably much more valuable to smaller businesses facing higher borrowing rates. Smaller firms are also of course those most likely to gain from having 'better accounting' practices forced upon them for tax compliance purposes. Both these factors may to some extent mitigate the market regressivity of the "gross" VAT compliance costs reported in most studies.

A point that is not often mentioned in the literature is also related to the nature and size of businesses. Consider two businesses, both of equal size but one engaged in manufacturing and one in services. Both have the option (common in many countries) of paying a 'presumptive' (flat-rate output tax) or being in the VAT system. The service business, which purchases little from other firms, has little to gain by recouping input VAT and, if it is mainly B2C, much to gain by being subjected to a lower output tax (and of course even more if it is completely outside the system, e.g. in the informal sector). The manufacturing business by definition is more dependent on purchased inputs and is also more likely to sell to e.g. distributors rather than final consumers directly. Hence it has much more B2B on both sides of the sales-purchase journal. Its calculations in choosing to opt out of VAT are thus more difficult than those of the service firm and depend in part on how its payment terms to its suppliers and its customers are related to each other and to the payment (and grace) periods of the VAT system as well as on the relative compliance costs of the full VAT vs. the simplified systems provided in most EU countries for small businesses. In principle, if small manufacturers sell mainly to VAT registered firms, they would presumably choose to register voluntarily even if their level of operation is below the VAT threshold. However, in countries with large and persistent "informal" sectors, in which considerable trade takes place among non-registered firms, the choice may be much less clear.

Cross-Border Transactions in the EU and Compliance-Administrative Burdens

As discussed, the theoretical literature and some empirical evidence point to the multiplicity of requirements of VAT (as for other taxes and administrative rules) as a direct driver of the compliance costs firms have to bear (and, to some extent, also of the costs borne by tax administrations). Multiple VAT rates and exemptions oblige firms to keep more complex accounting codes and records. Furthermore, EU-based taxpayers face additional burdens when they engage in international trade, both intra-EU and outside the EU. In addition to having to comply with domestic regulations, exporters to other EU members have to accommodate importing countries' specific sets of rules affecting their cross-border. Differential requirements for dealing with different tax administrations are the determinants of the intra-European-generated additional transaction costs: to take an extreme example, even a small number of transactions with a country can impose a large cost, if it obliges a firm to set up and maintain a separate accounting code and recording system. So long as the application of the VAT rules across the 27 member States varies, small businesses will undoubtedly continue to have considerable difficulty in understanding, let alone complying with,

intra-EU trade. For such firms, intra-EU trade may thus be at least as burdensome, and perhaps even more so, than trading with countries outside the EU. Unfortunately, there appears to be little empirical evidence bearing on this issue

The introduction of the Single Market was meant to result in a reduction in compliance costs from intra-EU trade, chiefly through the abolition of customs declarations.[15] Verwaal and Cnossen (2002) have however argued that the statistical requirements that were put in place to allow identification of VAT-taxable transactions and to help record trade among member states (the Intrastat system) have resulted in a substantial burden for exporters, which they estimate at 5 percent of the value of trade, with wide variation according to size (and country). Interestingly but not surprisingly, the availability of e-filing systems is a major reducer of compliance costs.[16] These findings (based on a survey conducted as early as in 1996) are quite sobering compared to previously-published studies, such as the 1997 assessment by the European Commission (Commission of the European Communities (1997)) which argued that compliance costs for firms engaging in intra-EU transactions had been reduced by approximately two-thirds. Unfortunately, again there seems to have been little subsequent empirical examination of these questions. A partial exception is the European Tax Survey of 2004 (Commission of the European Communities, 2004a). This work consisted of a survey of roughly 700 European enterprises subject to VAT taxation, and some of which engaging in intra-European trade. It found that "VAT compliance costs appear particularly high for companies that undertake activities in other EU Member States without having a permanent establishment there and companies that incur VAT on inputs in other EU Member States"—this being a subset of all companies engaging in intra-EU trade. However, due to the nature of the survey instrument, it was difficult to point to specific factors, other than "administrative complexity" that could be addressed by policy.

Verwaal and Cnossen indeed offered policy suggestions (including the abolition of the Intrastat System for VAT-liable persons with intra-EU transactions, and a system of compensation for firms with small amount of intra-EU transactions). The EU, in turn, modified the Intrastat system in 2004, with a view to making it more transparent (but not, apparently, less onerous for firms), see European Parliament (2004). In the absence of follow-up surveys, it is difficult to gauge the extent to which the Verwaal and Cnossen findings have been superceded by the subsequent reforms in administrative requirements.

It should also be noted that at least some of the compliance costs identified by Verwaal and Cnossen are not directly related to the existence of the VAT *per se*, but rather to statistical requirements which presumably might exist even in the absence of a VAT (though linked to VAT reporting in the present institutional context). There is an interesting perspective on the issue of the statistical burden coming from Intrastat itself: "For all trade operators involved, Intrastat meant a lighter

[15] We can also surmise that, following the adoption of the Single Market, administrative costs for national tax agencies may have increased as tax administrations had to quickly provide access to the new ex-post filing and IT systems to deal with the new procedural dimensions of the tax. But again, no cost accounting of tax administrations was found in the literature to substantiate or refute this hypothesis.

[16] Firms engaging in EU trade beyond certain thresholds are expected to file EC Sales lists for VAT purposes. These lists include details on individual transactions and VAT identifiers of corresponding traders, and are to be used by tax authorities of the trading countries to verify the legitimacy of the VAT claims that may arise (see the following discussion on the problem of Carousel Trade). These Sales Lists can be filed, depending on the individual countries, manually, electronically or via the internet. See for an example of the UK system:
http://customs.hmrc.gov.uk/channelsPortalWebApp/channelsPortalWebApp.portal?_nfpb=true&_pageLabel=pageImport_InfoGuides&propertyType=document&id=HMCE_PROD_009770

workload compared with the previous system before 1993 where any intra-Community trade transaction had to be declared and presented to Customs. But in these times the respondents were often not aware of the fact that their reporting obligations for foreign trade statistics were fulfilled when lodging a Customs declaration. With the introduction of the Intrastat system the statistical reporting burden became apparent." (European Commission –Eurostat (2007))

Overall, there is surprisingly little recent empirical evidence on the actual compliance costs borne by firms in EU countries attributable to cross-border trade within the EU or with non-EU countries. As an example, the SCM (and Paying Taxes) studies typically do not consider firms engaged in exporting activities. Although extending coverage to such firms would raise no new conceptual problems, it could be potentially costly to implement, since cross-border costs may vary from country to country (both within the EU and outside).

Private sector contribution to compliance, compliance costs and VAT fraud analysis

It is appropriate in our review to touch even briefly on an important (and growing) element in compliance (and fraud analysis) practice--the presence of private-sector advisors. Casual web searches reveal substantial offerings by practitioners. Indeed, judging from the great amount of possibly good advice found on the Web, the "compliance market" is probably larger than the "fraud market"[17].

The compliance market offers complete and partial solutions to compliance and compliance costs by making available compliance alternatives claimed to be both legal and more efficient. For example, SAP's well known Integrated Management Information System (IMIS) offers a VAT add-on to SAP[18], fusing VAT compliance with accounting compliance. Others--such as IBM--have developed VAT country-specific software and made it part of their IMIS[19]. Still others have developed parallel systems like central banking transactions that may in the end be useful for VAT tracing[20]. Finally, the private sector offers ethical perspectives on compliance and fraud[21]. This work complements and broadens some of the perspectives of the studies commissioned by the EC from other private tax advisory firms.

What do the Studies Show?

Table 2 (based largely on Evans 2003, supplemented with additional studies from Vaillancourt, Clemens and Palacios (2008) and augmented with the SCM VAT studies discussed above) gives a

[17] An alternative interpretation might perhaps be that the prevalence of private providers of tax advice on how to comply may reflect to some extent the inadequacy of – or lack of trust in – official advice: to the extent there is any truth in this argument, increased private compliance costs are clearly to some extent at least substituting for public administrative costs, although no one seems to have considered seriously the costs and benefits of such a substitution (though see the general considerations in Shaw, Slemrod and Whiting (2010)).

[18] ***A turn-key solution to overcome the pitfalls and shortcomings within SAP's VAT determination and reporting logic.*** http://www.meridianglobalservices.com/vat-add-on-for-sap/

[19] ***IBM - Sterling Commerce*** June 24, 2010 http://eeiplatform.com/2350/survey-companies-risk-fines-for-non-compliance-with-cross-border-invoicing-regulation/

[20] http://www.europa-nu.nl/id/vil6ib65lmzi/nieuws/nadere_toelichting_op_enkele_europese?ctx=vg9pk7ho53zu

[21] *Clients: Increased emphasis on corporate compliance. Calling time on international bribery*. Clifford Chance. Available at: http://www.cliffordchance.com/about_us/annual_reviews/annual_review_2010/clients/calling_time_on_international_bribery.html

bird's eye picture of existing quantative studies of VAT-related compliance costs for various classes of taxpayers in a number of countries. All these studies (along with those earlier reviewed by Cnossen (1994)), essentially agree with three 'big lessons' put forth by Evans (2008), which apply to all compliance costs and certainly to those associated with VAT:

1. Compliance costs are high and significant

2. Compliance costs are regressive

3. Compliance costs are not falling over time

Regarding the first conclusion, Evans (2008), referring to overall taxation, sums up by saying that "the studies suggest that compliance costs of such taxes are typically anywhere between two percent and ten percent of the revenue yield from those taxes; up to 2.5 percent of GDP; and usually a multiple (of between two and six) of administrative costs." The more recent studies specifically on VAT costs discussed above and in Table 2 are generally in the ballpark of the Evans generalization, although, with the notable exception of the Slovenian estimates, they are at the lower end of the spectrum indicated (the notably low estimates, in percentage of GDP, are those for Denmark and UK, while the higher estimates for Slovenia, and presumably for Bulgaria and other new Member States, based on the "hourly burden" data of the *Paying Taxes* study discussed above).

On the whole, as one might expect, the extant studies also suggest that administrative costs are absolutely and relatively less burdensome than compliance costs. Those studies that do address administrative costs suggest that they rarely exceed one percent of revenue yield, and more usually come in well below one percent. As noted, few reliable estimates can be obtained for VAT administrative costs only.

The regressivity of the compliance burden of taxation, and VAT in particular, which can be taken as definitively established in the literature, in particular stems from the large diseconomies of scale involved in complying with tax requirements, together with the learning curve effect that militates strongly against small firms (Evans 2008, see also DeLuca et. al. (2007) for the USA, etc.). To quote Cnossen (1994), "…all studies emphasize that the compliance costs of the VAT, as a percentage of sales, fall with exceptional severity on small businesses." Of course, as has also been shown in the literature, much the same can be said with respect to most if not all taxes since most involve some fixed costs, and such costs invariably decrease as the size of a business expands.

And finally, Evans (2008) makes the strong point that compliance costs are perceived to be an on-going cause for concern, and a problem not improving over time. It is interesting to note, however, that several of the studies surveyed here in the spirit of the SCM, and applied to specific strategies of burden reduction by national governments and EU member states perhaps give hope of the possibility of seeing a reduction in such burdens (witness the Belgian case cited above, as well as the indications for the UK, Denmark, the Netherlands). Given that many such programs of burden reduction have only recently been put into operation, time will tell whether they can be successful and successfully sustained.

Table 2: Summary of major published studies of VAT taxation operating costs since 1980

(An extended and updated table from Evans, 2003)

European Studies

Year of publication (Year(s)	**Author(s)**	**Country (population studied)**	**Taxes studied**	**1. Methodology** **2. Sample frame**	**Major outcomes** **Compliance costs**	**Administrative costs**
1981 (1978-1980)	Sandford, Godwin, Hardwick & Butterworth	UK (UK VAT registered traders and their advisers)	Value added tax	1.Documentary analysis for administrative costs; for compliance costs (a) postal survey, followed by (b)	Gross compliance costs for VAT estimated as £392m in 1977-78, and administrative costs £85m. Total operating costs of c. £480m represented 11% of VAT revenue; VAT compliance costs "exceptionally regressive in their incidence" (and administrative costs also likely to be regressive);	
1989 (1986-87)	Sandford, Godwin & Hardwick	UK (UK VAT registered	Value added tax	1. Postal survey 2. 3,000	Aggregate compliance costs were £791m (3.69% of revenue yield) and cash flow benefits (disproportionately enjoyed by larger	Administrative costs of £220m in 1986 -87 were 1.03% of revenue yield

1989 (1987)	Bannock & Albach	UK & Germany (UK and German businesses)	Value added tax	1. Postal survey (a) UK and (b)Germany, with very limited telephone follow up (15 calls in	Dissatisfaction with VAT system was much greater among smaller firms in the UK than in Germany, and compliance costs for smaller	Not addressed
1994 (1992-93)	National Audit Office	UK (UK VAT traders)	Value added tax	1.Update of earlier VAT surveys conducted by Sandford et al (1981 &	Compliance costs of VAT were £1.6b offset by compliance benefits (cash & management) of £750m; compliance costs regressive	Administrative costs were £399m
2002 (2000)	Hasseldine & Hansford	UK (business taxpayers)	Value added tax	1. Postal survey 2. 6,232 3. 1,449	Increased compliance costs are associated with increased turnover, newly registered businesses, increased complexity and perceived psychological costs; no significant	Not addressed
2002	Verwaal and Cnossen	Netherlands	VAT, Trade statistical requirements	1. Postal Survey of firms 2. 2998 3. 642	Statistical requirements for intra-EU trade linked to VAT reporting system impose on average a 5 percent cost on firms with wide variation. E-filing contributes to reduce costs.	Not addressed
2003	Klun	Slovenia	Value Added tax		Compliance costs between 1.7 and 2.5 percent of GDP.	Not addressed
2004	Blazic	Croatia	Taxation for small businesses (including VAT)	1. Interviews	Total compliance cost 0.8 percent of GDP. Total compliance cost for VAT 0.2 percent of GDP.	Not addressed
2004	Commission of the European Communities	EU	VAT and other taxes	1. Survey of 700 enterprises	VAT compliance costs appear particularly high for companies that undertake activities in other EU	Not addressed

2005	SCM Network	Denmark, Netherlands, Norway, Sweden	Value Added Tax	SCM methodology	CC (percent of GDP): Denmark 0.03% Netherlan ds 0.17%	Not addressed
2006	KPMG	UK	Value Added Tax (together with assessment of	SCM Methodology	The "administrative" (compliance) burden of UK tax regulation is £5.1 billion. VAT accounts for £1 billion, or	Not addressed

North American Studies

Year of publication (Year(s)	**Author(s)**	**Country (population studied)**	**Taxes studied**	**1. Methodology** **2. Sample frame**	**Major outcomes** **Compliance costs**	**Administrative costs**
1993 (1993)	Plamondon	Canada (Canadian small businesses)	Goods and services tax	1. Interviews (face to face) conducted by	Compliance costs were not as high as previous studies had shown, but were regressive; businesses using computers for accounting routines	Not addressed
1993 (1995)	General Accounting Office (US)	USA (Federal administration)	Value added tax	1. Estimate of administrative costs of a value added tax	Not addressed	Recurrent administrative costs of a value added tax would be between US$1.22b and US$1.83b, with 70% of those costs related to audit work; transitional costs of introducing a

1995 (1995)	Plamondon	Canada (Canadian small businesses)	Goods and services tax (Quick method of accounting	1. Interviews (face to face) conducted by	Small businesses were not using the Quick method of accounting for GST due to a lack of awareness; those who knew of it but did not use it were	Not addressed
2008	Government Accountability Office (US)	Australia, New Zealand, Canada, France, United Kingdom	VAT	Mixed methodology		Some available data indicate a VAT may be less expensive to administer than an income tax.

Australasian and South East Asian Studies

Year of publication (Year(s) under	Author(s)	Country (population studied)	Taxes studied	1. Methodology 2. Sample frame	Major outcomes Compliance costs	 Administrative costs
1993 (1990-91)	Pope, Fayle & Chen	Australia (Australian	Wholesale sales tax	1. Postal survey 2. 2,467	Net compliance costs of WST were $201m, or 2.1% of revenue yield; compliance costs were highly	Not addressed
2002 (1998-2000)	Rametse & Pope	Australia (Western	Start -up costs of the Goods and Services Tax	1. Postal survey 2. 3,199	Estimated GST start -up compliance costs for small businesses were AUD$7,600; this included	Not addressed
2002 (Jun 1999 - Jun 2001)	Tran -Nam & Glover	Australia (small business taxpayers)	Transitional costs of the Goods and Services Tax (GST), Australian	1. Case study 2. 31 3. 31 4. Not relevant	Small businesses incurred net transitional compliance costs of AUD$4,853 (mean) or AUD$2,393 (median); (median was preferred); in addition to monetary costs, small	Not addressed

In Conclusion

While it is difficult to summarize the lessons of the vast literature just briefly reviewed, perhaps one quote from the recent Mirrlees Review is appropriate to end this section:

> "Administrative and compliance costs depend on a wide range of factors, including the complexity of the tax, characteristics of the tax base, structure of tax rates, frequency of reform, and organization and efficiency of the tax authority. Taxes should therefore be kept as simple and stable as possible. In other areas, there is a trade-off between administrative and compliance costs: for example, whether it is the tax authority or taxpayers who have responsibility for calculating tax liability. Providing help and guidance increases administration costs, but reduces compliance costs." (Shaw et. al., 2010).

Compliance Costs and Non-Compliance

"Missing Trader Intra-Community (MTIC) VAT fraud is a large-scale organised criminal attack on the EU VAT system. The most serious form of the fraud – known as carousel fraud – involves a series of contrived transactions within and beyond the EU, with the aim of creating large unpaid VAT liabilities and fraudulent VAT repayment claims."[22]

Overview

A large and growing literature has focused in recent years on the increasing evidence of VAT-associated fraudulent practices in the EU. This is a major concern for businesses that see themselves at a competitive disadvantage, as well as national and EU policy makers, as evidenced in recent communications on the matter (Commission of the European Communities (2007)). This section reviews several contributions to the debate on evasion and fraud, and places them in the context of the discussion on compliance and administrative costs reviewed in the previous sections.

VAT fraud was recognized by the EC as an objective problem and made part of the EC strategy in 2003. In 2007 the fight against VAT fraud became a major concern of EC strategic thinking. The recognition of VAT fraud as "large-scale organized criminal attack on the EU VAT system" as defined in the British report cited above signals both awareness and a notion of magnitude.

The literature points to several institutional reasons to explain VAT fraudulent practices (in addition to the behavioural variables which we will review below in the econometric studies of the VAT gap). VAT specific and EU general policies have been recognized as major determinants of the compliance and

[22] Measuring Indirect Tax Losses–2007 HM Revenue and Customs, available at http://s3.amazonaws.com/zanran_storage/www.hmrc.gov.uk/ContentPages/13568349.pdf

enforcement environments that facilitate the emergence of fraud[23]. These include (i) parametric issues on base, rates, exemptions, zero rating, registration and return filing thresholds, refunding of VAT specific rules and the existence of parallel small taxpayers regimes; and (ii) two broadly recognized general EU policy principles that affect VAT fraud: the intra-European single market in force since 1993, and the application of the subsidiarity principle to tax administration which generates a second layer of differentiation in the actual application of the laws (See Keen and Smith (2007) and Cnossen (2009)).

VAT parametric issues

The parameters of individual countries' VAT systems can create a number of fiscal complexities and risks to VAT compliance attitudes. This can result from either the way in which bases, taxpayers and rates are defined or the way in which the compliance process is structured. Purchases and refund entitlements, for instance, are a most important matter in the case of intra-EU trade fraud.

This type of VAT fraud emphasized in the recent EU literature occurs when registered sellers charge VAT and buyers request a refund or simply include the input VAT in their declarations and the seller does not declare and pay the tax. Bogus traders, in fact, issue what are in effect deferred "cheques" or payment orders in the form of invoices that may be used as input credits in a future VAT return and may even generate refunds from countries' treasuries; then they simply disappear (see Cnossen, 2009, and Harrison and Krelove (2005). See Table 3 for information on VAT refund practices from the latter paper).

[23] The claim of VAT advocates about "self-enforcing" in the early stages of VAT implementation around the world (1960s through 1980s) was questioned by Hemming and Kay (1981) in the early 80s. Michael Keen and Stephen Smith (2007) rejected it because of the implicit assumption that both buyer and seller were compliant taxpayers. These authors questioned the claimed "self-enforcing" feature of VAT because of another possible outcome: both seller and buyer gain the tax by cheating in a context of poor targeting and control. For this reason the argument is illusory.

Table.3. Harrison and Krelove

VAT Refunds: A Review of Country Experience

Based on a survey of tax-administrations in 36 countries around the world

Refund Levels	• In many countries, levels exceed 40% of gross VAT collections. • 40% of survey respondents repay a third or more of gross VAT collections. • Countries with refund levels under 20% are mostly in Africa, Asia and Latin America. • Within regions, refund levels are similar among countries with similar VAT systems and economic conditions.
Time frame for refunding tax credits	• In most developed countries, refunds are paid within four weeks of a refund claim being made. • In developing and transitional countries, it often takes several months and sometimes more than a year to process refund claims. This can seriously undermine the competitiveness of the export sector. • Notwithstanding that most countries have statutory deadlines for making refunds, these are often not met by tax authorities.
Reasons for delaying payment of refunds	• Prevalence of fraudulent claims and differences in strategies to cope with them: o In less advanced tax administrations: Pursuance of time-consuming and labor-intensive processes to verify claims before approving refunds. o Effective and efficient tax administrations: Refund related fraud is tackled as part of a broader VAT-compliance strategy based on risk management principles and limit pre-refunding verifications to high-risk claims. • When state budgets are under pressure and tax collection targets are not being made. This happens when administrations lack suitable forecasting and monitoring systems to anticipate refund levels and do not set aside sufficient funds. • Although these delays are more likely in transitional or developing countries, it is not confined to them.
VAT refund abuse and fraud	• All countries report VAT refund abuse, but most have difficulty estimating the scale of associated revenue losses. • While the nature of VAT refund abuse is similar across countries, the environment in which it occurs and the approaches to counteract it vary between countries. • VAT refund abuse is only a component of VAT fraud; in many countries audit resources focus mainly on VAT refunds and do not pay adequate attention to other related risks.
Strategies for controlling late payment of refunds	• 90% of the countries reported that their tax authorities are bound by law to making refunds within a prescribed timeframe, generally 30 days. • 40% go further, providing by law for interest to be paid on late refunds. These measures also demand safeguards from fraudsters, which range from providing tax officials with statutory powers to conduct audits and verification checks to requiring security or bank guarantees from traders who seek refund. In 60% of surveyed countries there is a mandatory carry-forward period to limit the number of refund claims.

List of countries that responded to the survey: Algeria, Azerbajan, Bolivia, Bulgaria, Cambodia, Cameroon, Canada, Chile, Colombia, El Salvador, France, Hungary, Indonesia, Ireland, Italy, Kazakhstan,

Similar frauds may also happen *within* a country, particularly in the presence of a large informal sector in which difficult-to-track sellers issue invoices and disappear (see Ainsworth (2008) for some Canadian examples) In a recent careful micro-econometric study in Brazil, de Paula and Scheinkman (2009) have shown that there are 'networks' of evaders who deal with each other so that when 'holes' appear in the VAT chain, whether as a result of legislation (exempt sectors like transport in Mexico) or administrative problems--whether arising from 'informality' domestically or cross-border trade as discussed below— they may spread and eat away more and more of the potential tax base over time unless corrected.

Cross-border transactions in a free movement environment

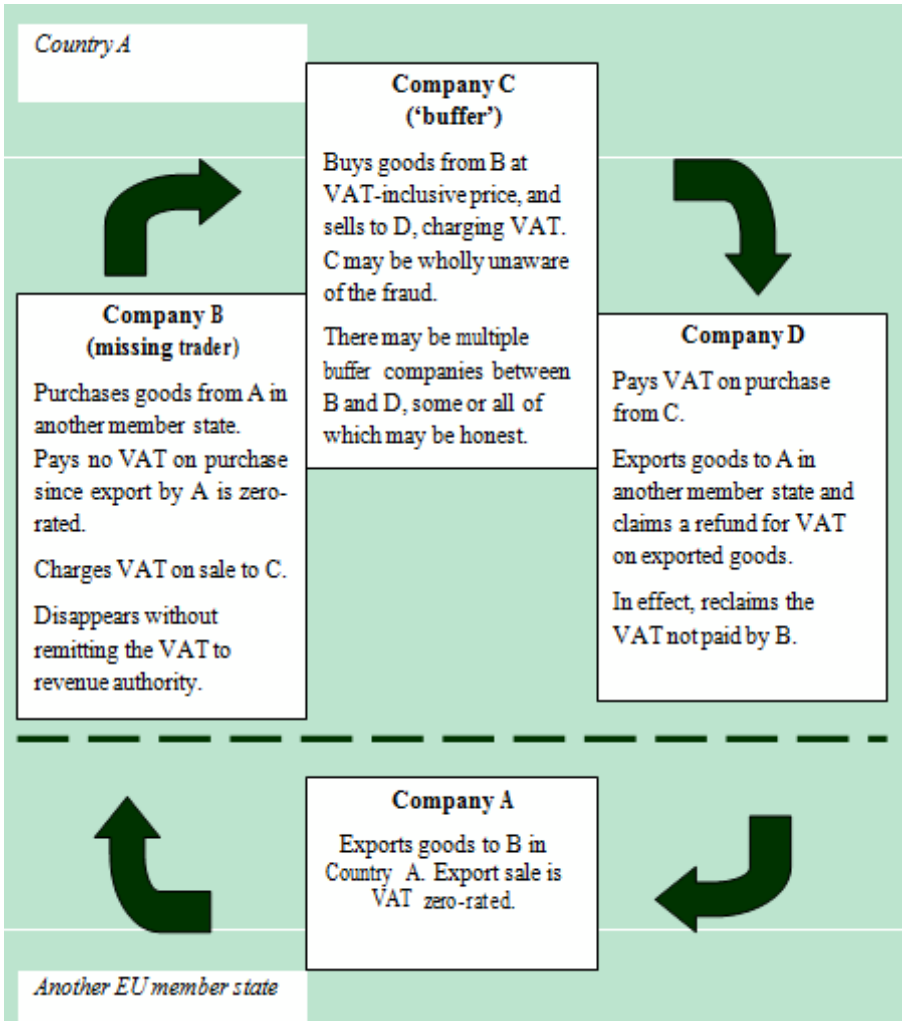
Intra-European free-trade free-movement rules break the domestic VAT chain on exported goods to other member countries. This generates a VAT collection loss in exporting countries (through the rebate mechanism) but leaves destination countries completely open to the behaviour of the taxpayer importing the goods (Cnossen 2009). Cnossen and other authors point to lack of proper tax administration, enforcement and audit practices and/or capacities (see for instance the thorough review reported in GAO (2008).)

In intra-EU transactions a common type of fraud involves the trading of VAT rebate rights in the so-called *Carousel* (see box 2, reproduced from Smith (2007)). The *Carousel*, the most distinctive fraud for VAT, is a false claim for creditable VAT paid on inputs or, most dramatically, for a refund based on the zero-rated of exports, which breaks the VAT collection chain at a vulnerable point, the border between domestic and foreign tax administrations. Carousel fraud exploits the combination of the zero-rating of exports and the deferred payment situation of VAT periodic return procedures (See Keen and Smith 2007, p. 13).

An operational challenge these authors identify relates to VAT refunds: enforcement has to find an appropriate balance between lax and stringent attitudes toward refunds, because erring either way creates problems. If too lax, there is too much incentive for fraud, but an excessively stringent attitude creates high costs and may end up turning the VAT into a tax on production and exports, defeating its economic purpose24. Harrison and Krelove (2005) provide estimates on percentage of refunds over gross VAT collections. A strategy to help lessen this problem is called the "gold card scheme" which promises businesses with good compliance records prompt refund payment.

[24] This conundrum is well recognized by the European Commission, see for instance the 2007 document: "It should be kept in mind that all measures that are discussed in the context of the fight against VAT fraud have to respect other EU policies, and in particular the general target of the European Council to achieve, by 2012, a reduction by 25% of the existing administrative burden (…)" p. 6.)

Box.2. The basic carousel fraud: an illustration



Application of the subsidiarity principle in a world with different capacities of tax administrations

Albeit in a different context, Casanegra (1990) once noted that "tax administration is tax policy". This point seems particularly relevant for the multi-country membership of the European Union. Given the subsidiarity principle, the administration of taxes differs among member countries in many respects. Each manages different control systems, there is diversity (and lack of connectivity) of IT systems and, in general, different levels of awareness, institutional and political capacities. This creates opportunities for skilled would-be evaders[25].

[25] This results in mistrust among administrations. In 2004, for example, European Commission (2004) finds worrying that legislation on secrecy regarding certain tax information still existed, which posted a major obstacle to effective administrative cooperation against fraud. Three years later, the European Commission (2007) still talks of the necessity of further cooperation

The EU approach to solve this problem has been to establish institutional capacities on two levels to address limitations selectively. First, member country tax administrations were supported by the EC *Fiscalis* programme during 2003-2007, which funded seminars, exchange and study visits for different tax officials. "One of its major objectives is to make possible for the Acceding Countries to adopt as soon as possible the same level of cooperation and to reach the same level of control efficiency as the current member states"[26]. In addition, the EC has also provided centralized information availability for the normal functioning of tax administration.

Quantitative evidence of evasion and fraud[27]

Quantitative evidence of VAT fraud critically depends on availability of data pertinent and such data are lacking for both the core issues identified by Keen and Smith above and the Reckon Report discussed below.

A sense of aggregate numbers

The following quote provides a sense of the scale and dynamics of the VAT fraud phenomenon:

> "Tax fraud is a major economic challenge for the EU. In a 2006 memorandum, the European Commission estimated the level of overall tax fraud at 2 to 2.5% of GDP, amounting to as much as €200-250 billion at the EU level. However, there are no firm figures on the scale of tax fraud, given the illicit nature of the activity and that few member states release data on the subject.
>
> The International VAT Association, a leading body on international VAT issues, voiced concern in a 2007 report that "European VAT fraud is growing at an alarming rate." In the same report, it further comments that "suppression of fiscal borders in the EU has allowed businesses to purchase goods and services cross-border without being charged VAT."

The British Institute for Fiscal Studies reported in 2007 that UK VAT revenue losses for 2005-2006 topped £12.4 billion (€15 billion), or 14.5 percent of potential VAT revenues. Her Majesty's Revenue and Customs estimated that so-called missing trader inter-community (MTIC) or 'carousel' VAT fraud represented "less than a quarter of these losses" but that these had increased "rapidly despite its best efforts." The Commission published an estimate which put carousel fraud in the UK in 2006 at "between €1.5bn and €3bn a year…represent[ing] about 1.5 to 2.5 percent of the total UK VAT receipts."

The new Commission initiative follows proposals made last year to speed up information exchanges between EU countries to fight cross border fraud (EurActiv 19/03/08)". [28]

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between member states. "Allowing tax authorities of other Member States automated access to non-sensitive data would eliminate the costs of human intervention in the Member State holding this information in cases of routine requests for information." (European Commission 2007, p. 8)

[26] European Commission 2004, p. 9

[27] Note that the present discussion does not in any way imply that such problems are greater with VAT than with other taxes, direct or indirect. Indeed, although we do not attempt to review here the extensive theoretical and empirical literature of tax fraud and evasion in general, our impression from experience in a number of countries at different degrees of development is that on the whole fraud and evasion are generally relatively more important problems with respect to income taxes.

[28] http://www.euractiv.com/en/enterprise-jobs/commission-fight-vat-fraud-schemes/article-184681

Measurement

The most comprehensive recent report attempting to quantify fraud and evasion in the EU is the so-called "Reckon Report" (Reckon LLP 2009). This report was commissioned by the European Commission Directorate-General for Taxation and Customs Union and produced by Reckon LLP. The study quantifies and analyses the VAT gap in each EU Member State over the period 2000–2006, comparing the accrued VAT receipts with a theoretical net VAT liability. This net liability is calculated by identifying the categories of expenditure that give rise to irrecoverable VAT and combining them with appropriate VAT rates.

The document stresses the distinction between VAT gap and VAT fraud; though related they are not interchangeable or equivalent measures. Discrepancies between these two measures can arise because the VAT gap might include non-payment arising from innocent error or grey areas such as failure to take due care as well as from deliberate fraud, Moreover, in some instances it might include VAT not paid as a result of legitimate tax avoidance measures. Since the VAT gap is estimated on the basis of national accounts data, it depends on the quality of such data. Finally, the VAT gap measure does not make any allowance for VAT that would not be collected in any case, e.g., due to insolvencies. The report also cautions that a short-coming of the top-down approach used to obtain the VAT gap (i.e. comparing the total accrued tax receipts with a theoretical tax liability derived from general economic data), is that it does not help much in identifying what sectors and types of business are more suitable/prone to VAT fraud. On the other hand, note that no member state appears to have objected to the findings of the Reckon report, which provides some indirect evidence that the figures shown in the report are not implausible.

The aggregate behaviour of the VAT gap and the VAT gap as a share of theoretical liability was found to be as follows (Tables 4 and.5):

Table 4. Aggregate estimates of the VAT gap, 2000-2006 (EUR billion)[29]

	2000	2001	2002	2003	2004	2005	2006
EU-10	6.5	8.3	8.3	7.6	8.6	8.1	7.9
EU-15	84.4	96.2	98.9	101.1	103.6	105.2	98.8
EU-25	90.9	104.5	107.1	108.7	112.3	113.3	106.7

Note: EU-10 and EU-25 exclude Cyprus. Non-Euro currencies converted to EUR using the average exchange rate in each year..

Table 5. Aggregate estimates of the VAT gap as a share of theoretical liability, 2000-2006 (EUR billion)[30]

	2000	2001	2002	2003	2004	2005	2006
EU-10	20%	22%	20%	19%	19%	16%	14%
EU-15	12%	13%	13%	14%	13%	13%	12%
EU-25	13%	14%	14%	14%	14%	13%	12%

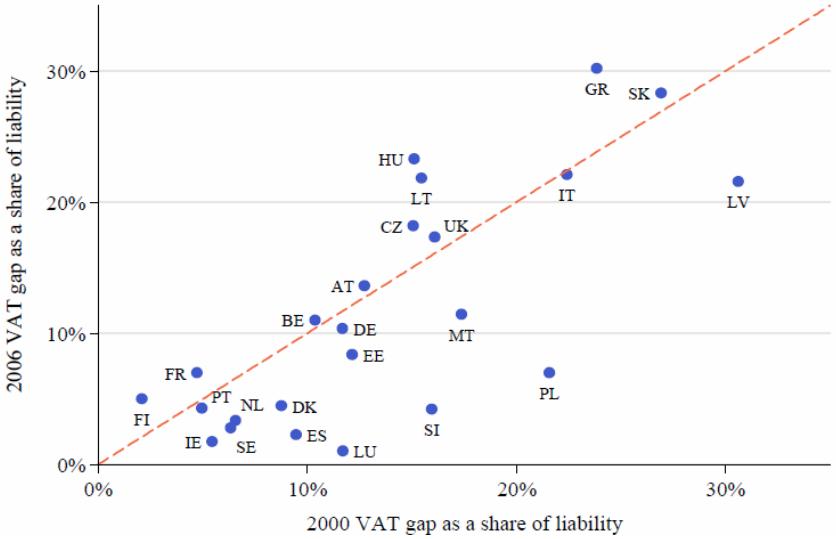
Note: EU-10 and EU-25 exclude Cyprus.

These "top-down" estimates of the VAT gap for individual countries show few common trends across the 24 Member States studied. However, several Member States joining the EU in 2004 show a greater decline in the estimated VAT gap between 2004 and 2006. Although not all these numbers may be fully comparable over either time or space, all the estimates come from a single study using a single methodology, so the broad thrust of these declines appears to be genuine—perhaps reflecting to some extent the effort to gain fiscal efficiency and the VAT legislation reforms that this new affiliation implied (see Figure 3).

[29] Reckon LLP (2009), p. 8.The definition of EU-10, EU-15 and EU-25 is as follows: EU-25: Member States in the analysis, although data from Cyprus was not included. (Austria, Belgium, Cyprus, Czech Republic, Germany, Denmark, Estonia, Greece, Spain, Finland, France, Hungary, Ireland, Italy, Lithuania, Luxembourg, Latvia, Malta, The Netherlands, Poland, Portugal, Sweden, Slovenia, Slovakia, and the United Kingdom.)
EU-10: Member States that joined the EU in 2004, although data from Cyprus was not included. (Thus the Czech Republic, Hungary, Poland, Slovakia, Slovenia, Latvia, Lithuania, Estonia, Cyprus, and Malta)
EU-15: Member States in 1995. (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.)

[30] Reckon LLP (2009), p. 9.

Figure.3. Comparison of estimated VAT gap in 2000 and 2006[31]



The report also provides a useful overview of the existing econometric literature on VAT fraud for the EU, whose findings can be summarized as follows.

Christie and Holzner (2006) and Keen and Smith (2007) note the shortage of empirical work on the determinants of the VAT gap, reflecting the difficulty of measuring such VAT non-compliance. On the basis of their own estimation of non-compliance, (based on a top-down methodology as adopted by Reckon LLP) Christie and Holzner (2006) proceed to identify its determinants, through an elaborate econometric analysis on a panel data set of compliance rates (for VAT and for other taxes as well). In their preferred estimation, they identify the following effects on VAT compliance: "(a) a higher weighted average VAT rate reduces VAT compliance (more specifically, a one percent increase in VAT rates leads to a 0.2 percent decrease in the compliance rate); (b) greater judicial and legal effectiveness increases VAT compliance; (c) countries where citizens want more power for local authorities (which is, according to the authors, a proxy for tax morale) tend to have lower levels of VAT compliance; and (d) countries with a large proportion of GDP from travel revenues tend to have higher levels of observed VAT compliance."

In an earlier study, Agha and Houghton (1996), making use of a cross–section of VAT compliance rates for 17 OECD member countries in 1987 built from national accounts data, undertook an econometric analysis of these determinants. They concluded that: "(a) a higher VAT rate is associated with lower VAT compliance; (b) the number of VAT rates negatively affect the level of VAT compliance; (c) VAT compliance increases the longer VAT has been in operation; and (d) smaller countries (in terms of population) tend to have higher levels of compliance."[32]

[31] Reckon LLP (2009), p. 13.
[32] Reckon LLP (2009), pp. 48.

Otranto, Pisani and Polidoro (2003) study the determinants of VAT fraud in Italy, showing a positive relationship between VAT evasion and GDP, a measure of fiscal burden, and the ratio of value added and gross profits to GDP.

Keen and Smith (2007) report on different measures of non-compliance and fraud numbers in different countries, attempting to ascertain whether noncompliance under VAT is notably more or less than under other taxes. For this they use data from HMRC in the United Kingdom, both top-down (VAT gap estimate around 13 percent, its highest point in the years after abolition of border controls which gave more opportunities for fraud) and bottom-up approaches (in this approach, the MTIC fraud appears from trade data to have grown significantly in the last years, through trade data). Comparing these figures with those found in the Gebauer and Parshe (2003) study, they find the latter are much lower than the official ones for the same years.

The Reckon (2009) report itself conducts a series of econometric tests of "determinants" of VAT gaps, utilizing a number of structural indicators of EU economies and policies. The variable found to have the strongest relationship with the size of the VAT gap is connected with the perceived level of corruption in the country: lower perceived corruption is associated with a lower VAT gap. Surprisingly, the report also claims that once measurement errors in the estimation of the theoretical liability are taken into account by using an instrumental variable regression, no statistically significant relationship between the VAT gap and the VAT burden can be found—in marked contrast to the results reported quite consistently by the other studies cited here. Presumably such factors as the different macroeconomic conditions prevailing in in different countries at different times may account for some of these differences, but considerable work clearly remains to be done on this subject.

Studies that have concentrated on the estimation of the compliance gap include Agha and Haughton (1996) and Silvani and Brondolo (1993). Others have studied determinants of revenue productivity (Ebrill et. al. (2001), Aizenman and Jinjirak (2005). The measure is "C-efficiency," defined as the ratio of VAT revenue to aggregate consumption, divided by the standard rate of VAT: under a uniform single rate VAT, perfectly enforced, C-efficiency would be unity. However, since the 'gap' thus measured reflects both the aggregate compliance level and the coverage of the VAT base, it is difficult to use for comparative purposes in this paper.

Summing up, the econometric evidence cited in the studies above is subject to considerable uncertainty in view of the non-observable nature of non-compliance itself (despite the ingenuity of different authors in coming up with plausible estimates). Most early studies pointed to a positive relationship between the tax burden and VAT evasion—the Reckon study being the outlier in this respect. More recently, institutional variables—capturing culture and attitudes towards the state—have begun to appear in such studies, suggesting that countries with better citizen-state relations tend to have higher tax ratios than those in which unhappy citizens are less prone to fulfil their obligations[33]. But again, it is hard to tell how robust these results are in view of the non-observable nature also of such institutional variables (or for that matter, to gauge the direct tax policy implications of their messages). To our knowledge, to date no

[33] For an exampple, see Bird, Martinez-Vazquez and Torgler (2008).

such studies have focused on the implications, if any, of such cultural factors with respect to VAT compliance specifically.

Searching for Solutions: Anti-fraud strategies

There is an extensive bibliography identifying and looking for solutions to the problems caused by VAT fraud both at the EU and the individual country levels. Again, different stakeholders bring to the discussion a substantial amount of ideas and improvement proposals. The process has become quite open because the EC, in the context of shaping the antifraud strategy, established participatory mechanisms to identify and/or clarify issues before entering into the definition of the problem and formulation of a possible solution.[34]

Systemic Changes

Four basic strategic ideas of change are on the table and discussed in academic and policy circles: VIVAT, Reverse Charges, Origin-not-destination VAT and maintain and improve current system. We review these approaches briefly here. First, however, we note a number of variations that have been proposed but have not been part of the intense ongoing debate: a "Compensating VAT" or C-VAT[35] and Dual VAT.[36]

In parallel, there is also a private-public dialogue that promotes Web-based IT strengthening in a broader way to practically eliminate the time lags (deferred declaration and payment) with measures and private-public shared systems coordination and cooperation. These types of activities—of which e-filing and e-invoicing are crucial components—would include stand-alone information flows on key matters defined in such a way as to disallow cheating occasions. This type of automation would improve the general security of refund transactions and simultaneously reduce compliance costs.

There is also a set of notions to be incorporated as operating principles in the laws, such as the principle of joint liability suggested by Pashev [37:]

> Despite its bad reputation, the principle of joint liability appears an important element of the overall strategy to combat network fraud. Of course it needs to be optimized in the direction of more impartial implementation, so that it targets better the fraudsters rather than compliant traders that have been caught unwittingly in the fraudsters' network. The principle of joint liability is a serious test of the professionalism and integrity of the revenue administration and

[34] Communication From The Commision To The Council, concerning some key elements contributing to the establishment of the VAT anti-fraud strategy within the EU 2007

[35] C-VAT—proposed by McLure (2000) elaborating on an earlier Varsano proposal for coordinating VAT of the Brazilian states. Note, however, that the recent discussion about the possibility of imposing a common rate on intra-EU sales is similar to an important element of the CVAT proposal.

[36] 'Dual VAT' comes in two varities in Canada, one in the Province of Quebec and the other in five other provinces, while four provinces do not impose any VAT (Bird and Gendron 2010)

[37] Pashev, Konstantin V. (2007): *Countering Cross-Border VAT Fraud: The Bulgarian Experience*, Journal of Financial Crime, Vol. 14, No. 4

> law enforcement as the market links in one chain compliant traders and fraudsters. Therefore it may be applied only through a state-of-the-art system of risk management. It needs to identify the risk sectors and goods and equip the audit and law enforcing units with the relevant databases on technology processes, production capacities, and price calculations…

In simple terms, a joint liability law would make sellers liable for what may happen to the tax they credited to their intra-Community purchasers. While this proposal may seem rather bold, it can be likened to the treatment of innocent parties entering in business with fraudsters. Given the existence of web-based support to establish the registration of intra-EU traders, the risk involved with missing traders is substantially reduced. Nonetheless, as recommended by the author, care should be taken in the implementation of the policy.

VIVAT (Viable Integrated VAT)

"The easiest way to think of the VIVAT proposal is as a common VAT rate for the whole EU, plus member-specific sales taxes charged at the point of final sales. The choice of the common rate (and exceptions) needs to be discussed, but for the moment just suppose that it is set at the minimum VAT rate that EU members are allowed to charge, namely 15%.

Under VIVAT, the de-tax-and-re-tax procedure is eliminated for business-to-business transactions since the de-taxing rate and the re-taxing rate are identical. This simultaneously reduces the incentive for, and the cost of, missing trade frauds (i.e. it attacks element (C) of the ABCs of VAT fraud). For the crooks, this goes a long way towards spoiling the fruit of fiscal fraud since they would have already paid 15% VAT on the imported goods. For the governments, the same fact caps the maximum loss. That's the good part as far as fraud prevention is concerned."[38]

VIVAT would eliminate zero-rating and would establish a uniform EU rate for all goods traded among registered merchants. Member countries remain with the power to set the final rate to the consumer through a Retails Sales Tax, which in the end would establish the effective product/service rate. See details as explained by Cnossen in Box 3.

[38] Richard Baldwin (2007) http://www.voxeu.org/index.php?q=node/275

Box 3 VIVAT[39]

In the belief that the alleged break-in-the-VAT-collection chain threatens VAT's integrity, Keen and Smith (1996) have made an imaginative, high-profile proposal for a viable integrated VAT (VIVAT), which would consist of the following elements.

- An EU-wide uniform (dual) VAT rate, administered by member states, on all intermediate (non-retail) transactions between VAT registered traders, within and between member states. Accordingly, interstate exporters would be taxed and interstate importers would be allowed a credit at the same uniform rate.
- A clearing mechanism for payments from net exporting states to net importing states, based on export and import statistics (derived from VAT returns!) and allocated to member states on the basis of consumption statistics. This would ensure the maintenance of the destination principle, except for cross-border consumer purchases.
- A surtax on retail sales to consumers (in essence, a retail sales tax) for member states wishing to collect more revenue than accruing to them under the EU-rate.
- Retention of the special schemes for distance sales and means of transport, but perhaps not for exempt entities since their inputs would be taxed at the uniform rate, standard or reduced, applicable to cross-border purchases.
- Sellers to separate sales into three categories: (a) sales to registered persons within the EU subject to the EU-rate, (b) sales to unregistered persons within the EU (in- as well as out-of-state) subject to the higher member state rate, and (c) sales for export outside the EU, subject to the zero rate.
- A single agency to handle interstate trade, which would reduce administrative and compliance costs.

Reverse Charges

Germany and Austria proposed to the EU the use of reverse charges as a way to control and limit VAT fraud. As Baer and Ter-Minassian (2006) put it:

[39] Cnossen (2009)

> "Given the difficulties that the German and Austrian authorities have been facing in controlling businesses engaging in carousel fraud, in 2006 they asked the European Commission for permission to deviate from the "transitional" VAT system; as part of their requests they provided estimates of their VAT revenue losses.40 Austrian officials gauged their overall losses at 4.4% of annual VAT revenue, but did not provide an estimate of the proportion attributable to carousel fraud. The German authorities estimated that the missing-trader type fraud accounted for two percent of annual VAT receipts.[41]"

The introduction of reverse charges is equivalent to shifting VAT liability from suppliers to purchasers. It is the equivalent to a single-stage RST. "The main difference with a conventional RST would be that the proposal envisages the retention (and intensification) of the cross-checking properties of a non-tax-invoice-based VAT" (Cnossen 2009, p. 25).

Origin Principle VAT

The establishment of an origin principle VAT "under which the value added up to the export stage would be taxed in the member state of production and imports" (Cnossen 2008, p. 6), instead of the destination principle, also emerged as a possibility which is mentioned but does not seem to have general appeal.

Tax Administration Improvement and International Cooperation

The reverse charge approach in effect displaces the legal VAT payer to the country of destination. In contrast, the VIVAT approach, apparently anticipating inadequate operational capacity in (some) such countries, proposes a substitutive approach, imposing the major (EU standard) tax in the origin country but leaving the imposition of the 'destination' (retail) portion of the tax up to the destination country. In both cases, neither any (non-existent) EU tax administration nor any individual country administration really has to attempt to track and control borderless transactions started in a different member country.

This is why Cnossen contends that:

> "… exporter rating and reverse charging do not obviate the need for auditing domestic and cross-border transactions. Proper domestic and multi-jurisdictional audit, on the other hand, would obviate the need for costly design changes whose reporting requirements might be just as or more burdensome than the requirements under deferred payment. The legal and administrative-cooperation arrangements appear sufficiently for the time being to tackle cross-border VAT evasion. The problem is that member states should make better use of them and be more willing to assist other member states in their endeavour to catch VAT evaders. Of course,

[40] The German and Austrian authorities proposed adopting the "reverse charge" mechanism for the VAT. This is discussed in greater detail in section 4.7 of this paper.

[41] Communication from the Commission to the Council, Commission of the European Communities, COM (2006) 404 final, Brussels, July 19, 2006.

> even if this would be done – and it should be – fraud should still be listed along with death and taxes as events that are certain." Cnossen (2008, p. 36).
>
> "Secondly, under VAT, invoices establish a country-specific audit trail throughout the entire production-distribution chain.[5] In the case of cross-border trade, however, this trail does not start before import and ends with export. (Cnossen 2008)"

Proponents of maintaining and deepening tax administration improvements are concerned with actual delivery of improvements. While VIVAT would take away part of the current country tax administration from each and every country, implementing the ongoing strategy would complement (rather than substitute) member countries' tax administrations through training, sharing of experience and information that adds on critical gaps of individual administrations.

Inasmuch as the perception is that the proposal is perceived as redistributing bureaucratic powers, there will be a fiscal federalism problem. In Baer's and Ter-Minassian's words: "Tensions between the application of national vs. EC tax rules has implications for the tax administration's ability to enforce compliance with the tax laws"

In Sum

The literature shows that VAT fraud is neither new in Europe nor in the other 150-some countries where it exists. Although MTIC/Carousel fraud is not unique to Europe, [42,] it has almost certainly been facilitated by the current situation in the EU with the free intra-European market being combined with separate VAT administration at the country level and no overriding EU mechanism to back up those administrations. These conditions facilitate the MTIC/Carousel, which is evidently a EU specific form of carousel. Other countries – notably Canada (Bird and Gendron 2010) but also to a limited extent Brazil and India (Bird 2010) – administer, with varying degrees of success, subnational VATs in an essentially borderless environment. However, in all these federal cases, the subnational VATs are backed up to a greater or lesser extent by an overriding federal VAT. Lack of data does not allow us to gauge whether the phenomenon is growing, but this is perhaps the major risk to be assessed in a country and a Community perspective.

The diversity of compliance cultures can be tackled by introducing throughout the EU modern managerial and IT concepts to all tax administrations. Culture-related concepts like corruption and the informal sector start to appear in papers referring to newcomers like Bulgaria where clearly the compliance culture is new but inherits patterns of conduct of the previous system.

In Closing - VAT Compliance Costs and Fraud: Is There a Link?

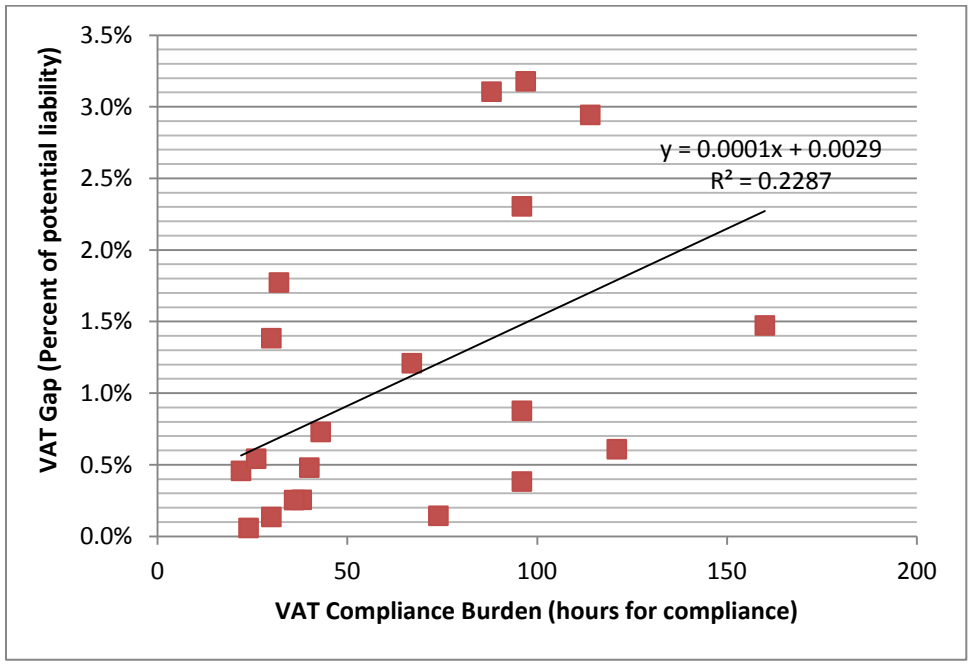
As was pointed out in the previous discussion, examination of proposals to reduce VAT evasion suggests that there might be a trade-off between the desire to minimize fraud and evasion (for VAT as well as for any other tax) and the desire to avoid imposing excessive burdens on taxpayers, either via increasing

[42] Actually, as Bird and Gendron (2007) emphasize, similar frauds can and do exist, though admittedly less visibly, with any sales tax in the (inevitable) absence of perfect tax administration.

administrative/control regulations, or (in the case of VAT) by changing features of the tax that deny its theoretical economic advantages over other forms of taxation. Many in fact fear that increasing administrative and compliance burden might be subject to a "Laffer Curve" effect, namely that excessive burdens may lead taxpayers to *increase* tax evasion, for example by escaping from the formal sector altogether, or by increasing the resources devoted to "defeating the system"[43]

This literature review has not uncovered rigorous testing of the hypothesis that increasing compliance burdens affects VAT fraud in either direction. However, a compilation of data discussed in this report (namely, the Reckon estimates of the VAT gap and the World Bank's/PWC's *Paying Taxes* estimates of compliance burden does show an intriguing correlation (see fig. 4): fraud appears to be ***directly*** related to the compliance burden. While fig.4 is merely suggestive, and on close inspection it is dominated by the high administrative burdens in NMSs, which also suffer from large VAT gaps (and where the causality is hard to ascertain without further investigation), it certainly points to the fact that it might be productive to pursue this line of research, most probably through a variety of survey instruments, and with appropriate country specificity.

Figure 4. Compliance burden vs. VAT gaps



Conclusions

As this literature review shows, the existing knowledge on compliance/administrative costs and on VAT fraud is both rich and wanting.

[43] See however the interesting discussion on the use of professional services to reduce tax liabilities in Eichfelder, Sebastian and Michael Schorn (2009).

Among the points of agreement in the profession, we can highlight the following:

With regard to ***administrative costs*** (those costs that are borne directly by the public sector, and thus indirectly by all taxpayers), there is considerable variation in overall tax administration costs among EU countries, suggesting the potential for efficiency improvements in at least several of them. However, little specific information is currently available to single out VAT costs, as most administrations are not organized by single tax, but rather by functions that cover a multiplicity of taxes. While the complexities of the tax systems undoubtedly add to the administrative costs (including VAT), most likely other country-specific factors contribute to country differences.

With regard to ***compliance costs*** (those that are directly borne by VAT registered traders), over the past ten years or so the Standard Cost Model (SCM) has quickly become the standard-bearer among practitioners and policymakers to assess such costs and to set policy goals. While the SCM is not immune from criticism (being criticized for concentrating only on a subset of costs, for lack of consideration of market failures and imperfections, or for its assumptions of a "normally efficient" firm, etc.), it has helped produce several country and global studies that allow comparisons over time and across countries. The general conclusions are that, in the EU as well as in the many other countries that have adopted VAT taxation, (i) compliance costs are high and significant for individual businesses (with estimated ranges in some studies going from some 2 percent to as high as 7-8 percent of VAT collections); (ii) compliance costs are regressive, in the sense that small businesses are more than proportionally burdened by compliance requirement (three times higher, for instance, in the case of Croatia); and (iii) compliance costs are not falling over time in the absence of policy action. Time and further research will tell what the effects of the increasing adoption of E-filing procedures will be, as well as of the aggressive programmes of burden reduction initiated in a number of countries.

Intra-EU trade and related reporting requirements for VAT purposes pose challenges and burdens which are not borne by taxpayers who do not engage in cross-border trade. Some burdens have been addressed over time with the extension of e-filing systems and other simplifications. It should be borne in mind that the EU has also set out as an objective the existence of trade statistical requirements that now piggy-back on the VAT reporting requirements, but would obviously continue to exist even in the absence of a VAT. Further research is warranted in this respect, given the most recent technological advances in data reporting that could be captured by up-to-date surveys.

The stock-taking of the existing quantitative and theoretical literature with regard to VAT evasion and fraud, shows that VAT evasion is a well-recognized phenomenon, and the most recent estimates of the VAT gap put the revenue loss for EU countries to a (wide) range of some 2 to 30 percent of potential revenues, with an overall average of about 14 percent. Several reasons help explain VAT fraudulent practices. VAT specific and EU general policies have been recognized as major determinants of the compliance and enforcement environments that facilitate the emergence of fraud. Institutional factors include (i) the choices of base, rates, exemptions, zero rating, registration and return filing thresholds, rules on VAT refunds and the existence of parallel small taxpayers regimes; and (ii) two broadly recognized general EU policy principles that affect VAT fraud: the intra-European single market in force since 1993, and the application of the subsidiarity principle to tax administration which generates a

second layer of differentiation in the actual application of the laws. Behavioral econometric studies point to variables such as the VAT burden, the trust in institutions and the prevalence of corruption, which can be construed to proxy the attitude of the taxpayer community vis-á-vis the state.

Overall, this literature review points to several avenues for further research that might help policymaking: a better understanding of administrative costs for VAT (e.g., by applying the SCM model to tax administrations and related services); the effect of the increasing prevalence of e-reporting on compliance costs, particularly for intra-EU trade; and the trade-offs between the added compliance costs of (more) enforcement efforts and the revenue losses associated with laxer attitudes, to cite just three important examples.

References

Agence pour la Simplification Administrative (2009): *Rapport d'évaluation des charges administratives 2008*, Brussels, available at http://www.simplification.be/doc/1248355129-1286.pdf

Agha, Ali, and Jonathan Haughton, 1996, "Designing VAT Systems: Some Efficiency Considerations," *The Review of Economics and Statistics* 78, No. 2, pp. 303–08;

Aizenman, Joshua, and Yothin Jinjirak (2005): *The Collection Efficiency of the VAT: Theory and International Evidence*, NBER Working Paper No. 11539

Allers, M. (1994), *Administrative and Compliance Costs of Taxation and Public Transfers in the Netherlands*, Groningen: Wolters-Noordhoff.

Australian Government – Australian Taxation Office (2007): *Literature Review – Measuring Compliance Effectiveness,* Canberra, ISBN 978-0-9775466-7-1

Baer, K., Ter-Minassian, T., (2006). *Main Challenges Posed by EU Integration for National Tax Administrations*.

Baldwin, R. (2007). *EU VAT Fraud*. http://vox.cepr.org/index.php?q=node/256

Bannock, G. And Albach, H. (1989): *The Compliance Cost of VAT for Smaller Firms in Britain and West Germany,* in G. Bannock and H. Albach: "Governments and Small Business", Paul Chapman, London.

Bird, Richard M. (1999): *Tax Policy and Tax Administration in Transitional Countries*, in G. Lindencrona, S-O. Lodin, and B. Wiman, eds., "International Studies in Taxation Law and Economics" (London: Kluwer Law International, 1999), pp. 59-75.

Bird, Richard M., 2010. "Subnational taxation in developing countries : a review of the literature," Policy Research Working Paper Series 5450, The World Bank.

Bird, Richard and Gendron, P. (2007). *The VAT in Developing and Transitional Countries.* Cambridge University Press. New York, United States.

Bird, Richard, Jorge Martinez-Vazquez and Torgler, Benno, (2008): *Tax Effort in Developing Countries and High Income Countries: The Impact of Corruption, Voice and Accountability*, Economic Analysis and Policy (EAP), Queensland University of Technology (QUT), School of Economics and Finance, vol. 38(1), pages 55-71, March.

Bird, Richard and Pierre-Pascal Gendron (2010) *Sales Taxes in Canada: The GST-HST-QST-RST "System"*, Tax Law Review, Spring.

Blažić, Helena (2004): *Tax Compliance Costs of Small Business in Croatia,* Occasional Paper No. 22, Institute of Public Finance, Zagreb, November 2004

Casanegra de Jantscher, Milka (1990): *Administering the VAT, in* "Value Added Taxation in Developing Countries", ed. by Malcom Gillis, Carl S. Shoup and Gerardo P. Sicat (Washington, World Bank)

Cavallo, Laura, Giuseppe Coco and Mario Martelli (2007): *Evaluating administrative burdens through SCM: some indications from the Italian experience*

Charlet, Alain and Jeffrey Owens (2010): *An International Perspective on VAT*, Tax Notes Int'l, September 20, 2010, p. 943

Christie, E and M. Holzner (2006), *What explains tax evasion? An empirical assessment based on European data*, WIIW, Working Paper 40. Available from http://www.wiiw.ac.at/pdf/wp40.pdf

Cnossen, Sijbren (1994): *Administrative and Compliance Costs of the VAT: A Review of the Evidence*, Tax Advisors' Forum, Tax Notes Int'l, June 20, 1994, p. 1649

Cnossen, S. (2008). *VAT Coordination in the European Union: It's the break in the audit trail, stupid!, available at* http://www.cesifo-group.de/portal/page/portal/ifoContent/N/neucesifo/CONFERENCES/SC_CONF_2008/CESifo%20Area%20Conference%20on%20Public%20Sector%20Economics%202008/Papers/pse08_cnossen.pdf

Cnossen, S. (2009). *VAT Coordination in Common Markets and Federations, Lessons from European Experience*. http://www.americantaxpolicyinstitute.org/pdf/VAT/Cnossen.pdf.

Coleman Frances, McKercher M, Hayley M, Walpole M, Zetler J and Woellner R (2003): *Successfully measuring the psychological compliance costs of compliance with income tax legislation*, Australasian Tax Teachers Association Conference, Wollongong, NSW, Australia, 1st February 2003

Commission of the European Communities (1997) *Customs and Fiscal Formalitiesat Frontiers*, (Luxembourg: OOPEC)

Commission of the European Communities (2004): *Report From The Commission To The Council And The European Parliament on the use of administrative cooperation arrangements in the fight against VAT fraud. COM(2004) 260 final*. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2004:0260:FIN:EN:PDF

Commission of the European Communities (2004a): *Taxation Papers — European tax survey* Luxembourg: Office for Official Publications of the European Communities ISBN 92-894-7992-2

Commission of the European Communities (2005): *EU common methodology for assessing administrative costs imposed by legislation - Operational Manual (Annex 10 to "Impact Assessment Guidelines" of the European Commission SEC(2005)791)*, available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2005:0518:FIN:EN:PDF

Commission of the European Communities (2007): *Communication From The Commission To The Council concerning some key elements contributing to the establishment of the VAT anti-fraud strategy within*

the EU. {SEC(2007) 1584}., available at http://ec.europa.eu/taxation_customs/resources/documents/taxation/vat/sec(2007)1584.pdf.

Crawford, Ian, Michael Keen, and Stephen Smith (2010): *Value Added Tax and Excises,* Chapter 4 in "Dimensions of Tax Design: the Mirrlees Review", by J. Mirrlees, S. Adam, T. Besley, R. Blundell, S. Bond, R. Chote, M. Gammie, P. Johnson, G. Myles and J. Poterba (eds), ISBN: 978-0-19-955375-4, Oxford University Press: April 2010

DeLuca, Donald, Scott Stilmar, John Guyton, Wu-Lang Lee, and John O'Hare (2007): *Aggregate Estimates of Small Business Taxpayer Compliance Burden,* The IRS Research Bulletin, 2007

De Paula, A., Scheinkman, J. (2009). *"Value Added Taxes, Chain Effects and Informality", Second Version.* Penn Institute for Economic Research, available at http://economics.sas.upenn.edu/system/files/09-041.pdf

Ebrill, Liam, Michael Keen, Jean-Paul Bodin, and Victoria Summers, 2001, *The Modern VAT* (Washington: International Monetary Fund)

Eichfelder, Sebastian and Michael Schorn (2009): *Tax compliance costs: A business Administration perspective*, Diskussionsbeiträge des Fachbereichs Wirtschaftswissenschaft der Freien Universität Berlin, Betriebswirtschaftliche Reihe, 2009/03

Evans, Chris (2003): *Studying the Studies: An Overview of Recent Research into Taxation Operating Costs,* eJournal of Tax Research, vol. 1, n. 1, p. 64-92

Evans, Chris (2008): "Taxation compliance and administrative costs: an overview," in Michael Lang, C. Obermair, J. Schuch, C. Staringer and P.Weninger, eds., *Tax compliance costs for companies in an enlarged European Community* (Linde Verlag, Vienna and Kluwer Law International: London), pp. 447-68.

Evans, C. Ritchie, K. Tran-Nam, B. and Walpole, M. (1997), *A Report into Taxpayer Costs of Compliance*, Canberra: Commonwealth of Australia (November).

European Parliament (2004): Regulation (EC) No 638/2004 of the European Parliament and of the Council of 31 March 2004 on Community statistics relating to the trading of goods between Member States and repealing Council Regulation (EEC) No 3330/91, available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2004R0638:20090101:EN:PDF

European Commission – Eurostat (2007): *The Intrastat System of the European Union*, available at http://unstats.un.org/unsd/trade/WS%20Lima%202007/background%20documents/Eurostat%20-%20Meeting%20document%20-%20Item%207d.pdf

Førsund, Finn R., Sverre A.C. Kittelsen, Frode Lindseth and Dag Fjeld Edvardsen (2006): *The Tax Man Cometh – But is He Efficient?* National Institute Economic Review January 2006 vol. 197 no. 1 106-119

Gallagher, Mark (2005): *Benchmarking Tax Systems,* Public Administration and Development 25, 125–144

Gebauer, A., C.W. Nam, and R. Parsche (2003) *Is the Completion of EU Single Market Hindered by VAT Evasion?* CESifo Working Paper No. 974, June.

General Accounting Office (GAO) (1993): *Value Added Tax: Administrative Costs Vary with Complexity and Number of Businesses,* Report to the Joint Committee on Taxation, US Congress, Washington, D.C.

Government Accountability Office (GAO) (2008): *VALUE-ADDED TAXES - Lessons Learned from Other Countries on Compliance Risks, Administrative Costs, Compliance Burden, and Transition,* Washington, DC

Haig, R. (1935): *The Cost to Business Concerns of Compliance with Tax Laws*, Management Review, Vol 24, (November), pp. 323–333.

Harrison, Graham, and Krelove, Russell (2005): *VAT Refunds: A Review of Country Experience*, IMF Working Paper 05/218 (Washington: International Monetary Fund).

Hasseldine, J. and Hansford, A. (2002), *The Compliance Burden of the VAT: Further Evidence from the UK*, Australian Tax Forum, Vol. 17, No. 4, pp. 369–388

Hemming, Richard, and John A. Kay (1981): *The United Kingdom,* in "The Value-Added Tax: Lessons from Europe", ed. by Henry J. Aaron (Washington: Brookings Institution), pp. 75-89.

HMRC (2007): *Measuring Tax Losses 2007, Available at* http://s3.amazonaws.com/zanran_storage/www.hmrc.gov.uk/ContentPages/13568349.pdf

HMRC (2010): *Measuring Tax Gaps, 2010*, available at http://www.hmrc.gov.uk/stats/measuring-tax-gaps-2010.htm.pdf

Hunter, William J. and Michael A. Nelson (1995): *Tax enforcement: A public choice perspective*, Public Choice 82: 53-67

International working group on Administrative Burdens (2004): *The Standard Cost Model- A framework for defining and quantifying administrative burdens for businesses*

James, Simon and Edwards, Alison (2010): *An Annotated Bibliography of Tax Compliance and Tax Compliance Costs,* Munich Personal RePEc Archive, n 26106, available at http://mpra.ub.uni-muenchen.de/26106/1/MPRA_paper_26106.pdf

Johnston, K. (1963), *Corporations Federal Income Tax Compliance Costs: A Study of Small, Medium and Large Corporations*, Bureau of Business Research Monograph No. 110, Columbus: Ohio State University.

Keen, M. (2007). VAT, Tariffs, and Withholding: Border Taxes and Informality in Developing Countries. http://elsa.berkeley.edu/~saez/course/Keen_IMF.pdf.

Keen, M., Smith, S. (2007). VAT Fraud and Evasion: What Do We Know, and What Can be Done? http://www.imf.org/external/pubs/ft/wp/2007/wp0731.pdf

Klun, Maya (2003): *Administrative Costs of Taxation in a Transition Country: The Case of Slovenia,* in Finance a úvûr, 53, 2003, ã. 1–2

KPMG LLP (2006): *Administrative Burdens:HMRC Measurement Project*, Publication Number 300-808

Larsen, E. (2006): *Institutional development as a driver of economic growth: the case of administrative regulatory reform in OECD countries*, MA thesis, University of Aarhus, March 2006

Machiavelli, Nicoló (1983) *The Discourses*, Edited by Bernard Crick, Penguin Books

Moesen, W. and A. Persoon (2002): *Measuring and Explaining the Productive Efficiency of Tax Offices: a Non-Parametric Best Practice Frontier Approach*, Tijdschrift voor Economie en Management, Vol. XLVII, 3

National Audit Office, (1994), *HM Customs and Excise: Cost to Business of Complying with VAT Requirements*, London: HMSO

Organisation for Economic Cooperation and Development (OECD) (2007) *Cutting red tape: administrative simplification in the Netherlands*. Paris: OECD

Organisation for Economic Cooperation and Development (OECD) (2010): *Survey of Trends and Developments in the Use of Electronic Services for Taxpayer Service Delivery.* Paris: OECD

Organisation for Economic Cooperation and Development (OECD) (2011): *Forum On Tax Administration - Tax Administration in OECD and Selected Non-OECD Countries: Comparative Information Series (2010)*, Paris

Otranto, E., S. Pisani and F. Polidoro (2003), *Un modello statistico per comprendere le determinanti dell'evasione* in R. Convenevole and S. Pisani "Le basi imponibili IVA Un'analisi del periodo 1982-2001", Working paper 2003/1 of *Agenzia Entrate, Ministerio dell'Economia e della Finanze, Italy*. Available at http://www1.agenziaentrate.it/ufficiostudi/pdf/2003/basi%20imponibili%20IVA%2082-01.pdf

Pashev, Konstantin V. (2007): *Countering Cross-Border VAT Fraud: The Bulgarian Experience* Journal of Financial Crime, Vol. 14, No. 4, 2007

Plamondon, R. (1993), *GST Compliance Costs for Small Business in Canada,* Ottawa: Department of Finance.

Plamondon, R. (1995): *A Study of the Quick Method of Accounting,* Plamondon and Associates, Ottawa

Pope, J. Fayle, R. and Chen, D. (1991), *The Compliance Costs of Public Companies'Income Taxation in Australia,* Sydney: Australian Tax Research Foundation

Rametse, N. And Pope, J. (2002): *Start-Up Compliance Costs of the GST: Empirical Evidence from Western Australian Small Businesses,* Australian Tax Forum 17(4):402-422

Rand, Ayn (1964): *The Virtue of Selfishness,* Signet, New York

Reckon LLP (2009): *Study to quantify and analyse the VAT gap in the EU-25 Member States*, Report for DG Taxation and Customs Union, September

SCM Network (2005): *International comparison of measurements of administrative burdens related to VAT in the Netherlands, Denmark, Norway and Sweden,* April, available at http://www.administrative-burdens.com/default.asp?page=142

Sandford, C. (1973): *Hidden Costs of Taxation*, London: Institute for Fiscal Studies.

Sandford, C. (1994): *International Comparisons of Administrative and Compliance Costs of Taxation*, Australian Tax Forum, Vol. 11, pp. 291–309.

Sandford, C. Godwin, M. Hardwick, P. and Butterworth, I. (1981): *Costs and Benefits of VAT,* London: Heinemann

Sandford, C. Godwin, M. and Hardwick, P. (1989), *Administrative and Compliance Costs of Taxation*, Bath: Fiscal Publications.

Serra, Pablo (2005): *Performance measures in tax administration: Chile as a case study*, Public Administration and Development, Volume 25, Issue 2, pages 115–124

Shaw, Jonathan, Joel Slemrod, and John Whiting (2010): *Administration and Compliance*, Chapter 12 in "Dimensions of Tax Design: the Mirrlees Review", by J. Mirrlees, S. Adam, T. Besley, R. Blundell, S. Bond, R. Chote, M. Gammie, P. Johnson, G. Myles and J. Poterba (eds), ISBN: 978-0-19-955375-4, Oxford University Press: April 2010

Silvani, Carlos (1993) and John Brondolo: *An Analysis of VAT Compliance* in Combatting Tax Abuse and Fraud: Technical Papers and Reports of the CIAT Technical Conference, (Venice, Italy:CIAT).

Slemrod, J. and Sorum, N. (1984), *The Compliance Cost of the US Individual Income Tax System*, National Tax Journal, Vol. 37, No. 4, pp. 461–474.

Slemrod, Joel B. and Leslie A. Robinson (2010): *Understanding Multidimensional Tax Systems*, Tuck School of Business Working Paper No. 2010-81

Smith, Stephen (2007): *VAT fraud and evasion*, in: Chote, R. and Emmerson, C. and Leicester, A. and Miles, D., (eds.) The IFS Green Budget: January 2007. (pp. 167-177). Institute for Fiscal Studies: London, UK.

Toonen, Teo and van den Ham (2007): *Reducing administrative costs and modernising government. De-Lex bureaucratisation in the Netherlands*, Zeitschrift für Staats- und Europawissenschaften/Journal for Comparative Government and European Policy 5 (1): 78-98.

Tran-Nam, Binh and Glover, John (2002): *Tax Reform in Australia: Impacts of Tax Compliance Costs on Small Business,* JlATax 11; (2002) 5(3) Journal of Australian Taxation 338

Vaillancourt, François, Jason Clemens and Milagros Palacios (2008): *Compliance and Administrative Costs of Taxation in Canada,* in "The Impact and Cost of Taxation in Canada: The Case for a Flat Tax Reform", The Fraser Institute

Verwaal, Ernst and Sijbren Cnossen (2002): *Europe's New Border Taxes*, Journal of Common Market Studies, Volume 40, Number 2, pp. 309-330.

Von Soest, Christian (2007): *Measuring the Capability to Raise Revenue. Process and Output Dimensions and Their Application to the Zambia Revenue Authority,* Public Administration and Development; Vol. 27, No. 4, S. 353-365

Wegrich, Kai (2009): *The Administrative Burden Reduction Policy Boom in Europe - Comparing mechanisms of policy diffusion,* Center for the Analysis of Risk and Regulation, Working Paper n. 52, March

Weigel, Wolfgang (2008): *The Standard Cost Model - A Critical Appraisal,* Paper presented at the 25th Annual Conference of the European Association of Law and Economics, 24th-26th September 2008, Haifa, Israel

WIFO-CEPS (2006): *Pilot project on administrative burdens*, Report for the European Commission, DG Enterprise

World Bank (2010): *Integration of Revenue Administration: A Comparative Study of International Experience*, Washington, DC, ISBN: 978-0-8213-8524-1

World Bank (2011): *Doing Business 2011 – Making a Defiierence for Enterpreneurs*, Available at http://www.doingbusiness.org/reports/global-reports/doing-business-2011

World Bank Group - PWC (2010): *The Impact of VAT Compliance on Business*

World Bank Group - PWC (2011): *Paying Taxes 2011 – The Global Picture*, available at www.doingbusiness.org