The High Costs of Controlling GST and VAT Evasion

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PRÉCIS

La taxe sur les produits et services (TPS) du Canada est quelquefois vue comme un régime d’auto-cotisation — le vendeur facturera toujours la taxe parce que l’acheteur voudra toujours demander les remboursements de taxe sur intrants. Néanmoins, l’évasion de la TPS est une réalité. Des solutions à ce problème comprennent habituellement des vérifications accrues pour les contribuables (et, de ce fait, des coûts de conformité plus élevés) et des coûts d’administration supérieurs pour les gouvernements; ces coûts représentent un détournement de ressource d’activités plus productives et une perte économique pour le pays.

La TPS est une taxe à la valeur ajoutée (TVA). D’autres pays qui lèvent une TVA font face à des problèmes similaires et ont suggéré diverses solutions. Chypre (du Nord) et la Bolivie, par exemple, remboursent une partie de la TVA payée sur les achat pour lesquels le consommateur ultime a reçu des factures officielles du vendeur. Dans cet article, les auteurs évaluent les coûts de conformité pour les contribuables et les coûts d’administration pour les administrations fiscales dans ces deux pays. Même si des mécanismes semblables ne risquent pas de voir le jour au Canada, les auteurs fournissent des données qui tendent à démontrer jusqu’où les coûts de conformité et d’administration peuvent s’élèver quand les gouvernements n’ont comme seul objectif que de contrôler l’évasion de la TVA.

Les coûts totaux de conformité et d’administration relatifs à la TVA à Chypre (en 2003) et en Bolivie (en 2002) sont estimés, respectivement, à 1,50 et 1,55 fois le total des dépenses budgétaires nécessaires pour administrer le régime fiscal dans son ensemble. Dans les deux pays, les coûts de conformité et d’administration relatifs aux mécanismes de remboursement de la TVA représentent plus de 5 % des recettes totales générées par les régimes de TVA.

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ABSTRACT

Canada’s goods and services tax (GST) is sometimes said to be self-enforcing—vendors will always charge the tax because purchasers will always want to claim input tax credits. Nonetheless, GST evasion is a reality. Solutions to the problem usually involve increased audits (and therefore increased compliance costs) for taxpayers and increased administration costs for governments; those costs represent a diversion of resources from more productive activities and an economic loss to the country.

The GST is a value-added tax (VAT). Other countries that impose a VAT face similar problems and have proposed various solutions. Northern Cyprus and Bolivia, for example, refund some of the VAT paid on the purchases for which final consumers have obtained official receipts from sellers. In this article, the authors measure the compliance costs to taxpayers and the administration costs to the tax authorities in those two countries. Although similar schemes are not likely to be directly copied in Canada, the authors provide data to show how high compliance and administration costs can go when governments single-mindedly pursue the goal of controlling VAT evasion.

The total VAT compliance and administration costs incurred by Northern Cyprus (in 2003) and Bolivia (in 2002) are estimated at, respectively, 1.50 and 1.55 times the total budgetary expenditures to administer the entire domestic tax system. In both countries, the compliance and administration costs of the VAT refund schemes amounted to more than the 5 percent of the total revenues collected by the VAT systems.

KEYWORDS: VAT ■ GST ■ COMPLIANCE ■ REFUNDS ■ EVASION ■ COST

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INTRODUCTION

It is sometimes claimed that Canada’s goods and services tax (GST) is self-enforcing—vendors cannot evade tax on sales because purchasers will want to produce evidence that the tax has been paid in order to claim input tax credits. In reality, however, GST fraud is big business. In December 2002, a Canadian newspaper reported that GST evasion was costing the government up to Cdn $1 billion in tax revenue.1 Questions were raised as to whether the federal government was doing

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1 Andrew McIntosh, “Ottawa Fails To Report GST Fraud of Up to $1B in Fake Credits,” National Post, December 7, 2002. It was later claimed that the worst-case scenario was Cdn $154 million in fraud, but that figure included only situations in which there was enough evidence against specific individuals to take the taxpayers to court: see “Speaking Notes for the Honourable
enough to control it. Most of the strategies recommended would have increased taxpayers’ compliance costs through more frequent audits and delayed payments of refunds. Inevitably, there is a tradeoff between controlling tax evasion and minimizing compliance costs. Elinor Caplan, then the minister of national revenue, was clear on this point:

We will remain vigilant in pursuing those who attempt to defraud the government. But we cannot seal our GST initiatives in barbed wire or red tape—because it would do untold damage to Canadian business. Many of you might have heard the Chief Economist for the Canadian Manufacturers and Exporters Association say a lot of companies use GST tax credits as an important part of their cash flow. Anything we do to hold that up can hurt the bottom line.

One particular problem in Canada has been sales to final consumers—the point at which the self-enforcing aspect of the GST breaks down. Buyers other than final consumers are not able to claim the input tax credits against GST they owe on their subsequent sales. No such self-policing mechanism exists with respect to sales to final consumers, however; if the seller agrees with the buyer not to levy GST on its final sale, then the government bears the full loss of tax revenue. In addition, consumer attitudes seem to condone evasion. According to one survey, “only 19 percent [of respondents] found income tax evasion even mildly acceptable, compared to 32 percent for GST evasion.” Forty-nine percent of respondents said that “they might avoid the GST by having work done for cash.” Particular problems have been found with Internet sales and construction and home renovation services. In the case of construction, the federal government has responded with the Contract Payment Reporting Initiative, whereby contractors must report the amount they pay subcontractors for construction services. However, the government has conceded that
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The initiative has not been working very well, and a search for alternatives has begun.8 Public education is part of the answer—notably, the “Get It in Writing” campaign9—but this is unlikely to solve the problem by itself.

Other countries that impose value-added taxes (VATs) similar to the GST have experienced similar problems. The United Kingdom has estimated that the “VAT gap”—the amount of VAT lost to tax evasion each year—has risen from 8 percent to 15 percent of VAT revenue in the last decade.10 The International Tax Dialogue (an initiative sponsored by the International Monetary Fund, the Organisation for Economic Co-operation and Development, and the World Bank to facilitate discussion of tax matters among national tax officials and international organizations) has counselled tax authorities against going too far in trying to control evasion:

There also needs to be more forceful convincing of authorities that massive checking of refunds and invoices is self-defeating. The benefits of such a program are very unlikely to offset the considerable administrative and compliance costs they involve.11

Instead, the International Tax Dialogue recommends the raising of thresholds for VAT registration (currently Cdn$30,000 in Canada but as much as US$200,000 in other countries) and the focusing of audit attention on high-risk taxpayers, “leaving the vast majority of traders to go about their business, free of unnecessary workloads and compliance costs.”12

One approach that has been used internationally to reduce VAT evasion in sales to final consumers is to refund some of the VAT paid on purchases for which consumers have obtained official receipts from the sellers of the items. Such a scheme has been used in Northern Cyprus since 1996. Individuals who make refund

8 “Enforcement efforts under our Contract Payment Reporting Initiative were redirected in response to lower than anticipated revenue.” Canada Customs and Revenue Agency, Performance Report, for the period ending March 31, 2002 (Ottawa: Public Works and Government Services, November 2002), 53 (online: http://www.tbs-sct.gc.ca/rma/dpr/01-02/0102dpr-rmr_e.asp).
9 See the CRA’s information at http://www.cra-arc.gc.ca/agency/inwriting-e.html.
12 Ibid., at 28.
claims have to present the official receipts accumulated for the period and submit them to the tax authorities along with an official tax refund claim form. Another approach, which has been used in Bolivia since 1986, is to create another tax—a withholding tax on the payroll of employees and pensioners—which can be reduced or eliminated by deducting the VAT paid on purchases, documented by official VAT invoices. We understand that the scheme implemented in Bolivia was based on recommendations by tax policy advisers, particularly the tax administration assistance provided by the IMF Fiscal Affairs Department, although no documentary evidence is available as yet to verify this understanding. The refund system in Northern Cyprus was copied from the one that has operated in Turkey since 1986.

The purpose of our study is to measure the costs of the schemes used in Northern Cyprus and Bolivia to combat VAT evasion in sales to final consumers—both the compliance costs to taxpayers and the administration costs to the tax authorities. These schemes relate to normal sales of goods rather than to Internet sales or sales of services and are not likely to be directly copied in Canada; however, the issues are relevant in that our data show how high compliance and administration costs can go when governments single-mindedly pursue the goal of controlling VAT evasion. The figures may serve as a cautionary tale for policy makers in Canada and elsewhere, since compliance and administration costs incurred reflect economic costs and an economic loss to a country.

Following previous research on compliance costs, we consider all the costs to the taxpayer of participating in these two schemes, including the value of the individuals’ time and the costs imposed on employers (since in both Northern Cyprus and Bolivia receipts must be submitted to employers rather than directly to the government). One item that is unique to this study is the discovery that because receipts that show VAT payments have value under these schemes, an illicit market may be created for such receipts. In Northern Cyprus, many individuals submit receipts equal to their full salaries even though it is extremely unlikely that a person would spend all of his or her income each month on taxable items. In Bolivia, it has

13 Similar systems have been implemented by Turkey and by other countries in Central America.

14 Letters of intent (LOIs) with the IMF are not publicly available for years prior to 1997, and the reforms under study are for 1986 and 1996. On IMF policies, see Miranda Stewart and Sunita Jogarajan, “The International Monetary Fund and Tax Reform” [2004] no. 2 British Tax Review 146-75.

become worthwhile for individuals to print and sell false receipts. Hence, one item of compliance cost is the cost of printing and marketing the false receipts.

Administration costs to the Northern Cyprus tax authority include the expenses of its operations, such as wages and fringe benefits for the employees who process the receipts, plus the costs of materials and overhead incurred to carry out this function. The administration costs imposed on the tax authority in Bolivia are relatively minor; those costs are not estimated here.

**Findings**

Assessing the public policy value of these two VAT schemes is a matter of comparing the costs of administration with the benefits of increased compliance. This comparison would be most easily accomplished if we could observe the level of VAT revenue with and without the schemes in place; however, in both Northern Cyprus and Bolivia they were implemented at the time the VAT was imposed and have been in force ever since.

Evidence suggests that the benefits are small. In Northern Cyprus, plenty of receipts are available for anyone who feels it worthwhile to make a claim. These receipts are produced by the supermarkets and other large enterprises because a formal accounting system is necessary to prevent employees from stealing from their employers. In Bolivia, one can purchase receipts on the black market for 1 percent of the face amount of the receipt. Shoppers have little incentive to pay a merchant 14.96 percent in VAT in order to get an official receipt if a perfectly usable substitute can be purchased for 1 percent.

Our study measures the total compliance and administration costs of these schemes. In each case, these costs exceed the total budgetary costs incurred to administer the entire domestic revenue system. In 2003, Northern Cyprus spent US$2.95 million on the administration of its domestic tax system; the compliance and administration costs of its VAT personal refund system were US$4.58 million, or 1.55 times as large. In 2002, Bolivia spent US$16 million on the administration of its domestic tax system; the compliance and administration costs of its VAT personal refund system were US$24 million, 1.50 times as large.

Expressed in terms of the revenues collected by the respective VAT regimes, the total compliance and administration cost of the refund system in Northern Cyprus was 5.8 percent of VAT revenues for 2003; in Bolivia, the compliance and administration cost of the refund system was 5.2 percent of VAT revenues for 2002. These figures are more than twice what the administration costs of a modern VAT system

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16 Information on the administration costs of the Tax Department was obtained from the 2003 Annual Budget Estimates of the Turkish Republic of Northern Cyprus, Ministry of Finance.

17 Information on the administration costs of the domestic tax system of Bolivia was obtained from the 2002 Annual Budget Estimates of the Internal Revenue Tax Authority.

18 In 2003, VAT revenues in Northern Cyprus were US$79 million; in 2002, VAT revenues in Bolivia were US$465 million.
should be. It is obvious from this comparison that the personal VAT refund incentive schemes are highly wasteful and not a cost-effective means of promoting general compliance with the VAT systems.

**Alternative Methods of Improving Taxpayer Compliance**

Given the high compliance costs associated with providing VAT refunds, one must ask whether there are other ways to improve VAT compliance in sales to final consumers. An obvious approach, and the one most commonly used in developed countries, is to audit the financial records of retailers and impose penalties for fraudulent behaviour.\(^\text{19}\) If a country’s tax authority does not have the accounting skills necessary to implement a comprehensive auditing program, three alternative approaches are available.

A system of physical spot checks, such as that used in Argentina and Ecuador, has proved quite effective. As customers leave a store, they are asked by a tax official (usually a junior employee) to show receipts for their purchases. If the customers are not able to do so, the store is closed for a period of days or weeks. This closure is done with considerable publicity and usually has a dramatic effect on the compliance behaviour of the merchants in the area. However, the potential for extortion and kickbacks is very much present.

Another method of enhancing compliance is to require all merchants to use electronic cash registers to produce receipts. Records produced by electronic registers can also be used to determine the quantities of goods sold and to simplify the auditing and accounting processes undertaken by the tax administration in its investigative work. In Italy, the use of tamperproof cash registers that maintain a record of all the transactions put through them has proved rather effective at raising the level of VAT compliance, particularly for small businesses. Although the purchase of electronic cash registers represents a real cost, the cash registers also generate real benefits to businesses in addition to improving taxpayer compliance; thus, the economic cost allocated to tax compliance should be less than the full cost of the cash registers.

The most popular method of improving compliance is a VAT lottery. In countries that use such a lottery (for example, Taiwan and Indonesia), taxpayers may submit their VAT receipts (showing their names or taxpayer identification numbers) to be drawn at random, or random numbers may be generated and a VAT receipt number matched. Large prizes are awarded in periodic draws. To our knowledge, the effectiveness of this system has not been carefully tested, but we believe that its compliance and administration costs are likely to be low. The prizes are merely transfers of revenue from the government to the taxpayers.

\(^\text{19}\) Penalties imposed on consumers for seeking (or permitting) cash transactions, which facilitate the evasion behaviour, do not seem to be feasible: Jay A. Soled, “‘Honest Taxpayers’ and the Tax Gap: It Takes Two To Tango” (1997) vol. 76, no. 7 *Tax Notes* 983-84.
NORTHERN CYPRUS: METHODOLOGY

Northern Cyprus designed its system of VAT refunds to promote compliance by giving final consumers an incentive to request an official receipt from sellers. Until October 2000, final consumers who filed for the refund were paid 5 percent of the value of their taxable purchases. After that date, the government changed the refund rate to 2.5 percent of the value of taxable purchases. At the time our study was undertaken, the standard VAT rate in Northern Cyprus was 13 percent, with rates of 20 percent on cigarettes, alcoholic beverages, and mobile telephone services; 10 percent on electricity; and 3 percent on private school tuition and some basic food items.

In Northern Cyprus, individual final consumers are responsible for completing and submitting to their employers the forms necessary to obtain a VAT refund. The individual collects the invoices and receipts for the goods and services purchased during a four-month period, and then organizes them according to the month of purchase. (There is no lower bound on the submission, so one would not expect any seasonal pattern of bunching of submissions.) The individual’s net salary is also recorded for each month. The total amount of purchases allowed for each month must not exceed the individual’s net salary for the corresponding month. The individual’s employer is legally responsible for checking the invoices and receipts and ensuring that the sum reported for each month does not exceed the employee’s salary. A special check must be done to ensure that invoices for non-refundable purchases such as cigarettes and alcoholic beverages are not included in the refund claim. After the employer completes the audit, it must prepare a list of its employees’ claims and the maximum VAT refund they can claim per period. The employer then submits the completed aggregate claim, together with the VAT invoices, to the district tax authority. (Self-employed persons and pensioners place their claim forms and invoices in special VAT refund envelopes and submit them directly to the district tax office.)

The tax authority in each district checks the submitted invoices and receipts to determine whether any non-refundable purchases are being submitted for a claim and to verify that the total purchases on which the refund is claimed is less than the employee’s net salary. The list from each employer is then sent to the main VAT office. After the amount of the final refund is determined, the main office prepares the VAT refund cheques. When employees submit their claims via an employer, a single cheque is sent to each employer. The employer then allocates the amounts it receives to the employees who initiated a claim. During each four-month period, about 30,000 cheques are prepared and issued. The claim forms, along with the receipts, are stored by each district office for seven years.

Compliance Costs

To estimate Northern Cyprus’s VAT compliance costs, we surveyed 145 individuals who were selected randomly from those claiming a refund. Of the 145 individuals,

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20 Detailed survey results for both Northern Cyprus and Bolivia are available from the authors.
a total of 120 completed the questionnaire fully. A second survey obtained compliance information from 30 companies and other large public sector establishments, such as universities. We estimated the administration costs from data gathered in interviews with government officials and direct computation of individual cost items.21

In 2003-2004, approximately 80,390 people were eligible for the personal VAT refund; of this total, however, only 32,972 applied for the refund.22 Of those employed in the private sector, only 34 percent of the total applied for the refund, in contrast to about 82 percent of the public sector employees. A likely explanation for this disparity is that many private sector workers face a higher opportunity cost of their time than public sector employees, who see compliance as an official duty and who file many of their claims during regular government office hours.

In contrast to the Bolivian practice (discussed below), the printing of counterfeit invoices has not occurred in Northern Cyprus. However, local taxpayers do submit supermarket receipts from sales made to foreign students and tourists, who are not eligible for the VAT refund. Although the maximum amount in receipts that an individual can submit for each month is equal to his or her monthly salary, it is unlikely that a person would spend all of his or her income each month on taxable items. We find, however, that those who make a refund claim submit receipts equal to their full monthly salary. This suggests that these individuals are submitting some receipts that were issued to others.

We estimated separately the compliance cost for public sector employees, private sector employees, retirees from the public sector, and retirees from the private sector. We separated these categories because there is a significant wage differential between the public and private sectors: public sector employees who claim the refund are paid significantly more than private sector employees who claim the refund.

The main component of the compliance costs faced by individuals is the time spent in picking up the forms, arranging receipts according to month and date, filling out the forms, and mailing or delivering the forms. In addition, individuals must purchase stamps to make some types of receipts official, to make the VAT envelope official, and (in the case of retirees) to submit the completed form to the district tax office.

We multiplied the hours that the employed individuals in our sample spent on compliance by their average hourly wage. For the retirees, we used the wage rates

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21 The breakdown of the status of the 145 individuals who were surveyed is as follows: 40 private sector employees, 35 public sector employees, 35 private sector retirees, and 35 public sector retirees. The 30 enterprises were made up of 25 private enterprise and 5 large public sector enterprises. The firms were selected from a list of public and private enterprises that was compiled by the Northern Cyprus Chamber of Commerce. Because all of the large enterprises in Northern Cyprus are public enterprises, it is these firms that make up our sample of large enterprises. All 25 private companies are small and medium-sized, as is typical of the private sector in Northern Cyprus.

22 This total is made up of 12,886 public sector employees; 2,500 contract public employees; 10,933 public sector retirees; 34,963 private sector employees; and 19,608 private sector retirees. Administrative records of the Turkish Republic of Northern Cyprus, Ministry of Finance and Ministry of Economy, 2003-2004.
earned in the various post-retirement jobs taken up by that group.\textsuperscript{23} Employed individuals spend an average of 33 hours per year on compliance; for retired individuals, the figure is 36 hours per year. (Retirees spend more time on compliance because they have to pick up the forms and deliver the completed paperwork to the tax office.)\textsuperscript{24}

The final components of private compliance costs are those incurred by the employers. These include the time spent checking the completed forms and receipts, preparing the list of employee salaries, and verifying the maximum amounts of VAT that can be refunded. In addition, there is the cost of the paper and the official stamps and the time cost of delivering the completed paperwork to the district VAT office.

Table 1 reports the compliance costs for each of the three groups and the total costs for 2003. The average compliance cost per employee ranges from US$137.01 per year for public sector employees to US$71.91 per year for private sector retirees. The total compliance cost imposed on individuals by this refund scheme was approximately US$3.54 million in 2003.

The total value of the refunds issued in 2003 was US$3.92 million;\textsuperscript{25} the individuals who filed for a refund received a net personal benefit of approximately US$0.38 million in that year.\textsuperscript{26} The closeness of the compliance cost and the value of the refunds also lends support to the notion that the reason 66 percent of the private sector employees did not bother to file a claim was that their compliance costs would be greater than the value of their refunds.

The average compliance cost per year per employer was US$1,159.71. In 2003, 808 employers processed claims for the VAT refund system, bringing the total compliance costs imposed on employers to about US$0.937 million.\textsuperscript{27} Hence, the total private compliance cost of the VAT refund system on final consumption was about US$4.47 million in 2003.

\textsuperscript{23} In Northern Cyprus, many individuals retire from the public service at an early age and then take another job; they receive wages and salaries as well as pension income. Statistics on the wages and salaries of public employees were obtained from the administrative records of the Turkish Republic of Northern Cyprus, Ministry of Finance, 2003. The wages and salaries for private sector employees and retirees were obtained from the administrative records of the Turkish Republic of Northern Cyprus, Department of Social Security, 2003.

\textsuperscript{24} Public sector and private sector employees can obtain the forms from, and deliver the completed forms to, their employers. Self-employed and retired individuals must pick up the forms from, and deliver the forms to, the local tax office.


\textsuperscript{26} The estimate of the net benefits received by individuals of $0.38 million is likely to be an underestimation of the net personal benefit because, as mentioned earlier, many public sector employees complete their submissions while they are at work and are paid for the time they spend on the activity. This is not the case for private sector employees.

\textsuperscript{27} In our study, firms with 0 to 250 employees are categorized as small; those with 250 to 500 employees are considered medium-sized; and those with more than 500 employees are considered large. The average compliance cost for a large firm is US$2,304.09 per year, US$309.87 per year for a medium-sized firm, and US$81.87 per year for a small firm.
Administration Costs

By making cash refunds to the claimants, the government increases its administrative burden. The costs include payments for materials and services as well as the time costs of the employees involved in administration. The results of the estimations are reported in Table 2. These material costs amounted to US $66,955.50 in 2003, which was higher than the personnel costs of US $46,344.24. The overall administration cost incurred by government was about US $113,299.74. This is an additional economic cost to the country over and above the economic cost of compliance with the VAT refund system. The total of these two items of economic cost amounted to US $4.586 million in 2003. This excess burden is in addition to any economic costs created by any other resource allocation efficiencies this provision might have created. The revenue cost of the refunds of US $3.92 million in 2003 is not an economic cost; it is simply an income transfer to VAT taxpayers.

BOLIVIA: METHODOLOGY

On May 20, 1986, Bolivia introduced a new tax system as part of a sweeping economic reform program. The VAT tax system was implemented along with a withholding tax on wages, salaries, and pensions (Régimen Complementario: Impuesto al Valor Agregado, or RC-IVA). It replaced the previous personal income tax system, and was designed to serve as a control mechanism to ensure that registered VAT taxpayers issued official invoices and receipts to their customers. The tax

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28 Material and service purchases include forms (the government provides four free forms per individual per period); envelopes (the government provides one free envelope per individual per period); the cost of printing cheques; and the cost of storage. For the government, the average cost of storage rental is $8 per cubic metre per month. Personnel costs include tax department staff (a total of 25 employees are responsible for the refund system, and each employee works on this task 30 days per period) and the costs of preparing the cheques, classifying and filing the claims in storage, and destroying the stored forms after seven years.
is levied at a single rate on all wages, salaries, and bonuses paid to employees. To determine the tax base, the taxpayer is allowed to deduct an amount equal to four minimum wages from his or her monthly earnings plus the amount of the compulsory contributions the taxpayer makes to Bolivia’s national pension system (Administradoras de Fondos de Pensiones, or AFP). In addition, a taxpayer is allowed to take as a deduction the face value of all the official receipts that he or she has obtained through purchases of goods and services on which VAT was paid. At present, the VAT rate is 13 percent on the gross-of-tax value of sales; the effective tax rate is 14.94 percent on the before-tax value of sales.

This withholding tax on payrolls and pensions was not designed to be a significant source of revenue (and in fact it has generated virtually no tax revenue); it was implemented to create a degree of self-enforcement for the VAT system.29 It was expected that individuals who did not have sufficient VAT receipts to eliminate the withholding

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29 We estimate that in 2003, the revenue that would have been collected by the payroll tax without the VAT offset scheme would have been about US$60 million. In 2003, under pressure from the IMF and other international financial agencies, the president of Bolivia, Gonzalo Sánchez de Lozada, proposed to get rid of the VAT offset scheme and collect the full payroll tax. Riots erupted outside the presidential palace, with the police and teachers’ unions leading the charge. The army defended the president and put down the riot; 32 people were killed. The tax proposal was withdrawn, and the IMF and the World Bank came up with fresh loans. The president was forced to resign less than a year later when the next riot broke out.
tax on their wages would be more inclined to request official receipts from sellers of goods and thus to pay the VAT. This system, along with the requirement for sellers to use official receipts, was expected to increase overall compliance with the VAT system.

In Bolivia, the administration of the withholding tax on payrolls is done almost entirely by the employees and their employers (known as retention agents). The compliance procedure is cumbersome. Each employee is required to collect his or her VAT receipts monthly and record them in a way that will facilitate any future audits. The employee brings the forms and the receipts to his or her employer, who must check the employee’s submissions and then calculate and remit to the revenue authorities any net withholding taxes that are due. The employers must retain their employees’ VAT receipts and records for five years. Very soon after this system was introduced, an active market developed in both original and duplicate VAT receipts. People who do not have sufficient receipts can buy counterfeit receipts for approximately 1 percent of their face value.

To estimate the compliance costs created by the RC-IVA, we prepared and administered a questionnaire to 31 firms and organizations in the La Paz area during the last week of January 2002 and the month of June 2002. Company managers were interviewed to identify the persons within the company who were responsible for the collection of the employees’ receipts, completion of the appropriate forms, and submission of the payments to the revenue authorities. These administrators were then interviewed to determine the amount of time for which the employees were paid to comply with the RC-IVA system. Information was obtained from the company on the wages earned by the administrators and on the time required for the completion of each part of the compliance process. We estimated the compliance costs required at the enterprise level to complete the forms and submit them, along with any payments, to the revenue authorities by multiplying the actual wages paid by the total amount of time expended.

In addition, within each of these firms three employees were interviewed—one from the bottom third of the wage scale, one from the middle third of the wage scale, and one from the top third of the wage scale. In the interview, the employee was asked to report his or her hourly wage and the time he or she spent in completing each of the steps required by the RC-IVA law. By using the hourly wage as the cost of time, we estimated the compliance costs for each of the employees who were interviewed.

30 The revenues collected from the RC-IVA in 2002 were negligible.
31 The firms in Bolivia were selected randomly from the list of firms registered with the tax authorities in La Paz. The distribution of the employees sampled is representative of the wages in the formal sectors of the economy. However, this system applies only to employees of the formal enterprises in the country. The compliance costs are also estimated only for those in the formal sector. These are the firms that are required to comply with the system. Most of the very low-paid workers are employed in unregistered informal enterprises that do not file tax returns.
32 Our estimate of compliance costs incurred by the employers and their dependent employees was based on the average wages of the people involved. This is an underestimate of the total cost of
As part of the interview, the employees were asked how much money they spent per month on the purchase of counterfeit receipts. Some employees were reluctant to answer this question; however, a significant number did respond. The cost of purchasing counterfeit receipts is part of the compliance costs of the RC-IVA because real resources are consumed in producing and selling the receipts to the employees.

The first variable to be estimated from the information collected was the average compliance cost over the year for each employer. We found that the average annual cost per employer was US$454.00. On a per-employee basis the compliance cost incurred by the employer was around US$12.66 per year. All the employees of the firm were included in this calculation, even if their income was so low that their standard deductions would make them not subject to the RC-IVA.

There are two approaches to the estimation of the total compliance costs incurred by the employers. The first approach is to multiply the average cost per employer that we obtained from the sample by the number of employers at all wage levels. In 2000, there were 17,376 such employers. We estimated that by the end of 2003 the total number of employers would be approximately 18,000. The total annual compliance costs were estimated by multiplying US$453.90 by the number of retention agents, giving a total cost of US$8.2 million for the year. It is likely that the firms in our sample might be somewhat larger than the average in Bolivia; therefore, the cost per retention agent might be somewhat larger than the average for all firms in Bolivia.

A second approach is to estimate the average compliance cost of the employers on a cost-per-employee basis. This cost per employee is then applied to all the employees who are registered in the RC-IVA system. Using our sample estimate of the average compliance cost, we estimated the per-employee cost at US$12.66 per year. Therefore, 497,001 dependent employees in Bolivia were subject to the RC-IVA in 2002. By multiplying these two numbers, we obtained an estimated compliance cost associated with the retention agents of US$6.3 million for the year. This estimate is approximately 77 percent of the estimate obtained under the first approach. This value is likely to be an underestimate, since we would expect the compliance cost of small employers to be higher than that of large employers on a per-employee basis. This discrepancy in results has been found many times in evaluations of the compliance cost of other taxes. The truth probably lies somewhere between the two estimates. To arrive at a clear minimum estimate of the compliance costs of the RC-IVA, we will use the lower number in the aggregated estimate of compliance costs incurred.

labour to the employers for a company; its labour expenditure account includes, along with the wages, an additional 10 percent for national health (Caja Nacional de Salud), 1.71 percent for pension funds (APF), 2 percent for housing (Fondo Nacional de Vivienda), 1 percent for vocational training (Fundación Nacional para la Formación y Capacitación Laboral), 8.33 percent for a Christmas bonus, and 8.33 percent for a profit bonus. It is estimated that the additional cost of these fringe benefits reaches 47 percent of the before-fringe-benefit wages.
From our survey of employees, we found that the value of the time that the employees spend on organizing and submitting their VAT receipts varies considerably with the level of their income. We estimated the value of the employees’ time by multiplying their effective hourly wage rate by the number of hours they spent on this activity. Those in the lowest income bracket (with earnings of less than US$241.80 per month) do not have to pay any RC-IVA because of the deduction of four minimum wages; hence, they should not be spending any time on compliance. However, we found that some of those employees do in fact spend a considerable amount of time organizing receipts and filling out forms for their supervisors at work. This may explain why some employees at higher pay scales (such as supervisors) reported lower compliance time costs than some employees at lower pay scales. To again bias downward our estimate of the total compliance costs imposed by this tax, we did not count any of the time spent by the lowest-paid workers on organizing and submitting receipts.

Table 3 illustrates the compliance costs per year for employees at different salary scales. We find that the costs per year range from US$12.11 for the lowest salary category to US$248.52 for the highest salary category. These per-employee time compliance costs are multiplied by the number of employees incurring these costs. An estimate of the total compliance costs incurred per wage category for the year is reported in the table. The first category of employees is set equal to zero because their income is less than the standard deduction of four minimum wages. Over all categories, the estimated total time compliance costs borne by the employees’ amounted to US$14.8 million in 2002.

In addition to these costs there are the expenditures incurred to purchase counterfeit receipts. The results of the survey indicate that the average cost per employee with income above the standard deduction of four minimum wages is US$20.93 per year. This is no doubt a downward-biased estimate of the amount spent on the purchase of counterfeit receipts, since the people conducting the interviews were from the office of the vice-minister of tax policy in the Ministry of Finance. In any case, using this estimate of the per-employee annual cost of receipt purchases, we estimate that the cost incurred to purchase counterfeit receipts by all employees who earned more than US$241.82 per month was US$3.29 million in 2002.

The components of the RC-IVA compliance costs are aggregated in table 4. In total, we find that companies and employees bear compliance costs of at least US$24.4 million per year. This is the economic cost or excess burden created by this single provision, which yields no revenue but was designed only to promote compliance with the overall VAT tax system.

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33 Because the employees will be submitting the forms to their employers, there is a tendency for the employees to compile their VAT invoices and complete the forms at their place of employment; however, some people reported that they compiled them at home.
TABLE 3  Compliance Costs of Employees for the Bolivian RC-IVA, 2002

<table>
<thead>
<tr>
<th>Monthly wage range (US $)</th>
<th>Average annual cost (US $)</th>
<th>Number of employees</th>
<th>Annual compliance cost (US $)</th>
<th>Annual cost of buying counterfeit receipts (US $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00-240.00</td>
<td>12.11</td>
<td>339,586</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>241.00-480.00</td>
<td>59.02</td>
<td>98,869</td>
<td>5,835,248.38</td>
<td>2,069,701.28</td>
</tr>
<tr>
<td>481.00-720.00</td>
<td>104.74</td>
<td>26,874</td>
<td>2,814,782.76</td>
<td>561,877.67</td>
</tr>
<tr>
<td>721.00-960.00</td>
<td>162.36</td>
<td>12,611</td>
<td>2,047,521.96</td>
<td>264,580.37</td>
</tr>
<tr>
<td>961.00-1,220.00</td>
<td>156.54</td>
<td>6,957</td>
<td>1,089,048.78</td>
<td>145,092.46</td>
</tr>
<tr>
<td>1,221.00 and above*</td>
<td>248.52</td>
<td>12,104</td>
<td>3,008,086.08</td>
<td>253,200.56</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>497,001</td>
<td>14,794,687.96</td>
<td>3,294,452.34</td>
</tr>
</tbody>
</table>

* The highest monthly wage reported in our survey was US$3,669.98.

Source: Number of employees—Republic of Bolivia, Internal Revenue Service, Tax Administration Records, 2002; compliance costs—survey results and authors’ calculations.

TABLE 4  Annual Compliance Costs of Employees and Employers for Bolivian RC-IVA, 2002

<table>
<thead>
<tr>
<th>Component</th>
<th>Costs (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employers</td>
<td>6,300,000.00</td>
</tr>
<tr>
<td>Employees</td>
<td>14,794,687.96</td>
</tr>
<tr>
<td>Cost of buying counterfeit receipts</td>
<td>3,294,452.34</td>
</tr>
<tr>
<td>Total compliance costs</td>
<td>24,389,140.30</td>
</tr>
</tbody>
</table>

Source: See table 3.

CONCLUSION

Most studies of tax compliance have focused on the costs associated with a particular tax, such as the VAT or the corporate income tax. In this article, however, we have focused on some special features of the tax systems of Northern Cyprus and Bolivia that were added to strengthen the tax administrations. We find that the compliance costs created by these special provisions are very large relative to the overall costs of tax administration. Our findings suggest that as Canada tries to control GST evasion, it should consider the impact of its efforts on compliance and administration costs.

In the case of Northern Cyprus, more than 100 percent of the refunds provided are offset by compliance costs, yet all parties perceive it to be to their advantage to continue with such an incentive scheme. Those who file for a refund or submit their receipts for a tax deduction get relief from taxes that are higher than the compliance costs they bear. The employers see themselves as providing a necessary service to their employees. In the case of Bolivia, employers might think that they would have to raise wages if the employees had to pay the withholding tax now avoided through the use of this scheme. Finally, the governments have come to
believe that these incentives enable them to collect more revenue overall. They seldom consider the economic losses created by inflicting compliance costs on the private sector.

Governments of developing countries, eager to create modern tax systems but saddled with weak tax administrations, have sometimes experimented with tax administration mechanisms that inflect large compliance costs on the private sector. In the two cases examined here, the private sectors in Bolivia and Northern Cyprus have borne these unnecessary costs for 19 years and 9 years, respectively.

In light of these findings, it seems prudent for someone to undertake a cost-effectiveness analysis of Canada’s Contract Payment Reporting Initiative. Like the schemes examined in this article, its objective is to promote taxpayer compliance, but its operating costs are almost entirely borne by private businesses. Unless its costs and its relative effectiveness are brought together and compared with alternative systems to promote compliance, the potential for economic waste could be significant.

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34 In recent years, tax reform has been a favourite item of conditionality imposed by the IMF or the World Bank as part of the terms of loan agreements with governments of developing countries.