

# The Underground Economy: Global Evidence of its Size and Impact

*edited by*  
*Owen Lippert and*  
*Michael Walker*

The Fraser Institute  
Vancouver, British Columbia, Canada

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# Taxes, Deficits, and the Underground Economy

Peter S. Spiro

## Introduction

There has been a groundswell of concern about the underground economy in Canada, to an extent not found in other countries. In 1993, some 77 articles featured the underground economy in magazines and newspapers listed in the *Canadian Periodicals Index*, as compared with half a dozen in 1992.<sup>1</sup> There is a widespread belief with very few dissenting that the underground economy is a growing problem in Canada and has contributed to a worsening of government deficits.

We also have a higher degree of consensus about the factors underlying the growth of the underground economy than about most other issues in economic policy. There is virtual unanimity among policy analysts on the important relationship between tax rates and the underground economy. In his 1994 pre-budget consultation document, Ontario's Minister of Finance stated:

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1 By contrast, the *US Business Periodicals Index* contained only three references to the subject, and of these, one was about Canada.

The Government of Ontario understands...the fatigue taxpayers are feeling, and that there are limits to how much revenue the tax system can deliver. The Government is also aware of the problem of the underground economy and how it means honest taxpayers have to pick up more than their fair share of the cost of public services.<sup>2</sup>

There also appears to be a rare degree of unanimity on the empirical proposition that the underground economy has grown substantially as a percentage of GDP since early 1991. One key piece of evidence for this is the large increase in cash in circulation relative to reported incomes. There is also a tremendous amount of anecdotal evidence and consumer survey data, which is probably why the issue has attracted such widespread popular attention. Even Statistics Canada's analysis of discrepancies in the GDP data supports the view that the underground economy began growing in 1991.<sup>3</sup>

Taxes are undeniably an important factor in the underground economy. Nevertheless, the connection is not as clear-cut or as easily quantifiable as many editorial writers have supposed. This article will marshal the relevant empirical literature to evaluate the likely contribution of various tax changes in the past few years to growth in the underground economy.

## **Effect of the GST**

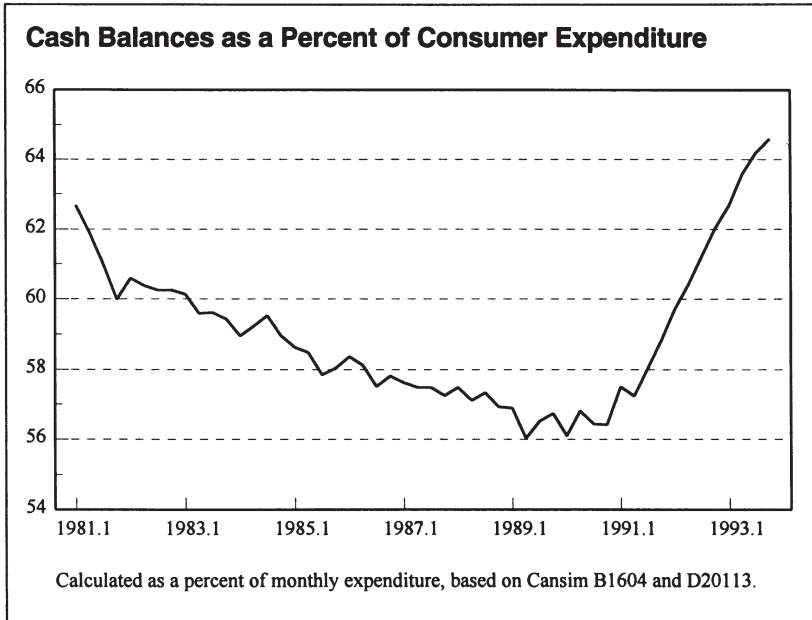
One hypothesis that has considerable support is that the introduction of the GST in 1991 sparked a substantial increase in the size of the underground economy in Canada. In an earlier article, this writer highlighted the increase in the ratio of cash in circulation to consumer expenditure that coincided with the coming of the GST. Even taking into account such other factors as declining interest rates, the growth in cash was extraordinary. The article offered the conservative estimate that the un-

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2 Ontario Ministry of Finance, *Preparing for the Ontario Budget 1994: A Guide Book to Budget Consultations*, Queen's Printer for Ontario, February 1994.

3 Gylliane Gervais, "The Size of the Underground Economy," *Statistics Canada Discussion Paper*, February 1994, pp. 9 and 17.

derground economy had increased as of mid-1992 by an amount of about 0.8 percent of GDP.<sup>4</sup>



**Figure 1**

There is a problem with interpreting these data due to the issue of velocity of circulation, and considerable judgement needs to be applied in imputing growth in the underground economy from growth in cash. Probably, the cash to expenditure ratio is higher in the underground economy than in the legal economy. Among other things, participants in the underground economy who do well and want to save some of their money cannot invest in mutual funds: they have to hoard it in the form of cash until they can find some way to "launder" it. Logically, some of this excess cash may have gone into safety deposit boxes rather than more expenditure.<sup>5</sup> Figure 1 updates the data and suggests growth

4 Peter S. Spiro, "Evidence of a Post-GST Increase in the Underground Economy," in *Canadian Tax Journal*, vol. 41, no. 2, pp. 247-258.

in the underground economy of perhaps 2 percent of GDP from early 1991 to the end of 1993.<sup>6</sup>

Besides the introduction of the GST, 1991 also saw large tobacco tax increases that contributed to growing sales of contraband cigarettes. Eventually, Statistics Canada began to estimate contraband cigarette sales by assuming that increased cigarette exports were all spirited back into the country clandestinely. By this measure, contraband accounted for about 15 percent of total 1991 cigarette sales in Canada.<sup>7</sup> At a street price reported to be half the legal price, this traffic would have been worth about \$700 to \$800 million annually. Even so, however, it could account for only a relatively small fraction of the growth in the underground economy<sup>8</sup> as indicated by the growth in the currency ratio.

The GST was introduced in the midst of a severe recession, and this may also have had some effect on the amount of evasion. However, the recession is unlikely to have been an independent factor. There is no consensus in the literature as to whether a recession will spur growth in the underground economy. Some analysts point out that many of the services consumed in the underground economy are discretionary and that the underground share will therefore decline

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5 The growth in the relative proportion of \$1,000 bills supports the view that some hoarding has taken place, as these notes are rarely seen in circulation. These \$1,000s, with their \$100 counterparts, grew from 39.4 percent of total cash outstanding in 1990 to 43.8 percent in 1992 *Bank of Canada Review*, Spring 1993, Table K1).

6 It should be noted that the growth in the cash expenditure ratio shown in Figure 1 was 14.5 percent from 1991 to 1993. The estimate that the underground economy has grown by only 2 percent thus makes considerable allowance for such factors as the declining velocity of cash. Econometric analysis that explains the derivation of this estimate is found in this author's article, "Estimating the Underground Economy: A Critical Evaluation of the Monetary Approach," *Canadian Tax Journal*, 1994, vol. 42, no. 4, pp. 1059-1081.

7 Gylliane Gervais, op. cit., p. 37. This report indicates that StatsCan will add in these estimates of contraband sales when it revises its GDP figures.

8 Estimated to amount to \$5.7 billion in consumer expenditures by Spiro, op. cit., p. 255.

in recessions. Others argue that people receiving unemployment benefits will be tempted to cheat by working in the underground economy.

One critic, Don McIver, has suggested that the growth in Canada's currency ratio was due to such financial factors as the falling inflation rate.<sup>9</sup> He pointed to a large increase in the US cash ratio beginning about 1990—an increase that appears, as documented in recent studies by that country's Federal Reserve Board,<sup>10</sup> to have been due to the growing use of US currency as a medium of exchange in eastern Europe. Examination of the cash ratio in the United Kingdom, which also experienced substantial reductions in its inflation and interest rates in the period 1991-1993, shows that the cash ratio there continued to decline.

It has also been claimed that recent growth in GST revenue is inconsistent with the tax evasion hypothesis. For example, one pro-GST editorial has suggested that those who claim "the GST was behind the growth in tax evasion...might like to explain why GST revenue grew *faster* than the economy last year."<sup>11</sup> In reality, the relationship between measured GDP and GST revenue growth in any particular year has no bearing on whether or not there is tax evasion. For one thing, large sectors of the economy, such as groceries and government-provided services, are exempt from the GST. The government sector grew much more slowly than GDP in the 1993/94 fiscal year, meaning that the part of GDP that carries the GST was growing faster than total GDP.<sup>12</sup> GST

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9 "Underground Mining," in *Sunlife of Canada Analysis*, November 30, 1993.

10 Richard D. Porter, "Foreign Holdings of the U.S. Currency," Federal Reserve Board discussion paper, 1993. See also "More for Boris," in *The Economist*, November 27, 1993, p. 86.

11 "Meet the new tax, same as the old tax," in the *Globe and Mail*, March 14, 1994, p. A12.

12 There is also a technical reason why net GST revenue would grow faster on average than GDP with inflation between 0 and 3 percent. GST revenue shown here is net of the low-income tax credits, which are increased only to the extent that CPI inflation exceeds 3 percent and would thus tend to grow more slowly than GDP in a low-inflation environment.

| Fiscal year      | Net GST revenue (\$ billions) | Nominal GDP (\$ billions) | GST as a percentage of GDP | GST revenue shortfall (\$ billions) |
|------------------|-------------------------------|---------------------------|----------------------------|-------------------------------------|
| 1991/92 budget   | 16.35                         | 700                       | 2.33                       |                                     |
| 1991/92 actual   | 15.17                         | 680                       | 2.23                       | 0.7                                 |
| 1992/93 actual   | 14.90                         | 688                       | 2.16                       | 1.2                                 |
| 1993/94 estimate | 15.60                         | 712                       | 2.19                       | 1.0                                 |

revenue grew about 4.7 percent while the estimated value of nominal GDP grew only 3.5 percent.

Table 1 looks at the history of GST revenue. The 1991/92 budget predicted GST revenue of \$16.35 billion: the actual turned out to be much lower, partly because the GDP was below forecast. However, the GST collected was also smaller as a percentage of actual GDP than the budget had predicted. Even after adjusting for lower GDP growth than forecast, there was a \$1 billion shortfall in fiscal 1993/94 relative to the initial GST revenue projection in the 1991/92 budget. This may actually be a useful lower bound estimate of the amount of evasion. Moreover, it is likely that GST-induced tax evasion has led to an underestimation of GDP itself, which would imply that the total amount of GST evaded is considerably more than \$1 billion.

### **Effect of income tax rates**

The question of the tax rate which maximizes revenues has been an important implicit question in the recent Canadian debate on taxes. Many critics of government policy have suggested that deficits would have been smaller had tax rates been lower.<sup>13</sup>

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13 This is an oft-repeated assertion. However as Horry, Palda, and Walker point out in *Tax Facts 8* (The Fraser Institute, 1992, p.1), econometric studies suggest that "almost no country is at the point where an increase in tax rates will lead to less tax collected."

Defenders of the GST argue that high income tax rates spurred increased evasion, not the GST. For example, the *Globe and Mail* has opined that “the GST was said to be behind the growth in income tax evasion, as if 54 percent income tax rates had nothing to do with it.”<sup>14</sup> It is true that there were also income tax rate increases in 1991 and we may legitimately ask what role they might have played in spurring the growth of the underground economy.

It should be noted that theoretical economic models do not state unambiguously that higher income tax rates lead to higher rates of evasion, particularly in systems with progressive rates. As with every other “price,” there is both a substitution effect and an income effect. Higher tax rates do incite the temptation to cheat via the substitution effect, since the monetary gain increases. However, there is also the matter of risk aversion in the face of potential punishment and how the income effect interacts with it. For example, if higher-income people are more concerned about the risk of being caught and possibly going to jail and they are also the ones facing the highest tax rates, it is not obvious that higher tax rates do necessarily lead to higher rates of evasion.

International cross-section evidence on the relationship between taxation and the underground economy can be seen in Figure 2, which relies on admittedly crude estimates of the underground economy as a percentage of GDP in a dozen OECD countries.

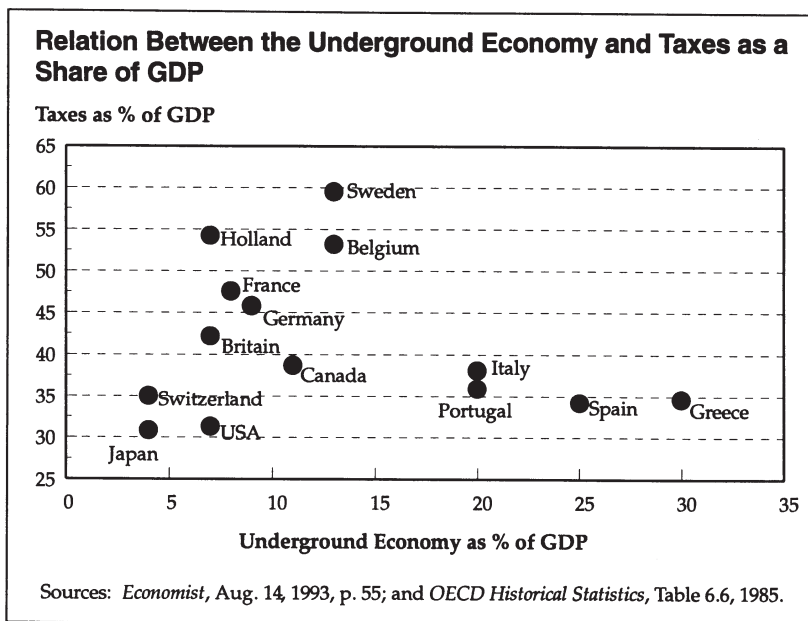
It is interesting to note that taxes are not the only factor conditioning the underground economy: societal norms in each country are also important. Some countries have large underground economies in spite of relatively low tax rates. If the Mediterranean countries in Figure 2 are excluded, however, we can pick out a distinct trend towards larger underground economies in tandem with higher total taxes as a percentage of GDP. In this group of countries, the underground economy rises roughly 0.25 percentage points for each percent of increase in taxes.

Econometric estimates abound for most types of behaviour, but empirical studies of tax evasion are particularly difficult. The critical problem is to obtain reliable data on the amount of tax evasion taking place. However, some enterprising US researchers have managed to conduct studies that may be applicable to Canada. In fact, the best data we have

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14 “Meet the new tax, same as the old tax,” op.cit.



**Figure 2**

on tax evasion emanates from the United States. Once every 10 years, the US Internal Revenue Service (IRS) conducts audits of 50,000 randomly selected taxpayers to build a statistically valid tax evasion profile. The random nature of this procedure is important: ordinarily, tax audits concentrate on high income earners in expectation of higher returns in taxes recovered.

On one of these decennial occasions, Charles Clotfelter, with access to the individual data points of the IRS data set, conducted an econometric study on the effects the marginal tax rates of various individuals were liable to have on their rates of evasion.<sup>15</sup> Clotfelter found that marginal income tax rates did indeed influence evasion significantly. Clotfelter's preferred estimate implied that unreported income went up 0.2 percent for each percent of increase in the income tax rate.

15 Charles Clotfelter, "Tax Evasion and Tax Rates: An Analysis of Individual Returns," in *Review of Economics and Statistics*, August 1983.

A second US study used a more aggregate estimate of unreported income—the discrepancy between the national income estimates of personal income and the amount declared as income on tax returns submitted to the IRS. These researchers also found it “questionable whether the gain in revenue from reduced evasion would be large enough to offset the revenue loss due to lower tax rates.”<sup>16</sup> Indeed, they found that the percentage of unreported income rises by only 0.05 percent for each percent of increase in the income tax rate.

Particularly at higher income levels, however, the presumption is that individuals do not resort to outright income tax evasion as much as to legal avoidance through tax reduction schemes. It is also assumed that higher tax rates will reduce work intensity and measured income and hence tax revenue. One study that attempted to take all these factors into account was done by the well-known supply-sider Lawrence Lindsay, who used a detailed microeconomic model of taxpayer behaviour to analyze the impacts of the US federal income tax cuts of 1981. He found that “at least one sixth, and probably one quarter, of the revenue loss ascribable to the 1981 tax law changes was recouped by changes in taxpayer behaviour over the period 1982-84.”<sup>17</sup> It is interesting that Lindsay’s upper limit estimate is not much larger than Clotfelter’s reckoning that 20 percent of the revenue loss from a tax rate cut is recouped through increased compliance.

Some recent work by Martin Feldstein, an outlier relative to the studies mentioned so far, shows much stronger tax revenue increases from tax rate cuts. Feldstein has become a harsh critic of the Clinton administration’s tax hikes for high earners, predicting virtually no net revenue increase for the US government.<sup>18</sup> He came to this conclusion by

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16 Stephen Crane and Farrokh Nourzad, “Inflation and Tax Evasion: An Empirical Analysis,” in *Review of Economics and Statistics*, 1986, p. 221.

17 Lawrence Lindsay, “Individual Taxpayer Response to Tax Cuts 1982-1984 with Implications for the Revenue Maximizing Tax Rate,” Harvard Institute of Economic Research Discussion Paper no. 1288, December 1986.

18 Martin Feldstein, “Clinton’s Path to Wilder Deficits,” in the *Wall Street Journal*, February 23, 1993; and “The Effect of Marginal Tax Rates on Taxable Income: A Panel Study of the 1986 Tax Reform Act,” National Bureau of Economic Research Working Paper no. 4496, October 1993.

following a set of 4,000 individual taxpayers through the years before and after the 1986 tax reform and observing that income taxes collected from the highest income segment actually rose in spite of tax rate cuts. Unfortunately, Feldstein fails to account for the fact that his period of study covers an economic boom in which incomes at the higher end—e.g., lawyers and corporate executives—ballooned with performance bonuses. The nature of the economic cycle was probably the main reason for the rise in reported income from top earners.

What does this imply for the Canadian situation in the early 1990s? In 1991, the average combined federal and provincial marginal tax rate for incomes between \$28,000 and \$55,000 rose to 40.82 percent from 40.3 percent the year before. For incomes above \$55,000, the rate rose to 46.98 percent from 44.95 percent the year before. Compared to the pre-reform rates of 1987, the 1990 rates represented a reduction for high earners who had previously faced a top marginal rate of 51 percent. For middle-income earners, the marginal rate in 1987 had been only 37.5 percent. In 1992, income tax rates were almost unchanged, declining 0.15 percent for the upper group and rising 0.13 percent for the middle group.<sup>19</sup>

The evidence from the IRS studies of tax compliance suggests that the bulk of tax evasion occurs among independent business owners with relatively modest incomes. This would imply that the tax rate applicable to middle-income earners is the one to watch. Between 1990 and 1991, that rate increased by only 0.5 percent. According to Clotfelter, this would mean a 0.1 percent reduction in reported income that would have amounted to roughly \$600 million in 1991. Personal tax increases, therefore, do not appear to be a large enough factor to explain much of the rise in underground economic activity indicated by cash balances in 1991 and 1992.

## **Psycho-social factors behind GST resentment**

There is a reason beyond mere pedantry for trying to establish the GST's role in the underground economy solidly and beyond reasonable

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19 These data are found in the 1990 to 1992 annual issues of the Canadian Tax Foundation's *National Finances*, in the table entitled "Combined Federal and Provincial Personal Income Tax Marginal Rates for Selected Fiscal Years."

doubt. If we feel convinced that the GST had a significant effect, we have acquired a significant lesson in the politics of tax design.

From a rational economist's viewpoint, the GST should not have had this effect. The federal finance department had even argued that the GST would have an opposite effect, actually reducing tax evasion. Gilles Paquet, among others, endorsed this view: "Since it would be a multi-stage tax, it would constitute, in all likelihood, a much better technique to catch cheaters."<sup>20</sup>

In contrast to this view, we have a persuasive theoretical analysis by Jonathan Kesselman concluding that "a change in the tax mix will have little or no impact on total evasion or on the distribution of real net incomes between evaders and non-evaders."<sup>21</sup> If Kesselman is correct, the GST would not have reduced evasion, but it should also not have contributed to a major increase in evasion.

The GST was imposed at the relatively low rate of 7 percent. It was replacing another tax, albeit a hidden one, and the Department of Finance was by and large correct in its claim that the switchover was revenue-neutral from the federal government's standpoint. Yet the GST overnight became the most unpopular tax imposed by a Canadian government in peacetime. *Globe and Mail* columnist Peter Cook commented that "the single most unpopular act of the late, unlamented Mulroney government was its introduction of the goods and services tax."<sup>22</sup> This was not just hindsight: during 1990, newspapers were full of headlines such as "Arguing the Case for a GST Revolt," "Two-thirds of Canadians still oppose tax," "GST 'last straw'," "Individuals Crushed by Tax While Companies Get off Lightly," and "A Shopping List for GST Haters."<sup>23</sup> When Prime Minister Mulroney took the unprecedented step of in-

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20 "The Underground Economy," in *Policy Options*, February 1989, p. 5.

21 "Evasion Effects of Changing the Tax Mix," in *The Economic Record* 69, June 1993, pp. 131-148.

22 *Globe and Mail*, January 10, 1994.

23 Respectively: *Financial Post*, January 30; *Daily Commercial News*, January 15; *Financial Post*, July 3; *Financial Post*, July 27; and *Financial Times*, September 24.

creasing the size of the Senate to force the GST legislation through, the cover of *Maclean's* magazine screamed with the two-inch bold headline, "HOW MUCH CAN CANADA TAKE?"<sup>24</sup>

So why did the GST cause such an outcry? Three broad lines of explanation can be suggested, and probably all have some merit: the visibility issue, perceived government overspending, and unfair taxation.

A GST defence popular with its supporters held that the general population in its ignorance could not be made to understand that the GST was just replacing another, less efficient tax. The old manufacturers' sales tax was invisible, while the GST was right up front. According to this argument, the mistake was making the GST visible, and no doubt a lot of Canadians agreed. Even before the reform proposal, however, large numbers of Canadians must have known about the existence of the MST and most of the rest must have been reached by the federal government's advertisements.

Part of the problem was that many of the pro-GST arguments emanating from the federal government consisted of half-truths. The GST may well have been revenue-neutral, but in that case why would it be expected to cause a substantial increase in the Consumer Price Index in the month it was introduced? The obvious answer is that the GST represented a major tax shift away from producers and onto consumers that has been estimated by Patrick Grady as representing \$4.6 billion.<sup>25</sup> The GST also came in on top of a string of income tax reforms that had shifted a larger share of the total tax burden to middle income taxpayers.<sup>26</sup>

Who would have been the beneficiaries of this change? The federal government argued that it would make the country's exports more competitive and so create jobs for all Canadians. This claim was rendered ludicrous by events, as Bank of Canada policies led to a severely overvalued dollar, a plunge in Canadian competitiveness, and a massive hemorrhage

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24 *Maclean's*, October 8, 1990.

25 "An Analysis of the Distributional Impact of the Goods and Services Tax," in *Canadian Tax Journal*, vol. 38, no. 3 (May-June 1990), pp. 632-643.

26 Patrick Grady, "The Burden of Federal Tax Increases Under the Conservatives," in *Canadian Business Economics*, vol. 1, no. 1 (Fall 1992).

of jobs. As things turned out, the switchover had no short-term beneficiaries. In other circumstances, the corporate sector would have benefited early, especially in industries where Canadian exporters were international price-takers. In the longer term, the benefits may well even have been more widely dispersed, with workers gaining some real wage increases. Even in the final general equilibrium, however, the return on capital and hence the highest income groups in society would probably have gained more than anyone else.<sup>27</sup>

A third anti-GST strand came from a general sense among Canadians of being overtaxed by governments that were careless with the money they received. The introduction of an additional layer of sales tax with large administrative costs for both government and taxpayers particularly rankled with people who were concerned about wasteful spending. By 1990, the term "tax revolt" was often heard. Kevin Avram, president of the Association of Saskatchewan Taxpayers, declared: "The root cause of the tax revolt triggered by the goods and services tax is excessive government spending."<sup>28</sup> Another activist foretold widespread civil disobedience because "the middle class has reached a level of taxation that is too high to bear."<sup>29</sup> As already noted, these people were not speaking from ignorance. In spite of the vaunted revenue-neutral nature of the GST, it was part of a substantial increase in the tax burden on the middle class—the sort that sparks increased evasion.<sup>30</sup>

The federal government ought to have taken the tax revolt warnings seriously. In a decentralized economy, taxes rely substantially on volun-

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27 This would generally be true if the international supply of equity capital to Canada is relatively inelastic with respect to the after-tax rate of return, which it seems to be. The vast bulk of international capital flows is in the form of interest-bearing securities, not equity. Taxes on profits fall more heavily on upper income groups. The Fraser Institute estimates that upper income groups pay 67 percent of taxes on profits. Canadians with incomes over \$250,000 derive about 38 percent of their incomes from investments as against 14 percent for the average taxpayer (Department of National Revenue, *Taxation Statistics*, 1993, Table 2).

28 "Forget tax reform, we need spending reform," in *Canadian Speeches*, November 1990, p. 13.

29 *Maclean's*, October 8, 1990, p. 26.

tary compliance by citizens. If they find a particular tax very unfair, they will refuse to pay it, and this seems to have happened with the GST.

Had a referendum been held on the GST issue, there is no doubt that it would have been resoundingly rejected. This is not a hypothetical suggestion, since in Switzerland the recent introduction of a VAT was actually the subject of a series of referenda.

It is reasonable to assume that Switzerland will have less trouble with evasion. In a society where people realize that the tax is a result of expressed consensus rather than arbitrary decree, their consciences are more likely to propel them into compliance. Psychological studies of taxpayer behaviour have found that evasion increases when people can convince themselves that a tax is unfair. For their own self-esteem, most people like to think of themselves as honest. Indeed, society could not function at all were this not the case, as there are never enough policemen to watch everybody, or police to watch the policemen. However, once people see themselves as being cheated by government, they feel justified in "cheating back."

The GST started out with a huge strike against it. Even with the wave of public opposition, however, compliance could have been increased with stronger enforcement. Studies do find that penalties for evasion work as deterrents. Holger Wolf has constructed an analytic model of tax revolts which shows that the attractiveness of cheating for any individual increases with the awareness that others will be cheating along with him. He suggests that this kind of revolt could possibly be nipped in the bud by a few symbolic, high-profile prosecutions before it gets out of hand.<sup>31</sup>

## **The underground economy and government deficits**

It has been suggested in these pages that the growth in the underground economy since 1991 may have been as much as 2 percent of GDP. That

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30 Michael Spicer and Lee Becker, "Fiscal Equity and Tax Evasion: An Experimental Approach," in *National Tax Journal*, vol. 33, no. 2.

31 "Anti-Tax Revolutions and Symbolic Prosecutions," National Bureau of Economic Research Working Paper no. 4337, April 1993.

would represent \$14 billion in national income unreported for tax purposes. Based on typical tax rates, this implies a revenue loss of roughly \$6 billion to all levels of government in Canada. A loss of this size would represent about 12 percent of the deficits incurred by all levels of government in 1993.

However, there is more than one type of connection between the underground economy and government deficits. Not only does the underground economy contribute to higher deficits, but high deficits may in turn further encourage people to participate in the underground economy. The accumulation of debt and the need to pay interest on that debt create a situation where tax rates are forced to increase without any corresponding increase in government services to the public.

Taxes as a percentage of GDP have been rising in Canada while government spending on current goods and services as a percentage of GDP has been on a declining trend since the early 1980s, interrupted by the recession. One of the main reasons for this is the growth of interest payments on the public debt, which is a particularly serious problem at the federal level but a growing problem in the 1990s for provincial governments as well. The growth of public-debt interest means that a large proportion of the taxes people are paying today goes to pay for services consumed in the past by people who may no longer be alive. Current taxpayers find it hard to derive pleasure from past deficits. Tax rates that increase without any offsetting benefits to taxpayers are going to be deeply resented, as psychological studies of tax evasion suggest.<sup>32</sup>

This is one reason why the Ricardian equivalence hypothesis, which claims that government deficits do not matter, cannot be correct. Proponents of Ricardian equivalence argue that individuals are forward-looking, anticipating the future tax burden resulting from higher government deficits, and will therefore increase their savings rates. Remarkably, the serious practical problems that arise with attempts to collect higher taxes seem to have eluded these theoreticians.<sup>33</sup>

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32 Alm, Jackson and McKee, "Estimating the Determinants of Taxpayer Compliance with Experimental Data," in *National Tax Journal*, vol. 45, no. 1.

33 The issue is not addressed at all in the literature survey by John Seater, "Ricardian Equivalence," in *Journal of Economic Literature*, March 1993.



Continual growth in the proportion of GDP going to service the interest on the country's public debt requires either reduced government services or increased tax rates. Deficits should be considered a matter of great concern because of the increasing difficulty of paying the interest on a growing pool of public debt. This is a function both of the size of government deficits and of the real interest rate on the debt issued to finance these deficits. There is evidence that tight monetary policy in Canada over the past several years has exacerbated the problem by causing substantially higher real bond yields.<sup>34</sup>

## Conclusions

This article has examined some possible factors behind the spurt of growth in the Canadian underground economy that began in 1991. The inescapable conclusion is that the GST was the primary catalyst triggering this growth.

While the GST was the culprit in this latest episode, other evidence supports the view that there was already a substantial underground economy in Canada before 1991. Econometric analysis from both Canada and the United States suggests that the large share of GDP taken by taxes in total (and in particular high rates of income tax) is the primary cause of the long-run growth in the underground economy.

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34 Peter Spiro, "The Differential Between Canadian and US Long-Term Bond Yields," in *Canadian Business Economics*, Winter 1994.