The Underground Economy: Guidance for Policy Makers?

Roger S. Smith*

KEYWORDS: UNDERGROUND ECONOMY • TAX POLICY

INTRODUCTORY COMMENT

There is much to admire in the monograph Taxes and the Canadian Underground Economy by David Giles and Lindsay Tedds.1 It provides both a comprehensive review of previous work on Canada’s underground economy and a new set of estimates of the growth of the underground economy over the period 1976 to 1995. It also reviews the available evidence about underground activity in other developed countries. For those who wish to review the underground economy literature of the past half century, Taxes and the Canadian Underground Economy is a useful source. Those interested in a briefer overview of past work, for Canada and elsewhere, will benefit from Schneider and Enste’s earlier review article in the March 2000 Journal of Economic Literature.2 This article provides estimates for countries in the developing world as well as the developed world.

Both the monograph by Giles and Tedds and the paper by Schneider and Enste highlight the diversity in range and magnitude of the factors that affect a country’s shadow economy. As listed by Giles and Tedds, these factors include tax rates and tax complexity, the burden of regulations, unemployment levels, levels of disposable income, the inflation rate, the age-gender profile of a country, the extent of self-employment, frequency of employment in more than one job, immigration levels, confidence in government, tax morality, level of economic and political development, and technological and financial sophistication. A lack of sufficient data for many of these factors makes it difficult to estimate their impact on underground activities. Moreover, as these factors change over time so too will underground economic activity. Any comprehensive model that explains the size and rate of change in the underground economy is likely to be complex. Giles and Tedds attempt to deal with this reality.

* Professor emeritus, School of Business, University of Alberta, Edmonton.
A significant part of Taxes and the Canadian Underground Economy is devoted to the development of a “multiple indicators, multiple causes” (MIMIC) model for the Canadian economy, from which the authors derive estimates for Canada’s underground economy (including both illegal transactions and legal transactions not reported to tax authorities). They give considerable care to describing the model and its strengths. Those with a limited interest in econometric methods may find the appendixes to chapters 6, 7, and 8 slow going, but they are necessary to a full appreciation of the model.

UNDERGROUND ECONOMY ESTIMATES

Giles and Tedds estimate that Canada’s underground economy in the mid-1990s was about 15 or 16 percent of measured gross domestic product (GDP). This estimate is generally consistent with previous estimates for Canada, which used a variety of methods. Schneider, using a currency-demand approach, estimated that Canada’s underground economy in fiscal year 1997-98 was 16.2 percent of GDP. Schneider and Enste estimated that in fiscal 1996-97 it was 15 percent of GDP. Rolf Mirus and I found “significant growth and an order of magnitude of 12 to 15 percent of GDP for Canada’s underground economy”; we included illegal activities but excluded barter transactions. Finally, Schneider and Enste used a currency-demand model in estimating that Canada’s underground economy ranged from 10.0 to 13.5 percent of GDP in the early 1990s and rose to just below 15 percent in the mid-1990s. Thus, the point estimates that Giles and Tedds develop for the mid-1990s are consistent with other evidence, and we likely have no more reason to question the validity of their estimates than to question the estimates of others. But how much has their monograph added to our knowledge?

The authors, I expect, would acknowledge that much of their review of earlier work is covered elsewhere, although they do provide some updating. In considering any attempt to model the underground economy, we should keep in mind Schneider and Enste’s caution that “[t]here is no ‘best’ or commonly accepted method. Each approach has its strengths and weaknesses and can provide specific insights and results.” As well as reviewing the very real weaknesses of other estimation methods, Giles and Tedds list the shortcomings of the MIMIC method. They include the MIMIC method’s need to “first obtain a ‘benchmark’ measure of this size [of the underground economy], expressed as a percentage of measured GDP, from some source other than the MIMIC model itself.” What is this “other source”?

Giles and Tedds use a currency-demand model to arrive at an estimate for the size of the underground economy in Canada in 1986 of “9.45 percent of measured GDP.” The particular model they use is subject to many of the same criticisms levied against other models—for example, that minor changes may lead to substantially different results. It would be of interest to know what results the same currency-demand approach would obtain for years other than 1986. How consistent would such estimates have been with Giles and Tedds’s MIMIC model results?
TAX POLICY AND THE UNDERGROUND ECONOMY

The primary purpose of Giles and Tedds’s monograph is “to consider the broad links between the underground economy and tax policy.” Chapters 11 and 12 focus on the empirical relationship between tax rates, tax policy, and the underground economy. Giles and Tedds use their own estimates of the elasticity of the underground economy to changes in tax rates to simulate the effects on the size of the underground economy of eight tax-change scenarios. These scenarios include changes to direct personal taxes, corporate taxes, indirect taxes, and “other” taxes.

In figure 7.2, Giles and Tedds graph their estimates of the underground economy for the period 1976 through 1995, including the 95 percent confidence interval. They conclude that “the broadly defined underground economy grew from about 3.5 percent of GDP in 1976 to about 15.7 percent of GDP in 1995.” They then run simulations to examine the effect of tax changes on these estimates. In one simulation, a reduction of 10 percent in the overall tax rate (tax revenues/GDP) brings Canada’s tax rate in 1980 roughly in line with the rate in the United States and reduces Canada’s total underground economy (“hard-core” plus “soft-core”) from 5 percent of GDP to 3 percent. A reduction of 25 percent in the overall tax rate for 1980 reduces simulated underground activity for that year to zero or little more than zero. Given the existence of a hard core of underground activity that would exist even if taxes were zero (such as illegal activity), which Giles and Tedds put at half of all underground activity, these estimates do not appear to be realistic. Estimates of zero overall underground activity suggest either that soft-core underground activity is “negative” or that hard-core activity is zero. Moreover, do we really believe that the effect on underground activity of a total elimination of taxes in 1980 would have been no greater than the effect of a 25 percent reduction in taxes?

The results of these simulations also seem unrealistic in the light of previous Canadian studies and evidence for the United States. The inequities and inefficiencies created by the use of narrow and distorted tax bases after the Second World War, as highlighted by the Carter commission in the 1960s and in discussions about “tax expenditures” in the late 1970s and early 1980s, were all too apparent. Although the term “underground economy” may not yet have been in wide use, taxpayer attitudes and their impact on compliance were already of concern. Thus the estimates by Giles and Tedds for the late 1970s and early 1980s appear to be unreasonably low given the very real distortions and inequities created by high levels of inflation and numerous tax preferences at that time. This consideration raises questions about their estimates for other years as well.

The use of “average” tax rates further limits the usefulness of the monograph’s estimates of the impact of tax changes on the underground economy. The elasticities that Giles and Tedds use for their simulations of the underground economy are for total tax revenues as a percentage of GDP, personal income taxes as a percentage of GDP, corporate taxes as a percentage of GDP, indirect taxes as a percentage of GDP, and “other taxes” as a percentage of GDP. These ratios are referred
to as “effective” tax rates, although they are far removed from the marginal tax rate that applies for any decision by a taxpayer. Nor do these definitions indicate the breadth of the tax base employed. A narrow tax base with high marginal and average tax rates can raise the same revenues as a broader tax base with lower rates, but it will have very different implications for the underground economy.

Given the foregoing, it is fair to ask to what extent, if any, the detailed simulations provide additional guidance for policy makers who face tax policy decisions. None of the simulations deal with the “fairness” or “complexity” of the tax system, or with the perceptions and attitudes of taxpayers. For example, Giles and Tedds found that “[o]ver the 20 years . . . the underground economy was about two and a half times more responsive to changes in the personal income tax rate than it was to changes in the indirect tax rate,”\(^ {15} \) but that in 1995 the underground economy was more responsive to changes in indirect taxes than to changes in personal income taxes. So it “depends,” and we are not surprised given the range of factors that determine underground activity. Policy makers must deal with issues such as the breadth of the tax base, marginal tax rates, and taxpayer attitudes that affect personal and business decisions and tax compliance.

**SELF-EMPLOYMENT AND THE UNDERGROUND ECONOMY**

Despite the length and comprehensiveness of this study, there may be a tendency to claim a bit too much for it. Economic literature on underground economies, in Canada and elsewhere, has been a growth industry, and it is understandable that Giles and Tedds have overlooked some of it. For example, they have missed earlier empirical studies that explicitly consider the role of self-employment on the underground economy. Pissarides and Weber\(^ {16} \) found that in the United Kingdom those with a significant amount of self-employment income did not report 35 percent of total income. Apel\(^ {17} \) found that in Sweden 26 percent of the income of the self-employed went unreported. Rolf Mirus and I, using a similar methodology and the 1990 Survey of Family Expenditures,\(^ {18} \) found that in Canada from 11 to 16 percent of income from self-employment went unreported.\(^ {19} \) Finally, a recent study by Schuetze used a similar methodology in estimating that between 12 and 24 percent of self-employment income went unreported in Canada in 1990.\(^ {20} \) It is not obvious why unreported income from self-employment should vary to this extent among three developed countries; much of the difference between estimates is probably attributable to data limitations. Nonetheless, as Giles and Tedds note and others have noted, rapid growth in self-employment has increased opportunities for underreporting income in Canada and elsewhere.\(^ {21} \)

**LIMITING THE UNDERGROUND ECONOMY**

In the face of apparent growth in underground economies, those who write on the topic sometimes appear to suggest that policy makers have been inattentive. Giles
and Tedds refer to Revenue Canada’s 1993 underground economy initiative and to the 1994 anti-smuggling initiative but say little about the tax reforms of the 1970s and 1980s. Among other things, those reforms included base broadening, rate reductions, increased reliance on indirect taxes, and (sometimes) attempts to address problems created by inflation. The tax changes addressed the issues of fairness, complexity, distortion, and incentives to operate underground. Policy makers have not stood by idly while economists wrote; rather, they have attempted to maintain the credibility of the tax system and limit underground activity in a world of constant change.

New challenges will continue to surface. One result of rapid economic growth and increased discretionary income in industrialized countries has been a disproportionate increase in drug trafficking, gambling, and other illegal activities. More and more activity of this kind is carried out over the Internet. One recent estimate for the United States is that “[b]lack market activity conducted online will reach an estimated US$36.5 billion” in 2002.22 This figure includes illegal gambling, child pornography, financial scams, intellectual property piracy, and illegal drug sales. Some of this activity may result in taxable income and sales, but most of it is likely to escape the tax net. The “underground Web” is a new challenge for policy makers in Canada and elsewhere.

THE UNDERGROUND ECONOMY: POSSIBLE BENEFITS?

Industrialized economies and their public sectors have both grown rapidly since the Second World War. Total tax revenues as a percentage of GDP were over 38 percent in Canada in 1999, up from 26 percent in 1965 and about the average for the members of the Organisation for Economic Co-operation and Development (OECD), although substantially below the level in many European countries.23 Until recently, taxes were high and rising, and incentives to operate outside the tax system have been significant. Although exceptions can be found, evidence from Canada and elsewhere indicates that high and rising tax rates result in growth in underground economies. Those concerned about high taxes, the size of the public sector, and constraints placed on economic and other freedoms may see a positive side to underground economic activities. Schneider and Enste note that

[the shadow economy can be seen as an indicator of a deficit of legitimacy of the present social order and the existing rules of official economic activities. The exit-option shadow economy is an important constraint on the Leviathan state and can help secure economic freedom.24

In a world of minimum wages, high payroll taxes, immigration and employment controls, limits on hours worked, and clawbacks of social transfers, the underground economy may enable some individuals to be employed who would otherwise not be employed, enable other individuals to increase their incomes by holding second jobs, and provide services that would otherwise be unavailable. Activity of this kind may add a dynamic element to an economy and increase competition in some
sectors. These potentially positive aspects of underground activity deserved more attention from Giles and Tedds than they received.

**CONCLUDING COMMENT**

Among other things, the monograph by Giles and Tedds shows how little additional help policy makers can expect from macro estimates of the underground economy. Numerous efforts have been made over the past two decades, in Canada and elsewhere, to estimate the overall size of the underground economy. Giles and Tedds take a further step by attempting to assess the impact of the level of taxes and the tax mix on underground activity. Nevertheless, in terms of providing additional guidance to policy makers about the appropriate direction or magnitude of tax changes, their contribution is quite limited. Data limitations contribute to this result. Econometric work at the micro level is likely to be more helpful. In this regard, modelling the probability of non-compliance on the basis of variables that characterize Canadian businesses and individuals, an undertaking that would be similar to work Giles reportedly did in New Zealand, could be of enormous interest to tax collectors, policy makers, and economists alike. Indeed, this is an area in which cooperation among academics, tax collectors, and policy makers should be of benefit to all. Lengthy studies that involve no interaction with those who are in a position to improve the tax system through data collection, policy formation, and regulations are likely to be of limited value.

**NOTES**

3. Supra note 1, at 6.
5. Supra note 2, at 78.
7. Supra note 2, at 102 and 104.
8. Ibid., at 107-8.
9. These include “an observable variable chosen as an effect of the latent variable might also, or instead, be a cause, and vice versa”; “the resulting index is only as good as the variables used in the model and the variables selected are frequently subject to data constraints”; “the process of converting the index into a series of final values may introduce some distortions”; and “there is no way of being certain that the latent variable being measured is really the hidden economy.” Giles and Tedds, supra note 1, at 86.
10 Ibid., at 118.
11 Ibid., at 119.
12 Ibid., at 150.
13 Ibid., at 119.
14 Ibid., at 218.
15 Ibid., at 237.
19 Rolf Mirus and Roger S. Smith, Self-Employment, Tax Evasion, and the Underground Economy: Micro-Based Estimates for Canada, Working Paper no. 1002 (Cambridge, MA: Harvard Law School, International Tax Program, October 1997). Mirus and I assumed that both the self-employed and others report food expenditures accurately. We then estimated the difference between food expenditures by the self-employed and food expenditures by those without self-employment income. We found that spending units with self-employment income spent more of their (reported) after-tax income on food for reasons not apparently related to household characteristics. This result made it possible to project the income not reported by these households.
21 There is also the claim that earlier work by Tedds and Giles and Tedds's monograph provide the first historical time paths for the underground economy. The results presented cover a longer and more recent period than previous studies do, but a paper by Mirus and Smith is likely one of several that provide estimates covering a decade or more. See Rolf Mirus and Roger S. Smith, “Canada’s Underground Economy,” in Edgar L. Feige, ed., The Underground Economies: Tax Evasion and Information Distortion (Cambridge, UK: Cambridge University Press, 1989), 267-80.
24 Supra note 2, at 108.