The Canada Revenue Agency (CRA) encourages taxpayer compliance using a variety of methods, including the prospect of audits. The CRA applies several measures and standards to ensure audit quality and auditor integrity and professionalism.

Academic research demonstrates that, in equilibrium, auditors will sometimes assess more tax than appropriate in instances when tax audits are not perfect. Improving audit precision enhances taxpayer fairness but can reduce government revenue in some cases.

The CRA reports overall metrics including “tax earned by audit” and the proportion of audits leading to a reassessment. While individual auditors are not rated on these metrics, broader research on employee motivation shows that both the possibility of promotion and the use of a metric for the group can become an implicit incentive for individual employees.

To counteract this possibility, audit metrics should compare audit reassessments to taxes ultimately paid, after appeals and court adjudication.

Canada’s self-assessment system of taxation is comprised of three main actors. The federal government, through the Department of Finance, establishes the legal tax regime. The taxpayers, often supported by tax professionals, apply the law to their economic circumstances to compute and remit any taxes due. And the CRA, acting as an intermediary between government and the
taxpayer, administers the law, collects revenues and ensures that the tax law is being applied appropriately. For the last activity, the CRA notes: “The CRA’s compliance activities seek to protect the integrity of Canada’s self-assessment system by identifying and addressing those who do not accurately report income” (CRA Annual Report to Parliament 2015, 47).

To support its compliance efforts, CRA works with taxpayers to help them comply, while also auditing some filed tax returns. Compliance involves the spectrum of taxpayer activity, from registering with CRA to filing and paying the amount of tax due within the law. While not publicly disclosed, overall Canadian audit rates are thought to be very low, consistent with other developed nations. Yet, the Canadian tax system is characterized by a high degree of overall compliance (see, for example, Morissette 2014, who estimates that the underground economy is approximately 2.3 percent of GDP). The CRA supports high tax compliance rates through education, outreach and recent initiatives to help new businesses be compliant from inception. Still, beyond such positive measures, CRA engages in examinations and audits to verify the application of tax law within returns filed.

Auditing taxpayer compliance is made more difficult because the tax law can be ambiguous. Some tax rules are straightforward, such as, for example, the computation of capital cost allowance (i.e., tax depreciation). Others can involve considerable judgment such as whether an asset being disposed of is an inventory item or a capital item, or how to determine fair market value for transactions between related parties when no external market exists. Corporate managers making these judgments respond to a variety of incentives, including investment opportunities (Klassen and Laplante 2012a), the strictness and degree of enforcement of tax laws (Klassen and Laplante 2012b) and the type of external adviser being used (Klassen, Lisowsky and Mescall 2016).

In this context, while CRA auditors are charged with assessing the taxpayer based on application of the law, it seems reasonable to consider how they, themselves, respond to potential incentives. For example, some observers have argued that government auditors apply the law to increase assessments beyond that which is reasonable (see, for example, Selick 2013 and Howlett 2014 in Canada, Willens 2009 in the US, and Becker and Fuest 2010 internationally).

This E-Brief’s goal is to explore the incentives that tax auditors might face and offer some suggestions to improve the Canadian system. To this end, I review the available information on how the CRA reports on the success of its compliance activities. This review is important because the metrics on which success is measured can significantly affect the motivation and approach taken by tax auditors and, ultimately, the taxpayers’ perception of CRA compliance efforts.

After describing extant research on tax audits and auditor incentives, the E-Brief proposes that, in addition to traditional measures of the fiscal impact of its compliance efforts using taxes assessed after audits, the CRA adopt a new metric of success: the ultimate taxes paid after all efforts have been completed, including the appeals process, and any possible court decisions. This would further strengthen confidence in the system’s equity and tilt it toward minimizing unnecessary costs to taxpayers.

**Measuring Performance at the CRA Compliance Programs Branch**

The CRA does not publicly disclose the details of the performance metrics it uses. Periodically, some insights are revealed in a public forum; however, the picture created may not properly represent the actual process of the CRA. This section describes the public metrics and other processes used by CRA to ensure audit quality. The CRA describes its business compliance activities in its *Annual Report to Parliament*. For 2014/2015, the report includes descriptions of its activities and spending. In particular, 30 percent of its compliance spending is in the
international and large business (ILB) segment and 57 percent is in its small and medium enterprises (SME) segment, for a total of 87 percent. The remainder was spent in compliance activities related to scientific research and experimental development programs, criminal investigations and voluntary disclosures.

There are also compliance efforts outside the Compliance Programs Branch, including individual return compliance and non-filers projects. My analysis focuses on ILBs and SMEs, most directly, due to their dominant size. However, even though consuming less of the overall resources, the other activities of the CRA Compliance Programs Branch are important to the mix of compliance efforts.

In CRA's annual report, the key results with respect to ILBs are summarized in terms of number of files reviewed, the fiscal impact of compliance efforts and the penalties imposed on third-party providers. Similarly for SMEs, the key results include the number of outreach visits, files reviewed and the fiscal impact of SME compliance. In addition, both identify the percentage of risk-assessed audit activities resulting in detecting non-compliance as a performance measure.

At a high level, it would appear that these are the main statistics that are used to track and report on the activities of these compliance programs. However, the Compliance Programs Branch conducts a number of other programs aimed at improving taxpayer understanding of, and adherence to, the tax law.

Digging deeper, the number of files examined measures the volume of effort. The second measure is fiscal impact. According to the annual report: “Fiscal impact consists of tax assessed, tax refunds reduced, interest and penalties, and present value of future federal tax assessable arising from compliance actions. It excludes the impact of appeals reversals and uncollectable amounts” (Canada Revenue Agency 2015, 51). Dividing both the number of files and the fiscal impact by dollars spent or number of employees facilitates evaluation across activities and over time, though there is an obvious need to consider differing emphases within each program.

While these are common quantity metrics (see, for example, Crandall 2010), they do not capture elements of quality. Furthermore, CRA internal metrics may capture quality elements such as average time to complete an audit by type, or other audit scoring metrics, but such metrics are not reported publicly.

As well, the specific exclusion of reversals from appeals can be a significant issue. The CRA appeals program also does not summarize the difference between the audit assessment and the final amount paid. As the appeals program is rightly meant to be independent of the compliance branch, the difference between the initial fiscal impact and the final fiscal impact should not be used to assess the quality of the effectiveness of the appeals program, but might help address the quality of audits conducted, as described below.

Beyond its annual report to Parliament, there are other indications of CRA’s internal efforts to ensure quality audits. For example, the 2014 Spring Report of the Auditor General of Canada contained an assessment of the “Aggressive Tax Planning” program at CRA, a part of the ILB portfolio of compliance efforts. Among his recommendations, the Auditor General noted that overall audit efforts (rather than specific auditors) were assessed based on salary utilization, tax earned by audit (TEBA) and quality checks. The first two internal metrics mirror the public metrics, except that TEBA differs from fiscal impact by not including provincial revenues, third-party penalties (that are counted elsewhere) and the effect on other taxpayer accounts (such as paid-up capital). This metric is a global one, used by many OECD member countries for example. As described by the Auditor General, quality assessment involves examining a small sample of audit files (89 of 1,242 in 2010/11) to determine whether sufficient efforts were applied. This suggests that the internal metrics mirror the external metrics. The focus appears to be on the immediate quality and outcome of the audit, as well as the additional tax that is assessed.
However, auditing is a discipline about determining whether the audit subject is applying the relevant yardstick appropriately; it is not about achieving outcomes (see, for example, Arens, Elder, Beasley, and Jones 2016). Consistent with this perspective, the CRA’s departmental values include staff integrity and professionalism. The integrity and professionalism of its auditors are reinforced through determinations of employee work quality, technical knowledge, accurate application of legislation and policy, and auditing skills, regardless of outcomes. To enhance the quality level of its audits, the CRA has introduced a variety of measures, including a statistical approach to taxpayer selection, a quality-assurance program as well as an audit quality-review process. As noted by the Auditor General, the latter randomly selects files for review to ensure the audits are conducted in accordance with policies and procedures.

Indeed, speaking at the 2013 Canadian Tax Foundation’s annual conference, Jeff Sadrian, then CRA Director of Compliance Programs, identified the following factors in evaluating auditor performance – “integrity of conduct, quality of the audit (i.e., whether the appropriate provisions of the Act were applied), adherence to CRA policies and values, professionalism to clients and adherence to procedural guidelines.” (Lewy, Fitzsimmons, and Nanji 2014, 8). Sadrian specifically stated that TEBA is not used to assess individual auditors.

**Research on Tax Auditors and Incentives**

The role of government tax auditors in a corporate tax system has been the subject of a relatively small amount of academic research. An excellent review of individual tax compliance and enforcement is provided by Andreoni, Erard and Feinstein (1998). Much of the research assumes that audits will always reveal the true taxes owing; without error (i.e., they are perfect). However, Reinganum and Wilde (1986), Erard and Feinstein (1994) and Snow and Warren (2005) incorporate uncertainty in their analysis of individual audits, allowing for incorrect filings to go undetected. Important differences exist between individual taxpayers, for whom tax-filing decisions are viewed as part of their portfolio risk, and corporate taxpayers, for whom tax filing decisions are typically made by managers on behalf of the shareholder. The remainder of this section reviews the accounting and economics research that addresses corporate taxpayers.

Studies that model the tax auditor and the incentives of corporate managers typically assume that an audit reveals the true tax position. For example, Chen and Chu (2005) formally model the incentive contract of a corporate manager (agent) when the owner (principal) would be better off if the manager evades tax. After conducting an audit, the tax auditor is assumed to know the true underlying income (see also Crocker and Slemrod 2005). In these models, more effort to reduce tax underreporting increases government revenues and improves equity across taxpayers. These models have limited application in the numerous situations where the audit cannot identify the true tax precisely, or where the application of tax law to the transaction is ambiguous.

Rhoades (1997) creates a model motivated by the US Internal Revenue Service’s Taxpayer Bill of Rights, passed in 1996. She models a taxpayer choice to report true income or, if the income is high, a lower amount.1

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1 While this modelling choice is most consistent with tax evasion because the taxpayer reports an income after calculating true income, the model could be modified to incorporate uncertainty of the true income level for both taxpayer and auditor. However, the main results would continue to occur under such an alternative that could be characterized as aggressive tax filing.
Importantly, her model includes some probability that a tax audit would falsely reassess income as high when the report of low income is accurate. The model also includes taxpayer costs to rectify such situations. She then analyzes the audit strategies of the tax authority and reporting behaviour of both honest and dishonest taxpayers.

Her model leads to several conclusions. In equilibrium, honest taxpayers sometimes report income higher than their actual income to avoid the costs of audit and fighting over-assessments when they occur. Thus, with the possibility of the tax audit falsely reassessing honest taxpayers “eliminating evasion can produce inequity, and revenue increases can be achieved at the expense of honest taxpayers rather than through reductions in tax evasion (Rhoades 1997, 35).” Improving the audit’s ability to identify the taxpayer’s true liability (i.e., reducing the probability of an erroneous assessment) reduces the incentive to over-report income and also increases the likelihood that under-reported income is detected.

In contrast to the tax-evasion studies where taxpayers know their true income, Yoon, Yoo and Kim (2011) explicitly consider tax-law ambiguity, which they define as the situation when “experts may reach different conclusions about the tax consequences of a transaction (Yoon et al. 2011, 12).” This model extends Rhoades (1997) by incorporating ambiguity from the taxpayer’s perspective and the possibility of dispute resolution through the courts. This setting is applicable to most corporations because evasion is generally rare, but the appropriate tax treatment of many transactions is highly uncertain. Like Rhoades (1997), Yoon et al. conclude that, in equilibrium, decreasing the audit’s error rate discourages aggressive reporting and increases tax revenue. They also find that in some cases taxpayers are over-assessed by an audit and reducing the tax-audit error rate reduces the burden on these taxpayers.

While these models are simplifications of the complexities of the interactions between tax agencies and a taxpayer, the research has implications for behaviour in situations with tax-law ambiguity. Specifically, when audit outcomes are not very precise (i.e., have high error rates), equity is reduced because (i) some taxpayers overstate their income to avoid an audit, and (ii) other taxpayers are over-assessed by the audit process and either pay the additional tax or bear additional costs to rectify the excess. One approach to improving audit precision is through greater resources being made available for that purpose; however, motives continue to be important.

**Worker Incentives and Motivation**

Based on information summarized above, there is no evidence of an explicit salary-based incentive system for CRA audit staff. I will therefore assume auditors and their managers are paid salary without explicit monetary or non-monetary incentive rewards relating to reassessments from their audits. In the absence of such explicit reward systems, there must continue to be effort expended by the employees, and that effort must be motivated in some manner toward some objective. Based on its values, the CRA undoubtedly motivates its auditors to act with integrity and professionalism. However, research on worker incentives suggests that other motivations may also apply in this situation.

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2 Within the Yoon et. al. model, aggressive reporting involves filing the lower income level even though the taxpayer’s information indicate that the higher income level is probably more consistent with tax law.
Research in accounting addresses the question of worker incentives in settings where an explicit incentive contract cannot be, or is not, used. Gibbons and Murphy (1992) model opportunities for promotion as a form of implicit contract to motivate behaviour within a setting of no explicit (bonus) incentives. Meanwhile, Gibbs (1995) and Ederhof (2011) find empirical evidence consistent with the incentive effects of promotion. Thus, even in the absence of explicit bonus or other incentive programs, if workers believe that actions consistent with organizational goals will improve their chances of promotion, they will respond to these implicit incentives.

Perhaps most germane here, Migrom and Roberts (1992) and Arya, Fellingham and Glover (1997) explore team settings where tasks are repeated and only team performance is tracked. In this setting, team members reinforce the group goal and create an implicit incentive for everyone in the group. Thus, if the unit as a whole is assessed based on particular performance metrics, the individuals within the unit will feel an implicit incentive to aid in improving the overall group metrics.

**Considerations in the Development of Performance Metrics**

Given the setting as described in the first section and the research outlined in the subsequent two sections, I now turn to summarizing some considerations in the development and use of metrics as it applies to auditing. To reiterate, the major challenge in assessing the performance of individual auditors or groups of auditors with quantitative metrics is that the “right” amount of tax is often unknown. In many settings, in fact, the law is ambiguous, in the sense of Yoon et al. (2011). Thus, the need for reassessment and the “correct” amount of the reassessment is not fully known, even after the audit is completed, appealed and subject to court adjudication. A further complication arises when international transfer prices are at issue, and there is also a taxing authority in the foreign jurisdiction that is interested in any price adjustment proposed. These features lead to difficulty in interpreting the metrics used.

To illustrate, Figure 1 reports one metric, the fiscal impact per full-time equivalent CRA employee in ILB and SME compliance activities. Over the last six years, the per-employee ILB fiscal impact first fell for five years from approximately $3.5 million to $2.6 million and then rose to $3.2 million in 2014/15. Over the same period, SME compliance efforts have remained consistent at slightly below $0.5 million per employee before declining in the last two years to approximately $0.2 million per employee.

If higher values of the metric are interpreted as more effective auditing, the five-year ILB trend may suggest that audit efforts became less effective over the earlier portion with an improvement in the last year. This conclusion would hold if taxpayer filings, relative to the “true” filing, have remained constant. However, the trend may also mean that taxpayers have become more compliant over time due to education programs, assuming a given effectiveness of audits. Finally, it could be the case that, in the early years, reassessments were too high and that recent quality initiatives have reduced audit outcomes to more appropriate levels. The 2014/15 uptick may also relate to the recent emphasis on aggressive tax planning, leading to either appropriate or excessive reassessment.

Furthermore, a comparison of the two groups might suggest that more audit efforts should be devoted to ILB and less to SME, or that efforts within the SME should be targeted to a greater degree. However, given the nature of SME, where preventative measures are of much greater emphasis, it is quite possible that, because fiscal impact cannot measure the compliance that has occurred through prevention, audits are equally effective. Finally, it may be the case that the fiscal-impact metric is not comparable for the two groups because the nature of the taxpayer’s compliance is very different, leading to different trade-offs and issues.
Thus, the fiscal impact (or TEBA internally) is a metric that is difficult to interpret without a better understanding of the underlying tax position. Beyond the challenges in interpretation, the findings on worker motivation may apply in this setting. That is, since a compliance unit has TEBA among its performance metrics, it may be the case that this metric ultimately filters down to encourage auditors to assess more rather than less. Is it optimal from the auditor’s perspective to generate a larger reassessment and leave any adjustment to the appeals branch? If so, assessing more will contribute positively to the group’s amount of TEBA.

A second metric currently reported is the proportion of files leading to a reassessment. For individual auditors, this metric could encourage auditors to find something to reassess. The metric presumes that either the audit selection process is very good (that is, rarely are taxpayers selected that do not have a deficiency somewhere) or that most taxpayers under-report in some fashion. If auditors are seen to have a perspective that they will audit until they find something, then taxpayers may respond by intentionally creating certain filing positions that are easy for the auditor to reassess.

The combination of the expectation that audits need to find something and the implicit incentive to have a large initial reassessment may create a less equitable system. Indeed, Hanlon, Mills and Slemrod (2007, 178), in describing the US tax system, say the “tax liability per the originally filed return, as well as the initial deficiency assessed by the examination team, may be partly a tactical ‘opening bid’ that is neither party’s best estimate of the ‘true’ tax liability.”

The US and Canadian tax systems have historically been quite different in this regard. Efforts to avoid opening-bid tax filings are important because such a tactical system reduces equity and increases deadweight costs. In particular, this environment would push both the taxpayer and the government’s collection agency away from fundamental features that facilitate an equitable self-assessment system: trust, fairness and respect.

To further enhance the equity of the taxation system and reduce unnecessary costs to taxpayers, I suggest the use of an alternative or supplemental metric. The taxes assessed after the audit should be compared with the ultimate taxes after all efforts have been completed; i.e., the appeals process and any possible court decisions. The taxes assessed after audit should be the input into the calculation of TEBA and of the fiscal impact, but comparing taxes after audit to the ultimate outcome would provide a more complete picture, albeit one available only after a considerable time lag.

While no analysis is available for Canada that would suggest what the difference between the two measures could be, Hanlon et al. (2007) found that nearly two-thirds (63 percent) of 29,141 returns under the US Voluntary Compliance Baseline Measurement Program between 1983 and 1998 had a “proposed deficiency” or the IRS estimated tax owing was higher than reported. However, of the returns closed with a final agreement on taxes owing, representing 89 percent of the returns but only 43 percent of the proposed deficiency, the ultimate payments were only 60 percent of the proposed deficiency. The authors argue that 60 percent is the upper bound because the larger and more complex cases were less commonly closed at the end of data collection. Collections from these larger and more complex cases are expected to be less than average. It would be informative to undertake a similar analysis for Canadian audits to determine the experience of CRA audit assessments, and any trends that are occurring.

Hanlon et al. (2007) also examine firm-level measures such as size, multinational status, public vs. private status and involvement in such IRS efforts as the Coordinated Industry Cases (i.e., large, complex firms that are subject to more intense audit effort, including annual audits). These types of analyses would also be informative for the CRA as it assesses its audit efforts.

By analyzing the final taxation amounts, in comparison to the original audit outcomes, the CRA would be able to assess which of the three potential explanations is responsible for the observed fiscal impact trend: audits have become less effective, taxpayers have become more compliant, or auditors have become better at reassessing taxpayers. These analyses could also extend to more granular levels within the CRA compliance programs branch. Clearly, understanding the drivers of observed trends in audit outcomes is important to continuing to improve organizational performance.

Conclusion

The Canada Revenue Agency is charged with administering the Canadian tax system, including the audit of taxpayers. Evaluating the performance of the audit function is difficult because the amount of tax that would result from the best application of the law is often ambiguous, even with full information. While the CRA Compliance Programs Branch uses methods to ensure integrity within the audit function, it also reports various numerical metrics based on the assessments generated by audits. Even though these metrics are not used to evaluate individual auditors, research demonstrates that group goals can provide strong incentives to individuals within the group. In addition to its current metrics, I encourage the CRA to consider evaluating its audit assessments in light of the best measure of the appropriate application of the law – the final assessment after appeals and any court challenges.
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