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*Tax complexity and tax compliance costs of the personal income tax in Canada, 1985-2023:a synthesis**

by

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Introduction

The purpose of this paper is to synthesize the information available, on one hand, on the compliance costs incurred by Canadian personal income tax (PIT) filers and on the other on the complexity of the PIT. That done, we analyse the two sets of information together. This has not been done before. The paper covers the 1985, 2007, 2018 and 2022 taxation (calendar) years and thus the compliance costs incurred the year after. The paper is divided in four sections. The first presents briefly the Canadian personal income tax system and the data used in our analysis. The second examines the evolution over time of tax preparation choices and of compliance costs (time, expenditures, total resources) for all filers and groups of particular interest such as self-employed filers. The third brings together evidence on indicators of complexity over time (number of standardized pages in tax code, number of tax expenditures). The fourth links the indicators of complexity and compliance costs to ascertain what relationship exists.

1 The personal income tax (PIT) system in Canada; description and survey evidence on compliance costs

The personal income tax system in Canada comprises 14 rate-setting bodies and two tax administrations. The rate-setting bodies are the federal government, the ten provinces and the three¹ northern territories. The two tax administrations are the federal Canada Revenue Agency (CRA)² and the provincial Revenu Québec (RQ)³ agencies. The federal government and the provinces have a constitutional right to levy taxes on personal income while the territories have the legal right to do so, granted by the federal government. The CRA collects the federal, provincial and territorial PIT in all provinces and territories except in Québec where the provincial PIT is collected by RQ. Thus, a non-Québec taxfiler files one PIT return with a provincial/territorial annex while a Québec taxfiler files two PIT returns. Since 2018, Québec politicians have been asking for a single PIT return to be administered by RQ. The federal government has said no; Vaillancourt (2023) summarizes this debate.

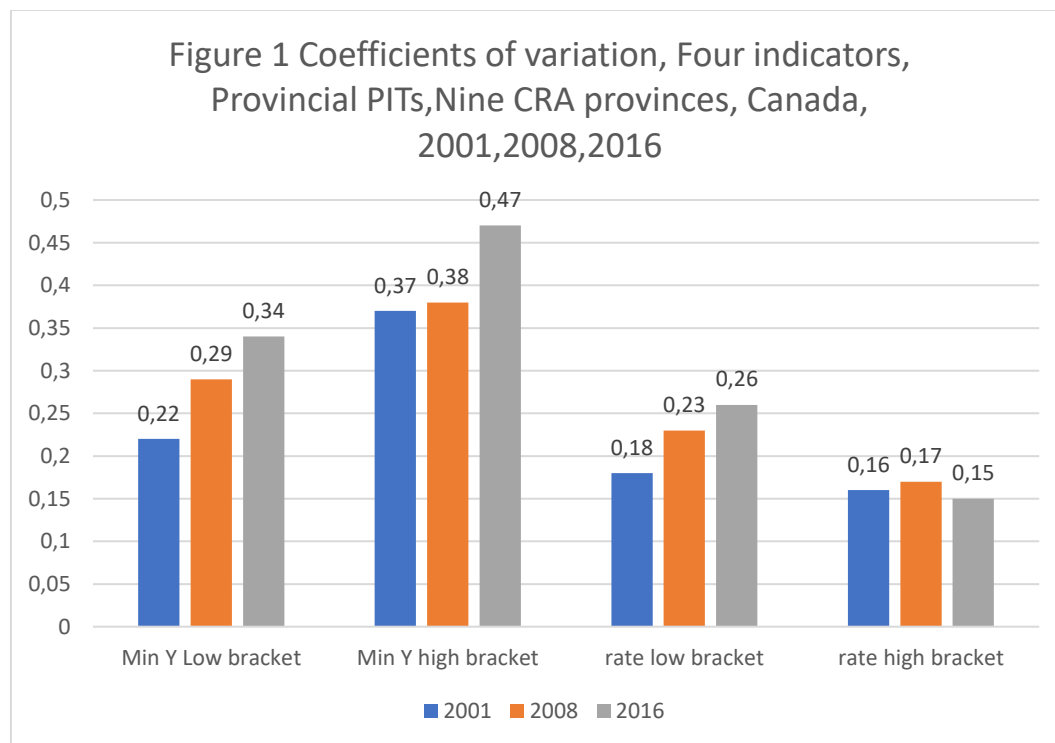
¹ Two before 1999

² Before 1999 the Department of National Revenue

³ Before 2011, Quebec Department of Revenue

The CRA collects provincial/territorial PITs free of charge if provinces use the same definition of income as the federal government. Until 2000, the provinces had to use a Tax-on-Tax approach. They thus set their PIT as a percent of the federal PIT; they could use specific tax credits . This changed that year to a Tax-on-Income system allowing provinces to set their own tax brackets ,whose number and boundaries may differ from the federal ones, and with their own choices in terms of the progressivity of PIT. Québec always made these choices yielding numerous small differences between the federal and Québec PIT code as shown by Godbout and Michael-Angers (2023).

Ruiz-Almendral and Vaillancourt (2016) present the Canadian case for 2008 in a comparative setting . Vaillancourt et al (2016) update this information for 2016. Differences, as measured by coefficients of variations, have increased over time except for the highest marginal tax rate as shown in Figure 1.



Source author using information in Appendix tables 1 and 2, Vaillancourt et al, 2016

The compliance costs studies used in this paper are summarized in Table 1. It shows that the sample sizes are in the 1500-2700 range. This is sufficient to obtain good Canada-wide estimates

from a random sample. Such a sample is used in the earlier two studies but the last two studies use Internet panels that rely on members of the panel answering the survey and weights being used to make the results representative of the target population. Data collection has moved from a face-to-face survey to Internet surveys. The choice of tax filing mode question has evolved over time to reflect the availability of various types of software. The time/\$ questioning has moved from four to one/two questions. The 2018 question is the shortest with no content prompt while the 2022 question wraps into one question the information gathered by three questions for 1985 and 2007.

Table 1 Summary description of the four PIT compliance cost studies, Canada

Study	Vaillancourt(1989)	Vaillancourt, Roy-Cesar and Barros(2013)	Grine and Vaillancourt (2023)	Vaillancourt and Li (2024)
Tax year examined	1985	2007	2018	2022
Data collection method	Face to face interviews adults 10 provinces may -June 1986	Phone survey adults 10 provinces April-May 2008	Internet panel ,adults, Canada, May-June 2019	Internet panel adults, Canada, May 2023
Questionnaire design	Vaillancourt	Vaillancourt	Chaire fiscalité finances publiques	Vaillancourt
N analysed	1682	2000	2 669	1 523
Completion mode choices	1)Yourself; 2)Friend or family without payment 3)Individual or firm against payment	1yourself using: a)paper form ;b) purchased PC software; c)internet software 2) friend family or NGO 3) Paid tax preparer	1) yourself using: a) paper form; b) software 2) Friend or family 3) professional tax preparer	1) yourself using: a) paper form; b) purchased software; c) free software 2)Friend family NGO 3)Tax preparer

Compliance costs question(s)	<p>Three questions on time</p> <p>Time sorting & preparing documents</p> <p>Time gathering information</p> <p>Time filling the tax return(s)</p> <p>One question on amount paid</p>	<p>Three questions on time</p> <p>Time sorting & preparing documents</p> <p>Time gathering information</p> <p>Time filling the tax return(s)</p> <p>One question on amount paid</p>	<p>One question</p> <p>How much money and time was required for this task? with space for responses of time and \$</p>	<p>Two questions</p> <p>TIME: How much time did you need to spend to prepare and file your 2022 personal income tax return(s)? Time can be spent learning about the various aspects of the 2022 personal income tax laws..., preparing and sorting your tax documents ... installing the tax software you used ... completing the return or interacting ... with the person . who prepared your tax return and finally paying outstanding amounts if any.</p> <p>\$ How much did you spend (for software, for tax preparer services) to be able to prepare your 2022 personal income tax return?</p>
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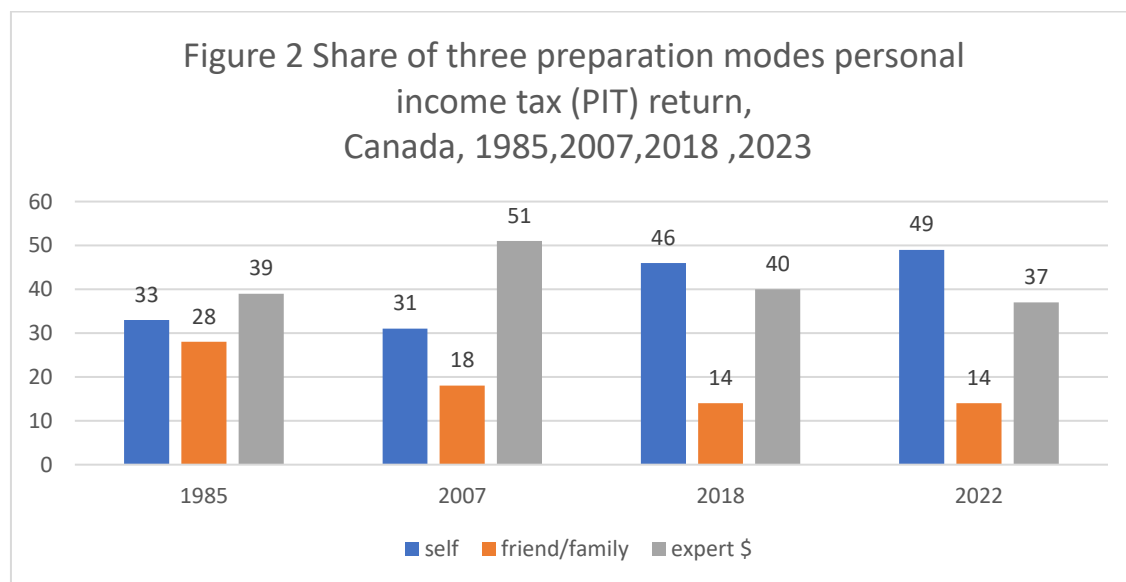
Source: author using information in the four studies

2 Personal income tax returns: how and at what costs

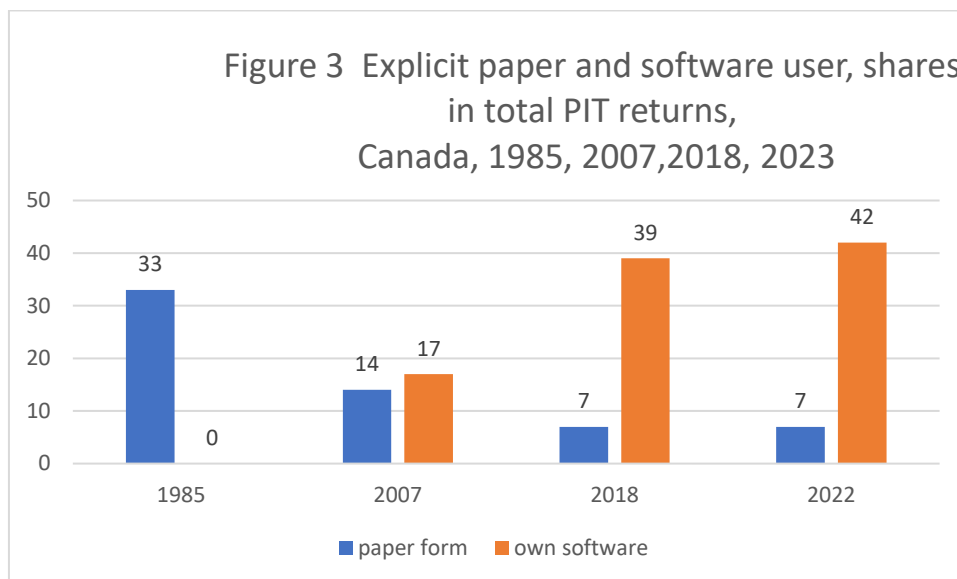
To understand the evolution of the cost of filing a personal income tax return in Canada, it is necessary to see how they prepared We examine this in Figures 2 and 3 .That done, we examine the average cost of filing a return for all taxpayers in Figures 4,5 and 6. We then turn to some specific types of tax filers in Figures 7 and 8 .Finally we assess the compliance costs with respect to indicators of overall economic activity in Table 2.

1.1 Personal income tax filing choices

Figure 2 shows an increase between 1985 and 2007 in the use of paid tax preparers then a drop in the use of tax preparers such that for the 2022 tax year they are used slightly less than for the 1985 tax year. Indeed for 2022, roughly half the returns are self-prepared. This can be explained by the increasing use of software as shown in Figure 3.This last figure does not account for the use by friends and family members of software so that the total share of returns filed using software is most likely around 60%. One should note that for 2022, 43% of self preparer software users used free software (Vaillancourt and Li, 2024,table 1)



Sources: 1985 : Vaillancourt (1989) table B-1, p 103 ; 2007 Vaillancourt et al (2013), table 2, p. 8 ; 2018 Grine and Vaillancourt table 3 ; 2022 Vaillancourt and Li, table 1



Sources: 1985 : Vaillancourt (1989) table B-1 ; 2007 Vaillancourt et al (2013), table 2 ; 2018 Grine and Vaillancourt table 3 ; 2022 Vaillancourt and Li, table 1

1.2 Personal income tax filing compliance costs

Figures 4, 5 and 6 present information on the compliance costs incurred by personal income tax filers in Canada.

Figure 4 shows a sharp drop in the time cost of filing a PIT return in Canada between 2007 and 2018. This can be explained by:

- i. a generalised increase in the use of software to prepare PIT returns;
- ii. improvements in the ease of use of software over time due to work by software providers;
- iii. more knowledge acquired /retained by software users;
- iv. increased use of online (banking sites) payment of tax liabilities;
- v. an increased use of information downloaded from the CRA and RQ websites to fill the software tax returns.

Support for i) is found in Figure 3. For ii), we should note that using software not only reduces the time needed but most likely reduces the % of tax filers that neglect/forget to claim various

deductions and credits as they are often automatically included in the tax return. For iii), Vaillancourt et al (2013 tables 5c and 8) report a drop in the time required by self-preparers when their level of experience with the tax system is higher than four years ;presumably this holds also in the case of software users. As to iv) this is a trend found for all types of spending⁴. Finally for v), Vaillancourt and Li(2024, p 6-7) report that downloading data (Auto-fill my return) from the CRA was first offered for the 2015 PIT return and, while first offered for 2013, was made easier to access by RQ (TDF: téléchargement des données fiscales) for the same year .Data provided⁵ by the e-Services Program-HQ from the CRA indicates that the number of individual users of this service numbered 2 890 691 in 2018 (3 870 380 in 2019) and 5 420 008 in 2022 for a 87,5% increase. From 2019 to 2022 the number of self-fillers using NetFile and thus eligible to use Auto-fill increases from 9 103 302 to 10 165 119⁶ .Thus the % of self-fillers using Auto-fill goes from 42,5% to 53,3% over that period. We do not have chronological data for Québec taxfillers .In 2021, 40,5% of Québec self- fillers using software indicate having used Auto-fill while 37,1% indicate having used TDF⁷ Downloading should reduce the time required to prepare a tax return, for a given level of complexity. We cannot measure this precisely.

Shift and share calculations show that $\frac{1}{4}$ of the 3,5 hours drop is due to the increased share of software produced returns and $\frac{3}{4}$ to a general drop in the time required to prepare a tax return.

This drop of about 65% in the time compliance costs for Canada is similar to what one can calculate for the United States for a similar period. For 1984, Slemrod and Sorum (1984) report an average of 21,7 hours spent on PIT compliance costs. For 2023, Benzarti and Wallossek (2023) report an average of 4-5 hours spent on PIT compliance costs. Putting these two sets of

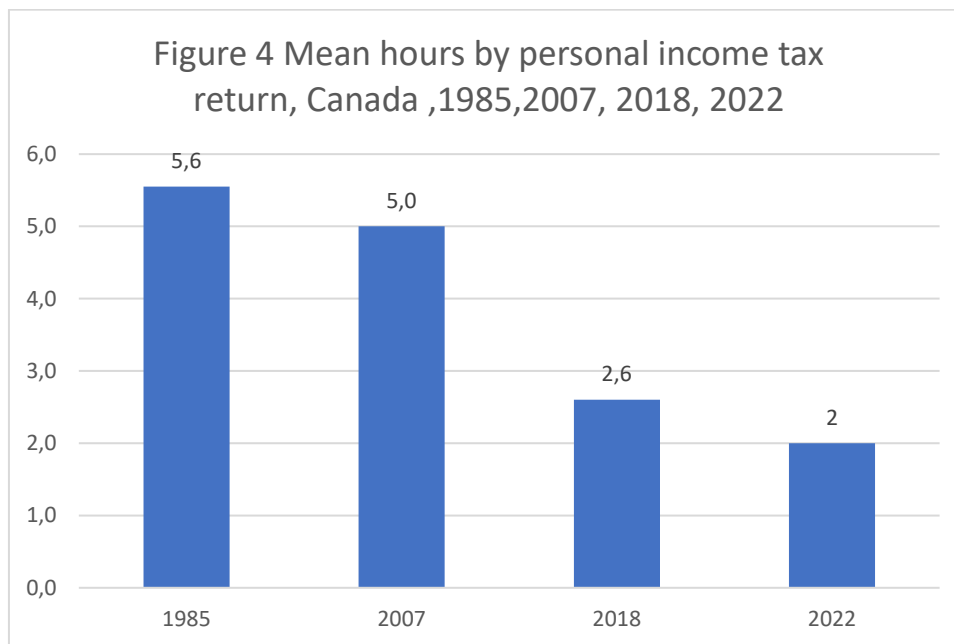
⁴ In 2022 52% of tax payments are made using on-line banking Figure A10
https://www.payments.ca/sites/default/files/PaymentsCanada_Canadian_Payment_Methods_and_Trends_Report_2023_En.pdf

⁵ Personal communication July 18th 2024

⁶ <https://www.canada.ca/en/revenue-agency/corporate/about-canada-revenue-agency-cra/individual-income-tax-return-statistics.html> consulted 16/09/2024

⁷ Tables 6 and 7 SONDAGE SUR LE TÉLÉCHARGEMENT DES DONNÉES FISCALES : PARTICULIERS
https://www.revenuquebec.ca/documents/fr/docs_adm/sondage-telechargement-donnees-fiscales-particuliers-2022.pdf

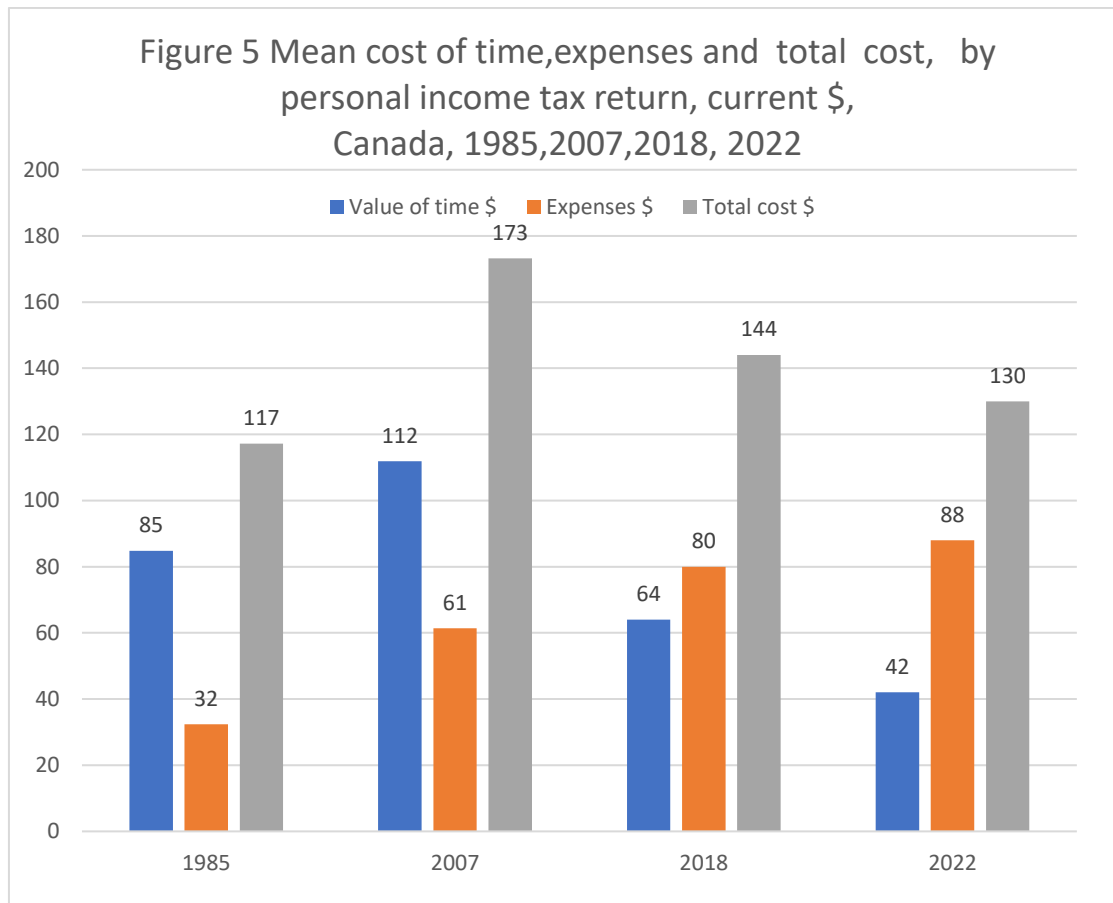
numbers together, one finds a drop of 75% in the time needed to file a personal income tax return in the USA.



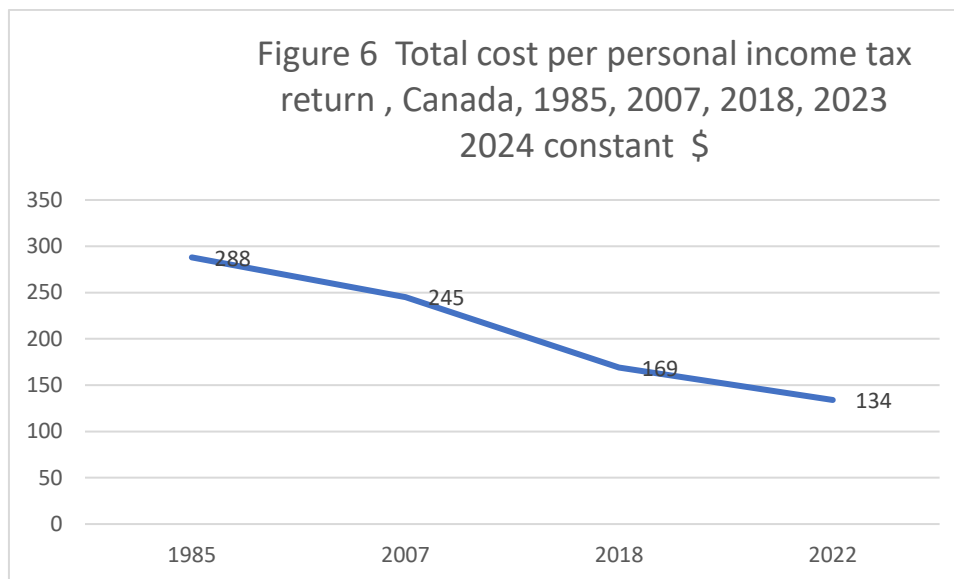
Sources: 1985 : Vaillancourt (1989) table 2.1, ; 2007 Vaillancourt et al (2013), table 4a ; 2018 Grine and Vaillancourt table 3 ; 2022 Vaillancourt and Li, table 2

Transforming time into \$ using gross wages, we can present the value of time and expenses and, adding them up, total PIT compliance costs in Figure 5. Total nominal costs peak for the 2007 tax year. Transforming these \$ into constant \$ accentuates this drop in costs as shown in Figure 6.

Are these intertemporal comparisons valid? The discussion of Table 1 highlighted the differences in methodology between each survey; this makes them less comparable than desirable. That said, changes in provincial PITs should increase compliance costs, something we observe between 1985 and 2007, before the use of tax software was generalised. And we noted five factors that should lead to a drop off in the time costs of preparing PIT returns in Canada over the last 20 years or so. Thus, while the numbers may be somewhat imprecisely measured, the trend in our opinion holds.



Sources: 1985 : Vaillancourt (1989) table 2.4, ; 2007 Vaillancourt et al (2013), table 4a ; 2018 Grine and Vaillancourt table 5 ; 2022 Vaillancourt and Li, table 2

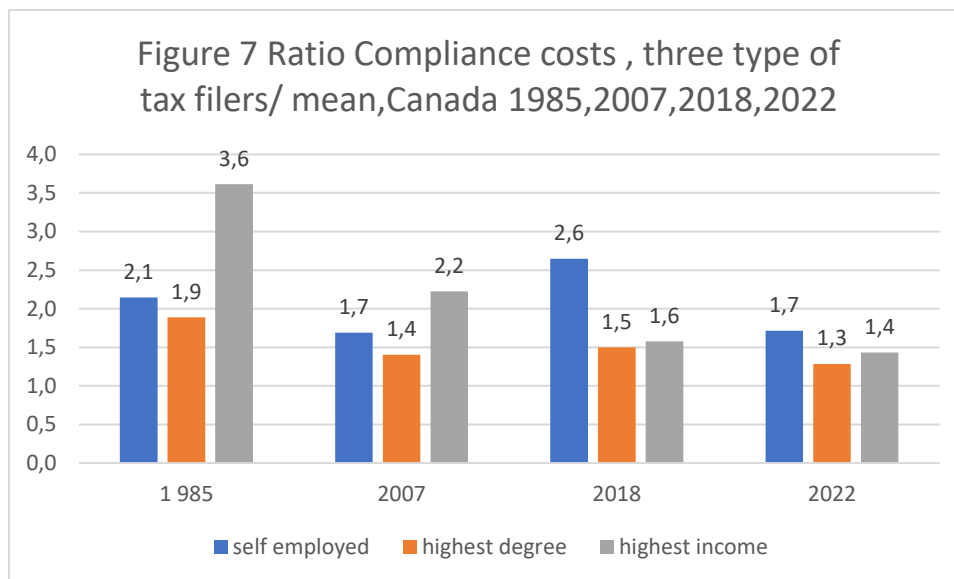


Source: figure 5 ,this paper total costs

Note \$s transformed into 2024 \$ using the Bank of Canada inflation calculator

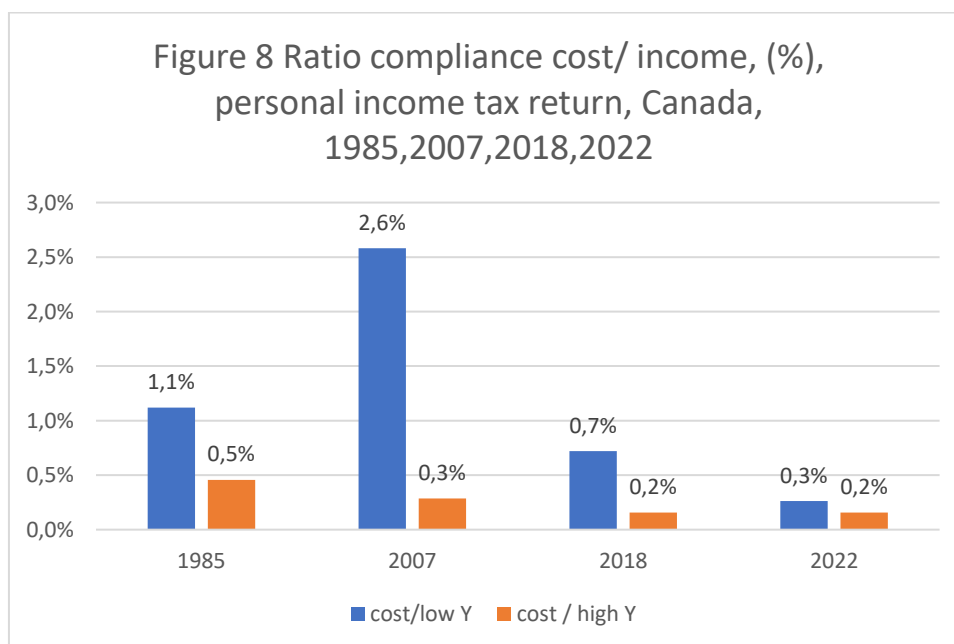
<https://www.bankofcanada.ca/rates/related/inflation-calculator/>

Figure 7 examines the evolution over time of the compliance costs of PIT filers with three specific characteristics (self-employment, highest education and highest income) relative to all tax-fillers. The relative costs of the self employed have not diminished much while those with higher education and higher income have dropped, indicating that software may simplify the compliance efforts of the majority of tax-fillers (the self employed account for 10% of tax fillers in the 2022 tax year ;Vaillancourt and Li, 2024, Table A-1).



Sources: 1985 : Vaillancourt (1989) table 2.4. ; 2007 Vaillancourt et al (2013), tables 4a and 4b ; 2018 Grine and Vaillancourt table 7 ; 2022 Vaillancourt and Li, table 2

Figure 8 shows the classic (Eichfelder and Vaillancourt, 2014) downward sloping relationship of the compliance costs/size indicator ratio; when size goes up in absolute terms, the ratio goes down.



Sources: 1985 : Vaillancourt (1989) table 2.4, ; 2007 Vaillancourt et al (2013), table 4b ; 2018 Grine and Vaillancourt table 5 ; 2022 Vaillancourt and Li, table 2

Note These compliance cost/income ratios are calculated using the median point of known income levels thus excluding the highest income since in all surveys it is an open interval.

Table 2 shows that, overall, the compliance costs incurred by PIT tax-fillers in Canada has dropped by more than half between 2007 and 2022, when measured as a share of GDP or of revenue collected by the federal government .

Table2 Total compliance costs, personal income tax filers, \$ and % GDP, Canada, 1985, 2007, 2018, 2022

	1985	2007	2018	2022
Million \$ current 1	1 951	4 318	4 024	4171
% GDP 2	0,39 %	0,33 %	0,18 %	0,15%
% PIT revenue	3,60%	1,68%	1,08%	0,87%

Source : lines 1 and 2 :author from Table 9 Grine and Vaillancourt; Table 3,Vaillancourt and Li

Line 3 calculation by author numerator: line 1 ;denominator 1985 Statistics Canada. Table 36-10-0161-01 ; 2007-2018-2012 : Table 33 Fiscal Reference table

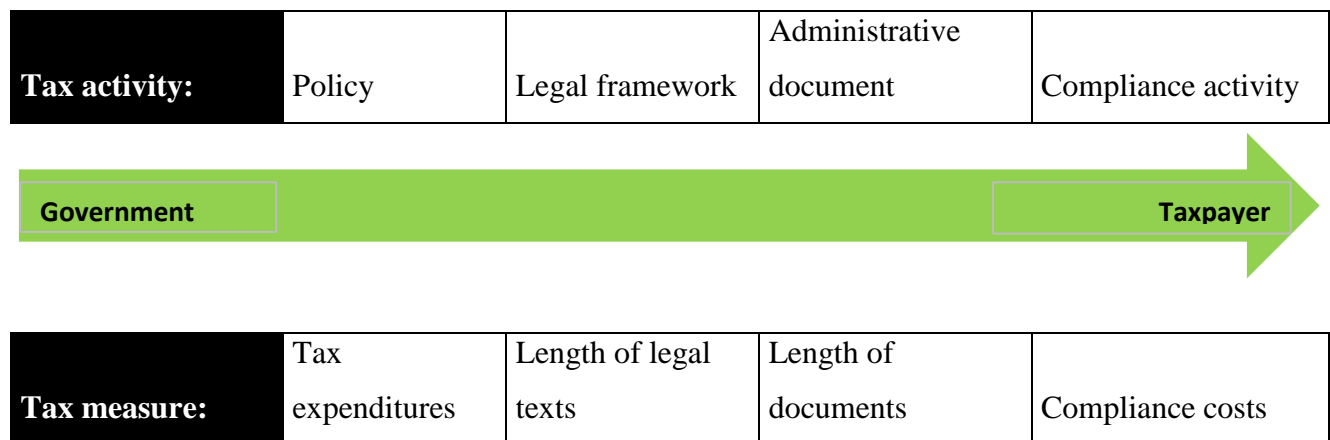
<https://www.canada.ca/en/department-finance/services/publications/fiscal-reference-tables/2023.html>

2 Personal income tax: complexity indicators

Vaillancourt et al(2015, 2016), Lugo and Vaillancourt (2015), Bird and Vaillancourt (2016) and Poschmann et at (2019) have examined various dimensions of tax complexity in Canada. The definition of complexity, let alone its measurement and evolution over time, is not something

upon which there is a strong consensus in the literature. In Canada both individuals and organisations argue that the tax system is complex.⁸ Poschmann et al (2019,p5-6) report that there are three measures commonly used to measure tax complexity: the number of words in the tax code; the number of lines in tax forms; and the number of tax expenditures. They do not subscribe to the view that compliance costs are an indicator of complexity as such, as other factors could be at play in setting the level of compliance costs. Figure 9 shows that the three measures noted above can be linked together and related to the tax setting/collecting process .

Figure 9 Analytical relationship between tax complexity and compliance costs



Source Bird and Vaillancourt ,2016

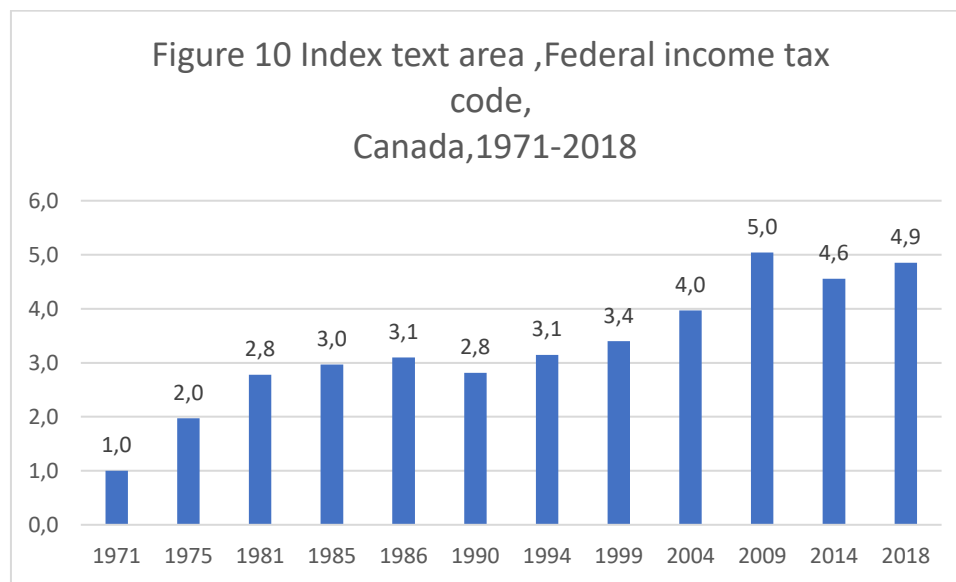
We focus here on PIT complexity presenting two indicators of federal level complexity and one indicator of provincial level complexity .

⁸ For example see <https://www.cpacanada.ca/public-interest/public-policy-government-relations/policy-advocacy/cpa-canada-tax-review-initiative> or https://epe.bac-lac.gc.ca/100/200/301/pwgsc-tpsgc/poref/canada_revenue_agency/2023/147-22-e/summary/summary.html

Figure 10 presents the growth over the 1971-2018 period of the size of the federal Income tax code as measured by the physical size of the text obtained by a combination of the number of pages and their size. This Income tax code is used by all provinces and territories except Québec.

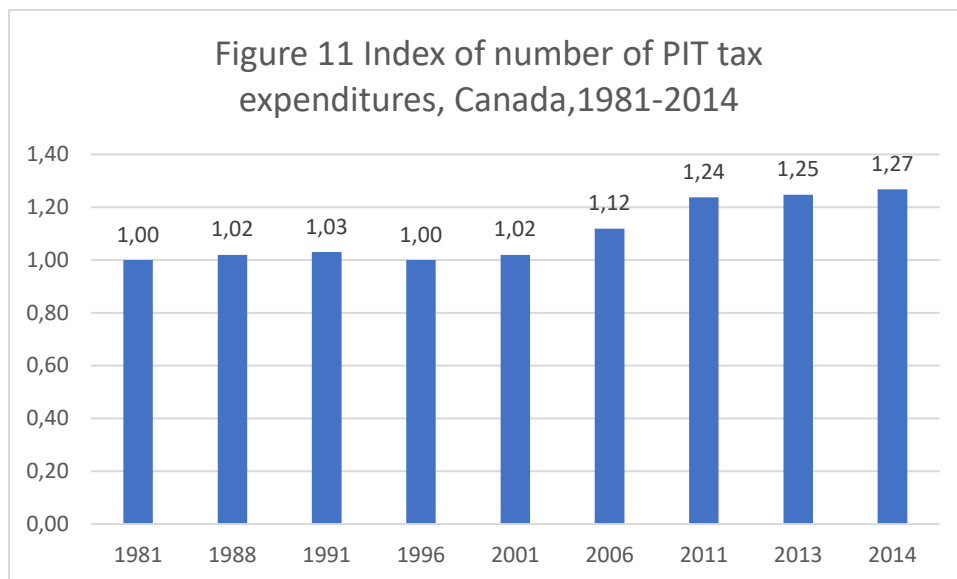
Benzarti and Wallossek(2023) report on the number of words(PDF count) in the Canadian federal income tax code; it goes from about⁹ 850 000 in 2002 to about 1 250 000 in 2022; from 2018 to 2022, the increase is about 100 000. Thus, the growth from 2002 to 2022 is 47% and from 2002 to 2018 35% . Using data from Figure 1, we can interpolate an index value of 3,7 for 2002; we then calculate a growth of 32% for 2002-2018 for our text area indicator.

Figure 11 reports, for a shorter period due to data availability, the growth in the number of tax expenditures at the federal level. It also shows increasing complexity, this correlation between tax complexity indicators was noted by Vaillancourt et al (2015, p8).Figure 12 shows a sharp rise in tax complexity at the provincial level between 2000 and 2005 then a levelling off. This rise is associated with the reforms discussed above in the provincial PITs outside Québec that were implemented in 2000.

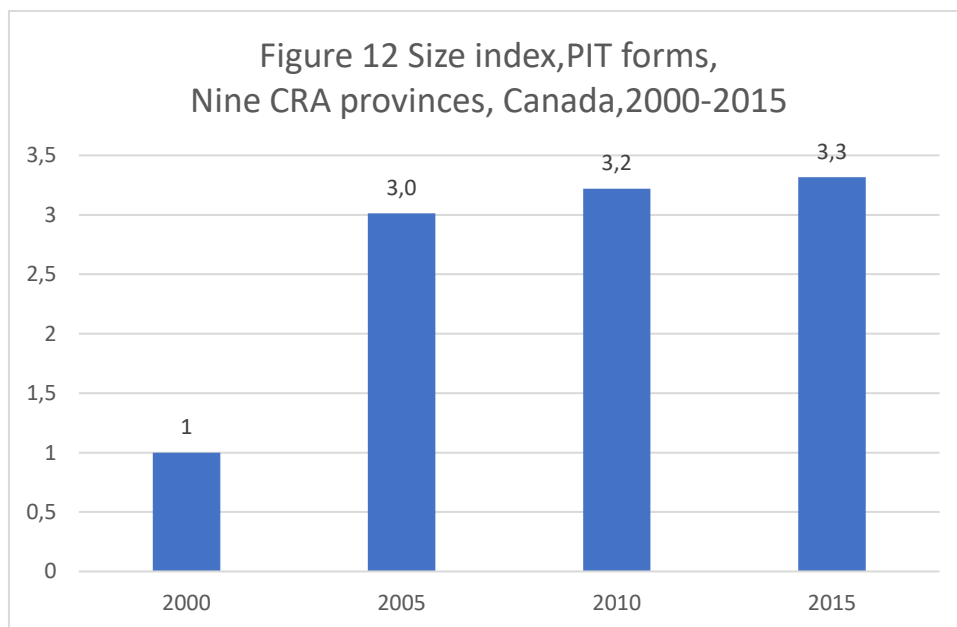


Source: calculations by author drawing on data from Table 2 (1971-2014) in Vaillancourt et al (2016) and Table 1 in Poschmann et al (2019)

⁹ Values are read off Figure 8 (a) thus slightly approximate



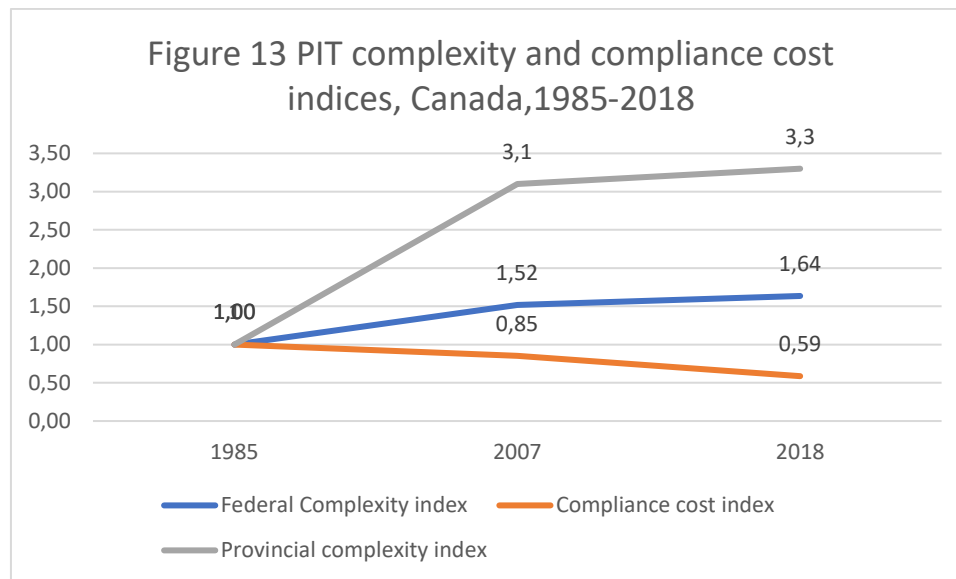
Source: calculations by author drawing on data from Figure 2 (1991-2014) in Vaillancourt et al (2016)



Source: Figure 7a Vaillancourt et al (2016)

3 Linking compliance costs and complexity

Combining the information presented in the two preceding parts of the paper yields Figure 13 .It shows an increase in complexity and a decrease in total compliance costs in Canada over the 1985-2018 period.



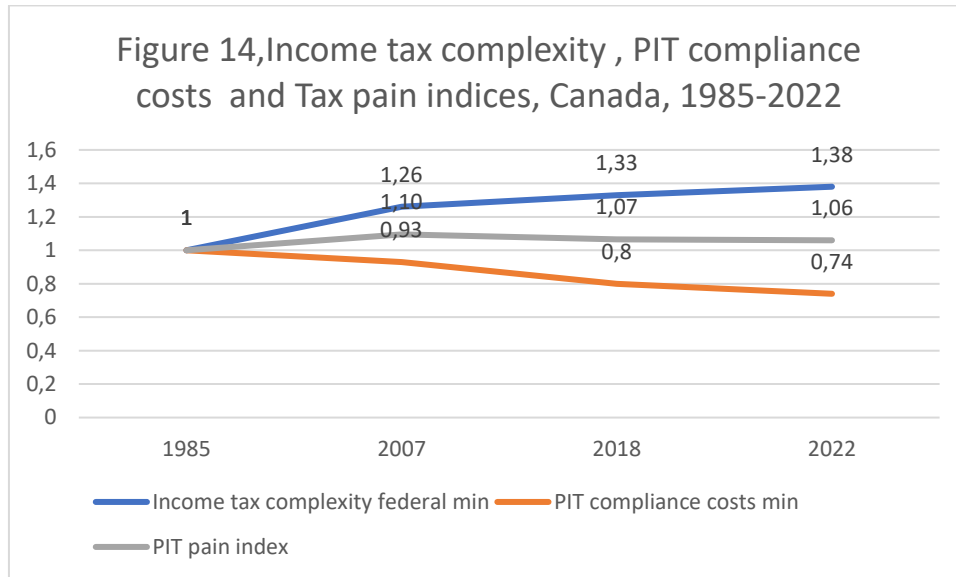
Source :calculations by author using data from figures 5 (total costs), 10 and 12 above.

The divergence between the paths of complexity and compliance costs in Canada over the last 40 years can be explained in two ways.

One way is to assume that all indicators are correctly measured and that the divergence results from changes in the tax environment. Complexity measured by size of text went up between 1985 and 2007 in part because of the introduction of the new provincial PIT system; this has now stabilized. At the same time, the generalisation of the use of software to prepare PIT returns allows for a drop in the time of self-preparers and in the costs of tax preparers.

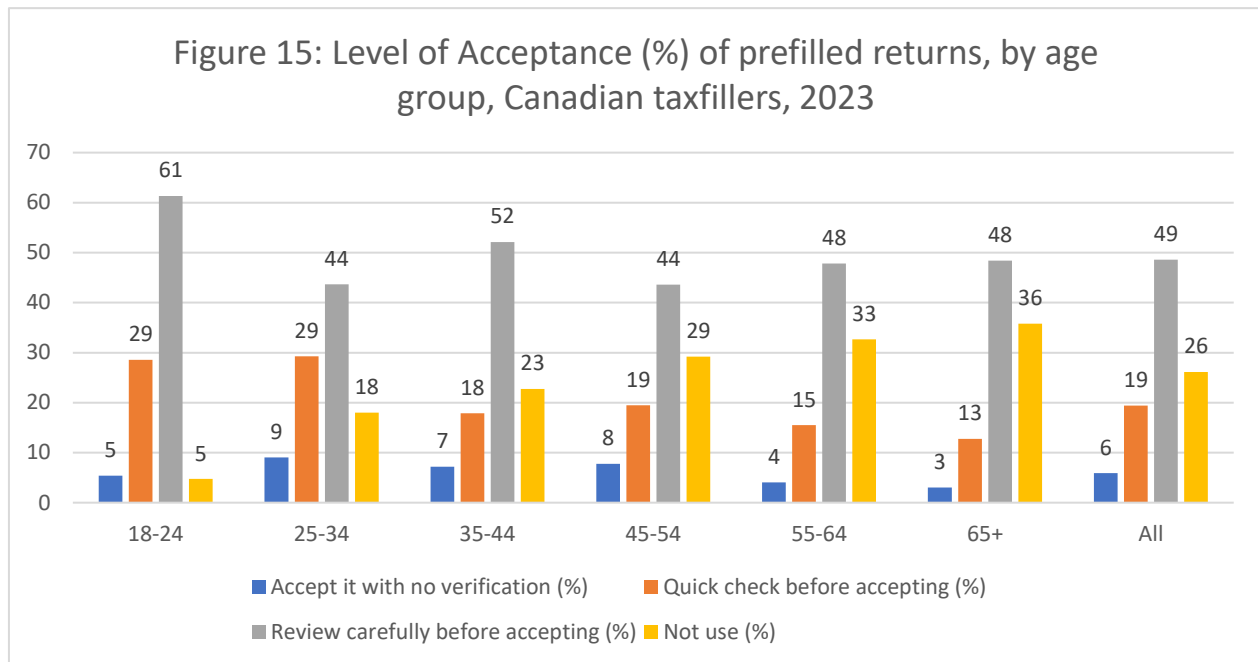
The second way is to argue that there are measurement issues at play. On the complexity side, the increased federal complexity mainly affects firms and not individuals and thus its growth is over estimated for the PIT. On the compliance cost side, changes in survey methods lead to an

underestimation of compliance cost. Figure 14 present the federal complexity index and the compliance cost index both with a 50% reduction in the changes in values between years. This is, in our opinion ,a minimal quantification of the paradox of diverging trends. We combine these two indices in the tax system pain index, defined as the average of the compliance costs and complexity indices. We see that this index has not increased much over the 1985-2018 for the Canadian PIT.



Source Figure 13 with changes in indices for 1985-2018 ;2022 complexity index imputed from Benzarti and Wallossek(2023) and compliance index computed from figure 6.

Finally let us note that Canada does not have (Vaillancourt ,2011; Brookes,2018) a general prefilled returns program. One could presumably reduce compliance costs even more if prefilled returns were produced and used. Figure 15 presents information collected in 2023 about the acceptance of such returns should they be sent to tax filers. Compliance costs of the PIT are simulated to be reduced by one third if such returns are put in place (Vaillancourt and Li,2024,table 4).



Source: figure 7 Vaillancourt and Li,2024

Conclusion

There has been a major shift in the mode of PIT return preparation in Canada from 1985 to 2022 with the dominance of self-preparation using software. This has been accompanied in the last 10 years by the possibility of downloading into such software information held by tax authorities, making it easier to prepare one's PIT return. The associated drop in the compliance burden may well explain why the complaint that the Canadian tax system is getting more complex over time has not led to action by governments, particularly as the administrative costs of the CRA have dropped as a % of revenue collected from 2,1% of all taxes collected in 2007 to 1,7% in 2018 and 1,4% of all taxes collected in 2022¹⁰.

¹⁰ There is no published data on the collection costs of the PIT by the CRA. We use data from the Public Accounts of Canada to calculate these amounts as follows 2007-2008 : p4-4 to 4-7; 2018-2019: p421 and 425 ;and 2022-2023 :p 383 and 387. Documents are accessible at https://epe.lac-bac.gc.ca/100/201/301/public_accounts_can/pdf/index.html The overall budget of CRA has increased substantially in recent years as it acts as a conduit for the Canada Carbon Rebate <https://www.canada.ca/en/revenue-agency/services/child-family-benefits/cai-payment.html>

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