Readability in the Canadian Tax System

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ABSTRACT

This paper reports the results of a readability analysis of various parts of the Canadian tax system, with a particular focus on Canada's income tax. The results indicate that Canada's *Income Tax Act* is significantly more difficult to read than the taxation statutes of several comparable jurisdictions and more difficult to read than other Canadian legislation governing economic relationships. The guidance published by the Canada Revenue Agency for the use of tax professionals and the public appears more accessible. While it may be hoped that the statutory provisions that apply to low- and middle-income individuals would be more readable than the *Income Tax Act* as whole, the study found evidence to the contrary. Although the readability of the statute can only be one part of a program toward making the tax system more accessible, this paper argues that it is a project worth pursuing.

I. INTRODUCTION

The *Income Tax Act* (*ITA*)[1] is thoroughly unreadable. While the present study is the first to confirm the difficulty of reading the *ITA* using the standard techniques for measuring readability, that particular

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1 RSC 1985, c 1 (5th Supp) [*ITA*].

conclusion is obvious to anyone who has opened the *ITA*. This study's more striking results are the extent of this problem and the degree to which it is particular to the Canadian *ITA*. The evidence considered here indicates that Canadian statutory drafters have managed to produce more readable legislation in other areas of law, that comparable jurisdictions have relatively readable income tax legislation, and that the Canada Revenue Agency's (CRA) interpretive guidance is relatively readable.

The difficulty of reading tax legislation has been long lamented in common law jurisdictions. In the mid-1990s, Australian tax professor Graeme Cooper wrote that "no one could doubt much of the income tax is poorly expressed." While this much may have been self-evident, the extent of the problem he described was striking: "this is no less true for tax specialists than it is for the lay reader." While specialists had better access to a variety of supports, it was clear that the poor expression of rules, which he labelled "fiscal fog," caused specialists to fail in some cases, even despite this help.[2]

Since the 1990s, some common-law jurisdictions have started to address this problem, tracking legislative readability and making it a goal of tax-reform initiatives.[3] In 1992, New Zealand began the process of gradually rewriting its tax laws with the goal of improving readability.[4] In 1993, the Australian Federal Government established the Tax Law Improvement Project to simplify its income tax legislation in several ways, including

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2 Graeme S Cooper, "'A Rose Is a Flower Is a Plant': Tax Simplification South of the Equator" (1995) 47 Can Tax Found 3:1 at 3:12–3:13.

3 See e.g. Simon James, Adrian Sawyer & Ian Wallschutzky, "The Complexities of Tax Simplification: Progress in Australia, New Zealand and the United Kingdom" (1997) 14:1 Austl Tax Forum 29.

4 For updates on the progress of New Zealand's efforts, see Maryann Richardson & Adrian Sawyer, "Complexity in the Expression of New Zealand's Tax Laws: An Empirical Analysis" (1997) 14:3 Austl Tax Forum 325; Caroline Pau, Adrian Sawyer & Andrew Maples, "Complexity of New Zealand's Tax Laws: An Empirical Study" (2007) 22 Austl Tax Forum 59; Kathryn Saw & Adrian Sawyer, "Complexity of New Zealand's Income Tax Legislation: the Final Installment" (2010) 25 Austl Tax Forum 213. It is worth noting that simplification may be easier to achieve in New Zealand for a number of reasons related to its constitutional and social structure: see Adrian Sawyer, "Complexity of Tax Simplification: A New Zealand Perspective" in Simon James, Adrian Sawyer & Tamer Budak, eds, *The Complexity of Tax Simplification: Experiences from Around the World* (Basingstoke, UK: Palgrave Macmillan, 2016) 110.

drafting with simpler English.[5] In the U.K., the Office of Tax Simplification was created in 2010 and made a permanent, independent office of HM Treasury in 2015.[6] As part of the office's work (offering independent advice to the U.K. government on tax simplification), it developed a "complexity index" that includes readability measurement.[7]

In Canada, however, there has been no empirical research about the readability of tax materials. While experience indicates that the *ITA* is unreadable and, indeed, more difficult to read than other legislation governing economic relationships, we still lack quantifiable measurements to confirm the size and scope of the readability problem.[8] This paper begins to fill this gap and put the discussion of the Canadian tax system's readability on firmer empirical ground. I use several different readability formulas to facilitate comparisons with the readability studies that have been done in other jurisdictions and to compensate for the acknowledged weaknesses of readability formulas in general.

Of course, it may be argued that few people even attempt to read the *ITA*,[9] and so the readability of the technical guidance and the public guidance put out by the CRA is what matters. The CRA's guidance is generally considered easier to read, but again, the readability of the CRA's efforts in this area have not been measured. In this paper, I examine both tax legislation and guidance published by the CRA.

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5 David Smith & Grant Richardson, "The Readability of Australia's Taxation Laws and Supplementary Materials: An Empirical Investigation" (1999) 20:3 Fiscal Studies 321 at 322 [Smith & Richardson, "Readability of Australia's Tax Laws"].

6 UK, Office of Tax Simplification, "Our Governance", online: <www.gov.uk/government/organisations/office-of-tax-simplification/about/our-governance> [perma.cc/W7QS-VVXV].

7 UK, Office of Tax Simplification, *The OTS Complexity Index* (London: Office of Tax Simplification, 2017), online: <assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/603479/OTS__complexity_index_paper_2017.pdf> [perma.cc/2N9W-4SML].

8 *ITA*, *supra* note 1.

9 The assumption that readability is unimportant because the audience for tax legislation is tax experts rather than taxpayers or judges seems to be common among legislative drafters in the U.S. See Shu-Yi Oei & Leigh Z Osofsky, "Constituencies and Control in Statutory Drafting: Interviews with Government Tax Counsels" (2018) 104 Iowa L Rev 1291.

Difficulty in reading tax legislation, and tax complexity more generally, have attracted the attention of tax scholars for two key reasons. First, it is thought that unreadable tax legislation increases the costs of tax compliance and tax administration. Briefly stated, if the legislation can be understood more easily, fewer resources will be required by the tax administration for the purposes of auditing and enforcement, and the fewer resources taxpayers will be required to understand and meet their obligations. Second, it is thought that making the tax system more understandable will also improve fairness.[10]

Readability is also an important, and perhaps underappreciated, access-to-justice issue. While access to justice is not easily defined,[11] there is a reasonably intuitive way in which improving readability would make the tax system more accessible. Indeed, codifying law reformers have often understood their task to be stating rules clearly and simply in an effort to improve accessibility.[12] On the other hand, where the law becomes

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10 Grant Richardson & David Smith, "The Readability of Australia's Goods and Services Tax Legislation: An Empirical Investigation" (2002) 30:3 Federal L Rev 475 at 477–78 [Richardson & Smith, "Readability of Australia's GST Legislation"].

11 For accounts of the history of thinking about access to justice, see David M Trubek, "Critical Moments in Access to Justice Theory: The Quest for the Empowered Self" in Allan C Hutchinson, ed, *Access to Civil Justice* (Toronto: Carswell, 1990) 107; Roderick A Macdonald, "Access to Justice in Canada Today: Scope, Scale and Ambitions" in Julia Bass, WA Bogart & Frederick H Zemans, eds, *Access to Justice for a New Century: The Way Forward* (Toronto: Law Society of Upper Canada, 2005) 19 [Macdonald, "Scope, Scale and Ambitions"]. For a discussion of theoretical problems with definitions of access to justice, see William E Conklin, "Whither Justice: The Common Problematic of Five Models of 'Access to Justice'" (2001) 19 Windsor YB Access Just 297. For the development of a "public centred" understanding of access to justice, see Trevor CW Farrow, "What Is Access to Justice?" (2014) 51:3 Osgoode Hall LJ 957.

12 On 17th=century law-reform efforts, see Barbara Shapiro, "Codification of the Laws in Seventeenth Century England" (1974) 1974:2 Wis L Rev 428; Barbara Shapiro, "Law Reform in Seventeenth Century England" (1975) 19:4 Am J Legal Hist 280. On the late-19th-century push toward codification of commercial law, see Roy Goode, "The Codification of Commercial Law" (1988) 14 Monash UL Rev 135; Robert B Ferguson, "Legal Ideology and Commercial Interests: The Social Origins of the Commercial Law Codes" (1977) 4:1 Brit JL & Soc 18; Aubrey L Diamond, "Codification of the Law of Contract" (1968) 31:4 Mod L Rev 361. In Canada, Brierley and Macdonald call the *Civil Code of Lower Canada* "a technical recording of a complex body of norms that was intended to make this private law more accessible in both its language and substance to legal professionals." See John EC Brierley & Roderick A Macdonald, eds, *Quebec Civil Law: An Introduction to Quebec Private Law* (Toronto: Emond Montgomery, 1993) at 25.

extremely difficult to read, we might expect that competent advice will become more expensive and difficult to access.

Moreover, if access to justice means empowering citizens to make and remake law for themselves in the various sites where law is made, administered, and applied,[13] then a framework in which the law is incomprehensible to all but a small class of experts is problematic. Even if concerns around tax compliance can be alleviated by tax-preparation software or free clinics to assist with tax filing, access to justice requires facilitating engagement and empowerment, not settling for mere compliance. The goal of access to justice would have us reimagine legal subjects as legal agents. In this framework, the assumption that "[n]o… real people are going to read the statute"—though perhaps true and apparently common among legislative drafters in the U.S.—is not a sufficient answer.[14]

This paper proceeds in three main sections. In Part II, I explain the methodology used in the readability analysis; I explain the readability metrics I apply in this study and how I chose the text to be analyzed. In Part III, I present and discuss the results. I find some agreement among the readability metrics, including strong agreement about the relative readability of the different materials and the main cause of the difficulty being syntactic rather than semantic. However, there is disagreement about the level of readability of particular texts. The statutory provisions sampled score at the very bottom of the readability metrics, and the *ITA* appears to be even less readable than the other statutes I examined. On the other hand, the technical and popular guidance appears more readable. While the limitations of readability analyses must be acknowledged, the results of my study offer a preliminary indication that the CRA is reasonably successful

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In France, the goals of codification were more encompassing and utopian. Along with the statist and nationalist goals of the French Revolution, the aim was "to state the law clearly and in a straightforward fashion, so that ordinary citizens could read the law and understand what their rights and obligations were." John Henry Merryman & Rogelio Pérez-Perdomo, *The Civil Law Tradition: An Introduction to the Legal Systems of Europe and Latin America*, 3rd ed (Stanford, CA: Stanford University Press, 2007). On the ideas animating European codification generally, including improved knowledge of the law, see Jacques Vanderlinden, *Le concept de code en Europe occidentale du XIIIe au XIXe siècle: Essai de définition* (Brussels: Éditions de l'Institut de sociologie de l'Université libre de Bruxelles, 1967).

13 Macdonald, "Scope, Scale and Ambitions", *supra* note 11 at 106–07.

14 Oei & Osofsky, *supra* note 9 at 1337, 1342.

in explaining its interpretations of the law to a broader audience. In Part IV, I examine criticisms of readability formulas like the ones I use here. In my view, these criticisms must be taken seriously, and those who use readability formulas ought to pay attention to the debate about their validity and usefulness. However, I suggest that cautious use can be made of readability formulas in Canadian tax law for the moment. In the final section of the paper, I offer some conclusions and directions for future research in this area.

II. METHODOLOGY

A. Readability Metrics

To facilitate comparisons between this study and other readability analyses, I use several different readability formulas: the Flesch Reading Ease formula, the Flesch-Kincaid Grade Level formula, the Gunning-Fog Index, and the New Dale-Chall Readability formula. Using different formulas helps to identify cases in which the readability scores are affected by the particularities of an individual formula. These formulas take a common approach, make similar assumptions, and are vulnerable to similar criticisms. I discuss the debate surrounding these formulas and their use in the tax context in Part IV below.[15]

The readability formulas used in this paper each assume that there are two main barriers to readability: syntactic difficulty and semantic difficulty. Syntactic difficulty—the ways in which sentence structure reduces readability—is difficult to measure directly. Each of the formulas applied here assumes that sentence length can be used as a fair proxy for syntactic difficulty. The three formulas each use a different proxy for semantic difficulty – the ways in which vocabulary reduces readability.

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[15] For a brief review of arguments and evidence for and against readability measurements, see Mostafa Zamanian & Pooneh Heydari, "Readability of Texts: State of the Art" (2012) 2:1 Theory &Practice in Language Stud 43; for the most recent and forceful criticism of these readability formulas and the idea of measuring readability in general, see Alan Bailin & Ann Grafstein, *Readability: Text and Context* (London, UK: Palgrave Macmillan UK, 2016) [Bailin & Grafstein, *Readability*], which builds on their earlier work: Alan Bailin & Ann Grafstein, "The Linguistic Assumptions Underlying Readability Formulae: A Critique" (2001) 21:3 Language & Communication 285 [Bailin & Grafstein, "Linguistic Assumptions"].

The readability metrics also differ in the relative weight that they assign to semantic and syntactic difficulty. Having measured and weighed these two factors (via an easily accessible proxy), each formula produces a score that can be translated into either a narrative description of the readability of the text ("easy," "fair," "difficult," and so on) or the grade level of an American student that could be expected to be able to read the text.

1. Flesch Reading Ease and Flesch-Kincaid

In the 1940s, Rudolph Flesch was concerned with developing a practical, objective measurement of the readability of written materials. Flesch reported his results and proposed a formula in his Ph.D. dissertation.[16] He then simplified the formula to make it easier to apply.[17] Like other readability formulas discussed here, the Flesch Reading Ease formula uses proxies for the difficulty of the vocabulary used and the syntax. The formula includes the average word length in syllables and the average sentence length in words.

> Flesch Reading Ease Score = 206.835 – 84.6wl – 1.015sl
> where:
> wl = average word length in syllables
> sl = average sentence length in words

While Flesch's expectation was that the formula would result in a score "between 0 (practically unreadable) and 100 (easy for any literate person),"[18] it is mathematically possible for the formula to produce scores below zero or higher than 100. The scores correspond to difficulty levels in the table below:

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16 Rudolph Flesch, *Marks of Readable Style: A Study in Adult Education* (New York: Columbia University, 1943).

17 Rudolph Flesch, "A New Readability Yardstick" (1948) 32:3 J Applied Psychology 221 [Flesch, "New Readability Yardstick"].

18 *Ibid* at 229.

Reading Ease Score	Description of Style
0 to 30	Very difficult
30 to 50	Difficult
50 to 60	Fairly Difficult
60 to 70	Standard
70 to 70	Fairly Easy
80 to 90	Easy
90 to 100	Very Easy

Table 1: Flesch Reading Ease Scores[19]

Flesch's work on readability has been used in several legal contexts. The Internal Revenue Service, among others, has applied the Flesch Reading Ease formula in studying the U.S. tax system.[20] The formula has also been used in evaluating the pre-reform tax system of New Zealand and to measure the progress of New Zealand's reforms.[21] The state of Florida requires that insurance contracts be readable, which includes, among other things, a minimum score of 45 on a Flesch Reading Ease test.[22]

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19 *Ibid* at 230.

20 Bruce S Koch & Stewart S Karlinsky, "The Effect of Federal Income Tax Law Reading Complexity on Students' Task Performance" (1984) 2 Issues in Accounting Education 98 at 99; Bobbie Cook Martindale, Bruce S Koch & Stewart S Karlinsky, "Tax Law Complexity: The Impact of Style" (1989) 29:4 J Bus Communication 383; Robert P Strauss & Skye Toor, *The Readability of the US Federal Income Tax System: Some First Results* (Paper Presented at the National Tax Association, 107th Research Conference, 2014).

21 Lin Mei Tan & Greg Tower, "The Readability of Tax Laws: An Empirical Study in New Zealand" (1992) 9:3 Austl Tax Forum 355; Richardson & Sawyer, *supra* note 4; Pau, Sawyer & Maples, *supra* note 4; Saw & Sawyer, *supra* note 4; Smith & Richardson, "Readability of Australia's Tax Laws", *supra* note 5.

22 Fla Stat Ann tit XXXVII § 627.4145(1)(a) (2018).

The Flesch-Kincaid readability measurement was derived by J. Peter Kincaid and his colleagues for the U.S. Navy in the 1970s.[23] It uses the same variables as the Flesch Reading Ease formula but was intended to be easier to apply; it also results in a U.S. grade level score rather than a reading ease score between 0 and 100. While Kincaid's test was inspired by Rudolph Flesch's work, it is worth noting that the two metrics are not equivalent. The Flesh-Kincaid formula puts a much higher relative weight on sentence length, and so it is reasonable to expect that the long sentences often used by statutes will be considered less readable by the Flesch-Kincaid metric than they are by the Flesch Reading Ease formula.

> Flesch-Kincaid Grade Level Score = 11.8wl + 0.39sl
> where:
> wl = average word length in syllables
> sl = average sentence length in words

2. Gunning Fog Readability Index

Robert Gunning, an American business-writing consultant, developed the Gunning Fog Index in 1952.[24] Like the Flesch test, it uses the average sentence length as a proxy for syntactic difficulty. Rather than counting syllables, however, the Fog Index counts words of three or more syllables in its effort to measure the difficulty of vocabulary. The Fog Index is currently being used by the U.K. Office of Tax Simplification in its complexity measurement scheme.[25]

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23 US, Naval Technical Training Command, Research Branch, *Derivation of New Readability Formulas (Automated Readability Index, Fog Count and Flesch Reading Ease Formula) for Navy Enlisted Personnel* (8–75) (Institute for Simulation and Training, by J Peter Kincaid et al, February 1975).

24 Robert Gunning, *The Technique of Clear Writing* (New York: McGraw-Hill, 1952).

25 UK, Office of Tax Simplification, *supra* note 7 at 8–9.

> Fog Index = 0.4 [sl + 100(rate of complex words)]
> Where:
> sl is the average sentence length in words;
> "complex words" are words with three or more syllables, but not including proper nouns, familiar jargon, and compound words and not counting common suffixes (such as –es, –ed, or –ing) as syllables.

The Fog Index is intended to directly give the U.S. grade level difficulty of the text. A text with a score of six could be read by a sixth-grade student, a text with a score of 13 could be read by a first-year university student, and a score of 17 would correspond to the reading level of someone with a bachelor's degree.

Gunning suggested counting complete thoughts rather than grammatical sentences.[26] Where a sentence contained two or more complete thoughts linked by commas or semi-colons, he would count them as several sentences. Some later uses of the Fog Index have taken to counting sentences in a way that is consistent with the other formulas used in this study.[27] Others have taken to counting major punctuation marks, including colons, semi-colons, periods, question marks, and exclamation points.[28] In the *ITA*, however, semicolons are usually used to separate parts of a list rather than to link complete thoughts together. Accordingly, I have counted sentences for the purpose of the Fog Index in the same way that they are counted for the Flesch Reading Ease score.

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26 Gunning, *supra* note 24 at 37.

27 For example, William H DuBay, *Smart Language: Readers, Readability, and the Grading of Text* (Costa Mesa, CA: Impact Information, 2007) at 60 (mentions only sentence length in his discussion of Gunning Fog). Similarly, <www.readabilityformulas.com> uses whole sentences in its calculation of Gunning-Fog scores. On the other hand, <gunning-fog-index.com> counts colons and semi-colons in addition to periods, question marks, and exclamation points.

28 For example, <gunning-fog-index.com> counts colons and semi-colons in addition to periods, question marks, and exclamation points.

3. New Dale-Chall Readability Formula

Jeanne Chall and Edgar Dale published their original formula in 1948.[29] Like the other readability metrics previously discussed, the average length of sentences is a factor in the formula. An innovation in Dale and Chall's work was to develop a list of familiar words. Applying the formula requires counting the number of unfamiliar words—those that are not on the list—to act as a proxy for semantic difficulty.

In 1995, Jeanne Chall published a revised version of the formula, defending it against criticism and expanding the list of familiar words to 3,000 words known by 80% of grade four students in an American sample. The list of familiar words is taken to include possessives, plurals, and common suffixes (such as –d, –ed, –ied, –ing, –er, –ier, –iest) added to words on the list, as well as compound and hyphenated words if both components are on the list.[30] However, less common suffixes (such as –tion, –ation, –ment, –ly, and –y) are not included. For example, "happiest" is counted as familiar because "happy" is on the list, while "happily" would be counted as unfamiliar.

> Raw Score = 0.0496sl + 15.79(rate of unfamiliar words)
> Where:
> sl = average sentence length in words;
> unfamiliar words are those not found in the list of 3,000 familiar words.
> If (unfamiliar words/words) is greater than 5%, then:
> Dale-Chall Score = Raw Score + 3.6365,
> Otherwise:
> Dale-Chall Score = Raw Score

The Dale-Chall Score can then be translated into a U.S. grade level using the table below:

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29 Jeanne S Chall & Edgar Dale, *Readability Revisited: The New Dale-Chall Readability Formula* (Cambridge, MA: Brookline Books, 1995) at 1.

30 *Ibid* at 13–14.

Dale-Chall Score	U.S. Grade Level
4.9 and below	Grade 4 and below
5.0 to 5.9	Grades 5–6
6.0 to 6.9	Grades 7–8
7.0 to 7.9	Grades 9–10
8.9 to 8.9	Grades 11–12
9.0 to 9.9	Grades 13–15 (College)
10 and above	Grades 16 and above (College Graduate)

Table 2: Dale-Chall Readability Scores

B. Sample

1. Periodic Sampling

Readability formulas generally suggest systematically taking small samples to analyze. For example, Dale and Chall suggest selecting 100-word samples, beginning with the first word in a sentence. For longer works, they suggest selecting one sample every 50 pages. For shorter works, they recommend between two and five samples, including samples at the beginning, middle, and end. However, Dale and Chall recommend not using the very beginning or end because they tend to not reflect the overall difficulty.[31] Similarly, Flesch suggests taking 100-word samples ("[u]nless you want to test a whole piece of writing").[32] He also suggests using a regimented scheme — "every third paragraph or every other page" or something similar — rather than trying to choose good or typical examples. The formula can

[31] *Ibid* at 7.

[32] Flesch, "New Readability Yardstick", *supra* note 17 at 228.

then be applied to these samples to gain an appreciation of the readability of the entire text.

For the purposes of tax law, however, this sampling method presents some difficulty. To take an example chosen at random, subsection 110.6(19) contains a single 924-word sentence. Indeed, quite often a 100-word sample of the *ITA* will not capture even a single complete sentence.[33] To compensate, I use larger samples where necessary and include only complete sentences. The samples chosen are at least 500 words. When starting a new sample, I went to the beginning of the next sentence. Rather than stopping after 500 words (which still may not capture a full sentence), I allowed the sample to continue to the end of a sentence. The *ITA* is more than 3,200 pages long,[34] and so I took a sample every 100 pages, which allowed me to take 32 samples totaling more than 22,000 words.

For the sake of comparison, I also took samples of the *Bankruptcy and Insolvency Act* and the *Canada Labour Code*.[35] Again, I took samples of at least 500 words and included only complete sentences, but I sampled more frequently in the shorter statutes. In the *Bankruptcy and Insolvency Act*, I sampled every 30 pages, allowing me to take nine samples which total 5,383 words.[36] I sampled every 25 pages in the *Canada Labour Code*, allowing me to take ten samples which total 5,322 words.[37]

In general, I accepted the statutes as they are punctuated. However, I made an exception for sections that contain multiple definitions. For example, section 2 of the *Bankruptcy and Insolvency Act* defines 48 terms. It begins as follows:

> 2 In this Act,

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33 *ITA*, *supra* note 1, s 110.6(19).

34 Samples were taken using the pagination of the consolidated statute as it appeared on 25 May 2018. *ITA*, *supra* note 1, online: <laws-lois.justice.gc.ca/eng/acts/i-3.3/20180401/P1TT3xt3.html> [perma.cc/FAP8-Q9JZ].

35 *Bankruptcy and Insolvency Act*, RSC 1985, c B–3 [*BIA*]; *Canada Labour Code*, RSC 1985, c L–2.

36 Samples were taken using the pagination of the consolidated statute as it appeared on 25 May 2018. *BIA*, *supra* note 35, online: <laws-lois.justice.gc.ca/eng/acts/b-3/20180523/P1TT3xt3.html> [perma.cc/5EL5-92BC].

37 Samples were taken using the pagination of the consolidated statute as it appeared on 6 June 2018. *Canada Labour Code*, *supra* note 35, online: <laws-lois.justice.gc.ca/eng/acts/L-2/20171212/P1TT3xt3.html> [perma.cc/BQ4C-4AY2].

> **affidavit** includes statutory declaration and solemn affirmation;
> **application**, with respect to a bankruptcy application filed in a court in the Province of Quebec, means a motion;
> **assignment** means an assignment filed with the official receiver;[38]

Each of these definitions, and the other 45 contained in section 2, form a complete thought on their own and could be punctuated as a sentence. For the purposes of the readability analyses, I treat each of these as a sentence. Thus, the section of the *Bankruptcy and Insolvency Act* quoted above would be counted as 38 words and 3 sentences, rather than 38 words without a full sentence.

2. Purposive Sampling

In addition to the periodic sampling of statutes, I took purposive samples of various tax materials for two reasons. First, I was concerned that periodic sampling might overstate the difficulty of reading the *ITA*. The *ITA* contains many provisions that apply only to corporations, trusts, or partnerships. Many of these can be quite technical and difficult to understand. It also contains a number of transitional provisions. To return to the example of subsection 110.6(19), while it is extremely long and difficult to read, as a transitional provision, it is of no consequence to most taxpayers most of the time.

Second, I wanted a method of sampling other material implicated in the tax system as well. I focus on income tax because it is the system that demands compliance of the most individuals. However, the purposive samples allowed me to include other tax statutes and published guidance that individual taxpayers may have cause to examine. Individual taxpayers are much more likely to read the CRA's website or published tax guides than the *ITA*. Even their professional advisors may be more likely to base their advice on a reading of technical guidance like Interpretation Bulletins and Tax Folios than a close reading of the *ITA*.

To create the purposive sample, I imagined the concerns of two hypothetical individual taxpayers and constructed a sample using the sources that would answer those concerns. The two taxpayers are described below. In constructing this sample, I also made further adjustments to more easily form complete sentences. For example, the full answer to a taxpayer's

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38 *BIA*, *supra* note 35, s 2 [emphasis in original; repealed definitions and French equivalent terms omitted].

question about pension plan contributions might be found in paragraph 8(1)(m) of the *ITA*, which reads:

> 8(1) In computing a taxpayer's income for a taxation year from an office or employment there may be deducted such of the following amounts as are wholly applicable to that source or such part of the following amounts as may reasonably be regarded as applicable thereto[:]
>
> ...
>
> (m) the amount in respect of contributions to registered pension plans that, by reason of subsection 147.2(4), is deductible in computing the taxpayer's income for the year;

Several things need to be highlighted. First, the text of paragraph (m) does not form a complete thought without the opening words of subsection 8(1). Second, the ellipses account for the removal of paragraphs (a) through (l.2). Third, subsection 8(1) is punctuated as a single sentence that ends ten paragraphs later following paragraph 8(1)(s). For the purposes of the readability analysis with the purposive sample, I would take paragraph 8(1)(m), as it appears above, as a sentence. That is, I would include the opening words of subsection 8(1), ignore the other elements in the list, and replace the final semicolon with a period. The sample would then read:

> In computing a taxpayer's income for a taxation year from an office or employment there may be deducted such of the following amounts as are wholly applicable to that source or such part of the following amounts as may reasonably be regarded as applicable thereto: the amount in respect of contributions to registered pension plans that, by reason of subsection 147.2(4), is deductible in computing the taxpayer's income for the year.

While subsection 8(1) is punctuated as a single sentence and runs to more than 3,000 words, in this analysis I assume the taxpayer whose question can be answered with reference to paragraph 8(1)(m) will be satisfied if the 71-word sentence constructed above is readable.

In applying the readability formulas to the both the purposive and the periodic samples, I used several electronic tools. Microsoft Word was used to count the number of words in each sample. The syllable and sentence counting functions of WordCalc.com were used to assist in counting these elements.[39] Two readability checking websites were also used to assist in counting the number of unfamiliar words (for the Dale-Chall formula) or

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[39] "Syllable Counter" (last visited 14 October 2020), online: *wordcalc* <www.wordcalc.com> [perma.cc/4JFU-HEXD].

complex words (for the Fog Index).[40] In some cases, I checked and corrected the results manually to verify the accuracy of the automated tools. However, manual counting was time-consuming and so not done in all cases.

i. Hypothetical Taxpayer #1

The first hypothetical taxpayer is an employed musician. To simplify the problem, I (perhaps unrealistically) assume that the taxpayer is clearly an employee and has no self-employment income. However, their job requires them to provide their own instrument and they need to know how to reflect the cost of the instrument in their income. This taxpayer also buys a house, making use of the Home Buyer's Plan, and later sells it. To simplify, I assume that the house is clearly a capital asset.

On the level of legislation, the answers to their questions about the expenses associated with their instrument rely primarily on paragraphs 8(1)(p) and 8(1)(q) of the *ITA*.[41] Because capital expenses are dealt with in the next hypothetical, I assume that the taxpayer's instrument is rented and so there is no need to look at claiming capital cost allowance. Technical guidance is provided in Interpretation Bulletin IT–525R.[42] Finally, popular guidance is available on the CRA's website and in the published guide on employment expenses.[43]

To deal with the purchase of the taxpayer's home, the sample includes subsections 146.01(2)–146.01(4) which lay out the Home Buyer's Plan. However, I have excluded subsections (5), (6), and (7), which deal with special circumstances including leaving Canada and death. I also assume

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40 "Free Dale-Chall Readability Formula with Word List: Original and Revised Versions" (last visited 14 October 2020), online: *Readability Formulas* <www.readabilityformulas.com/free-dale-chall-test.php> [perma.cc/TRM2-U88W]; Simon Bond, "Gunning Fog Index" (last visited 14 October 2020), online: *Gunning Fog Index* <gunning-fog-index.com> [perma.cc/I8UV-XA8G].

41 *ITA*, *supra* note 1, ss 8(1)(p), 8(1)(q).

42 Canada Revenue Agency, Interpretation Bulletin IT–525R, "Performing Artists" (24 April 2002).

43 Canada Revenue Agency, *Musical Instrument Expenses* (Ottawa: CRA, last modified 21 January 2020), online: <www.canada.ca/en/services/taxes.html> [perma.cc/6C5Q-4W6U]; Canada Revenue Agency, Guide T4044(E) Rev 16, "Employment Expenses" (2016), online (pdf): <www.canada.ca/content/dam/cra-arc/formspubs/pub/t4044/t4044-16e.pdf> [perma.cc/B765-5JAD].

that there are no underlying questions about the registered retirement savings plan that need to be answered.

To deal with questions related to the sale of the taxpayer's home, I sample the principal residence exemption contained in paragraph 40(2)(b).[44] Although that provision refers directly to subsections 110.6(19) and 110.6(21), I assume that the taxpayer (or the taxpayer's advisor) will quickly decide to safely ignore those, and so the sample does not include the trail of transitional provisions and their references.[45] The sample includes the definition of "principal residence" in section 54 as well as paragraph 38(a), subsection 39(1), and paragraph 40(1)(a), which are required for any application of the principal residence exemption. I assume the other defined terms that may be relevant—such as "child," "sister," and "personal trust"—can all be ignored.

Technical guidance related to the principal residence exemption available in Tax Folio S1–F3–C2 was included in the sample. However, I could find no Interpretation Bulletin or Tax Folio related to the Home Buyer's Plan. I sampled popular guidance from the CRA's website for both the principal residence exemption and the Home Buyer's Plan, and from the Guide on capital gains for the principal residence exemption.[46]

ii. Hypothetical Taxpayer #2

The second hypothetical taxpayer runs a small unincorporated business from their home and makes a modest profit. The taxpayer produces children's clothes, blankets, and stuffed animals to sell online and at local craft shows. This taxpayer has expenses associated with the business,

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44 *ITA*, *supra* note 1, s 40(2)(b).

45 *Ibid*, ss 110.6(19), 110.6(21).

46 Canada Revenue Agency, *Principal Residence and Other Real Estate* (Ottawa: CRA, last modified 21 January 2020), online: <www.canada.ca/en/revenue-agency/services/tax/individuals/topics/about-your-tax-return/tax-return/completing-a-tax-return/personal-income/line-12700-capital-gains/principal-residence-other-real-estate.html> [perma.cc/JM8T-RKYB]; Canada Revenue Agency, *How to Participate in the Home Buyers' Plan (HBP)* (Ottawa: CRA, last modified 9 December 2019), online: <www.canada.ca/en/revenue-agency/services/tax/individuals/topics/rrsps-related-plans/what-home-buyers-plan/participate-home-buyers-plan.html> [perma.cc/5AWX-D2SV]; Canada Revenue Agency, Guide T4037(E) Rev 16, "Capital Gains" (2016), online (pdf): <www.canada.ca/content/dam/cra-arc/formspubs/pub/t4037/t4037-16e.pdf> [perma.cc/4JMR-UD49].

including capital expenses, inventory expenses, business-use-of-home expenses, and other current expenses.

I assume that the business is located in Nova Scotia and that the taxpayer may have questions about the point-of-sale rebate that applies to children's clothes (including baby blankets). Accordingly, I include in the sample several provisions from the Nova Scotia *Sales Tax Act* and the *Excise Tax Act* that relate to this question.[47] In addition to the legislation, technical guidance is available in a GST/HST Info Sheet.[48]

To answer questions about the treatment of the taxpayer's various expenses, I include subsection 9(1), which is a general provision on the calculation of business income.[49] I also include a series of provisions about the treatment of inventory,[50] though I ignore the regulations on the valuation of inventory and several of the special rules around the inventory of artistic endeavours, changes in use, and other special rules.[51] To respond to questions about the treatment of capital expenses, I include paragraph 20(1)(a), regulation 1100(1), and the definition of "undepreciated capital cost" laid out in subsection 13(21) in the sample.[52] Finally, because the business runs from the taxpayer's home, I include subsection 18(12) on the use of home expenses in a business.[53]

In the sample of technical guidance, I include the Interpretation Bulletin on inventory valuation and the chapters of the Income Tax Folios on "business use of home expenses" and capital cost allowance.[54] For

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47 *Sales Tax Act*, SNS 1996, c 31, ss 12J(a), 12J(n), 12K, 12N; *Excise Tax Act*, RSC 1985, c E-15, s 165(2).

48 Canada Revenue Agency, *Point-of-Sale Rebate on Children's Goods* (GST/HST Info Sheet), GI-063 (Ottawa: CRA, last modified 27 August 2014), online: <www.canada.ca/en/revenue-agency/services/forms-publications/publications/gi-063/point-sale-rebate-on-childrens-goods.html> [perma.cc/8DV8-QTU9].

49 *ITA*, *supra* note 1, s 9(1).

50 *Ibid*, ss 10(1), 10(2), 10(2.1), 10(3), 10(4), 10(5).

51 For example, *ibid*, ss 10(6)ff, 10(12)ff.

52 *Ibid*, ss 20(1)(a), 13(21); *Income Tax Regulations*, CRC, c 945, s 1101(1).

53 *ITA*, *supra* note 1, s 18(12).

54 Canada Revenue Agency, Interpretation Bulletin IT-473R, "Inventory Valuation" (21 December 1998); Canada Revenue Agency, Income Tax Folio S4-F2-C2, "Business Use of Home Expenses" (2 November 2017); Canada Revenue Agency, Income Tax Folio S3-F4-C1, "General Discussion of Capital Cost Allowance" (25 April 2017).

popular guidance, I sampled the Guide on Business and Professional Income, which includes chapters on expenses and on the capital cost allowance.[55] In the sample, I also included a page from the CRA's website explaining business-use-of-home expenses and two pages dealing with capital cost allowance.[56]

III. Results & Discussion

A. Periodic Sampling

The results for the samples taken at regular intervals are presented in Table 3.[57]

	Words	Flesch Reading Ease (0–100)	Flesch-Kincaid (Grade Level)	Gunning Fog Index (Grade Level)	Dale-Chall Score
Income Tax Act	22319	–83.5	66.0	73.7	15.1

55 Canada Revenue Agency, Guide T4002(E) Rev 16, "Business and Professional Income" (2016), chs 3–4, online (pdf): <www.canada.ca/content/dam/cra-arc/formspubs/pub/t4002/t4002-16e.pdf> [perma.cc/9PNH-6Q5R].

56 Canada Revenue Agency, "Business-use-of-home expenses" (Ottawa: CRA, last modified 12 February 2019), online: <www.canada.ca/en/revenue-agency/services/tax/businesses/topics/sole-proprietorships-partnerships/report-business-income-expenses/completing-form-t2125/business-use-home-expenses.html> [perma.cc/7MYP-XLEQ]; Canada Revenue Agency, "How to calculate the deduction for capital cost allowance (CCA)" (Ottawa: CRA, last modified 1 May 2020), online: <www.canada.ca/en/revenue-agency/services/tax/businesses/topics/sole-proprietorships-partnerships/report-business-income-expenses/claiming-capital-cost-allowance/calculate-deduction-capital-cost-allowance.html> [perma.cc/2T7B-JBBP]; Canada Revenue Agency, "Basic information about capital cost allowance (CCA)" (Ottawa: CRA, last modified 9 October 2020), online: <www.canada.ca/en/revenue-agency/services/tax/businesses/topics/sole-proprietorships-partnerships/report-business-income-expenses/claiming-capital-cost-allowance/basic-information-about-capital-cost-allowance.html> [perma.cc/P86Q-92HB].

57 Further details, including the samples used and numbers of words, sentences, syllables, and difficult words, are available in Appendix A.

Bankruptcy and Insolvency Act	5383	10.1 (very difficult)	29.7	35.6	10.8 (college graduate)
Canada Labour Code	5322	28.4 (very difficult)	22.5	28.3	9.6 (college)

Table 3: Readability results for the *Income Tax Act*, the *Bankruptcy and Insolvency Act*, and the *Canada Labour Code* sampled at regular intervals

Both the Flesch-Kincaid analysis and the Gunning-Fog index produce results that are difficult to interpret. A grade level in the 30s might be taken to mean that only professors or those with several advanced degrees should be expected to be able to read the *Bankruptcy and Insolvency Act*, but is probably better understood to mean that the metric simply could not be applied here.

Nonetheless, there are two striking results. First, the *Bankruptcy and Insolvency Act* does produce sensible results using both the original Flesch analysis and the Dale-Chall analysis. While the *Bankruptcy and Insolvency Act* scores as very difficult to read (on the Flesch Reading Ease scale) or at the level of a college graduate (based on its Dale-Chall score), it, unlike the *ITA*, is not so unreadable as to break the scales put forward by Flesch or Dale and Chall.

Second, on each of the readability measurements, the *ITA* is assessed as impossible to read and has a lower score than the *Bankruptcy and Insolvency Act*. If it was difficult to interpret grade level scores in the 30s, it is impossible to make sense of grade levels in the 60s or 70s. Similarly, a score of –83.5 on the Flesch Reading Ease scale that runs from 0 to 100 only allows us to say that the *ITA* is virtually impossible to read. On the Dale-Chall scale, 10 and above is taken to be the level of college graduates, so a score of 15 puts the *ITA* well beyond what we might expect a typical college graduate to be able to read.

Looking more closely at the data, it becomes clear that it is the length of sentences in the *ITA* that drives these results. For two of the three proxies of semantic difficulty (average syllables per word in the Flesch and Flesch-Kincaid formulas, and the rate of difficult words in the Dale-Chall formula), the *Bankruptcy and Insolvency Act* scores as more difficult than the *ITA*. On the other hand, all three formulas use the average sentence length as a proxy

for syntactic difficulty, and here the *ITA* scores as significantly more difficult. The samples of the *Bankruptcy and Insolvency Act* have an average sentence length of 72 words, compared to 165 words per sentence in the *ITA*. While both statutes obey the convention of one sentence per subsection,[58] the drafters of the *Bankruptcy and Insolvency Act* were able to use shorter sentences, which has a significant positive effect on the readability score.

As I explained above, there may be some concern that sampling the *ITA* at regular intervals is uncharitable and may overestimate how difficult the *ITA* is to read. After all, no one is expected to read the *ITA* cover-to-cover. It contains many provisions that only apply to corporations, trusts, or those offering life insurance, and there are many transitional provisions which are difficult to read but no longer relevant to most taxpayers. We might expect that by looking at issues in tax law that individual taxpayers might face—and might try to resolve themselves—we would gain a better view of how people actually interact with the tax system, and the readability measurements might show the *ITA* in a more favourable light. Unfortunately, the results for the purposive sample, presented in the section below, belie that expectation.

B. Purposive Sampling

As described above, the purposive sample is limited to provisions related to the computation of income that apply to individuals. This sample paints a slightly different picture than the one shown by sampling the full *ITA*, though not a more favourable one. It also allows a means to compare the *ITA* with the CRA's publications, including Interpretation Bulletins, Tax Folios, Guides, and the CRA's website. The results are presented in Tables 4 through 7.[59]

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[58] In general, it is true that both statutes observe this convention; however, the sample of the *Income Tax Act* included subsection 125(4), which contains two sentences.

[59] These summary tables report the results for the materials in the order they were introduced in section III.B.2 above. Further details, including the numbers of words, sentences, syllables, and difficult words counted in each sample, are available in Appendix B.

Table 4: Readability results for purposively sampled legislation and regulations

	Words	Flesch Reading Ease (0–100)	Flesch-Kincaid (Grade Level)	Gunning Fog Index (Grade Level)	Dale-Chall Score
Legislation and Regulations – Hypothetical Taxpayer 1					
ITA, s. 8(1)(p)	162	–97.6	67.1	72.5	14.7
ITA, s. 8(1)(q)	302	–237.8	121.5	126.9	21.7
ITA, s. 146.01(2)–(4)	1155	–310.0	152.1	161.8	25.9
ITA, s. 54, *s.v.* "principal residence"	1069	–1000.4	418.4	435.4	59.0
ITA, s. 40(1)(a)	306	–218.5	119.8	128.5	21.2
ITA, s. 40(2)(b)	501	–413.0	195.3	208.2	30.5
ITA, s. 38(a)	43	43.2 (difficult)	17.9	26.50	7.8 (grade 11-12)
Legislation and Regulations – Hypothetical Taxpayer 2					
NS *Sales Tax Act*, s. 12J(a)	150	–71.2	60.5	63.5	13.7
NS *Sales Tax Act*, s. 12J(n)	71	13.2 (very difficult)	29.1	35.7	10.5 (college graduate)
NS *Sales Tax Act*, s. 12N	54	42.4 (difficult)	20.8	28.3	10.4 (college graduate)
ETA, s. 165(2)	56	33.7 (difficult)	22.5	28.8	10.1 (college graduate)

	Words	Flesch Reading Ease (0–100)	Flesch-Kincaid (Grade Level)	Gunning Fog Index (Grade Level)	Dale-Chall Score
ITA, s. 9(1)	28	48.5 (difficult)	13.5 (college student)	21.2	6.7 (grade 7-8)
ITA, ss. 10(1), (2), (2.1), (3), (4), (5)	549	–10.1	37.4	44.6	10.6 (college graduate)
ITA, s. 20(1)(a)	83	–3.8	34.4	41.4	10.0 (college graduate)
ITR, s. 1100(1)(a)(vii)	95	–26.7	40.6	44.7	11.0 (college graduate)
ITA, s. 13(21), *s.v.* "undepreciated capital cost"	779	–699.8	304.4	318.0	44.3
ITA, s. 18(12)	213	–139.6	85.7	92.9	17.6
Legislation and Regulations – Totals					
Overall Score for Taxpayer 1	4447	–326.8	159.3	169.5	26.4
Overall Score for Taxpayer 2	2078	–55.7	55.4	62.3	13.0
Overall Score for *ITA* samples	6099	–210.7	114.8	123.8	20.7
Overall Score	6525	–170.7	99.4	107.9	18.7

Table 5: Readability results for purposive sampled Technical Guidance published

by the CRA

	Words	**Flesch Reading Ease (0–100)**	**Flesch-Kincaid (Grade Level)**	**Gunning Fog Index (Grade Level)**	**Dale-Chall Score**
Interpretation Bulletins, Tax Folios, GST/HST Info Sheets – Hypothetical Taxpayer 1					
IT-525R (excerpts)	914	33.5 (difficult)	16.7 (college graduate)	22.3	9.5 (college)
S1-F3-C2 (excerpts)	1582	46.8 (difficult)	15.1 (college)	22.4	8.4 (grade 11-12)
Interpretation Bulletins, Tax Folios, GST/HST Info Sheets – Hypothetical Taxpayer 2					
GI-063	2607	64.0 (standard)	10.2	15.6 (college)	8.6 (grade 11-12)
IT-473R	3073	44.4 (difficult)	16.6 (college graduate)	23.2	8.4 (grade 11-12)
S4-F2-C2 (excerpts)	1645	38.5 (difficult)	15.9 (college)	20.9	8.8 (grade 11-12)
S3-F4-C1 (excerpts)	1247	52.8 (fairly difficult)	12.5 (college)	18.4	8.2 (grade 11-12)
Interpretation Bulletins, Tax Folios, GST/HST Info Sheets – Totals					
Overall Score for Taxpayer 1	2496	41.9 (difficult)	15.7 (college)	22.4	8.8 (grade 11-12)
Overall Score for Taxpayer 2	8572	51.7 (fairly difficult)	13.4 (college)	19.2	8.4 (grade 11-12)
Overall Score	11068	49.6 (difficult)	13.9 (college)	19.9	8.5 (grade 11-12)

Table 6: Readability results for purposively sampled sections of tax guides published by the CRA

	Words	Flesch Reading Ease (0–100)	Flesch-Kincaid (Grade Level)	Gunning Fog Index (Grade Level)	Dale-Chall Score
Guides – Hypothetical Taxpayer 1					
T4044, Chapter 6	970	54.0 (fairly difficult)	11.2	15.7 (college)	8.8 (grade 11-12)
T4037, Chapter 6	1355	58.2 (fairly difficult)	11.6	18.0	7.42 (grade 9-10)
Guides – Hypothetical Taxpayer 2					
T4002, Chapters 3 & 4 (excerpts)	5309	68.3 (standard)	9.5	15.0 (college)	7.37 (grade 9-10)
Guides – Totals					
Overall Score for Taxpayer 1	2325	56.6 (fairly difficult)	11.4	17.0	8.0 (grade 11-12)
Overall Score for Taxpayer 2	5309	68.3 (standard)	9.5	15.0 (college)	7.37 (grade 9-10)
Overall Score	7634	64.7 (standard)	10.1	15.6 (college)	7.55 (grade 9-10)

Table 7: Readability results for purposively sampled sections of the CRA's website

	Words	Flesch Reading Ease (0–100)	Flesch-Kincaid (Grade Level)	Gunning Fog Index (Grade Level)	Dale-Chall Score
The CRA's Website – Hypothetical Taxpayer 1					
"Musical Instrument Expenses"	376	52.3 (fairly difficult)	10.6	16.4	8.5 (grade 11-12)
"How to Participate in the Home Buyers' Plan (HBP)"	1756	69.4 (standard)	9.3	14.9 (college)	7.6 (grade 9-10)
The CRA's Website – Hypothetical Taxpayer 2					
"Business-Use-of-Home Expenses"	417	68.3 (standard)	9.2	13.9 (college)	7.4 (grade 9-10)
"How to Calculate the Deduction for Capital Cost Allowance"	676	55.1 (fairly difficult)	12.9 (college)	18.3	8.0 (grade 11-12)
"Basic Info about Capital Cost Allowance"	661	72.4 (fairly easy)	8.1	12.8 (college)	7.4 (grade 9-10)
The CRA's Website – Totals					
Overall Score for Taxpayer 1	2132	66.5 (standard)	9.5	15.1 (college)	7.7 (grade 9-10)
Overall Score for Taxpayer 2	2463	61.2 (standard)	10.2	14.6 (college)	7.8 (grade 9-10)

	Words	**Flesch Reading Ease (0–100)**	**Flesch-Kincaid (Grade Level)**	**Gunning Fog Index (Grade Level)**	**Dale-Chall Score**
Overall Score	4595	63.7 (standard)	9.9	14.9 (college)	7.8 (grade 9-10)

Rather than producing a more readable sample, my attempt to isolate provisions that might help individual taxpayers filing their tax returns seems to have produced a significantly less readable set of statutory provisions. While Flesch intended a Reading Ease scale between 0 and 100, with 0 indicating that the text is "practically unreadable," 12 of the 17 pieces of legislation and regulation sampled have negative scores, including 10 of the 12 provisions sampled from the *ITA*. Of the five pieces of legislation with positive values for Flesch Reading Ease, four have reading scores in the "difficult" range and the fifth is "very difficult." In the purposive samples, more than 6,000 words were sampled from the *ITA*, and these have a Flesch Reading Ease score below –200, far below what the scale was intended to measure.

Looking at the other readability metrics, again, most of the legislation sampled scores outside of the intended range. Only subsection 9(1) returns a sensible grade level in the Flesch-Kincaid formula and none of the legislation does so using the Fog Index. Looking at the Dale-Chall metric, paragraph 38(a) of the *ITA* has a score of eight, putting it in the grade 11–12 range and subsection 9(1)'s score of about 6.7 puts it at a grade 7–8 level. Six other provisions had a Dale-Chall score between 10 and 11, which indicates the reading level of a college graduate.

On the other hand, the CRA's publications are comparatively readable. The technical guidance that explains the CRA's position on the law to an audience mainly of tax professionals—Interpretation Bulletins, Tax Folios, and so on—is rated as "difficult" by the Flesch Reading Ease Formula, a college reading level by the Flesch-Kincaid analysis, and a grade 11 or 12 level by the Dale-Chall formula. Both the guides and the CRA's website, which are aimed at facilitating taxpayer compliance, are even more accessibly written, scoring as "standard" on the Flesch Reading Ease metric and in the grade 9-10 range according to both the Flesch-Kincaid and Dale-Chall metrics.

On the Gunning Fog index, none of the legislation scored at a meaningful grade level. The technical guidance scores at a post-graduate level, and even the CRA's website appears to be at a university level. Looking at the formula for the Fog Index, any text with an average sentence length of 40 words, even with no complex words, will have a Gunning Fog index of 16. Accordingly, we can expect that legislation of the sort sampled here will have extremely high scores. The technical and popular guidance have more reasonable sentence lengths—between 20 and 30 words, on average—bringing those scores down to a sensible range.

However, an alternative interpretation of the index put forward by Simon Bond may be helpful. Specifically, Bond takes the index to indicate an age rather than a grade level. He writes, "[a]n interpretation is that the text can be understood by someone who left full-time education at a later age than the index."[60] As an example, Bond's interpretation would take a score of 16 to mean a text at grade 10 or 11 level, rather than the level of someone with an undergraduate degree. On this view, the Gunning Fog index lines up more closely with the others, putting the technical guidance at a college level and the guides and website at an early high school level.

C. Discussion

It will come as no surprise that Canada's *ITA* is unreadable to most people. With this empirically confirmed and set aside, there are nevertheless several striking conclusions that can be drawn and several interesting new questions that may be posed because of this study. While there are important critiques of the readability metrics discussed below, these results help to advance the conversation about the readability of legal materials generally and tax materials in particular.

First, it seems that the *ITA* is particularly difficult to read, even among Canadian statutes. One potential response to the problem of the *ITA*'s readability might have been that Canadian statutes are, in general, difficult to read, and so the *ITA* is not special in this regard. However, with reasonably large samples, the readability metrics indicate that the *ITA* is significantly more difficult to read than the *Bankruptcy and Insolvency Act* and the *Canada Labour Code*. These are both statutes which, like the *ITA*, govern economic relationships, apply to a large number of people, and are

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60 Bond, *supra* note 40.

amended with some frequency. While neither of the comparator statutes would be considered easy to read, both are significantly more readable than the *ITA*.

A second response might be that income tax statutes are necessarily difficult to read, and that Canada's *ITA* is not special in this regard. For the sake of comparison, Lin Mei Tan and Greg Tower, professors of accounting in New Zealand and Australia respectively, sampled tax legislation in New Zealand and found a mean Flesch Reading Ease score below two, in a study published in 1992.[61] However, the reform process in New Zealand appears to have had some success in improving the Flesch scores, as the average score increased to 42.8 in the most recent study by Kathryn Saw and Adrian Sawyer.[62] The American *Internal Revenue Code*[63] scores in a similar range, according to a recent presentation by Robert P. Strauss and Skye Toor.[64] Looking at Australia's tax legislation, David Smith and Grant Richardson reported an average Flesch Reading Ease score of 46.4 for sections they sampled from the *Income Tax Assessment Act 1997*[65], a marginal improvement from that statute's predecessor.[66] While Smith and Richardson did not see the Australian readability score as "cause for celebration,"[67] it demonstrates to a Canadian audience that a more readable income tax statute is possible.

While it may be hoped that presenting the stark unreadability of Canada's *ITA* provides some impetus for change, there are reasons to be cautious. The first is that the challenge of clarifying the writing of Canada's *ITA* is a significant one. New Zealand and Australia have taken significant steps in making their tax statutes more readable, and the U.K. and U.S. have also shown that they monitor and take readability seriously. However, the project would be somewhat more challenging in Canada due to its federal structure and legal bilingualism. The differences in style and structure between French and English, and the fact that what constitutes

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61 Tan & Tower, *supra* note 21 at 364.

62 Saw & Sawyer, *supra* note 4 at 237.

63 IRC (1986).

64 Strauss & Toor, *supra* note 20 at 13 (reporting a Flesch Reading Ease score of 39.4 for the Internal Revenue Code).

65 (Austl), 1997/38.

66 Smith & Richardson, "Readability of Australia's Tax Laws", *supra* note 5 at 330.

67 *Ibid* at 327, 330.

good, clear writing may differ between the two languages, make revising Canada's *ITA* a greater challenge than was faced in New Zealand or Australia. Such a project would be further complicated by the fact that Canada's *ITA* accounts for both the common-law and civil-law traditions in a robust way.[68]

A second reason to be cautious is that clear writing can only go so far when the rule being expressed is itself complex or difficult to understand. Considering a proposal to rewrite tax statutes in plain English, John Avery Jones wrote, "when it has been done, I do not think we shall really be satisfied that the problem has been solved"[69] because the underlying problem is difficulty understanding the substance of the law. Or, as Graeme Cooper wrote, "a complex system may be clearly expressed and yet remain a complex system."[70] Moreover, no amount of plain language "can overcome the problem of an ill-conceived and poorly thought out policy."[71] While improving legislative readability would be a step toward a more efficient, fair, and accessible tax system, it would only be one step and perhaps not the most important one.

As a result, some have argued that projects like the Australian plain language rewrite are not worth undertaking. Richard Krever has called it a "failed model" that "provides a useful insight into the inadequacy of reforms based on superficial change."[72] Looking at the first batch of changes to the Australian income tax statute, Krever allows that the new version was easier to read and comprehend than its predecessor. For taxpayers and their advisors, however, "none of the complexity had dissipated." Rather, Krever writes, "by unveiling many of the inconsistencies, anomalies, overlaps and

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68 On the challenges entailed in legal bilingualism and bijuralism in Canada, see Roderick A Macdonald, "Legal Bilingualism" (1996) 42 McGill LJ 119; The Honourable Claire L'Heureux-Dubé, "Bijuralism: A Supreme Court of Canada Justice's Perspective" (2001) 62 La L Rev 449; David G Duff, "The Federal Income Tax Act and Private Law in Canada: Complementarity, Dissociation, and Canadian Bijuralism" (2003) 51:1 Can Tax J 1; Lionel A Levert, "Bilingual and Bijural Legislative Drafting: To Be or Not To Be?" (2004) 25:2 Statute L Rev 151.

69 John Avery Jones, "Tax Law: Rules or Principles?" (1996) 17:3 Fiscal Studies 63 at 65.

70 Cooper, *supra* note 2 at 3:13.

71 *Ibid*, citing Robert Eagleson, "Plain English in the Statues" (1985) 59 L Institute J 673 at 673.

72 Richard Krever, "Taming Complexity in Australian Income Tax" (2003) 25:4 Sydney L Rev 467 at 491.

lacunae in the law, the plain English redraft exposed the real causes of much of the former law's complexity, namely its wholly irrational and inconsistent policy base."[73]

Those who are seeking the simplification that might come from fundamental reform of the tax system are sure to be disappointed by the gains that can be made by making the *ITA* more readable. However, as Krever notes, using plainer language has the power to unveil and expose the areas most in need of fundamental reform.[74] As part of a program to simplify and improve accessibility, improving readability can be expected to have at least this benefit. From an access-to-justice perspective, plain language would remove the barrier of abstruse expression, both empowering taxpayers in planning their own lives in the tax system and making the debates around fundamental reform accessible to more people.

IV. Critiques of Readability Formulas and an Alternative Approach

A. The Assumptions Underlying Classic Readability Formulas

In a recently published book, Professors Alan Bailin & Ann Grafstein review the development of classic readability measurements, including those discussed above, and build on a critique of readability formulas they published in 2001.[75] Bailin and Grafstein argue that these scores and indices are based on faulty assumptions about what makes a text readable. While the readability formulas generally emphasize ease of use over strict scientific rigour, the problems inherent in these formulas may indicate that they should not be trusted, even as a rough guide to readability.

All the traditional readability formulas, including those discussed above, rely on the concepts of semantic (vocabulary) and syntactic (sentence) complexity. Bailin and Grafstein argue that "both of these concepts can be problematic for predicting complexity."[76] They raise several issues with the

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73 *Ibid* at 493.

74 *Ibid*.

75 Bailin & Grafstein, *Readability*, *supra* note 15; Bailin & Grafstein, "Linguistic Assumptions", *supra* note 15.

76 Bailin & Grafstein, *Readability*, *supra* note 15 at 53.

assumptions made in choosing proxies for semantic and syntactic complexity.

First is what they call the "increment issue."[77] Readability formulas treat each difficult word as adding the same amount of complexity to the text. For example, in all of the measurement schemes outlined above, "consider" and "eurhythmic" are assumed to add the same amount of difficulty to the text.[78] The same critique is leveled at the use of average sentence length (or any other formal syntactic property, such as prepositional phrases or simple sentences): "Counts of formal properties do not translate into units of reading difficulty. If one text has an average sentence length of ten words and another of 15 words, this does not correlate to a difference of some function of five units' difference of difficulty."[79]

Second, Bailin and Grafstein view the variables used by readability formulas as problematic. Turning to vocabulary first, they write, "vocabulary varies according to geographical location, socioeconomic identity, and occupational and interest groups. No single list can accurately reflect these differences."[80] A text reporting on a baseball, cricket, or rugby match may pose significant difficulty for someone unfamiliar with the terms used in those games.[81] This difficulty will have less to do with education or reading level than with interest, geographic location, and culture. Counting syllables or polysyllabic words will also fail to provide a reliable proxy. Words can be both infrequently used and polysyllabic, without hindering readability. To illustrate, Bailin and Grafstein point out that "unladylike" and "helplessness" may be both unfamiliar and polysyllabic, but a reader who is familiar with the structure of the English language will understand them, even the first time they are encountered.[82] On the other hand, monosyllabic words like "curr" and "gyre" may be significantly more difficult.[83] The difficulty of vocabulary is important, of course, but on Bailin and Grafstein's

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77 *Ibid* at 55.

78 Both words have three syllables and neither is on the Dale and Chall's list of familiar words: Chall & Dale, *supra* note 29 at 16–29.

79 Bailin & Grafstein, *Readability*, *supra* note 15 at 53–54.

80 *Ibid* at 54.

81 *Ibid* at 103–05.

82 *Ibid* at 105–06.

83 *Ibid* at 100.

reading of the research, "there is no non-trivial set of words that could be assumed to be shared by all readers,"[84] and word length is a poor measure as well.

Similarly, Bailin and Grafstein argue that the length of sentences cannot be used as even a rough measure of the difficulty of reading sentences. They argue that sentence construction is important to readability, but long sentences may not be syntactically difficult. To illustrate using Bailin and Grafstein's example, the following sentence is long, but is neither syntactically complex nor difficult to understand: "Billy left his homework at his aunt's house and he could not hand it in at school the next day, but his aunt found it and scanned it and emailed it to his teacher."[85]

There are certain sentence structures that have been shown to reduce readability, including "self-embedding," "left-branching," and "extraposition" structures.[86] Bailin and Grafstein argue that these structures reduce readability because they make it more difficult for the reader to make the necessary connections between different parts of a sentence. In practice, this problem is often caused by text intervening between the parts of a sentence that need to be linked. To illustrate, they use the following sentence from the *New York Times* about Barbara Walters's retirement: "After five decades in television, the woman who started her career on camera as a hawker for Alpo dog food and went on to cross the Bay of Pigs with Fidel Castro and to interview every American president (and first lady) since Richard M. Nixon is retiring."[87] The sentence is difficult to read, they

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84 *Ibid* at 178.

85 Bailin & Grafstein, "Linguistic Assumptions", *supra* note 15 at 55. Moreover, some sentences which appear to be syntactically complex may nevertheless be easily readable, a point that Bailin and Grafstein illustrate with an example from a Berenstain Bears children's book: Bailin & Grafstein, *Readability*, *supra* note 15 at 67.

86 Bailin & Grafstein, *Readability*, *supra* note 15 at 65–80. "Self-embedding" refers to grammatical structures in which "a clause or phrase is contained within another clause or phrase," for example, "The salmon that the man that the dog chased smoked fell" (at 69–70). "Left-branching" refers to a structure in which "all of the branches of a complex noun phrase are to the left of the verb," for example, "The lawyer that the banker irritated filed a hefty lawsuit" (at 71–72). "Extraposition" is "a structure in which part of a clausal or phrasal constituent is separated from the rest of that constituent," for example, "The woman arrived from France who was carrying a boa constrictor" (at 74–75).

87 *Ibid* at 79, citing Jonathan Mahler, "As Barbara Walters Retires, the Big TV Interview Signs Off, Too", *The New York Times* (15 May 2014), online:

suggest, because of the amount of text between the subject of the sentence ("the woman", Barbara Walters), and the verb phrase ("is retiring").

To conclude, Bailin and Grafstein argue that none of the classic readability formulas reflect a good theory of readability. Moreover, any readability formula will overlook the effects of background knowledge, coherence, organization, genre, and much more. In place of an attempt to measure readability, they suggest a "readability checker," similar to a word processor's grammar checking feature, may be possible. Such a feature could highlight potentially difficult vocabulary (perhaps based on word lists developed for particular audiences) and syntactic structures that have been shown to reduce readability.[88]

Advocates of readability formulas generally acknowledge that the formulas are intended to be practical, rough guides, and do not "provide insight into the complexities of what makes texts easy or difficult to read."[89] For the moment, readability formulas continue to be used, including in the context of tax materials. However, tax scholars should be aware that questions have been raised about the validity of particular formulas and about the entire project of measuring readability.

B. Bailin & Grafstein's Approach Applied

While a comprehensive treatment of the results of Bailin and Grafstein's proposed "readability checker" is beyond the scope of this study, a few observations can be made. As noted above, left-branching sentence structures have been shown to reduce readability.[90] Left-branching structures cause difficulty because, in general, English is a right-branching language, meaning that qualifications and exceptions normally follow the verb. However, statutory language "usually starts out with the qualifications and exceptions."[91] Self-embedding structures have also been shown to

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<www.nytimes.com/2014/05/16/business/media/as-barbara-walters-retires-the-big-tv-interview-signs-off-too.html> [perma.cc/5KQN-2JSD].

88 Bailin & Grafstein, *Readability*, *supra* note 15 at 191–93.

89 *Ibid* at 188.

90 *Ibid* at 71–72.

91 ML Friedland, Peter ES Jewett & Linda Jewett, *Access to the Law: A Study Conducted for the Law Reform Commission of Canada* (Toronto: Carswell/Methuen, 1975) at 67.

reduce readability, and, as Martin Friedland noted, "the lawyer's custom of 'nesting' clauses within clauses" is likely to impede comprehension.[92]

In other words, the flaws of readability analyses pointed out by Bailin and Grafstein are unlikely to cause these analyses to overstate the difficulty in comprehending statutory language. Canadian statutory provisions are not only extremely long, they also make heavy use of left-branching and self-embedded sentence construction. While replacing polysyllabic words and shortening sentences may not be the best way to improve readability, Bailin and Grafstein's proposed readability checker would have plenty of work to do if applied to the *ITA*.

The first provision in the purposive sample can be used to illustrate. Using the methodology described above, the sample constructed using paragraph 8(1)(p) reads as follows:

> In computing a taxpayer's income for a taxation year from an office or employment, there may be deducted such of the following amounts as are wholly applicable to that source or such part of the following amounts as may reasonably be regarded as applicable thereto[:] (p) where the taxpayer was employed in the year as a musician and as a term of the employment was required to provide a musical instrument for a period in the year, an amount (not exceeding the taxpayer's income for the year from the employment, computed without reference to this paragraph) equal to the total of (i) amounts expended by the taxpayer before the end of the year for the maintenance, rental or insurance of the instrument for that period, except to the extent that the amounts are otherwise deducted in computing the taxpayer's income for any taxation year, and (ii) such part, if any, of the capital cost to the taxpayer of the instrument as is allowed by regulation[.][93]

In the case of our hypothetical employed musician, understanding and applying this sentence to her situation requires linking the verb phrase "may be deducted" with the object noun phrase "amounts expended... for the maintenance, rental or insurance of the instrument." The construction of the sentence makes this linking difficult by interposing more than 80 words between "deducted" and "amounts." Before reaching the phrase describing what may be deducted, the reader needs to read and understand (or, with some practice, decide to safely ignore) several qualifications: 1) amounts deducted must be applicable to <u>that source</u> (the source of income referred to in the opening words of subsection 8(1)); 2) the taxpayer must be employed <u>in the year</u> as a musician (the taxation year referred to in the

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92 *Ibid* at 69.

93 *ITA*, *supra* note 1, s 8(1)(p).

opening words of subsection 8(1)); 3) the taxpayer must have been required to provide an instrument; and 4) the amount deducted cannot exceed the taxpayer's income from the employment.

Putting all of these qualifications between two parts of the sentence that the reader needs to link makes it extremely difficult to read, as Bailin and Grafstein point out. However, the problem is far worse in the text as it appears in the *ITA* than it is in the sentence constructed for the purposes of sampling. In the statute, there are not 80 words between the verb and object, but the several pages occupied by paragraphs 8(1)(b) through (o.2).[94]

It is worth noting, however, that the CRA is able to explain paragraph 8(1)(p) (as well as its relationship to subsection 8(2) and the capital cost allowance regulations) in a relatively readable narrative paragraph:

> Artists who are employees are not allowed to make any deductions in computing income from an office or employment other than those provided in section 8. In particular, paragraph 8(1)(p) provides that an employee who is
> (a) employed in the year as a musician, and
> (b) required, as a term of the employment, to provide a musical instrument for a period in the year,
> may deduct the following amounts related to the musical instrument. Where the instrument is owned by the musician, capital cost allowance (class 8 – 20% declining balance) may be claimed. In addition, amounts paid before the end of the year in respect of that period for the maintenance, rental and insurance of the instrument may be deducted in computing the musician's income from the employment. However, the total deduction for the year provided under paragraph 8(1)(p) for the maintenance, rental, insurance, and capital cost allowance for the instrument cannot exceed the taxpayer's income for the year, determined prior to any deduction under that paragraph, from employment in which the conditions under (a) and (b) above are met. Consequently, the deduction under paragraph 8(1)(p) cannot create or increase a loss from such employment.[95]

While the Interpretation Bulletin could be more readable if it were rewritten in plainer terms rather than borrowing so directly from the statutory language, it is clearly an improvement. Furthermore, given how closely the Bulletin matches the statutory language, it seems that statutory drafting conventions are important barriers to more readable provisions.

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94 In the consolidation used for sampling, subsection 8(1) begins on page 34 and paragraph 8(1)(p) appears on page 43.

95 IT–525R, *supra* note 42 at para 13.

C. The Continued Use of Readability Formulas

While this may be the first study to look empirically at the readability of Canadian tax law, the consideration of readability formulas is not entirely foreign to Canadian legal scholars. In 1975, Martin Friedland, who was then Dean of the University of Toronto's law faculty, led a study entitled *Access to the Law* for the Law Reform Commission of Canada.[96] In it, Friedland reported that he had initially intended to apply readability metrics to Canadian legislation, but ultimately decided against it.[97] He suggested that the value of readability studies in the legal context would be limited due to the way that legal prose—and statutory language in particular—is constructed.[98] While Friedland and his colleagues acknowledged the need to make various sources of law comprehensible and accessible to the population, they abandoned their original idea of conducting any empirical readability analysis.

There are two drafting conventions in particular that might make it difficult to use the classic formulas to measure the readability of tax statutes. One is the use of sentence length. Canadian tax statutes are drafted using particularly long sentences. Like other federal legislation, tax statutes conform to the convention of one sentence per subsection.[99] Elmer Driedger explains that "[t]here is no reason in law why a section should not contain two or more enactments, each punctuated as a sentence. This practice, however will tempt the draftsman to write text-book paragraphs and make the section difficult to read."[100] The result, however, has been that some long and detailed provisions are punctuated as a single sentence, and

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96 Friedland, Jewett & Jewett, *supra* note 91.

97 *Ibid* at 66–67. Friedland bases this in part on the assessment of a colleague from the University of Toronto's Department of Psychology who notes some particular elements of legal language not well captured by readability formulas and notes that "The problem of comprehension of legal prose is not a matter of 'readability' in the usual sense of that term.... Readability measures are usually directed at fairly straightforward accounts of fairly simple events; they are not well suited, as I perceive them, to coping with material that is intrinsically abstract and necessarily qualified" (at 136–38).

98 *Ibid* at 67.

99 However, see *ITA*, *supra* note 1, s 125(4).

100 Elmer A Driedger, *The Composition of Legislation*, 2nd ed (Ottawa: Department of Justice, 1976) at 77.

so much of the *ITA* consists of sentences that are significantly longer than the designers of readability formulas expected.

In many cases, the use of long sentences may not pose a problem for the application of a formula because the assumption behind the formula's use of sentence length holds. That is, Canadian tax law makes use of extraordinarily long sentences and the length of these sentences does, in fact, make tax materials difficult to read. While, as Bailin and Grafstein point out, slightly longer and well-constructed sentences may be more readable than shorter sentences, the *ITA* does not have low readability scores because its sentences are slightly long, though well-constructed.

However, in some cases the formulas may overestimate how difficult those long sentences are to read. In many cases, these sentences are subdivided in a way that aids comprehension. One example is where the sentence becomes lengthy because it contains a simple list, such as the list of allowable moving expenses in subsection 62(3).[101] In cases like these, sentence length may not be a reliable indicator of syntactic difficulty.

The second drafting convention that should mute our enthusiasm for readability formulas is that, in general, statutes are written with left-branching sentences—the exceptions and qualifications come first—as discussed above with the example of paragraph 8(1)(p). Because English is a right-branching language, a left-branching sentence can be made more readable by rearranging it, without making it any shorter. Still, in the case of tax legislation, left-branching and other difficult-to-read sentence structures seem likely to correlate highly with sentence length. It is, after all, those exceptions and qualifications that are causing both the increase in sentence length and the use of left-branching structures, nested clauses, and so on.

Despite criticisms that have been raised regarding the use of readability formulas, those formulas continue to be widely used. In recent years, readability formulas like the ones applied here have been used to examine the readability of corporations' annual reports, the Bank of Canada's communications with the public, information security policies, academic journals, contractual terms, medical information, and many other pieces of writing.[102] While some, including Bailin and Grafstein, have criticized

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101 *ITA*, *supra* note 1, s 62(3).

102 Sabri Zurel, *Readability of Annual Reports: A Comparison of American and French Annual Reports* (MA Thesis, Ghent, 2014), online (pdf):

readability formulas, others have offered full or partial defences of their use.[103]

To be sure, criticisms of the formulas are compelling. As the results of this study illustrate, the scores that are returned can be difficult to interpret and are perhaps imprecise. The analysis of subsection 165(2) of the *Excise Tax Act*, shows that in some cases, the formulas return quite different results. This makes it difficult to know whether we should consider that provision well within the reach of a university graduate, as the Dale-Chall formula indicates, beyond that person's reach, as the Gunning-Fog index indicates, or simply "difficult," as the Flesch Reading Ease score indicates.

Moreover, those who write to the formulas risk making their writing less readable as a result. In some cases, such writing has been shown to be counterproductive and reduced reading comprehension. In other words, avoiding polysyllabic words and shortening sentences may produce a better readability score, but will not always produce text that is easier to read.[104]

Nonetheless, having a rough and easy to apply metric to track seems to have aided in reform efforts in the UK, Australia, and New Zealand. While the criticisms of readability formulas in general have significant weight and we cannot assume that a 20-word sentence is always significantly easier to read than a 30-word sentence, the results of this study indicate a different

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<lib.ugent.be/fulltxt/RUG01/002/162/189/RUG01-002162189_2014_0001_AC.pdf> [perma.cc/6NVJ-4SZY]; Alexandre Deslongchamps, "Readability and the Bank of Canada" (June 2018), online: *Bank of Canada* <www.banqueducanada.ca/2018/06/note-analytique-personnel-2018-20> [perma.cc/N8S8-NW9B]; Yazeed Alkhurayyif & George RS Weir, "Evaluating readability as a factor in information security policies" (2017) Special Issue ICAST-17 Intl J Trend in Research & Development 54; William Kodom Gyasi, "Taylor and Francis Journals under the Critical Lens of Readability Analysis" (2017) 6:2 AFRREV IJAH: An Intl J Arts & Humanities 1; Daniela B Friedman & Laurie Hoffman-Goetz, "A Systematic Review of Readability and Comprehension Instruments Used for Print and Web-Based Cancer Information" (2006) 33:3 Health Education & Behavior 352.

103 Friedman & Hoffman-Goetz, *ibid*; DuBay, *supra* note 27 at 5, writes "Readability formulas have benefited millions of readers throughout the world in many languages. They have also given writers greater confidence in reaching the widest possible audience. If there is anything wrong with the formulas, it is they are not used enough."

104 For a review of research on the problem of "writing to the formula," see Rebekah George Benjamin, "Reconstructing Readability: Recent Developments and Recommendations in the Analysis of Text Difficulty" (2012) 24:1 Educational Psychology Rev 63 at 64.

problem. Rather, the average sentence length of the randomly sampled sections of the *ITA* was 165 words. The purposive sample of *ITA* provisions had an average sentence length of 290 words. Even if sentence length is not always a strong predictor of readability, it surely must be the case that bringing the length of sentences in the *ITA* closer to those of the *Bankruptcy and Insolvency Act* provisions sampled (average of 72 words) or the *Canada Labour Code* (average 53 words) would make the *ITA* more readable.

The various proxies that are used for semantic difficulty may be problematic in assessing writing generally, but in the context of tax law, a few things can be said in their defence. First, the reader's level of interest matters much less in this context than it would in other kinds of writing. Similarly, geographic differences in vocabulary will have little effect. It may be the case that some monosyllabic words—such as "deem"—will cause difficulty, while a polysyllabic word—such as "corporation"—will be easily understood by the intended audience. Still, it seems broadly true in the tax context that using shorter words, simpler worlds, and more common words will make the text easier to read.

Drafters of tax legislation, as well as administrative publications, will also appreciate that the vocabulary they use will inevitably remain somewhat difficult because it needs to capture difficult legal and economic concepts. If we are to use a readability formula as a benchmark, we should not aim for a Flesch Reading Ease score of 90 or a sixth-grade reading level on the Dale-Chall formula. The good news is, however, that what keeps the *ITA* from scoring in the same range as the *Bankruptcy and Insolvency Act* is the length of the sentences and not the number of polysyllabic words. Progress for Canadian tax legislation would look much like it did for New Zealand in the 1990s and early 2000s – moving the Flesch Reading Ease Score above zero.

Drafters of Canadian tax legislation would also do well to rethink some of the conventions of statutory drafting and to attempt to move the legislation more in line with the general conventions of English. Moving away from the left-branching sentence structures and the clauses nested within clauses that make it difficult to link parts of a sentence together would improve readability in a way that may not be reflected in an improved Flesch Reading Ease score. However, these reforms would be most effective if they were accompanied by a move toward shorter sentences, which would be reflected in improved readability scores.

V. CONCLUSION

While the unreadability of the *ITA* has been a recurring complaint for many years, this study gives this complaint better context and puts it on firmer empirical ground. It makes it clear that this is a problem particular to Canada's *ITA*, rather than a more generalized problem having to do with either Canadian statutes or income tax law. This study also makes clear that a more readable *ITA* is possible.

There is some extent to which the conventions of statute drafting in Canada reduce readability. Left-branching sentence structures are known to impede comprehension, and this drafting convention has no justification other than tradition. The convention of one sentence per subsection was intended to force statutory drafters toward concise drafting but has clearly had the opposite effect in some cases. While both of these are general conventions of statutory drafting in Canada, it is clear that the *ITA* is afflicted with larger readability problems than other statutes. Even other statutes that deal in technical areas of law and regulate complex economic relationships involving multiple and diverse stakeholders do not pose the same readability challenges.

Moreover, while income tax law is sometimes said to rely on difficult-to-understand concepts,[105] this underlying difficulty does not fully account for the unreadability of the *ITA*. Other jurisdictions with the same common law heritage and implementing the same income tax concepts have managed to produce more readable statutes by being more attentive to the readability of those statutes. In particular, Canada's *ITA* is composed of extraordinarily long sentences, and the path to a more readable statute involves reducing the length of these.

While the severity of the readability problem in this area should spark some reflection and moves toward change, there is also a need to be cautious about the promise of readability from the use of readability formulas.

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[105] On this point, see Sol Picciotto, "Constructing Compliance: Game Playing, Tax Law, and the Regulatory State" (2007) 29:1 Law & Pol'y 11 at 15, writing: "it has been suggested that income tax law is different in kind even from other laws... because its concepts do not refer to something that exists in nature. This point is well taken for the central concept of income, which is almost entirely artificial." [footnote omitted]; see also: Judith Freedman, "Interpreting Tax Statutes: Tax Avoidance and the Intention of Parliament" (2007) 123 Law Q Rev 53 at 73 [Freedman, "Interpreting Tax Statutes"].

Canada's *ITA* accommodates legal bilingualism, bijuralism, and a federal structure that make a plain-language rewrite more challenging than it might have been in New Zealand. Moreover, the use of plain language can only do so much to clarify a complex and difficult-to-understand legal regime. While I have suggested that standard readability measurements can be of some use here, as they have been in a wide variety of other contexts, including the tax systems of other jurisdictions, there is a danger in "writing to the formula," rather than focusing on clear expression.[106] For this reason, I suggest that it may be useful to track several readability formulas in an attempt to triangulate readability.[107] At least at present, these formulas may present a useful, if rough, way to track progress, but the focus of any legislative reform should be on the conventions that force drafters to use unnecessarily long and syntactically difficult sentences. To the extent that the metric takes precedence over these, it may be counterproductive.

With those caveats, however, improving readability is a worthwhile project. As has been noted elsewhere, communicating the law more clearly has the potential to improve tax administration and compliance while making the system more fair.[108] As a matter of access to justice, improving the readability of the main taxing statute would seem to make the system more accessible and therefore empower citizens within the tax system in a relatively intuitive and straightforward way. The argument for these benefits is supported by the finding here that the complex rules applying to corporate structures and high-income individuals do not appear to be the main drivers of readability problems. Rather, the sampled provisions which might be expected to apply to low- and middle-income individuals are extremely difficult to read according to the readability metrics. It may be heartening that the CRA's published interpretations are more readable, and these, together with free clinics and tax-preparation software, can mitigate the tax-compliance issues created by unreadable statutes. However, there remain access-to-justice benefits inherent in communicating the rules clearly and making the rules and the policy debates accessible to more people.

To be sure, readability can only be thought of as one part of the complexity of the tax system and one of many barriers to access. Improving

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106 On the danger of "writing to the formula", see Benjamin, *supra* note 104 at 64.

107 On the same idea, see Friedman & Hoffman-Goetz, *supra* note 102.

108 Richardson & Smith, "Readability of Australia's GST Legislation", *supra* note 10 at 477–78.

the readability of the statute may, as Krever observed, only have the benefit of uncovering the real problems. Still, to the extent that these problems are obscured, uncovering them is a worthwhile project. The unreadability of the *ITA* has come to be taken for granted, but, at least at its present level, it is not inevitable.

APPENDIX A: PERIODIC SAMPLES

A. Income Tax Act

ITA Provisions	Words	Sentences	Syllables	Flesch Reading Ease (/100)	Flesch-Kincaid (grade level)	Gunning Fog Complex Words	Gunning Fog Index	Dale-Chall Difficult Words	Adjusted Dale-Chall Score
6(1.1) – 6(2)	620	3	824	–115.4	80.69	87	88.28	86	16.08
13(21) "vessel" – 13(21.1)	540	2	756	–185.7	106.23	94	114.96	96	19.84
18(14) – (15)	521	2	778	–183.9	103.63	119	113.34	130	20.50
34.1(3) – 34.2(1) "adjusted stub period accrual"	1284	5	1726	–167.5	100.42	217	109.48	187	18.67
44.1(1) "replacement share" – 44.1(4)	532	5	800	–28.4	43.65	120	51.58	129	12.74
56(4) – 56(4.1)	585	2	853	–213.4	115.69	110	124.52	142	21.98
66(12) – 66(12.2)	629	3	971	–136.6	84.40	130	92.13	108	16.75
66.7(11) – 66.7(12)	1084	2	1726	–478.0	214.58	235	225.47	287	34.70
80(4) – (8)	840	4	1124	–119.5	82.10	133	90.33	206	17.92
85.1(7)– 85.1(8)	926	2	1343	–385.8	182.09	163	192.24	173	29.55
89(1), "general rate factor", "general rate	542	2	799	–192.9	107.50	110	116.52	122	20.63

ITA Provisions	Words	Sentences	Syllables	Flesch Reading Ease (/100)	Flesch-Kincaid (grade level)	Gunning Fog Complex Words	Gunning Fog Index	Dale-Chall Difficult Words	Adjusted Dale-Chall Score
income pool"									
94(3)	1697	1	2435	–1637.0	663.17	291	685.66	350	91.06
95(2.31)	545	1	777	–467.0	213.78	104	225.63	100	33.57
107(4.1) – (5):	591	4	886	–70.0	59.72	140	68.58	121	14.20
111(11) – (12), 111.1, 112(1)	521	4	735	–44.7	51.85	83	58.47	90	12.82
118.1(23) – (25)	608	4	896	–72.1	61.08	128	69.22	155	15.20
125(1.1) – (4)	619	7	900	–5.9	36.05	110	42.48	132	11.39
127(11.2) – (11.6)	622	5	928	–45.7	50.53	110	56.83	147	13.54
131(6) "pro rata portion", "refundable capital gains tax on hand", (7), (8)	665	6	684	7.3	39.77	131	52.21	140	12.46
138(11.93) – (11.94)	551	2	785	–193.3	108.67	111	118.26	134	21.14
143.2(9) – (13)	517	5	818	–32.0	43.41	101	49.17	114	12.25
146.3(1) "registered retirement income fund", "retirement income	1301	6	1830	–132.3	85.57	239	94.08	235	17.24

ITA Provisions	Words	Sentences	Syllables	Flesch Reading Ease (/100)	Flesch-Kincaid (grade level)	Gunning Fog Complex Words	Gunning Fog Index	Dale-Chall Difficult Words	Adjusted Dale-Chall Score
fund", (1.1), (1.3), (2)									
148(4.01), (5), (6)	558	3	795	–102.5	73.76	103	81.78	95	15.55
156(4), 156.1(1) "instalment threshold", "net tax owing", 156.1(1.1)	526	6	737	–0.7	35.13	77	40.92	113	11.38
179.1, 180, 180.01(1)	813	6	1195	–55.0	54.60	164	62.27	165	13.56
194(2), (3), (4)	600	4	875	–68.8	60.12	96	66.40	122	14.29
207.5, "prohibited investment", "RCA strip"	532	4	796	–54.7	53.94	101	60.79	76	12.49
212.3(16)	567	1	871	–498.6	223.67	134	236.25	123	35.19
231.3(4)–(8), 231.4(1)	512	7	734	11.3	29.85	91	36.37	105	10.50
248(1), "bank"–"Canadian field processing"	659	15	1063	25.8	20.58	149	26.62	155	9.53
248(32)–(34)	652	3	989	–142.1	87.07	126	94.66	122	17.37
262, 263(1), "agreement", "electronic filing",	560	9	889	9.4	27.41	120	33.46	142	10.73

ITA Provisions	Words	Sentences	Syllables	Flesch Reading Ease (/100)	Flesch-Kincaid (grade level)	Gunning Fog Complex Words	Gunning Fog Index	Dale-Chall Difficult Words	Adjusted Dale-Chall Score
"listed financial institution"									
Total	22319	135	32318	–83.5	66.0	4227	73.7	4602	15.1

B. Bankruptcy & Insolvency Act

BIA Provisions	Words	Sentences	Syllables	Flesch Reading Ease (/100)	Flesch-Kincaid (grade level)	Gunning Fog Complex Words	Gunning Fog Index	Dale-Chall Difficult Words	Adjusted Dale-Chall Score
2 "income trust"–"proposal"	531	11	844	23.4	21.99	119	28.27	140	10.19
29(2)–30(1)	559	3	803	–103.8	74.03	90	80.97	118	16.21
50.5–51(1)	542	7	723	15.4	30.35	76	36.58	114	10.80
66.15(1)–66.19(1)	513	10	750	31.1	21.67	99	28.24	142	10.55
69.31–69.5	718	8	1077	–11.2	22.0	128	28.3	172	10.2
97(2)–98.1(3)	546	9	773	25.5	74.0	84	81.0	118	16.2
156–158	962	7	1423	–57.8	30.3	169	36.6	211	10.8
192–194	500	10	711	35.8	21.7	67	28.2	104	10.6
243(2)–244(3)	512	10	774	27.0	37.1	97	43.0	113	11.9

BIA Provisions	Words	Sentences	Syllables	Flesch Reading Ease (/100)	Flesch-Kincaid (grade level)	Gunning Fog Complex Words	Gunning Fog Index	Dale-Chall Difficult Words	Adjusted Dale-Chall Score
Total	**5383**	**75**	**7878**	**10.2**	**29.7**	**929**	**35.6**	**1232**	**10.8**

C. Canada Labour Code

Canada Labour Code Provisions	Words	Sentences	Syllables	Flesch Reading Ease (/100)	Flesch-Kincaid (grade level)	Gunning Fog Complex Words	Gunning Fog Index	Dale-Chall Difficult Words	Adjusted Dale-Chall Score
12(2)–12.051	534	11	781	33.8	20.6	84	25.7	92	8.8
38(1)–39(1)	540	6	784	-7.3	36.6	82	42.1	121	11.6
73(1)–76	507	9	788	18.2	24.7	91	29.7	122	10.2
103(1)–108(4)	563	12	878	27.3	21.1	124	27.6	139	9.9
126(2)–127.1(8)	563	11	838	29.0	21.9	101	27.6	131	9.8
137.1(6)–138(1.1)	513	11	806	26.6	21.1	118	27.9	128	9.9
169(3)–172(1)	511	7	706	15.9	29.2	85	35.9	110	10.7
206.5(2)–207(2)	574	10	722	42.2	21.6	66	27.6	84	8.8
239.1(11)–242(1)	508	11	779	30.2	20.5	102	26.5	101	9.1
251.13–251.19	509	12	746	39.8	18.2	82	23.4	96	8.7
Total	**5322**	**100**	**7828**	**28.4**	**22.2**	**935**	**28.3**	**1124**	**9.6**

APPENDIX B: PURPOSIVE SAMPLES

A. Hypothetical Taxpayer 1

Text Analyzed	Words	Sentences	Syllables	Flesch Reading Ease (/100)	Flesch-Kincaid (grade level)	Gunning Fog Complex Words	Gunning Fog Index	Dale-Chall Difficult Words	Adjusted Dale-Chall Score
ITA, s. 8(1)(p)	162	1	268	-97.6	67.1	31	72.5	31	14.7
ITA, s. 8(1)(q)	302	1	493	-237.8	121.5	46	126.9	58	21.6
IT-525R Summary	240	12	421	38.1	12.9	53	16.8	69	9.2
IT-525R, Paras 13, 15–17	674	16	1094	26.8	20.0	157	26.2	175	9.8
Guide T4044, Chapter 6	970	44	1496	54.0	11.2	168	15.7	247	8.8
CRA Website: Musical Instrument Expenses	376	20	602	52.3	10.6	83	16.3	93	8.5
ITA, s. 146.01(2) – (4)	1155	3	1721	-310.0	152.1	225	161.8	232	25.9
CRA Website: How to Participate in the Home Buyers' Plan (HBP)	1756	76	2366	69.4	9.3	250	14.9	313	7.6
ITA, s. 54, "principal residence"	1069	1	1544	-1000.4	418.4	209	435.4	161	59.0
ITA, s.	306	1	415	-218.5	119.8	47	128.5	47	21.2

Text Analyzed	Words	Sentences	Syllables	Flesch Reading Ease (/100)	Flesch-Kincaid (grade level)	Gunning Fog Complex Words	Gunning Fog Index	Dale-Chall Difficult Words	Adjusted Dale-Chall Score
40(1)(a)									
ITA, s. 40(2)(b)	501	1	659	-413.0	195.3	98	208.2	65	30.5
ITA, s. 38(a)	43	1	61	43.2	17.9	10	26.5	6	8.0
ITA, s. 38	590	1	853	-514.3	231.6	127	244.6	103	35.7
ITA, s. 39(1)	319	1	467	-240.8	126.1	68	136.1	62	22.5
Folio S1-F3-C2 - Summary	410	17	662	45.8	12.9	108	20.2	93	8.4
Folio S1-F3-C2 - Paras 2.9-2.12	504	15	723	51.4	14.4	91	20.7	109	8.7
Folio, S1-F3-C2 - Paras 2.17-2.20, 2.27-2.28	668	15	969	38.9	18.9	155	27.1	109	8.4
Guide T4037, Chapter 6	1355	52	1957	58.2	11.6	258	18.0	214	7.4

B. Hypothetical Taxpayer 2

Text Analyzed	Words	Sentences	Syllables	Flesch Reading Ease (/100)	Flesch-Kincaid (grade level)	Gunning Fog Complex Words	Gunning Fog Index	Dale-Chall Difficult Words	Adjusted Dale-Chall Score
NS *Sales Tax Act*, s. 12J(a)	150	1	223	-71.2	60.5	13	63.5	25	13.7
NS *Sales Tax Act*, s.	71	1	102	13.2	29.1	13	35.7	15	10.5

Text Analyzed	Words	Sentences	Syllables	Flesch Reading Ease (/100)	Flesch-Kincaid (grade level)	Gunning Fog Complex Words	Gunning Fog Index	Dale-Chall Difficult Words	Adjusted Dale-Chall Score
12J(n)									
NS *Sales Tax Act*, s. 12N	54	1	70	42.4	20.8	9	28.3	14	10.4
Excise Tax Act, s. 165(2)	56	1	77	33.7	22.5	9	28.8	13	10.1
Info Sheet GI-063	2607	110	3661	64.0	10.2	397	15.6	623	8.6
ITA, s. 9(1)	28	1	43	48.5	13.5	7	21.2	3	6.7
ITA, ss. 10(1), (2), (2.1), (3), (4), (5)	549	6	805	-10.1	37.4	110	44.6	83	10.6
ITA, s. 20(1)(a)	83	1	124	-3.8	34.4	17	41.4	12	10.0
Income Tax Regulations, s. 1100(1)(a)(vii)	95	1	154	-26.7	40.6	16	44.7	16	11.0
ITA, s. 13(21)	779	1	1068	-699.8	304.4	125	318.0	102	44.3
ITA, s. 18(12)	213	1	328	-139.6	85.7	41	92.9	46	17.6
IT-473R - Inventory	3073	80	4485	44.4	16.6	605	23.2	549	8.4
Folio S4-F2-C2 - Summary	415	16	679	42.1	13.8	84	18.5	98	8.7

Text Analyzed	Words	Sentences	Syllables	Flesch Reading Ease (/100)	Flesch-Kincaid (grade level)	Gunning Fog Complex Words	Gunning Fog Index	Dale-Chall Difficult Words	Adjusted Dale-Chall Score
Folio S4-F2-C2 - Paras 2.1-2.6	422	11	678	32.0	18.3	85	23.4	106	9.5
Folio S4-F2-C2 - Paras 2.17-2.19, 2.22-2.27	808	24	1280	38.6	16.2	159	21.3	171	8.6
Folio S3-F4-C1 - Summary	469	18	754	44.4	13.5	104	19.3	108	8.6
Folio S3-F4-C1 - Paras 1.13-1.15, 1.62-1.63, 1.66	778	29	1120	57.8	11.9	139	17.9	146	7.9
Excerpts from CRA Website: Business Expenses	709	37	1151	50.0	11.0	116	14.2	164	8.2
CRA Website: Business Use of Home	417	19	573	68.3	9.2	53	13.9	71	7.4
CRA Website: How to Calculate the Deduction for CCA	676	23	974	55.1	12.9	110	18.3	124	8.0
CRA	661	33	891	72.5	8.1	79	12.8	115	7.4

Text Analyzed	Words	Sentences	Syllables	Flesch Reading Ease (/100)	Flesch-Kincaid (grade level)	Gunning Fog Complex Words	Gunning Fog Index	Dale-Chall Difficult Words	Adjusted Dale-Chall Score
Website: Basic info about CCA									
T4002 Chapter 3 excerpts	1442	64	2093	61.2	10.3	211	14.9	302	8.1
T4002 Chapter 4 excerpts	3867	164	5120	70.9	9.2	542	15.0	565	7.1