

Past, present and future of Canadian statistics

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Abstract. This paper presents an overall view of the evolution of Canada’s central statistical office since the advent of modern Canada in 1867. It is a history characterized by four periods of significant bureaucratic and scientific developments, each followed by phases of stasis, flux, uncertainty and setbacks. Development can be linked to the conjunction of major turns in government’s policy needs, the adoption of technical or managerial innovations and the presence of a strong bureaucratic leadership, while setbacks occur when one of these factors is found wanting.

Keywords: Canada, dominion bureau of statistics, Statistics Canada, census

1. Introduction

In January 1865, Joseph-Charles Taché, who had been appointed deputy minister of Agriculture of the Province of Canada in August 1864, submitted a “memorial” in which he pronounced a severe judgment on the state of Canadian statistics. According to him, there was “no civilized country in the world where official Statistics (were) more erroneous than in the North American Continent as a whole, and in North America there are few places where they are so defective as in Canada” [28]. Taché would lay down a plan to reform Canadian statistics and he would directly supervise their development until his retirement in 1888. A century or so later, *The Economist* would twice designate Statistics Canada (StatCan) as the best statistical office in the world [1,2]! The first question that comes to the mind is: how can we account for such a success story? But to anyone familiar with the 2010 “crisis” over the Canadian census and with the successive resignations, in 2010 and 2016, of two Chief Statisticians, a second question comes to mind: how can we account for these setbacks?

Literature concerning the history of Canadian statistics has been chiefly the work of insiders, such as Coats [6], Keyfitz and Greenway [15], and Urquhart [30] or, more recently, Worton [32], and Wargon [31], who both left us deeply researched mono-

graphs meeting the most rigorous academic standards. Official commemorative volumes have also appeared on the 75th and 100th anniversaries of the Dominion Bureau of Statistics/Statistics Canada [26, 27]. More in line with the recent trend that envisions statistics against a larger social and political context, contributions by Curtis [7], McDowell [17] as well as Beaud and Prévost [3,4] can also be mentioned. All of this work, however, predates the admittedly unexpected problems encountered since 2010 and is understandably oriented towards the explanation, and sometimes celebration, of success. In this paper, which makes generous use of the material gathered in the above-mentioned works, we intend to examine the evolution of Canadian statistics as a long-term – roughly a century and a half – institutional process, where major improvements and periods of consolidation alternate with phases of stasis, flux, uncertainty and setbacks. Each section corresponds to a temporal segment identified to the personality at the helm of Canadian statistics at its beginning: (1) Taché, as the modern political shape of Canada is set up by the British North America (BNA) Act 1867; (2) Robert Hamilton Coats, who takes charge in the context of the Great War; (3) Herbert Marshall, as Canada emerges from World War II and embarks on building a welfare state; (4) and, finally, Ivan Fellegi, who becomes Chief statistician as Canada faces the challenge of globaliza-

tion and new public management reshapes the machinery of government. This survey shall of course highlight the conditions in which structuring change (or success) occurs – basically, these conditions can be summarized as the conjunction of new policy needs on the part of government, the adoption of innovative practices and the presence of entrepreneurial bureaucratic leadership –, but it will also seek to account for the loss of impetus and the backward surges that have regularly ensued. Table 1 recapitulates a number of legal, bureaucratic and methodological landmarks of that history.

2. Starting from scratch: Taché, statistics, and the birth of modern Canada

The BNA Act of 1867 established the Dominion of Canada, initially composed of Québec (formerly Lower Canada), Ontario (formerly Upper Canada), New Brunswick, and Nova Scotia. Other North American British territories would join the Dominion in the following decades, but the nucleus of its government machinery would be provided by that the so-called United Province of Canada, set up in 1841 as an answer to the 1837–1838 rebellions in Catholic, French-speaking Lower Canada as well as to the lesser troubles that agitated Protestant, English-speaking Upper Canada at the same time.

Joseph-Charles Taché (1820–1894) was a conservative member of the French-Canadian élite who came to support the project of a Canadian Confederacy against the rival proposal of annexation to the United States. A physician, journalist, and popular writer, he held a variety of political and bureaucratic positions before landing as deputy minister of Agriculture in 1864. As he took up the job, he reviewed the state of Canadian statistics and soon made public a “memorial” in which he documented all their failings and how he proposed remedying them. As a matter of fact, from the years of the French regime to the moment Taché took up his functions, a large number of censuses, of varying complexity, had been conducted in the territories that were to converge into modern Canada [22]. But there was no administrative continuity in these endeavours, and the Province of Canada’s Board of Registration and Statistics, set up in 1847, had for all purposes remained an empty shell. As the deputy minister of the most important government department at that time – besides agriculture, immigration and land settlement also fell under its jurisdiction –, Taché took direct charge of statis-

tics and it is believed that we owe him the inclusion of statistics in the BNA Act: articles 8 and 51 provided respectively for the establishment of a decennial census and for representation of the provinces in the House of Commons according to population as measured by the census, while article 91 entrusted the census and statistics to the Dominion government (rather than to the provinces) [11].

Taché’s most lasting achievement is surely the 1871 census. For the first time, as Curtis observes, there was a “detailed definition of enumeration districts”, standardization of measures to be used, strict adherence to the *de jure* enumeration principle, as well as consistent “observational and reporting protocols”, which allows for describing it as Canada’s first “scientific” census [7]. Taché also took advantage of the occasion to compile and publish the results of all earlier censuses or population counts, starting with French intendant Jean Talon’s single-handedly conducted census of 1666 and up to United Canada’s 1851 and 1861 censuses.¹ Appearing as Volume IV of the 1871 census, it provided historians and demographers with a still useful “database”. In 1879, the Census act provided the census with a permanent legal footing (all previous censuses, including that of 1871, had been conducted on an *ad hoc* legal basis) and formally entrusted collection and publication of statistics to the department of Agriculture. The 1881 census, which was also conducted under Taché’s guidance, was modelled on the preceding one, but it covered a much larger territory, ranging from one ocean to the other (Manitoba, Prince Edward Island, British Columbia and the vast North-West Territories had now been added to the Dominion). Besides his work on the census, Taché devoted attention to vital statistics, which was an especially complicated issue, given that registration of births, deaths, and marriages fell under the responsibility of provincial governments and did not follow a single model, as well as to the collection of criminal and insolvency statistics [32].

After he retired in 1888, two institutional developments occurred. One was the creation of the position of Dominion Statistician in 1891, to be filled by George Johnson, who was since 1887 the first full-time statis-

¹Thorvaldsen [29] has however contested that Jean Talon’s 1666 endeavour met the criteria required to be described as a census, since it did not enumerate Native people and thus failed with regard to coverage. Estimates of Indigenous peoples were made from time to time since 1611, but the “first systematic enumeration of Indigenous people took place in the Census of 1871, which counted 102, 538 Indigenous persons” [27].

Table 1
Some landmarks in Canadian statistics

1867	<i>British North America Act</i>	Decennial census from 1871. Apportionment of Parliament according to census results
1871	First decennial census	Census and statistics under Dominion authority
1879	<i>Census Act</i>	Ontario, Québec, New Brunswick, Nova Scotia
1905	<i>Census and Statistics Act</i>	Legal basis for the decennial census
1911	Introduction of mechanical tabulating equipment	Establishes a permanent Census and Statistics Office.
1918	<i>An Act Respecting the Dominion Bureau of Statistics</i>	The Bureau will produce its own machines until the advent of computers in the 1950s.
1941	8 th decennial census	Sets up a centralized statistical office.
1945	First Labour Force Survey	A systematic sample is used for the first time.
	First estimates of national income and expenditures	Random sampling becomes a common feature of surveys.
1948	<i>Statistics Act</i>	Provides a legal basis for sampling surveys.
		Strengthens the D.B.S.'s coordinating role.
1956	The census becomes quinquennial	
1961	Decennial census	The Bureau acquires its own electronic computer (IBM 705).
1965	<i>Order-in-Council PC 1965–29</i>	Dominion Statistician becomes a deputy minister.
		The Bureau becomes a department.
1971	<i>Statistics Act</i>	D.B.S. renamed as Statistics Canada (StatCan).
		Dominion Statistician becomes Chief Statistician.
		StatCan given access to all administrative data.
1971	Decennial census	Self-enumeration becomes the main data collection mode.
		Short form and long form questionnaires are adopted.
1986	Establishment of the National Statistical Council	
2006	Mid-decade census	First online questionnaire
2011	Long form census replaced by voluntary National Household Inquiry	Major controversy leads to the resignation of Chief Statistician.
2017	<i>Statistics Act</i>	More protection is given to Chief Statistician.
		Statistics Advisory Council is given a legal basis.

tician to be employed by government. The other was the 1905 Act establishing a permanent Census and Statistics Office. However, as the centrality of agriculture in the economy was receding, it was clear that the impetus given by Taché had long been exhausted and that the idea of having a “general system of official statistics” under the department of Agriculture had become anachronistic; as a matter of fact, Taché’s “grand statistical design” had rapidly become “purely a notional one” and a “tacit policy of statistical decentralization was followed” [32]. Canada was changing rapidly, embarking on its own “industrial revolution”, immigrants landed in vast numbers, new government departments were emerging, giving way to a variety of statistical initiatives, the newly created department of Labour (1900) becoming a key player in this regard. In 1912, the Census and Statistics Office was moved from Agriculture to Trade and Commerce, a department that did not even exist in Taché’s time (it was set up in 1892). The minister in charge, George Eulas Foster, a major figure in the Conservative government, immediately set up an interdepartmental Commission entrusted to examine, as Taché had done half a century before, the overall state of Canadian statistics.

3. Statistics for the 20th century: Coats and the creation of the D.B.S.

Among the members of this commission was Robert Hamilton Coats, from the department of Labour and editor of its *Labour Gazette*, who had made his name as the main author of a statistical study of wholesale prices in 1910. In 1913, Coats would also take a major part in Canada’s first systematic inquiry into the cost of living. Two years later, he was designated as Dominion Statistician and he went on to set up a plan for establishing a central statistical office [15]. Coats perfectly fits Savage’s definition of entrepreneurial bureaucrats as those “who are skilled at conceiving and articulating an organizational vision; identifying political and organizational opportunities; knowing when and how to exploit these opportunities given various types of constraints; mobilizing political, bureaucratic, and economic resources; and building supportive coalitions and networks inside and outside the organization” [23]. In his endeavour, he could count on the minister’s support, but he also took care to enlist that of academics and industrialists [3]. He largely wrote the 1918 *Statistics Act* that created the Dominion Bureau of Statistics (D.B.S.) and entertained a truly grand vision of what he

designated, following English statistician A. L. Bowley, as the “central thinking office” of government, to be endowed with “inquisitorial powers” [3]. He thus went on to centralize, i.e. take over statistical duties of other departments, whenever possible, and, when not – generally because statistics were a by-product of a department’s specific activities – he sought to achieve methodological compatibility through coordination.

Under Coats, the census program was vastly expanded, as the population and agricultural censuses became “a joint operation”, and supplemented with a series of analytical studies. Together with the provinces, he succeeded in establishing a complete national scheme of vital statistics by 1926 [32]. He was also able to centralize or coordinate the statistics of agriculture, fisheries, mines, forestry, foreign trade, internal trade, prices, transportation, crime, etc., and set up a regular census of industries. Personnel increased significantly as well as the number of publications. Mechanical tabulation, which had begun on an experimental basis in the late 19th century, became a standard feature, with the Bureau developing its own machines and offering its compilation services to all government departments. In the first five years of its existence, the D.B.S. changed completely the panorama of Canadian statistics. This coincided largely with the emancipation of the British Dominions as a consequence of the war and with the emergence of the United States as Canada’s major economic partner. Canada now had its own international personality, which expressed its statistical facet through participation in the League of Nations’s statistical activities, for instance.

Though Coats was rightly celebrated as a major “builder” of Canadian statistics [30], his long tenure (1915–1942) was not altogether marked by success. In the first place, the Dominion Statistician’s hierarchical position was never the one he had coveted from the start: instead of being (the equivalent of) a deputy minister – a status that would have provided him with direct access to political authority and made the Bureau a department in its own right – he was put under the administrative authority of the department of Trade and Commerce’s deputy minister, an “unsympathetic non-professional” [32] who saw the D.B.S. as one of his department’s units rather than as the general “central thinking office” advising all government departments that Coats had in mind. Furthermore, the issue of the Dominion Statistician’s civil service status had an effect on that of all the Bureau’s personnel, as well as on everyone’s pay classification. The issue was not resolved until 1965 (!) and it led to regular

bureaucratic skirmishes. Moreover, the difficult economic conditions resulting from the Great Depression put a severe hold on any program development or increase in resources. Finally, as new issues like mass unemployment and the necessity of providing estimates of national wealth, or more scientific statistical innovations such as random sampling emerged, a sort of cultural lag became obvious: the D.B.S. was basically an army of statistical clerks, with very few professionally-trained economists and statisticians; Coats himself, for all his learning, remained a “gifted amateur” [14].

As World War II broke out, the government’s statistical needs suddenly expanded and, in order to fulfil these needs, the Bureau was drawn into experimentation. Discussions regarding the establishment of national accounts took a new turn as young economists who had just absorbed Keynesian ideas were brought in. Nathan Keyfitz, who had been hired in 1936 as mathematical adviser, was sent to Washington in order to learn all he could about the sampling methods used in the 1940 American census [4]. This would lay the foundations for a new phase in the Bureau’s development.

4. The epistemic infrastructure of macro-management: The Marshall years and after

In the Canada that emerged in 1945, government would play a much more active role in monitoring the economy. With the dire experience of the 1930s in retrospect, it had committed itself to a policy of high and stable employment and to addressing housing issues. More generally, younger economists employed in relevant government departments as well as in the Bank of Canada had embraced the general tenets of Keynesianism [19]. This redefined the relationship between government and the type of information its statistical bureau could provide. The discussions and experiments that took place during the war years were brought to fruition as Herbert T. Marshall, who had been with the Bureau since the early 1920s, became Dominion Statistician in 1945. Marshall was schooled in the Coats era, but he exhibited a number of qualities: he had been associated from the start to the discussions on national wealth estimates; he was open to new ideas and willing to put forward younger, more qualified and more technically-oriented economists and statisticians; he also had an extended network of contacts within the civil service, good relations with important players like the department of Finance and the Bank of Canada, and

was thus able to position the Bureau as a resource for other departments rather than as a competitor [32].

The Marshall era was thus characterized by a number of major developments. One was the establishment of the Labour Force Survey in November 1945 (published quarterly, and, from 1952 on, on a monthly basis). It opened the way to sampling and the *Statistics Act* was accordingly amended in 1948 to authorize its use for collecting data. Another was the construction of what became known as the System of National Accounts (SNA), of which a first version appeared also in late 1945. This would be accompanied on the administrative level by a reorganization of the Bureau and the creation of a Central Research and Development Division [20]. The Bureau would also venture for the first time in the field of population projections and succeed in convincing the government of the necessity to pass from a decennial to a quinquennial census. Marshall himself entertained a vision of the Bureau activities as a contribution “not only to the material welfare of the people but also to the more humanistic aspects, the social and moral welfare of the community” [16].

Tensions remained however present between a Bureau that hoped to develop its analytical capacities and a department of Trade and Commerce that wished to contain the former’s activities to the collection and arrangement of factual material [32]. But the Bureau was on the path to provide the epistemic infrastructure of macro-management and, in 1965, under the leadership of Walter Duffett who had succeeded Marshall in 1960, the Dominion Statistician was finally given the status of a deputy minister, the Bureau becoming by the same way a department in its own right. Overall, the Marshall-Duffett years were marked by innovation – the use of sampling, the establishment of the SNA, and the introduction of electronic computers in the Bureau’s operations – as well as by a considerable increase in resources: for instance, staff grew from 900 persons in 1945 to 1740 in 1960 and 4600 in 1975 [26]; as a percentage of government expenditures, the Bureau’s budget grew from 0.16% in 1947–48 to 0.47% in 1971–72 [32]. Of particular significance was the growth in the number of professionals and the emergence of a competent group of middle and senior managers, often of foreign origin. Among these were Simon A. Goldberg (born in Poland), who has been described as “the sparkplug of innovation” at the Bureau and the “father of Canadian National Accounts” [27], and of course future Chief Statistician Ivan P. Fellegi, a refugee from the 1956 Hungarian rising. This period of growth somehow culminated in 1971 with the adoption

of a new *Statistics Act* (that notably gave the Bureau access to all administrative data, including income tax returns) and of a new name: Statistics Canada.

Despite positive developments such as the launching in 1975 of *Survey Methodology*, a journal of international standing, the 1970s and early 1980s were by contrast a more difficult time. According to Worton, the rapid increase in resources was a mixed blessing: integration of a such a high number of new recruits was difficult and quality accordingly suffered; at the same time, abundance meant that less scrutiny was brought to projects and that focus on the priorities was less clear that it would have been in a tighter context [32]. By the end of the decade, the age of abundance was over for all departments and the implementation of significant budget and personnel cuts – up to 20% of the workforce compared to the 1974–75 peak [27] – had become one of the Chief Statistician’s permanent concerns. At the same time, members of Parliament and the media frequently criticised Statistics Canada, with regard to management, methodology, and integrity. As “the perception of the agency steadily deteriorated”, the government commissioned two external inquiries, one by Price Waterhouse Associates and another by Sir Claus Moser, former head of the United Kingdom’s Government Statistical Services [27]. As Ivan Fellegi, who was then Assistant Chief Statistician, recalled: “The bureau was really in a very bad way there was internal warfare. In fact we were in the media daily (...) not for our statistics... but for ‘scandals’. (...) The bureau came very close to being basically split up by the Canadian government as an organization that simply cannot be maintained (...) as a single entity” [13]. The uncertainty of the period is reflected in the succession of Chief Statisticians, which contrasts with the longer tenures of the Coats, Marshall, and Duffett. In 1972, for the first time, a woman, Sylvia Ostry, was named to that position: she remained until 1975, when she moved to become deputy minister in a “regular” department (another first). Her successor, Peter Kirkham, remained until 1980. After a short interim, Martin B. Wilk, a former vice-president of AT&T and the “first mathematical statistician to hold the position” [27], was chosen. Through a series of moves, Wilk was able to restore confidence, but this was not before facing a new challenge: the newly-elected Conservative government’s decision to replace the 1986 census by a simple head count of the Prairie provinces.

5. Adapting to a changing world: The Fellegi era and after (1985-...)

In 1985, Ivan P. Fellegi, who had held the position of Deputy Chief Statistician for a year, was appointed Chief Statistician. Like his predecessor, Fellegi was a professional statistician, but he was also a pure product of the Bureau, which he had joined in 1957 while still a student. From 1961 on, he held a variety of executive positions in the Bureau's research and methodology apparatus, reaching the status of Assistant Chief Statistician in 1973. He was thus able to gain considerable management experience, and, having made himself a number of significant contributions to sampling theory and practice, his professional and scientific reputation was also unquestionable. But Canada in 1985 was not that of 1945: the 1970s economic upheavals had shaken confidence in Keynesian tenets, globalization was the order of the day (Canada and the United States would reach a free trade agreement in 1987, to be joined by Mexico in 1994), and, echoing the advent of M. Thatcher and R. Reagan at the helm of Canada's two major political-economic partners, the Conservatives were elected in 1984 with the clear intention of downsizing the civil service. Taking charge of Statistics Canada as it had to meet a new major budget cut (which followed a decade of already significant cuts), Fellegi faced a considerable challenge. It was taken up head on. Thanks to Wilk's negotiating skills, the 1986 census was held despite the government's initial wish, but on condition that Statistics Canada find the necessary resources through streamlining and reorganization [27]. Cost recovery, marketing of services, and a client-oriented attitude became wholeheartedly embraced [8], a move that was however viewed less positively in some quarters as "commercialization" [18]. A new accent was put on analytical products, more susceptible of interesting users; quality of data also emerged as a major concern, as revision and audit processes were put into place. At the same time, the development of electronic data products helped lower costs. Within the agency, mainframe computers were now supplemented by microcomputers, statistical analysis packages and, soon, the internet, with the website becoming the public showcase of Statistics Canada. Fellegi was also very active in setting up various channels and forums in view of understanding more fully users' needs and concerns, beginning with the federal government departments. As a deputy minister himself, he could meet regularly with his colleagues, establish "bilateral mechanisms"

and insure that their needs and the agency's programs would coincide [13]. Canada being a decentralized federation, consultation with the provinces and territories was also formalized, with positive developments, for instance, in justice and health statistics, both provincial responsibilities. A National Statistics Council representing various interests was set up to advise the Chief Statistician, while the 1996 Data Liberation Initiative consolidated relations with the academic world by providing, at reasonable cost, access to a wide range of datasets and, eventually, training for their use.

On the whole, this was a remarkable case of a crisis that "was not let go to waste". To quote Fellegi himself: since there was "a widespread desire, shared by both right- and left-leaning organizations, to make government more effective", and since "fundamental to effectiveness is evidence-based policy planning and decision-making", there was "a historic opportunity for statistics" [9]. By the early 1990s, in fact, Statistics Canada's reputation had been rebuilt beyond recognition. It was now hailed as the best of its kind by *The Economist*, and Fellegi went on to expose his views of an "effective statistical system" [10] and collect awards and titles within and without the statistical community. On many fronts, Statistics Canada continued to move forward. Social statistics were given a new impetus, as, for instance, more data were sought about "visible minorities" or indigenous peoples. The opening of research data centres in various universities allowed academics direct access to micro-data and thus furthered exploitation and analysis of the agency's output. In 2006, it became possible to respond to the census on-line, an initiative that was eagerly taken on by Canadians.

However, dark clouds began gathering as soon as the Conservatives came back to power in 2006. An expenditure review of all Statistics Canada's activities was launched and significant budget cuts soon followed. There was a familiar motive here: as overall government expenses were reduced, the statistical office tended to "preserve national economic series" [27] over other kinds of surveys and to reduce the output in analytical products. But the new Conservative government's agenda was not just about frugal management of taxpayers' money. In the House of Commons, Statistics Canada's products that dealt with sensitive issues, such as crime or inequality, were often derided by Conservative MPs.² The Canadian government's deci-

²Canada's Justice minister from 2007 to 2013, Rob Nicholson, kept repeating, for instance, that "we don't govern on the basis of statistics".

sion to discard the mandatory long form census, presented as invasive of privacy, and replace it by a voluntary National Household Survey (NHS) triggered a media and political storm that no one had expected. During the months of July and August 2010, dozens of editorials sharply criticized this decision, learned societies, interest groups, and opposition parties allied to try to overthrow it and the Federal Court itself was seized. At issue was the response rate, which was bound to fall in the absence of obligation, jeopardizing the quality of small area data. Fellegi, who had reached retirement age for a while, had left in 2008. He had been replaced by Munir Sheikh, an economist by training and a career civil servant, with no long experience in the agency, and who now had to face what was arguably the most important crisis in the history of Canadian statistics. The high point came with his dramatic resignation on July 21, 2010. To the technical question of whether a voluntary survey could satisfactorily replace a mandatory census, he answered clearly: “it can not.” To the political issue of whether the professional independence of Statistics Canada had been called into question, he answered more indirectly: as a public servant, he was not free to make public the opinion that he had provided on this issue, but the government could do it if it wished so [5]. Even though the unveiling of the census results had provoked over the years lively and sometimes emotional discussions – particularly in Québec with regard to language issues – rarely did these discussions exceed the circle of specialists or activists. In the summer of 2010, on the contrary, open lines, letters and blogs were stormed by supporters and opponents – especially the latter, far more numerous – of the government’s decision. The government remained deaf to these protests. The short form census and the voluntary survey went on: as predicted, response rate fell compared to that of the compulsory long form in 2006 (69% as compared to 94% [24]); but it fell very unevenly and, for a number of small communities, reliable data was not available.

The Liberals came back to power in October 2015 and they made good of their promise to reinstate the *status quo ante*. They also embarked on reviewing the *Statistics Act* in order to provide more protection to Statistics Canada’s independence. But troubles were not yet over. Wayne Smith, who had succeeded Sheikh, resigned in turn in September 2016, invoking a new threat to Statistics Canada’s independence: loss of control over its information technology infrastructure. This put StatCan into no less than an “iron cage of bureaucracy” [25]. In 2011, the government had set up

Shared Services Canada (SSC) as the agency responsible for all its IT systems. As other departments, Statistics Canada, which had been since the turn of the 20th century a pioneer in the use of technology, was compelled to follow suit. According to Smith, SSC held “an effective veto over many of Statistics Canada’s decisions concerning the collection, processing, storage, analysis and dissemination of official statistics through denial or constructive denial of essential services” [33]. The *Statistics Act* was effectively revised soon after and the Chief Statistician was indeed given more protection: up to then, the position had been held “at pleasure”; now, the Chief Statistician was nominated for a five-year mandate, renewable once, he served “on good conduct”, and could be dismissed only “for cause”.³ The National Statistics Council, whose creation had relied on a cabinet decision and whose deliberations were not publicised, was replaced by a legally entrenched Canadian Statistics Advisory Council that is smaller (nine members instead of thirty-nine) but held to publish an annual report. The possibility of the Minister intervening in methodological issues, which was at the heart of the 2010 crisis, was not removed, but made more transparent. During parliamentary hearings leading to the adoption of the act, SSC was the elephant in the room, but revision had not been thought with that issue in mind and the new law came into force at the start of 2018. Then, in November 2018, news broke out that Statistics Canada had engaged in a pilot survey of 550 000 Canadians’ credit files and bank accounts, without expressly obtaining their consent. This led to embarrassed explanations on the part of the new Chief Statistician, Anil Arora, in front of a parliamentary committee and the program was suspended until the Privacy Commissioner clarified the issue [12].

6. To conclude

Can the kind of combination between government needs, entrepreneurial leadership on the part of leading statisticians and increase of resources that characterized the 1870s, the 1920s, the 1945–1970 and 1985–2006 periods occur anew? Any overview of the post-Fellegi era (2008–2020) suffers inevitably from the lack of historical perspective, and more dramatic events such as the successive resignations of M. Sheikh

³Such a change had been originally proposed in 1960 by the (Glassco) Royal Commission on Government Organization but had been passed over when the *Statistics Act* was revised in 1971.

and W. Smith may tend to obscure more important, but less visible, trends. To be sure, the present mantra of evidence-based policy provides Statistics Canada with a largely shared justification for its activities. But the most recent past and the immediate future of official statistics in Canada and elsewhere cannot be envisioned without bearing in mind the challenges posed by the rise of so-called “post-truth”, the advent of Big Data and Artificial Intelligence (AI), and that of privacy concerns. If we define post-truth as the rejection of established standards for evaluating evidence and credentials as well as a disregard for the uncertainty and complexity of factual statements, statisticians and all those who claim authority on the basis of expertise are bound to encounter scepticism. Worse, their claim to expert knowledge may be unfavourably compared to some politicians’ appeal to common sense and the majority’s opinion. The final outcome of the Canadian census controversy may however, to a degree, temper our fears in this regard. On the other hand, Big Data and AI have recently emerged, at least in the public imagination, as a potential competitor to official statistics. And in spite of the apparent commonality between Big Data and statistics, there remains in fact a significant cultural divide between government statisticians and data scientists, with regard to issues such as the ownership of data, ethical guidelines, or epistemological and methodological concerns [20]. The Credit Information and Financial Transactions projects and their recent suspension have however illustrated two things: first, that Statistics Canada was indeed able, on the basis of existing legislation, to embrace Big Data in view of extracting evidence on relevant issues – in the present case, households’ debts – and without increasing response burden over individuals and businesses; and, at the same time, that privacy concerns and the public’s fear of “Big Brother” can halt such developments [21]. Privacy concerns are not new, and over the recent decades, the agency has put into place various measures to address them, but while the idea of the census as a civic duty had triumphed during the 2010 controversy, this consensus has become more fragile as data breaches (not at Statistics Canada, but at various private and government databases) have regularly occurred. It remains to be seen if, as during the 1985–2005 period, imaginative adaptation to a rapidly changing environment and to increasing legal and resource constraints can allow for maintaining quality of the product and confidence on the part of the public.

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