An Exploration of Influences of Sociodemographic Characteristics of Supreme Court Justices in Judicial Decision-Making in Income Tax Cases, 1920-2003

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Socio-demographic characteristics of Supreme Court justices were found to have influenced their judicial decision-making in income tax cases from 1920-2003. Based on historical voting patterns, voting scenarios were constructed to describe voting propensities of selected Supreme Court justices. The voting scenarios suggest that Canadian judges sharing similar socio-demographic characteristics are expected to exhibit similar judicial behavior. Therefore, in the deliberation of cases in which a wide range of perspectives is needed, a more socio-demographically diverse court is preferred. As demonstrated in this paper, quantitative analysis can raise useful questions on judicial decision-making, but qualitative analysis is required to completely answer the questions.

I.   LINKING   SOCIO-DEMOGRAPHIC CHARACTERISTICS   OF   JUDGES   TO   JUDICIAL DECISION-MAKING

Judges are expected to suppress the influences of their personal experiences in the performance of their judicial duties. Retired Justice La Forest wrote that "a judge brings to the task his or her own personal philosophy based on his or her total life experience" but "it is the duty of judges, as much as possible, to discount their own personal feelings or idiosyncratic values and attempt to grasp where the law and society have been, where they are now,

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and where on the basis of long term social values they should be going."[1]
During the 1982 swearing-in ceremony of Justice Wilson, the first female
Supreme Court justice in Canada, then Minister of Justice Jean Chrétien
attributed Wilson's "wisdom and knowledge" to her "life experiences."
Nevertheless, he said that she should balance "influences of such things as
place of birth, residence, age, sex, [and] religion" with her legal training so
she could stay "above the concerns of special interest groups or
governments of the day."[2]

How successfully can judges suppress the influences of their personal
backgrounds in dispensing their judicial duties? One way to find out is to
ask the following empirical question: To what extent have personal
backgrounds of judges influenced the performance of their judicial duties?
This line of inquiry fits into the analysis of the personal attributes of judges
and their judicial decision-making called the Personal Attributes Model, one
of five models of judicial decision-making that have emerged from U.S.
political science scholarship. As I described in a previous article:

> "Offering an alternative to the legal model, the attitudinal model focuses on judges
> instead of the law in explaining judicial decision-making. Building on the attitudinal
> model, the personal attributes model expands the list of decision-influencing factors
> from personal policy preferences of judges to include social backgrounds of judges.
> As judges decide cases amidst their brethren in the institutional setting of courts, the
> strategic model captures the effects of strategic interactions among judges, and the
> institutionalist model highlights the impact of policies and procedures of the
> courts."[3]

This paper explores the influences of socio-demographic characteristics
of Supreme Court justices on their income tax decisions from 1920-2003. To
be sure, quantitative research on whether extra-legal factors have influenced
judicial decision-making in Canada has found no universally applicable
answers. Some variables can explain certain judicial behavior in some
situations but not in others. Still, the body of past research has shed light on
Canadian judicial decision-making, such as in *Charter* cases.[4] However, the

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[1]   G.V. La Forest, "Judicial Lawmaking, Creativity and Constraints" in Rebecca Johnson, *et
       al.*, eds., *Gérard V. La Forest at the Supreme Court of Canada, 1985-1997* (Winnipeg:
       Canadian Legal History Project, Faculty of Law, University of Manitoba for the Supreme
       Court of Canada Historical Society, 2000) 3 at 6.

[2]   The ceremony was held on March 30, 1982. See Ellen Anderson, *Judging Bertha Wilson:
       Law as Large as Life*, (Toronto: University of Toronto Press for the Osgoode Society for
       Canadian Legal History, 2001) at 128.

[3]   Thaddeus Hwong, "A Review of Quantitative Studies of Decision-making in the Supreme
       Court of Canada" (2004) 30 Man. L.J. 353 at 358.

[4]   *Canadian Charter of Rights and Freedoms*, Part I of the *Constitution Act*, 1982, being
       schedule B to the *Canada Act 1982* (U.K.), 1982, c.11 [*Charter*]. See *supra* note 3 for past
       studies. For a recent Canadian empirical study, see James Stribopoulos & Moin Yahya,

influences of extra-legal factors in judicial decision-making in Canadian income tax cases have not been thoroughly examined. This paper can take the first baby step toward such a direction.

The examination of judicial decision-making in this paper was conducted in the form of exploratory data analysis on originally compiled datasets of Supreme Court of Canada income tax cases and socio-demographic characteristics of the judges who decided the cases. The main objective of an exploratory approach is to determine what kind of information can be obtained from the data. That may sound very similar to what data analysis does, but an exploratory approach is different from the standard approach followed in the bulk of social science research. In many social science quantitative empirical studies, data analysis is used as proof. For example, data analysis is conducted to prove the validity and/or applicability of theories. The starting point for such a study is the theory. This is not to say that data plays no role because the availability and the nature of the data ultimately drive all data analyses. Nonetheless, the main objective of this type of theory-driven study is to put the theory to a test. The exploratory approach used in this paper is different from such a standard practice because the analysis centers on the data. The starting point here was the data. However, theory did play a role in the study, because the study was built on prior research that tested or generated theories concerning the data. But the objective of the data-driven study was to discover what can be found in the data. The data, instead of the theory, dictated the setup and the implementation of the study. If a theory-driven study is a focused search, a data-driven study will be a wide-open search. In other words, the data-driven nature of an exploratory study is to put aside preconceived notions of what can be found in the data and let the data tell the story. Daniel Schneider, who will be cited extensively later in the paper, alluded to the mindset for this kind of exploration in one of his articles on judicial decision-making.[5]

Due to the data-driven nature of exploratory data analysis, the availability of data limits the questions that can be asked. As no suitable dataset was found on Canadian income tax cases and the socio-demographic characteristics of judges who decided the cases, compiled textual information from cases and official judicial biographies were converted into numbers in original datasets for analysis. Since quantitative data analysis is

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"Does a Judge's Party of Appointment or Gender Matter to Case Outcomes? An Empirical Study of the Court of Appeal for Ontario" (2007) 45 Osgoode Hall L. J. 315.

5   Even though Schneider did not say explicitly that he set out to conduct an exploratory data analysis, his approach is exploratory in nature. In his 2002 article, he said: "[l]ack of expectation about results of the research is one way in which to reduce bias, and so I began without a preconceived idea about the outcome of my analysis." See Schneider, "Assessing and Predicting", *infra* note 14 at 493.

limited by the information contained in the dataset, the discussions in this paper are a function of the kind of information that can be represented by numbers in the datasets developed specially for this project.

The exploration in this paper was a two-stage process. First, a statistical model on judicial decision-making, based on historical data of the Supreme Court of Canada, was developed. As a crude summary, the model suggested that justices who were more likely to vote for taxpayers included those who taught law; and in legally ambiguous cases, those justices who worked outside Ontario and Quebec were also more likely to vote for taxpayers. The model also suggested that the Supreme Court justices who were more likely to vote against taxpayers may include those who attended universities outside Canada and those who served as trial judges.

Second, the model was applied to experimentally develop judicial decision-making scenarios based on data of selected justices of the Court. Taxpayers were found to be more likely to win in the modeled Supreme Court based on the simulated voting scenarios. As the scenarios were built on past voting records of judges, the implicit assumption was that the past provided some clues about the future. Of course, the simulation is not a crystal ball. The experimental approach was designed to help raise useful questions for future research. It was a starting point rather than an end point.

The paper proceeds as follows. Section 2 briefly reviews the relevant literature on prior quantitative research of judicial decision-making in U.S. and Canadian tax cases. Section 3 describes the data used for the exploratory analysis. Section 4 presents the exploratory data analysis on the influences of selected socio-demographic characteristics of Supreme Court justices in their decision-making in income tax cases from 1920-2003. Section 5 applies the modeling approach used in Section 4 to explore the influences of selected socio-demographic characteristics of selected Supreme Court justices in their decision-making in income tax cases in an experimental way. Section 6 reflects on lessons learnt from the quantitative analyses conducted on judicial decision-making in this paper and the importance of the use of qualitative analysis to further develop the results of quantitative analyses.

II. EXPLAINING JUDICIAL DECISION-MAKING IN TAX CASES

Not many researchers have published quantitative research that examined whether personal backgrounds of judges influenced their decision-making in U.S. and Canadian tax cases. Among the published research, American researchers make up the majority. Daniel Schneider has done more than

anyone else in examining the relationships between socio-demographic characteristics of U.S. judges and their voting records in U.S. tax cases. Therefore, this section highlights Schneider's pioneering work. To have a sense of his contributions, the work of others on tax cases will first be examined. The other researchers are Sydney Peck; Mark Altieri and his collaborators; and Cindy Ostberg and Matthew Wetstein.

A. Empirical Research on Judicial Decision-making in Canadian Tax Cases

Sydney Peck was the first to publish quantitative research on judicial decision-making in Canadian tax cases. He conducted scalogram analysis on judicial decision-making in the late 1960s. As a part of his bigger project on judicial decision-making of the Court, he scaled 28 nonunanimous Supreme Court of Canada tax decisions from 1958-1966.[6] In his scalogram analysis, Peck illustrated that some Supreme Court justices voted for taxpayers more often than others in tax cases. He found that Justice Cartwright was pro-taxpayer, Justices Taschereau, Ritchie, Spence, Martland and Hall were neutral and Justices Abbott, Fauteux and Judson were pro-government (or against taxpayers).

The Peck research did not show that the voting outcomes were caused by personal backgrounds or policy preferences of the justices because the scalogram analysis can only describe the voting records. Mark Altieri, Jerome Apple, Penny Marquette and Charles Moore took the inquiry on step further, raising the possibility that personal backgrounds might be decision-influencing variables in U.S. tax cases. In a short 2001 article, they presented the findings in their chi-square analysis of the voting records of 29 judges in 902 U.S. Tax Court cases from 1993-1996.[7] The article said that judges appointed by Republican Presidents would more likely decide for taxpayers than those appointed by Democratic Presidents.[8] Although the authors also found that judges with different ideological outlooks would likely vote differently, they cautioned that it was unclear whether this difference was an ideological one.

In a 2004 working paper, Cindy Ostberg and Matthew Wetstein took a methodological step forward, conducting logistic regression analyses on 134 judicial votes cast in Supreme Court of Canada nonunanimous tax cases from 1984-2002 to determine whether variables, such as the ideology of the

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6   S. R. Peck, "The Supreme Court of Canada, 1958–1966: A Search for Policy through Scalogram Analysis" (1967) 45 Can. Bar Rev. 666.

7   Mark P. Altieri *et al.*, "Political Affiliation of Appointing President and the Outcome of Tax Court Cases" (2001) 84 Judicature 310.

8   *Supra* note 7 at 313. They conducted a chi-square difference of means test.

justices, influenced their decisions.[9] Ostberg and Wetstein regressed votes (the dependent variable) against an ideology proxy based on news coverage and other variables (the independent variables). The other variables included the party of the prime minister who appointed the justice, prior private practice of justices, gender, trial court experience and whether a case involved a dispute between national government and a company, an income tax deduction, a tax on stocks or estates or a bankruptcy claim.

The ideology variable is the most interesting in the Ostberg-Wetstein analysis. Relying on the daily newspaper *Globe and Mail*'s commentaries on Supreme Court justices when they were appointed, Ostberg and Wetstein calculated a score that approximates the liberal leanings of each of the justices. Their hypothesis was that "justices scoring higher on the newspaper liberalism score will be more prone to support the taxation power of government than their conservative counterparts."[10] Under the Ostberg-Wetstein coding scheme, justices labeled as most liberal (+2) were Justices La Forest, L'Heureux-Dubé, Lamer, Wilson, Bastarache, and Beetz; justices labeled as moderate-liberals (+1) were Justices Dickson, McLachlin, Le Dain, and LeBel; justices coded as moderates were Justices Iacobucci, Stevenson, Gonthier, Cory, McIntyre, Estey, Arbour, and Binnie; one justice was labeled as a moderate-conservative (-1 – Justice Sopinka); while justices scored as most conservative (-2) were Justices Major and Chouinard."[11] Ostberg and Wetstein reported that the ideologies of Supreme Court justices influenced voting patterns in income tax cases after the enactment of the *Charter*. They concluded that "there is clear evidence that the newspaper liberalism score of judicial ideology provides a powerful predictor of judicial voting behavior in Canadian tax cases."[12]

In sum, Peck showed that the voting records of some Supreme Court justices in tax cases in the 1950s and 1960s exhibited consistently different voting patterns. Altieri, Apple, Marquette and Moore found that voting records of U.S. judges in the 1990s suggested that personal backgrounds, in addition to ideologies, may be the causes of differences in judicial voting patterns in tax cases. Ostberg and Wetstein attributed differences in voting patterns of Supreme Court justices in tax cases in the 1980s and 1990s to

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9   C.L. Ostberg & Matthew E. Wetstein, "Economic Cases and the Attitudinal Model in the Canadian Supreme Court" (Paper presented to the Midwest Political Science Association, Annual Meeting, Midwest Political Science Association, April 2004) [unpublished], online: San Joaquin Delta College: Matt Wetstein Political Science <http://www.deltacollege.edu/emp/mwetstein/ostbergwetsteinecon2004.pdf>. Both Ostberg and Wetstein are political scientists. Ostberg is a professor at University of the Pacific, and Wetstein is a professor at San Joaquin Delta College.

10   *Ibid.* at 13.

11   *Ibid.* at 35.

12   *Ibid.* at 23.

differences in their ideological outlook. As shown below, Schneider has demonstrated that a lot more could be done on quantitative empirical research on judicial decision-making.

B. Importance of Personal Backgrounds of Judges in Judicial Decision-making in U.S. Tax Cases

Schneider sought to answer two primary research questions: Do socio-demographic characteristics of judges influence their approach to statutory interpretation approaches in tax cases? And, do socio-demographic characteristics of judges influence their decisions in tax cases? To answer the two questions, Schneider conducted his research in a step-wise process. He first examined the judges' approach to statutory interpretation and then the decisions on cases by these judges.

The sequence of the publication of his research findings reflects this step-wise process. In 2001, he published "Empirical Research about Judicial Reasoning: Statutory Interpretation in Federal Tax Cases," the first of his quantitative research articles on judicial decision-making in tax cases.[13] The article answered his first primary research question using U.S. trial court data. In 2002, Schneider published "Assessing and Predicting Who Wins Federal Tax Trial Decisions," which answers his second question using the same data from the 2001 article.[14] In 2003, Schneider published "Statutory Construction in Federal Appellate Tax Cases: The Effect of Judges' Social Backgrounds and of Other Aspects of Litigation," again which answered his first question, but in the context of U.S. appellate courts.[15] In 2005, Schneider published "Using the Social Background Model to Explain Who Wins Federal Appellate Tax Decisions: Do Less Traditional Judges Favor the Taxpayer?"[16] This latest installment on judicial decision-making in U.S. tax cases answered his second question using the U.S. appellate court data from his 2003 article.

Although Schneider examined an array of social-demographic characteristics of judges and their decision-making, he did not find any significant causal relationships between socio-demographic characteristics of judges and their decision-making in tax cases. However, he did find some

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[13] Daniel Schneider, "Empirical Research about Judicial Reasoning: Statutory Interpretation in Federal Tax Cases" (2001) 31 N.M.L. Rev. 325 [Schneider, "Empirical Research"].

[14] Daniel Schneider, "Assessing and Predicting Who Wins Federal Tax Trial Decisions" (2002) 37 Wake Forest L. Rev. 473 [Schneider, "Assessing and Predicting"].

[15] Daniel Schneider, "Statutory Construction in Federal Appellate Tax Cases: The Effect of Judges' Social Backgrounds and of Other Aspects of Litigation" (2003) 13 Wash. U.J.L. & Pol'y 257 [Schneider, "Statutory Construction"].

[16] Daniel Schneider, "Using the Social Background Model to Explain Who Wins Federal Appellate Tax Decisions: Do Less Traditional Judges Favor the Taxpayer" (2005) 25 Va. Tax Rev. 201 [Schneider, "Social Background Model"].

correlations in various parts of his studies. One emergent theme was that education does correlate with judicial decision-making in tax cases. Therefore, the following presentation of Schneider's work focuses more on education than other socio-demographic characteristics. Below is a brief look at Schneider's four articles.

In his 2001 article, Schneider used descriptive statistics and logistic regressions to analyze a dataset of 488 cases decided by the U.S. Tax Court and selected federal district courts from 1979-1998.[17] The cases represented a 15% sample of all official tax court decisions, plus all federal tax decisions of federal district courts in Los Angeles, Chicago and part of New York City in the study period.

Data about the social backgrounds of judges and their approaches to statutory interpretation were collected and coded. The statutory interpretation approaches were strict construction (reading the text of the Internal Revenue Code literally), regulations (deferring to regulations promulgated by the Treasury Department), structure (viewing the purpose of a part of the Code as part of the structure of the entire Code), legislative history (interpreting the Internal Revenue Code in the context of legislative history) and practical reasoning (considering statutory text, legislative history, judicial and administrative precedents, current values, consequences of alternate interpretations and public policy).

The social background variables were the gender of the judges (male or female), their race (white or nonwhite), primary professional experience before becoming judges (private practice, government or other), the political party of the U.S. President who appointed the judges (Democrat or Republican), law school education (elite or non-elite), the number of years on the bench when a decision was rendered and the eliteness of college education (based on a scale developed by Alexander Austin in 1965).

Schneider found that district court judges with more elite education relied on practical reasoning more than district court judges with less elite education. Nonetheless, tax court judges with less elite education relied on practical reasoning more than tax court judges with more elite education.[18]

As a companion piece to his 2001 statutory interpretation article, Schneider used descriptive statistics and regression analysis to examine the same dataset and social background variables to determine whether social backgrounds of judges influenced their decision in tax cases.[19] A case outcome was coded as either a taxpayer win or a government win. Schneider recognized the problem posed by multiple-issue cases as which party was

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[17]   See Schneider, "Empirical Research", *supra* note 13.

[18]   *Ibid.* at 348-49.

[19]   See Schneider, "Assessing and Predicting", *supra* note 14.

the winner was not always clear. In such cases, he claimed to resolve it "cautiously" and "a party that had won on the more important issue (or issues) but lost on a lesser issue (or issues) was still coded as the winner."[20]

In his logistic regression analysis, the social background variables remained the same as those in the 2001 statutory interpretation article. Schneider regressed the case outcomes as the dependent variable against all the social background variables as the independent variables. Using descriptive statistics to describe the outcomes of the cases, Schneider concluded that the government won in 71% of the sampled tax cases from 1979-1998. He also said the government won more in the district courts than the Tax Court. Reporting on his findings in correlations, Schneider stated that "[t]axpayers won more before some types of judges than others, e.g., judges who were women, had more elite college educations, sat for less time when making the decision, and had come from private practice. Finally, several social background factors had an effect on who won. Correlations existed between who won and, respectively, gender, education, tenure, and, to a lesser extent, prior work experience, politics, and race."[21]

Elaborating on his finding on education, Schneider explained that "[l]itigation before a judge who had an elite law school degree was associated with decisions in the taxpayer's favor slightly more than litigating before a judge who did not have such a degree. A judge who lacked an elite law school or college education (or, indeed, who lacked both) could be identified with a blue-collar, working class, background, not a privileged one. Thus, likening a nonelite education with an anti-establishment point of view becomes feasible and renders the correlations about education understandable."[22]

Subsequently, in his 2003 article, Schneider used descriptive statistics and multinominal logistic regressions to analyze the influence of socio-demographic characteristics of appellate judges on their approaches to statutory interpretation in tax cases.[23] The 419-case dataset represented a 10% sample of all listed circuit decisions in Westlaw regarding federal tax during 1996-2000. The coding for approaches to statutory interpretation and social background variables was similar to his 2001 article:

> "The explanatory (independent) variables in the database include the judge's gender, race, eliteness of college and law school, primary pre-judicial professional experience, the appointing President's economic liberalism, years on the bench when the sampled case was decided, religious preference, whether the case was deemed by the court to have precedential value, whether the taxpayer was represented by a lawyer, and the taxpayer's legal status. The outcome (dependent) variable was the

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[20]   *Ibid.* at 493-94.

[21]   See Schneider, "Assessing and Predicting", *supra* note 14 at 524.

[22]   *Ibid.* at 521.

[23]   See Schneider, "Statutory Construction", *supra* note 15.

method the court used to interpret the Internal Revenue Code in justifying its decision."[24]

Schneider reported that elite education could be the most promising independent variable in terms of its potential to explain the choice of statutory interpretation approaches. He explained that his "earlier work concluded that some aspects of background – most notably education – were in fact closely associated with the judges' methods of justification."[25] In the later part of the article, Schneider said: "judges who had gone to less elite colleges [tend] to justify their decisions with the less sophisticated approaches and judges who had gone to more elite schools [rely] on the more technical approaches."[26] He divided statutory interpretation approaches into less or more "sophisticated" or a theoretical method of interpreting the Internal Revenue Code. The mere reliance on precedent and total absence of interpretation, revealed due to summary dispositions, were deemed less sophisticated than strict construction of a statute, deference to the Internal Revenue Service, deference to the Code's structure and deference to a Code section's legislative history.

However, finding correlation only does not mean finding causation. Schneider expressed doubt on the predictive power of socio-demographic characteristics in judicial decision-making: "[T]he results in this article are consistent with my earlier article regarding methods of construction used to interpret the Internal Revenue Code. Social background factors are not highly predictive of how judges justify their tax decisions in the databases I assembled about recent appellate decisions, nor are aspects of the litigation themselves, such as whether the taxpayer was represented by a lawyer."[27]

Finally, in his 2005 article, Schneider used descriptive statistics and multinominal logistic regressions to analyze the same dataset from his 2003 article to determine whether socio-demographic characteristics of appellate judges influenced their selection of winners in tax cases.[28] The coding was similar to that from his 2002 article:

> "The independent variables examined were aspects of a judge's background, including gender, race, eliteness of undergraduate education, eliteness of law school education, the judge's primary prior professional service before being appointed to the judgeship from which the judge had rendered the decision, the party of the President who appointed the judge to the appellate bench, the length of the judge's tenure when rendering the opinion, and the judge's religion. The dependent variable in all cases was the party in whose favor a judge ruled."[29]

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[24] *Ibid.* at 274-75.

[25] *Ibid.* at 258.

[26] See Schneider, "Statutory Construction", *supra* note 15 at 286.

[27] See Schneider, "Statutory Construction", *supra* note 15 at 289.

[28] See Schneider, "Social Background Model", *supra* note 16.

[29] *Ibid.* at 227-28.

Schneider reported that:

"[t]he only independent variable with a result even approaching statistical significance was the eliteness of a judge's law school. Judges with elite law school educations could be predicted to decide more cases in favor of the government."[30]

On a more general note, Schneider said:

"This article and the earlier trial-level article offer a platform for further qualitative work about the meaning of judges' decisions in favor of the government or the taxpayer. Future researchers should note the evidence presented in these two articles, which reveals that the traditional observations about judges' social backgrounds do not hold true in tax cases. The traditional observations simply cannot explain associations of seemingly "liberal" groups (e.g., judges appointed by Democratic Presidents or black judges), with decisions in the taxpayer's favor."[31] This traditional notion is that Republican judges would vote for taxpayers while Democrat judges would vote for the government.

As quantitative projects on judicial decision-making in tax cases in the past focused on political affiliations of the judges, Schneider's move to go beyond that marked a major milestone. The move took the project of quantitative analysis of judicial decision-making forward because it included a broader variety of relevant life-influential variables in the modeling.

However, Schneider appeared to be willing to concede that socio-demographic characteristics of judges did not influence their decision-making in tax cases. The tipping point for Schneider might have occurred in the research process for his 2003 article. In his 2001 and 2002 articles, he appeared to be widely receptive to whether social backgrounds of judges could explain their judicial behavior. But in the 2003 article, he "wanted to test the hypothesis that federal appellate judges' rationale in justifying their decisions is fairly unaffected by social backgrounds, both in patterns seen in descriptive statistics and in predictions suggested by regressions," and he found that "social background is a poor indicator of the methods of statutory construction judges use in justifying their decisions."[32]

One motivation for this paper is to determine whether socio-demographic characteristics of judges are decision-influential variables in judicial decision-making in Canadian tax cases. The exploratory data analysis presented later in the paper shows that quantitative analysis can capture some of the influences of socio-demographic characteristics of Canadian judges in their decision-making. To set up the presentation, Section 3 describes the data used in the analysis.

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[30]   *Ibid.* at 230.

[31]   *Ibid.* at 240.

[32]   See Schneider, "Statutory Construction", *supra* note 15 at 258-59.

III. ORIGINAL DATASET OF JUDICIAL DECISION-MAKING IN SUPREME COURT OF CANADA INCOME TAX CASES

Two original Supreme Court of Canada datasets were compiled for the analysis of the influences of socio-demographic characteristics of judges on their decision-making in income tax cases. One is a case dataset, while another is a judge dataset.

The case dataset contains information in regard to income tax cases decided by the Supreme Court of Canada from 1920 to 2003. The information includes the names of the cases, the years in which they were decided, the outcomes in the Supreme Court, the position of each justice on each panel and the decisions that were under appeal. The case dataset consists of published cases reported in law reports in Quicklaw, especially Dominion Tax Cases, and law reports in eCarswell.

The judge dataset contains biographical information of the justices who decided the cases based on official Supreme Court of Canada biographies.[33] The biographical information provided socio-demographic information that describe the prime ministers who appointed the justices, where the justices were born, where they spent the majority of their careers, their education and their prior professional careers. The use of the official biographies is to ensure that similar information is available for each justice.

In the case dataset development, conscious efforts were made to divide the cases into unanimous and nonunanimous categories.[34] Prior analyses of judicial behavior often focused on nonunanimous cases, which reflect disagreements among judges over legal issues in dispute.[35] Such disagreements are viewed as providing an opening for the influence of extra-legal variables such as personal background variables to seep into judicial

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[33]   The dataset on judges is based on official biographies of justices available at "Judges of the Court", online: Supreme Court of Canada <http://www.scc-csc.gc.ca/AboutCourt/judges/index_e.asp>.

[34]   Some justices exhibited consistent voting patterns in unanimous cases that are different from those in nonunanimous cases. One way to illustrate that point is that the differences between voting patterns in unanimous and nonunanimous cases of 11 justices did not occur by chance. The Fisher's exact test results of the voting records of these justices are significant at a five-percent level. The voting records are tabulated in 2 x 2 contingency tables. One table is set up for each justice, with vote counts (for and against taxpayers) as rows and case types (unanimous and nonunanimous) as columns. The justices are Bastarache, Cartwright, Cory, Hall, Iacobucci, La Forest, Laskin, Locke, Pigeon, Spence and Taschereau, JJ. Their names are marked with an asterisk in Appendix I. However, the point is not to name the justices who exhibited consistently different voting patterns in two different case types — there are data constraints, such as the small number of votes cast by some justices. The point is that it is worth examining the voting records of justices in addition to looking at tabulations of the votes.

[35]   See *supra* note 3.

decision-making. The data analysis in this paper adopts this convention and divides the cases into unanimous and nonunanimous categories, with special attention to nonunanimous case data. This analysis was not a stand-alone exercise. The analysis of data derived from nonunanimous cases was always conducted in comparison with unanimous cases. Therefore, the same data analysis performed on data derived from nonunanimous cases was also performed on data derived from unanimous cases.

Some information was not included in datasets used for this paper to simplify the dataset development process. The yet-to-be-coded case information includes the nature of cases such as whether the issues in dispute were related to a particular topic such as, for example, interest deductibility. As such case-related information could be useful in future data analysis of judicial decision-making, such information could be included in the next round of judicial decision-making dataset development. Other case-related data for Canadian tax cases that was not coded includes judges' approaches to statutory interpretation, whether the more general issues in the cases were related to the General Anti-Avoidance Rule (GAAR) and whether the cases were related to Generally Accepted Accounting Principles (GAAP).

Like the case dataset, the coverage of the judge dataset is not exhaustive. The judge dataset does not contain data on, for example, the parents and family members of the Supreme Court justices. Arguably the income of the parents of the justices, for instance, could be a good proxy of the social class and thus upbringing of the justices and an informative variable in the modeling. Such data could be added in future editions of the dataset.

The case dataset and the judge dataset were combined to produce a merged dataset of 1,932 judicial votes cast by 57 Supreme Court justices in 356 income tax cases decided from 1920 to early 2003. Methodologically, the transformation of the case data into voting data accomplishes three things. First, it increases the number of observations. Second, it changes the unit of analysis to individual justices' votes from cases decided by votes cast by panels of justices. Third, it shifts the focus of analysis to individual action of justices from group action of justices. However, it should be emphasized that the focus of the data analyses of this paper remains group behavior of judges. That means the purpose of the paper is to raise useful questions about judicial behavior of different groups of judges – Supreme Court justices with different socio-demographic characteristics – rather than to unearth information about individual justices.

According to the merged dataset, the Supreme Court decided 356 income tax cases, an estimated 4% of all cases decided by the Court from

1920 to early 2003.[36] Unanimous cases accounted for 77% or 273 of all cases, while nonunanimous cases accounted for 23% or 83 of all cases. The Court did not decide any income tax cases in 1921, 1927, 1928, 1945, 1951, 1989 and 1991. In the remaining years of the study period, the number of cases decided per year ranged from 1 case in 11 different years to 22 cases in 1967.

Chronologically, the first case in the merged dataset is *Union Natural Gas Co. of Canada* v. *Dover (Township)* decided in 1920.[37] It was the first income tax case decided by the Supreme Court, about three years after the introduction of federal income tax in Canada as a war-time revenue-raising measure for the federal government in 1917. The last case in the merged dataset is *Markevich v. Canada*,decided in March 2003.[38]

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[36]   As no official and definite total case count is found, the following estimation procedure is
         followed. Assuming that the Supreme Court of Canada rendered an average of 100
         judgments a year, the number of judgments rendered over 84 years would total 8,400.
         Dividing 356 by 8,400 would yield 0.04. In other words, judgments on income tax cases
         accounted for roughly 4% of total number of judgments rendered.

[37]   [1920] 60 S.C.R. 640.

[38]   [2003] 1 S.C.R. 94.

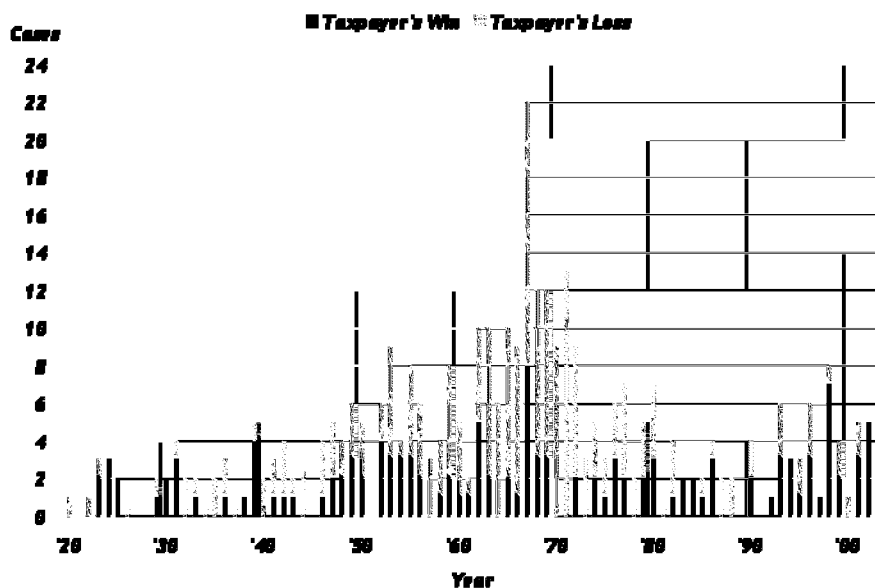**Figure 1: Number of Income Tax Cases Decided by Supreme Court of Canada, 1920-2003**

Figure 1 shows a spike in the annual number of income tax cases decided in the late 1960s and early 1970s. The number rose from the 1950s to the 1960s from 53 to 98 or an 85% hike and fell from the 1960s to the 1970s from 98 to 62 or a 37% slide. One reason for the fall might be that by 1975 the automatic right of appeal to the Supreme Court of non-criminal cases was largely removed. The automatic right of appeal could be one of the reasons behind the fact that taxpayers appeared to be losing more in the 1960s and 1970s. As anyone could have mounted an appeal at that time, the Supreme Court had to deal with many cases that may not have had merit. In the study period 1920-2003, the Supreme Court decided in favour of taxpayers in only 37% or 133 of all cases.,[39] In addition, 35% or 96 of the unanimous cases were decided in favour of taxpayers, compared with 45% or 37 of the cases in nonunanimous cases.[40]

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[39] Case outcomes are coded 1 to represent taxpayer wins and 0 to represent taxpayer losses.

[40] Outcomes of unanimous and nonunanimous cases are not that different. A chi-square test result is not significant at a five-percent level. In other words, the chi-square test result says that it is by chance that cases of a particular type (unanimous or nonunanimous cases) had particular outcomes (for or against taxpayers). The case data are tabulated in a

The vote data mirrored the win-loss split for taxpayers of the case data,[41] with 57 justices casting 1,932 votes, of which only 39% or 750 were cast for taxpayers but 61% or 1,182 were cast against taxpayers. At first glimpse, the voting patterns in unanimous cases and nonunanimous cases do not look that different from each other, as each has a four-to-six split. For the 1,465 votes cast in unanimous cases, the for-and-against-taxpayers split is roughly four to six, with 37% or 547 of the votes cast for taxpayers, while 63% or 918 of them cast against taxpayers. For the 460 votes cast in nonunanimous cases, the for-and-against-taxpayers split is again roughly four to six, with 44% or 202 of the votes cast for taxpayers, while 56% or 258 of them cast against taxpayers. Delving deeper into the voting records of judges provides more information about possible voting patterns.

IV. PROBIT REGRESSIONS OF JUDICIAL DECISION-MAKING IN SUPREME COURT OF CANADA INCOME TAX CASES

The exploratory data analysis asked whether an independent variable was likely to influence the casting of the votes for taxpayers by justices, holding all other variables constant. Eight independent variables were used in the probit regressions against the votes as the dependent variable.[42] They were (A) **Prior Taxpayer Win** – whether taxpayers won the cases in the prior court; (B) **Post-*Charter* Era** – whether the cases were decided in the post-*Charter* era; (C) **Political Ties** – whether the justices were appointed by Liberal party prime ministers; (D) **Regional Ties** – whether the justices spent a significant portion of their careers in Quebec; (E) **Judicial Experience** – whether the justices were judges before they were appointed to the Supreme Court of Canada; (F) **Law Teaching Experience** – whether the justices had taught law before their appointment; (G) **Entrepreneurial Experience** – whether the justices founded their own

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2 x 2 contingency table, with case outcomes for taxpayers and case outcomes against taxpayers as the rows and unanimous cases and nonunanimous cases as the columns.

[41] Votes are coded 1 to represent outcomes for taxpayers and 0 to represent outcomes against taxpayers.

[42] Probit regression is used as a device to index the relative influences of the independent variables on the dependent variable. Probit regression, like other multiple regressions, allows the testing of the power to explain a dependent variable by an independent variable while keeping all other independent variables unchanged. The dprobit procedure in Stata 8 is used with the cluster option for the analyses. The dprobit procedure produces probit regression for categorical variables with the marginals, while the cluster option in a way identifies the voting records by each judge while generating robust standard errors. The use of the cluster option is to account for the fact that each judge voted more than once over a number of years and thus each judge's votes cast over time are assumed not to be independent. See Appendix II for dprobit's outputs.

law firms before they were appointed to the Court; and (H) **International Education** – whether the justices had gone to universities outside Canada.

The first two variables provide the interpretative context, with (1) serving as a proxy for the Legal Model, while (2) providing the temporal context for judicial decision-making. Prior Taxpayer Win and Post-*Charter* Era are used to provide context for the data analysis. The modeling was designed to test the power of socio-demographic characteristics of Supreme Court justices in explaining their decision-making in income tax cases.

The variables do not include some common sociological ones like gender, race and class. In terms of gender, only five out of 57 Supreme Court justices in the merged dataset are female. In the study period, the five justices – McLachlin C.J.C., Arbour, Deschamps, L'Heureux-Dubé, and Wilson JJ. – accounted for only about 5% of all the votes cast in income tax cases. As the vote count was low, gender influences were not explored, as statistical modeling conducted here requires a higher count. Gender could be included in future data analysis of judicial decision-making of the Supreme Court once more votes from female justices are recorded. In terms of race, none of the 57 justices are members of visible minority groups. Class is often mentioned along with gender and race. All of the justices could be considered to be pillars in their upper-class communities in society, and the homogeneity was not conducive to quantitative analysis. However, their family backgrounds could be an interesting socio-demographic variable for future dataset development.
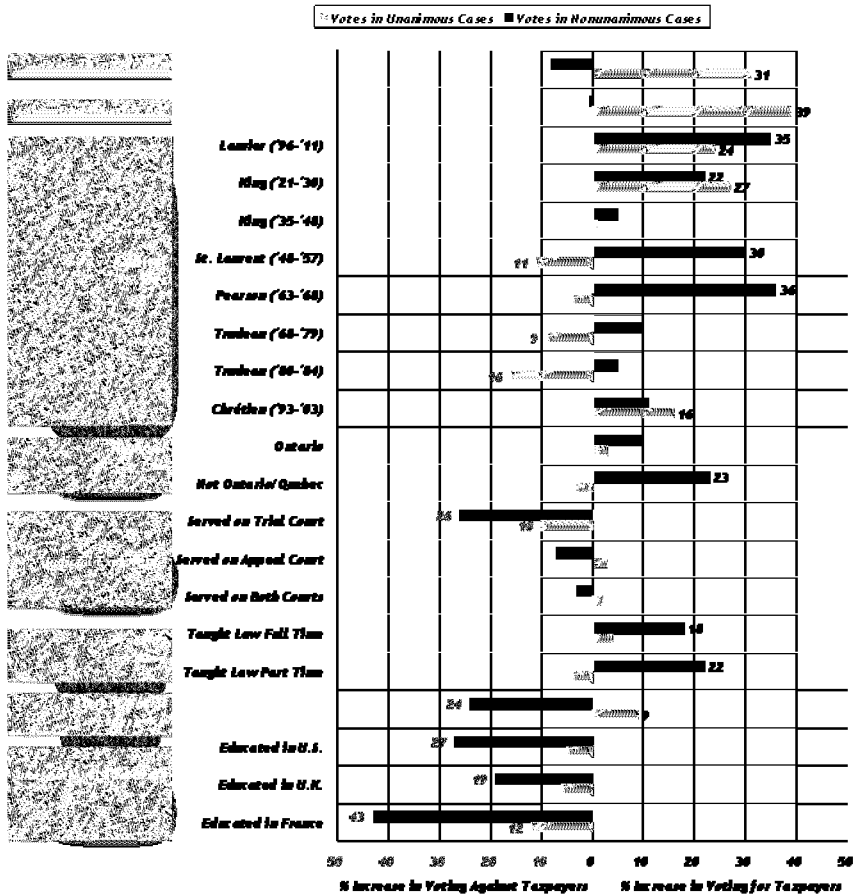
Figure 2 below presents the findings graphically. The figure can be interpreted from left to right and then from top to bottom. The figure has a column of variable names on the far left and two grid-panels to the right of the column. The left column lists the main categories of the explanatory variables in grey shading, with the sub-categories, if any, next to them. Adjacent to the left column are the two grid-panels. The left grid-panel shows the percentage increase in voting against taxpayers and the right grid-panel shows the percentage increase in voting for taxpayers. The increases are shown in grey and black horizontal bars. The percentage increase refers to a change in the propensity to vote for taxpayers given a change in the status of a variable, for example, from a prior taxpayer loss to a prior taxpayer win as illustrated below. The grey horizontal bars represent votes cast in unanimous cases, while the black horizontal bars represent votes cast in nonunanimous cases. The length of the bars represents the magnitude of the percentage increases, with the data labels at the outside end of the bars showing the percentage changes that did not occur by

chance.[43] The rest of Section 4 elaborates the findings as illustrated in Figure 2.[44]

Figure 1:   Visualisation of Probit Regression Results [Regression Table in Appendix]

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[43]   The numbers represent marginal probabilities of variables that are significant at a five-percent level.

[44]   Two probit regressions were run, one on votes in unanimous cases, the other on votes in nonunanimous cases. The y variable is the votes, while the x variables are the decision-influencing variables. The analysis takes into consideration that one Supreme Court justice voted more than once. The focus of the probit regression analysis is on the marginal change in probabilities – the change in probabilities as a result of a change in status of not having one socio-demographic characteristic to having the characteristic. See information on dF/dx in Appendix II.

Votes in Unanimous Cases ■ Votes in Nonunanimous Cases

Laskier ('96-'11)

King ('21-'30)

King ('35-'44)

St. Laurent ('48-'57)

Pearson ('63-'68)

Trudeau ('68-'79)

Trudeau ('80-'84)

Chrétien ('93-'03)

Ontario

Not Ontario/Quebec

Served on Trial Court

Served on Appeal Court

Served on Both Courts

Taught Law Full Time

Taught Law Part Time

Educated in U.S.

Educated in U.K.

Educated in France

% Increase in Voting Against Taxpayers   % Increase in Voting for Taxpayers

A. Prior Taxpayer Win

Judges interpret the law in deciding cases. One possible proxy of the influence of the law on judicial decision-making is the outcomes of the cases decided by other courts. As Schneider said, "[o]ne characterization of judicial decision-making is that judges engage in traditional legal reasoning, applying the law to the facts, and, implicitly, that any judge should arrive at the same result if presented with the same law and factual situation."[45] In this paper, Prior Taxpayer Win, which represents whether taxpayers had

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[45] See Schneider, "Social Background Model", *supra* note 16 at 205.

won their cases in the appellate court, serves as a proxy of the influence of the law in judicial decision-making.[46] In unanimous cases, 57% or 242 of the 424 votes in cases won by taxpayers in the prior court were cast for taxpayers but only 29% or 305 of the 1,041 votes in other cases were cast for taxpayers. In nonunanimous cases, 40% or 53 of the 134 votes in cases won by taxpayers in the prior court were cast for taxpayers, while 46% or 149 of the 326 votes in other cases were cast for taxpayers.

The question about Prior Taxpayer Win is whether the Supreme Court justices are more likely to vote for taxpayers in cases that were won by taxpayers in the prior court than in cases that were not won by taxpayers, holding all other variables constant. As shown in Figure 2, justices were about 31% more likely to vote for taxpayers in unanimous cases that taxpayers had won in the prior court than in unanimous cases that taxpayers had lost in the prior court in the study period, holding all other variables constant. The finding appears to make sense because in general, previously decided cases are supposed to have an impact on judicial decision-making in cases where Supreme Court justices did not find any legal ambiguity of the issues at hand. However, as the Supreme Court does not need to follow precedent set by a lower court, the finding seems to suggest that judges, from different levels of court, may be more likely to interpret the law in similar ways on legal issues that have less ambiguity. As information about the nature of cases, was not included in the data for analysis, more research is required to further explore this idea.

B. Post-*Charter* Era

Justices may act in ways that are in tune with the times in which they live. To capture some impact of the times on judicial decision-making, the study period was divided into segments and comparisons of judicial behavior were made over time. As Ostberg and Wetstein claimed that Supreme Court justices were prone to vote for taxpayers in post-*Charter* years,[47] the year of the enactment of the *Charter* – 1982 – is chosen as the dividing line. The reason why the *Charter* was chosen as a sign post was to test what prior researchers have done. Under the variable of Post-*Charter* era, the votes were divided by cases decided before or after the enactment of the Charter in 1982.[48] In unanimous cases, 28% or 310 of the 1,122 votes in pre-*Charter* cases were cast for taxpayers. However, 69% or 237 of the 343 votes in post-

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[46]   A taxpayer win in the prior court is coded 1, while otherwise is coded 0. Strictly speaking, the cases that are coded 0 should be cases that taxpayers had not won rather than lost. For the purposes of this paper, it is sufficient to call these "cases that taxpayers had lost in the prior court."

[47]   *Supra* note 9. The *Charter* effect is discussed in more detail in the multivariate analysis later in this section.

[48]   A vote cast in the post-*Charter* era is coded 1, while otherwise is coded 0.

Charter cases were cast for taxpayers. In nonunanimous cases, 43% or 157 of the 369 votes in pre-*Charter* cases were cast for taxpayers, while 47% or 46 of the 98 votes in post-*Charter* cases were cast for taxpayers.

The question about the Post-*Charter* Era is whether the Supreme Court justices were more likely to vote for taxpayers in the post-*Charter* era than in the pre-*Charter* era, holding all other variables constant. As mentioned, Ostberg and Wetstein have alluded to a possible *Charter* effect on judicial decision-making in Canadian Tax cases.[49] Ostberg and Wetstein found that judges would likely be more pro-taxpayer in cases concerning income tax deductions and stock/estate taxes than in cases concerning sales tax. In explaining the finding, Ostberg and Wetstein said that "it appears that the justices on the post-Charter Canadian Court are more prone to favor the economic liberty claims of taxpayers who seek to protect their current income from taxation as opposed to taxation on future economic gains."[50] The distinction between current and future income was not elaborated in detail.

As shown in Figure 2, justices were about 39% more likely to vote for taxpayers in unanimous cases in the post-*Charter* era than in unanimous cases in the pre-*Charter* era in the study period, holding all other variables constant. However, there was little *Charter* effect on nonunanimous cases. The finding suggests that Supreme Court justices were more likely to vote for taxpayers on legal issues with less ambiguity in recent decades than in earlier years. Whether there was indeed a *Charter* effect as suggested by Ostberg and Wetstein will need future research because there could be alternative explanations that were not included in this model. One example is that maybe the Ostberg-Wetstein *Charter* effect was just a reflection of the effects of the elimination of cases that lacked merit since the mid-1970s.

C. Political Ties

Judicial decision-making is possibly explained by the political leanings of judges. However, unlike their American counterparts, Canadian judges seldom declare their political leanings in public. Therefore, in this analysis a proxy was needed to represent judges' political leanings.

The political party of the Canadian prime ministers who appointed the justices could serve as a proxy. The underlying idea is that Canadian prime ministers more likely appointed Supreme Court justices who shared similar political views. This choice of proxy is in line with the modeling practice in prior quantitative research on judicial decision-making in the U.S., where the political parties of the presidents who appointed the U.S. Supreme Court justices are used as the proxy variable. As reviewed earlier in the paper,

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[49] *Supra* note 9.

[50] *Ibid.* at 20-21.

Altieri, Apple, Marquette and Moore as well as Schneider used the political party of U.S. presidents who appointed the judges as the proxy in their respective analyses of U.S. tax cases. Under the variable of Political Ties, justices are divided into those appointed by Liberal Party prime ministers and others.[51] In 1920-2003, a total of 13 prime ministers formed 17 governments in Canada. Among these prime ministers, only 11 appointed justices to the Supreme Court. Among these prime ministers, six were from the Liberal Party.

The Liberal Party appointees were made by Wilfrid Laurier in his term from July 11, 1896 to October 6, 1911; Mackenzie King in his first term from December 29, 1921 to June 28, 1926 and his second term from September 25, 1926 to August 7, 1930; King in his third term from October 23, 1935 to November 15, 1948; Louis St. Laurent in his term from November 15, 1948 to June 21, 1957; Lester Pearson in his term from April 22, 1963 to April 20, 1968; Pierre Trudeau in his first term from April 20, 1968 to June 3, 1979; Trudeau in his second term from March 3, 1980 to June 30, 1984; and Jean Chrétien in his term from Nov. 4, 1993 to Dec. 12, 2003. The lone Liberal Party Prime Minister in the study period excluded is John Turner, who did not appoint any Supreme Court justice in his term from June 30, 1984 to September 17, 1984.

The non-Liberal Party prime ministers who appointed Supreme Court justices were Robert Borden (Unionist: October 12, 1917 – July 10, 1920); Richard Bennett (Conservatives: August 7, 1930 – October 23, 1935); John Diefenbaker (Progressive Conservatives: June 21, 1957 – April 22, 1963); Joe Clark (Progressive Conservatives: June 4, 1979 – March 2, 1980); Brian Mulroney (Progressive Conservatives: September 17, 1984 – June 25, 1993). Kim Campbell (Progressive Conservatives: June 25, 1993 – November 4, 1993) was excluded because she did not appoint any Supreme Court justices.

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[51]   Appointed by a Liberal Party prime minister is coded 1, while otherwise is coded 0.

Figure 3: Votes in Unanimous Cases of Justices by Prime Ministers Who Appointed Them
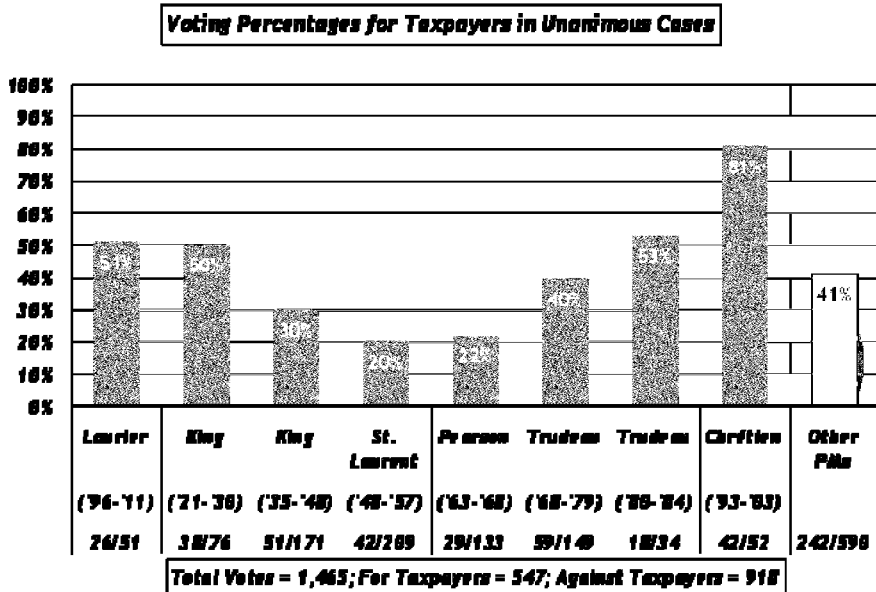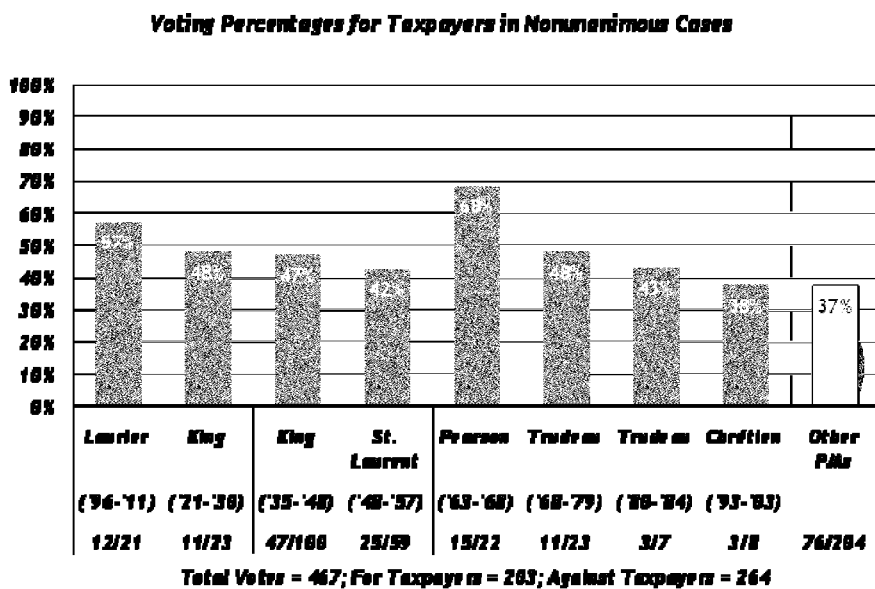

Voting Percentages for Taxpayers in Unanimous Cases

Figure 2: Votes in Nonunanimous Cases of Justices by Prime Ministers Who Appointed Them

Voting Percentages for Taxpayers in Nonunanimous Cases

Laurier	King	King	St. Laurent	Pearson	Trudeau	Trudeau	Chrétien	Other PMs
('96-'11)	('21-'30)	('35-'48)	('48-'57)	('63-'68)	('68-'79)	('80-'84)	('93-'03)	
12/21	11/23	47/100	25/59	15/22	11/23	3/7	3/8	76/204

Total Votes = 467; For Taxpayers = 203; Against Taxpayers = 264

The question about Political Ties is whether the Supreme Court justices appointed by Liberal Party prime ministers were more likely to vote for taxpayers than justices who were not appointed by Liberal Party prime ministers, holding all other variables constant. In prior quantitative research on judicial decision-making in the Supreme Court, the political ties to the Liberal Party were found to have influenced some justices to cast "liberal" votes for the government in a conflict between business and government at times but not all the time.[52]

As was shown in Figure 2, justices appointed by some Liberal Party prime ministers were more likely to vote for taxpayers than justices appointed by other prime ministers. Justices appointed by Laurier were about 24% more likely to vote for taxpayers in unanimous cases than justices appointed by non-Liberal Party prime ministers. They were also about 35% more likely to vote for taxpayers in nonunanimous cases than

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52   *Supra* note 3.

justices appointed by non-Liberal Party prime ministers, holding all other variables constant. Justices appointed by King in his first two terms were about 27% more likely to vote for taxpayers in unanimous cases than justices appointed by non-Liberal Party prime ministers. They were about 22% more likely to vote for taxpayers in nonunanimous cases than justices appointed by non-Liberal Party prime ministers, holding all other variables constant. Justices appointed by Chrétien were about 16% more likely to vote for taxpayers in unanimous cases than justices appointed by non-Liberal Party prime ministers, holding all other variables constant. Justices appointed by Pearson were about 36% more likely to vote for taxpayers in nonunanimous cases than justices appointed by non-Liberal Party prime ministers, holding all other variables constant.

However, the fact that the justices were appointed by a Liberal Party prime minister did not necessarily mean that the justices were more likely to vote for taxpayers than justices appointed by other prime ministers in all cases in the study period, holding all other variables constant. Justices appointed by St. Laurent were about 11% more likely to vote against taxpayers in unanimous cases than justices appointed by non-Liberal Party prime ministers, even though these St. Laurent justices were 30% more likely to vote for taxpayers in nonunanimous cases than justices appointed by non-Liberal Party prime ministers. Justices appointed by Trudeau in his first term were about 9% more likely to vote against taxpayers in unanimous cases than justices appointed by non-Liberal Party prime ministers, while justices appointed by Trudeau in his second term were about 16% more likely to vote against taxpayers in unanimous cases than justices appointed by non-Liberal Party prime ministers.

In short, it is inaccurate to say categorically that justices appointed by Liberal Party prime ministers were definitely more likely to vote one way or another, even though some prior findings said justices appointed by Liberal Party prime ministers tended to rule for the government in legal disputes between business and the government. As different justices appointed by different Liberal Party prime ministers may vote differently, no sweeping conclusion should be made on the influences of the political ties of the justices. The finding resonates with Schneider's finding. He said,

> appointment to the bench by Democratic Presidents was correlated to decisions in the taxpayer's favor in both the appellate and trial level data sets. This finding contradicts the traditional expectation that judges appointed by Republican Presidents,which judges are generally more conservative than those appointed by Democratic Presidents, are more likely to render pro-taxpayer decisions."[53]

One wonders whether there is another variable that can better represent the political affiliations of Supreme Court justices. As the political agenda of

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[53]   See Schneider, "Social Background Model", *supra* note 16 at 204.

a political party evolves over time, grouping all Liberal Party prime ministers under the umbrella of one political banner might not be the best way to do this. Also, the use of the political party of the prime ministers who appointed the justices as a proxy of the political leanings of the justices may not work all the time in Canada. As Canadian justices do not need to undergo essentially open political vetting in the equivalent of a Congressional hearing, there is no way to verify whether the political leanings of the justices and the prime ministers who appointed them match. Thus, more research is required to identify another variable to approximate Political Ties of the justices.

D. Regional Ties

Judges from different parts of the Canadian cultural mosaic can be influenced by the practices, customs and cultures of their respective regions. The *Supreme Court Act* ensures that three Supreme Court justices must be hailed from Quebec.[54]Among the remaining six, three are usually from Ontario, two from the West, and one from Atlantic Canada. As shown in prior research, Quebec justices vote differently as a group on a consistent basis in comparison with other justices.[55] Under the variable of Regional Ties, justices are divided into those from Ontario, Quebec and other areas.[56]

Although the convention in quantitative analysis of judicial decision-making is to consider the birthplace of the judge as the place to which he or she has ties, such a convention may not accurately capture the regional influences on judges. The judicial appointment process to the Supreme Court at times regards the place where the judge built her or his career as the place the judge "represents." For example, Justice McIntyre, who was appointed as a justice from British Columbia, was born in Quebec but practiced law as well as served both as a trial judge and an appellate judge in British Columbia for a total of over 20 years.[57] In this paper, the place where a justice spent a large part of his or her working life is considered the region to which she or he had ties.

54   *Supreme Court Act*, R.S.C. 1985, c. S-26, s. 6:

  At least three of the judges shall be appointed from among the judges of the Court of Appeal or of the Superior Court of the Province of Quebec or from among the advocates of that Province.

55   *Supra* note 3.

56   Thus the set of two dummy variables represents three categories – whether justices spent a large part of their working lives in Ontario, Quebec or somewhere other than Ontario and Quebec. Justices with ties to a region are coded 1, otherwise 0.

57   See McConnell, *infra* note 65. Incidentally, the appointment of Justice McIntyre to replace Justice Spence, who was from Ontario rather than British Columbia, was said to be a strategic move by Trudeau to "placate the British Columbia bar which thought the province had been ignored." See Sharpe, *infra* note 65 at 186-87.

Figure 3: Voting Records of Justices with Different Regional Ties

Voting Percentages for Taxpayers
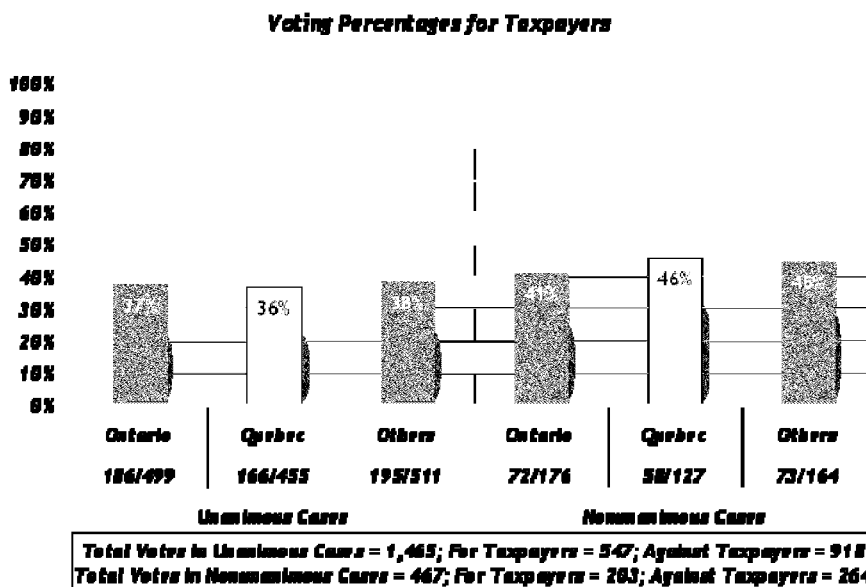
The question with respect to Regional Ties is whether the Supreme Court justices who spent a large part of their careers in Quebec were more likely to vote for taxpayers than justices who did not spend a large part of their careers in Quebec, holding all other variables constant. Prior research has found Quebec justices to be more likely to vote for the government in economic cases than others at times but not all the time.

As shown in Figure 2, in the study period, justices who had built their careers in areas other than Ontario and Quebec were about 23% more likely to vote for taxpayers in nonunanimous cases than justices who had built their careers in Quebec, holding all other variables constant. Regional ties to Ontario had little influence.

In other words, Supreme Court justices who spent a large part of their careers in areas other than Ontario and Quebec were more likely to vote for taxpayers in nonunanimous cases than justices who had not spent a large part of their careers in those areas, holding all other variables constant. The finding is somewhat consistent with prior findings that Quebec judges were more likely to vote for the government than non-Quebec judges in economic-related cases. The question on the use of regional division arises.

Future research is required to determine whether finer geographical division can generate more insights in a multivariate analysis.

The upcoming subsections present findings on votes cast by justices grouped according to their professional careers prior to their appointment to the Supreme Court. Prior professional experiences of Supreme Court justices could very well have shaped their thought processes and thus influenced their decision-making in income tax cases. Before being appointed to the Supreme Court, justices spend a large part of their professional lives judging, teaching or practicing law. Therefore, these aspects of their careers are explored here in relation to judicial decision-making.

E. Judicial Experience

Judicial Experience, one of three variables involving prior professional experience, considers whether Supreme Court of Canada justices sat on either trial or appellate courts prior to their appointment.[58]

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[58]   A set of three dummy variables is coded to represent whether justices sat on the bench at the trial court, appellate court or both courts. In each dummy, justices with the relevant experience are coded 1, otherwise 0.

Figure 6: Voting Records of Justices Divided by Types of Prior Judicial Experience
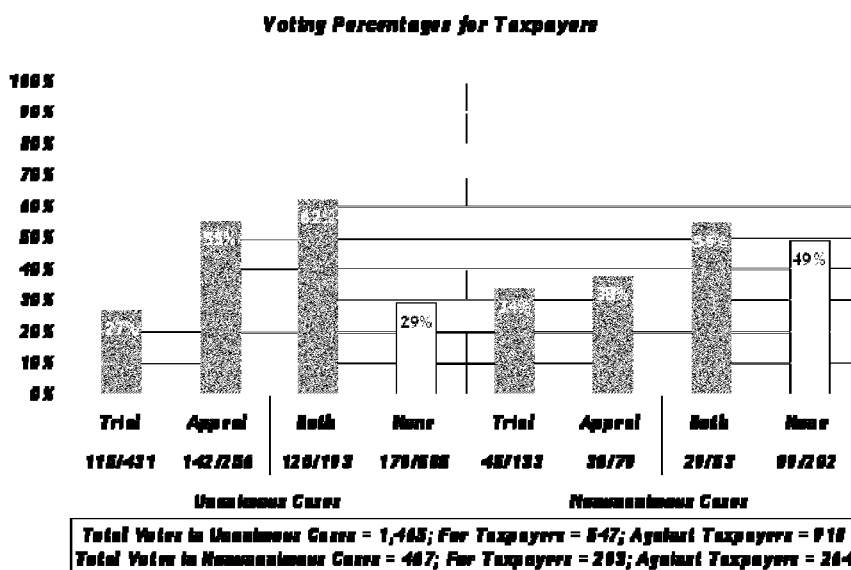
The question about Judicial Experience is whether the Supreme Court of Canada justices who were judges before their appointment to the Supreme Court of Canada were more likely to vote for taxpayers than justices who were not judges before, holding all other variables constant. As shown in Figure 2, justices who were trial judges before their appointment were about 10% more likely to vote against taxpayers in unanimous cases than justices who had no prior judicial experience in the study period and about 26% more likely to vote against taxpayers in nonunanimous cases than justices who had no prior judicial experience in the study period, holding all other variables constant. Other types of judicial experience had little significant impact on judicial decision-making.
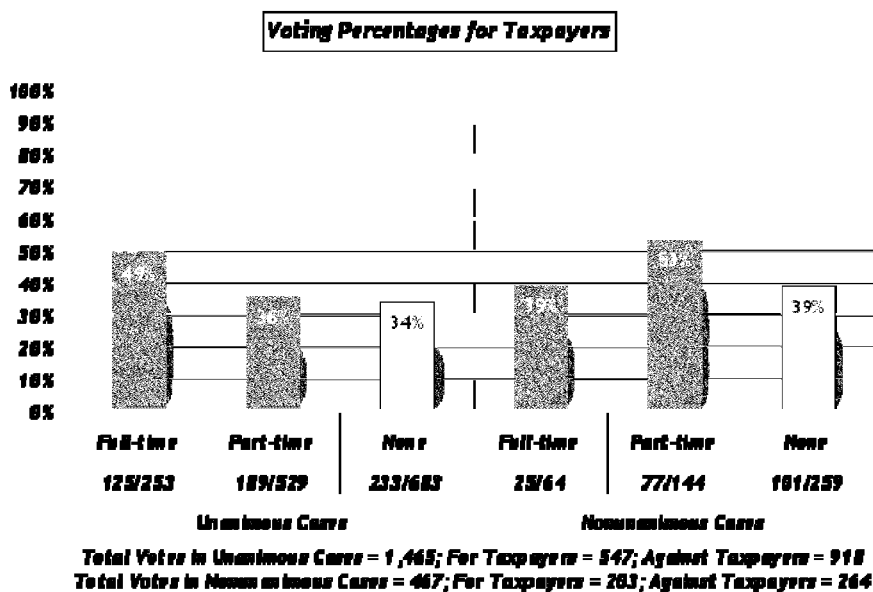
In other words, the Supreme Court of Canada justices who were trial judges before their appointment to the Supreme Court of Canada were more likely to vote against taxpayers than justices who were not judges before, holding all other variables constant. One conjecture is that trial court judges may have seen taxpayers trying to do whatever they could to wriggle out of their taxpaying obligations, and consequently became more cynical about

taxpayer arguments. However, there could be other reasons behind the finding; more research on the linkage between voting pattern and judicial experience is needed.

F. Law Teaching Experience

The Law Teaching Experience variable represents whether Supreme Court of Canada justices taught law on a full-time or part-time basis.[59]

Figure 4: Voting Records of Justices Divided by Types of Law Teaching Experience

The question about Teaching Experience is whether, holding all other variables constant, the Supreme Court of Canada justices who taught law before their appointment to the Court—as opposed to those who did not— were more likely to vote for taxpayers. As shown in Figure 2, justices who taught law on a full-time basis before their appointment were about 18% more likely to vote for taxpayers in nonunanimous cases than justices who had not previously taught law, while justices who taught law on a part-time

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59   A set of two dummy variables for three categories is coded to represent whether justices were full- or part-time law teachers. Justices with the relevant experience are coded 1, otherwise 0.

basis prior to being appointed were about 22% more likely to vote for taxpayers than justices who had not previously taught law.

In other words, the Supreme Court of Canada justices who taught law before their appointment to the Court were more likely to vote for taxpayers than justices who did not teach law before. This finding echoes Schneider's conclusions that appellate "[j]udges who had come from teaching law were associated with decisions in the taxpayer's favor unless they were Protestant."[60] One conjecture is that judges who were law teachers dealt with the sheer complexity of tax law more than others, and when facing income tax cases that had significant legal ambiguity, these judges were more willing to interpret the law in favour of the taxpayers. This finding and the previous finding on Judicial Experience raise intriguing unanswered questions. More research will be needed to understand why Supreme Court of Canada justices who were trial judges were more likely to vote against taxpayers but Supreme Court of Canada justices who were law teachers were more likely to vote for taxpayers.
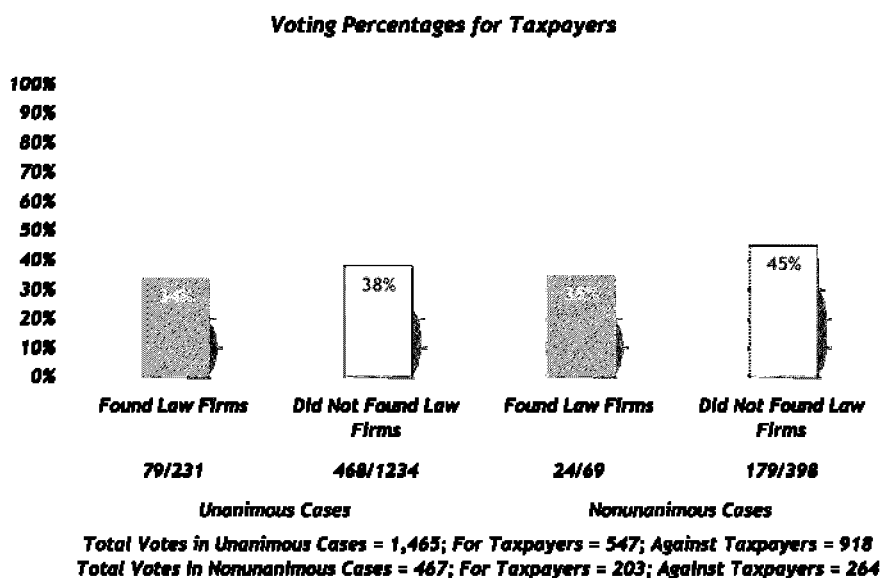
G. Entrepreneurial Experience

The formulation of questions about the influences of the justices' experiences in practicing law was slightly more complicated. Justices invariably practiced law for some length of time prior to their appointment to the Supreme Court. Therefore, asking whether the justices practiced law before does not provide as much information as whether the justice founded their own law firms.[61] This latter question was used in the analysis because justices' experience in establishing their own firms could suggest a level of entrepreneurialismthatjustices who did not found their own firms did not possess.   These entrepreneurial justices might decide cases in a way different from their brethren. In this paper, Entrepreneurial Experience, one of three socio-demographic variables about prior professional experience, represented whether Supreme Court of Canada justices founded their own law firms before their appointment to the Supreme Court.[62]

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[60]   See Schneider, "Social Background Model", *supra* note 16 at 238.

[61]   Using a dummy variable to represent whether the justices were lawyers before is not an option as most justices were lawyers. The one-sided pattern is of little statistical use because of a lack of variation, especially in multivariate analysis.

[62]   A dummy variable is set up to represent whether the justices founded their own law firms. An affirmative answer is coded 1. Otherwise it is coded 0.

Figure 8: Voting Records of Entrepreneurial Justices and Others

Voting Percentages for Taxpayers

Total Votes in Unanimous Cases = 1,465; For Taxpayers = 547; Against Taxpayers = 918
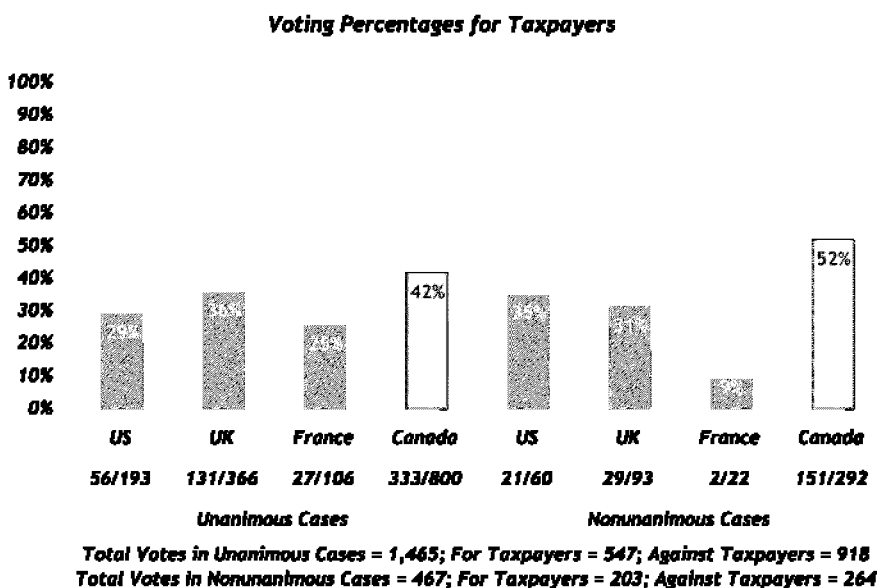Total Votes in Nonunanimous Cases = 467; For Taxpayers = 203; Against Taxpayers = 264

The question is whether the Supreme Court of Canada justices who founded their own law firms were more likely to vote for taxpayers than justices who did not found their own law firms, holding all other variables constant. Intuition suggests that justices with entrepreneurial experience would have more faith in free-market ideology than other justices because they benefited from the marketplace and thus, would be more likely to vote against the tax-collecting government. However, as shown in Figure 2, justices who founded their own firms were about 9% more likely to vote for taxpayers in unanimous cases than other justices but about 24% more likely to vote against taxpayers in nonunanimous cases than other justices. In other words, justices who founded their own law firms arewere more likely to vote for taxpayers than justices who did not found their own law firms in unanimous cases but arewere less likely to vote for taxpayers than others in nonunanimous cases, holding all other variables constant. More research will be helpful to understand this counterintuitive result.

H. International Education
Education influences one's decision making. As shown in the literature review in Section 2, Schneider found that appellate judges who went to non-elite law schools were more likely to vote for taxpayers. However, this

concept is difficult to apply in Canada because law schools here are not ranked by "eliteness". In light of the historical data available, the direction of this inquiry has been modified. Some justices studied at universities outside of Canada for part of their legal education. The question is whether this may have been a factor that affected their decision-making. The variable of International Education represents whether Supreme Court of Canada justices went to universities in the United States, the United Kingdom or France.[63]

Figure 9: Voting Records of Justices Divided By Place of Education

Voting Percentages for Taxpayers

	US	UK	France	Canada	US	UK	France	Canada
	56/193	131/366	27/106	333/800	21/60	29/93	2/22	151/292

Unanimous Cases   Nonunanimous Cases

Total Votes in Unanimous Cases = 1,465; For Taxpayers = 547; Against Taxpayers = 918
Total Votes in Nonunanimous Cases = 467; For Taxpayers = 203; Against Taxpayers = 264

As shown in Figure 2, justices who were educated outside Canada were more likely to vote against taxpayers than justices who only went to universities in Canada, holding all other variables constant. Justices who went to universities in the United States were about 27% more likely to vote against taxpayers in nonunanimous cases than justices educated entirely in Canada. Justices who studied at universities in the United Kingdom were

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63   A set of three dummy variables for four categories is coded to represent whether justices went to universities in the United States, United Kingdom or France. For each dummy justices who went to universities outside Canada are coded 1, otherwise 0.

about 19% more likely to vote against taxpayers in nonunanimous cases than justices only educated in Canada. This figure more than doubled for justices who attended French universities, to 43%. In addition, justices who went to universities in France were also about 12% more likely to vote against taxpayers in unanimous cases than justices educated only in Canada.

In other words, justices who went to universities outside Canada were more likely to vote against taxpayers than justices who were educated entirely in Canada, holding all other variables constant. One conjecture is that justices who went to universities outside Canada had greater exposure to European and American ideas about the welfare state during their sojourns abroad; as the goals of taxation are to raise government revenue and redistribute income, it is possible that justices who were more sympathetic to the idea of the welfare state were more likely to vote against taxpayers.

Nevertheless, more data is required to determine the extent of the influence of being educated outside Canada on judicial decision-making. For example, the strong showing of the influence of a French education raised a data issue since only three justices went to universities in France: Abbott, Bastarache and Le Dain JJ. Although the unit of analysis was votes, having only three sources of votes presented a potential problem. Among the three, Abbott's voting record dominated, as he cast the most votes of all 57 justices in the study. Of his 103 votes, Abbott cast 90 votes against taxpayers but only 13 votes for taxpayers. Comparing that record against Bastarache's and Le Dain's showed that the French connection really might only be the Abbott connection. Bastarache cast eight of his 24 against taxpayers, while Le Dain cast his one vote against taxpayers.

Still, rerunning the probit regressions without Abbott did not change the outcome that International Education was a variable that could explain justices' propensity to vote for the government. As a result, despite the limited availability of data, it remained informative to break down the International Education variable into three geographical groups in the current analysis with hopes that future research will find more clues about the presence or absence of the influence of International Education on judicial decision-making.

I. Summary of the Analysis of Historical Data

The analysis of historical data in the probit regressions above suggests that the social-demographic characteristics of Supreme Court justices can influence their decision-making in income tax cases. However, the influences of the justices' political ties did not fall neatly along party lines. Similarly, the influences of regional ties and prior careers were mixed, with some variables exerting influences in certain situations. In contrast, the

influence of International Education was decidedly one-sided. In general, justices who went to universities outside Canada were more likely to vote against taxpayers than justices who went to universities in Canada in cases with a high level of legal ambiguity, holding all other variables constant.

As a crude summary, justices who had previously taught law were more likely to vote for taxpayers. In tax cases with a high level of legal ambiguity, those who had worked outside Ontario and Quebec were more likely to vote for taxpayers. Other factors that increased the likelihood of voting against taxpayers were education abroad and service as a trial judge. Figure 10 summarizes the findings. The left column shows the variable under examination, the middle column points out the voting propensities, while the right column shows in what type of cases the voting propensities were likely to occur.

Figure 10: Summary of Findings of the Probit Regressions on Historical Data

Variable	Voting Propensity	Case Type
Prior Taxpayer Win	Justices were *more likely to vote for taxpayers* who had won in the prior court than taxpayers who had lost in the prior court.	*Unanimous*
Post-*Charter* Era	Justices were *more likely to vote for taxpayers* in the post-*Charter* era than in the pre-*Charter* era.	*Unanimous*
Political Ties	Justices appointed by Liberal Party prime ministers *may be more likely to vote for or against taxpayers* than those appointed by other prime ministers.	*Unanimous & Nonunanimous*
Regional Ties	Justices from outside Ontario and Quebec were *more likely to vote for taxpayers* than justices from Ontario and Quebec.	*Nonunanimous*
Judicial Experience	Justices who were trial judges were *more likely to vote against taxpayers* than justices who were not trial judges.	*Unanimous & Nonunanimous*
Law Teaching Experience	Justices who taught law were *more likely to vote for taxpayers* than justices who had not taught law.	*Unanimous & Nonunanimous*

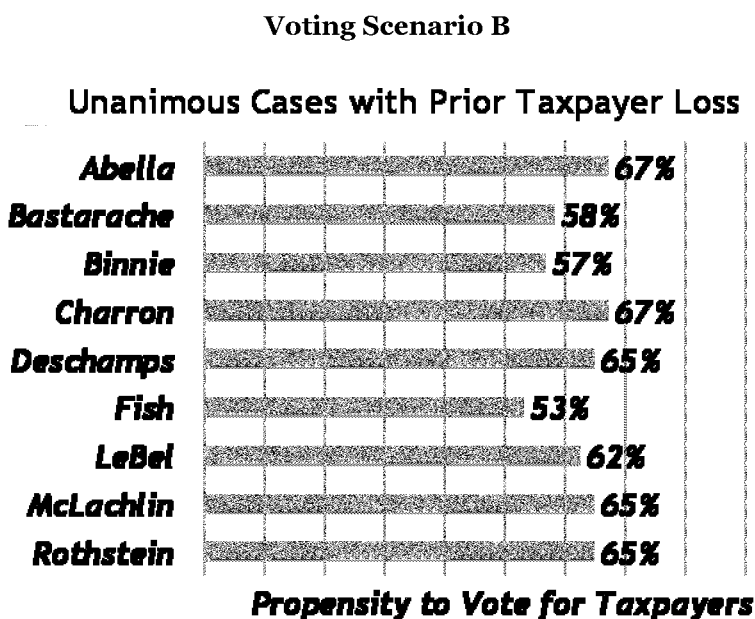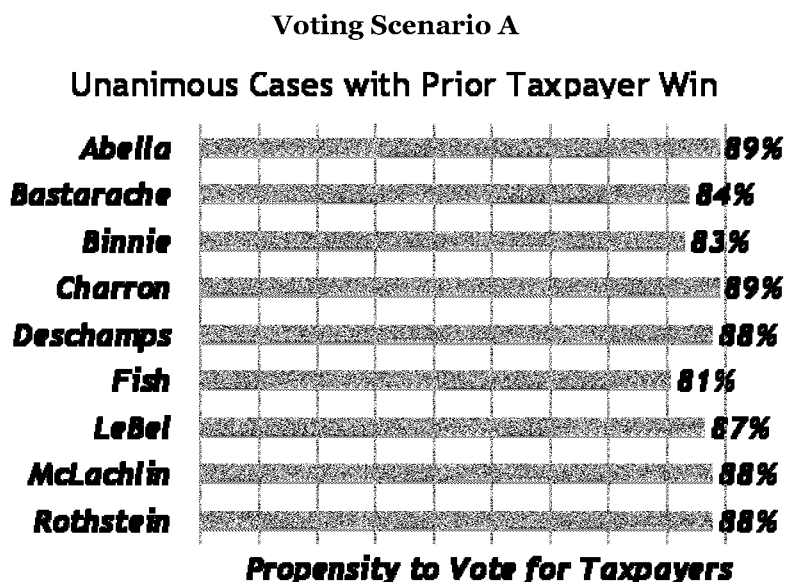|		
Entreprene urial Experience	Justices who founded their own law firms were *more likely to vote for/against taxpayers* than justices who did not found their own law firms.	*Unanimous/ Nonunanimo us*
Internation al Education	Justices who attended universities outside Canada were *more likely to vote against taxpayers* than justices who were educated only in Canada.	*Unanimous & Nonunanimo us*

V. VOTING SCENARIOS

Prior quantitative studies on judicial decision-making were mostly designed to explain past judicial behavior rather than to predict future judicial behavior.[64] In this section, the probit regressions based on historical data were used to develop simulated voting scenarios of selected Supreme Court of Canada justices based on their socio-demographic backgrounds. The simulated voting patterns were merely possibilities because the probit regressions were only an abstraction and did not incorporate all the nuances of the real world. Four scenarios were generated to illustrate possible judicial behavior when the selected justices face cases that taxpayers had won or lost in the prior court with different degrees of ambiguity on the legal issues. The scenarios are shown in Figure 11, which lists the last names of the selected nine justices as row headings and socio-demographic characteristics as column headings. The presence of a characteristic was marked with a black square bullet. For example, Abella was appointed by a Liberal prime minister, built her career in areas outside Quebec, was a judge, taught law, did not found her own law firm and is an alumnus of Canadian universities. Voting scenarios were generated based on the socio-demographic profile of the justices, as shown in Figure 12.

Figure 11: Socio-demographic Characteristics of Selected Supreme Court Justices

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64   For a recent discussion on the retrospective nature of quantitative studies on judicial decision-making in the U.S., see Theodore W. Ruger *et al.*, "The Supreme Court Forecasting Project: Legal and Political Science Approaches to Predicting Supreme Court Decisionmaking" (2004) 104 Colum. L. Rev. 1150 at 1153–54.
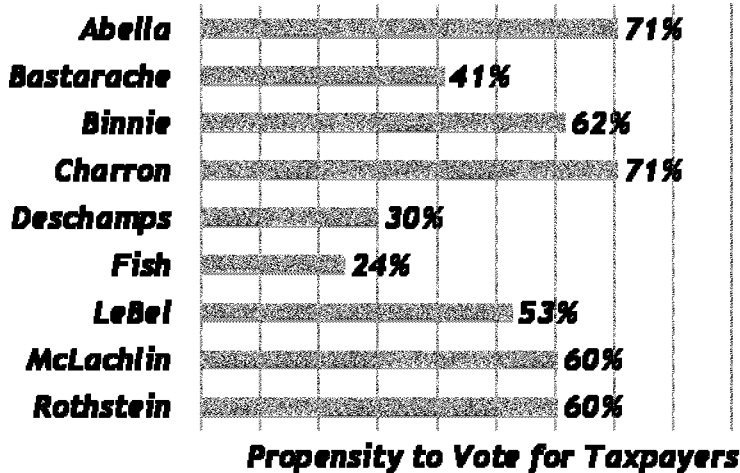
	Liberal Political Ties	Quebec Ties	Judicial Experience	Law Teaching Experience	Entre-preneurial Experience	International Education
Abella	■		■	■		
Bastarache	■		■	■		■
Binnie	■			■		■
Charron	■		■	■		
Deschamps	■	■	■			
Fish	■	■	■	■		■
LeBel	■	■	■	■		
McLachlin			■	■		
Rothstein			■	■		

Figure 12: Propensity to Vote for Taxpayers of Selected Supreme Court of Canada Justices

Voting Scenario A

Unanimous Cases with Prior Taxpayer Win

Justice	Propensity to Vote for Taxpayers
Abella	89%
Bastarache	84%
Binnie	83%
Charron	89%
Deschamps	88%
Fish	81%
LeBel	87%
McLachlin	88%
Rothstein	88%

Propensity to Vote for Taxpayers

Voting Scenario B

Unanimous Cases with Prior Taxpayer Loss

Justice	Propensity to Vote for Taxpayers
Abella	67%
Bastarache	58%
Binnie	57%
Charron	67%
Deschamps	65%
Fish	53%
LeBel	62%
McLachlin	65%
Rothstein	65%

Propensity to Vote for Taxpayers

Voting Scenario C

Nonunanimous Cases with Prior Taxpayer Win

Abella	71%
Bastarache	41%
Binnie	62%
Charron	71%
Deschamps	30%
Fish	24%
LeBel	53%
McLachlin	60%
Rothstein	60%

Propensity to Vote for Taxpayers

Voting Scenario D

Nonunanimous Cases with Prior Taxpayer Loss

Abella	78%
Bastarache	50%
Binnie	70%
Charron	78%
Deschamps	39%
Fish	32%
LeBel	62%
McLachlin	69%
Rothstein	69%

Propensity to Vote for Taxpayers

In Voting Scenario A, unanimous decisions with a prior taxpayer win, the propensity to vote for taxpayers is over 80% for all justices. This propensity to vote for taxpayers was the highest among the four scenarios. In Voting Scenario B, unanimous decisions with a prior taxpayer loss, the propensity to vote for taxpayers hovers in a narrow range from 50% to 70%. In contrast, the propensity to vote for taxpayers in Voting Scenario C, nonunanimous decisions with a prior taxpayer win, ranged from 20% to 80%. Finally, in Voting Scenario D, nonunanimous decisions with a prior taxpayer loss, the propensity to vote for taxpayers ranges from 30% to 80%.

The simulated voting scenarios show that taxpayers have the greatest chance to win in less legally ambiguous cases if they won in the prior court (as in Voting Scenario A). Assuming a propensity to vote for taxpayers higher than 50% could lead to a pro-taxpayer vote, taxpayers could still win less legally ambiguous cases even if they had lost in the prior court (as in Voting Scenario B).

For cases with a lot of legal ambiguity, the outcome is more interesting. The simulation suggests that the appointment of Justice Rothstein to replace retired Justice Major in early 2006 has bolstered the chances of taxpayers winning such cases. For the purposes of the simulation, Rothstein shares the same socio-demographic characteristics as McLachlin, as shown in Figure 12. However, Rothstein and Major differ because Major has no teaching experience recorded in his official Supreme Court of Canada biography. This difference does not significantly change Major's propensity to vote for taxpayers in Scenarios A and B (89% and 67% respectively). However, in Scenarios C and D, this difference has the potential to change the outcome of cases.

Before the Rothstein appointment, taxpayers could have won or lost such a case with a five-to-four split, even if they had won in the prior court (as in Voting Scenario C). The swing vote in Voting Scenario C was held by LeBel, whose propensity to vote for taxpayers was estimated to be only three percentage points over 50%. After the Rothstein appointment this uncertainty has been erased, because Major's 37% propensity to vote for taxpayers has been replaced by Rothstein's 60%. In other words, the possibility of a five-to-four split against the taxpayer has been eliminated, as there are now only four justices (Bastarache, Deschamps, Fish, and LeBel) with a propensity to vote for the taxpayer of less than 50%.

In Scenario D, even before Rothstein was appointed, taxpayers had a very good chance of winning because only four justices, including Major, had propensities to vote for taxpayers less than or equal to 50% (Bastarache, Deschamps, Fish and Major). Rothstein's 69% has replaced Major's 46%, so taxpayers' chances have been further improved.

In other words, taxpayers have a very good probability of success in the Supreme Court of Canada, according to the simulation. Before Rothstein's appointment, the only relatively adverse scenario for taxpayers was in more legally ambiguous cases that they had won in the prior court, as represented by Voting Scenario C. In such a scenario, Fish, Deschamps, Bastarache and Major were estimated to be more likely to vote against taxpayers, and LeBel had the swing vote. However, the Rothstein appointment has eliminated that possibility in the simulation.

Among the current justices, Abella, Charron, McLachlin and Rothstein are most likely to vote for taxpayers, while Fish is most likely to vote against taxpayers, based on the four simulated voting scenarios.

VI. REFLECTING ON THE EXPLORATORY DATA ANALYSIS

Different judges perform their judicial duties differently. Biographies of Supreme Court justices make note of their different judicial decision-making approaches. According to these biographies, Justice Bora Laskin followed a sociological and policy-oriented approach,[65] while Justice Brian Dickson preferred to stick to the strict deliberation of legal matters.[66] Similarly, if Justice Emmett Hall felt an injustice had been done, he would find a way to correct it,[67] but Justice William McIntyre espoused judicial restraint in the pursuit of a fair result. In particular, McIntyre "feared that an overzealous bench would, in effect, usurp the government's legislative role, thereby weakening the institutional credibility of the Supreme Court."[68] The exploratory data analysis conducted in this paper aims help understand why different judges acted differently under the same legal regime.

In the study period, 1920-2003, the socio-demographic characteristics of Supreme Court justices influenced their decisions in income tax cases, particularly in legally ambiguous cases. Based on the results of the probit regression analyses of historical data, simulated voting patterns of the nine current Supreme Court justices have been produced, and one thing is clear:

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[65]   Robert J. Sharpe & Kent Roach, *Brian Dickson: A Judge's Journey* (Toronto: University of Toronto Press for the Osgoode Society for Canadian Legal History, 2003) at 149.

[66]   *Ibid.* at 150.

[67]   Frederick Vaughan, *Aggressive in Pursuit: The Life of Justice Emmett Hall* (Toronto: University of Toronto Press for the Osgoode Society for Canadian Legal History, 2004) at 174.

[68]   W.H. McConnell, *William R. McIntyre: Paladin of the Common Law* (Montreal: McGill-Queen's University Press for Carleton University, 2000) at 93-94.

justices with similar socio-demographic characteristics may decide cases in similar ways and cast votes that form similar patterns.

This finding supports the argument for socio-demographic diversity on the Supreme Court of Canada. The argument goes as follows: Justices with similar socio-demographic characteristics are more likely to vote alike. This is not necessarily a good thing because in cases with a lot of legal ambiguity there is more room for the influences of socio-demographic backgrounds to seep into judicial decision-making. Therefore, a court without socio-demographic diversity may not be able to explore all the points of view that need to be explored in complex cases.

Put another way, having Supreme Court panels composed of justices with homogenous socio-demographic backgrounds may hinder the court's capabilities in deciding complex cases. The focus here is not to argue that a socio-demographically diverse Supreme Court may be able to decide complex cases in "better" ways, whatever that means. Instead, the focus is to argue that not having a socio-demographically diverse Supreme Court may prevent the court from deciding complex cases in the best way.

In the exploratory data analysis, some socio-demographic variables were examined to see whether their influences on judicial decision-making could be detected. So far, the exploratory data analysis has confirmed the influence of socio-demographic characteristics of Supreme Court justices in income tax cases from 1920 to 2003. But these findings will need to undergo repeated tests to confirm their usefulness in explaining future judicial behavior. As is often the case in statistical analysis, a finding is never proven to be true; it is only not proven to be false temporarily. The underlying idea is that all empirical discoveries may sooner or later be proven false when previously hidden information is uncovered.

This paper shows that an exploratory approach can raise useful questions regarding judicial decision-making in Canadian income tax cases. However, there are inherent limitations in any quantitative analysis of judicial decision-making.

Dependent variable. One limitation lies in the proxy for outcomes of judicial decision-making. The unit of analysis is judicial votes, rather than rulings in the cases. This raises the question of how accurately judicial votes can reflect complex judicial behavior. Critics of quantitative analysis often argue that quantitative analysis of judicial decision-making only focuses on outcomes (i.e. judicial votes) and ignores other important parts of judicial decision-making, such as approaches to statutory interpretation.[69] A group

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[69] For a recent discussion on the focus on outcomes rather than laws in cases of quantitative research on judicial decision-making in the United States, see Lee Epstein, Nancy Staudt & Peter Wiedenbeck, "Judging Statutes: Thoughts on Statutory Interpretation and Notes

of American researchers have been coding U.S. tax decisions according to
the statutory interpretation approaches used and developing a dataset for
further investigation of whether the statutory interpretation approaches
influence the outcome of a case.[70] Approaches to statutory interpretation
should definitely be included as a variable in future datasets on Canadian
judicial decision-making.

Independent variables. Another limitation involves the content of the
datasets used. Quantitative analysis of judicial decision-making often
focuses exclusively on judges, and pays little attention to other public policy
actors in the judicial decision-making process including interest groups,
politicians, and the news media. A thorough understanding of judicial
decision-making will not be reached without a detailed understanding of
actors in the judicial decision-making process other than judges. For
example, lawyers play a significant role in the adjudication process. Lawyers
are supposed to illuminate the legal issues with their advocacy skills and
facilitate the court to arrive at a just decision. Lawyers may make or break a
case for their clients. In future quantitative analyses of Canadian tax cases,
there should be ways to incorporate their role in the dataset, given the
availability of more resources for dataset development. One possible way is
to use the experience of a lawyer as a proxy for the capability of the lawyer,
and to answer the question of whether more experienced lawyers are more
likely to win in court. But of course, no matter what the lawyers do, the
judges decide the cases, and that leads back to the role of judges in judicial
decision-making.

Modeling. Another limitation is the lack of detail in modeling.
Quantitative analyses of judicial decision-making are mainly static in
nature. As all cases are treated the same, modeling cannot capture the
differences in the jurisprudential importance of cases. Modeling also ignores
temporal changes in judicial behavior.[71] For example, all cases are
statistically treated the same in this paper's exploratory study of judicial
decision-making. In future research, such an analysis can be improved by
categorizing the cases that feature self-represented taxpayers differently.
Furthermore, cases could be coded on a weighted scale to reflect their
relative importance.

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for a Project on the Internal Revenue Code" (2003) 13 Wash. U.J.L. & Pol'y 305 at 322–
23.

[70] *Ibid.* See also Nancy Staudt *et al.*, "Judging Statutes: Interpretive Regimes" (2005) 38
Loy. L.A. L. Rev. 1909.

[71] For a recent discussion on problems with the implicit assumption that all cases are of
similar importance in the development of law in quantitative research on judicial
decision-making in the United States, see Gregory C. Sisk, Michael Heise & Andrew P.
Morriss, "Charting the Influences on the Judicial Mind: An Empirical Study of Judicial
Reasoning" (1998) 73 N.Y.U.L. Rev. 1377 at 1392–94.

Nature of Quantitative Analysis. The most glaring limitations of quantitative analysis of judicial decision-making are due to the inherent limitations of quantitative analysis itself. Some things can never be understood by quantitative data analysis alone. The following is just a partial list of questions that would be difficult to answer by quantitative analysis alone.

- The Supreme Court of Canada was short-handed due to illnesses and absences in the 1980s.[72] Did that affect its judicial decision-making?

- Hall committed to a great deal of work on Royal Commissions, but in 1963-1973 he also sat on 582 cases, wrote 118 judgments, of which 28 were dissenting opinions.[73] Did Hall's heavy workload affect his judicial decision-making?

- Chief Justice Robert Taschereau struggled with alcoholism.[74] Did that affect his judicial decision-making?

- Martland was shocked to learn that Laskin, instead of himself, was appointed the chief in 1973.[75] Did unfulfilled career aspiration get in the way later?

- Hall was not a friend with Judson because of the latter's strict-constructionist approach,[76] while McInytre was a close friend of

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[72] See Anderson, *supra* note 2 at 155:

Part of the difficulty of managing the Court during the Laskin era and even after 1984 when Dickson replaced him as chief justice was related to illness and absences of judges. For a long period of time the Court was not functioning with its full complement.

See also Sharpe, *supra* note 65 at 375:

In the early 1980s it was Laskin and Ritchie. Then Chouinard was struck down with cancer in 1987. Estey was absent for a year on the banking inquiry and then, in the spring of 1987, was again out of commission with a blood clot that damaged his ophthomalic nerve. The more serious and debilitating illnesses of Beetz and Le Dain followed in the late 1988. As a result, Dickson, Wilson, and Lamer bore a disproportionate burden of the Court's work.

[73] See Vaughan, *supra* note 67 at 163.

[74] In a section entitled "A Sad Sidebar," Frederick Vaughan described how Taschereau was in a state that prevented him to perform his judicial duties late in his career in the mid-1960s but refused to leave the court. In one episode, Taschereau insisted on going to a conference in Switzerland but never left the hotel room for unstated reasons during the conference. Upon a request to submit a report on the conference to the minister of justice at the time, Pierre Trudeau, Taschereau asked the administrative officer of the court to write a brief report based upon imagined conference activities on his behalf, signed it and sent it to the minister. See Vaughan, *supra* note 67 at 210-14.

[75] See Sharpe, *supra* note 65 at 142.

[76] See Vaughan, *supra* note 67 at 173-74.

W. Estey in law school[77] and close to Beetz and Wilson on the Supreme Court of Canada.[78] Did these personal relationships affect the judicial decision-making of the justices?

- Pigeon was reported as describing the *Income Tax Act* as an example of "unworkable statutes" with too many details.[79] Did that affect his judicial decision-making in income tax cases in any way?

As some questions are very hard to answer with quantitative data analysis, I propose the development of a mixed approach in empirical research in judicial decision-making. Quantitative and qualitative research approaches can complement each other in knowledge discovery. On one hand, it is unrealistic to expect the use of quantitative analysis alone to be able to explain judicial decision-making fully because not all information can be represented in numbers. On the other hand, it is unrealistic to expect the use of qualitative analysis alone to completely answer all empirical research questions because textual information may not capture all the things numerical data can. Collaboration between quantitative researchers and qualitative researchers can pool their strengths together. For example, one quantitative analysis may offer clues that are not grasped by other qualitative analyses but will lead to further investigations by yet other qualitative researchers.[80] In this paper, the exploratory data analysis was designed to uncover interesting questions from the data available for future qualitative studies. Without further qualitative investigations, the full meanings of the quantitative findings will not be known. Without the quantitative exploration, no such clues for qualitative inquiries will be provided. As research is a social enterprise, quantitative empirical research can play a broader role in research in law and policy along with qualitative research to deepen understanding of judicial decision-making in income tax cases   in   Canada.

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[77]   See McConnell, *supra* note 68 at 12.

[78]   *Ibid.* at 83, 85. See also Anderson, *supra* note 2 at 152-53.

[79]   Pigeon was cited in B. Hill, "Court Rule on Bicyclist Reserved" *Ottawa Citizen* (8 June 1978). The story was about the *Moore v. The Queen*, [1979] 1 S.C.R. 195. See Sharpe, *supra* note 65 at 338. The current Income Tax Act is *Income Tax Act*, R.S.C. 1985 (5th Supp.), c. 1., as amended. The Act in use at the time of the Pigeon comment was *Income Tax Act*, S.C. 1970-71-72, c. 63.

[80]   Allan Bryman, among other researchers, has offered suggestions on how quantitative and qualitative researchers can work together. See Peter Burnham *et al.*, *Research methods in Politics* (Houndmills: Palgrave Macmillan, 2004) at 277. For an example of the Bryman approach, see Alan Bryman & James Teevan, *Social Research Methods*, Canadian ed. (Toronto: Oxford University Press, 2005). Also, see Melissa A. Hardy & Alan Bryman, eds., *Handbook of Data Analysis* (London: SAGE, 2003).

Appendix I: Voting Records of 57 Justices in Income Tax Cases, 1920-2003

Appendix II: Probit Regressions[1]

	Taxpayer Cases Coefficient	National Cases Coefficient	dF/dx	dF/dx
Prior Taxpayer-Win	0.813	-0.198	0.305	-0.077
	(0.629 - 0.998)**	(-0.480 - 0.083)		
Post-Charter Era	1.026	-0.010	0.390	-0.004
	(0.814 -1.237)**	(-0.471 - 0.450)		
Laurier ('96-'11)	0.608	0.924	0.238	0.347
	(0.381 - 0.834)**	(0.411 -1.437)**		
King ('21-'30)	0.688	0.560	0.269	0.220
	(0.465 -0.911)**	(0.089 -1.030)*		
King ('35-'48)	0.012	0.123	0.005	0.049
	(-0.312 -0.337)	(-0.322 - 0.568)		
St. Laurent ('48-'57)	-0.320	0.774	-0.113	0.300
	(-0.600 - -0.041)*	(0.212 -1.336)**		
Pearson ('63-'68)	-0.108	0.979	-0.040	0.364
	(-0.409 -0.193)	(0.048 -1.910)*		
Trudeau ('68-'79)	-0.237	0.261	-0.084	0.104
	(-0.469 - -0.005)*	(-0.400 - 0.923)		
Trudeau ('80-'84)	-0.492	0.131	-0.162	0.052
	(-0.710 - -0.275)**	(-0.357 - 0.619)		
Chrétien ('93-'10)	0.411	0.270	0.160	0.107
	(0.187 -0.636)**	(-0.856 -1.397)		
Ontario	0.075	0.254	0.028	0.100
	(-0.090 -0.239)	(-0.119 - 0.626)		
Not Ontario/Quebec	-0.080	0.576	-0.030	0.226
	(-0.255 -0.094)	(0.185 -0.968)**		
Served on Trial Court	-0.279	-0.704	-0.101	-0.261
	(-0.453 - 0.104)**	(-1.109 - -0.300)**		
Served on Appeal Court	0.082	-0.192	0.031	-0.074
	(-0.154 -0.319)	(-0.553 - 0.168)		
Served on Both Courts	0.094	-0.078	0.035	-0.031
	(-0.172 -0.360)	(-0.651 - 0.494)		
Taught Law Full Time	0.071	0.443	0.027	0.175
	(-0.130 - 0.273)	(0.012 - 0.873)*		
Taught Law Part Time	-0.099	0.558	-0.036	0.219
	(-0.246 -0.049)	(0.233 - 0.883)**		
Entrepreneurial Experience	0.232	-0.665	0.088	-0.239
	(0.024 -0.439)*	(-0.936 - -0.394)**		
Educated in U.S.	-0.124	-0.775	-0.046	-0.271
	(-0.414 -0.166)	(-1.264 - -0.285)**		
Educated in U.K.	-0.162	-0.494	-0.059	-0.185
	(-0.363 -0.040)	(-0.907 - -0.081)*		
Educated in France	-0.346	-1.815	-0.120	-0.432
	(-0.537 - -0.155)**	(-2.380 - -1.249)**		
Constant	-0.709	-0.293		
	(-1.042 - -0.376)**	(-0.892 - 0.305)		
Observations	1465	460	1465	460

Robust 95% confidence intervals in parentheses   * significant at 5%; ** significant at 1%

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[1]   The modelling may appear to be unrealistic as no interactive terms are included. In the beginning of the modelling process, interactive terms were included but no meaningful contribution of them was found so for the purpose of keeping the modelling as parsimonious as possible and limiting the use of degrees of freedom the interactive terms were dropped in later rounds of modelling.