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Do Politics and Economics Matter?
A Quantitative Analysis of the Relationship Between
Language Policy in the Province of Quebec and Interprovincial Migration
by
Gordon S.J. Leonard, M.P.P.A.
A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfilment of
the requirements for the degree of
Doctor of Philosophy
Department of Political Science
Carleton University
Ottawa, Ontario
March 17, 1994
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acceptance of the thesis.

DO POLITICS AND ECONOMICS MATTER?:
A QUANTITATIVE ANALYSIS OF THE RELATIONSHIP BETWEEN
LANGUAGE POLICY IN QUEBEC AND INTERPROVINCIAL MIGRATION

submitted by
Gordon S.J. Leonard, B. Comm., M.P.P.A

in partial fulfilment of the requirements
for the degree of Doctor of Philosophy

Chair, Department of Political Science

Thesis Supervisor

External Examiner

Carleton University
May 2, 1994
Abstract

In addressing the research question: Do politics and economics matter?, this dissertation is a quantitative analysis of the statistical relationship between language policy (Bill 63, Bill 22, and Bill 101), economics, and Quebec's interprovincial net-migration.

Bivariate and multivariate analyses reveal that the hypothesis that Quebec's interprovincial migration relates to the passage of language policy cannot be statistically substantiated. The research confirms that the immediate election of the Parti Québécois in 1976, and the widening gap in gross domestic product between Quebec and Canada partially accounted for negative net-migration in Quebec, where out-migration exceeded in-migration during this period.

The findings also substantiate that language policy in Quebec is important in the production and allocation of symbolic resources, and that Quebec's interprovincial migration (negative net-migration) is not, as many economists hypothesize, a simple "labour market adjustment".
Acknowledgements

It is important to recognize that this dissertation could not have happened without the support of Carleton University. More importantly, I would like to acknowledge the contributions and support of my faculty supervisor Professor Scott Bennett for his suggestions and practical advice over the years, and particularly that which relates to this research. I extend also my gratitude to my other faculty supervisors Professor Vincent Wilson and Professor Conrad Winn for their kindness, suggestions, and support in bringing this project to a conclusion. Over and above this, I would like to thank my close and immediate family for their endless support, particularly my wife Monica and our four children, Julia, Erica, Andrew, and David. I hope that my experience at Carleton University will provide my children with an educational model from which they can draw upon for years to come. Special thanks is extended to a great friend and successful doctoral candidate Tim Thomas for our many discussions and his assistance over the years.
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Chapter I: Introduction and Research Problem
Introduction

This research presents a statistical assessment of the impact that language legislation (Bill 63, Bill 22, Bill 101) exerted on interprovincial net-migration in the Province of Quebec. The hypotheses empirically test if there are statistical correlations between language legislation and interprovincial net-migration while controlling for economic variables.

Net migration is defined as the difference between in migration and out-migration. Since 1960, departures, the number of people leaving the province, exceeded arrivals. During the 1970's when the Quebec government implemented language legislation, Bill 22 and Bill 101, interprovincial net-migration was negative, a phenomena which carried over into the decade of the eighties.

Uli Locher states that many journalists, politicians, researchers have tried to establish the causes of the anglophone exodus from Quebec. Locher wrote that the principal arguments regarding the analysis of anglophone migration out of the province can be summarized as follows: (1) the phenomenon of exodus is temporary; (2) that the high rate of exodus in 1977 to 1978 had peaked; (3) that the rate would stabilize over time around a level that would be considered as normal; (4) that the linguistic legislation created fear in Quebec, and in the exterior that reduced the number of arrivals and increased the level of departures in Quebec; and (5) the exodus of anglophones relates to economic factors.

Related to these points, Termote states "that the causes for anglophones to leave Quebec are essentially socio-political, but due mainly to
economics, for example, the level of unemployment in the Province."

The empirical analysis presented in this dissertation provides additional insight into points (1) to (5) by employing a statistical technique in the form of a multiple regression model capable of testing the relationship that public policy and economics exerted on net-migration.

The dependent variable is interprovincial net-migration which includes international migration flows (those who have migrated to Quebec and have taken up residency), and the independent variables include a series of economic variables together with three linguistic policy variables. The first of the policy variables to be mentioned is language Bill 63 which was enacted in 1969. The second is Bill 22 which was passed into law in 1974, and the third is Bill 101 in the year 1977.

In research endeavours there are always limits to its scope. In this case, this study does not look at many of the broader issues, for example, immigration, emigration, births, and deaths as examined in the specialized field of demography. Because of the quantitative nature of this research, the focus of this dissertation is narrower in scope by looking at the relationship between language legislation and interprovincial net-migration flows.

This research is a statistical impact study of language policy in the Province of Quebec which examines the dependent variable interprovincial net-migration while controlling for economic factors. Specifically the intention is to assess the statistical impact that language policy may have had on the dependent variable net-migration. By examining the relationship between language policy and the dependent
variable net-migration, the desire is that this approach will contribute to a greater understanding of language policy and its possible impact on interprovincial migration.

In this dissertation, many questions are raised such as: Did language legislation have an impact on net-migration? Did language legislation account for an unintended policy externality? Is negative net-migration associated with the implementation of language legislation? Is the passage of language legislation related to interprovincial migration? Are the patterns of interprovincial migration mostly attributable to economics? What are the statistical correlations between economics and net-migration, and politics and net-migration?

**Historical Overview of Migration Phenomenon**

Statistics indicate that there is a demographic shift in the Province of Quebec. A review of the dependent variable reveals that net-migration was -19,869 for the period of 1961-66. During the period from 1966 to 1971, it was -122,735. Between the years of 1971 and 1981, 234,106 more people left than entered; and between 1981 and 1991, there were 119,328 more people who departed than entered. As Richard Joy points out there were 170,055 anglophones between the ages of ten and nineteen in Quebec in 1971, but only 140,575 between the ages twenty and twenty-nine in 1981; those in the age categories 20-34 in 1971, and 30-44 in 1981, dropped in numbers from 197,160 to 163,860 respectively. Joy states "that this loss of 17% in each of the categories reveals that gains through anglicization has been inadequate to compensate for the losses
through out-migration." As Joy further illustrated: "the number of anglo children aged 0-4 dropped from 61,345 in 1971, to 46,275 in 1981, while the number of francophone children increased from 390,650 to 404,910." Joy concluded by stating that there is a problem with the survival of minority communities, specifically anglophones in the Province of Quebec, and francophone communities outside of Quebec who face the pressing possibility of demographic extinction together with a corresponding loss of political power within their geographic location. Joy comments further:

The exodus of Quebec’s anglos merits some comment. By whatever criterion used home language or mother tongue the number of anglophones in Quebec dropped sharply between 1971 and 1981, while the number of francophones rose by almost 8%. The rate of net anglo departures was particularly high after the introduction of Bill 101 and the last census found 154,000 persons of English home language who were living elsewhere in Canada in 1981; this is equal to one fifth of the number of anglophones still in Quebec at that latter date."

Joy’s view expresses a concern that is broader in scope than just a concern over the anglophone minority in Quebec per se. Joy’s fear is that when minorities demographically disappear in parts of the country, the migratory pattern will have harmful effects on Canadian unity." Joy argues that the resulting patterns will be such that linguistic segregation (political fragmentation) will become more pronounced than what it is presently." However, this may be an overstatement as more and more of these small and isolated communities take further responsibility for economic and cultural development in seeking a bright future and place in Canada.

In a longitudinal study, Gary Caldwell surveyed 975 English high school graduates, class of 1970, over an extensive period consisting
of eleven years. Their whereabouts were established in 1976; again three years later, and finally between October 1982, and April 1983. Caldwell's findings are summarized by the following statement:

Eleven years after leaving high school, 45% of respondents and 50% of the English mother-tongue respondents are no longer in Quebec. This finding -- that half the generation of students of the seventies left confirms those reported by Uli Locher in a study carried out for the Conseil de la langue française, and based on data gathered in 1979. As for the subjects' parents, one-fifth of them left over the eleven year period."

Caldwell wrote, "from 1976 to 1981, an average of 34,000 anglophones left the province annually, while only 7,600 established residency, leaving an average net-migration of 26,400 persons." Uli Locher states "that this massive migration of anglophones where 131,500 anglophones left between the period of 1976 to 1981 was unprecedented in the history of Canada." As Caldwell points out, in the year 1844, anglophones represented twenty-five percent of Quebec's population. By the year 1871, it fell to twenty percent, and by 1986, it represented only eleven percent. Pertaining to this, Caldwell states that "the anglophone population of Quebec reached its historical high in 1976 (in absolute terms) thus indicating that there is truth to the assertion that English Quebecers were a million strong."

Ronald Rudin in an account of the historical trends of English-speaking Quebecers between the years 1759 and 1980 illustrates that there has been a long history of migration out of the province by anglophones. Using census data, Rudin established that first the movement of English-speaking people in the province was from the regions to the centres, rural to urban, and then the tendency continued with the exodus from Quebec's centre of economic activity, Montreal, to the
surrounding areas outside Montreal and outside the province.

Sellar linked population movement to political decisions,\(^9\) and in contrast to this, Rudin states that "it is necessary to retain a historical perspective in order to understand the economic basis of the departures from Montreal in the 1970’s."\(^10\) Furthermore, he argues that "yes" many English-speaking Montrealers during the 1970’s saw political factors as the reason for the exodus, but this insecurity had an impact because of changes that had taken place in the economy commencing at the turn of the century.\(^11\) In this respect, economic history and negative net-migration are linked and that politics is subordinated to the role of economic considerations.

Termote and Gauvreau state "that anglophones had a propensity to migrate that was twenty-three times as great as francophones."\(^12\) A study conducted by Ludger Beauregard highlights the thesis that many of Quebec’s internal problems relate to the inability of Quebec to retain its population base. For example, Beauregard illustrated that Quebec lost three federal counties on the electoral map, two before 1961, and one after because of population change.\(^13\)

In 1871, Quebec represented 32.4% of Canada’s population, while in 1971, it was only 27.9%.\(^14\) Roger Gibbins reported that in 1986, Quebec’s share of the national total dropped to 25.8%.\(^15\) Ridler wrote that demographically Quebec’s share of the Canadian population fell from 29% in 1966 to 26% in 1981, and economically its share of national output and employment growth rates decreased.\(^16\) As Beauregard writes: "Quebec’s position relative to the Province of Ontario diminished, for example, between the period 1901 and 1951, the difference between Quebec and
Ontario was approximately one half million inhabitants, but the difference tripled between 1951 and 1971." Beauregard highlighted the fact that this is a significant difference which seriously contributes to tensions between provinces and regions. Demographically, this creates a disequilibrium because there are regions that are growing on the one hand, and there are those in decline, on the other hand.

Similarly, Roger Gibbons states:

> On balance, Quebec anglophones tend to leave the province and francophones from outside Quebec tend to be drawn to the province... This pattern of interprovincial migration works to strengthen, not weaken, the country’s linguistic divide."

Furthermore, he states that "the linguistic trends inside and outside Quebec reveal that linguistic segregation is increasing in Canada." this, I would argue contributes to increase fragmentation and political tension in Canada.

Kenneth McRoberts wrote that "due to the demographic trends where by the year 2000, close to ninety-five percent of Canada’s francophones will live in Quebec, and given that Quebec’s total population is expected to grow slowly because of a general downward trend in the birth rate, and because of unfavourable net migration, Quebec’s weight in Canada is likely to decline."*

**The Link Between Language Policy and Migration**

Prior to dealing with the link between language policy and interprovincial net-migration, a brief review of the concepts is necessary. Migration flows can be characterized as: (a) international migration; (b) immigration; (c) emigration; and (d) interprovincial
International migration is important to all countries because population movements affect virtually all policy areas. Population movements in all countries affect health standards regarding its delivery system (costs and benefits); its educational sector; a nation’s age composition; employment participation rates; and in some countries its food supply and distribution. At present due to the different standards in data collection and the way people are classified, international comparisons of international migration and its effects are impossible. In future, as countries adopt similar standards, comparative analysis will become possible and more meaningful.

Because of the problem of comparability of international migration flows, countries instead collect data on immigration. This information in Canada is compiled by the Department of Employment and Immigration Commission. In Canada, the definition of an immigrant is contained in the Immigration Act (1976) which defines an immigrant as a person other than a Canadian citizen who has been legally granted admission to Canada, and who is legally authorized to establish permanent residence.

The next stream of population flows are emigrants which are persons who leave a country. In Canada, there is still little concrete information available, although annual estimates are published based on statistics compiled by the United States and the United Kingdom. Because of this, the use and the reliability of data are somewhat problematic.

The stream that is under study in this dissertation is a category called interprovincial migration. Interprovincial migration uses
family allowance files as an administrative data base to measure and compile statistics on this stream. Interprovincial migration defined by Statistics Canada is

the movement from one province to another involving a permanent change in residence. A person who takes up residence in another province is an out-migrant with reference to his province of origin, and an in-migrant with reference to his province of destination."

Net-migration is the difference between the number of in-migrants and out-migrants. This means that the unit of analysis includes those persons who have legally established permanent residence within the province of Quebec including international migration in and out of the province. As the definition clearly states, we are looking at a point of origin (the Province of Quebec) and an alternative destination which is noted as the province of destination. Specifically, international migration outside of Quebec, immigration and emigration are not under study, but interprovincial migration is the variable under consideration.

To summarize, the data set (interprovincial annual net-migration) includes international migration flows (those that have migrated to the Province) and have taken up residency, and those that have resided in Quebec for many years.

In the Province of Quebec, its growth in population prior to the decline in influence of the Catholic Church was largely attributable to its high birth rate, and also based on the fact that the number of immigrants coming to Quebec exceeded the number of emigrants. For example in the period 1971-81, Quebec received 227,296 immigrants. During the same period, 125,524 persons left Quebec, thus accounting for a positive net difference of 101,772 persons. This figure does not include interprovincial migrants. In the period, 1981 to 1991, Quebec had a total
of 247,943 immigrants, while for the same period, it had 62,178 emigrants. The positive net difference for this period was 185,765 persons. As a result of having a greater number of immigrants coming to Quebec in comparison to the numbers who left Quebec (not counting interprovincial migration), Quebec was able to sustain small increases to its population base.

Looking at interprovincial migration in Canada, it is important to recognize that Quebec has had a problem in achieving a positive net-migration in any given year. However, it is important to recognize that it is not only Quebec who faces similar problems. For example, Newfoundland in the period from 1971 to 1981, experienced a net-migration of -20,840 persons. During the 1981-91 period, net-migration was -31,022 persons. In the Province of Ontario, for example, during the 1971 to 1981 period, its net-migration was -96,386, however, in Quebec with a smaller population base, it had a negative net-migration 2.43 times larger than the loss experienced by the Province of Ontario. During the period, 1981 to 1991, Ontario had a positive net-migration of 194,085, whereas, in Quebec, its net-migration was minus 121,636 persons accounting for the difference between Quebec and Ontario of 315,721 persons. Both Manitoba and Saskatchewan had negative net-migration. In Manitoba, for the period 1971-81, net-migration was -69,045 persons. For the period 1981-91, negative net-migration was -39,088. Similarly, Saskatchewan during the 1971-81 period, its net-migration was a -44,852, and for the period 1981-91, its net-migration was -69,053. On the other hand, the Province of British Columbia between 1971 and 1981 had a positive net-migration of 130,007, and for the period 1981 to 1991, it was 146,242.
Similarly, Alberta during the first period (1971-81) had a positive net migration of 244,935, but in the period 1981 to 1991, its interprovincial net-migration was -73,114. As the figures in table one indicate, the last year that net-migration was positive in Quebec was in 1961-62. It is noteworthy that net-migration has been negative since, thus illustrating that there is a reoccurring problem. As the data highlight, the long-term trend has a negative slope.
Table One

Net-migration: Quebec’s Interprovincial Migration of Children and Adults

<table>
<thead>
<tr>
<th>Year</th>
<th>Net-Migration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961-62</td>
<td>1,659</td>
</tr>
<tr>
<td>1962-63</td>
<td>-504</td>
</tr>
<tr>
<td>1963-64</td>
<td>-5,978</td>
</tr>
<tr>
<td>1964-65</td>
<td>-6,130</td>
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<td>1965-66</td>
<td>-8,906</td>
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<tr>
<td>1966-67</td>
<td>-14,478</td>
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<tr>
<td>1967-68</td>
<td>-15,726</td>
</tr>
<tr>
<td>1968-69</td>
<td>-18,695</td>
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<tr>
<td>1969-70</td>
<td>-35,841</td>
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<td>1970-71</td>
<td>-37,996</td>
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<td>1971-72</td>
<td>-20,461</td>
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<td>1972-73</td>
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<td>1973-74</td>
<td>-15,135</td>
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<tr>
<td>1974-75</td>
<td>-9,299</td>
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<td>1975-76</td>
<td>-12,643</td>
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<td>1976-77</td>
<td>-26,366</td>
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<td>1977-78</td>
<td>-46,429</td>
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<tr>
<td>1978-79</td>
<td>-30,844</td>
</tr>
<tr>
<td>1979-80</td>
<td>-29,976</td>
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<tr>
<td>1980-81</td>
<td>-22,841</td>
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<td>1981-82</td>
<td>-25,790</td>
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<td>1982-83</td>
<td>-24,678</td>
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<td>1983-84</td>
<td>-17,417</td>
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<td>1984-85</td>
<td>-8,020</td>
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<td>1985-86</td>
<td>-5,349</td>
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<td>1986-87</td>
<td>-4,088</td>
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<td>1987-88</td>
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<td>1988-89</td>
<td>-7,618</td>
</tr>
<tr>
<td>1989-90</td>
<td>-6,334</td>
</tr>
<tr>
<td>1990-91</td>
<td>-12,341</td>
</tr>
</tbody>
</table>

Source: Statistics Canada, Cat. 92-208, p. 44 & Cat. 91-210, p. 57.

In the provinces besides Quebec, negative or positive net-migration relates specifically to the strength of their respective
provincial economies in comparison to other provinces. In turn, this relates to relative economic advantage for persons to move to another province in seeking economic opportunities. In Quebec, this is also the case, but other factors are also important such as the role of policy. In this dissertation, the following question is addressed: did the implementation of language policy in Quebec contribute to the phenomena where out-migration exceeded in-migration? In other words, the research addresses the question: does politics matter?

As Table 1 illustrates, negative net-migration peaked during the first mandate of the Parti Québécois government commencing in November 1976, and particularly during the period corresponding to Bill 101's implementation in the year 1977. This leads to the question: did Bill 101 have an impact on net-migration during this period?

It is noteworthy that during the decade of the seventies, negative net-migration was the lowest in the year, 1974-75, a figure of -9,299, which corresponds to the time when the Bourassa government enacted Bill 22. Is language policy Bill 22 a factor in influencing negative net-migration? On the other hand, was Bill 101 the only linguistic policy adversely affecting negative net-migration?

Turning to the latter part of the decade of the sixties, net-migration was a negative 35,841 in 1969-70, corresponding to the year when Bill 63 was enacted. In the following twelve months, -37,996 was recorded, and in 1970-71, negative net-migration was -37,996 which represents the second highest period of negative net-migration during the last thirty years. Did Bill 63 negatively influence migratory patterns between Quebec and the other provinces?
Grouping the data generated in the time series into three periods of five years each, the data set presented below confirms many of the above mentioned points.

### Table Two

**Evolution of Migration Between the Province of Quebec and Canada by Mother Tongue: 1966-1981**

<table>
<thead>
<tr>
<th>Migration</th>
<th>Anglophone</th>
<th>Francophone</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1966-1971</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leaving</td>
<td>99,100</td>
<td>6,900</td>
<td>14,400</td>
<td>160,000</td>
</tr>
<tr>
<td>Entrants</td>
<td>46,900</td>
<td>33,400</td>
<td>4,600</td>
<td>84,900</td>
</tr>
<tr>
<td>Difference</td>
<td>-52,200</td>
<td>-13,500</td>
<td>-9,800</td>
<td>-75,500</td>
</tr>
<tr>
<td><strong>1971-1976</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leaving</td>
<td>94,100</td>
<td>41,300</td>
<td>10,400</td>
<td>145,800</td>
</tr>
<tr>
<td>Entrants</td>
<td>41,900</td>
<td>37,200</td>
<td>4,700</td>
<td>83,800</td>
</tr>
<tr>
<td>Difference</td>
<td>-52,500</td>
<td>-4,100</td>
<td>-5,700</td>
<td>-62,000</td>
</tr>
<tr>
<td><strong>1976-1981</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leaving</td>
<td>131,500</td>
<td>49,900</td>
<td>21,600</td>
<td>203,000</td>
</tr>
<tr>
<td>Entrants</td>
<td>25,200</td>
<td>31,900</td>
<td>4,200</td>
<td>61,300</td>
</tr>
<tr>
<td>Difference</td>
<td>-106,300</td>
<td>-18,100</td>
<td>-17,400</td>
<td>-141,800</td>
</tr>
</tbody>
</table>

Source: Castonguay, 1984, p. 17."

The table illustrates that all groups were leaving, however, there was a significant increase in the number of anglophones leaving the province, and a corresponding decline in the number of entrants in the period following 1976, which is the year that the Parti Québécois came to power. This coincides with the period when Quebec nationalism peaked. As
indicated in the two preceding periods, 1966-71, and 1971-76. regarding the category anglophone net-migration, clearly evident were declines of 52,200 and 52,500 respectively. In the following period, 1976-81, the difference between those leaving and those entering the province increased by 100%. It had doubled from the two preceding periods suggesting a change in attitude in this community, particularly to policies such as Bill 101. We ask ourselves if this is one of the formative events shaping the mindset of anglophones at the time and still today?

Not only did anglophones leave in large numbers, francophone departures were also numerous. The net difference between those entering and those leaving was negative for the periods between 1966 to 1971, and 1971 to 1976, but with a smaller difference. In the period between 1966 to 1971, net-migration was -13,500, and between 1971 to 1976, it dropped to a level of -4,100. In the following period, 1976 to 1981, representing the first years of the Parti Québécois' mandate, there was a four hundred percent increase in the net difference between those entering and those leaving. During this period, negative net-migration increased to -18,100 from a level of -4,100.

Regarding the net totals, considering "anglophones", "francophones", and "other" as categories, the figures suggest that the net difference between entrants and departures was 75,500 persons in the first period, 1966-71. Declines were evident in the period between 1971 and 1976, but there was a slight improvement of 12,500. In the third period, corresponding to the election of the Parti Québécois, the net difference more than double the proceeding two. It had leaped from a level of -75,500 and -62,000, respectively, to -141,800.
As Michel Paille illustrates, the propensity for francophones to migrate to Quebec is 13 to 17 times greater than that of anglophones. For anglophones who depart it is seventeen times that of francophones to leave the province. Therefore, the annual figures on interprovincial net-migration as they relate to the Quebec problem of continual interprovincial negative net-migration are a very good proxy or statistical indicator measuring anglophone angst to language politics. In other words, this is a good measure of a socio-economic cultural cluster of people leaving Quebec perhaps for similar economic and socio needs. Paille comments further by stating that "the interprovincial migration deficit profoundly affects the anglophone community in Quebec."

Uli Locher in a publication for the Conseil de la langue française published a survey covering the years of 1978-1983 to determine the attitudes of anglophones regarding migration and the reasons associated with this." Part of Locher's analysis investigates the role that Bill 101 played in the departures of anglophones."

For a brief exposition see table three:
Table Three

Five Factors for the Reasons to Leave or Stay in Quebec, 1978

<table>
<thead>
<tr>
<th>Factors</th>
<th>Decisions to Leave</th>
<th>Decisions to Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Situation</td>
<td>46.9%</td>
<td>67.5%</td>
</tr>
<tr>
<td>General Economic Conditions</td>
<td>10.5%</td>
<td>7.4%</td>
</tr>
<tr>
<td>Language Legislation</td>
<td>19.9%</td>
<td>2.7%</td>
</tr>
<tr>
<td>Political Conditions</td>
<td>22.0%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Friends and Family</td>
<td>7.4%</td>
<td>36.2%</td>
</tr>
</tbody>
</table>

Source: Uli Locher, 1988, p. 89.

As the chart highlights, under the category for decisions to leave, 19.9% suggests that language legislation was a factor in the decision concerning leaving. Another 22.0% suggested that political conditions would be the cause, and when combining both categories, this accounts for a total of 41.9%. As the table suggests, another 46.9% reported that they were deciding to leave because of the economic situation, and an additional 10.5% because of general economic conditions. On the other hand, under the heading of decisions to stay, the only category that scored high was the economic situation. Conversely, few cited language legislation and political conditions as reasons why someone would consider staying. As expected, the economic situation is a major factor, but also interesting to note is how significant language and political conditions both scored in the survey question (a point confirmed by more recent surveys, refer to Locher’s work), as in Quebec, language, politics, and nationalism are closely related."
The table highlighting the respondents' rankings for year 1983, illustrate the following:

<table>
<thead>
<tr>
<th>Reasons for Leaving Quebec</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfers, Head of Family</td>
<td>21.5%</td>
</tr>
<tr>
<td>New Offer of Employment</td>
<td>8.0%</td>
</tr>
<tr>
<td>Research into Better Economic Advantage</td>
<td>6.5%</td>
</tr>
<tr>
<td>Closeness to Family</td>
<td>9.0%</td>
</tr>
<tr>
<td>Closeness to a Friend</td>
<td>0.5%</td>
</tr>
<tr>
<td>Language Laws in Quebec</td>
<td>8.0%</td>
</tr>
<tr>
<td>Conditions Economic</td>
<td>17.5%</td>
</tr>
<tr>
<td>Political Conditions</td>
<td>25.0%</td>
</tr>
</tbody>
</table>

Locher, p. 40.

As depicted by the table, economic conditions accounted for 17.5%, and political conditions 25.0%. Language legislation was 8.0% dropping from the previous 1978 level of 19.9%. This may be explainable because those strongly opposed to language legislation already moved. Concerning this, it is interesting to note that when political conditions and language laws are combined as categories, the level is 33.0%, a figure that is substantial.

Locher suggests that after correlating first reason for leaving with language legislation, 42.4% of respondents perceived that language legislation was very important, and only 26.7% felt that it was not a factor at all. Furthermore Locher states: it is difficult and very complex to establish precise reasons for leaving. According to
Locher either a work transfer or because of research done concerning better employment opportunities are the main reasons for migration. But Locher acknowledges, it is important to recognize that political reasons and aversion to the Language Charter are important motivating reasons behind the willingness to look for better employment opportunities elsewhere."

In review, Locher concluded by writing that the reasons for anglophones' departures are economic, and secondly because of reasons that are political and due to an opposition to the Language Charter. However, there is nothing to suggest that what really lies behind economics are politically motivated reasons and language politics."

In May, 1986, Decima conducted a survey of the attitudes of business persons from the surrounding Toronto region concerning their intention to or not to invest in Quebec. It is interesting to note that a link is made at the perceptual level between language politics, language legislation, Bill 101 and a negative investment climate, particularly from those outside of Quebec, for example, capital centred in Toronto. However, as mentioned by Locher, migration is tied to economics, employment opportunity, transfers related to jobs, etc. and only secondly to politics. But, according to the results given in this survey, investment is explicitly tied to the language question, which likely exerts a direct and negative impact on the levels of interprovincial migration.
<table>
<thead>
<tr>
<th>Factors -- Negative</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Language Politics</td>
<td>31%</td>
</tr>
<tr>
<td>Economic Situation</td>
<td>12%</td>
</tr>
<tr>
<td>Labour Problems</td>
<td>9%</td>
</tr>
<tr>
<td>Taxes</td>
<td>9%</td>
</tr>
<tr>
<td>Government Regulation</td>
<td>7%</td>
</tr>
<tr>
<td>Political Situation</td>
<td>7%</td>
</tr>
<tr>
<td>Legal Privileges of Quebec Business</td>
<td>5%</td>
</tr>
<tr>
<td>Attitudes of Consumers</td>
<td>2%</td>
</tr>
<tr>
<td>Different Attitudes of Business Affairs</td>
<td>5%</td>
</tr>
<tr>
<td>Peoples Forced Out</td>
<td>1%</td>
</tr>
<tr>
<td>Other</td>
<td>5%</td>
</tr>
<tr>
<td>No Response</td>
<td>3%</td>
</tr>
</tbody>
</table>

Question: If you think the business climate is either better or worse what would you say is the main thing that makes Quebec either better or worse than Ontario for business?

Decima Study #1622, May, 1986, p. 3.

As the above survey question asked, 31% of the respondents perceived that language politics made the business climate worse than that of Ontario, while on the other hand, the economic situation accounted for only 12%.
Table Six

Perceptions on the Problems Facing Private Enterprise in Quebec

Principal Reasons Why it is More Difficult for Business to Operate in Quebec.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language Politics</td>
<td>71%</td>
</tr>
<tr>
<td>Labour Problems</td>
<td>25%</td>
</tr>
<tr>
<td>Government Regulation</td>
<td>21%</td>
</tr>
<tr>
<td>Taxes</td>
<td>21%</td>
</tr>
<tr>
<td>Economic Climate</td>
<td>12%</td>
</tr>
<tr>
<td>Special Legal Status for Quebec Business</td>
<td>12%</td>
</tr>
<tr>
<td>Anti-anglophone Attitude by Francophones</td>
<td>9%</td>
</tr>
<tr>
<td>Higher Production Cost</td>
<td>7%</td>
</tr>
<tr>
<td>Geographic Location</td>
<td>6%</td>
</tr>
<tr>
<td>Attitudes Towards Business</td>
<td>4%</td>
</tr>
<tr>
<td>Political Attitudes</td>
<td>3%</td>
</tr>
<tr>
<td>Financing</td>
<td>2%</td>
</tr>
<tr>
<td>Other</td>
<td>14%</td>
</tr>
<tr>
<td>No Response</td>
<td>1%</td>
</tr>
</tbody>
</table>

Question: Please list the three main reasons that you feel make it either easier or more difficult for a business like yours to operate in Quebec?


Similar to the results mentioned in the previous table, language politics scored the highest of categories where 71% of the respondents listed it as a principal reason making a business more difficult to operate in Quebec. Another category that is interesting to note was the perception of an anti-anglophone attitude held by francophones toward anglophones. This category scored 9%.
Table Seven

Review of Business Outside of Quebec Attitudes to Business Affairs in Quebec

<table>
<thead>
<tr>
<th>Topic</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language Politics</td>
<td>81%</td>
</tr>
<tr>
<td>Parti Québécois</td>
<td>31%</td>
</tr>
<tr>
<td>Taxation</td>
<td>27%</td>
</tr>
<tr>
<td>Labour/Unions</td>
<td>20%</td>
</tr>
<tr>
<td>Economy</td>
<td>11%</td>
</tr>
<tr>
<td>Attitude to Non-French</td>
<td>10%</td>
</tr>
<tr>
<td>Threat of Separation</td>
<td>19%</td>
</tr>
<tr>
<td>Education Legislation</td>
<td>6%</td>
</tr>
<tr>
<td>Government Regulation</td>
<td>10%</td>
</tr>
<tr>
<td>Exodus of English People</td>
<td>7%</td>
</tr>
<tr>
<td>Other</td>
<td>10%</td>
</tr>
<tr>
<td>Don't know</td>
<td>1%</td>
</tr>
<tr>
<td>No response</td>
<td>4%</td>
</tr>
</tbody>
</table>

Question: Thinking back for a moment to how things have been in Quebec over the last 10 years, what would you say have been the three major setbacks that directly affected businesses operating in Quebec?

Decima Study #1622, May 1986, Table 9, p. 19.

As the above table indicates, language politics is a concern, as 81% percent of the respondents perceived that it was a setback directly affecting business operations in Quebec. Language politics as a variable is cited as a major drawback for investment, substantiating the possible link between language politics and economics.

In conclusion, it is expected that economics and language
politics exert an impact on the patterns of interprovincial migration in the Province of Quebec, and that indirectly there may be a possible link between interprovincial net-migration and language politics.

Significance of the Research

This research makes a contribution to the literature on three levels. Level one involves empirical methods; level two relates to Quebec society on a general level; and level three concerns anglophones in Quebec who are coming to grips with the realization that they are a minority."

Level one's importance lies with applying Lewis-Beck's interrupted time-series analysis. Two examples of case studies done by Beck are (a) the Coal Mining analysis, "and (b) in analyzing social upheaval, revolution, in Cuba." In political science, quantitative analysis and statistics as a tool are frequently downplayed by many. An important part of this research is the use of quantitative analysis which uses a model combining economics and public policy; one which links the independent variable, language policy with net-migration used as the dependent variable.

Darrell Bricker highlights in his dissertation three models of public policy which are: (1) the basic systems model; (2) the politics matters model; and (3) the environment matters model. " Here Bricker illustrates that each contending school debates the merits of the models, particularly about the importance of ordering the determinant variables. The "systems model" adopts an input and output approach with a feedback function, almost in a circular manner that does not deal with the causal
ordering of variables. The "politics matters school" holds that politics and political variables are the most important determinants. In contrast to this, the "environment matters school" maintains that the socio-economic environment is the main determinant in policy outcomes. This dissertation is similar to some of the literature associated with the school of thought known as "does politics matter?" because the objective is to determine if there is an externality, an output, associated with language policy (politics) while statistically controlling for a set of economic variables.

The questions that are addressed are: did language policy negatively influence the level of interprovincial net-migration? In statistics, the variance associated with the dependent variable net-migration, is it because of policy, or, because of economics as the literature on migration tells us? To what extent do policy and economics account for the variance in net-migration?

Level two deals with Quebec’s ability to preserve and promote its cultural and linguistic identity by maintaining its population base, francophones, anglophones, and allophones alike. Three possibilities ensuring cultural survival are: (1) by its reproductive capacity having a birth rate high enough so that there is growth in its population base; (2) by continual increases in the level of immigration where in-migrants (arrivals) to the province exceeds out-migrants (departures); and (3) decrease the level of out-migration. On this issue, Peter states:

Demography has always played a key role in the Quebec linguistic balance. Until recently the provinces’s francophones have been able to stem the English tide and maintain an 80%/20% advantage over the anglophone population through a high birth-rate.41

In Quebec, well known is the understanding that her future and
power base within the Canadian federation are linked to population growth, or, in its ability to sustain its population base by decreasing the number of departures. Without a high birth rate that was part of Quebec’s past, Quebec’s political position in confederation is under stress. To Quebecers, this is a problem that is very endearing.

On this issue Beauregard commented on a study done by Gary Caldwell, 1973, that the precariousness of most francophones in Quebec is due to the following factors: (1) anglophone immigration; (2) a decline in the birth rate; and (3) the ability of the anglophone community to assimilate those that are neither francophone nor anglophone."

Normatively, not only should there be public debate over the birth rate and immigration, the body politic needs to address the departure issue because it does impact on Quebec public policy. In the policy debates, rarely is this a consideration, particularly as it relates to minorities. Indeed, I would argue that what is required is a population policy.

Fortunately, many writers in Quebec do emphasize the link between language and demography. Vaillancourt and Raynauld, "Caldwell and Waddell," "Termette" and Gavreau," "Plourde," "Morin," Lachapelle and Henripin," and Paille" view immigration, population, culture, language, and demography as issues of concern. In Quebec, little can be said or written about public policy without linking directly or indirectly culture, language, and demography which led to the creation of a specialized field of study called demolinguistics. Henripin and Lachapelle, for example, wrote about trends and future prospects of the Canadian demolinguistic environment. Mortality, linguistic mobility,
migration, together with futuristic projections about the survival of francophone culture and language are very important topics in Quebec all of which weighs heavily on Quebec politics. Morin, for example, wrote that "for the future of Quebec, the question of demography is vital."

The relative and absolute decline of the number of francophones in North America coupled with the perceived threat of assimilation mixed with anglicization of the French language and culture provides fuel to the fire for Quebec nationalists. Supporting this thesis, Milton Esman writes:

The second theme that became prominent during this period was the idea of French as an "endangered language" and an "endangered culture" in North America, even in Quebec. Behind this notion... were two factors both derived from the rapid urbanization and modernization of French-speaking society. The first was the sudden and precipitous decline in the fertility of French-Canadians. Another factor was the growing fear of assimilation for a minority-language community in a North-American urban-industrial environment."

The rationality underlying demolinguistic study relates to the small size of the French nation relative to the overwhelming presence of English in North America. Because of this it is argued that language legislation was necessary to counter the power imbalance sustained by liberalism, irrespective of the cost associated with such a policy. On this point Ridler states:

The francophone proportion of the population of Canada and the United States combined accounts for less than 3%, and it is declining. Combined with the linguistic decline, Quebec's weight within Canada has been reduced."

In Quebec literature, as mentioned, a link is often made between culture, linguistic survival, and demography. Forgotten, however, is the concern that departures exceeds arrivals. If it is not forgotten its significance is underestimated, which relates to Locher's argument
where it is considered that the rate of migration would stabilize at a level that is considered to be normal. In this sense, normal means that policy makers can forget about the problem that net-migration is continually negative.

Sustaining a society's population base minimizing out-migration to other regions of the country, particularly in Quebec, should never be underestimated. Indeed, this as a political issue needs to be addressed by policy makers in Quebec, because among other things it relates to economic development. Highlighting its importance, Morin writes that "each year, Quebec loses a city through migration which corresponds to cities the size of Beaconsfield, Dorval, Gaspé, Greenfield Park, Joliette, La Baie, Levis, Mont-Royal, Rouyn, Sainte-Therese, Sorel, Val d'Or . . ." From a market point of view, Quebec can ill afford to sustain these loses.

Public policies that minimize negative externalities warrant serious consideration, particularly in liberal democracies. Modifying parts of Bill 101 as was done in the case of Bill 86 is a notable example. At least symbolically, this shows the international community that Quebec has political courage and maturity. Hopefully this would eventually eliminate those issues contributing to intergroup conflict. A change in the legislation, for example, implementation of Bill 86 modifying parts of Bill 101 should be used as a flagship to the international investment community illustrating that Quebec is a pluralistic community honoring a social contract where diversity is considered in a positive light.

Sociologically and politically, minorities want recognition for their contributions made over time, particularly in regards to
equitable employment representation in public and private institutions. In Quebec, many perceive that the implementation of language legislation erodes and discounts their historical contributions. This is true for anglophones who over the years built substantial institutions, and what is particularly dear to anglophones is that its institutional base is rapidly being undermined because of its demographic decline in recent years.

In September, 1992, Alliance Quebec presented a study called the "Task Force on Job Opportunities For English-Speaking Youth In Quebec". Alliance Quebec’s conclusion based on Uli Locher’s survey work stated the following:

Over 60% of young English-Speaking Quebecers expect to leave Quebec within five years and almost three-quarters within ten years. This is not the result of poor ability in French: two-thirds of young people with high French competency plan to leave.

The reasons so many young people talk of leaving are not hard to find: almost half cite language laws as the main reason; many feel that they are not welcome in Quebec and that they do not have the same access to jobs as young French-speaking Quebecers: many believe they have no opportunity to work in English in Quebec yet they find their bilingual skills in demand elsewhere; many are encouraged by parents and educators to seek their futures outside Quebec."

In Uli Locher’s survey, it was confirmed that the perception that language policy, Bill 101 led to the creation of a political environment that is less than favourable to anglophones. Because of this, anglophones and allophones uproot and migrate to other areas of the country.

According to Locher’s 1992 survey, the reasons offered for intending to leave the Province by youth attending English schools, 49% of the respondents whose mother tongue is English, 31% whose mother tongue is French, and 49% of those that is "other" responded that their intent to do so was because of language laws. For those whose mother tongue is
English, 16% stated that it was so. For those respondents whose mother tongue was French, 16% stated that it was because of general political conditions in Quebec, and for the category "other" an additional 11% responded in this manner.

The traditional argument used in migration theory theorize that "push" factors come from political disturbances, and "pull" factors include opportunities for economic gain. In Quebec, for anglophones, language policy is an example of a push factor. Simultaneously, a "pull" factor presents itself in the form of economic opportunity in other parts of the country, notably Ontario, British Columbia, and parts of the United States.

Besides level one dealing with the importance of empiricism, and level two concerning the need for Quebecers to preserve and promote linguistic purity, level three is as Termote states "the role of interprovincial migration is crucial to the anglophones in the province of Quebec." The rapid decline in the anglophone population base contributes to the erosion of its institutional and political base. Quebec's intention to eliminate denominational schools boards supported by a recent Supreme Court ruling concerning section 93 of the constitution by allowing linguistic boards represents a political push on a struggling community wishing to survive in an ever increasing French speaking province. In some respects its future may be threatened. According to the "Task Force on English Education", January, 1992, enrolment in English schools has decreased by 57% in the last twenty year. In response to these types of socio-linguistic pressures, the Lakeshore Protestant School Board set up and are operating six very successful French Schools which
means that allophones can attend the English-controlled French schools under an English Board. However, under the restructured regime creating linguistic boards, regulated by Bill 107, a question arises concerning the possibility of English controlled school boards having French Schools attended by those without eligibility certificates (newly arrived immigrants). To comply with the intent of Bill 107, the process has started calling for a change in status where these French Schools will once again be converted to English; otherwise, if this is not done, these resource bases will automatically fall under a French language Board. Sadly, to the allophone and anglophone community, this unique innovative anglophone institution (French schools controlled by allophones) will come to an end. Consequently allophones (those without eligibility certificates), will be forced to go to a school under francophone control, thus contributing to a further erosion of the clientele base supporting English-controlled education.

In public administration, where is the hope? Of the 60,000 or so public servants in Quebec, as of March 31, 1991, there were only 376 anglophones, or 0.7 percent of the total."

François Vaillancourt writing in a publication compiled by the C.D. Howe Institute called for the elimination of English-speaking institutions outside the region of Montreal. Vaillancourt indicated that the English community is beneficial only if it decreases the economic cost of dealing with the English-speaking international community and the United States (Montreal Gazette, April 27, 1992).

Philosophically, attitudes that view minorities in terms of investment or cost (cost/benefit analysis) serves only to erode
anglophones' institutional base. Again this represents the traditional theoretical migratory push and pull argument. Attitudes similar to those expressed by Vaillancourt play a role in undermining minority communities of their vitality and strength.

Politics of exclusion is a politically correct term which in Quebec captures a certain reality. Mr. Parizeau, leader of the Parti Québécois, publicly announced that Quebec did not need anglophones and allophones to achieve its political goal of sovereignty. On this issue, Mr. Parizeau stated "Plus il y aura d'allophones, plus il y aura de risques de perdre un référendum sur la souveraineté!." Needless to say, Mr. Parizeau was taken to task by the French press, by anglophones, and by allophones. Maintaining his position, Parizeau was amused and surprised that a politician today could not say what he privately thought as he spoke to a group of three hundred party militants."

Because of Quebec's French Language Charter, many people have sought employment in other parts of the country taking investment capital, savings, and a badly needed entrepreneurial drive with them. This must be viewed as a serious economic loss to Quebec, particularly in Montreal which can only be interpreted as an erosion of Quebec's rich heritage. On the decline of Montreal from an interesting historical review, see William Weintraub documentary film, "The Rise and Fall of English Montreal."

The argument is that language policy directly contributes to the "push" phenomena associated with traditional migration theory. In this theory, the literature views migration patterns in terms of economic differentiation. The potential migrant looks at employment opportunity, differences in income levels, distance, investment, and discomfort costs
as reasons to move or not. When the political environment exerts an 
overbearing migratory push, this creates an impression that there is 
instability and economic uncertainty.

In Quebec, language policy creates a political push, and 
indirectly adds a pull phenomenon leading to a greater propensity for 
anglophones and allophones to migrate. Simultaneously, the opposite is 
true where language policy directly and indirectly contributes to the 
creation of a stable political and economic environment informing 
francophones to migrate to Quebec from other parts of the country and 
French-speaking people, from international quarters.

Luc Albert provides evidence that English is increasing 
outside Quebec; the concentration of francophones is increasing in Quebec, 
while English is decreasing in Quebec, and French is decreasing in the 
rest of Canada."

In Quebec, it is important to contain or minimize the loss of 
people to the United States and to other provinces. Ontario, for example, 
benefitted economically from migratory patterns over the years."

Presently, British Columbia is enjoying a period of economic growth due to 
the influx of people coming to that province. Census data illustrate that 
the Province of Quebec continually loses a large segment of its population 
over time to other regions in Canada. If Quebec had a positive net-
migration over the years, its rate of economic growth would have been 
significantly greater!

In economic theory, two notable theorists, J.M. Keynes" and 
A.H. Hansen" argued that the growth of population stimulates increases in 
aggregate demand, thereby stimulating investment and economic growth in
society. Illustrating this relationship the City of Montreal is an example. Once the industrial and financial capital of Canada, Montreal has economically declined because in part a significant number of anglophones have left for other parts of the country." Illustrating this, between 1960 and 1965, employment in financial institutions was growing at the rate of twenty-six percent; the comparable rate in Toronto was 15%, yet in 1977, Toronto's rate was on the rise with Montreal's on the decline." Unemployment in Montreal today is one of the highest in the country. As a leading Montreal daily newspaper recently reported: 203,000 Montrealers don't have jobs, and that Montreal's unemployment rate in March, 1991, was 13.2 percent."

A Quebec government study on le Grande Montréal, titled Change today for tomorrow, states "that Greater Montreal has the highest unemployment rate in any big Canadian City, and the second highest rate of North American cities." Furthermore, 21.5 percent of the total population in the Montreal region lives in poverty." One of the few times, language as an issue is reported to have negative repercussions on the economy. Briefly, the factors contributing to regional decline are: (1) the shift of the financial sector to Toronto; (2) the sluggish renewal of the manufacturing base; (3) the economic policies of different levels of government; and (4) the "language issue." In terms of the economy, this study states that:

Emigration by English-speaking Quebecers has appreciably reduced the community's numbers. In 1971, they accounted for 20.3 percent of the population; in 1986, they represent only 15.9 percent of Greater Montreal's population. This linguistic change must be taken into account... The community's ongoing decline has diminished Greater Montreal's attractiveness to business communities in other countries."
Having stated that language is an issue, no suggestions came forth on how to alleviate the problem, one which relates to the relationship between a poor economy, language policy, and net-migration.

Surprisingly, Montreal's Mayor Doré called for the relaxation of language laws because of the international investment community's reaction to coercive language policy. Montreal has become a less desirable place to invest in part because individual rights have been tampered with by the State in the application of language regulations.**

In response to the recent passage of Bill 86, many Quebec nationalists feel that philosophically this contravenes the political and sociological intent of the Language Charter, Bill 101. For example, after a conference attended by eighty delegates representing twenty-six organizations, le Rassemblement des jeunes souverainistes du Québec (RJSQ), publicly maintained the position that no changes to Bill 101 could be allowed due to the in-coherent message that it would send out.**

The indirect pressure on social policy would not be so great if Quebec could minimize its out-migration. Linteau, Durocher, and Robert called the population lost the "great haemorrhage".** An example of this is found in the Task Force On English Education which states "between 1972 and 1990, English enrolment declined by 57%, from 250,000 to 108,000. During the same period French enrolment declined by 24%."** As Robert Keaton, president of Alliance Quebec recently commented in the Montreal Gazette, a Montreal leading newspaper:

In the period from 1986 to 1990, English enrolment decreased by 10 percent, while French enrolment actually grew by 1 percent.

Indeed, the facts are that the French language school system in Ontario is now larger than Quebec's English Language system. There are now 402 Ontario schools teaching in French, versus 353 English
Quebec schools. But Ontario's population of French-speaking residents is 470,000, according to the report based on the 1986 census, versus an English-speaking population in Quebec of 858,000.

The English school system in Quebec is not large. It simply cannot withstand this kind of loss."

In many social programs, we see the effect of negative net-migration which relates to a study done by Winer and Gauthier linking fiscal structure (fiscal benefits on individuals) and migration." In Quebec, the program paying progressive payments, up to $8,000 for families to have babies ($500.00 for the first child, $1,000.00 for the second, and $8000.00 for the third) to prop up the birth rate is an example of government trying to decrease the direct effects associated with negative net-migration and a negative birth rate. In 1991, this program transferred $560 million dollars to families."

The Quebec Stock Saving Plan which allows substantial tax subsidies for investors to invest on the Montreal Stock Exchange is another innovative program. This is a policy attempting to counter the declining economic base in the province, which is tied to migratory patterns where anglophones have left in great numbers. Sloan states that classical economist observed that there is a close relation between population growth and changes in economic activity." According to a La Presse article reporting on information supplied by Statistics Canada, in the private domain, projected investment for 1993 is expected to increase by 6.5% in Ontario, and an average of 3.5% in the rest of the country; yet in Quebec, it is expected to decline by one half of a percent." As Jacques Parizeau stated in Quebec that private investment does not even reach half Ontario's annual investments for the last thirteen years." As Gagnon and Montcalm illustrate, the value of transactions measured as a
ratio (Montreal values divided by Toronto stock values), Montreal's rate declined steadily from a high of 65.9% in 1949, to a low of 14.3% in 1979, with a turnaround in that year to a level of 23.8% in 1985. A central reason for the change was the Quebec Stock Saving's Plan, which is a subsidy to business and investors creating a large pool of capital available to Quebec based enterprises. To many, this program is touted as a public policy success which aided Quebec's entrepreneurial base, at least in the short run; time will tell where recent information has come to light that suggests that tax subsidies amounted to 1.8 billion dollars, whereas corporate capitalization only amounted to 800 million dollars.

Restating the objective, the intent of this research is to determine if there are statistical correlations linking language policy and negative net-migration in the Province of Quebec. If the correlations between language policy and interprovincial net-migration are negative, questions arise as to what further course of action needs to be taken. Can the status quo be maintained? Should language policy be further explained to the international community, to the rest of Canada, and to the local community (allophones and anglophones)? Should language policy be modified over and above Bill 86, where still additional changes would be useful in symbolizing linguistic pluralism to the international community?

The passage of Bill 86 was a major step forward in modifying the governing relations in Quebec. Indeed, now the real debate lies with a more open access to English schools which is also a problem related to language politics.
Outline of the Chapters

Chapter one in review outlined the research problem, the dependent and principal independent variables, a brief historical overview of the migration phenomenon, a descriptive linkage between language policy and net-migration, and finally the significance of this research.

Chapter two and three provides the reader with a general overview of previous research and theory on migration, and synthetic theories, particularly a description of the policy of the independent variables, Bill 63, Bill 22, and Bill 101 taking into consideration two models of public policy, Lindblom's incrementalism and Vicker's concept of "governing relations" as goal seeking.

Chapter four describes the research methodology and the regression equation mentioning the dependent and the list of independent variables, with the research methodology explained in detail dealing with a description of the data sources, the number of cases, levels of measurement, and the working hypothesis restated.

Chapter five gives the results of univariate and descriptive statistics, bivariate analysis including t-tests, and Pearson Correlations.

Chapter six presents multivariate analysis. Part one of this chapter presents the correlations between the dependent and the independent variables. Part two illustrates the multivariate models using the independent variables that are not highly correlated with one another. Finally, the policy variables (language policy) are regressed on the economic variables to determine the relationship between policy and
economics, as well as policy being regressed on net-migration thus completing the causal model.

Chapter seven provides an overview of the research. Section one reviews the analysis; section two reviews the limitations of the research. Part three presents an overview of the findings and conclusions.
Endnotes

1. Statistics Canada, *International and interprovincial migration in Canada*, catalogue 91-208, annual; and *Postcensal annual estimates of population by marital status, age, sex, and components of growth for Canada, provinces and territories*, vol. 9, catalogue 91-210 annual (June, 1991).


13. See Marc Termote, and Danielle Gauvreau.


16. Words in brackets are Rudin's.


27. Beauregard, p. 3.

28. Gibbins, p. 49.


33. For a similar type of analysis see Michel Paille, Contribution à la Démolinguistique du Québec, Conseil de la langue française (April 1985), pp. 85-87.


35. Locher.

36. Locher, p. 42.


38. Locher, p. 42.

39. Locher, p. 43.

40. Locher, p. 44.


55. Lachapelle, and Henripin.


63. Termote, p. 672.


73. See the CBC documentary on The Journal, Thursday April 2, 1992; and Alain Gagnon, and Mary Beth Montcalm, Quebec Beyond the Quiet Revolution (Scarborough: Nelson, 1990).


77. Change today for tomorrow, p. 3.

78. Change today for tomorrow, p. 7.

80. This was a major issue on many of the French language talk shows -- CJMS with Proulx for example.


84. Robert Keaton, "Why access to English schools should be broader," Gazette, 2 February 1993, sec. B, p. 3.


87. See Sloan, p. 27.


89. see André Pepin, La Presse.

90. Alain Gagnon, and Mary-Beth Montcalm, Quebec Beyond the Quiet Revolution (Scarborough: Nelson Canada, 1990), p. 7.

Chapter II: Literature Review
Introduction

This chapter provides a theoretical overview of the literature on the dependent variable migration. From a political science perspective, part one highlights the literature as it applies to the study of Quebec politics in general, and part two deals with specific internationally related theories on migration. The last section of this chapter presents two synthetic theories (a) Lindlbom’s conception of incrementalism, and (b) Sir Geoffrey Vickers’ concept of governing relations both of which will help to provide a general conceptual framework in furthering our understanding of language policy.

Review of the Literature

In the field of political science and particularly subfield public policy, interprovincial migration as a focus of study is neglected. In the literature, the link is seldom made between language policy and net-migration. For example, John Porter,¹ tied migration in with a theory of power that directly relates to the concepts of class, opportunity in education, occupation, and mobility. Others like Coleman,¹ and Whittaker⁴ adopt a political economy approach from the left on the political spectrum where the dominance of class underscores other types of analysis that could be useful, for example, multiple regression, although both writers perceptively deal with Quebec politics. Twenty years ago, Kenneth McRae applied a Hartzian approach (fragment theory) to the study of Quebec.¹ This debate is still foremost and alive in Canada, but not in the United
States, as Forbes' and Wiseman's discuss its significance. McRae explored language and religion in terms of cleavages within a consociational democracy which relates to Lijphart's basic framework. However, McRae concluded that the existing Canadian political system does not exactly fit the consociational model. Although McRae still places a great deal of emphasis on the importance of the two Charter groups in the study of Canadian political science. For a cultural and historical perspective, though not specifically dealing with the topic of migration, David Bell and Lorne Tepperman view language as a non-neutral means by which culture transmits itself in society, and that language rights are the first line of defense against cultural assimilation. George Grant's work on nationalism in his classic book Lament For A Nation is viewed by francophones as condescending. Quebec nationalists, if they have read it, perceive the analysis to be outdated, one which is not capable of dealing with contemporary issues, for example, language politics in Quebec. For that matter, Pierre Elliot Trudeau's pan-Canadian vision of Canada and Quebec nationalism is considered to be yesteryear's political theory. Behiel's important work on Quebec is historical and descriptive covering broad periods of history which does not specifically deal with a public policy issue such as language politics. This political historical treatment of liberalism versus neo-nationalism before the Quiet Revolution, and his work on the Meech Lake Constitutional Accord are informative, but it does not deal with the research problem. Donald Smiley briefly outlined changes in Quebec's demographic balance beginning
in the 1960's where he argued that New Quebec responded during the latter part of the Quiet Revolution with the legal recognition of the French language."

An important historical political economy approach influencing discourse in the past that still in some corners underpins much of today's analysis is the Laurentian thesis, and also Faucher and Lamontagne's theory of peripherilization. Briefly presenting the Laurentian thesis, as Linteanu, Durocher, and Robert state, it was the St. Lawrence Valley that became the foundation of Canada's existence as an economy which was based on a system of transportation, staples, such as the fur trade, later timber and wheat." Notable economic historians who adopted this approach were writers such as Innis, Mackintosh, and Creighton, for example. Historically, because of Quebec City and Montreal's preferential geographic location, the theory holds that the economy grew rapidly due to the importance of the St. Lawrence River which became a very important transportation network, one offering a distinctive comparative economic advantage at the time. As noted, this theory is the foundation of historical economic theory, however, today many believe that it provides no explanatory power of contemporary Quebec, particularly in reference to Quebec's internal political economy. On this account, Dunton, Durocher, and Robert state: "Quebec's internal development eludes the Laurentian thesis. It has no explanation for the growth of Quebec's economy or society... it appears to become increasingly difficult to apply after 1850."

The second theory, referred to in the above, is the one presented by Faucher and Lamontagne. Faucher and Lamontagne presented a
continental perspective in which technology and resources were the determinants of economic development, both of which lead to the concepts of centres and peripheries supplying the economic centre with greater clout." Criticism of this theory is similar to that of the Laurentian thesis, where it is stated that the theory is incapable of explaining social political phenomenon, for example, negative net-migration transpiring during the decades of the sixties, seventies, and eighties. On this issue, Linteau, Durocher, and Robert state that "Faucher's continentalist approach stresses geo-economic factors and regional disparities as the fundamental cause of emigration." Possibly this thesis will regain its importance in part due to the North American Free Trade Agreement, and our unquestioning faith in technological society.

Gagnon and Montcalm argued that the Province of Quebec became economically marginalized because of restructuring in the North American economy. In part, this is because of the movement of capital westward. The North American Free Trade agreement amongst Canada, the United States, and Mexico is an example of restructuring and realignment. Here capital, investments, and decision making are reported to be moving to the south and westward, very much to Quebec's detriment. Over the years, Montreal has gone through a rapid period of de-industrialization, and continues to do so. For example, Tioxide for thirty years heavily polluted the St. Lawrence River with tons and tons of acid waste. Because of environmental pressures (legal proceedings) placed on the company by the governments of Quebec and Ottawa, Tioxide decided to close their plant in Tracy, Quebec, and move to a newer plant in the state of Louisiana.

According to Gagnon and Montcalm's theory, the implementation
of language laws (policy) in Quebec is because politics principally reacts to phenomena transpiring outside of its borders. Gagnon and Montcalm argue that the westward movement commenced long before the rise of the separation movement, and it is incorrect to attribute the relocation of offices to Toronto to this. On this issue, Gagnon and Montcalm state:

A vivid illustration of Montreal's decline has been the much-publicized relocation of company headquarters from Montreal to Toronto. Contrary to the popular notion that Montreal's decline can be explained by the fear of separations by the Quebec's anglophone business community, the process of Montreal's peripheralization within the Canadian and continental economy began long before any threat posed by Quebec's resurgent nationalism in the 1960's and 1970's became evident."

In contrast to the thesis of centre and peripheralization, a Liberal Government's report on Greater Montreal, cites the shift in the financial sector to Toronto; the sluggish renewal of the manufacturing base; the economic policies of different levels of government, and the language issue as factors accounting for the region's decline. In this context, Montreal's economic problems appear to be based on an internal politics operative within Quebec's territory rather than events specifically transpiring outside, and because of broader based international determinants. Also, it is noteworthy at this time to express the point that business interests in Toronto had a very negative view of language politics in Quebec, a point that was outlined by survey data given in chapter one. Specifically the report states:

Political change in Quebec and Canada has also weighed on Montréal's economy. The departure in the second half of the 1970's of thousands of English-speaking Quebecers, many from the business community, created a void that was only partially filled by French-speaking entrepreneurs.

In terms of the weakening of Greater Montréal as a Canadian financial centre, their departure reduced the Montréal region's influence within Québec. It is against this backdrop that company
head offices moved elsewhere."

Economic research specifically linking economics and the language issue date back to the early seventies. Many Quebec economists view francophones as a colonized people who were underpaid and deprived economically because of ethnicity, where the British colonialists purposely paid francophones less than anglophones. Those who subscribe to this view hold that discrimination was based on language and religion.

Before this, economics as a field of study had little to do with this area of research. Specifically, the relationship between language and economics was an area of research underdeveloped until this important work was carried out by francophones during the last twenty to twenty-five years in a serious effort to illustrate that there was discrimination by a colonial power because of ethnicity, class, culture, and language. This was depicted as a situation that had to be reversed. Two writers adopting this approach were Raynauld and Marion" where they analyzed English and French earning disparities in Quebec in 1961 using a model based on discrimination of blacks by whites in the United States. Using a similar model, Miqué focused on information and screening costs, and not on discrimination to explain the differentials in earning power." A second approach relates to those economists who view language as human capital. It is here that Breton, Mieszkowski, and Hocevar emphasize that the differential in earnings between anglophones and francophones relates to knowledge or skill of knowing another language." Labelled as a third approach by Vaillancourt, this model focuses on both methods of inquiry mentioned in the above. Notable theorists Vaillancourt," and Lacroix and Vaillancourt adopt this approach to the study of the language issue." In
Vaillancourt’s recent work *Langue et statut économique au Québec, 1980-1985*, using multiple regression as a research method, discovered that the net differentials of earnings between anglophones and francophones had in fact disappeared. In many cases, francophones surpassed anglophones in earning power.® To a degree, social-economic phenomena underpinning language policy sanctioning unilingualism has wavered. Earning differentials between anglophones, allophones, and francophones have converged where average earnings for each group are similar in value. However, it is possible that with the relaxation of language policy the differentials could once again reappear over time, although this is not very likely.

Another approach investigates the decision to learn another language besides one’s mother tongue. Typically in the field of economics, this approach views language in relationship to net return on investment.® Two notable researchers adopting this approach are Lefebvre,” and Grenier.”

Related to this issue, it can be shown that anglophones who have remained in Quebec have weighed at least for their children the net return of learning a second language besides English. Most young anglophone and allophone children are bilingual today, and in some cases trilingual. On the other hand, statistical trends indicate that young francophones are remaining unilingually French, a phenomenon which will be to their detriment.

Only recently have politicians come to realize that a problem is on the horizon due to labour market conditions still demanding bilingual employees, particularly in those jobs that are internationally
related. Today, a reverse form of discrimination is taking place because higher earnings are going to those who are bilingual and francophone.

As the aforementioned sample of literature highlights, the list of works on Quebec politics is extensive. However, because of time and space, a more substantial treatment is beyond the scope of this work.

**Specific Migration Theory**

A problem with grand theory is that it can be very general and descriptive in nature. Extending theoretical linkages are sometimes difficult between policy problems and theory in part because of different levels of analysis. Frequently differences lie in the adoption of theoretical constructs in the formation of theory.

Many theories lack the capacity to be directly tested quantitatively (statistically). Techniques such as multiple regression modelling are sometimes necessary to advance our understanding of an issue. In this dissertation, it is suggested that the preferred method of analysis is to utilize a statistical regression model linking economics and policy.

On the topic of interprovincial migration, much of the analysis is economic. However, C. Passaris illustrates that in the field of economics there are no general economic theories dealing with the importance of immigration as a central issue. This author historically traced the lack of a conceptual framework illustrating that economics forgets this important area of study." But as illustrated further on,
most of the empirical literature on migration adopts an economic framework, or at the very least uses economic variables in studying migration as a phenomenon. Grand economic theory may not be evident, but economic variables have made their presence known in the study of migration.

On the other hand, in their analyses demographers take into account migration, births, deaths, and nuptiality, and it is common for demographers to project population trends based on this information. In Quebec, this has become a rich intellectual heritage, principally because of the fragile nature of the French language and culture relative to the dominant position of English in North America. In the field of demography, language, culture, and demography are directly linked.

Very sophisticated quantitative studies have been conducted by demographers and economists. However, a central weakness in analysis lies with not using politics or policy as an important dimension in modelling. Underestimating the role of politics frequently leads to substantial errors in judgment. For example, during the first years of Ronald Reagan's presidential mandate supply side economics was implemented in an effort to balance the budget. In this case, economists failed to place adequate weight on the importance of politics in their analysis, and consequently its impact on policy. The principal reason for its failure was how "politics can triumph in real life."  

Another problem can be the lack of data. For example, numerous studies rely on census data which are only available every five years. Here historians and political scientists often interpret this information descriptively. On the other hand, there are policy studies
done by economists who conduct sophisticated econometric models which frequently underscores the importance of policy in modelling where economists rely principally on economic variables to explain complex political behaviour. For example, public choice theory is used to analyze political behaviour, often with the interpretation that consumers seek to maximize their utility which is applied to the study of politics. However, not all public choice theory is empirically based. Indeed when reading James Buchanan’s work, it is apparent that underpinning theory is normative thought.

As mentioned, many studies employ economic analysis which underestimates the political or policy as a dimension worth investigating. Furthermore, there are many elaborate analyses performed by demographers relying on data measuring births, deaths, and migration, again to the exclusion of the role that politics or that policy plays in explaining migration as phenomenon. Demographers often use demographic type variables (births, age, marriages, deaths) which in turn explains demographic variables (births, age, etc.). In this sense, variables are used either as independent or dependent variables in modelling depending on the purpose of the study.

In summary, a problem resides in our inability to quantitatively measure the political or public policy dimension in analysis. From a theoretical point of view, this research attempts to bridge the methodological gap by employing quantitative analysis measuring policy and economic variables.
Theory

In western liberal democracies, in stable political environments, in capitalist countries, famine, war, civil unrest are not the prevalent reasons accounting for the normal migratory patterns in society.

The classical view on international and regional migration looks at labour flows, wages, and equilibrium analysis, and the role that individuals take in decision theory expressed in the ability of an individual to conduct a cost/benefit analysis, after which the best choice is made between specific predictable and knowable options. The problem associated with this approach is that theory ignores important variables such as political systems and contemporary world economics. 

Marxism offers a recognition that there is global interdependence and that labour migration does not simply occur due to the cognizance of economic differentiation between regions and countries. The study of migration, according to Marxism, requires a balanced in-depth analysis of the complex set of patterns of economic, social, and political conditions. From this point of view, migration is the principal source of labour power required in the reproduction of capital where migration is the process where poorer countries deal with problems of relative lower wages and poorer social and environmental conditions in the host country. Labour as a commodity is exported when conditions call for it.

It should be noted that there is a convergence between conventional economic theory and Marxism in recognizing labour adjustments and disequilibrium. Neo-classical economic theory views labour employment
adjustments and mobility in strict terms of efficiency, and Marxism views this as an exploitative trait serving only the interest of capital in capital accumulation.

Normatively, conventional theory sees migration in terms of market behaviour, a phenomenon that is considered normal. Opposing conventional theory, Marxism demands the restructuring of the economic system because capitalism is the root cause of inequities and disequilibrium, rather than equality and distributive justice. Similarly, both theories link migration to economic disequilibrium, but major differences lie in normative thought and prescription as to what is considered normal and acceptable behaviour in markets and society.

In early economic theory, mercantilist philosophy prevailed (seventeenth and eighteenth century). Passaris states that during this period that mercantilists had a fear of losing their populations due to intricate patterns of triangular trade where England and France would export finished goods and transportation, while Africa supplied manpower, and the colonies furnished raw materials. In this model, a large population base was important to sustain economic growth. As Passaris states "Within this conceptual framework, population growth would augment national income and at the same time depress the hourly wage rate, giving the workers an incentive to work longer and widening the margin between national income and wage costs."

Leading from mercantilism is a classical view. According to Isabel Anderson, "the classical economists observed a close relationship between population growth and changes in economic activity." J.R. Malthus, the forefather of scientific demography, theorized that
population adjustments relate to changes in economic activity. Specifically, Malthus observed that population growth grew geometrically and that subsistence increased only arithmetically. Because of this, Malthus viewed that the two ratios had to be kept in balance, otherwise economic and social welfare would decline. 9

Keynes criticizing the classical school and mainstream economic thought looked at the volume of employment as a function of aggregate demand where in turn population growth stimulates demand. 10 As the population increased in size, there was an increased stimulus for investment goods, which reduced the level of unemployment. 11 It is hypothesized that demand for capital goods depends on the number of inhabitants of a country, the standard of living, and the degree to which capital goods are used in production. Keynes argued that "Between 1860 and 1913, about fifty percent of investment was geared to domestic population increases in the United Kingdom." 12 As a result, population growth bolsters optimism and confidence in business. 13 In other words, growth in population at least in the Western world had a positive effect on aggregate demand which increased levels of investment.

A.H. Hansen’s view was that population growth led to economic expansion which opened up the development of new territories leading to resource development and new innovation. 14

Isabel Anderson presents the traditional argument used in migration theory which argues that there is a push and pull phenomenon. "The push can come from political disturbances, from relatively low economic or social status, and from various other social and economic conditions within the area of out-movements. The "pull" factors primarily
include opportunities for economic and social gain in the area of immigration."

As the comparative literature on migration indicates, general theory (national and international) relates to the role that economics plays in explaining migration. Theory holds that economic rationality is the explanatory variable, more so than all other factors. In part, this relates to the availability of data measuring economic variables as compared to the ability to quantitatively measure variables used in political science. Typically, economists view mobility as a process of labour market adjustments. In this context, income prospects, employment, job opportunities, growth rates, fiscal structure (benefits), resource allocation, tax revenues, economic opportunity, efficiency, labour adjustments are those factors cited by economists as determinants explaining migration. Cost/benefit analysis, consumer utility, rational decision makers maximizing economic utility are important constructs in the formation of economic theory as applied to the study of migration.

Economic theory, according to Grant and Vanderkamp, states that "people are more likely to migrate from a region i to another region j, the lower their income and employment prospects in i, the better their income and employment prospects in j, and the smaller their adjustment costs including moving expenses from i to j.""

Richard J. Cebula states that "In point of fact, most empirical studies and most theoretical studies of internal migration have treated current income as the fundamental causal factor in migration. In recent years, it has become increasingly common to view migration decision as an investment decision.""
Sociologists and demographers adopt a different approach to that of the economists who view migration in monetary terms. As Curtis Roseman states, we should depart from the traditional dichotomy of economic versus non-economic factors because the reasons for migration are subtle combinations of both types of reasons."

Ravenstein’s theory of migration is a movement of people, migrants, from rural to urban centres, movements in the form of streams, mostly in a desire to improve their standard of living or material well being."

Everett Lee’s theory of migration looks at migration from a point of view where economic motivation is important. Here, migration is in the direction of strong economic centres from an origin of less comparative advantage. In this theory, a centre of origin and destination are important, as well as distance and personal attributes together with intervening obstacles. Lee’s hypotheses can be summarized by the following set of postulates as they apply to North Americans.

- The volume of migration within a given territory varies with the degree of diversity of areas included in that territory.
- The volume of migration varies with the diversity of people.
- The volume of migration is related to the difficulty of surmounting intervening obstacles.
- The volume of migration varies with fluctuations in the economy.
- Unless severe checks are imposed, both volume and rate of migration tend to increase with time.
- The volume and rate of migration varies with the state of progress in a county or area.

Lee’s findings are that migration relates to education, intellect, and social structure." Lee’s theory states that for every decision to migrate there are positive and negative factors associated with the place of origin and with place of destination. Between the place of origin and destination, these are described as intervening obstacles.
Kenneth C.W. Kammeyer states that in the study of demography there are two broad classifications. Classication number one is called formal demography, and classification two is labelled as populations studies. Within population studies, this is further classified as type one and type two.

In formal demography, the independent variables are labelled as demographic variables, for example, birth rate and age composition of in-migrants. These are used to explain the dependent variable which are also demographic variables; frequently those mentioned in the above.

In population studies, type 1, the independent variables are nondemographic variables explaining the dependent variable that is a demographically defined variable. In population studies, type 2, the demographic variables are independents, while the dependent variable is nondemographic. For example, in type 1, social class explains birth rate, number of children, death rate, out-migration. In type 2, age, immigration (demographic variables) explain the dependent variable (nondemographic) such as voting behaviour, economic growth, and social disorganization, for example. According to Kammeyer, formal demography is a concern with the interrelationship and causal connection between demographic variables only, often quantitatively. In population studies, one and two, the concern is with nondemographic factors together with demographic variables.

D.J. Bogue views migration in terms of socio-economic determinants, for example, capital investment, technological change, migration regulations, and social welfare provisions; migration stimulating situations such as graduation, marriage, employment, and
natural disaster; and those factors instrumental in choosing a
destination, for example, cost of moving, presence of relatives, friends,
special employment opportunities, and heresay information."

The Okun-Richardson model\textsuperscript{33} of internal migration, an analysis
of German internal migration, divides a developing country into four
paradigms: (1) low per capita income stagnant areas; (2) low income
growing areas; (3) high income stagnant areas; and (4) high income growing
areas. The variables used in this model are per capita income,
employment, wage rates, distance, and differential migration. The
important point to note is that the model is preferentially economic in
nature and scope. For example, high per capita income areas attract
migrants; low income areas push or repel. Migration streams tend to avoid
areas of high unemployment and moves to areas of low unemployment. Areas
of high wages are net receivers of migrants, and those with low wages
suffer net losses. Distance is considered to be a deterrent of migration.
This theory explaining German internal migration can be considered as a
form of push and pull theory of migration where high income, high wage
differentials account for a pulling effect on potential migrants while a
push would be those areas suffering lower wages and incomes.

The most comprehensive study on internal migration undertaken
in 1952 in the United States was at the Population Centre of the
University of Pennsylvania under the direction of Professors Simon Kuznets
and Dorothy Swaine Thomas. Here the findings support the thesis that
migration is in response to economic opportunities.\textsuperscript{4}

Stanley Winer and Denis Gauthier's empirical study on fiscally
induced migration concluded that "fiscal structure has a relatively
greater migration impact on low-income than on high income individuals for the reason that net fiscal benefits are likely to constitute a higher proportion of the comprehensive income of low income and that the results indicate that the migration impact of fiscal structure varies systematically with the geographical composition of the migration flows considered."

Rejean Lachapelle and Jacques Henripin’s work on migration states that Quebec has attracted increasing numbers of francophones while other provinces have attracted more and more anglophones. Here they state that there is no guarantee that this is a trend which shall continue in the future. According to the authors, this depends on the socioeconomic situation in Quebec. In theory, the key determinant explaining movement is relative economic advantage between regions or provinces which of course discounts the role of public policy in explaining migratory patterns between provinces.

Lycan’s study investigates interprovincial migration in Canada by focusing on the spatial patterns of interprovincial migration, and it looks at the effect that economic and social variation had on migration patterns by using socioeconomic data. In this study, Lycan uses five socioeconomic measures which are the level of urbanization, wage levels, investment rates, unemployment levels, and occupational composition (independent variables). The dependent variable is net-migration between two provinces. This study concludes that economic factors are not adequate explanations because language and culture are factors determining the movement of people in and out of Quebec.

Claude Marois’s typological study of net-migration
investigated the structure of migration within the province of Quebec. Here the emphasis was spatial. The methodology used a matrix (factor analysis) by examining the socio-demographic and socio-economic conditions of counties relative to their migration rates. Here the author presented four hypotheses related to the transformation of the agricultural sector, one’s place of birth, the level of employment, mean size of households, and income. The conclusions indicate that place of birth, the unemployment rate, and salary are important determinants explaining migration.

John Vanderkamp’s study of interregional mobility in Canada assumes that migration relates to net advantage. This type of analysis highlights the importance of the individual in his or her calculation of net advantage which indicates that a cost and benefit analysis process is operative in decision making theory. The conclusions derived from statistical analysis of census data using multiple regression as a technique are (1) that unemployment has a significantly negative effect on the volume and mobility between regions; (2) that return migration (return to original destination) accounts for a substantial proportion of total migration; and (3) that return migration is also positively related to unemployment.

Another econometric study is Thomas Courchene’s work on interprovincial migration and economic adjustment. As with most studies of this nature, Courchene emphasized the use of cost and benefit analysis. In an impressive study, Courchene presents a series of hypotheses which are stated as follows:

(a) Migration from province i to j will be positively related to relative labour incomes.
(b) Migration from $i$ to $j$ will be negatively related to the unemployment rate in the receiving province.
(c) Migration from $i$ to $j$ is negatively related to the level of intergovernmental transfer payments per worker of sending region.
(d) The greater the level of unemployment insurance benefits the smaller will be the out-migration.
(e) Migration from province $i$ to $j$ is positively related to the education level.
(f) The greater the level of education, the greater will be the income distance trade-offs.
(g) The impact of distance on migration is positively related to the age of the migrant.

The data set used in this research was drawn from the 1961 census, together with statistics on interprovincial labour force migration between all pairs of provinces, classified by age. Here the dependent variable was the gross flow of labour force migrants from province to province divided by the labour force of a given province. The list of independent variables are earned income, intergovernmental transfers, statutory subsidies, equalization and stabilization payments, unemployment rates, unemployment transfers, level of education, percent of the labour force employed in agriculture, and a time dummy variable. Courchene concluded that workers do respond to interprovincial earning differentials and differentials in provincial unemployment rates. In this case, as in others, the missing dimension is the importance of the role that politics can play, or the policy externalities which impact on migratory patterns. However, employing a time variable is an important consideration in modelling.

Linda Gerber conducted a path analysis by investigating community characteristics and out-migration from Canadian Indian reserves. The objective of her research is to explain variation in official reserve residence levels in terms of the aggregate characteristics of Canadian Indian bands. The dependent variable is off
reserve residence and the list of independent variables and intervening variables are communal individualistic values, urban proximity, band size, institutional completeness, personal resource development, linguistic acculturation, earned income, equality of housing, male/female ratio, and fertility. Her conclusions indicate that distance from major centres, personal resource development, sex ratios, fertility, and communal values were significant determinants.

Eramus Monu's study on migration patterns of Manitoban rural youths is important because it raises the issue that a substantial amount of migration research has been based on census data. The author points out that most studies usually deal with structural variables such as unemployment factors, community size, age, and sex arguing that social psychological variables are often ignored. Here, the study used a survey of 1964 rural Manitoban drop-outs from grades eleven and twelve where such factors as community size, sex, education, occupation, father's education, mother's education, and mean high school marks were considered. The findings confirmed that the statistical relationships between community size, education, and migration were significant.

Sjaastad looks at migration in a resource allocation framework treating migration as a means in promoting efficient resource allocation. This study adopted a financial framework using the present value of a stream of earnings.

Brookes' investigation of out-migration from the Maritime Provinces from 1860 to 1900 stresses the importance of individual considerations mentioning three distinct phases in migration: (1) place of origin; (2) intervening obstacles; and (3) place of destination."
R. Paul Shaw's work on intermetropolitan migration in Canada focuses on the determinants of migration. Specifically, Shaw illustrates that the traditional market variables are not as important as they once were in Canada due to higher standards of living, the social welfare safety net, and fiscal policy put in place by the federal and provincial governments over time. Furthermore, Shaw empirically presents the argument that the influence of economic variables, such as wages, employment opportunities, business activity have declined in importance over time, but that the significant explanatory variables are still wages, growth of industrial employment, the business cycle measured by residential construction activity, opportunities for female employment, rate of immigration, generosity of unemployment insurance, federal equalization grants, distance, levels of education, and commonality of language and culture between metropolitan cities. In terms of the long list of determinants, it is surprising to note that a policy variable, language policy is also considered to be an important factor explaining migration. Related to the question of language, Shaw stated the following:

Still others have questioned whether government policies which had unintended, if not negative, effects on migration might have been anticipated in advance. For example, the implementation of language Bill 101 in the Province of Quebec, and related speculation concerning separatist policy, seems a case in point. The vice-president of Quebec's largest employer's organization (Le conseil du Patronat) claimed "The social, cultural and particularly economic costs are too great -- especially in the case of anglophones and those who speak other languages -- to remain indifferent to some 200,000 departures recorded in the last five years . . . (the departures of so many people) . . . represents a major loss in tax revenues and therefore an additional fiscal burden that remaining taxpayers must share together."
Specific International Examples of Migration Theory

Internationally, many examples can be cited to illustrate migration theory in action. Migration from Egypt, Jordan, Lebanon, Syria, Yemen Arab Republic, People's Democratic Republic of Yemen, Sudan, the Maghred States to Saudia Arabia, Kuwait, The United Arab Emirates, Qatar, Oman, Bahrain, Iraq, and Libya in the 1950's from the poorer to the richer Arab countries was low, but increased in the 1960's and increased dramatically during the 1970's and 1980's due to the significant rise in oil revenues, and a rapid rise in expenditures on industrial plants, desalination systems, education and health institutions, military bases, roads, ports, and airports. As a result, there was a large scale significant increase of migrants: labour, skilled and unskilled moving from the poorer countries to the richer ones. These examples substantiate the findings of the theory on migration citing economic conditions as principal reasons for the movement of people. One of the most recent examples of migratory movement of peoples is presently taking place in China where millions of people are moving to the eastern coast to find employment in one of the greatest socialist's experiments with capitalism.

A survey of (a) three African countries (Ghana, Nigeria, and Sierra Leone); (b) four Asia countries (Bangladesh, Indonesia, Republic of Korea, and Thailand); (c) four Latin American countries (Chile, Costa Rica, Mexico, and Venezuela); and (d) a total of two countries one from the Middle East (Egypt) and one from North Africa (Algeria) of the major reason for migration as cited by males, from the selected years of 1966-
1982, confirms that for each country more than 50% of the respondents indicated that the principal reason to migrate relates to finding suitable employment. The exceptions are Sierra Leone (48%), and Costa Rica (47%). Other variables mentioned in this survey were (a) education and (b) family reasons. As the data illustrated, the range for the variable education was a low of 3% (Algeria) to a high of 23% for Egypt. Concerning the overall importance of family, this variable scored a very low value of 2% in Egypt to a high of 28% in Ghana.

Summarizing, Canada, the United States, Europe, and most of the third world countries are notable examples of the classical view where theory holds that economic determinants are the principal factors accounting for most of the movement of people between countries and between regions of the country. For example, summarizing migration patterns in Europe, Maurice Kirk states the following:

Most went to the New World, and in so doing demonstrated the classic model of migration, that of surplus population moving in response to either a "push" from the home country, often economics, sometimes political or religious, or the "pull" of what seems to be the attractive opportunities overseas.

**Synthetic Theoretical Perspectives on Language Policy**

For an excellent overview of many public policy models and of decision theory, a reader should refer to Vincent Wilson's work titled *Canadian Public Policy and Administration,* and perhaps to note Richard Simeon's seminal article *Studying Public Policy* to gain an appreciation of the extensiveness of the literature. Simeon's highly normative article points out to the reader what variables should be used in analysis, and
how public policy should be studied, whereas Vincent Wilson's work gives us an excellent and detailed overview of public policy, bureaucracy, and theories of complex organizations.

For a descriptive presentation of this topic, two models could apply. The first is Lindblom's model of disjointed incrementalism, or what is called "muddling through" and the second is Vickers' *Art of Judgment.* Regarding the first, language legislation viewed in hindsight suggests that the conception and implementation of language policy developed in a series of gradual stages. The policy process could be described as representing a broadly defined form of incrementalism when viewed over a long period of time.

Briefly, the first two passages of language legislation in the province date back to the early part of this century. In 1910, the Quebec provincial legislature passed the Lavergne Law. This law regulated language in dealings with public utilities. The use of French and English were required in all communications with the public.

In the year 1937, the Quebec Legislature passed another law giving primacy to French-language texts in interpretations of law and regulations in the province. However, the law passed in 1937 was rescinded due to pressure placed on the government by the anglophone business community perhaps similar in kind to the pressure exerted on the government during the implementation of Bill 22 and Bill 101 in more recent times.

In 1969, Bill 63 was enacted in response to the St. Léonard Catholic School Commission's insistence that children of allophones attend French language schools. Previous to this, parents were free to choose
what school they could send their children to. The outcome of the debate was the passage of Bill 63 sanctioning freedom of choice.

In 1974, Bill 22 was enacted eliminating English as an official language. Here a new social contract was demanded by francophones through the instrument of language legislation legitimizing French as the only official language.

In 1977, with the Parti Québécois in power, the Quebec legislature implemented a more stringent, as perceived by anglophones and allophones, language law, Bill 101, confirming the official status of the French language.

On December 21, 1988, the Quebec Liberal government enacted Bill 178 in response to the Supreme Court's decision regarding the legality of French only signs. This Bill allowed the posting of signs in other languages alongside French which could only be displayed inside commercial establishments provided that French was predominant. French only postings were allowed on the outside of all establishments, private and public.

As the discussion of language policy ensues, incrementalism is a useful construct in the description by viewing language policy as developing in a stepwise fashion marginally implementing social change by enacting language legislation at different points in time. In retrospect, the passage of language policy, Bill 22 under the leadership of Premier Bourassa was a "muddling through" process not knowing in advance where these policies would lead to. The Parti Québécois' process of policy formulation could also be labelled as muddling, first in the conception of language policy, noted as Bill 1, by withdrawing it for technical reasons.
fearing a Liberal filibuster, and then implementing Bill 101 as a replacement.

Furthermore, the conception and implementation of Bill 178 was a highly illogical creative piece of legislation with the design of the famous so-called inside/outside rules, regulations that francophones, allophones, and anglophones deemed as a ridiculous and illogical compromise. Once again, legislation passed by the Bourassa government failed to bridge the cultural and linguistic differences between francophones, anglophones, and allophones.

In summary, Bill 63 and Bill 22 were attempts at political compromises. Bill 101 in the implementation and application of the law sought the middle ground as nationalists would like to believe. In July, 1989, Bill 178 was implemented by the Liberal Government as a compromised solution seeking to appease opposing factions. In this instance, Quebec used the notwithstanding clause, section 33, of the 1982 Constitution Act, thereby effectively bypassing a Supreme Court ruling concerning the proscription of bilingual signs. In the end the solutions arrived at pleased no one, except for the fact that Bill 101 still remained as an important benchmark and symbol aggregating the cultural and business interest of francophones. To anglophones, and to many allophones, this was at their expense.

Rather than making use of the notwithstanding clause again as was done with Bill 178, Bill 86 was passed in June, 1993, allowing for the posting of bilingual signs with a few exceptions such as postings on billboards. This time, however, a compromised solution was found which satisfied most groups in Quebec.
The second model is Sir Geoffrey Vickers' *Art of Judgment* where judgment and decision are viewed as a social process. Part of the value of this theory is that it brings into the analysis the importance of historicism which only remotely and indirectly relates to incrementalism. Also Vickers' conception of policy making as a mental skill, as an institutional process, and more specifically his "appreciative system" are useful constructs.

According to the model, the appreciative system encompasses reality judgment, action judgment, value judgment, appreciative judgment, and system maintenance. Vickers' model stresses the importance of judgment and goal setting, but it is not goal setting in itself that is important. Rather Vickers states "that what we seek are changes in our relations or in our opportunities for relating, and that the bulk of this activity consists in relating itself." Referring to the language issue, Bill 63, Bill 22, and Bill 101, it could be argued, did precisely this. The desire of the French majority was to seek ways or opportunities to force changes in their relationship with English-speaking Quebecers who economically controlled the French majority. At the time, language policy served to send a signal to the rest of the country of their intentions to gain control of the State politically and economically. Clearly political and economic autonomy were sought.

Another interesting facet of Vickers is the setting of bench marks, standards, and the use of comparisons by using the appreciative system against these bench marks. Particularly in the case of Bill 101, it is to be noted that it has become a societal bench mark, a standard, which normatively cannot be changed. Until recently, French Quebec, once
Bill 101 was set in place, has operated under a language paradigm. Since 1977, Bill 101 has become a cultural symbol (benchmark) to francophones in the Province.

Michael MacMillan writes:

Francophones perceived the legislation as fair, whether Quebec opted to become independent or remained within Confederation. The difference between anglophones and francophone response patterns may be explained based on Quebec anglophones' belief that the anglophone majority in Confederation entitled anglophones to more recognition in Quebec than they could justly claim as a minority within an independent Quebec. Quebec francophones, on the other hand, considered their position within Quebec the same as if they had an independent country.

The inherent value of Bill 101 is on the basis of judgment. Francophones, for example, perceive Bill 101 to be a representation of what is defined as "the good", and "just". On the other hand, anglophones and allophones perceive that the implementation of language policy represents elements of excessive State coercion.

What side of the debate is correct? Part of the answer resides with an understanding of Vickers' appreciative system. Often it is a question of judgment; to others, the debate lies with a discussion about whose values are right and wrong, and whose opinions are more informed which also relates to our subjective ability in the art of judgment.

Concerning the language issue, an appreciation of our values contributes to an understanding of the continuous debates between those favouring language legislation and those opposed. The intrinsic value of the appreciation system is that it treats facts and values as a single system rather than as separate and unrelated phenomena. Clearly it merges subjective and objective reality rather than falsely assuming that
they can be separated and are unrelated phenomena.

Vickers viewed policy as the setting of governing relations rather than goal setting, objectives, and ends. In this sense, Bill 101 is a setting of governing relations, however, to some it has become an end in itself.

These two general concepts are useful in two ways. First, they advance our understanding of the conflict between the opposing communities as they relate to the language issue as one of incrementally setting governing relations (the making of a new social contract). Secondly, general theory contributes to our understanding in assessing the policy process, and particularly to the understanding of differing value systems operative within Quebec.
Endnotes


18. Change today for tomorrow.


34. Clark, p. 82.

35. Clark, p. 83.

36. Clark, p. 529.

37. Clark, p. 530.


41. Keynes, p. 140.

42. Keynes, p. 142.

43. Keynes, p. 143.


47. Grant, and Vanderkamp, p. 25.


52. Lee, p. 203.


68. Shaw, p. 19.

69. Shaw, p. 22.

70. Shaw, p. 9.

71. Eliyahu Kanovsky, Migration from the Poor to the Rich Arab Countries (The Dayan Center for Middle Eastern and African Studies, The Shiloah Institute, Tel Aviv University, June 1984), p. 1.


Chapter III: Independent Variable -- Language Policy
Introduction

Several thousand languages are spoken throughout the world. Nigel J. Holden states that it is a myth to think that English is the language of business by pointing out that there are many European languages of market value such as Bulgarian, Czech, Danish, Dutch, English, Finnish, French, Hungarian, German, Greek, Italian, Norwegian, Polish, Portuguese, Russian, Serbo-Croat, Spanish, and Swedish, and that non European languages of market value are Arabic, Chinese, Indonesian, Japanese, and Korean.

On the subject of linguistic diversity and the issue of language rights, Gregory Guy states that "In the ancient world, all major states and empires were multilingual, as were the major medieval and early modern states. Indeed, the equation one nation equals one language is a relatively recent invention." Britain, the United States, and the Province of Quebec are notable examples of the concept of one nation, one language even in light of the fact that there are other major language groups within their territories. In Britain and the United States, the model is de facto English. In the Province of Quebec, it is positive State intervention in the form of language legislation.

Many models are available which could be cited as examples of language policy in action: Switzerland, Belgium, Finland, England, Wales, Australia, New Zealand, South Africa, France, India, Ukraine, the Philippines, South Africa, the United States, and Canada, to name only a few.
Swiss Language Model

In describing the multi-linguistic case of Switzerland, Kenneth McRae noted that it is an example of cultural coexistence, where this small country of six million inhabitants is a classic case of a consociational democracy. This country has a large population of German, French, Italian speaking people, in addition to Romansch which is a minor language. According to recent census data, approximately 74% are German-speaking, 20% are French-speaking, 4% are Italian-speaking, and 1% speak Romansh. Census data clearly illustrate that there has been a great deal of demographic stability in this country over the course of its long history.

Over the years, Switzerland developed an extensive system of governing relations. In part, success is due to the decentralized nature of this loosely defined confederated State granting linguistic and cultural autonomy to its cantons. History, geography, and territory each have played an important role in providing political stability down through the ages.

In contrast to Canadian Federalism, one that constitutionally grants residual power to the Federal government, in Switzerland, article 3 of its constitution grants that powers not specifically assigned to the Federal government automatically falls under the jurisdiction of the cantons, of which there are twenty-six. Of these twenty-six, seventeen are unilingually German, four are unilingually French, one is unilingual Italian. Of the remaining cantons, three are bilingual (French-German), and one is trilingual where French, German, Romansch are spoken.
In Switzerland, the canton is responsible for linguistic policy. German, French, and Italian are the official languages (article 116 of the Constitution) and German, French, Italian, and Romansch are the national languages. Furthermore, as McRae illustrated, Switzerland is linguistically plural living in peaceful co-existence. It is an excellent example of a successful stable plurilingual society. For example, Article 107 of the Constitution stipulates that the Swiss Federal Tribunal requires representation from all three official language groups. At the institutional level, there is a policy in place having representation from the linguistic communities in proportion to its demographic breakdown.

As McRae states "Indeed the fair and even more-than-fair treatment of the smaller groups in the Confederation has become a cardinal principle of public policy." In conclusion, Switzerland is an example of a cohesive nation-state where minorities have earned respect, in part this is because of its history, culture, geography, and because of federalism.

The Belgian Model

Belgium with a population of ten or more million is a classic example of territorial bilingualism with Flanders in the northern half (13,511 square kilometres), and the Walloons to the south (16,846 square kilometres). Of the ten million inhabitants, there are approximately six million Dutch (Flemish), close to four million French, and approximately 100,000 German-speaking people living near the German border.

The country is divided into four linguistic territories: French (Wallonia), German, Flemish (Flanders), and the bilingual region of
Brussels, and into three regions, French, Flemish, and Bruxelles-Capital (population base of 980,000; 162 square kilometres territorially). In this country, region does not necessarily coincide with linguistic territories, other than in the case of the Flemish. Constitutionally, the country consists of three communities, French, Flemish, and German. Each community is represented by a Council whereby French and Flemish Councils are represented by French and Flemish members from both House of the Legislature, and the German Council is elected from nine local Boroughs. This, however, is a delegated power. In the case of the French Council and Wallon region, there are separate legislative chambers.

In Belgium, it is the Councils who have the authority to legislate in the domain of culture, language, the regulation of language in administration, public education, the administration of roads, and work relations. Furthermore, the French and Flemish legislative Councils effectively have a veto over all national laws in the domain of culture and language.

Regarding its regions, it is to be noted that in a unilingual region, one language is used in public administration, such as in communications between the public and the public service. In bilingual regions, Flemish and French are both used to serve the public.

Principally due to the dominance of the French in the administration of the State and the bourgeoisie, in 1898, through an Act of Parliament, the equality of the two national languages was established. However, it was not until 1922 that Dutch became the official administrative language in the north, and French to the south, however, it is only the city of Brussels that is today officially bilingual.
Frequently comparisons between Canada and Belgium have been extended. In each country, a linguistic cleavage plays a major role in the politics of both countries. As Pierre L. van den Berghe states "The present system of CD (consociational democracy) has more that its share of conflict, uneasy compromises, inefficiencies and inanities. But the alternatives are worse." In this sense, alternatives refers to the potential constitutional breakup of the Belgium State, one which is held together by an ability to transcend major linguistic and ethnic cleavages. Fortunately, we can still do this in Canada, however, many of us feel that Canada's blend of federalism is in a perpetual state of constitutional crisis. For example, during the last federal election held on October 25, 1993, the Bloc Québécois (a separatist party) won a plurality in fifty-four Quebec seats enabling it to become the Official Opposition thus creating a federal parliament with large regional representation with the Bloc in Quebec and the Reform Party from the West. For those not familiar with Canadian politics, the Conservatives went from a majority government to one having only two seats in Parliament.

**The Finnish Model**

Another interesting country to study is Finland. Here language policy dates back from the early part of this century, and it was the Constitutional Act of 1919 that established the equality of two national languages. Before this, Finland was part of Sweden from 1157 to 1809. In 1809, it became an autonomous Grand Duchy of the Russian Empire, and in 1917, it gained its independence from Russia. Furthermore,
it was the Language Act of 1922 that provided legal status to the national languages of Swedish and Finish, although today Finland Swedes numbering 300,000 make up only 6% of the total population.

In this case, bilingualism is geographically based on districts rather than larger areas as in the Belgium model of territorial bilingualism. Here as McRae describes: a commune is unilingual Finnish or unilingual Swedish depending upon the demographic balance between these two groups within the commune. In this situation, the respected cut-off level is approximately ten percent. Within a commune there has to be at least ten percent Finnish or Swedish in order to have official bilingualism within the commune. In calculating this, an established bilingual commune cannot lose its status as such until the percentage of the minority community falls below eight percent. On the other hand, a unilingual commune does not become bilingual until it reaches a twelve percent level. Hence, this offers a political buffer before changes can be made.

Municipalities in Finland are either unilingual or bilingual. Most Swedish-speaking Finns are bilingual, and the Swedish-speaking regions in the policy areas of education, culture, and administration function in Swedish. For example, citizens have the right to use their minority language before public legislative and administrative bodies, and before the courts despite the communities' language status. Documentation is received in their native tongue, even when it is a unilingual municipality. Wise as these people are, national legislation provides for service in both languages, and also in the area of culture and education. As McRae pointed out, at one time this model was under consideration by
the Canadian Royal Commission on Bilingualism and Biculturalism. But as McRae argued there was a degree of misunderstanding concerning the Finnish model, and that there could be inappropriate adaptations to federalism in the proposal to establish bilingual districts in Canada. Even though the Finnish model has been dropped from the Canadian research agenda, in the Charter of Rights and Freedoms, section 23, Minority Language Educational Rights, certain linguistic rights do apply based on the concept of where numbers warrant, though the level is not defined legally. Secondly, normatively it is possible to reconsider the concept of bilingual districts within Quebec, for example, in parts of Montreal, since it is demographically bilingual. This is what Mayor Doré once suggested with respect to the recent passage of Bill 86 relaxing parts of Bill 101.

The British Model

The British model is an example of unilingualism, a model based on the concept of individualism, individual rights, and individual choice. Here laissez-faire as a policy prevails. The State acquiesced in reference to language policy, largely because the State did not need to concern itself with political and economic power as these relate to language issues of cultural and linguistic survival. In Britain's ability to colonize nations, it had the parallel effect of applying a linguistic hegemony onto the nations it came in contact with. India, Ireland, Wales, and Scotland are examples of this. In these countries, English was the dominant language of the administrative State. A model of de facto English was evidently clear as it still is today.
An exception to most of the Commonwealth nations is the Province of Quebec, where local matters were administrated by the Church and State. A person’s identity, culture, and language were able to survive and flourish under such a regime. Although, the English language still had the powerful effect of anglicizing the population and its institutions. In Quebec, parliamentary traditions are democratic and British in tradition, even to this day as they adopted the Westminister model of governing.

In Ireland, Irish and English are the official languages, but de facto English is the reality, with the possible exception in the western part of Ireland called Gaelstacht. Gaelic was banned from the Pale (the area around Dublin) after the Anglo-Norman Conquest in 1170, and from Church practice in 1171. In 1366, the indigenous language was forbidden to be used by Anglo-Normans. From 1691-1829, Gaelic Catholics were deprived of the right to land ownership. During this period, Gaelic was restricted, to be used only in the economically impoverished West.¹⁰

In more recent times, the process of language decline resulted from massive out-migration.¹¹ As O’Cinneide, Keane, and Cawley point out, the policy of economic development and industrialization exerted a detrimental effect on the development of language because of the necessity of bringing in English-speaking immigrants, and also because of the lack of technical terms in Gaelic.¹² Nevertheless, we need to be aware that English and Irish are constitutionally recognized.

In India, English is still the official language. In this extraordinary large and complex country, there are fifteen languages recognized in the Constitution, and there are over 1,650 mother tongues.
However, in this intricate and linguistically ethnic diverse country, there are constitutional safeguards in place designed to protect minorities particularly in the areas of education and public administration.

Turning to Wales, in 1967, in an attempt to reject the English assimilative individualistic laissez-faire model of language choice, and in an attempt to shed itself of British colonialism, Wales passed the Welsh Language Act endorsing the conception of equality between the two languages. Resulting from this action, an unintended policy externality, however, legitimized the legal status of English contrary to its original intentions. As Gwyn Williams writes, in reality this meant that the Welsh's minority status would be consolidated and consequently legitimized.

Australia's and New Zealand's Language Models

Historically, Australia and New Zealand patterned itself after the British model in part due to their colonial ties. In Australia, language and migration were linked such that public policy was to exclude those immigrants who did not have a command of the English language. The English language became a policy instrument, a tool used in the unification and the building of a cohesive society, even in light of its diverse linguistic background. Recently, in 1987, the Federal government instituted the National Language Report that confirmed the primacy of English. It also recognized that English is the national language of Australia, although it did recognize the importance of maintaining
minority languages. Concurrently, it also established the national goal that every child should learn a second language.

Jayasuriya reports that English performs a variety of functions, economic, social, cultural, and political in the public and private life of the total Australian community. Research illustrates also that Australia is essentially unilingual, where it will remain so in line with British and American traditions. Concerning this, Cynthia Gallois stated the following:

The research that does exist suggests that Australia as a whole will remain strongly monolingual and Anglophile country. The Anglo-Australian majority still looks to Britain and Ireland for much of their cultural inspiration.

In conclusion, the future of community languages other than English in Australia does not look bright. Australia almost will remain strongly monolingual, and Anglo-Australia will maintain a narrow perception of the relationship between language and culture.

We need to recognize, on the other hand, that Australia is slowly moving away from its colonialism where it is struggling to forge ahead incrementally in a direction respecting multi-lingualism. From the early seventies, a multiculturalism evolved due to postwar migration where over three million people came to Australia from all over the world. Slowly infrastructure initiatives based on ethnicity evolved, where today a degree of respect for multi-lingualism has become apparent.

In New Zealand, attitude toward language was similar to the Australian model. In 1987, the government passed the Maori Language Act, and it established a Maori Language Commission. This Act gave Maori official status alongside English in the courts and in parliament. Furthermore, the Commission is heavily involved in promoting and preserving Maori lands (the Maori people make up 12% of population,
accounting for 3.3 million people).

According to Roger Peddie, the Australian model developed because of the interaction between the central government's espoused values and perceptions of political and economic needs. In the case of New Zealand, it is based on the coincidence of these values which are meshed with political, economic, linguistic, and educational necessities. However, there is still no cogent linguistic policy in place. For that matter, there is no national government policy, but in certain areas what we see evolving is the incremental development of policy recognizing the inherent value of the indigenous Maori language and its people. On this issue, Roger Peddie states:

Language policy has not developed as a result of geographically concentrated minorities demanding their rights. Nor has it been a case of politically powerful groups forcing policy through under threat related to votes. Instead, it appears that a mix of Labour party policies on equity, economic shortage, and a growing number of language issues calling for attention have combined to promote government action.

France

Language policy in France dates back to the early sixteenth century. In 1539, the ordonnance de Villers-Cotterêta proclaimed that French was the official language used in official acts. The State rejected outright the use of Latin and all regional idioms. In 1793, the Loi du 2 thermidor an II established that public agents using other languages besides French could be imprisoned for a period of six months. Subsequent laws together with the forces of centralization turned France into a unilingual State. To this day, France's attention and respect towards its seven regional idioms (Breton, Catalan, Occitan, Basque,
Corsican, German, and Dutch) have been a policy of containment and disdain. Furthermore, social, economic, and political forces converged in an attempt to eliminate any perceived threat to French as a language, although history illustrates that after four centuries, minority communities' will to survive have been stronger than the powers of assimilation and centralization. Recently, in its Proposition de loi 40, introduced in 1986, the French government displayed a symbolic commitment to the liberalization of past policies, where other languages are slowly gaining acceptance. A slight degree of tolerance is evident today towards languages other than French as the degree of intolerance towards minority communities subsides. As D.C. Donderi and Dianne Prupas point out, unilingual non-French signs are now permitted in Basque, Corse, and Catalan, and that public signs in foreign languages are acceptable if accompanied by French.  

The American Model

When language and economics co-exist to form a dominant political culture, linguistic pluralism in some countries can be tolerated in what on the surface appears to be a laissez-faire attitude towards the tolerant use of other languages.

In the United States, for example, unilingualism (de facto English) is linked to its inner strength associated with economic hegemony and the forces of liberalism both of which helped to create and recreate a vision of national identity and nation building. Assimilative forces tied to economic market power coupled with a political philosophy of
laissez-faire liberalism maintained the centripetal forces of demographic and linguistic diversity associated with ethnic division in what helped to create the great American melting pot. Internationally, for example, a process of acculturation is rapidly taking place due to internationalization of markets by large multi-national corporations. Because of this, English as an economic and linguistic force is becoming increasingly dominant.

The United States is an example of a large polyglot; not a unilingual nation as many would like to believe. There are over 150 distinct language groups in the United States." Polylingualism is a reality as it clearly was in the formative years of early America." This may explain why language was not politicized during its founding years. For example, there are large clusters of Chinese in California, Germans in Pennsylvania, Italians in New York, Swedish in Minnesota, and Spanish in the southwest. As early as a 1970 census, it was recognized that 32.2 million citizens (15 percent of the population) did not have English as their mother tongue." A fact that is confirmed in more recent census results. According to Kurt Muller:

The 1980 U.S. census tallied 210,247,455 persons aged 5 years or older of whom 10.97% spoke a language other than English at home. These 23 million Americans comprised a percentage of the population that varied regionally from a low of 1.87% of the South Atlantic states to a high of 19.11% of the Pacific states.

The 1970 census yielded an estimate that 10.5 million natives of native-born parents speak a language other than English at home: 4.1 million Spanish, 2.5 million German, and 1.4 million French, to cite simply the languages with over 1 million speakers each."

In the United States, two general tendencies apply to describe the language issue. The first one is the British model of individualism. Language choice in this case is left up to the individual, although
English exerts a powerful linguistic hegemony, one that is closely tied to economics. The second one refers to what could be called positive State intervention where governments politicize and implement language policy to counterbalance what is perceived to be uncontrollable social and demographic trends.

Returning to the British Model for the moment, only on two occasions did Britain passed legislation sanctioning English as the language of its people and of government. Of course, argument could be presented that it did not need to. In the first case, legislation was passed that specified that Crown writs and official papers were to be drawn up in the English language, that is, a model of de facto English in public administration was legislatively legitimatized. In the second example, legislation called for sailors on British ships to have a working knowledge of English. From the British view, this was required obviously for practical reasons.

In the United States, at the Federal level, language is yet to be politicized in the form of direct State intervention where it has become necessary to legislate regulations governing the use of English and restricting the use of other languages. In part, this relates to the fact that the English language is closely linked to the American economic model and the dominance of English in mainstream society. On three occasions, the United States Congress voted down "English only" legislation, once in 1981, again in 1984, and recently in 1988." In 1990, the Supreme Court found that the State of Arizona's language laws contravened the First Amendment." In 1923, the Supreme Court ruled against the State of Nebraska against English only legislation." Although language rights
are not explicitly stated in the Constitution, indirectly, there is legal protection against English only legislation through what is called the due process clause of the 14th Amendment, and Title VI of the 1964 Civil Rights Act (specific mandate for bilingual education)."

As early as the turn of this century, discrimination was sanctioned at the State level particularly in the area of language of instruction, although historically the Founding Fathers decided not to politicize language because of the economic needs associated with populating a new nation. Specifically only the use of English in education was allowed by law which paralleled to that which had transpired in many Provinces in Canada. Many States, for example, Nebraska, Alabama, Arkansas, Colorado, Delaware, Idaho, Illinois, Iowa, Kansas, Michigan, Minnesota, Nevada, New Hampshire, Oklahoma, and Oregon, each had passed laws making English the language of instruction in public and in some cases private schools."

Within the last ten years, a well organized and financed political lobby has been working seeking to make English the official language of government. Although the British model (de facto English) still applies at the Federal level of government, there is no clear cut language policy which has been set in place legislatively. In other words pluralism is the accepted norm even though everyone speaks English in mainstream America. Language, an instrument of government policy, is yet to be politicized. Needless to say, assimilative forces have effectively anglicized the nation; politically and economically, the English language predominates. Franco Americans located in the New England States, for example, have nearly lost their language and culture with little hope of
recovering these traditional values.

Statewide, the fight for unilingualism, English only, has been led by an organization called "U.S. English", founded in 1983, by S.I. Hayakawa (born of Japanese parents and raised in Canada) and John Ianton, co-founder, who was forced to leave the organization due to his extremism.

According to a "U.S. English" report, the claim is made that over 74% of Americans supported "Official English", and according to a 1991 Gallup Survey, 78% of the respondents mentioned that English should be the nation's official language. Substantiating "U.S. English's" citation of the polling results, a vote on legislating English as the official language produced the results in the following States: in 1986, in California, 73% for versus 27% against; in Arizona, 1988, 51% for, 49% against; in Colorado in 1988, 61% in favour, 39% against; in Florida 84% in support, and 16% against, and in 1990 in Alabama 89% voted yes, and 11% against. According to a Time Magazine report, December 5, 1988, as many as seventeen States passed language laws making English the official language. For example, Illinois in 1923 made English the Official Language, and they reconfirmed this in 1969; in 1920 Nebraska passed its English Official Act.

On the other hand, moving away from the policy of unilingualism as promoted by "U.S. English", there are States such as New Mexico that are constitutionally bilingual (Spanish and English). In Texas, grudgingly, there is a degree of bilingualism. In Hawaii, under their 1978 new constitution brought about bilingualism (English and Hawaiian). Furthermore, there are still others like the State of Maine, in parallel to the National government, who have adopted a laissez-faire
attitude towards language, largely due to its Franco tourist trade, and because its economic base has not been challenged by ethnicity, nor by a linguistic cleavage.

The direction that the U.S. model will take is yet to be determined. The debate and the political inclinations of State governments concerning language policy is pendulous moving from an accommodational model accepting a limited degree of linguistic pluralism, for example bilingualism, and a second model described as assimilatory demanding English only. Nevertheless, it could be argued the outcome is the same where the difference lies in the degree to which language became politicized. In the case of the assimilatory model, the demand is to politicize language through the instrument of State policy. As "U.S. English" states "Language is one of the few things we have in common in the U.S."" In the laissez-faire attitude, language is left to develop on its own, in other words, pluralism as a philosophy must be the accepted doctrine.

In these politicized debates, it is argued by "Official English" that unilingualism is necessary to maintain national unity. Furthermore, it is stated that English is the international language of science, business, technology, aviation, thus language policy legislating English as the official language is confirming what is already linguistically the reality in the United States and throughout the Western world.

There is also a concern, widely held by Americans, that English as a living language capable of unifying the country is rapidly being eroded. Because of an open door immigration policy allowing diverse
people to come to the United States bringing with them diverse cultures and languages, there is a perceived demographic threat to mainstream America.

Because of demographic changes, the political push is on by many activists who oppose this. "U.S. English", for example, are hard at work in an attempt to bring about a policy where English will become the only official language of the United States of America. With respect to this issue, Americans give the impression that they are becoming less liberally minded, more conservative, and economically protectionist in line with the development of the New Right agenda which became more clearly focused in the late seventies. This parallels the demographic reality that the United States is becoming more heterogeneous due to changes in migration patterns; fewer people arriving from Europe, and more from Mexico to the South, for example.

Those opposing "Official English" argue that restrictive language legislation is not necessary because 85% of the population report that their mother tongue is English, and that 94% to 95% speak English. It is further argued that implementing a policy of universalized English only re-enforces the existing power structure within the United States where a white English-speaking economic hegemony remains unchallenged. As J.A. Fishman reports:

June 1986 nation wide Poll of the New York/Columbia Broadcasting System reveals that the older the age, the higher the income, the higher the education, the greater the support for "English only", with little support coming from Blacks, Hispanics, or other minorities (Asians, Ameridiands).

This is an alarming alignment of power versus its absence, except an equally alarming minor reversal of this trend at the lowest end of the (white) income districts.
Those against the passage of laws sanctioning only unilingualism state that this policy ultimately legalizes the concept of "politics of exclusion". It is argued that those whose mother tongue is English constitute what is called mainstream America, and those whose language is not English will continue to be socially, economically, and politically marginalized in society. Furthermore, no conclusive concrete empirical evidence is available showing that national unity as claimed by "U.S. English" is necessarily linked to the use of English by all its citizenry.

The United Nations Charter and the Universal Declaration of Human Rights states that differentiation on the basis of language is clearly not permitted. According to D.F. Marshall, "These international language rights are of two types: the right to freedom from discrimination on the basis of language and the right to use your language for activities of commercial life." In light of these debates, Americans will have to decide their fate as to which model will guide society in the future. Will it be a policy of unilingualism? Will it be policy accepting linguistic pluralism?

The future will bring answers to the following questions: Will bilingualism be nationally accepted? Will the Federal government move in the direction restricting the use of other languages other than English? Will there be further movement to the political right where more States will adopt policies restricting the use of other languages? Will the U.S. continue to sanction "English only" in what appears to be an explicit policy of "politics of exclusion" articulating values as to who gets what, when, where, and how in society?
The Canadian Language Model

Grudgingly, Canada at the federal level has always been a quasi official bilingual State. In 1867, Section 133 of the British North American Act allowed both French and English in the debates of the House of Commons of which the Acts of Parliament were, as they are today, published in both official languages. Both languages can be used in the courts of Canada (Section 133). Other notable examples of the broad general move towards bilingualism over time are the following legislative acts used in this sense as an indicator of a Canadian intent to become an integrative encompassing bilingual State, that is a model of accommodation attempting to respect the linguistic duality of Canada at the time: the Manitoba Election Act, 1875, which provides the proclamation of elections and voters' instructions in French and English; the Manitoba Act respecting County municipalities providing for bilingual by-laws; the 1876 Manitoba Act respecting Jurors and Juries -- when a French trial is requested, there can be an equal number of French and English speaking jurors; in 1877, an amendment to the 1875 Northwest Territories Act that provides that English and French are to be used in the debates of the Council and in court proceedings; in 1882, the Civil Service Commission of Canada allowed for examinations to be held in the English and French Language; in 1888, the Standing Orders of the House of Commons established that the Deputy Speaker and Chairman of Committees had to be knowledgable in both official languages; in 1888, the Civil Service Act, provided a bonus of $50.00 to be paid annually to those who could compose in both languages; in 1927, Canada adopted bilingual postage stamps; in 1934, the
Federal government amended The Bank of Canada Act to allow for bilingual banknotes; in 1945, family allowance cheques were issued in both official languages; in 1960 the Canadian Bill of Rights guaranteed a person to have an interpreter before the courts, a commission, a board or tribunal; in 1961, the Heeney Report set out the principal of citizen's rights to have federal service in French and English; in 1962 the federal Ministry of Transport sanctioned the use of some French in air traffic communications; in 1963, the Federal Government appointed the Royal Commission on Bilingualism and Biculturalism; in 1964, the Civil Service Commission implemented the beginnings of Language Training; in 1969, Canada adopted its first Official Languages Act making French and English the official languages of Canada; in the Constitution Act of 1982, sections 16-23 sets out the constitutional rules as to the bilingual nature of this country such as English and French are the official languages (section 16.1); English and French can be used in the debates in Parliament (section 17.1); English and French in the courts established by Parliament (section 19.1); section 20 confirms the right to have service in French and English by the public with federal institutions where numbers warrant. Confirming the official bilingual status, in 1988, the House of Commons of Canada, passed Bill 72 (the Official Languages Act) to ensure respect, equality, and equal rights for English and French as the official languages of Canada (section 2). As noted, the above examples illustrate to the reader in a narrow legalistic way that the Federal government has taken the lead in moving Canada towards the ideal of becoming a bilingual state.

Canada, particularly the Federal government, set the pace towards making Canada officially bilingual, although Quebec nationalists
argue that it was a very weak attempt. Nevertheless, the Federal government took the lead in response to political, social, and demographic pressures associated with bi-culturalism and ethnicity where French and English historically were the two largest dominant ethnic groups.

Resisting the Federal impetus towards official bilingualism, the provinces attempted to move Canadians a step backward in a direction towards greater legalized unilingualism, at least until recent history. In Quebec, for example, it is official unilingualism. Besides New Brunswick and the North West Territories which has eight official languages, there was a general move towards the greater use of English by the provinces.

The following set of legalistic examples served to ferment unilingualism in this country: the Education Act of 1864, in Nova Scotia, making English the sole language of instruction; the Manitoba Act of 1890 making English the only official language of records and journals of the legislature; in 1905, the Alberta and Saskatchewan School Acts made English the language of instruction; in 1912, in Ontario, Regulation 17 made English the sole language of instruction after grade 3, and allows only one hour of study in French per day; in 1931, the Saskatchewan School Act made English the only language of instruction in public schools; in 1974, the Province of Quebec adopted Bill 22 making French the only official language; in 1977, this is reconfirmed though the implementation of Bill 101, and latter Bill 178. These are but a few of the examples that could be cited that informs Canadians about our past, and that influences governing relations in the body politic today.

The general trend that the provinces have chosen to follow is de facto English, or in Quebec’s case, de facto French. Yet there are
exceptions to this, for example, New Brunswick which is an officially bilingual province. In the province of Manitoba due to a Supreme Court (federal institution) decision, it must translate all its legislation into French (forced bilingualism), and again due to a Supreme Court decision it must financially support separate linguistic education where numbers warrant.

Quebec nationalists frequently present arguments that in Canada it is a never ending struggle for French survival. Before the passage of Bill 22 in 1974, the Province of Quebec was an officially bilingual State. Because of history, in light of the examples cited in the above where the Provinces took the lead in attempting to destroy a semblance of French pride and nationalism in a Pan-Canadian sense, many historical cues informed French Quebec that her destiny and survival are tied to a strong and unilingual French State within Canada either as part of the federation or in a political alliance called sovereignty-association. Rejection, symbolized by the Meech Lake Constitutional Accord, illustrates there is a sorrowful lingering memory (Je me souviens) that informs French Quebec to this day where her future lies. For example, Durham’s condemnation of the French race and colonialism both have cultivated the genesis of language policy. Unilingualism in Quebec took its lead from the perception that francophones were not equal partners in the social contract between Quebec and Canada. Francophones perceived that the social contract called for equality between two nations in Confederation. Because of this, Quebec is not just one province amongst ten.

The antithesis are the actions set forth by the Federal
government. Bilingualism was a policy begun under Pierre Édouard Trudeau which serves as a model specifically designed to circumvent Quebec nationalism, one which seeks political separation. Briefly, Trudeau's vision was to broaden Quebec's narrower nationalistic horizons to encompass a pan-Canadian reality. Nationalism as the elites in Quebec defined it was not an acceptable alternative to Trudeau even to this day, unless it encompassed a vision of a strong Canadian national identity. It was in this context that language policy developed. For years, Trudeau attempted to bridge the gap between the two nations, even though his government's policies were politically divisive, one which alienated Westerners and Quebec nationalists alike. To this day, Trudeau maintains that Canadians misunderstood his definition of bilingualism. It was not to make all Canadians bilingual, rather it was institutional bilingualism at the Federal level.

In this sense, it is perceived by many Quebecers that the Pan-Canadian model of bilingualism was too slow in developing. More importantly, it didn't address the concerns of Quebec nationalism where the perception prevails that it is incapable of protecting culture and also ensuring linguistic survival. It is Quebec's relative demographic weakness in light of an English-speaking North America that continually informs Quebecers of the prevailing perception that there is a need to protect itself in the form of an institutionalized policy of unilingualism. In Quebec, linguistic segregation is necessary for cultural self-identification. Official bilingualism is the enemy, although Bill 86 is a symbolic softening of this stance.

Before the passage of Bill 22 in the year 1974, the Province
of Quebec had two official languages, English and French. Since, it has adopted an official policy of unilingualism in the interest of cultural and linguistic survival. Confirming this were the comments of Camille Laurin, Minister of State For Cultural Development, (1977), where he presented to the Quebec legislature his White Paper on language. Here he stated:

In North American, French has been unceasingly threatened since the Conquest. It must be defended at all cost, if only because of the proportion of strength on this continent.

Immigrants show a strong tendency to integrate into the English speaking minority.

In business, French to a very great extent is the language of inferior jobs and low income.

English is the language of business.

If population trends in Quebec continue, there will be fewer and fewer French-Speaking Quebecers."

Further supporting Laurin’s arguments (Laurin cites these in his White Paper) are the conclusions presented by Hubert Charbonneau and Robert Maheu which states the following:

The proportion of French-speaking people outside Quebec will diminish.

Quebec’s population is likely to diminish proportionately to that of the whole of Canada.

Unless the tendency is reversed, the proportion of French-speaking people in the province and in Montreal will diminish.

The proportion of people of British origin in the Province and in Montreal is likely to become insignificant.

The proportion represented by the third group will probably take the place of those British origin and will assume increasing importance in Montreal."

An interesting aspect of the Quebec model is that at one time Quebec society was relatively homogenous. Still today this is the
demographic reality outside the Montreal region where francophones are clearly in the majority. For example, in 1991, only 12% or 70,675 of Quebec’s 591,210 immigrants live outside Montreal, and in greater Quebec City with a population of 637,755, the 1991 census indicates the presence of only 14,020 immigrants. Through the influence of Church and directly or indirectly State policy, Quebec sustained its population by means of its extraordinary high birth rate according to Western world standards. Linked to its high birth rate is the fact that Quebec was a practising Roman Catholic society until secularism transformed it directly or indirectly through the forces of modernity, industrialization, urbanization, and the advancement of State intervention.

In this case, governing relations was directly linked to language and religion, a difference not so prevalent in the predominant protestant and English-speaking Canada and in the United States. As Kenneth McRae wrote about Quebec within the Canadian context:

There is, however, one immediate exception. No very extensive investigation is needed to establish that Quebec is a province pas commes les autres. While all the other provinces are predominantly English-speaking, it is predominantly French-speaking. While all the others are either predominantly Protestant or almost evenly balanced between Protestant and Catholic, it is predominantly Roman Catholic. We encounter here a situation of overlapping and reinforcing cleavages by which province, language and religion are linked and interrelated... In this perspective Quebec is indeed a subculture that departs significantly from all other provinces and from the Canadian averages."

Before Bill 22, it was an officially bilingual society. Corresponding to this, Quebec society was also heavily influenced by the unchallenged economic hegemony of the English minority who controlled the most important levers of financial power within the borders of Quebec. The demographic imbalance between francophones and anglophones in Canada is
one of the factors influencing the beginnings of language policy in Quebec. The desire to change the conditions of the social contract was strong. Francophones from Quebec wanted control of the economy.

Since Bill 22 and a few years later Bill 101, Quebec made great strides as many of its goals became a reality. The use of French in Quebec increased, and control of the economy, for example, has since transferred to French Quebecers, a fact that is clearly outlined in a publication titled *Indicateurs de la situation linguistique au Québec*,“ and in the recent findings of François Vaillancourt, *Langue et statut économique au Québec 1980-85*.“ For example, 82.6% of Quebecers have French as their mother tongue, a figure that has increased slightly since 1971, where it was 80.7%. In light of Vaillancourt findings, surprisingly, bilingual francophones’ average earnings are on a par or exceed that of allophones and anglophones. This is in stark contrast to what has been observed in the past. The socio-economic reasons for the advancement of language restrictions in the legal sense did subside to a degree, where there was talk about relaxing parts of Bill 101 to reflect this new reality. With respect to this, Bill 86 was passed liberalizing parts of Bill 101’s sign law regulations.

The language debate seems to always re-kindle its fires. In the attempt to head off changes to the law, a new twist to the old arguments resurface again. In this instance, rather than representing a province wide problematic, and as Levine’s recent account of language policy in *The Reconquest of Montreal*“ reveals, it is clear that the focal point of the reoccurring problem resides with Quebec’s most important major economic centre, the City of Montreal, and that what is required
beyond language policy is a new social contract supported by both communities.

Briefly, francophones are leaving the city for other parts of the Province, principally there is movement to the suburbs of Laval (northwest of Montreal), Brossard located southeast of Montreal, not to mention movement to the anglo ghetto, the "West Island". Many Quebec intellectuals, experts, and writers on Quebec (José Woehrling, Marc Termote, Uli Locher, for example) present the argument that immigration changes the relative percentage of francophones as a percent of Quebec's total population, and that there is a problem with the immeasurable consumption of anglophone culture by young francophones. In recent articles written in the Le Devoir, it was cited that in the core of Montreal, since 1986 to 1991, the proportion of citizens on the Island whose mother tongue is French declined from 61.8% to 58%. As Michele Venne wrote in the Le Devoir" it that the proportion of francophones in the metropolitan region of Montreal declined from 80% in 1961 to 51.6% in 1986. By the year 2056, it is projected that francophones in the city core will be a minority. Secondly, Montreal attracts 87% of immigrants, and that only 37% of allophones adopt French. This level has increased steadily. The trend line is not declining as many would have us believe," however, Charles Castonguay still debates this point." According to the most recent research carried out by Jean Renaud, professor of sociology, at the Université de Montréal, after three years, 60% of immigrants principally use French at work, 30% use English, and 10% use other languages."

However, many experts argue that francophone majority status measured as a percent of the total is seriously
threatened. To say the least, this is a fact particularly in the city core. In many respects, the arguments in support of no changes to Bill 101 are the same and have not really changed over time. The underlying rationale, a demographical argument, is a constant in the policy debates that informs Quebecers about themselves and the body politic. According to nationalists, the French Language must be defended at all costs. The enemy is linguistic pluralism.

Incrementalism and Governing Relations: Language Policy in Quebec

The development of language policy in Quebec has evolved over time, one which is based on historicism and socio-economic phenomenon. In this sense, language policy combines elements of incrementalism. However, the purpose of this research is not to explore the history and the socio-economical rationality for the reasons behind language policy. This research explores the link between the implementation of language policy as a governing instrument, a symbol, a tool in accomplishing unspecified ends, and to determine statistically if there is an effect on negative net-migration.

Language policy is an example of incrementalism. The passage of Bill 63 was in response to the St. Léonard Catholic School Commission’s desire to force allophone children to attend French language schools. Rather than as the St. Léonard Catholic School Commission would have had it, Bill 63 continued to give parents the choice between having their children educated either in the French or English language. Article 2 of the Bill, however, would ensure, or it was meant to, that courses
would be given in the French language. Here the Education Act was revised whereby the Minister of Education would take the necessary measures to have courses of French study from grade one to the eleventh year. As article 2 states, "the curricula and examinations must ensure a working knowledge of the French language to such children..." This naturally added fuel to the debate because the perception was that if the French language was to survive, it was necessary to implement laws restricting access to English language education that serves only to erode the position of the French language vis à vis English. Simultaneously, the French Language Bureau, article 14, was to foster the correction and enrichment of the spoken and written language, and to advise the government on any legislative or administrative measures which might be passed to see to it that French is the working language in public and private undertakings in Quebec, and to ensure that the French language is the working language in public administrations. As indicated in article 14a, the French Language Bureau was to hear complaints by employees that the use of the French language was not being respected.

Bill 63 implemented changes to education, immigration, cultural affairs, and employment, however, the policies set in place neither satisfied those who desired to strengthen the French language as opposed to those who maintained freedom of choice in matters of education was a right and not a privilege. The changes in the law at this time were minor in nature, not radically changing governing relations at that time. Control of the economy, for example, by the English minority remained unchanged.

Intended by the Union Nationale government, Bill 63 was a
compromise structured to satisfy major language factions, francophones and anglophones. As a political solution where value systems interplay based on history coloured by the forces of feudalism, "liberalism," and "nationalism" Bill 63 served to satisfy only a few. The government sought limited changes to the governing relations between the major players, but the unexpected result was that these changes added to the ongoing linguistic problems at the time. It was perceived by the anglophone community to be a minor disruption; it was more of a crisis for the Italian community located in St. Léonard, than to anglophones living nowhere on the Island of Montreal.

Bill 63 had only a minor impact on the migration patterns at the time. Freedom of choice was maintained in the school system, and no significant changes threatened the English hegemony and its economic power. The status quo was maintained with only minor adjustments required by anglophones. If political problems were encountered, the anglophone community perceived these to be related more so to the allophone community than its own because no radical change affecting the structure of the economy entailed.

On the other hand, Bill 22 enacted in 1974, responding to the Gendron Commission set up after Bill 63 by the Bourassa Liberal government, was of a radically different nature. During the decade of the seventies, this legislation upset the anglophone community in Quebec. At the time, this set the pace and tone where the beginnings of a new social contract were demanded. Politically and economically, language legislation, Bill 22, forged a new beginning in the relations between the principal communities, a change that was clearly unwanted by the
anglophone community. From a liberal perspective, changes in the terms of a contract warrants agreement by both parties, not by just the francophone majority who constitute only one side, albeit a majority. To anglophones, this in itself was upsetting. This meant, however, a change in the rules affecting governing relations. It signalled that a new game had begun, but with different rules designed by the larger of the two major players.

Historically, changes in governing relations were demanded by Quebec nationalists. In response to the negative reactions over Bill 22, Premier Bourassa attempted to sell the idea that little had changed in Quebec for the anglophone community. Bourassa argued that it was still the Liberal Party who best politically represented the interest of the anglophone and allophone communities alongside the francophone majority. This sort of rationality was unappealing to anglophone and allophone communities alike, particularly in light of article 1 of the law making French the only official language, albeit this was more of an issue to the anglophone community.

Since the passage of Bill 22, relations between francophones and other communities became more formal, and what developed out of this was a less tolerant attitude towards one another. At the time, implementation of language policy set the tone of relations between communities. In Quebec, which is linked to the North American political economy with a history of liberal democracy, it was inconceivable at the time that this could have happened to the powerful English minority, particularly to a people with tremendous economic strength controlling the levers of financial power in Quebec.

Not only did French become the official language, it was to be
used as the language of communication in public administration. Furthermore it was to be used at every level of business activity, particularly in corporate management, in names of firms, on public signs, in contracts, and in consumer contracts. Clearly, the Quebec State forged a new public policy in what was normally considered to be the domain of private contracts, and in the private affairs of business."

Article 6 of the Act stated that official texts and documents emanating from the public administration were to be drawn up in French. Article 12 stated that the official language of internal communications in the public administration was French. However, this was not too dramatic since most of those employed by the public administration were francophone. Furthermore, article 14 stated that no one shall be appointed, transferred or promoted to a public administration office unless their knowledge of the official language is appropriate to the employment sought. In effect, this did not concern anglophones because traditionally, which is the case today, public administration is largely the preserve of francophones employing 55,000 with only about 500 anglophones, but it is the symbolism associated with this policy that is important, nor should its importance be underestimated.

For those persons moving to the province, article 21, stated that no professional corporation shall issue a permit to a person who does not have a working-knowledge of the French language. Article 22, however, granted the right to professional corporations to issue a temporary permit to those not fluent in the French language, but these permits are valid for one year only. The thought of having to apply for a permit represented additional hardships on those coming to the province which
only contributed to additional declines in the number of in-migrants. Indeed, this as a tool could have caused a rise in negative net-migration.

In labour relations, the legislation called for the language of work to be French. Article 24 stated that employers must draw up in the French language notices, communications and directives to their personnel. Furthermore, article 25 stated that French was the language of labour relations.

To anglophones, this was State intrusion in the private affairs of business. Positive State intervention of this nature at the time was unthinkable, unexpected, and never before encountered in Quebec on such an extensively and widely applied scale, except perhaps during wartime. Making matters worst, businesses were also required to obtain certification from the government that they had adopted a francization program which from an economic point of view only added another level of management to the organization, a level which added to the complexity of doing business in Quebec. Furthermore, the regulations called for the establishment of different classes of business firms based on the kind of activity, the size of their personnel, and the breadth of the programs to be adopted. Specifically article 29 highlighted the scope of this program:

a. the knowledge that the management and personnel must have of the official language;
b. the francophones presence in management;
c. the language in which the manuals, catalogues, written instructions and other documents distributed to the personnel must be drawn up;
d. the provisions that the business firms must make for communication in French by the members of their personnel, in their work, among themselves and with others.

French was to become the language of business. Firm's names were to be in French, but an English version could still accompany it.
Article 32 mentioned that the French name must stand out, or at least figure no less prominently in the texts and documents than the English versions. Predetermined contracts had to be drawn up in French (article 33). Labelling of products were to be in French (article 34); public signs were to be drawn up in French (article 35).

In brief, Bill 22 set out to change governing relations between the State and business capital. Until then, business was still controlled by anglophones, and the intent of government policy was to end anglophones' dominated position that had been in place throughout Quebec's history. The francophone majority wanted control of the economy. To anglophones, these regulations were upsetting, and it was this set of regulations that contributed to the departure of many businesses and private and investment capital. On this account, the anglophone community perceived, rightly or wrongly, that French language regulation prevented new business capital from setting up in Quebec, and that this policy acted as a barrier to the free movement of capital.

In the field of education, Bill 22 established that the language of instruction was French, however, English was allowed to continue on a more limited basis. As anticipated, this annoyed anglophones because of the prevailing perceptions that the government was being overly coercive (a philosophical and ideological difference on the role of the State and its relationship to capital formation), and secondly freedom of choice in education was a right and not a privilege. It was during this period of time that the right to English education became a privilege rather than a right. Article 43 of the law called for the application of tests to be administered by the Minister of Education to
ascertain that pupils had sufficient knowledge of the language of instructions to receive their instruction in that language. Immigrant children, for example, had to be tested for their ability to speak English should they desire to have English language education. As many families could recall, this was a frightful experience, particularly for those children that went through this. Indeed, the intent of the Bill was to limit access to English education where it was reasoned by Quebec nationalists that if it were possible to eliminate the anglicization of immigrants through education⁴⁰ then it would enhance the growth and flourishing of the French language.

Bill 22 represented to anglophones and allophones a severe psychological blow. For the first time, many in the community realized that they had become an isolated minority in the larger North American context. On this account, Bill 22 became instrumental in the surprising and rapid transformation of attitudes whereby francophones through legislation demanded a new form of governing relations. Control of Quebec’s destiny meant control of cultural and social affairs first; next on the agenda was economic control. Bill 22 in this regard set the social tone for years to come.

Due to the impact of Bill 22 on anglophones and allophones, this legislation was partly instrumental in the election of the Parti Québécois in 1976, consequently leading to the enactment of another language bill in 1977, legislation better known as Bill 101.

As mentioned, the political events stemming from Bill 22 led to the election of the Parti Québécois as the debate continued as to whether the anglophone vote split the vote between the Union Nationale and
the Liberal Party, in effect leading to the unexpected election of the Parti Québécois on November 15, 1976. Once having gained access to power, unexpectedly, the Parti Québécois now had the opportunity to implement many social programs as promised over the many years in opposition contributing further to changes in social relations.

As expected, in the year 1977, the Parti Québécois, proceeded with a language bill, or what became known as the Charter of the French Language. However, prior to the implementation of Bill 101, the Parti Québécois attempted to pass Bill 1 which was withdrawn for technical reasons largely because of a possible Liberal filibuster preventing quick passage before the school year had begun.

Bill 101, replacing the Parti Québécois first attempt at language legislation sought to have the French language as the means and the instrument by which the Quebec people would articulate their identity. Language legislation, in this sense, became a means to an end. It was instrumentalism which set the agenda for new governing relations between minorities and the French majority. The French Charter was to ensure that French was to be the dominant force behind Quebec's will to survive. Language was to become the instrument that would drive francophone entrepreneurial spirit, but it was also instrumental in causing the flight of English controlled capital that led to increased levels of out-migration.

As the preamble of Bill 101 clearly stated, one of the specific intentions was to make French the language of Government and the law of the land. French was meant to be the normal and everyday language of work, instruction, communication, and business. Specifically the
French language was the instrument by which the French majority was to articulate its identity. As Bill 22 did, Bill 101, in article 1 stated that "French is the official language of Quebec." This is still the situation today, and it is likely that this will continue to be the case in the future.

Quebec's cultural and economic destiny is closely tied to language policy. Language became a societal paradigm colouring all aspects of social and political life in this province.

Highlighting parts of the Act, Chapter 11 of the Bill sets out the fundamental language rights which are as follows:

(a) Every person has a right to have the civil administration, the health services and social services, the public utility firms, the professional corporations, the associations of employees and all business firms doing business in Quebec communicate with him in French (Article 2).
(b) In a deliberative assembly, every person has a right to speak in French (Article 3).
(c) Workers have a right to carry on their activities in French (Article 4).
(d) Consumers of goods and services have a right to be informed and served in French (Article 5).
(e) Every person eligible for instruction in Quebec has a right to receive that instruction in French (Article 6).

Chapter 111 of the Charter sets forth the use of French in the language of the legislature and the Courts in Quebec. Article 9, for example, stated that only the French text of the statutes and regulations is official. Article 11 stated that artificial persons (corporations) before the courts had to use French unless the parties agree.

Chapter IV deals with the language of civil administration, sanctioning French as the only official language in its written communications and with artificial persons in Quebec (Article 16). Contracts, signs, posters, notices of meetings, internal communications,
interdepartmental communications, and contracts are to be in the official language. Traffic signs, school bodies, health and social services, municipal bodies must all use the official language. Clearly, the mandatory use of the French language was to be far reaching.

Chapter VI, governs the language of labour relations. As expected, and outlined in articles 41-50, it states that French is the language of use. For example, article 41 states that every employer shall draw up his written communication to his staff in the official language.

In the arena of commerce and business, still perceived by anglophones to be private property, articles 51 to 71 inclusively outlines the language regulation requirements. Labelling (article 51), catalogues, brochures, folders (article 52), contracts (article 55), applications forms (article 57), signs and posters (article 58) regulated the business use of French. Article 63, states that firm names must be in French, and to obtain juridical personality French is a requirement (article 64).

Relating to this, an extensive study conducted by the C.D. Howe Research Institute on business response to the francization in the workplace illustrates that this program caused additional costs borne by business, the cost which competitors from other provinces and the United States did not bear. For example, the study states that the direct cost for firms to be "an annual cost (for a few years) of approximately $60.00 per employee in firms of 500 or more employees and of $50.00 per employee in the rest of the private sector in Quebec."

One of the controversial areas, as it is today, is in the area of instruction covered by articles 72 to 88 inclusively. As article 72 states instruction in the kindergarten classes and in the elementary and
secondary schools shall be in French except where otherwise stated in the Act. Specifically article 73 sets out the following:

(a) a child whose father or mother received his or her elementary instruction in English, in Quebec;

(b) a child whose father or mother, domiciled in Quebec on the date of the coming into force of this act, received his or her elementary instruction in English outside Quebec;

(c) A child, who, in his last year of school in Quebec before the coming into force of this act, was lawfully receiving his instruction in English, in a public kindergarten class or in an elementary or secondary school;

(d) and younger brothers and sisters of a child described in paragraph c; may receive their instructions in the English language, otherwise French school attendance is a must.

Bill 101 in most cases did not radically differ from Bill 22 passed by the Quebec Liberal government in 1974. But an essential difference accounting for the perceived severity is that Bill 101 was legislated by a government bent on taking Quebec out of the Canadian nation State. This is action considered so severe in itself in the minds of anglophones inside and outside of Quebec that language legislation added additional political and economic stress on those opposed to such an agenda. The possibility of a Canada without Quebec, to most at the time, raised the levels of fear to new heights never realized before. It was one thing to have an opposition party seeking the destruction of Canada, it was another to have it in power legislating in the area of language where the intent was to redress the perceived economic inequities highlighted in the Gendreau Report. As Camille Laurin, the Minister of State for Cultural Development, the architect of Bill 101, wrote concerning the French Language Charter:

The economic, social and cultural development of the French-speaking community proceeded by leaps and bounds, but in the private sector the work world remained obstinately English speaking, with all the old cultural and social inequalities, the same language barriers to promotion, the same gaps between incomes; unilingual English at the
top, French at the bottom, and, at the tail end, the various categories of immigrant."

Clearly one of the major reasons for the undertaking of the Language Charter was to redress the perceived and real economic inequities" built and supported by free markets, liberalism, individualism, and democratic institutions. The intent was to allow the State to take action in the realm of economic and political life such that the English-speaking hegemony would be fractured and divided. The social plan was to supplant this with Québécois entrepreneurship, or as some called the development of "Quebec Inc"."

Laurin's" view of history, accused by many as being a highly selective one," justified the imposition of Bill 101 in the name of democracy and justice. As Laurin argued, the controlling minority, anglophones, through liberalism and political institutions, and because of their economic strength, controlled the principal levers of the State thus effectively controlling the destiny of the francophone majority very much to their detriment.

**Conclusion**

To summarize, Bill 63 did not disrupt anglophones' grip on the Quebec economy. Nevertheless, it began a long series of changes which led to the implementation of Bill 22, the election of the Parti-Québécois, and later Bill 101. As mentioned, Bill 22 shocked the anglophone and allophone community by eliminating English as an official language. Having the State legislate in the private domain of business under the guise of language policy posed serious threats to English capital. Prior
to this, the State had little power or political legitimacy to dictate the rules of the game even though it had the legal power to do so. At the time, it was one thing for the State to provide government contracts and subsidies; it was yet another to recognize the right of the State to directly interfere with business which was an exclusive and very selective club.

Retrospectively, it is to be noted that Bill 22 set the tone and pace for the future, whereas Bill 101 confirmed to many that the real intent underpinning language legislation was that the English-speaking hegemony was to be reduced. In line with this policy, the Parti Québécois government legislated a new governing contract, Bill 101. Hereafter language became the single most important instrument in restructuring the economy in the Province of Quebec by replacing it with one controlled by the francophone political and business elites, in part due to the economic vacuum created by those who left Quebec.

Not surprisingly, the choices facing many anglophones and allophones were to integrate into the new realities of Quebec society, or alternatively migrate. Certainly, those who would have come to Quebec from other provinces, changed their minds. Consequently, the normal flows of capital were realigned due to the negative perception and so-called coercive elements of Bill 101.

On this account, it is important to recognize that to a large extent it was the original regulations and symbolic elements of Bill 101 that represented the greatest impact on allophones and anglophones. It is in the context of "Je me souviens" that remains foremost in the minds of minorities in Quebec where the psychological impact carried the greatest
weight. The original intent of Bill 101 remains clearly fixed in the minds of anglophones which can be best characterized as the official loss of status that the English language once had.

Supporting this, minor modifications of Bill 101 over time changed little the opinions and attitude of anglophones towards the French Language Charter. For example, regulation of Bill 101 established that it was up to English-speaking individuals to establish that they were bilingual rather than the collective responsibility of the English-speaking institution. In operationalizing this, testing became mandatory if anglophones were to be hired, promoted, or transferred. In 1983, the passage of Bill 57 eliminated this requirement along with the necessity for employees in these institutions to communicate solely in French. In communications, alongside the French written form, English could be used. Secondly, in 1986, the Health and Social Services Act, Bill 142, was passed allowing service to clients in the English language in regions where numbers warrant.

These modifications may have been responsible for the easing of tensions between francophones and anglophones; its effect however was short lived. In 1988, the Supreme Court of Canada found that the provisions regarding the posting of signs in French only were unconstitutional and excessive. In response to this, in 1989, the Quebec Liberal government passed Bill 178 making use of the notwithstanding clause, section 33 of The Canada Act and the Charter of Rights, thus effectively by-passing the Supreme Court ruling. The direct effect of this legislation refocused attention on the negative aspects of the French Language Charter. Whatever goodwill there was associated with modifying
Bill 101 over the years clearly was thrust in the background. Once again, attention became fixed on the coercive nature of the State and the French Language Charter (Bill 101). So strong was this reaction, it effectively and almost singularly destroyed the Meech Lake Constitutional Accord where Quebec was to have been constitutionally recognized as a distinct society. Not surprisingly, many people confused by the lack of detailed knowledge linked the use of the notwithstanding clause with Meech Lake.

In direct response to the negative reactions associated with the political environment over time, people in great numbers left the province taking with them capital in the form of education and a badly needed entrepreneurial drive so necessary for economic survival in Quebec. It was in this manner, Bill 22 and Bill 101 accomplished the results so necessary for radical changes in the economy. Laurin's vision of the future became a reality, but at what cost? To most francophones, this was positively a gain, at least until the present. For the English speaking community, (the hypothesis being tested) this lead to massive migration out of the province.

To conclude, in Quebec, political and social reality seems to be in a constant state of flux. Recently another incremental change related to the issue language, Bill 86, an Act to amend the Charter of the French Language was passed allowing the posting of bilingual signs. Incremental change to the Charter of the French Language will translate into new realities. Its impact on interprovincial migration patterns is left to the future to ascertain.


7. Pierre L. van den Berghe, p. 205.


12. O'Cinneide, Keane, and Cawley, p. 3.


17. Jayasuriya, p. 128.


19. Callan, and Gallois, p. 64.


28. Muller, p. 10.

29. Donderi, and Prupas, p. 56.


36. Fishman, p. 127.

37. see Margaret Carison, Time Magazine, 5 December 1988, p. 29.

38. Fishman, p. 134.


40. For a detailed history of the two official languages over time see "Languages Over Time", Language and Society, no. 1 (Autumn 1979).


45. Conseil de la langue française Secrétariat à la politique linguistique, Indicateurs de la situation linguistique au Québec (Gouvernement du Québec, April 1991).


53. For a discussion on governing instruments see Bruce Doern, and Richard Phidd, Canadian Public Policy Ideas, Structures, Process (Methuen, 1983), pp. 110-36.

54. For a discussion on the tools of government see Christopher Hood, The Tools of Government (Chatham, New Jersey, Chatham House, 1983).


62. Laurin, p. 118.

64. Matthew Fraser, Quebec Inc. French-Canadian Entrepreneurs and the New Business Elite (Toronto: Key Porter, 1987).


Chapter IV: Methodology and Hypothesis
**Introduction**

The purpose of this chapter is to review the methodology, describe the general form of the regression equation, illustrate the full regression model, and to define the dependent variable and independent variables. Also presented are the number of cases, level of measurement, and the null and research hypotheses.

**Research Methodology**

Statistical analyses of policy outcomes or impact studies can be achieved by employing Beck and Alford’s methodology which uses a technique called interrupted time-series analysis.\(^1\) Clotfelter and Hahn in assessing the National fifty-five per hour speed limit\(^6\) confirms the validity of the research method. Alt,\(^7\) Hibbs,\(^4\) Hicks,\(^9\) Lindbeck,\(^9\) Lowery,\(^7\) and Tufte,\(^6\) and Lewis-Beck's *Applied Regression An Introduction*,\(^9\) also relied on a similar methodology in policy analysis covering numerous research topics.

An interrupted time-series analysis is a methodology used to investigate the variance in the dependent variable while statistically controlling each of the independent variables. The intent is to employ an analysis of change capable of isolating and measuring the level and slope of the dependent variable interprovincial net-migration at three specific points in time, 1969, 1974, and 1977, corresponding to the periods when language legislation Bill 63, Bill 22, and Bill 101 each were enacted while controlling for economics used as a series of independent variables.
An inspection of the distribution of the dependent variable indicates that there are continual changes in the level of interprovincial net-migration from year to year. Hence, it is desirable to determine if the change in the series results from events not related to itself, or alternatively because it relates to chance -- a random act. The question that is addressed is: the observed change evident in the dependent variable, does it relate to the implementation of language policy?

In statistics, it is necessary to rule out chance as a cause of change in the level and slope of the dependent variable, net-migration. The question that is addressed is whether the change in level and slope are related to phenomena called a "treatment" in quasi-experimentation. In this study, the implementation of language policy Bill 63 (1969), Bill 22 (1974), and Bill 101 (1977) are statistically analyzed to determine the impact on the dependent variable, interprovincial net-migration.
For example, placing the dependent variable, net-migration on the "Y" axis and a time variable on the "X" axis (see Figure 1.0 in the above), in the year 1969 when Bill 63 became legislation, the question addressed is: at this discrete point in time when inspecting the dependent variable series, did the level and slope change significantly? If no change in the level and slope can be observed, while controlling for other independent variables used in the analysis, a conclusion can then be reached that language policy Bill 63 did not affect the change in the level and slope of the series (dependent variable). If there is no observed change in the level of the series, the series is represented by points along the line A and A1. If change in the level of the series is evident, an increase or decrease, then the series is highlighted by the line A and B1, or A and B2. If this were the case, it is possible that language policy, Bill 63 exerted an impact on the level and slope of the series. If changes in the level and slope are evident, it is hypothesized that change in the level and slope are associated with policy.10

Lewis Beck's Coal Mine11 analysis and his study of economics as it impacted on the Cuban Revolution12 illustrate that a multiple interrupted time-series evaluating the impact of public policy takes the generalized form of a linear equation. It is modelled by the following mathematical equation:

$$Y_t = B_0 + B_1X_1t + B_2X_2t + B_3X_3t + \text{et}$$

$Y_t$ is the dependent variable; $B_0$ is the intercept, $X_1t$ is a counter for years, from 1 to $N$, equal to the number of observations; $X_2t$ is a dichotomous variable scored zero for observations before the implementation of the policy; $X_3t$ is a counter 1,2,3, ... for
observations after the implementation of the policy; $B_1$, $B_2$, $B_3$ are the parameters to be estimated; and $e_t$ is the error term.

Beck clearly illustrated in his descriptions of the interrupted time-series analysis (refer to the Coal Mine and Cuban Revolution quasi-experiments) that $B_0$ and $B_1$ represent the level and slope before the implementation of a policy or treatment as defined in quasi-experimentation; $B_2$ and $B_3$ represents the level (short-term impact) and slope (long-term impact) after the policy intervention. The null hypothesis exhibiting no change is $H_0: B_2 = 0$, and $B_3 = 0$.

It is necessary to observe whether $B_2$ and $B_3$ significantly differ from zero to determine if there were significant policy related changes evident from comparing phenomenon after intervention to phenomenon before intervention. If $B_2$ is not significantly different from zero, then the null hypothesis that the policy had no short term effect on the dependent variable series is accepted. If $B_3$ is not significantly different from zero, then the policy had no long term effect on the changes in the dependent variable.

In this study, the model of the policy variables explaining the dependent variable, net-migration takes the form of $Y_t = B_0 + B_1 X_{1t} + B_2 X_{2t} + B_3 X_{3t} + B_4 X_{4t} + B_5 X_{5t} + e_t$. At this point, the purpose is only to illustrate the methodology measuring the policy dimension of the interrupted time-series analysis, the full model will be illustrated later in this chapter.

$Y_t$ is the dependent variable, yearly observations of net-migration. $X_{1t}$ equals a counter for years 1 to $N$, which is the number of observations in the time series; $X_{2t}$ equals a dichotomous variable scored
0 for observations before the passage of Bill 63, in the year 1969, and scored "1" after the passage of this legislation. $X_{st}$ is a counter for years scored "0" for observations before the passage of Bill 63, and scored 1,2,3 . . . for observations after the passage of Bill 63. $X_{st}$ is a dichotomous variable scored 0 for observations before the passage of language Bill 22 in the year 1974, and scored "1" for observations after the passage of Bill 22; $X_{st}$ is a counter for years scored "0" prior to the passage of Bill 22 and 1,2,3 . . . for all observations after the passage of the Bill. As in the previous two cases, $X_{st}$ and $X_{st}$ representing Bill 101's effect are scored in the same manner as $X_{st}$, $X_{st}$ for Bill 63; $X_{st}$, $X_{st}$ for Bill 22; and "et" represents the error term of the equation.

In Beck and Alford's methodology, the parameters $b_0$ and $b_1$ represent the level and slope before the passage of Bill 63 in 1969. In the analysis, it is necessary to look at $B_2$ and $B_3$ to determine the effect that Bill 63 had on the series net-migration. Beck and Alford state that if $B_1$ is not significantly different from zero, then the legislation, Bill 63, would not have an effect on the level of the time series. If the estimate $B_1$ is not significantly different from zero, the inference is that the legislation had no effect on the slope of the series. In this model, $B_2$, represents the short-term impact of the legislation on the time-series, and $B_3$ is the long-term impact. Hence the same regression rules naming the variables apply to $B_1$ and $B_2$, and $B_3$ and $B_4$, respectively, whereby the model captures both the short and long-term impacts associated with Bill 63. In an identical manner, these rules apply to Bill 22 and Bill 101.

This technique has the capacity to assess the impact that Bill 63, Bill 22, and Bill 101 each had on the net difference between the
number of persons leaving the province of Quebec and the number of entrants.

Other factors beside language legislation could also account for the variance in the dependent variable net-migration. For these reasons, the model includes a set of economic independent variables where each acts as statistical controls in the regression model.

The Full Regression Model

The following represents the full regression model including the policy variables mentioned in the above together with a series of economic independent variables.

\[
Y_t = B_0 + B_1 X_{1t} + B_2 X_{2t} + B_3 X_{3t} + B_4 X_{4t} + B_5 X_{5t} + B_6 X_{6t} + B_7 X_{7t} + B_8 X_{8t} + B_9 X_{9t} + B_{10} X_{10t} + B_{11} X_{11t} + B_{12} X_{12t} + B_{13} X_{13t} + B_{14} X_{14t} + B_{15} X_{15t} + B_{16} X_{16t} + \text{et...}
\]

In this model, the dependent variable is net-migration; variables \( B_0 \) through and including \( B_7 X_{7t} \) are as indicated in the previous model where language legislation Bill 63, Bill 22, and Bill 101 are illustrated (the short and long-term effect of each policy); \( B_8 X_{8t} \) represents Quebec's per capita standardized domestic product (each variable is standardized by population and the CPI index except independent variable, unemployment rate). Variable \( B_9 X_{9t} \) is public capital investment on a standardized per capita basis; \( B_{10} X_{10t} \) is the per capita standardized private business investment; \( B_{11} X_{11t} \) is the value of building permits standardized; \( B_{12} X_{12t} \) is the value of shares traded (standardized)
on the Montreal Stock Exchange, combined yearly volume; $B_{13}X_{13}t$ is Quebec's annual average unemployment rate; $B_{14}X_{14}t$ is standardized per capita wages and salaries; $B_{13}X_{13}t$ represents direct and indirect taxes including Federal, Provincial, and Local taxes in the Province of Quebec standardized by the consumer price index and population; and the $B_{13}X_{13}t$ variable is Provincial transfers to individuals standardized by population and the CPI index.

Model Graphically Highlighted
**Dependent Variable**

The first variable highlighted in the equation is the dependent variable. As mentioned in chapter one, the dependent variable is interprovincial net-migration which according to Statistics Canada is defined as:

The movement from one province to another involving a permanent change in residence. A person who takes up residence in another province is an out-migrant with reference to his province of origin, and an in-migrant with reference to his province of destination.

The definition of net-migration is the difference between the number of in-migrants and out-migrants (includes the migration of all adults and children who have taken up residency in the province).

In this study, the results of subtracting in-migration from out-migration are negative. From the year 1962 to the present, the actual values generated in the time-series illustrate that the dependent variable has been consistently negative. In this sense, the analysis deals with negative net-migration.

The data measuring the dependent variable are generated from interprovincial migration tables as estimated by the Demography Division using Family Allowance file M0013 and Revenue Canada Tax files. From 1961-62 to 1975-76, see *International and interprovincial migration in Canada* publication catalogue #91-208 (July 1977). For years 1976-77 to 1988-89, the data are from *Postcensal annual estimates of population by marital status, age, sex and components of growth for Canada, provinces and territories, June 1, 1991*, volume 9, table 8, p.57. Estimates used by Statistics Canada are based on taxation files from Revenue Canada for the years 1976-77 to 1988-89. For 1989-90 and 1990-91, estimates are
based on Family Allowances files.

The level of measurement for all variables is ratio or interval' except for policy variables mentioned below. The number of observations in the series are thirty; the first year in the series is 1961 and the last year is 1990.

**Independent Variables: Bill 63, Bill 22, and Bill 101**

The full regression model incorporates two sets of independent variables consisting of two distinct types: the first consists of language policy, variables measuring Bill 63, Bill 22, and Bill 101; the second set are defined as economic variables.

Concerning language policy variables (short-term impact measures), because of the inability to measure them mathematically, these are considered to be dichotomies. Consider the case of sex (male, female) or marital status (single, married), these are examples of dichotomies which in a crude sense of the word have interval characteristics. In this research design, measurement of policy is scored "0" for the non-presence of language legislation or policy (Bill 63, 22, & 101), and scored "1" for the presence of language laws." The long-term impact (policy) variables are scored 1, 2, 3, 4, 5, 6... (sequentially).

**Economic Variables: Statistical Controls**

The following list consists of the economic variables used as statistical controls in modelling. The set of variables includes: (1) gross domestic product at market prices; (2) public capital expenditures; (3) private capital expenditures; (4) the value of building permits in the
Province of Quebec; (5) values that represent the yearly average value of shares traded on the Montreal Stock Exchange; (6) the level of unemployment in the Province of Quebec; (7) wage and salaries for individuals (8) Federal, Provincial (direct and indirect taxes combined with local taxes); and (9) Quebec Provincial transfers to individuals.

The independent variables exclusive of policy and the level of unemployment (expressed as a percent) are converted to per capita standardized data. Each of the independent variables where possible is normalized by population (Quebec) and by the consumer price index.

**Independent Variable: Gross Domestic Product**

The first variable discussed is Quebec's gross domestic product standardized by the consumer price index (1986 = 100) based on expenditure values, total goods, and also by Quebec's population (see Canadian Economic Observer Historical Statistical Supplement 1990/91, table 11.1" and Statistics Canada, Postcensal Annual Estimates of Population by Marital Status, Age, Sex and Components of Growth, for Canada, the Provinces and the Territories at June 1st, catalogue 91-210)" to arrive at provincial gross domestic product on a standardized (normalized) per capita basis (see Statistic Canada, catalogue 62-010 and the Canadian Economic Observer Historical Statistical Supplement 1990/91, table 3.2)."

Provincial gross domestic product (see Statistics Canada, Provincial Economic Accounts, Experimental Data, catalogue 13-213)" is expenditure based the following:
- Personal expenditure on consumer goods and services.
- Goods and services.
- Government current expenditures on goods and services.
- Government investment: fixed capital, residential construction, non-residential construction, machinery and equipment, and inventories.
- Business investment: fixed capital, residential construction, non-residential construction, machinery and equipment, inventories.
- Non farm.
- Farm and grain in commercial channels.
- Net exports plus statistical discrepancy.

The level of measurement is interval, and the number of cases is thirty.

**Independent Variable: Public Capital Expenditure**

Statistics Canada, *Private and Public Investment in Canada, Intentions*, (catalogue #61-205), reference table 20 in *Quarterly Economic Review*, June 1991, provides data on private and public investment by region. Capital expenditures for the period 1961/90 has thirty observations. The data business capital expenditures, *Quarterly Economic Review* reference table 22, minus the data used in reference table 20, private and public investment by region capital expenditures gives us a measure called public investment. The data were standardized by population, and by the CPI to arrive at standardized per capita data.

**Independent Variable: Private Capital Expenditure**

Statistics Canada, in *Private and Public Investment in Canada, Intentions*, catalogue #61-205, "Quarterly Economic Review reference table 22," provides data on Business Capital Expenditure by Region exclusive of housing, institutions and government departments, for the years 1956 to
and including 1991. As mentioned the number of cases cover the years between 1961 and 1990.

These values are also standardized both by the CPI index and population to arrive at per capita standardized results.

**Independent Variable: Value of Building Permits**

The *Canadian Economic Observer* provided in table 12.1" the value of building permits in millions of dollars (this data is from Building Permits, catalogue #64-001). The years 1961 to and including 1990 are used in this study.

The data are standardized by CPI and population to arrive at standardized per capita values.

**Independent Variable: Annual Value of Shares Traded on Montreal Stock Exchange**

The *Canadian Economic Observer*. table 10.5" provides stock exchange values by year and the value of shares traded. In this case, the value of shares traded on the Montreal Stock Exchange are used (Monthly Review, Montreal and Canadian Stock Exchanges). As in other cases, the data are standardized by population and by the CPI.

**Independent Variable: Quebec's Unemployment Rate**

Unemployment rates are from *Canadian Economic Observer* table 2.6" (*The Labour Force*, catalogue #71-001)" for the years 1966 to 1990.
The years from 1960 to 1966 were provided to me directly by Mr. D. Drew of Statistic Canada, Ottawa, over the telephone.

**Independent Variable: Wages and Salaries**

The *Canadian Economic Observer* from table 12.6 provides data on wages and salaries by province which in turn were sourced from *Labour Income Estimates*, catalogue #72-005. In this study, the years 1961 to 1990 are used.

As in the case of gross domestic product, these values are standardized by the CPI (consumer price index), and by population to arrive at standardized per capita wages and salaries.

**Independent Variable: Federal/Provincial/Municipal Taxes**

This variable includes the sum of Federal direct taxes for persons (income taxes), Statistics Canada, *Provincial Economics Accounts*, catalogue #13213P, table 11, with Quebec Provincial direct taxes for persons (income taxes), table 11, with the sum of Federal and Provincial indirect taxes, table 12, and the total amount of local taxes, table 12.

Total Federal indirect taxes include customs import duties, excise taxes and miscellaneous indirect taxes, oil export charge, petroleum compensation fund levy, Canadian Ownership charge, and air transportation tax.

Total Provincial indirect taxes include amusement tax, corporation tax (not on profits), gasoline tax, motor vehicle licenses and permits, other licenses fees and permits, miscellaneous taxes on natural
resources, real property tax, retail sales tax including liquor and tobacco, profits of liquor commissions, and miscellaneous charges.

Local taxes include amusement taxes, licenses, fees, and permits, real and personal property tax, retail sales tax, and miscellaneous charges.

The total tax value variable is the sum of each aggregate tax value. This is standardized by the CPI, and presented on a per capita basis.

**Independent Variable: Quebec's Provincial Transfers to Individuals**

Data measuring Provincial transfers to individuals are from Statistics Canada, *System of National Accounts - Provincial Economic Accounts*, catalogue 13-213P Annual. This data includes direct relief, old age and blind supplements, mothers' and disabled persons allowances, worker compensation benefits, pensions to government employees, grants to post-secondary educational institutions, grants to benevolent associations, and miscellaneous items. The data are standardized by the CPI, and are reported on a per capita basis.

**Hypotheses**

The intent is to statistically measure the strength of the relationship between language policy and migration in the Province of Quebec while controlling for those economic variables mentioned in the
above. The three policies under investigation are Bill 63, Bill 22, and Bill 101, passed into law in 1969, 1974, and 1977 respectively. The results of this research expects to find that language policy in the form of legislation implemented at discrete points in time exerted a negative influence on the difference between entrants and departures of people.

The dependent variable as mentioned is negative net-migration, defined as such because over the years out-migration always exceeded in-migration. The question under study is: did negative net-migration increase after the implementation of language policy? To review, negative is interpreted to mean that there are more people moving out than moving into Quebec. To illustrate, during the period of time corresponding to the passage of Bill 22 (1974), there was an observable increase in negative net-migration.

Because of the ability of the regression model to measure policy, the model is capable of distinguishing between short-term impacts and long-term impacts of a policy under study. It is possible to formulate two hypotheses for each of the policy variables. Both short-term and long-term impacts can be statistically measured as to the specific impact they had on the dependent variable negative net-migration.

The hypothesis listed under the heading Hypothesis "1" deal with what is defined as the short-run impact of policy Bill 63 and its effect on net-migration. The second one deals with the long-term impact of the policy under question. The two hypotheses labelled as "2" deal both with the short-term and long-term impacts associated with Bill 22, and the set listed under hypothesis "3" are those that relate to the passage of language policy Bill 101.
Hypothesis 1 - Language Bill 63

Short-term Impact Hypothesis

This set illustrates the short-term impact of policy variable Bill 63 implemented in the year 1969. Although it is recognized that it is not necessary to state the null and the research hypothesis, both will be presented.

Null hypothesis:
The passage of Bill 63 in the year 1969 did not exert either a positive or negative short-term impact on the level of net-migration in the Province of Quebec for the period between 1961 and 1990.

H₀: B = 0

Research Hypothesis:
The passage of Bill 63 did exert a short-term impact on the level of net-migration in the Province of Quebec; it caused negative net-migration to increase for the period immediately following 1969.

H₁: B not = 0

There is a significant observed change in the level of negative net-migration after the passage of Bill 63 in the year 1969; the passage of Bill 63 caused a significant short term change in the level of net-migration.
Long-term Impact Hypothesis

This set deals with the long-term impact of policy variable Bill 63.

Null hypothesis:

The passage of Bill 63 in the year 1969 did not exert either a positive or negative long-term impact on the slope of net-migration in the Province of Quebec for the period between 1961 and 1990. Stated simply: the passage of Bill 63 did not effect the long-term change in net-migration in the Province of Quebec.

H₀: B = 0

Research Hypothesis:

There is no significant observed change in the slope of the dependent variable net-migration after the implementation of language policy Bill 63 in the year 1969 for the period under study, 1961 to 1990. Stated differently: the passage of Bill 63 did not cause a significant short term change in net-migration.

H₁: B not = 0

The passage of Bill 63 did exert a long-term impact on the level of net-migration in the Province of Quebec; it caused negative net-migration to increase for the period following 1969.

H₁: B not = 0

There is a significant observed change in the slope of negative net-migration after the passage of Bill 63 in the year 1969; the passage of Bill 63 caused a significant long-term change in the slope of net-migration.
Hypothesis 2 - Bill 22

Short-term Impact Hypothesis

This set deals with the short-term impact of policy variable Bill 22.

Null hypothesis:

The passage of Bill 22 in the year 1974 did not exert either a positive or negative short-term impact on the level of net-migration Province of Quebec for the period between 1961 and 1990.

$H_0: \beta = 0$

There is no significant observed change in the level of the dependent variable net-migration after the implementation of language policy Bill 22 in the year 1974 for the period under study, 1961 to 1990. Stated differently: the passage of Bill 22 did not cause a significant short-term change in the level of net-migration.

Research Hypothesis:

The passage of Bill 22 did exert a short-term impact on the level of net-migration in the Province of Quebec; it caused negative net-migration to increase for the period immediately following 1974.

$H_1: \beta \neq 0$

There is a significant observed change in the level of negative net-migration after the passage of Bill 22 in the year 1974; the passage of Bill 22 caused a significant short-term change in the level of net-migration.

Long-term Impact Hypothesis

This set deals with the long-term impact of policy variable Bill 22.

Null hypothesis:

The passage of Bill 22 in the year 1974 did not exert either a positive or negative long-term impact on the slope on net-migration in the
Province of Quebec for the period between 1961 and 1990. Stated simply: the passage of Bill 22 did not effect the long-term change in net-migration in the Province of Quebec.

\[ H_0: B = 0 \]

There is no significant observed change in the slope of the dependent variable net-migration after the implementation of language policy Bill 22 in the year 1974 for the period under study, 1961 to 1990. Stated differently: the passage of Bill 22 did not cause a significant short-term change in net-migration.

Research Hypothesis:

The passage of Bill 22 did exert a long-term impact on the level of net-migration in the Province of Quebec; it caused negative net-migration to increase for the period following 1974.

\[ H_1: B \neq 0 \]

There is a significant observed change in the slope of negative net-migration after the passage of Bill 22 in the year 1974; the passage of Bill 22 caused a significant long-term change in the slope of net-migration.

**Hypothesis 3 - Bill 101**

**Short-term Impact Hypothesis**

This set deals with the short-term impact of policy variable Bill 101.

Null hypothesis:

The passage of Bill 101 in the year 1977 did not exert either a positive or negative short-term impact on the level of net-migration in the Province of Quebec for the period between 1961 and 1990.

\[ H_0: B = 0 \]

There is no significant observed change in the level of the dependent variable net-migration after the implementation of language policy Bill 101 in the year 1977 for the period under study,
1961 to 1990. Stated differently: the passage of Bill 101 did not cause a significant short-term change in the level of net-migration.

Research Hypothesis:

The passage of Bill 101 did exert a short-term impact on the level of net-migration in the Province of Quebec. Stated differently: it caused negative net-migration to increase for the period immediately following 1977.

\[ H_1: B \neq 0 \]

There is a significant observed change in the level of negative net-migration after the passage of Bill 101 in the year 1977; the passage of Bill 101 caused a significant short-term change in the level of net-migration.

Long-term Impact Hypothesis

This set deals with the long-term impact of policy variable Bill 101.

Null hypothesis:

The passage of Bill 101 in the year 1977 did not exert either a positive or negative long-term impact on the slope of net-migration in the Province of Quebec for the period between 1961 and 1990. Stated simply: the passage of Bill 101 did not effect the long term change in net-migration in the Province of Quebec.

\[ H_0: \beta = 0 \]

There is no significant observed change in the slope of the dependent variable net-migration after the implementation of language policy Bill 101 in the year 1977 for the period under study, 1961 to 1990. Stated differently: the passage of Bill 101 did not cause a significant short term change in net-migration.

Research Hypothesis:

The passage of Bill 101 did exert a long term impact on the level of net-migration in the Province of Quebec; it caused negative net-migration to increase for the period following 1977.
H: B not = 0

There is a significant observed change in the slope of negative net-migration after the passage of Bill 101 in the year 1977; the passage of Bill 101 caused a significant long-term change in the slope of net-migration.

A Comparison of Short-term and Long-term Impacts

In reference to the hypotheses set forth, it is further hypothesized that of the three language policies under study that Bill 63 exerted only a weak short-term impact without any evidence of a long-term impact on negative net-migration. The reason for this is that Bill 63 only marginally affected the anglophone community at large. The policy impact at the time was perceived to be more of a problem for those living in the Italian community of St. Léonard.

In contrast to this, it is expected that Bill 22 exerted both a significant short and long-term impact on the level and slope of negative net-migration, an impact that is stronger than the previous language law, Bill 63 because of policy impact -- Bill 22 eliminated English as an official language.

In particular, it is expected that the impact associated with this language legislation Bill 101 should have a greater impact compared to Bill 63 and Bill 22. The reason for this is that Bill 101 was passed by a government whose political platform was to remove Quebec out of the Canadian federation by following a political strategy called "separation by stages" or incrementally removing Quebec out of Canada through institutional state building. Secondly, and more to the point is the fact that Bill 101 specifically sought to change the economic structure of
Quebec's economy. It sought to re-create a new socio-economic environment that constituted a governing relation that was previously imposed by a marketplace controlled by non-francophones. With respect to this, Bill 101 became the symbolic instrument in changing governing relations marginally begun under Bill 63, accelerated by the passage of Bill 22 thus accounting for the social phenomena where out-migration, particularly during the seventies and early eighties exceeded in-migration.

The hypotheses mentioned in the above principally deal with policy variables as independents. Those that follow are a set of hypotheses dealing with economic variables used in the full regression model.

**Secondary Hypotheses: Economic Control Variables**

The first variable is a measure of the overall gauge of the economy, independent variable, gross domestic product. Here it is hypothesized that as the gross domestic product of the Province of Quebec declines, there is a corresponding increase in negative net-migration. It is reasonable to assume that as the overall Quebec economy worsens, it would be expected that more people would tend to move out of the province, and fewer people would move into Quebec due to the relative strength of the economy.

The next variable relates to the levels of capital investment in the province by government. Here it is hypothesized that as government capital investments increase, there is a corresponding decrease in out-migration which means that negative net-migration decreases as the general
investment levels improves.

The third variable also relates to levels of capital investment, but the independent variable is business capital investment. As with other variables measuring levels of investments, it is expected that as private capital investment declines there is a corresponding increase in negative net-migration. This means that more people are leaving the province than those that come to Quebec to reside.

The fourth variable is the value of building permits. As an indicator of the state of the economy, it is hypothesized that as the value of building permits declines, there is a corresponding increase in negative net-migration. As in the above, an increase in negative net-migration translates into more people moving out of the province than those that move in.

The fifth variable is the annual value of stocks traded on the Montreal Stock Exchange. In this case, as the value of stocks traded in the Quebec economy declines, it is expected that negative net-migration would increase.

The next economic variable is the level of unemployment in the province of Quebec. The expectation is that as the level of unemployment increases there is a corresponding increase in negative net-migration.

In this case, as the level of wages and salaries decline, it is expected that there would be a corresponding increase in the number of people who migrate. Again this would mean that negative net-migration increases as wage levels decrease.

The variable "total" represents the absolute level of taxes levied in the province of Quebec both direct and indirect. When dealing
with this variable it is expected that as the level of taxes increase, there should be an increase in the level of negative net-migration. In other words, the level of taxation increases there would be increases in the number of people who leave the province as compared to the number of arrivals.

As the level of provincial transfers to individuals increases, it is expected that there should be a decrease in the number of people leaving the province. It is hypothesized that as net provincial government transfers to individuals increase, this would mean that negative net-migration would decline because of this.

In line with migration theory, it is expected that the general state of the economy exerts a major effect on migratory patterns. As the state of the economy worsens, it is expected more people would tend to migrate to other areas of the country, particularly to those regions having political and economic advantage. This relates to the work of many experts, for example, Lachapelle and Henripen, Lycan, Marois, Vanderkamp, Courchene, Gerber, Monu, Sjaastad, and Brookes where theory is outlined in the literature review. In summary, economic advantage is an important determinant in migration studies.

One of the purposes of using economic variables is because they add the element of statistical control. It needs to be acknowledged that a more central and decisive use of the economic variables requires indicators of the difference between Quebec and the rest of Canada. This is true because as previously illustrated a great deal of migration theory refers to the comparative advantage and benefit between provinces or regions.
A review of gross domestic product per capita by province relative to the Canadian average for the years 1961 to 1990 reveals the following (Quarterly Economic Review, table 8.2)\textsuperscript{m}. In this instance, the figures (in per cent) for Canada are represented by 100. This is the base which all of the provinces can be compared. In a comparative analysis of Quebec and Ontario, (Canada equals a standard of 100), in Quebec for the period, 1961-90, the data indicate that Quebec is consistently below the Canadian average. The range for the period is a low of 87.0% in the year 1974 to a high of 92.1% in the year 1988. In Ontario, the range is a low of 103.7% in the year 1982 to a high of 119.3 in the year 1962, and also in the year 1968.

Regarding migratory patterns for different regions of the country, the Maritime Provinces in general have had a negative net-migration balance; the same is true for Quebec. In Ontario, there were periods when it was negative, and periods when the balance was positive. In Manitoba and Saskatchewan, net-migration has been traditionally negative. For British Columbia, net-migration is typically positive.

An overview of the gross domestic product per capita statistics reveals that in the Maritimes, in Quebec, and the Prairie provinces exclusive of Alberta, relative to Canada used as a standard, these provinces had a per capita gross domestic product below the Canadian average. In Ontario, Alberta, and British Columbia, these provinces with a positive net-migration each has a higher than average GDP.

The statistics for personal income per capita by province relative to the Canadian average (measured as per cent) for the years 1961-1989 (Quarterly Economic Review, table 16.2.)\textsuperscript{n} also support the
general economic comparative advantages cited in the theory of migration. Clearly evident are the Maritime provinces who are below the Canadian average. Quebec as well is below the Canadian average, together with Manitoba and Saskatchewan, whereas, Ontario, Alberta, and British Columbia are above the standard.

Confirming the theory on relative economic advantage explaining the patterns of migration are the unemployment rates of the provinces expressed as a per cent of the Canadian average (Statistics Canada, cat. 71-201). The Atlantic region historically has higher unemployment rates in comparison to the national average. Quebec’s rate has been higher, at least since 1966. In Ontario, its rate has been always lower relative to the national average for the same time period. Manitoba and Saskatchewan’s rates even though its net-migration are more often than not negative has had levels of unemployment lower than the national average. Alberta and British Columbia both have had periods where their unemployment rates have been lower than the national average as well as periods when it has been higher.

To conclude, in general, positive migration flows or patterns are in favour of those areas or regions of the country which have a relative economic advantage over those regions which are relatively weaker.

Finally, a set of regressions are presented in chapter six, part three, whereby policy (language policy, Bill 63, Bill 22, and Bill 101) become the dependent variable and the economic variables are used as independent variables. In these regressions, each policy variable (independently) is regressed on the independent variables to determine the
relationship between policy and economics. The same is done with net-migration as the independent variable which is regressed on policy to determine its impact. The full model is now complete where economics and policy are regressed on net-migration, economics variables are regressed on the policy variables, and finally net-migration is regressed on each of the policy variables.

In summary, the hypotheses set forth support the argument that economics and policy account for the variation on the level of net-migration in the Province of Quebec.
Endnotes


20. Postcensal Annual Estimates of Population by Marital Status, Age, Sex and Components of Growth, for Canada, the Provinces and the Territories at June 1st., Statistics Canada, cat. 91-210.


29. Canadian Economic Observer, table 10.5.


33. Labour Income Estimates, Statistics Canada, cat. 72-005.
Chapter V: Univariate and Bivariate Analyses
Introduction

Chapter five is the first of two chapters presenting the statistical analyses of the research. Part one of this chapter presents a univariate analysis, and part two deals with bivariate relationships between the dependent variable net-migration and the independent variables.¹

The main purpose of this chapter is to establish if there is a link between the dependent variable interprovincial net-migration and each of the independent variables. To review, the model statistically tests if economics and language policy exerted an impact on interprovincial migration.

The independent variables are categorized as follows: type one are variables measuring the economic conditions in the Province of Quebec, three of which are indicators of the relative economic difference between the province of Quebec and Canada used as a standard weight; and type two consists of: (a) dichotomous dummy variables capturing the short-term impacts associated with language legislation enacted at specific points in time in the time-series; and (b) long-term impact measures scored sequentially, a numbering system used to capture the long-term effect associated with language legislation.

Univariate Analysis: Dependent Variable

In chapter one, the dependent variable interprovincial net-migration was dealt with. Reviewing table eight listed below, the data
illustrate that out-migration consistently exceeded in-migration. The long-term trend is consistently negative having a degree of variability around the mean of -16,678.

As information in the table indicates, 1961-62 is the last year that the Province of Quebec experienced a positive interprovincial net-migration. Interprovincial migration has been negative since then, thus confirming the general observation that Quebecers are leaving the province in great numbers meaning that out-migration consistently exceeded in-migration over the course of the time-series.
Table Eight

Quebec's Interprovincial Migration of Children and Adults

<table>
<thead>
<tr>
<th>Year</th>
<th>Net Migration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961-62</td>
<td>1,659</td>
</tr>
<tr>
<td>1962-63</td>
<td>-504</td>
</tr>
<tr>
<td>1963-64</td>
<td>-5,978</td>
</tr>
<tr>
<td>1964-65</td>
<td>-6,130</td>
</tr>
<tr>
<td>1965-66</td>
<td>-8,906</td>
</tr>
<tr>
<td>1966-67</td>
<td>-14,478</td>
</tr>
<tr>
<td>1967-68</td>
<td>-15,726</td>
</tr>
<tr>
<td>1968-69</td>
<td>-18,695</td>
</tr>
<tr>
<td>1969-70</td>
<td>-35,841</td>
</tr>
<tr>
<td>1970-71</td>
<td>-37,996</td>
</tr>
<tr>
<td>1971-72</td>
<td>-20,461</td>
</tr>
<tr>
<td>1972-73</td>
<td>-20,072</td>
</tr>
<tr>
<td>1973-74</td>
<td>-15,135</td>
</tr>
<tr>
<td>1974-75</td>
<td>-9,299</td>
</tr>
<tr>
<td>1975-76</td>
<td>-12,643</td>
</tr>
<tr>
<td>1976-77</td>
<td>-26,366</td>
</tr>
<tr>
<td>1977-78</td>
<td>-46,422</td>
</tr>
<tr>
<td>1978-79</td>
<td>-30,844</td>
</tr>
<tr>
<td>1979-80</td>
<td>-29,976</td>
</tr>
<tr>
<td>1980-81</td>
<td>-22,841</td>
</tr>
<tr>
<td>1981-82</td>
<td>-25,790</td>
</tr>
<tr>
<td>1982-83</td>
<td>-24,678</td>
</tr>
<tr>
<td>1983-84</td>
<td>-17,417</td>
</tr>
<tr>
<td>1984-85</td>
<td>-8,020</td>
</tr>
<tr>
<td>1985-86</td>
<td>-5,349</td>
</tr>
<tr>
<td>1986-87</td>
<td>-4,088</td>
</tr>
<tr>
<td>1987-88</td>
<td>-7,693</td>
</tr>
<tr>
<td>1988-89</td>
<td>-7,618</td>
</tr>
<tr>
<td>1989-90</td>
<td>-6,334</td>
</tr>
<tr>
<td>1990-91</td>
<td>-12,341</td>
</tr>
</tbody>
</table>

Source: Statistics Canada, Cat. 92-208, p. 44 & Cat. 91-210, p. 57.

As the 1961-62 to 1990-91 series indicates, the average yearly loss is 16,678. The median is a value where one half of the observations are above and one half are below; in this case, the median is -14,806.
The standard deviation is 11,935, and the range (the highest value minus the smallest unit value) is 49,088. At one end of the spectrum, a very high negative level of -47,429 in the year 1977-78 is reported. At the other end, in the year 1961-62, there is only one single positive value of 1,659 which was over thirty years ago.

An investigation of the data highlights the fact that the Province of Quebec has not had a positive interprovincial net-migration in any given year since the beginning of the Quiet Revolution. We may ask: did language policy adversely affect the level of interprovincial migration in the Province of Quebec?

In the year 1977-78, for example, net-migration was -46,429, a level so high which could lead to an erroneous conclusion, or for that matter, a historically correct conclusion that Bill 101 exerted a significant negative impact on net-migration. The figures in the table also indicate that during the year, 1974-75, net-migration was -9,299. Could we infer that Bill 22 had little or no impact on interprovincial migration?

Is migration correlated to language policy (Bill 63, Bill 22, and Bill 101)? Are the relationships between these variables significant? What is the nature of each relationship? Are they negatively correlated? Are they positively correlated?

**Univariate Analysis**

The univariate statistics in the figures listed in appendix "A" are categorized as economic variables. Generally, incremental
increases are expected from year to year in all of the variables with the possible exceptions (a) the level of unemployment; (b) stock values; and (c) the level of net-migration (the dependent variable). In general, these values will rise and fall depending upon numerous factors such as the state of the economy. Therefore, the data are normalized (data given on a per capita basis and also are reported in constant dollars for reasons of comparability over time).

The variables that are not highlighted in this format are those variables measuring policy, and also the electoral variable, the election of the Parti Québécois. To recall, the short-term impact policy variables in the time-series are scored either as a "1" indicating the presence of language legislation or as a "0" indicating the period of time prior to the passage of language legislation (Bill 63, Bill 22, or Bill 101). These are known as dichotomies. The same holds true for the short-term electoral variable. The long-term impact variables are sequentially scored.

It is to be noted that in general the descriptive statistics (mean, mode, median, etc.) do not add to a greater understanding of dummy variables because of the level of measurement. For example, the mean of nominally scored variable is meaningless, although it does tally the percentage of cases within a category. Because of this, they are not given.

As figures #1 to #13 in appendix "A" illustrate, the number of cases in the time-series is thirty with the exception of the level of taxes to individuals, provincial transfers to individuals; and Quebec's unemployment rate relative to the Canadian average. Here each has twenty-
nine cases. Whenever there are missing observations, these are coded as
missing in the statistical programs.

The figures highlighting economic variables indicate that the
level of measurement is ratio or interval as some would call it. In each
case, univariate statistics (mean, kurtosis, and skewness) provide some
understanding of the variables under study.

The information in the figures in the appendix are categorized
as raw data and also as normalized. As mentioned, the difference between
the normalized and the raw data is that the normalized data are given in
per capita terms in constant dollars. For many, using raw data provide a
more meaningful understanding, whereas to others, the normalized data are
more useful. In terms of the univariate statistics, either set could be
used in the analysis, however, normalized data are given because the
statistical operations use normalized data.

The variables Quebec's GDP relative to the Canadian average,
Quebec's level of income relative to Canadian average, and Quebec's
unemployment rate to Canadian average are given as a percent of the
Canadian average. In all three cases, each has a standard unit value of
100, and observations in these series, Quebec's relative performance
compared to the Canadian standard of one hundred per cent were always less
than the standard. This means Quebec's relative performance consistently
was lower than the national average. These series were coded such that as
the values approach the Canadian standard, negative net-migration should
decrease because there is an improvement in Quebec's state of the economy.
As the gap between Quebec and Canada widens, negative net-migration should
increase because conditions worsen.
In table nine below, the mean of each variable and the degree of skewness are provided.

<table>
<thead>
<tr>
<th>Table Nine: Mean/Kurtosis/Skewness - Normalized Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>Net-migration</td>
</tr>
<tr>
<td>Gross domestic product</td>
</tr>
<tr>
<td>Wages</td>
</tr>
<tr>
<td>Unemployment rate</td>
</tr>
<tr>
<td>Private capital investment</td>
</tr>
<tr>
<td>Public capital investment</td>
</tr>
<tr>
<td>Value of building permits</td>
</tr>
<tr>
<td>Taxes to individuals</td>
</tr>
<tr>
<td>Montreal stock values</td>
</tr>
<tr>
<td>Provincial transfers</td>
</tr>
<tr>
<td>Quebec’s relative GDP*</td>
</tr>
<tr>
<td>Quebec’s relative income*</td>
</tr>
<tr>
<td>Quebec’s relative unemployment*</td>
</tr>
</tbody>
</table>

* means Quebec’s level compared to the Canadian average reported as a differential.

As the table illustrates net-migration is a negative value. Also the means for variables, Quebec’s relative GDP, Quebec’s relative income level, and Quebec’s relative unemployment level are each negative. As the differential between Quebec’s economic performance relative to the Canadian average widens, the differential becomes negatively larger. Since the means associated with the three relative economic variables are each negative, this substantiates the fact that Quebec on the average performed more poorly relative to the Canadian average.

The second statistic that is of interest is to establish if the distribution for each variable deviate from normality, and also to
establish the degree that the observations are skewed where more of the observations are towards one end (tail) of the distribution relative to the other end.

Kurtosis is a characteristic for a given standard deviation that observations cluster around a central point. It is a measure of how peaked or flat the distribution of observations are. A kurtosis value that is positive indicates that the distribution is leptokurtotic, and a negative kurtosis means that the distribution is platykurtotic. In other words, leptokurtic means that the distribution is more peaked as more cases cluster around the mean. Platykurtotic means that the distribution is less than normal; it is flatter. A kurtosis of exactly zero means that the distribution is exactly normal (mean and median are equal). A positive value indicates that the distribution is more peaked than normal. A negative value means that the distribution is flatter than normal.

The data in table nine indicate that the distribution is more or less normal as the kurtosis statistics all approach zero. The range of values (kurtosis) is a low of .045 for net-migration to a high of 2.300 for Montreal Stock values.

The kurtosis statistics indicate that the distribution of each variable is platykurtotic (kurtosis statistic with a negative value) with the exceptions of net-migration, value of building permits, Montreal Stock values, and Quebec's unemployment level compared to the Canadian average. These variables are instead slightly leptokurtotic (kurtosis with a positive value). Furthermore, the standard error for Kurtosis associated with each variable substantiates that the distribution is normal (standard error for each has a unit value of .833 which is less than one standard
Skewness is a measure of the extent that a distribution is skewed either to the right or left of the mean. A positive value means that 50% of the scores are below the mean; a negative value means that 50% of the scores are above the mean. A positive value means positively skewed; negative means negatively skewed. A value of zero means that the distribution is exactly normal.

Data in table nine provides information of the degree of skewness for each variable. As the statistic approaches zero, we know that the distribution is normal (small deviation from normality). In the case of the variables listed in table nine, all of the variables have a skewness value of less than one with the exception of Montreal Stock values which has a skewness value of 1.766 (essentially normal). As mentioned, a positive skewness means that more than 50% of the observations in the distribution are below the mean, and a negative skewness means that more than 50% of the observations are above the mean. Net-migration, gross domestic product, wages, taxes to individuals, provincial transfers, Quebec's GDP compared to the Canadian average are negatively skewed. The remaining variables are instead positively skewed, only marginally so. Furthermore, the standard error for skewness is less than .427 (less than one standard deviation) for each variable which supports the hypothesis that the distribution is normal.

To summarize, all of the variables under study are normal in their distributions. None of the distributions deviate substantially from the pattern of normal distribution.
Bivariate Analysis

The next level of discussion is bivariate analysis. Bivariate analysis determines the statistical relationship between the dependent variable (net-migration) and each of the independent variables (language policy and a set of economic measures).

In this dissertation, the model investigates the degree to which economics and language policy impact on the level of interprovincial net-migration.

The list of research hypotheses tested are as follows (refer also to Chapter IV for a more general description).

Bill 63’s Short-term Impact

There is a significant negative correlation between Bill 63, short-term measure, and negative net-migration. Following the implementation of Bill 63 in the short-term, it is expected that negative net-migration increased.

Bill 63’s Long-term Impact

There is a significant negative correlation between Bill 63, long-term measure, and negative net-migration. In the long-term, the expectation is that negative net-migration increased following the passage of Bill 63.

Bill 22’s Short-term Impact

There is a significant negative correlation between Bill 22, short-term measure, and negative net-migration. Following the implementation of Bill 22 in the short-term, it is expected that negative net-migration increased.

Bill 22’s Long-term Impact

There is a significant negative correlation between Bill 22, long-term measure, and negative net-migration. Following the implementation of Bill 22 in the long-term, it is expected that negative net-migration increased.
Bill 101's Short-term Impact

There is a significant negative correlation between Bill 101, short-term measure, and negative net-migration. Following the implementation of Bill 101 in the short-term, it is expected that negative net-migration increased.

Bill 101's Long-term Impact

There is a significant negative correlation between Bill 101, long-term measure, and negative net-migration. Following the implementation of Bill 101 in the long-term, it is expected that negative net-migration increased.

Election of the Parti Québécois' Short-term Impact

There is a significant negative correlation between the election of the Parti Québécois, short-term measure, and negative net-migration. Following the election of the Parti Québécois in the short-term, it is expected that negative net-migration increased.

Election of the Parti Québécois' Long-term Impact

There is a significant negative correlation between the election of the Parti Québécois, long-term measure, and negative net-migration. Following the election of the Parti Québécois in the long-term, it is expected that negative net-migration increased.

Gross Domestic Product

There is a significant positive correlation between the level of gross domestic product and negative net-migration. As the level of gross domestic product increases, negative net-migration declines.

Wages

There is a significant positive correlation between the level of wages (income to individuals) and negative net-migration. As the level of wages increases, negative net-migration declines.

Unemployment Rate

There is a significant negative correlation between the rate of unemployment and negative net-migration. As the rate of unemployment increases, negative net-migration increases.

Private Capital Investment

There is a significant positive correlation between the level of private capital investment and negative net-migration. As the level of private capital investments increase, negative net-migration decreases.
Public Capital Investment

There is a significant positive correlation between the level of public capital investment and negative net-migration. As the level of public capital investments increase, negative net-migration decreases.

Building Permits

There is a significant positive correlation between the value of building permits and negative net-migration. As the value of building permits increase, negative net-migration decreases.

Taxes to Individuals

There is a significant negative correlation between the level of taxation and negative net-migration. As the aggregate level of taxes increase, negative net-migration increases.

Value of Stocks

There is a significant positive correlation between the values of shares traded on the Montreal exchange and negative net-migration. As the value of shares traded increase, negative net-migration declines.

Provincial Transfers

There is a significant positive correlation between the value of provincial transfers to individuals and negative net-migration. As the value of provincial transfers increase to individuals, negative net-migration declines.

Quebec's Gross Domestic Product Compared to Canadian Average

There is a significant negative correlation between Quebec - Canada’s GDP gap used as a standard and negative net-migration. As the GDP gap increases (Quebec’s level decreases to Canadian standard), negative net-migration increases.

Quebec’s Income Levels Compared to Canadian Average

There is a significant negative correlation between Quebec - Canada’s income gap used as a standard and negative net-migration. As the income difference between Quebec and Canada increases (Quebec’s level decreases compared to Canadian standard), negative net-migration increases.
Quebec’s Unemployment Rate Compared to Canadian Average

There is a significant negative correlation between Quebec - Canada’s unemployment gap used as a standard and negative net-migration. As the relative difference increases between Quebec and Canada (as Quebec’s rate declines compared to the Canadian average), negative net-migration increases.

Pearson correlation provides a measure of linearity between two variables. A correlation of 1.0 means a positive and perfect correlation; a value of -1 is to be interpreted as a perfectly negative correlation. A value of zero means that there is no linear relationship.

Significance testing is only one of many criteria used to gauge the strength of a relationship in hypothesis testing, the importance of which applies more to sampling data than observations obtained from a data set defined as the population. Specifically statistical significance tells us how likely it is that a non-zero sample correlation that exists between two variables would also occur in a general population. In this study, the observations represent the whole population, therefore, not having bivariate relationships that are significant does not represent a serious breach of the rules, if it does at all.

For a tabular review of the relations between independent variables and net-migration that are significant and the Pearson product-moment correlations indicating direction (positive or negative), see table 10. The bivariate relationships listed in this table indicate that only the variable stock value is significant at a 95% confidence level, two-tailed test. The remaining relationships are not significant.

A word of caution is necessary. It is important to realize that the signs generated in each bivariate relationship could appear to be obscure. The reason for this relates to the fact that there is no clearly
defined research which expresses the absolute direction for each of the hypothesized relationships. To a degree, obscurity relates to what is considered to be the normal and hypothesized direction. For example, if we hypothesize that the relation between two variables is an inverse function (negative sign), and if in fact the resultant statistical relationship turns out to be positive rather than negative as hypothesized, then it appears that the positive sign of the relationship is abnormal. Abnormal in the sense that this is not what we expected.

Secondly, the manner in which a relationship may be described could at times be confusing to the reader. Generally, a positive relationship means as the value of one variable increases, the other variable also goes up in value. In the case of negative net-migration, for example, when capital investment rises, a positive relationship means that negative net-migration decreases in absolute value. This is not a negative relationship as many would believe. A decrease in this example actually means that the absolute value of negative migration becomes smaller, since we are dealing with a negative value. For the level of negative net-migration to improve, for example, it will move from a level of -30,000 in one year to -10,000 in another year. A change from -30,000 to -10,000 represents a positive improvement of 20,000. Again, when interpreting positive and negative relationships between negative net-migration and other values it is important to be aware of the situation mentioned in the above.
Table Ten
Pearson Correlation Between Independent Variables and Net-migration

<table>
<thead>
<tr>
<th>Variables</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counter - time variable</td>
<td>-.0384</td>
</tr>
<tr>
<td>Bill 63’s short-term impact</td>
<td>-.2782</td>
</tr>
<tr>
<td>Bill 63’s long-term impact</td>
<td>.1186</td>
</tr>
<tr>
<td>Bill 22’s short-term impact</td>
<td>-.1383</td>
</tr>
<tr>
<td>Bill 22’s long-term impact</td>
<td>.2193</td>
</tr>
<tr>
<td>Election of P.Q. short-term impact</td>
<td>-.1039</td>
</tr>
<tr>
<td>Election of P.Q. long-term impact</td>
<td>.2876</td>
</tr>
<tr>
<td>Bill 101’s short-term impact</td>
<td>.0694</td>
</tr>
<tr>
<td>Bill 101’s long-term impact</td>
<td>.3263</td>
</tr>
<tr>
<td>Gross domestic product</td>
<td>-.1394</td>
</tr>
<tr>
<td>Wages</td>
<td>.2567</td>
</tr>
<tr>
<td>Private capital expenditures</td>
<td>-.0505</td>
</tr>
<tr>
<td>Public capital expenditures</td>
<td>.0696</td>
</tr>
<tr>
<td>Provincial transfers to individuals</td>
<td>.1284</td>
</tr>
<tr>
<td>Total taxes - individuals</td>
<td>-.1475</td>
</tr>
<tr>
<td>Quebec’s level of unemployment</td>
<td>-.0349</td>
</tr>
<tr>
<td>Value of building permits</td>
<td>.1490</td>
</tr>
<tr>
<td>Value of trades on Montreal exchange</td>
<td>.4277*</td>
</tr>
<tr>
<td>Quebec’s GDP relative to Canadian average</td>
<td>.2426</td>
</tr>
<tr>
<td>Quebec’s level of income to Canadian average</td>
<td>-.1031</td>
</tr>
<tr>
<td>Quebec’s level of unemployment to Canadian average</td>
<td>.3115</td>
</tr>
</tbody>
</table>

Note: * means significant at 0.05

The first variable under discussion is a variable measuring time, one which in this case is labelled "counter". The Pearson correlation for the relationship between time and negative interprovincial migration is -.0384. This means that the slope of the relationship is an inverse function (negative sign). In an inverse relationship, one variable goes up in value while the other variable declines in value.

When reviewing the values of net-migration, the dependent
variable, it is evident that over time there was a regression to the mean (-16,534). In 1977, negative net-migration peaked during the decade of the seventies (-46,429). Commencing in the year 1984, the data indicate that negative net-migration declined sharply to values less than the mean (-16,534). Since this period of time, negative net-migration has stabilized to values less than the mean (-16,534) and also the median (-14,806).

The Pearson correlation between the dependent variable, interprovincial net-migration and time suggests that net-migration was negative over time. The Pearson correlation of -.0384 is to be interpreted such that as time passes, there was an increase in negative net-migration.

The second variable to be examined is the passage of Bill 63 in the year 1969. Recalling for the moment, Bill 63 was legislation enacted in response to the political question concerning open access and freedom of choice in education, one which relates directly to the stability of the French language. This matter was temporarily solved (unresolved) by passing legislation in the form of Bill 63, a solution that failed to satisfy francophone nationalists, largely because Bill 63 maintained freedom of choice in education. To the nationalists, freedom of choice is a formula for a quick erosion of French culture and language.

1.0 Hypothesis: Bill's 63 Short-term Impact

There is a significant negative correlation between Bill 63, short-term measure, and negative net-migration. Following the implementation of Bill 63 in the short-term, it is expected that negative net-migration increased.

The Pearson correlation associated with this relationship is
As mentioned, the hypothesis states that the relationship is an inverse function; a negative relationship is expected. Based on the hypothesis, it is expected that negative net-migration increased following the passage of Bill 63, at least in the short-term. The Pearson correlation of -.2782 indicates that language policy is negatively related to net-migration. The Pearson correlation being negative means that negative net-migration increased following the passage of this legislation. To conclude, out-migration increased after the implementation of Bill 63, which is in accordance with the stated hypothesis.

2. Hypothesis: Bill 63's Long-term Impact

There is a significant negative correlation between Bill 63, long-term measure, and negative net-migration. In the long-term, the expectation is that negative net-migration increased following the passage of Bill 63.

The second hypothesis relates again to Bill 63, but in what is defined as the long-term impact. The expectation associated with the long-term effect of Bill 63 is that negative net-migration increased following the passage of this Bill. The results of the statistical analysis reveals that the Pearson correlation has a positive value of .1186, thus indicating a non-significant positive relationship between language and migration. A positive value means that negative net-migration decreased (improved) following the passage of Bill 63, thus failing to support the hypothesis. On this account, Bill 63's long-term impact did not have an adverse affect on the level out-migration.
3. Hypothesis: Bill 22’s Short-term Impact

There is a significant negative correlation between Bill 22, short-term measure, and negative net-migration. Following the implementation of Bill 22 in the short-term, it is expected that negative net-migration increased.

Chronologically, the next piece of language legislation passed was Bill 22 in the year 1974. In brief review, Bill 22 was legislation which made French the only official language in the Province of Quebec. In Quebec, previous to Bill 22, there was a tacit agreement that both French and English were the official languages both from a practical and legal point of view.

The hypothesis states that in the short-term following the passage of Bill 22, the expectation is that negative net-migration increased (worsened). The Pearson correlation for this relationship is -.1384, thus substantiating the hypothesis that negative net-migration increased following the passage of Bill 22, at least in the short-run.

4. Hypothesis: Bill 22's Long-term Impact

There is a significant negative correlation between Bill 22, long-term measure, and negative net-migration. Following the implementation of Bill 22 in the long-term, it is expected that negative net-migration increased.

The hypothesis regarding Bill 22’s long-term impact is the expectation that negative net-migration increased over time. In other words, in the long-term, more people moved out of the province than those who came to Quebec, thus accounting for increased levels of negative net-migration. The Pearson correlation though not significant is .2193 which indicates that after the passage of Bill 22, negative net-migration decreased contrary to the hypothesis stated above.
5. **Hypothesis: Bill 101's Short-term Impact**

There is a significant negative correlation between Bill 101, short-term measure, and negative net-migration. Following the implementation of Bill 101 in the short-term, it is expected that negative net-migration increased.

Anglophones often cite Bill 101, Quebec's Language Charter, as representing the most regressive piece of legislation in recent memory, and perhaps in all of Quebec's history at least from their point of view. More than any single piece of legislation, Bill 101 was highly instrumental in mobilizing and allowing francophones to gain additional control of the provincial economy. Concomitantly, anglophones left Quebec in great numbers. This demographic change instrumentally destroyed anglophones' hegemonic economic leverage over the francophone majority.

As the descriptive statistics of the dependent variable reveal, negative net-migration peaked in the year 1977, the same year Bill 101 was enacted. Negative net-migration was -46,429 in 1977, moving from the mean of -16,534, and a median of -14,806, accounting for a 2.8 times increase over the mean value.

As the table of correlations illustrates, the Pearson correlation for Bill 101's short-term impact is .0694, thus substantiating that the relationship is positive contrary to the stated hypothesis. As the hypothesis states, it was expected that the relationship is negative, and that negative net-migration increased after the passage of Bill 101, particularly in the short-term. However, statistically, negative net-migration decreased (improved) contrary to the hypothesis mentioned in the above.
6. Hypothesis: Bill 101's Long-term Impact

There is a significant negative correlation between Bill 101, long-term measure, and negative net-migration. Following the implementation of Bill 101 in the long-term, it is expected that negative net-migration increased.

The Pearson correlation for this relationship is .3263 which confirms that the relationship is positive contrary to the hypothesis. This means that negative net-migration improved over time following the passage of Bill 101. Also, note that in reference to the other relationships highlighted in table ten, the value of the Pearson correlation ranked third with stock values coming first, and Quebec's level of unemployment relative to the Canadian average coming second. Contrary to the hypothesis, negative net-migration decreased following the passage of Bill 101. In other words, migratory patterns improved which is in contrast to those theories citing that Bill 101 is responsible for the out-migration of thousands of people.


There is a significant negative correlation between the election of the Parti Québécois, short-term measure, and negative net-migration. Following the election of the Parti Québécois in the short-term, it is expected that negative net-migration increased.

Adding to the discussion is an electoral variable, the election of the Parti Québécois on November 15, 1976. The rationale underlying this addition resides with the fact that for many anglophones the election of the Parti Québécois to form the government was tantamount to separation (treason). The election results literally shocked people as the events of the November 15, 1976 evening unfolded. This historic period became a trying and emotive period for all Quebecers regardless of
political orientation, and it is also possible that a clearly defined
differentiation of events was not possible. For example, to anglophones
the election of the Parti Québécois and Bill 101 are almost one and the
same; both represent the same kind of normative values. During this
period, political events moved quickly. This was a time when Québec
nationalism was at its highest fervour. For these reasons, it would be
interesting to note the effect that the election may have had on
interprovincial migration at the time.

The Pearson correlation for this relationship is -.1039 which
is an inverse relationship. As expected, negative net-migration worsened
following the election of the P.Q., thus substantiating the hypothesis.


There is a significant negative correlation between the election of
the Parti Québécois, long-term measure, and negative net-migration.
Following the election of the Parti Québécois in the long-term, it
is expected that negative net-migration increased.

The second variable associated with the P.Q. election is
defined as the long-term impact. As the hypothesis states, it is expected
that negative net-migration increased following the election, but contrary
to expectations, the Pearson correlation of .2876 indicates that negative
net-migration actually improved over the long-term. This is in stark
contrast to the stated hypothesis. Speculation for this resides with the
fact that many of those opposed to language laws and threats of political
separation had already move. Also, the fact that the P.Q. promised "good
government" and that political independence would not occur until a
referendum on sovereignty was held, both of which could account for a
positive relationship.
9. Hypothesis: **Gross Domestic Product**

There is a significant positive correlation between the level of gross domestic product and negative net-migration. As the level of gross domestic product increases, negative net-migration declines.

The first in a series of economic variables considered is the gross domestic product. The expectation according to the hypothesis is to find a significant and positive correlation. It is expected that negative net-migration decreases (improves) when the gross domestic product in Quebec increases. Conceptually, it is important to remember that a positive relationship means that both are increasing in value. Though not significant, the findings indicate that the Pearson correlation is a negative correlation of -.1394, thus negating the hypothesis. To recap, as gross domestic product increased, negative net-migration worsened; it increases in value.

10. Hypothesis: **Wages**

There is a significant positive correlation between the level of wages (income to individuals) and negative net-migration. As the level of wages increases, negative net-migration declines.

The correlation for the variable wages is -.2567, which also negates the research hypothesis which states that as the level of wages increased, the level of negative net-migration decreases (improves).

11. Hypothesis: **Unemployment Rate**

There is a significant negative correlation between the rate of unemployment and negative net-migration. As the rate of unemployment increases, negative net-migration increases.

The Pearson correlation for the variable unemployment is -.0349 which is a level bordering on either zero or a positive value. In this case, as theorized, the negative correlation follows in line with the
expected hypothesis calling for a negative correlation between the rate of unemployment and negative net-migration. Here the Pearson correlation indicates that as the unemployment rate rose, negative net-migration increased (worsened).

12. Hypothesis: Private Capital Investment

There is a significant positive correlation between the level of private capital investment and negative net-migration. As the level of private capital investments increases, negative net-migration decreases.

The Pearson correlation for private capital formation is -.0505. As in other bivariate relationships, this relationship is not significant. As the level of private capital investment increases, negative net-migration increased, thus confirming a negative correlation directly in contrast to the stated hypothesis.

13. Hypothesis: Public Capital Investment

There is a significant positive correlation between the level of public capital investment and negative net-migration. As the level of public capital investments increase, negative net-migration decreases.

This variable is similar to the one mentioned in twelve, private capital investment. Though not significant in line with all other variables except stock values, the Pearson correlation is .0696 which is expected. According to this value as public investment increased, negative net-migration declined (improved).

It is interesting to note that the nature of the relationship between private capital expenditures and net-migration and public capital expenditures and net-migration are diametrically opposite to one another.
The bivariate relationship for private investment is a negative relationship, whereas for public capital expenditure, it is a positive relationship.

14. Hypothesis: Building Permits

There is a significant positive correlation between the value of building permits and negative net-migration. As the value of building permits increase, negative net-migration decreases.

Another variable representing the state or strength of the economy is the value of building permits. In this instance, the Pearson correlation is a non-significant positive value of .1490. In line with the research hypothesis, the relationship is positive, thus offering support to the argument that as the value of building permits increased, negative net-migration declined.

15. Hypothesis: Taxes to Individuals

There is a significant negative correlation between the level of taxation and negative net-migration. As the total taxes increase to individuals, negative net-migration is expected to increase.

The Pearson correlation value for this relationship in accordance with the stated research hypothesis is -.1475. According to the bivariate Pearson correlation value, the relationship is negative, thus indicating that as total taxes increased, negative net-migration decreased (worsened).

16. Hypothesis: Value of Stocks

There is a significant positive correlation between the values of shares traded on the Montreal exchange and negative net-migration. As the value of shares traded increase, negative net-migration declines.
The only variable in the model that is significant is the value of stocks traded on the Montreal Stock Exchange. The Pearson correlation is significant and has a positive value of .4277. This is as expected, thus supporting the hypothesis stating that as the value of shares trades increased, negative net-migration declined (improved).

The presence of positive State intervention in private markets plays an important role in economics. In 1977, the Quebec government implemented a creative and innovative program where hundreds of new subscriptions of stock were issued. By and large by offering extensive tax deductions to those who purchased new issues of shares on the Montreal Exchange, State policy was instrumental in the program's growth, effectively causing a significant positive correlation.

17. **Hypothesis: Provincial Transfers**

There is a significant positive correlation between the value of provincial transfers to individuals and negative net-migration. As the value of provincial shares increase to individuals, negative net-migration declines.

Provincial transfers to individuals is a stream of economic benefits to individuals. Because of this, it is expected that this should lead to declines in negative net-migration. In this case, contrary to the stated research hypothesis mentioned in the above, the Pearson correlation is -.1284. In this case, as transfers increased, net-migration worsened.

18. **Hypothesis: Relative GDP to Canadian Average**

There is a significant negative correlation between Quebec - Canada's GDP gap used as a standard and negative net-migration. As the GNP gap increases (Quebec's rate decreases relative to average), negative net-migration increases.
As the general theory on migration indicates, migration is related to relative economic advantage. People move from areas of underdevelopment to areas of higher development.

In Quebec's case, its GDP has been consistently lower than the Canadian average. As the relative difference increases as the hypothesis states, negative net-migration should increase which means that the relationship is negative.

The Pearson correlation for this relationship is .2426, thus indicating that the relationship is positive. In this case, the relationship is contrary to the stated hypothesis, as the relative difference increased, net-migration actually improved.

19. Hypothesis: Income Levels Compared to Canadian Average

There is a significant negative correlation between Quebec - Canada's income gap used as a standard weight and negative net-migration. As the income difference between Quebec and Canada increases (Quebec's rate worsens), negative net-migration increases.

In line with the previous hypothesis, this hypothesis also deals with the relative difference between Quebec and Canada. As the differences increase, this means that income differentials increase.

The Pearson correlation for the variable income is -.1031 in line with the hypothesis. As the relative gap between Quebec and Canada increased, negative net-migration increased.
20. Hypothesis: Quebec's Level of Unemployment Compared to Canadian Average

There is a significant negative correlation between Quebec - Canada's unemployment gap used as a standard weight and negative net-migration. As the relative difference increases between Quebec and Canada (Quebec's rate declines to Canadian average), negative net-migration increases.

This is the second variable regarding measures of unemployment. In this case, this hypothesis relates to the relative difference between Quebec and Canada used as a standard. As the hypothesis states, the expectation calls for a negative correlation. However, contrary to the hypothesis, the correlation is positive (.3115). This means that as the relative differential increases (conditions worsen relative to the Canadian average), negative net-migration decreased.

Conclusion

Table eleven below summarizes both the expected and observed signs (negative or positive) for each of the variables. The expected (predicted) values are based on the research hypotheses, whereas the observed values are the actual values generated by using Pearson product-moment correlations.
Table Eleven: Bivariate Correlations

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted Direction</th>
<th>Observed Direction</th>
<th>Statistical Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counter (time)</td>
<td>-</td>
<td>-</td>
<td>no</td>
</tr>
<tr>
<td>Bill 63's short-term</td>
<td>-</td>
<td>-</td>
<td>no</td>
</tr>
<tr>
<td>Bill 63’s long-term</td>
<td>-</td>
<td>+</td>
<td>no</td>
</tr>
<tr>
<td>Bill 22’s short-term</td>
<td>-</td>
<td>-</td>
<td>no</td>
</tr>
<tr>
<td>Bill 22’s long-term</td>
<td>-</td>
<td>+</td>
<td>no</td>
</tr>
<tr>
<td>Bill 101’s short-term</td>
<td>-</td>
<td>+</td>
<td>no</td>
</tr>
<tr>
<td>Bill 101’s long-term</td>
<td>-</td>
<td>+</td>
<td>no</td>
</tr>
<tr>
<td>PQ’s election short-term</td>
<td>-</td>
<td>-</td>
<td>no</td>
</tr>
<tr>
<td>PQ’s election long-term</td>
<td>-</td>
<td>+</td>
<td>no</td>
</tr>
<tr>
<td>GDP</td>
<td>+</td>
<td>-</td>
<td>no</td>
</tr>
<tr>
<td>Wages</td>
<td>+</td>
<td>-</td>
<td>no</td>
</tr>
<tr>
<td>UIC</td>
<td>-</td>
<td>-</td>
<td>no</td>
</tr>
<tr>
<td>Private capital invest.</td>
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<td>-</td>
<td>no</td>
</tr>
<tr>
<td>Public capital invest.</td>
<td>+</td>
<td>+</td>
<td>no</td>
</tr>
<tr>
<td>Building permits</td>
<td>+</td>
<td>+</td>
<td>no</td>
</tr>
<tr>
<td>Taxes</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>Stock Values</td>
<td>+</td>
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</tr>
<tr>
<td>Provincial transfers</td>
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<td>-</td>
<td>no</td>
</tr>
<tr>
<td>Relative GDP</td>
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<td>+</td>
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</tr>
<tr>
<td>Relative income</td>
<td>-</td>
<td>-</td>
<td>no</td>
</tr>
<tr>
<td>Relative UIC</td>
<td>-</td>
<td>+</td>
<td>no</td>
</tr>
</tbody>
</table>

As the table illustrates, in ranking the Pearson correlations, stock values ranked the highest (Pearson correlation, .4277), and this relationship was significant at a confidence level of 95%, two-tailed test. Also noteworthy are the differences between the predicted direction of the relationships and the observed direction. In reference to policy variables (Bill 63, Bill 22, Bill 101) and the electoral variable (P.Q. election), it was hypothesized that these relationships were negative. In other words, it was hypothesized that language policy caused an increase in the level of negative net-migration. Dealing first with the short-term impacts, notably, Bill 63, Bill 22, and the short-term impact associated
with the election of the Parti Québécois, the findings indicate that these statistical directions are as hypothesized. Ranking the Pearson correlations in order of magnitude, Bill 63’s short-term impact ranked first (Pearson correlation, -2782); followed by Bill 22’s short-term impact (Pearson correlation, -.1383); and then followed by the P.Q. election, short-term impact (Pearson correlation, -.1039). In other words, negative net-migration increased (worsened) following these policy interventions. However, contrary to the stated hypotheses, the exception to this was Bill 101’s short-term impact which was positive (Pearson correlation, .2876). Ranking the results of the Pearson correlations from largest to the smallest, it is apparent that the relative impact declined over time.

Regarding the long-term impact variables, the findings indicate that the expected direction (negative relationships as stated in the list of hypotheses) and the observed directions were different. In this case, all of the long-term relationships were found to be positive, contrary to the hypothesized direction. Ranking these variables in order of magnitude, Bill 101 ranked first (Pearson correlation, .3263); followed by election of the P.Q. (Pearson correlation, .2876); followed by Bill 22’s long-term impact (Pearson correlation, .2193); and then Bill 63’s long-term impact (Pearson correlation, .1186). In these cases, negative net-migration declined (improved) after these policy interventions. Again, it is clear that conditions improved over time. This is possibly due to the fact that those who stayed in Quebec realized that language policy had a high degree of political symbolism attached to these policies; more symbolism than teeth.
As the Pearson correlations indicate, relationships are evident between all of the independent variables and interprovincial net-migration. Comparatively, grouping first the policy variables together, the average strength of the relationships was .2042, whereas the average strength of the relationships of all of the economic variables exclusive of the economic variables measuring Quebec's position compared to the Canadian average was .1559, and finally the average strength of the economic variables measuring the economic differential between Quebec and Canada used as a standard was .2190. Returning to the policy variables, the average strength of the relationships of the three policy variables indicating negative relationships was .1734 (these are the situations where migration worsened after the policy intervention). On the other hand, the average strength of the Pearson correlation for positive policy relationships was .2042, thus indicating that negative net-migration had a tendency to improve after these policy interventions.

Ignoring significant issues, based on Pearson correlational analysis, it is clear that policy and economics impacted on the level of interprovincial migration. Leading from this, a more substantial statistical treatment is presented in chapter six offering appropriate multiple regression models built on the information obtained in bivariate analysis.
Endnotes


Chapter VI: Multivariate Analysis
Introduction

Whereas chapter five presented bivariate analysis, part one of this chapter presents the correlations between pairs of independent variables including the dependent variable to identify the degree of correlation between variables. Part two presents multivariate models measuring the strength of the relationship that policy and economics had on the dependent variable, negative net-migration. Part three represents a change in the causal direction of the basic model where additional multivariate models estimate the strength of the relationship that economics had on policy. Policy becomes the dependent variable in this case. Finally, net-migration is regressed on policy to determine the influence of migration on policy.

Correlations Between Pairs of Variables

One of the principle assumptions of multiple regression is that there is not perfect collinearity. In regression, none of the independent variables are to be perfectly linearly or strongly related to other independent variables used in the model.

In detecting collinearity between pairs of independent variables, a problem lies in establishing the cutoff value. As Berry and Feldman state, on a scale of -1.0 to 1.0 the usual cutoff level is 0.80 (-0.80) or some value close to this (this is the accepted rule of thumb). The second method suggested by Berry and Feldman is to regress each independent variable on all other variables and measure the $R^2$ value of
these regressions. An $R^2$ value close to 1.00 means that high multicollinearity is a problem, and as such those variables causing a very high $R^2$ are to be eliminated.

The first part of this analysis is a presentation in tabular form of the bivariate relationships (the Pearson Correlations) among the respective variables. As noted in Table 12, the variables are listed in the left hand column, and are numbered 1 to 21. On the horizontal axis, rather than listing the variables by name, they are listed by a numbering system, 1 to 21, in this case, one which corresponds to the numbering done in the column. Using this format, we see that variable #1 listed in the left hand column is the same as variable #1 on the horizontal plane. For example, in the left hand column and on the horizontal plane, we see that variable #1 is net-migration, variable #2 is time, variable #3 is Bill 63's short-term impact (language policy), and so on... Illustrating the mechanics of the matrix, for example, a crosstab reveals that the correlation for variable #1 (net-migration) listed on the extreme left hand side is perfectly correlated ($R^2 = 1.000$) with net-migration (variable #1 on the horizontal axis). The correlation between net-migration (variable #1) and time (variable #2) is -.038, and between net-migration (variable #1) and Bill 63's short-term impact (variable #3), we see that it is -.278. Using this format, all of the correlations can be found for all pairs of the variables listed. Also noteworthy is the nomenclature signifying significance. Double star ("**) represents a significance of .01, two-tailed test, and a single star ('') represents a significance of .05, two-tail test.
### Table Twelve: Correlations

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As correlations between variables indicate, evidence is presented that there is a high degree of collinearity between pairs of variables (high being defined as those relationships with correlations greater than 0.8). The counter time variable (#2 in the above) is highly correlated with all variables (correlation greater than 0.8) with the exception of (a) public capital expenditures, variable #15; (b) level of unemployment, variable #16; (c) value of building permits, variable #17; (d) value of stock, variable #18; (e) Quebec’s gross domestic product compared to the Canadian average, variable #19; (f) Quebec’s comparative
unemployment rate, variable \#20; and (g) Quebec’s comparative income levels compared to the Canadian average, variable \#21.

The policy variables, variables numbered 3-10, (language policy including an electoral variable, the election of the Parti Québécois) are highly correlated with each of the respective policy variables (variables \#3-10), and also with the economic variables (variables \#10-21). However, there are two exceptions (a) variable deltagdp (variable \#19) and (b) deltau (variable \#20) both defined as Quebec’s comparative gross domestic product and Quebec’s comparative unemployment rates. The table illustrates that of all the variables the best choice lies with variable \#19 and variable \#20 mentioned above due to the low correlations between all pairs of variables even including those variables defined as policy.

The \( R^2 \) values obtained when regressing each of the independent variable on all other independent variables confirms the presence of multicollinearity. Specifically, note the \( R^2 \) values generated which are presented as follows: time variable (variable \#2), \( R^2 = .99840 \); Bill 63’s short-term impact (variable \#3), \( R^2 = .95131 \); Bill 63’s long-term impact (variable \#4), \( R^2 = .99943 \); Bill 22’s short-term impact (variable \#5), \( R^2 = .98098 \); Bill 22’s long-term impact (variable \#6), \( R^2 = .99925 \); Bill 101’s short-term impact (variable \#9), \( R^2 = .96784 \); Bill 101’s long-term impact (variable \#10), \( R^2 = .99906 \); gross domestic product (variable \#11), \( R^2 = .99957 \); level of wages (variable \#12), \( R^2 = .99952 \); private capital expenditures (variable \#13), \( R^2 = .99643 \); provincial transfers (variable \#14), \( R^2 = .99851 \); public capital expenditures (variable \#15), \( R^2 = .99168 \); building permits (variable \#17), \( R^2 = .96832 \); stock values (variable \#18),
$R' = .95288$; comparative GDP to Canadian average (variable #19), $R^2 = .91191$; comparative unemployment (Quebec) to Canadian average (variable #20), $R^2 = .86383$; comparative income levels to Canadian average (variable #21), $R^2 = .98364$.

The choice of variables in subsequent regressions relates to those independent variables that have low correlations between pairs of independent variables which also relates to the theory on migration citing economic comparative advantage as motivations for demographic movement. Based on the information obtained from an inspection of the correlations in table 12 and from the $R'$ values when regressing the independent variables on each other, the decision was to retain two independent variables: (a) comparative gross domestic product (variable #19); and (b) comparative levels of unemployment (variable #20), together with variables representing policy (variables numbered 3-10). As a reminder to the reader, because of the nature of the research and the hypotheses it is desirable to retain the policy variables, therefore, the research maintains its integrity by incorporating policy and comparative economic advantage in multiple regressions that follow.

**Multivariate Analysis**

This section presents multivariate analysis using independent variables that are not highly correlated between pairs of variables. As measured by the number of independent variables, the size of the regression model is substantially reduced by eliminating those variables that are highly correlated between themselves (strong correlations are
those that are greater than 0.80). However, the models presented in the following analyses maintain research integrity because each model still has an economic and policy component to it. Furthermore, the explanatory power of the models are substantially improved due to the addition of variables measuring comparative economic differences between Quebec's economic performance and the Canadian average performance, rather than using only those economic independent variables measuring economic conditions within Quebec's territory.

The multiple regression using the two economic variables mentioned in the above (deltagdp - variable #19, and deltau - variable #20) with all of the policy variables and time variable (variables #2-10) reveal that there is a high degree of collinearity between policy variables. Furthermore as mentioned, time, variable #2, is highly correlated with the policy variables #3-10 inclusively. Because of this, attempting to eliminate the problem of collinearity, time as a variable is eliminated in subsequent models.

On the topic of multicollinearity, Berry and Feldman state:

Consequently, in terms of the amount of bias created, the worst possible time to delete a variable from an equation is precisely when that variable is highly correlated with the other independent variables in the model. Of course, in a perverse twist, this is the same time that the unsophisticated analyst is most likely to delete a variable...

Unfortunately, when multicollinearity is extreme, we must simply accept that the data available do not contain sufficient information to obtain estimates for individual regression coefficients that yield narrow confident intervals. One reasonable alternative in such situations is to employ joint hypothesis tests, in which the null hypothesis would be that the partial slope coefficients for all variables in a set of highly correlated variables are zero. This test can be performed using the F-statistic.

On this account, Berry and Feldman's advice is heeded by
incorporating policy variables but with the exclusion of the time variable. Included in the model are economic variables (variables #19 and #20), and policy (Bill 63, Bill 22, and Bill 101, and the electoral variable, the election of the Parti Québécois). As mentioned, time is eliminated because of high collinearity between pairs of variables; policy as variables are used because policy constitutes the basis of analysis.

The $R^2$ value for this multiple regression equation is .64614 and the adjusted $R^2$ is .48691. The F statistic is 4.05778 with a significance of .0044 indicating that the overall equation is significant. The regression output reveals that the electoral variable, P.Q.'s long-term impact was eliminated in the stepwise multiple regression equation because of multicollinearity. The fact that many of the Beta values are greater than either 1.0 or -1.0 is a problem thus violating a condition of multiple regression.

In the equation, it is noted that there is a high degree of autocorrelation of the error terms (.5687), significant at .01, two-tailed test. Again, this violates an important condition of multiple regression. Because of autocorrelation, Beck and Alford recommend that the Cochrane-Orcutt procedure is used in lieu of ordinary least squares.'

The model is again presented, but this time Cochrane-Orcutt (first-order serial correlation, stepwise regression) is used as a regression procedure (TSP Program). Accepting for the moment that collinearity between policy variables is a reality, and disregarding for the moment that Beta values are not provided by the TSP program (Beta values are often not used in econometric analysis), the model is still presented for exploratory reasons.
The intent of this research is to measure the statistical impact of a policy intervention. On this account, Beck and Alford state that our concern is whether the observed change is statistically significant. Beck and Alford, therefore, place greater emphasis on t-values (significant testing), rather than using the partial estimated coefficients and the Beta values generated in regression.

The model referred to in the above is presented in table thirteen.

<table>
<thead>
<tr>
<th>Table Thirteen</th>
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</thead>
<tbody>
<tr>
<td>Dependent variable: Net-migration</td>
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<tr>
<td>Variables (Independent)</td>
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<td>-------------------------</td>
</tr>
<tr>
<td>C (constant)</td>
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<tr>
<td>Deltagdp (variable 19)</td>
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<tr>
<td>Deltaui (variable 20)</td>
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<tr>
<td>Bill 63's short-term impact</td>
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<tr>
<td>Bill 63's long-term impact</td>
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<tr>
<td>Bill 22's short-term impact</td>
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<tr>
<td>Bill 22's long-term impact</td>
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<tr>
<td>PQ's electoral short-term</td>
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<tr>
<td>PQ's electoral long-term</td>
</tr>
<tr>
<td>Bill 101's short-term impact</td>
</tr>
<tr>
<td>Bill 101's long-term impact</td>
</tr>
</tbody>
</table>

* Not reported due to severe collinearity in TSP Program

The R² value using Cochrane-Orcutt as a regression technique is .891656, and the adjusted R² value is .831466 indicating that at least 83% of the variance is explained.
In multiple regression, another one of the assumptions is that there should be no autocorrelation of the error terms. In this regard, the null hypothesis states that there is no first-order autocorrelation of residuals; the research hypothesis states that there is positive first-order autocorrelation of residuals. In reference to this, Durbin-Watson provided tables for the lower-tail values when $k = 5$ (number of variables, $n = 30$ cases). If $d = 2$, then the residuals are uncorrelated, and the range of values for the Durbin-Watson statistic must be between 1.61 and 2.39 for us to accept the null hypothesis of no first-order autocorrelation ($\alpha = .01$). If the Durbin-Watson statistic falls within this range, then the null hypothesis can be accepted that the error terms are not correlated to one another. In this model, the Durbin-Watson statistic is 2.29287 falling within the specified range, thus indicating that the error terms are not correlated.

Briefly, the t-statistics indicate that Quebec’s comparative unemployment rate to the Canadian average is significant and positively related to the level of interprovincial negative net-migration (t-statistic, 2.99351). This means that as the difference between Quebec’s performance compared to the Canadian average decreased (improves), negative net-migration improved. This is also true of comparative GDP, but the relationship is not statistically significant at a 95% confidence level.

Regarding policy, language policy Bill 63 is negatively significant in the short-term measure (t-statistic, -2.16618) indicating that negative net-migration increased following Bill 63’s implementation. In what is called the long-term, the t-statistic is positive (3.31272)
indicating that net-migration improved following its implementation.

Bill 22’s short-term impact is not significant (t-statistic, .805506), but its long-term impact is significantly negative (t-statistic, -3.00321). Concerning the electoral variable, the election of the Parti Québécois in 1976, it is significantly negative in the short-term (-2.84562), but in contrast, the long-term t-statistic is 2.12074.

Concerning Bill 101’s significance, it is positively related in the short-term (t-statistic, 3.38755). However, as noted in table thirteen, the statistics were not generated for Bill 101’s long-term impact due to the refusal of the program to treat this as a variable because of collinearity.

Recognizing that the above model has a high degree of collinearity, the model is re-specified using a multiple regression model where each set of policy variables are regressed separately with the two economic variables. The purpose is to eliminate where possible collinearity between policy variables, and yet retain policy in the discussion. Specifically in the following cases, defined as equation #1, Bill 63’s short-term impact (variable #3) and long-term impact (variable #4) are separated from the remaining policy variables (variables #’s 5-10 inclusively). In turn, equation #2, Bill 22’s policy variables (variables #3 & #4) are regressed with the two economic variables (variables #19 & #20), but without the other policy variables (variables #3, #4 & #’s 7-10 inclusively). In turn, this is done with Bill 101, and also with the electoral variable, the election of the Parti Québécois. The result of this process gives us four additional regression models, rather than having just one, capturing the importance of policy and economics for each
of the respective language policies and also the electoral variable, the
election of the Parti Québécois in 1976. By implementing this strategy,
a lot of the collinearity between the policy variables can be eliminated;
yet each model offers the possibility of statistically measuring the
policy and economic impacts on net-migration.

Using SPSS (Social Science Statistical Package), the results
of the multiple regressions indicate that there is severe autocorrelation
of the error terms associated with each model. The first model, equation
#1, regressed language policy, Bill 63's short-term impact (variable #3),
Bill 63's long-term impact (variable #4), deltagdp (variable #19,
comparative GDP) and deltau (variable #20, comparative unemployment) on
the dependent variable net-migration (variable #1). Saving the error
terms and performing a correlation of the error terms (Pearson
Correlation) reveals that there is severe autocorrelation. The error
terms are significantly correlated (.5804) at .01, two-tailed test.

Conducting an identical regression in equation #2, but
substituting Bill 63's language policy for Bill 22's, also reveals that
the error terms are significantly correlated, at a significance level of
.01, two-tailed test. The Pearson Correlation of the error terms is
.6214.

In a similar model, equation #3, but substituting Bill 22 or
Bill 63 for Bill 101, also reveals that there is a case of
autocorrelation. The error terms are significantly correlated at a
significance level of .01, two-tailed test. The correlation of the error
terms is .6333.

Equation #4 regressing the electoral variable, both the short-
term and long-term impact, in the aforementioned model reveals that the error terms are also highly correlated (.6916).

Due to the fact that in each model the error terms are correlated (autocorrelation), in line with Beck and Alford's recommendations, the models are again regressed using a corrective method, Cochrane-Orcutt. In this method, the dependent and independent variables are transformed so that the error terms (residuals) are not correlated, at which point the TSP program runs the regression using the transformed variables.

Using Cochrane-Orcutt as the corrective regression procedure, four additional models are presented. The results of the first model (re-specified such that the policy variables are isolated from one another where each policy variable is regressed separately) highlighted in table fourteen regressed language policy Bill 63 enacted in the year 1969 with economic variables, relative GDP and relative unemployment, on the dependent variable, net-migration. See table fourteen below.
Table Fourteen: Bill 63 - Language Policy

Dependent variable: Net-migration

<table>
<thead>
<tr>
<th>Variables (Independent)</th>
<th>Partial slope</th>
<th>Error Term</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C (constant)</td>
<td>-12316.5</td>
<td>14856.0</td>
<td>-0.83208</td>
</tr>
<tr>
<td>Deltagdp (variable 19)</td>
<td>-751.5</td>
<td>1228.9</td>
<td>-0.61152</td>
</tr>
<tr>
<td>Deltaul (variable 20)</td>
<td>11273.7</td>
<td>3700.9</td>
<td>3.04620</td>
</tr>
<tr>
<td>Bill 63’s short-term Impact</td>
<td>-8425.2</td>
<td>6734.2</td>
<td>-1.25110</td>
</tr>
<tr>
<td>Bill 63’s long-term Impact</td>
<td>1278.4</td>
<td>529.5</td>
<td>2.41143</td>
</tr>
</tbody>
</table>

Based on the transformed data (Cochrane-Orcutt), the coefficient of multiple determination, $R^2$ value, for this model is .331205, and the adjusted $R^2$ is .219739. Using the adjusted $R^2$ as an indicator to the extent that the equation is a linear relationship, (goodness of fit), at least 20% of the variance is explained. The adjusted $R^2$ value (.664477) of the original data (prior to using Cochrane Orcutt) indicates that at 66% of the variance is explained by the model.

Autocorrelation of the error terms (the residuals) is a violation of regression. It is necessary, therefore, to look at the Durbin-Watson statistic where a value close to 2.0 means that the null hypothesis stating that there is no autocorrelation can be accepted. In this model, the Durbin-Watson statistic is 2.10865. This means that the errors are not serially correlated because they fall within the previously mentioned specified range of 1.61 and 2.29.

In the case of significance testing, two-tailed test, critical value of 1.96 (confidence level of 95%), dealing first with significant
variables, Bill 63’s long-term impact is statistically significant (2.411430). The variable measuring Quebec’s unemployment rate compared to the Canadian average is positively significant (3.04620). In the case of Bill 63’s short-term impact, it is not significant (-1.25110). Also measuring relative GDP (Quebec’s rate compared to the Canadian average), this is also not significant (t-statistic, -.611520).

Noting the estimated coefficients, net-migration declined following Bill 63’s policy intervention (short-term measure, estimated coefficient -8,425), but the long-term impact measure, net-migration was a positive value of 1,278. Regarding the economic measures, relative gross domestic product and the relative level of unemployment, the former has a negative estimated coefficient of -751, whereas the latter had a significant estimated coefficient of 11,273.

Bill 63’s estimated coefficient suggests that Bill 63 adversely affected negative net-migration, however, its long-term influence was positive suggesting that Bill 63 only marginally affected governing relations in the Province of Quebec. In reality, the political stage was set for future action on language policy.

The next model highlighted in table fifteen deals with the policy impacts of Bill 22 enacted in the year 1974.
Table Fifteen: Bill 22 - Language Policy

Dependent variable: Net-migration

<table>
<thead>
<tr>
<th>Variables (Independent)</th>
<th>Partial slope</th>
<th>Error Terms</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C (constant)</td>
<td>-16567.4</td>
<td>15069.9</td>
<td>-1.09937</td>
</tr>
<tr>
<td>Deltagdp (variable 19)</td>
<td>-993.3</td>
<td>1280.9</td>
<td>-0.77548</td>
</tr>
<tr>
<td>Deltaul (variable 20)</td>
<td>10314.9</td>
<td>3783.0</td>
<td>2.72661</td>
</tr>
<tr>
<td>Bill 22's short-term Impact</td>
<td>-5244.4</td>
<td>6965.7</td>
<td>-0.75299</td>
</tr>
<tr>
<td>Bill 22's long-term Impact</td>
<td>1495.4</td>
<td>732.2</td>
<td>2.04228</td>
</tr>
</tbody>
</table>

The $R^2$ for this model using Cochrane-Orcutt is .298916, and the adjusted $R^2$ value is .182069. Based on these statistics, it can be said that at least 18% of the variance can be explained. The adjusted $R^2$ of the original equation (prior to Cochrane-Orcutt) has a value of .646063 which indicates that at least 64% of the variance can be explained by the model. The Durbin-Watson statistic is 2.12019 (close to the unit value of 2.0), thus indicating that autocorrelation is not a problem (specified range to accept the null hypothesis that there is no autocorrelation is between 1.61 and 2.39).

In the case of significance, it is evident that the variable Deltaul (variable 20, Quebec’s relative unemployment rate to the Canadian average) is significant (t-statistic, 2.72661). The estimated coefficient is 10,314 which is close to the value obtained in the previous regression. The variable Deltagdp, (relative gross domestic product) is once again not significant. The partial estimated coefficient is negative (-993.36).

Contrary to the expected direction where the impact would have been negative, Bill 22’s long-term impact (t-statistic of 2.04228) is
positively significant. The estimated coefficient for this variable is 1.495. Regarding the short-term impact associated with Bill 22, the outcome is not statistically significant (-.752898). Concerning the short-term impact measure, the estimated coefficient is -5.244. As hypothesized, the observed direction is negative, however, the relationship does not pass the critical value of 1.96 (test of significance, 95% confidence interval).

As was the case with Bill 63, Bill 22's short-term impact was negative suggesting that negative net-migration worsened following this policy implementation. As expected, this is understandable in light of the historical fact that Bill 22 created a real and perceived political stir with the removal of English as an acceptable "Official Language". The psychological pain to anglophones was immense. However, as noted, Bill 22's long-term impact (contrary to expectations) was positive. This is explainable on two accounts: (a) more and more people perceived that language policy represented at least economically political symbolism and (b) future political events rapidly overcame the negativism associated Bill 22 -- the surprise election of the Parti Québécois in the fall of 1976.

The next policy discussed is Bill 101's short and long term impacts, highlighted in table 16.
Table Sixteen: Bill 101 – Language Policy

Dependent variable: Net-migration

<table>
<thead>
<tr>
<th>Variables (Independent)</th>
<th>Partial slope</th>
<th>Error Term</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C (constant)</td>
<td>-22711.8</td>
<td>14416.6</td>
<td>-1.57539</td>
</tr>
<tr>
<td>Deltagdp (variable 19)</td>
<td>-1089.5</td>
<td>1120.1</td>
<td>-0.97267</td>
</tr>
<tr>
<td>Deltaui (variable 20)</td>
<td>12274.1</td>
<td>3376.2</td>
<td>3.63543</td>
</tr>
<tr>
<td>Bill 101’s short-term Impact</td>
<td>17878.0</td>
<td>6751.8</td>
<td>2.64791</td>
</tr>
<tr>
<td>Bill 101’s long-term Impact</td>
<td>630.2</td>
<td>977.2</td>
<td>.64484</td>
</tr>
</tbody>
</table>

The R² square for this model is .453823 with an adjusted R² value of .362794 which means that at least 36% of the variance can be explained by the model. On the other hand, the R² value of the original model based on data prior to Cochrane-Orcutt is .730209. On this account, it can be said that at least 73% of the variance can be explained.

The Durbin-Watson statistic is 1.97502 which is a value close to 2.0. As noted, a value close to 2.0 means that the null hypothesis can be accepted that there is no autocorrelation (specified range to accept null hypothesis of no autocorrelation is between 1.61 and 2.39).

The significant t-statistics for this model are as follows:
(a) Deltaui, variable 20 (relative unemployment) has a significant t-statistics of 3.63543 with an estimated coefficient of 12,274; and (b) Bill 101’s short-term impact is significant with a positive value of 2.64791 and an estimated coefficient of 17,878. As in the previous models, the variable, Deltaui, measuring Quebec’s unemployment rate to the Canadian average is significantly positive (t-statistic, 3.63543). In contrast to the previous models outlined where there were no significant
short-term policy impacts related to the variables measuring language policy, in this case, Bill 101 is positively significant.

Estimated coefficients for the long-term policy impact is 630.16 (t-statistic of .644842), and for relative gross domestic product it is -1,089 (t-statistic of -.972673).

Surprisingly, contrary to expectations, Bill 101’s short-term and long-term impacts were positive. Clearly this is understandable for three reasons: (a) more and more people realized that language policy was political symbolism; (b) relative to the psychological impact of Bill 22 making French the only official language, Bill 101’s affect was minor because the psychological damage was done; (c) at this point in history, those opposed to language policy and the election of the Parti Québécois had already moved out of the province; and (d) the issue would be solved once the results of the future Quebec referendum on sovereignty became known.
The next model deals with an electoral variable, the election of the Parti Québécois in the year 1977.

Table Seventeen: P.Q. Election

<table>
<thead>
<tr>
<th>Variables (Independent)</th>
<th>Partial slope</th>
<th>Error Term</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C (constant)</td>
<td>-21493.5</td>
<td>14125.3</td>
<td>-1.52163</td>
</tr>
<tr>
<td>Deltagdp (variable 19)</td>
<td>-1124.3</td>
<td>1171.7</td>
<td>-0.95952</td>
</tr>
<tr>
<td>Deltaui (variable 20)</td>
<td>6927.3</td>
<td>3751.9</td>
<td>1.84635</td>
</tr>
<tr>
<td>P.Q.'s short-term Impact</td>
<td>-15397.8</td>
<td>7188.8</td>
<td>-2.14190</td>
</tr>
<tr>
<td>P.Q.'s long-term Impact</td>
<td>2506.8</td>
<td>813.9</td>
<td>3.07978</td>
</tr>
</tbody>
</table>

The $R^2$ square value using the Cochrane-Orcutt statistical technique is .408241. The adjusted value is .309614. In this case, as the $R$ value indicates at least 30% of the variance can be explained by the model. Prior to Cochrane-Orcutt, the adjusted $R^2$ of the original data is .711154 which means that at least 71% of the variance can be explained.

The Durbin-Watson statistic 1.91105 indicates that the null hypothesis of no autocorrelation can be accepted (specified range to accept the null hypothesis of autocorrelation is between 1.61 and 2.39). The t-statistics that pass the significance test are the electoral variables, the short-term and long-term impacts associated with the election of the Parti Québécois in 1976 (short-term t-statistic, -2.14190; long-term t-statistic, 3.07968) each with a respective estimated coefficient of -15,397 and 2,506. The variable, Deltaui (Quebec’s unemployment to the Canadian average) for the first time is not significant at a confidence interval of 95% (t-statistic, 1.84635,
estimated coefficient 6.927). However, it is significant at a 90% confidence level, two-tailed test, critical value of 1.645. Finally, as in all the other cases, the variable relative GDP, the t-statistic is not significant (-.959517). The estimated coefficient is -1.124 which is in line with previous models.

For a review of the $R'$ values, adjusted $R'$ values, and Durbin Watson statistics for each of the models generated in tables fourteen to seventeen, see table eighteen below. In ranking the adjusted $R_c$ values, the model with the highest explanatory power is Bill 101 (table 16) followed by the electoral variable model (table 17).

<table>
<thead>
<tr>
<th>Table Eighteen</th>
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<tbody>
<tr>
<td>Summary of Multivariate Statistics (Tables 14 to 17)</td>
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<tr>
<td>R'</td>
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<tr>
<td>Bill 63's Model</td>
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<tr>
<td>Bill 22's Model</td>
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<tr>
<td>Bill 101's Model</td>
</tr>
<tr>
<td>P.Q. Electoral Model</td>
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</tbody>
</table>

Of all the policy variables used, the variable with the largest estimated coefficient was associated with the Parti Québécois election, which surprised nearly everyone in and outside of Quebec. Given the prospects of a legitimately elected separatist party whose real intention was the removal of Quebec out of Canada, it is understandable that this had the largest negative impact in the short-term, and also the
largest long-term impact. The reason for the largest long-term impact is related to the psychological adjustment of people as more and more people adjusted to the political rhetoric and political symbolism over time. Furthermore, the separatists would be put in their place after the results of the Quebec referendum became known.

Summary of Findings

In chapter five, a list of the research hypotheses was given. Hypotheses numbered 1-6 dealt with the short-term and long-term impacts associated with Bill 63, Bill 22, and Bill 101, respectively. Hypotheses #7 and #8 dealt with the electoral variable, the election of the Parti Québécois, and hypotheses numbered 9 to 21 dealt with economics as a set of explanatory variables.

To recap, the policy variables including the electoral variable, hypothesized significantly negative relationships. In other words, negative net-migration was to have increased (worsened) following these policy interventions.

The findings indicate that negative net-migration increased in line with the stated hypothesis following the implementation of Bill 63, short-term impact, but it was not significant. On the other hand, Bill 63’s long-term impact measure was positively significant. In fact, the level of negative net-migration improved after this intervention; negative net-migration decreased.

Negative net-migration increased following the short-term impact of Bill 22, however, the relationship was not significant.
Following the implementation of Bill 22 in the long-term, negative net-migration decreased. In this case, Bill 22’s long-term impact was positively significant.

In the case of Bill 101, its short-term impact was not negative, even though the short-term effects of Bill 63 and Bill 22 were. Indeed, the short-term impact version of Bill 101’s impact was significantly positive. In the case of Bill 101’s long-term impact it was not significant, but it remained positively related. In this case, negative net-migration decreased both in the short-term and long-term.

Regarding the electoral variable, the election of the Parti Québécois, the short-term measure was significantly negative which was as hypothesized. Negative net-migration increased substantially in the short-term. On the other hand, the variable representing the long-term impact was positively related. Surprisingly, it was not negative.

In line with economic theory, the economic variable which was positively related in all four models was the variable designated as Deltaui (Quebec’s relative unemployment to the Canadian average). In each of the four models presented, the relationship was significantly positive translating in the statement that as the difference between Quebec’s level of unemployment and the Canadian average widened, negative net-migration decreased (conditions improved; Quebeckers were less inclined to migrate). In the case of GDP, as the GDP gap increased (widened) between Quebec and the Canadian average (conditions worsened), negative net-migration increased. However, we should note that the relationships were not significant.
Policy as Dependent Variables

In this section, multiple regression as a technique is used in an equation where the nominal dichotomous variables each become the dependent variable. In the first model, language policy Bill 63's short-term impact is regressed on two economic variables, relative gross domestic product and Quebec's relative unemployment rate. In the second model, an identical regression is used, but Bill 63's long-term measure becomes the dependent variable. This process continues until all of the six policy variables, Bill 63's short-term measure, Bill 63's long-term measure, Bill 22's short and long-term measures, and finally with Bill 101's short-term and long-term variables are each used in a regression model.

Using ordinary least squares as the regression technique (SPSS program), it is to be noted that each of the six regressions generated have the error terms significantly correlated thus violating the autocorrelation rule of regression. The Pearson Correlation (1st order of errors) of the saved error terms for Bill 63's short-term impact is .8591 which is significant at .01, two-tailed test. For the same level of significance, the Pearson Correlations of the five remaining multiple regression models are as follows: (1) language Bill 63's long-term impact, correlation .9763; (2) language Bill 22's short-term impact, correlation .8482; (3) language Bill 22's long-term impact, correlation .9683; (4) language Bill 101's short-term impact, correlation .8735; and (5) language Bill 101's long-term impact, correlation .9670.

In an attempt to counter the negative effects of
autocorrelation, the Cochrane-Orcutt procedure is used in the TSP econometrics program. To summarize the regression outputs, first observation which is clearly evident is the low $R^2$ values. For the six regressions, all of the $R^2$ scores are below a level of .068322, thus confirming that the variables in the model are not linearly related or that the model does not account for the variance. Also turning to the t-statistics, it is to be noted that the economic variables are not significant or even closely approaching significance.

Summarizing the above, it is evident that the economic variables used as indicators of the economy did not have an impact on the policy variables used as dependents in the models.

The last part of this chapter investigates the statistical impact that interprovincial negative net-migration may have had on policy. Modelling these relationships where policy is the dependent variable (Bill 63, Bill 22 and Bill 101, the short-term and long-term impacts) and net-migration used as the independent variable are very revealing. The $R^2$ values are in most cases very close to zero (Bill 63's short-term impact, $R^2 = .07742$; Bill 63's long-term impact, $R^2 = .01406$; Bill 22's short-term impact, $R^2 = .01912$; Bill 22's long-term impact, $R^2 = .04807$; Bill 101's short-term impact, $R^2 = .00481$; and Bill 101's long-term impact, $R^2 = .10647$. As revealed by the $R^2$ values, the explanatory value of each of the models is low with the possible exception of Bill 101's long-term impact. However, in each case the error-terms are significant and very close to being perfectly correlated. In each case, the correlation of the error terms is over 90% (two tail test, significance .01). In all cases, the t-statistics do not past the test of significance (alpha = .05).
Using a corrective technique called Cochrane-Orcutt, and a confidence interval of 95%, two-tail test, the modified regressions reveals the following. Bill 63's short-term variable has a $R^2$ value of less than one per cent; it's t-statistic is also not significant. Bill 63's long-term impact has a $R^2$ value of .122110 and it's t-statistic is 1.93793. Bill 22's short-term and long-term t-statistics are not significant. Each of the $R^2$ values is less than one per cent. However, a different picture arises with respect to the short-term and long-term influences of negative net-migration on Bill 101. Bill 101's short-term $R^2$ value is .151918, and Bill 101's long-term $R^2$ value is .2361746, thus revealing that this model has explanatory power. The t-statistic is a positive 2.19921 for Bill 101's short-term policy, and 2.88915 for Bill 101's long-term policy. This indicates, at least statistically, that negative net-migration influenced Bill 101 to a degree. At least statistically speaking, policy-makers clearly had in mind that negative net-migration had an influence on society at the time.
Endnotes


2. Berry and Feldman, p. 49.


5. Beck and Alford, p. 747


Chapter VII: Conclusion
Introduction

The purpose of this chapter is threefold. Part one is a review of the analysis, part two deals with the limitations of the research, and three presents the findings and general conclusions.

Review of Analysis

Chapter one of this research outlines a general descriptive statistical overview of interprovincial migration between Quebec and the other provinces for the period 1960 to 1990. As illustrated, net-migration has been historically negative over the period under study except for the first year in the time-series, 1960-61.

Chapter one outlined the research problem; chapter two presents a literature review on migration theory, and chapter three examines language policy as one of the principal dependent variables. In general, these chapters descriptively linked language policy and interprovincial migration. In subsequent chapters, notably chapters four, five, and six, the research design assesses the quantitative and statistical impact that language policy exerted on interprovincial negative net-migration. Specifically, the hypotheses tested if there is a correlation between language policy and net-migration.

The central tenet of the research was to determine if language policy operationalized in the form of language legislation impacted either positively or negatively on the level of net-migration while controlling for key economic variables.
In line with theory on migration, there is an acknowledgement that the principal reasons accounting for the migratory movement of people are related more to economics than public policy. However, in this research an emphasis is placed on the role that policy (language politics) and economics plays. Moreover, the model mathematically incorporates policy and economics in a single equation.

Chapter one briefly outlined the significance of the research. In review, level one involves the advancement of empiricism offering a statistical study of policy; level two deals with the importance that migration has on society in highlighting its linkage to other inter-related public policies; and level three pertains to the perceived severe and negative consequences language policy had Quebec’s anglophone minority community. As a reminder, a recent article in the Montreal Gazette reporting on Montreal’s economic decline indicated that the city’s demise relates to alienation and departures by anglophones, and because of the inability of Quebecers to successfully manage their linguistic cleavage.

Chapters one to four have a normative orientation, but chapters five, six, and seven deviates from this and explores the issues of interest in quantitative terms. Chapter one deals with the importance of working with and testing a policy research method, an interest that lies with research methods. Chris Beck’s interrupted time-series analysis offers a methodology used to study the impact of policy. Beck and Alford offered in a case study a methodology capable of measuring the policy impact of legislation, in this case the effect that safety legislation had
on the level of coal mining accidents. Furthermore, this methodology was also used by Beck in a case study assessing the effect that social upheaval, a revolution had on the level of economic activity in Cuba. Essentially, the methodology is a quasi-experiment capable of assessing the weight that policy and economics may exert on a dependent variable over a period of time.

Chapter two extends to the reader a brief review of political science and public policy literature as it applies to a quantitative study of net-migration linking language issues to this phenomenon. Here it is pointed out that the topic takes on only a very general interest from a political science perspective, an interest relating more to Quebec than to provinces like Ontario or British Columbia because of the nature of the linguistic cleavage operative within Quebec (geographic concentration of francophones), and because of the fragility of French culture and language which is associated with demographical imbalances.

Chapter two points out from a political science perspective that generally descriptive literatures are not necessarily that pertinent to the analysis of such a topic, particularly when dealing with quantitative analysis. In broadening the focus, chapter two reviewed many studies on the topic of migration and migration theory. At this point, the reader is given an extensive review of the theory on migration, particularly highlighting those variables used in theory.

It is clearly evident that the literature highlights the importance of economic determinants in explaining migration. As
illustrated, theory on migration sub-ordinates the importance of politics in the choice of variables and in analysis. Frequently, this relates to the inability to quantitatively measure public policy in a meaningful way that is easily understood. Hence, a central tenet of this dissertation is how a researcher can apply a quantitative analysis, one capable of measuring policy without losing the explanatory power of economics.

Chapter two also provided the reader with two general descriptive models of policy as applied to the discussion of the principal independent variables language policy Bill 63, Bill 22, and Bill 101 using two general descriptive frameworks. These synthetic theories bring forth the concepts of incrementalism (Lindblom), and governing relations in complex socio-political behaviour (Vickers' Art of Judgment). Incrementalism is useful because it furthers the readers understanding of the language debate in Quebec. Historically, this is how language policy evolved in New Zealand, Australia, the United States, in Quebec, and as well in other parts of the world. The general constructs of governing relations and judgment are important because these are also values commonly associated with what is called a social contract. The Quebec Language Charter was a legalistic attempt in creating a new social contract between linguistic communities in Quebec.

New studies have come forth linking the concept of language policy and a new form of governing relations in the Province of Quebec. Here it could be empirically illustrated that francophones have made significant gains in income, illustrating the fact that collectively it
has gained greater control of the economy through the use of State intervention, particularly with the help of language policy. The institutional implementation of language policy is the common thread operative in Quebec society. Its politics underpins social relations, never far from its collective consciousness. Secondly, society, represented as the interplay of social relations, change is frequently incremental in nature. On this account, particularly for the francophone collectivity, economic change is slowly permeating though the fabric of Quebec society at all levels, social, political, and economic. Furthermore, these changes in turn relate specifically to the impact that language has had as a policy paradigm operative in the Province of Quebec, at least until recently.

Finally, chapter two provides the reader with the central legalistic elements of the respective language Bills under study, and how these directly and indirectly affect interprovincial migration, particularly as it relates to the Province of Quebec.

Chapter three of the research investigates the policy variable in the model, language policy, particularly from an international comparative point of view. This chapter helps broaden the reader's perspective in an attempt to overcome the tendency to look at language policy too introspectively which could be a problem when dealing with such a politically explosive topic.

The fact that Quebec is not the first to have politicized language issues is clearly illustrated, nor will it be the last to
implement legislation dealing with such a non-neutral issue. Also it is interesting to note that there are other cases in the world where many nations explicitly politicized language as a policy tool in governing.

The politics associated with language can become the embodiment of culture, and creates within the body politic a dynamic socio-political sense of self for individuals within the collectivity, where language politics becomes the political epicentre from which social power evolves. On this account, language is the means and tool with which French Quebec differentiates itself from English Canada. On the other hand, for others language politics results in an unpleasant nightmare, particularly related to who gets what, when, why, and where. To this group, language policy represents political exclusion which in turn relates to economic disadvantage. As mentioned, looking at policy comparatively helps broaden the perspective and moves the reader beyond the confines of a linguistic paradigm drawing us to a linguistic epicentre. To conclude, a comparative view moves us outside these limits by focusing on more than one model at a time.

As illustrated in chapter three, it became clear that language politics is not only a Canadian and Quebec problem. For example, a laissez-faire model is represented by countries such as Britain, the United States at the federal level, and in New Zealand and Australia. New Zealand and Australia are slowly taking the lead by politicizing language in the form of language policy. Here, linguistic pluralism is legally emphasized by the State, rather than linguistic coercion.
In the United States at the Federal level, there is an explicit rejection of sanctioning English only. At the State level, however, many States independently implemented a form of politics rightly called "politics of exclusion" by advocating "English only" legislation. On the other hand, at the Federal level there is recognition due in part to the linkage between the English language and individual economic success that language legislation is not explicitly required. Because of the requirements to speak and write English in business, English remains a dominant linguistic force in day to day business and social life in mainstream America. Irrespective of whether there would be linguistic legislation in place, the masses through socialization readily become anglicized largely because of social forces linked to economics.

Another example is Canadian federalism which is an adapted form of the European model of pluralism (Switzerland, Belgium, Finland), and there is the unique Quebec model. In Quebec’s case, there is an explicit strong positive State presence where adoption of language policy became a reality by offering protection and promotion of the French language and culture in a legalized social charter. To many, symbolically and in reality, the perceived severity of Bill 101 surpasses that of most other States, particularly from a liberal and anglo-Saxon point of view. For example, the United Nations human-right’s committee found that Bill 101’s sign regulations contravenes Article 19, paragraph 2 of the International Covenant on Civil and Political Rights. This confirmed the rulings of Quebec’s Superior Court, the Quebec Court of Appeal, and also
the Supreme Court's ruling on Bill 101's restrictive sign law. On this point, only seven other States outlaw the use of other languages on signs: Algeria, Burma, Bulgaria, Colombia, Greece, Mexico, and Turkey.' On this note, it may be rightly argued that the Quebec Liberal government was bent on losing its international court case by providing outdated statistics and less than useful arguments supporting the cause of an endangered culture. In other words, it is possible that it argued its legal case from the wrong normative front.

Chapter four outlines in detail the research methodology. It defines the regression equation with the subsequent variables used in the statistical models. Beyond this, the chapter provides the reader with the complete set of hypotheses as they relate to the study. In this chapter, it is outlined how policy variables are measured, and how they are further classified into what is called the short-term impact and long-term impact associated with language policy. As illustrated, part one of the model deals with what is labelled the short-term impact of language policy (Bill 63, Bill 22, and Bill 101), and part two presents the long-term policy impact of the respective policies. Hence, the three language policies under investigation have in total six quantitative measures.

It is clear that the dissertation progressively becomes more and more statistically complex moving from a level of description to what is statistical analysis using multiple regression as a technique. It is in chapters five and six that the statistical models are presented. Chapter five, part one provides the descriptive statistics known as
univariate analysis. Part two considers the bivariate relations including
the short-term and long-term impacts associated with Bills 63, 22, and 101
respectively, including all economic variables, and also an electoral
variable, the election of the Parti Québécois.

Chapter six augments chapter five by extending the analysis to
include first of all correlational analysis to determine which variables
could be used in multiple regression. Part two highlighted a series of
models where economics and policy are regressed on the dependent variable
to determine their relative effect. And finally part three examined the
relationship between economics and policy variables using multiple
regression, and also the effect that net-migration may have had on policy.

The research used two concepts in the general analysis. As
mentioned, concept one is incrementalism; the second is Vickers’
conception of governing relations. Furthermore, the statistical sections
of the research used regression as a technique. Here policy variables
were operationalized by separating them mathematically into six components
which takes into consideration both the short-term and long-term impact of
policy. Furthermore, it modelled two economic variables which are used as
statistical controls in the analysis. Next in completing the causal
links, each of the policy variables was regressed on the economic
variables to determine the effect that economics had on policy, and
finally policy was regressed on net-migration to determine its impact on
policy.

In summary, the model explaining migration from the Province
of Quebec is quantitatively dealt with in detail. Part one dealt with the relationship economics and policy played on net-migration, and secondly, it established the effect that economics also had on policy, thus completing the quantitative model.

Limitations of the Research

As in many quantitative studies, the limitations presented by the availability of data can be a problem which are questions relating to variable choice and how they are measured. For example, the level of measurement: is the data nominal, ordinal, interval, or ratio? These are always important considerations in quantitative analysis.

In this study, the methodology and the design of the research used an extensive list of dummy dichotomous variables scored either "0" or "1" to measure policy. It is possible that the research project would be enhanced if it had been possible to measure policy impacts differently, for example, such as having the capacity to measure these at the interval or ratio level.

As illustrated in chapter six under the section dealing with correlations between variables, there is a considerable amount of collinearity present between policy variables. Because of high collinearity, a problem arose resulting in the deletion of a large set of economic variables, and also time as a variable. To recall, the time variable, counter, was part of Lewis-Beck's research design. In
hindsight, as a critique of Lewis-Beck's methodology, in his research there was no mention of collinearity, and if it was a problem in research design, particularly as it related to short-term and long-term measures. This knowledge would have been helpful prior to research commencement.

In time-series, the number of points in time is an important element in the research design. In this study, it would be an improvement in research design had the time-series been longer, for example, fifty cases rather than thirty. Secondly, data measured quarterly or on a monthly basis versus yearly would also improve the research, as it would improve all quantitative research.

The third point relates to the relative closeness of the policies, in this case labelled as the policy interventions. In less than a ten year period, between 1969 and 1977, three different language policies were implemented by three successive governments, the Union Nationale, the Liberals, and the Parti Québécois. The time period between these interventions is short possibly leading to statistical problems such as collinearity, for example.

**Conclusion**

The hypothesis modelled policy and economics, variables accounting for the variance in the dependent variable net-migration. Both sets of independent variables were hypothesized as having an effect on the dependent variable net-migration.
In the first case, the policy intervention of Bill 63, Bill 22, and Bill 101, in the short-term and long-term, were hypothesized to have had an effect on the level of interprovincial migration between Quebec and the other provinces. It was argued that negative net-migration increased following these policy interventions. Secondly, migration theory states that migratory patterns are related to comparative economic advantage between regions which is in accordance to the hypotheses outlined in chapters four and five.

Bivariate analysis reveals that the correlations between policy (variables measuring Bill 63, Bill 22, and Bill 101) were stronger (more highly correlated) than most of the variables measuring economics with the exception of the variables measuring Quebec’s GDP compared to the Canadian average; Quebec’s level of unemployment compared to the Canadian average; wages, and the Montreal’s stock exchange share values. In fact, the variable stock value is significant. In general, the bivariate relationships indicate that policy and economics each impacted on the level of interprovincial migration, but to varying degrees, and not necessarily in a statistical direction that would be expected.

Multivariate analysis indicates that politics (policy) and economics partially matter. Additionally, the findings indicate that a definitive and clear-cut picture cannot be easily obtained. The findings indicate that measures associated with policy were in part significant, and the same holds true for comparative economics.

Dealing first with economics, the economic variable Quebec’s
level of unemployment rate relative to the Canadian average is positive and statistically significant. The variance associated with the dependent variable can be explained by the relative difference between the level in Quebec and the Canadian average rate of unemployment. As the difference between Quebec's rate and the Canadian rate increased (Quebec's position worsens relative to the Canadian average), negative net-migration decreased (fewer people left Quebec than arrived). In each instance, the t-statistic was positive and significant, and also the estimated coefficient was positive. In this case, it was hypothesized that negative net-migration should increase as the Quebec's comparative level worsened. In other words, as Quebec's level of unemployment compared to the Canadian average increased, it was expected that negative net-migration would have increased. As noted, this was not the case. The hypothesis is not supported by the evidence.

In reference to the economic variable measuring Quebec's GDP relative to the Canadian average, the findings are exactly opposite to that mentioned in the above. The hypothesis presented was that as the difference between Quebec's level of GDP and the Canadian average increased (widened, where the performance gap negatively increased), negative net-migration would increase (more people would leave Quebec). In this case, the findings indicate that as the difference (gap widened) between the Quebec's level of GDP and the Canadian average increased (negatively larger from a coding view), negative net-migration increased in line with the hypothesis. This was the case for Bill 63, Bill 22, Bill
101, and also for the electoral variable, the election of the Parti Québécois. However, noteworthy is the fact that none of the t-statistics were significant (alpha = 90%, two-tail test), yet the estimated coefficients were negative. In concluding to this point, the results of the statistics for the GDP variable substantiate the theory of migration citing comparative economic advantage as having explanatory power, but as noted the relationships were not significant for relative GDP, but they were for the variable, UIC.

Looking at policy short-term variables next, the implementation of language Bill 63, the short-term impact measure, the findings indicate that net-migration worsened. However, the relationship is not significant. Regarding Bill 22’s short-term impact, net-migration also worsened. Again, the relationship was not significant. Concerning Bill 101’s short-term impact, the data indicate that negative net-migration actually improved, and it is noteworthy to discover that the relationship is significant. To recap, the partial estimated coefficients revealed that negative net-migration worsened after the short-term policy intervention (-8,425 for Bill 63; -5,244 for Bill 22), whereas it improved after implementation of Bill 101 (17,878 for Bill 101). To recap, Bill 63 and Bill 22 findings substantiate the hypotheses.

Contrary to the research hypotheses, Bill 63 and Bill 22’s long-term measures were significant and the directions were positive. In these cases, negative net-migration declined rather than increased, meaning that fewer people migrated. Regarding Bill 101’s long-term
impact, the findings indicate that the estimated coefficient was positive but not significant.

To recall, short-term and long-term measures were generated for the electoral variable, the election of the Parti Québécois, in 1977, regressed with relative GDP and relative unemployment. The data for this model indicate that the short-term and long-term measures for relative unemployment were significant. Regarding the P.Q.'s short-term impact measure, the t-statistic was negative with a partial estimated coefficient of -15,397. This is a level higher than the policy models of Bill 63 and Bill 22, and particularly Bill 101 which had a positive partial coefficient of 2,506. Concerning the short-term impact, negative net-migration increased following the election of the Parti Québécois.

In regards to the long-term impact, the variable was positively significant. As time passes, it is possible that the negative impact associated with political symbolism would decline as more people adjusted. This model indicates that negative net-migration substantially increased following the immediate election of the Parti Québécois, but following this period negative net-migration declined (improved).

In conclusion, the variable measuring Quebec's level of unemployment compared to the Canadian average positively influenced negative net-migration, however, the opposite was true for relative GDP. Contrary to general theory, language policy did not have a significantly negative influence on the level of negative net-migration. More importantly, statistical evidence is provided clearly indicating that
the election of the Parti Québécois (short-term measure) adversely influenced negative net-migration (t-statistic is significant and negative). It is to be emphasized that it was only in the short-term, immediately after the election of the Parti Québécois that negative net-migration worsened.

To venture further, the possible explanation for the significant relationship showing the election of the Parti Québécois adversely affecting levels of interprovincial migrations relates to the relative psychological impact that each policy intervention had on the anglophone community. Bill 63 was an emotional experience for many but not all of Quebec society. On the positive side, it allowed allophones to attend English schools, which is not the case today. Its policy impact was minor when compared to the politics of Bill 22 and Bill 101. Bill 22 negatively shocked the allophone and anglophone communities in 1974, such that in the 1976 provincial election many responded by exercising change in voting behaviour by supporting the Union National Party, all of which contributed to the surprising successful election of the Parti Québécois. On November 15, 1976, anglophones and allophones were astonished and shocked once again that eventful night, as well as the rest of the country. In comparison to the electoral success of the Parti Québécois, the passage of Bill 101 surprised very few. Yet there was still a public outcry by anglophones and allophones alike.

Political blame still lies with language policy being responsible for the demographic movement of people out of Quebec,
particularly during the seventies and eighties. Contrary to mythology, this research illustrates that at least statistically that negative net-migration (worsened) relates only to the immediate, short-term impact associated with the election of the Parti Québécois in 1976, and not language policy as many believe. In other words, negative net-migration increased substantially after the election of the Parti Québécois in 1976.

Locher raised in chapter one many issues regarding anglophone migration. Briefly, Locher stated that anglophone migration is temporary, had peaked, would stabilize over time, that linguistic legislation created fear within Quebec, that economics is the main determinant for migration and that the role of politics is secondary. On this account, the descriptive statistics and regression analyses in this research illustrate that negative net-migration had peaked and stabilized, but it is clear from an analysis of the descriptive statistics that negative net-migration is not temporary. In reference to linguistic fear raised by Locher, the statistics illustrate that negative net-migration is not negatively correlated to Bill 63, Bill 22, and Bill 101 in the long-term. Alternatively, the statistical analysis finds that negative net-migration is significantly correlated (negatively) to the election of the Parti Québécois government, but only with respect to the short-term impact. The high point of negative net-migration is more related to the election of the Parti Québécois than it is to linguistic policy, certainly as it was quantitatively measured in this research. Supporting the statistical analysis, history also confirms that migration is not temporary, that
negative net-migration had peaked, that it would stabilize around a negative value that is considered normal, that linguistic policy created fear, and that the election of the Parti Québécois also created fear. However, the statistical analysis contradicts history on an important front by illustrating that negative net-migration was related to the immediate election of the Parti Québécois government, rather than linguistic policy such as Bill 63, Bill 22, and Bill 101, particularly over time.

To conclude, by answering the question: do politics and economics matter?, the statistical analysis shows that economics and policy make a difference, but not always in the direction as expected nor with the same statistical intensity.
Endnotes


Descriptive Statistics

In tabular format, descriptive statistics are presented for the following list of variables: net-migration, gross domestic product, wages, rates of unemployment, private capital investment, public capital investment, value of building permits, level of taxes levied to individuals, Montreal Stock Exchange values, provincial transfers to individuals, Quebec's relative GDP compared to the Canadian average, Quebec's income levels compared to the Canadian average, and Quebec's unemployment rate compared to the Canadian average. The definitions of the variables are in Chapter four.

Figure One: Quebec's Interprovincial Net-migration

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### Figure Three: Wages

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### Table Seven: Value of Building Permits

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### Figure Eight: Taxes To Individuals

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### Figure Nine: Value of Stocks - Montreal Exchange

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### Figure Ten: Provincial Transfers to Individuals

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### Figure Eleven: Quebec's GDP Compared to Canadian Average

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### Figure Twelve: Quebec’s Income to Canadian Average

**Data**

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### Figure Thirteen: Quebec’s Unemployment Rate Compared to Canadian Average

**Data**

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