Regional Business Creation and “Push” Factors: The Case of Quebec

by

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ABSTRACT

We have undertaken to examine regional variations in business formation rates in Canada by concentrating first of all on the province of Quebec. This document provides preliminary results. They suggest that regional development is not best achieved through the direct creation of jobs, but rather through the promotion of workers' mobility or through the removal of barriers to workers' mobility. Such a policy may appear paradoxical to some, given that it could lead to the exodus of workers from certain regions where the government is investing to foster development and create jobs. However, the government's costly effort is more likely to reduce workers' mobility and be detrimental to the development of other regions where the workers would have relocated at no cost to taxpayers.
Regional Business Creation and "Push" Factors: The Case of Quebec

1. Introduction

The question of regional variation in the rate of firm creation has long been the focus of a wide range of studies and analyses by specialists in the field of entrepreneurship, particularly in the United States and the United Kingdom. Clearly, interest in this issue must be placed in the context of the broader research trend concerning the economic and social contributions of entrepreneurs in terms of job creation, technological innovation, and economic development.

Most of these studies have sought to define the structural and sociodemographic variables which can account for relative variations in the regional rate of firm creation. Using Johannisson (1991) as a reference, we have undertaken to group these variables into five broad alternative explanatory models: the "push", "pull", resource, contextual, and network models.

1.1. The "Push" Model

The "push" model represents an essentially reactive conception of the entrepreneurial process. It is based on the hypothesis that individuals are driven to create their firm in reaction to difficulties encountered in the labour market. These difficulties may be the result of harsh macro-economic conditions (recession, high unemployment rate, company closings), personal problems experienced as a wage earner (job dissatisfaction, threat of lay-off or closure, impossibility of career advancement), or integration problems resulting from an individual's immigrant status. This model is also called the "push-recession" model because of its close links to macro-economic cycles. According to this theoretical framework, the most entrepreneurial regions should be those where...
Regional Business Creation and "Push" Factors: The Case of Quebec

these negative motivational factors are the strongest; that is, in regions with high
unemployment, difficult economic conditions, and a high proportion of new arrivals.

1.2. The "Pull" Model

Contrary to the "push" model, the "pull" model considers entrepreneurship to be the
dependent result of a positive force; the voluntary and carefully thought-out action of a person
who was able to detect and exploit a promising business opportunity in a particular
market. According to this model, then, the most entrepreneurial regions should be
those where business opportunities are the most numerous and where demand is the
strongest or on the increase. The agglomeration/rurality factor is generally the most
important factor in this model, with variables such as the income level, demographic
growth, and the progression of regional demand4.

1.3. The Resource Model

This model explains variability in the firm creation rate in terms of the quality of
the resources available to entrepreneurs in a given region. Considered here are:
physical resources (vacant industrial spaces, commercial and industrial infrastructures,
real estate), financial resources (land appraisal, financial services, availability of risk
capital), professional resources (entrepreneurship support groups, industrial commissio-
ners, technical support services) and human resources (percentage of children in full-
time education, proportion of university and college graduates).

According to this approach, the regions with the richest resources should show the
highest rate of firm creation5.

1.4. The Contextual Model

As its name suggests, the contextual model focuses on a set of socio-demographic,
economic, and cultural variables which have an impact on the quality of the entrepre-
neurial climate in a given region.

Included in this model are, first of all, the variables which characterize the industrial
and occupational structure of a region. It considers elements such as industrial structure
and concentration, the presence of entry barriers, the size of existing firms, the

4 C.f., Gudgin, 1978; Croas, 1982; Mason, 1982; Storey, 1982; O'Farrell and Crouchley, 1984; Gould and Keeble, 1984;

Regional Business Creation and "Push" Factors: The Case of Quebec

proportion of independent organizations, the importance of the service sector, and the occupational profile of the region.

The model also attempts to capture the quality of the entrepreneurial climate and the level of social support available to entrepreneurs in the community, independently of financial and technical support. This dimension can be assessed by means of such variables as the proportion of self-employed workers, the level of employment in artistic professions, the number of business associations and sports associations, the majority political affiliation, the proportion of immigrants, the age profile, the typical parental status, the rate of unionization, and the crime rate.

Although the literature is not unanimous, certain authors have identified a positive and significant correlation between the rate of firm creation and the following variables: a high percentage of manufacturing jobs in companies with less than 50 employees (Gudgin, 1979; Cross, 1981), weak industrial specialization (Cross 1981; Garofoli, 1991), a high percentage of total jobs in industries with weak entry barriers (O’Farrel and Crouchley, 1984), a low proportion of non-native firm subsidiaries (Malecki, 1990), a high percentage of managers, professionals, and self-employed workers (Storey, 1982; Garofoli, 1991; Westhead and Moyes, 1992), a strong proportion of workers in the cultural industry (Johannisson, 1991), a large number of business associations and sports associations (Johannisson, 1991), a strong proportion of immigrants (Pennings, 1982; Schell, 1983; Chrisman, Van Deusen and Anyomi, 1992), and a political culture favourable to business (Westhead and Moyes, 1992).

1.5. The Network Model

This model links variability in the rate of firm creation to membership in a network, to the quality and to the vitality of business networks which can support the community of entrepreneurs. Variables such as inclusion, exclusion, size, stability, openness, professionalism, and spatial distribution of the networks are considered here.

1.6 Research Objectives

We have undertaken to examine regional variations in business formation rates in Canada by concentrating first of all on the province of Quebec. This document provides a summary of the main results obtained in the context of our preliminary work on the "push model". In subsequent papers, we will extend our research to the other models cited and to all Canadian provinces. Our ultimate goal is obviously to arrive at a better understanding of regional business creation and "push" factors.


understanding of the problem of variation in regional rates of firm creation, and, indirectly, to improve the quality of public intervention in this area.

2. VARIATION IN THE REGIONAL RATE OF FIRM CREATION IN QUEBEC

2.1. Choice of a Data Base

We have used two alternate sources of data to represent the rate of firm creation in Quebec: the Dun & Bradstreet (D&B) data bank and the data bank of the Commission des Normes du Travail du Québec (CNT). Both banks present certain advantages and disadvantages in terms of methodology.

The D&B group compiles data on companies for which it receives information requests as part of its credit information service. The main advantage of this bank is its extensive range: indeed, D&B operates in all Canadian provinces as well as in several other countries, including the United States. This assures a uniform data base for the different regions we wish to study. It should also be mentioned that D&B exercises strict control over the quality of the information it gathers.

The D&B nonetheless also comprises a number of weaknesses (Birch, 1979). Its major disadvantage is its fragmentary nature. Indeed, the company is only interested in companies for which it receives formal information requests. This does not necessarily mean that small firms are under-represented, since such firms usually pose a greater risk financially, but rather that certain types of firms are under-represented, notably those in the service sector. As several authors have noted, the D&B indexes are designed more for the conducting of market research than for economic research. Certain conventions used are methodologically unsound. Lastly, it should be mentioned that not all companies agree to reveal their figures to D&B.

The CNT data bank does not present the same problems. Indeed, this bank is produced on the basis of information transmitted to it by the Bureau du fichier central des entreprises du Québec (BFCE) and based on information it gathers itself. This means that all incorporated companies are automatically entered into this data base. Partnerships and self-employed individuals are also recorded when they register directly with the organization. This data bank is consequently much more comprehensive than that of the D&B. It is also important to note that the CNT data are available for a significant number of previous years, while those of the D&B are only available for 1991.

All of these factors contribute to make the CNT data base appear much more interesting at first glance. However, there is a major disadvantage which must be taken into account: the bank is only available for the Quebec census divisions. As a result, similar data for the rest of Canada will have to be found when the time comes to extend our study, and chances are that this will not be an easy task. Thus, the advantages of the Quebec model may be lost at the level of Canada as a whole. It is for this reason that we decided to test both data bases concurrently. As we shall see below,
only the data obtained from the CNT provided significant results, both in terms of the "push" model and in terms of the correlation coefficients matrix.

For the explanatory variables, we used the data from Statistics Canada's 1986 census. With the exception of a few minor areas, the results of the 1991 census had not yet been rendered public at the time our study was conducted.

2.2. Firm Creation Rate: Methodological Definition

The literature proposes various methods for measuring regional variations in the business creation rate. For example, a number of authors have used net annual variations in the number of companies as an estimator of the phenomenon under study. Others have used the ratio of new companies to the existing stock of companies or to sectorial employment (Schell, 1983). More recent studies, however, tend to reject these approaches due to the biases introduced in the calculation of estimators (impact of the regional industrial structure, for example). Currently, the most common approach is to consider only the gross number of new companies, weighted by the number of inhabitants or households (Johannisson, 1991; Garofoli, 1992; Westhead and Moyes, 1992). This is the method we have adopted in this study.

The data obtained from the D&B and CNT bases allow us to define three main types of endogenous variables: new firms created (D&B and CNT), firms in existence for one to two years (D&B), and firms in existence for three to five years (D&B).

In this study, we will test the "push" models using, in turn, four definitions of the rate of firm creation:

Anticipated Dependent Variables

- **DB0191**: number of firms registered with D&B in 1991, in existence for less than one year, per 1000 inhabitants.
- **DB1291**: number of firms registered with D&B in 1991, in existence for between one and two years, per 1000 inhabitants.
- **DB3591**: number of firms registered with D&B in 1991, in existence for between three and five years, per 1000 inhabitants.
- **CNT8692**: average annual number of firms registered with the CNT over the period 1986-1992, in existence for less than one year, per 1000 inhabitants.
2.3. Entrepreneurial Profile of Quebec

Statistics Canada uses a certain number of geographical units to group the numerous statistics it publishes. The smallest standardized unit is called an "enumeration area" (EA). These areas (150 to 300 households) are then grouped into "census subdivisions" (CSD), which are in turn grouped into "census divisions" (CD) and into "subprovincial regions" (SR). There also exists a grouping of "census agglomerations" (CA) for urban centres with at least 10,000 inhabitants, and of "metropolitan census areas" (CMA) for urban centres with at least 100,000 inhabitants.

For methodological reasons, the breakdown into census divisions seems to be the best alternative for testing the various models we have defined. Indeed, the number of units (99) is sufficient to render the tests statistically significant. We have also combined the census metropolitan areas (5) and the census agglomerations (25) in order to underscore the impact of the urban factor.

For the purposes of this study, we have used the new territorial boundaries defined by Statistics Canada in the 1991 Standard Geographical Classification (SGC). It should be noted that this classification has been substantially modified since the 1986 census, when the federal government decided to adjust its classification to make it conform with the Quebec government's Municipalité régionale de comté (MRC). The census divisions (CD) were thus changed to imitate the boundaries of the various MRC's. This reform presented a number of significant constraints at the methodological level: it was necessary to establish a table of equivalencies between the old and the new census divisions in order to process the chronological series. This was done by means of the census subdivisions (CSD) which, in spite of a change in numeration, kept the same boundaries.

We have grouped all of the CD's (census divisions) into their respective subprovincial region (SR) in order to determine the different regional mean rates of firm creation. The figures in brackets indicate the rank of the regions in each category. The population of the 1991 census was used to weight the indicators.
## TABLE 1

Rank of the subprovincial regions (SR) in Quebec

<table>
<thead>
<tr>
<th>SR</th>
<th>Designation</th>
<th>POP91</th>
<th>DB0191</th>
<th>DB1291</th>
<th>DB3591</th>
<th>CNT8692</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Gaspésie-Iles-de-la-Madeleine</td>
<td>105,080</td>
<td>0.67 (15)</td>
<td>0.84 (16)</td>
<td>0.99 (15)</td>
<td>7.80 (15)</td>
</tr>
<tr>
<td>15</td>
<td>Bas-Saint-Laurent</td>
<td>202,140</td>
<td>1.10 (09)</td>
<td>1.34 (11)</td>
<td>1.30 (08)</td>
<td>8.53 (13)</td>
</tr>
<tr>
<td>20</td>
<td>Quebec City</td>
<td>607,087</td>
<td>1.19 (07)</td>
<td>1.30 (12)</td>
<td>1.33 (05)</td>
<td>12.66 (07)</td>
</tr>
<tr>
<td>25</td>
<td>Chaudière-Appalaches</td>
<td>362,820</td>
<td>0.99 (14)</td>
<td>1.29 (13)</td>
<td>1.25 (10)</td>
<td>10.21 (11)</td>
</tr>
<tr>
<td>30</td>
<td>Estrie</td>
<td>263,710</td>
<td>1.05 (12)</td>
<td>1.34 (10)</td>
<td>1.17 (14)</td>
<td>13.01 (06)</td>
</tr>
<tr>
<td>35</td>
<td>Montérégie</td>
<td>1,187,342</td>
<td>1.09 (10)</td>
<td>1.36 (09)</td>
<td>1.28 (09)</td>
<td>13.54 (05)</td>
</tr>
<tr>
<td>40</td>
<td>Montreal</td>
<td>1,749,303</td>
<td>1.35 (02)</td>
<td>1.77 (01)</td>
<td>1.86 (01)</td>
<td>18.81 (01)</td>
</tr>
<tr>
<td>45</td>
<td>Laval</td>
<td>311,170</td>
<td>1.21 (06)</td>
<td>1.52 (05)</td>
<td>1.48 (02)</td>
<td>16.54 (02)</td>
</tr>
<tr>
<td>50</td>
<td>Lanaudière</td>
<td>331,208</td>
<td>1.14 (08)</td>
<td>1.29 (14)</td>
<td>1.21 (13)</td>
<td>13.78 (04)</td>
</tr>
<tr>
<td>55</td>
<td>Laurentians</td>
<td>377,342</td>
<td>1.27 (04)</td>
<td>1.55 (04)</td>
<td>1.33 (06)</td>
<td>15.69 (03)</td>
</tr>
<tr>
<td>60</td>
<td>Outaouais</td>
<td>281,765</td>
<td>0.59 (16)</td>
<td>0.97 (15)</td>
<td>0.84 (16)</td>
<td>10.39 (10)</td>
</tr>
<tr>
<td>65</td>
<td>Abitibi-Témiscamingue</td>
<td>150,625</td>
<td>1.25 (05)</td>
<td>1.59 (02)</td>
<td>1.34 (04)</td>
<td>10.55 (08)</td>
</tr>
<tr>
<td>70</td>
<td>Mauricie-Bois-Francs</td>
<td>459,038</td>
<td>1.07 (11)</td>
<td>1.37 (08)</td>
<td>1.23 (12)</td>
<td>10.46 (09)</td>
</tr>
<tr>
<td>75</td>
<td>Saguenay-Lac-Saint-Jean</td>
<td>283,596</td>
<td>1.38 (01)</td>
<td>1.55 (03)</td>
<td>1.47 (03)</td>
<td>9.43 (12)</td>
</tr>
<tr>
<td>80</td>
<td>Côte-Nord du Québec</td>
<td>102,557</td>
<td>1.28 (03)</td>
<td>1.43 (06)</td>
<td>1.24 (11)</td>
<td>8.27 (14)</td>
</tr>
<tr>
<td>90</td>
<td>Nord-du-Québec</td>
<td>36,041</td>
<td>1.03 (13)</td>
<td>1.39 (07)</td>
<td>1.30 (07)</td>
<td>6.22 (16)</td>
</tr>
<tr>
<td></td>
<td>Province of Quebec</td>
<td>6,807,362</td>
<td>1.17</td>
<td>1.46</td>
<td>1.42</td>
<td>13.96</td>
</tr>
</tbody>
</table>
Reginal Business Creation and "Push" Factors: The Case of Quebec

TABLE 2
Rank of the census metropolitan areas (CMA) of Quebec

<table>
<thead>
<tr>
<th>CMA</th>
<th>Designation</th>
<th>POP91</th>
<th>DB0191</th>
<th>DB1291</th>
<th>DB3591</th>
<th>CNT8692</th>
</tr>
</thead>
<tbody>
<tr>
<td>408</td>
<td>Chicoutimi-Jonquières (Saguenay)</td>
<td>159,610</td>
<td>1.43 (01)</td>
<td>1.60 (02)</td>
<td>1.42 (03)</td>
<td>9.63 (10)</td>
</tr>
<tr>
<td>421</td>
<td>Quebec City (Québec)</td>
<td>524,000</td>
<td>1.16 (04)</td>
<td>1.28 (07)</td>
<td>1.36 (04)</td>
<td>13.23 (06)</td>
</tr>
<tr>
<td>421</td>
<td>Quebec City (Chaudière-App.)</td>
<td>113,750</td>
<td>1.10 (05)</td>
<td>0.99 (09)</td>
<td>0.98 (09)</td>
<td>10.70 (07)</td>
</tr>
<tr>
<td>433</td>
<td>Sherbrooke</td>
<td>136,700</td>
<td>1.02 (07)</td>
<td>1.36 (05)</td>
<td>1.24 (07)</td>
<td>14.37 (04)</td>
</tr>
<tr>
<td>442</td>
<td>Trois-Rivières</td>
<td>134,884</td>
<td>0.99 (09)</td>
<td>1.22 (08)</td>
<td>1.09 (08)</td>
<td>10.66 (08)</td>
</tr>
<tr>
<td>462</td>
<td>Montreal (Montérégie)</td>
<td>676,135</td>
<td>1.10 (06)</td>
<td>1.35 (06)</td>
<td>1.25 (06)</td>
<td>14.30 (05)</td>
</tr>
<tr>
<td>462</td>
<td>Montreal (M.U.C.)</td>
<td>1,749,303</td>
<td>1.35 (02)</td>
<td>1.77 (01)</td>
<td>1.86 (01)</td>
<td>18.81 (01)</td>
</tr>
<tr>
<td>462</td>
<td>Montreal (Laval)</td>
<td>311,170</td>
<td>1.21 (03)</td>
<td>1.52 (03)</td>
<td>1.48 (02)</td>
<td>16.54 (02)</td>
</tr>
<tr>
<td>462</td>
<td>Montreal (part Lanaudière)</td>
<td>71,230</td>
<td>1.01 (08)</td>
<td>1.43 (04)</td>
<td>1.31 (05)</td>
<td>14.51 (03)</td>
</tr>
<tr>
<td>505</td>
<td>Ottawa-Hull (Outaouais)</td>
<td>225,305</td>
<td>0.53 (10)</td>
<td>0.92 (10)</td>
<td>0.78 (10)</td>
<td>10.53 (09)</td>
</tr>
<tr>
<td></td>
<td>Metropolitan census areas</td>
<td>4,102,087</td>
<td>1.20</td>
<td>1.51</td>
<td>1.51</td>
<td>15.66</td>
</tr>
</tbody>
</table>

The rank of the CMA's (Table 2) confirms the importance of Montreal, which dominates in all categories except for DB0191. It should be pointed out that, for the purposes of our analysis, we have divided this CMA into its regional constituents (Montreal Urban Community, Laval, Montérégie, Lanaudière). The Ottawa-Hull CMA (the Quebec portion of the national capital) is that which shows the weakest entrepreneurial propensity, followed closely by the Quebec City-Chaudière-Appalaches area. This suggests that the strong presence of the public service in these two cities does not encourage entrepreneurial activity.

The results presented in Tables and 2 underscore the following principal characteristics:

a. Regardless of the data base used to define the rate of firm creation, the region where entrepreneurial activity is most frequent is Montreal, followed closely by Laval and the Laurentians. This result seems to confirm Montreal's importance as a centre of economic activity.

b. Regardless of the data base, the two areas with the weakest entrepreneurial activity are Gaspésie - Îles de la Madeleine and the Outaouais region.

c. Certain regions appear more entrepreneurial when only the D&B data are taken into account, and less entrepreneurial when the CNT data are used. The three regions for which there is a difference in ranking according to the data base used are Abitibi-Témiscamingue, the Bas-Saint-Laurent and the Saguenay region.
The rates of firm creation obtained using the D&B data show little variation - which leads us to believe that the bank’s entry criteria has a uniformization effect or that regions with service companies are penalized.

### TABLE 3

**Rank of urban regions having at least 10,000 inhabitants**

(census agglomeration)

<table>
<thead>
<tr>
<th>CA</th>
<th>Designation</th>
<th>POP91</th>
<th>DB0191</th>
<th>DB1291</th>
<th>DB3591</th>
<th>CNT8692</th>
</tr>
</thead>
<tbody>
<tr>
<td>403</td>
<td>Matane</td>
<td>14,700</td>
<td>1.50 (04)</td>
<td>1.70 (06)</td>
<td>1.41 (15)</td>
<td>8.54 (22)</td>
</tr>
<tr>
<td>404</td>
<td>Rimouski</td>
<td>47,310</td>
<td>1.33 (11)</td>
<td>1.42 (14)</td>
<td>1.49 (11)</td>
<td>9.86 (18)</td>
</tr>
<tr>
<td>405</td>
<td>Rivière-du-Loup</td>
<td>22,965</td>
<td>1.48 (05)</td>
<td>2.16 (02)</td>
<td>1.64 (05)</td>
<td>10.12 (16)</td>
</tr>
<tr>
<td>406</td>
<td>Baie-Comeau</td>
<td>32,650</td>
<td>1.13 (17)</td>
<td>1.33 (21)</td>
<td>1.10 (24)</td>
<td>8.26 (24)</td>
</tr>
<tr>
<td>410</td>
<td>Alma</td>
<td>29,800</td>
<td>1.38 (09)</td>
<td>1.49 (12)</td>
<td>1.83 (03)</td>
<td>10.33 (15)</td>
</tr>
<tr>
<td>411</td>
<td>Dolbeau</td>
<td>14,835</td>
<td>1.08 (21)</td>
<td>1.42 (15)</td>
<td>1.30 (17)</td>
<td>9.64 (21)</td>
</tr>
<tr>
<td>412</td>
<td>Sept-Iles</td>
<td>27,145</td>
<td>1.36 (10)</td>
<td>1.58 (09)</td>
<td>1.49 (12)</td>
<td>9.68 (20)</td>
</tr>
<tr>
<td>428</td>
<td>Saint-Georges</td>
<td>22,535</td>
<td>1.46 (06)</td>
<td>2.06 (03)</td>
<td>2.10 (01)</td>
<td>12.89 (07)</td>
</tr>
<tr>
<td>430</td>
<td>Thetford Mines</td>
<td>29,605</td>
<td>0.98 (24)</td>
<td>1.40 (17)</td>
<td>1.50 (09)</td>
<td>10.05 (17)</td>
</tr>
<tr>
<td>435</td>
<td>Magog</td>
<td>20,045</td>
<td>1.45 (07)</td>
<td>1.62 (08)</td>
<td>1.26 (20)</td>
<td>15.22 (02)</td>
</tr>
<tr>
<td>437</td>
<td>Cowansville</td>
<td>11,815</td>
<td>1.86 (01)</td>
<td>1.35 (20)</td>
<td>1.50 (10)</td>
<td>11.68 (13)</td>
</tr>
<tr>
<td>440</td>
<td>Victoriaville</td>
<td>38,950</td>
<td>1.44 (08)</td>
<td>1.99 (04)</td>
<td>1.85 (02)</td>
<td>12.41 (09)</td>
</tr>
<tr>
<td>444</td>
<td>Shawinigan</td>
<td>60,655</td>
<td>0.99 (22)</td>
<td>1.26 (22)</td>
<td>1.10 (23)</td>
<td>8.52 (23)</td>
</tr>
<tr>
<td>446</td>
<td>La Tuque</td>
<td>12,870</td>
<td>1.09 (20)</td>
<td>1.01 (25)</td>
<td>1.19 (22)</td>
<td>6.01 (25)</td>
</tr>
<tr>
<td>447</td>
<td>Drummondville</td>
<td>58,860</td>
<td>1.22 (14)</td>
<td>1.69 (07)</td>
<td>1.35 (16)</td>
<td>11.97 (11)</td>
</tr>
<tr>
<td>450</td>
<td>Granby</td>
<td>58,680</td>
<td>1.12 (18)</td>
<td>1.94 (05)</td>
<td>1.52 (08)</td>
<td>15.32 (01)</td>
</tr>
<tr>
<td>452</td>
<td>Saint-Hyacinthe</td>
<td>48,935</td>
<td>0.98 (23)</td>
<td>1.40 (18)</td>
<td>1.59 (06)</td>
<td>12.32 (10)</td>
</tr>
<tr>
<td>454</td>
<td>Sorel</td>
<td>45,775</td>
<td>1.09 (19)</td>
<td>1.50 (11)</td>
<td>1.20 (21)</td>
<td>9.73 (19)</td>
</tr>
<tr>
<td>456</td>
<td>Joliette</td>
<td>36,575</td>
<td>1.18 (15)</td>
<td>1.54 (10)</td>
<td>1.42 (13)</td>
<td>13.21 (05)</td>
</tr>
<tr>
<td>459</td>
<td>Saint-Jean-sur-Richelieu</td>
<td>67,685</td>
<td>1.15 (16)</td>
<td>1.40 (16)</td>
<td>1.30 (18)</td>
<td>13.45 (04)</td>
</tr>
<tr>
<td>465</td>
<td>Salaberry-de-Valleyfield</td>
<td>39,555</td>
<td>1.26 (13)</td>
<td>1.39 (19)</td>
<td>1.53 (07)</td>
<td>11.72 (12)</td>
</tr>
<tr>
<td>468</td>
<td>Lachute</td>
<td>11,520</td>
<td>1.82 (02)</td>
<td>1.48 (13)</td>
<td>1.42 (14)</td>
<td>12.91 (06)</td>
</tr>
<tr>
<td>475</td>
<td>Saint-Jérôme</td>
<td>51,330</td>
<td>1.27 (12)</td>
<td>1.22 (23)</td>
<td>1.28 (19)</td>
<td>15.14 (03)</td>
</tr>
<tr>
<td>480</td>
<td>Val-d’Or</td>
<td>29,825</td>
<td>1.81 (03)</td>
<td>2.40 (01)</td>
<td>1.80 (04)</td>
<td>12.88 (08)</td>
</tr>
<tr>
<td>485</td>
<td>Rouyn-Noranda</td>
<td>38,500</td>
<td>0.94 (25)</td>
<td>1.21 (24)</td>
<td>0.99 (25)</td>
<td>11.17 (14)</td>
</tr>
<tr>
<td></td>
<td>Census agglomeration</td>
<td>873,120</td>
<td>1.23</td>
<td>1.55</td>
<td>1.43</td>
<td>11.65</td>
</tr>
</tbody>
</table>
If we extend our analysis to examine small urban regions (those with a population of at least 10,000), we observe that the intensity of entrepreneurial activity varies according to the time period considered. For example, the city of Cowansville appears very entrepreneurial if the number of surviving firms less than a year old (DB0191) is considered. On the contrary, if we use the number of surviving firms between one and two years old (DB1291), the city no longer seems entrepreneurial. Yet, if we consider the number of surviving firms which are three to five years old (DB3591) or the number of firms created between 1986 and 1992 (CNT8692), Cowansville appear fairly entrepreneurial. At the other extreme, Granby appears very entrepreneurial if CNT8692 is used and not very entrepreneurial if DB0191 is used.

There are three possible explanations for this phenomenon: either the data bases differ significantly, or rankings based on short periods are very unstable, or there is no regularity in the phenomenon of firm creation. Our knowledge of this particular milieu leads us to believe that it is preferable to work with a period of between three and five years: the results obtained based on DB3591 and CNT86-92 coincide more closely with our perception of this phenomenon than DB0191 and DB1291.

In order to identify the best variable and, especially, to gain an understanding of the elements associated with firm creation, we focused our attention on one model: the "push" model.

3. The "Push" Model

3.1. Construction of the Model

The unemployment rate constitutes the basic theoretical variable of the "push" model (Johannisson, 1991), since it is the statistic which best reflects the problem of integration in the labour force. Other variables may also be associated with this model provided that they represent the same phenomenon; that is, negative forces which push individuals toward entrepreneurship. Researchers who gather their data by means of questionnaires obviously do not face the same constraints as those who rely on official statistical indexes. For example, Storey (1982) uncovered the following "push" factors based on an interview of 156 new entrepreneurs in the region of Cleveland, in the United Kingdom: lay-off, termination of employment, company closure, early retirement, threat of lay-off, and job dissatisfaction. For their part, Binks and Jennings (1986a) obtained the following factors: lay-off, job insecurity, disagreement with employer, and company closure. While all of these variables provide a more refined understanding of the "push" phenomenon, it appears very difficult to measure these variables statistically.
3.2. Review of the Literature

Impact of unemployment on the firm creation rate

For years, authors have been defending the theory that difficult economic conditions, particularly at the level of employment, encourage the process of firm creation. However, the empirical studies which have been conducted are far from conclusive in this regard. One could even put forward that the large majority of these studies have observed the exact opposite relation to that expected; that is, a firm creation rate that is negatively correlated to the unemployment rate.

Those authors who have established a positive relation between the unemployment rate and the firm creation rate have generally based their arguments on the interpretation of questionnaires administered to a selected sampling of entrepreneurs. For example, Storey (1982) conducted a survey of 156 new entrepreneurs in the region of Cleveland, in the United Kingdom: at the time, 26% of respondents claimed to have been unemployed immediately prior to going into business. The results obtained by Binks and Jennings (1986a) from a survey of 100 entrepreneurs in the Nottingham region are even more revealing: in this case, 47 respondents claimed that they were motivated by "push" factors to create their firm. More recently, Barkham (1992) administered a questionnaire to about 120 new entrepreneurs in three regions of the United Kingdom. A high proportion of the respondents declared that they were "pushed" toward entrepreneurship (32% in the West Midlands) and that they were unemployed immediately prior to creating their firm (27% in the North-East).

The large majority of the econometric studies conducted on this subject do not support the findings of the surveys by questionnaire. For example, Pennings (1982) found no positive correlation between the unemployment rate and the rate of new firm creation for certain selected industrial sectors (plastics, telecommunications, electronics) in a study conducted in 70 urban American centres for the period of 1966-70. Foreman-Peck (1984) arrived at the same conclusion for the rate of firm creation in the English and Welsh manufacturing sector as a whole between 1918 and 1939.

Rather, several studies have observed a negative relation between the unemployment rate and the rate of firm creation. This is true of the studies realized by Binks and Jennings (1986b) and Westhead (1989), which covered the years 1971-81 and 1979-83 in the United Kingdom. Recently, Johannisson (1991) studied the pattern of new firm creation in Sweden for the period 1986-89. He also found a negative (but not significant) relation between these two variables. For their part, Reynolds, Miller and Maki (1991) arrived at a negative and significant correlation between an indicator of the unemployment rate (the proportion of the average revenue received from social security programs) and the regional rate of firm creation in the United States. The study was conducted using D&B data for the period 1982-86.

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C.f., Schumpeter, 1939; Oxenfeldt, 1943; Dahmen, 1970; and Johnson, 1986.
We could conclude by saying that the vast majority of the literature does not support the hypothesis of a positive relation between the unemployment rate and the firm creation rate. On the contrary, the empirical results obtained reveal a negative correlation between these two variables. In order to assess the veritable relationship between them, it would perhaps be necessary to test the impact of a variation in unemployment insurance premiums. It is possible that the generosity of social programs inhibits the natural entrepreneurial propensity of people who have been laid off.

Impact of Migration on the Firm Creation Rate

In our opinion, migration variables constitute another group which can be associated with the "push" model. Indeed, it is well-known that many immigrants are pushed toward entrepreneurship by problems of integration in their adopted society (Toulouse, 1991). Even though this type of variable has been abundantly tested in the entrepreneurial literature (Chrisman, Van Deusen and Anyomi, 1992), until now, no one seems to have associated it explicitly with the "push" model. We have taken it upon ourselves to do so in this study.

Most authors have observed a strong positive correlation between immigration and the regional rate of firm creation. It would seem, then, that the entrepreneurial propensity of immigrants is indeed stronger than that of the host population, for reasons which are probably attributable to integration difficulties.

Impact of Economic Turbulence on the Firm Creation Rate

A third category of variables appears to be relevant in the context of this model: they are what one author has called variables of "economic turbulence" (Westhead, 1989). As the name suggests, these variables attempt to reflect the general economic climate of a region by highlighting the broader trends in terms of company closings and loss of employment. This category lends a certain materiality to the factor of the threat of lay-offs or closings that were observed in the survey by questionnaire (Storey, 1982; Binks and Jennings, 1986a).

Generally, variables such as the number of company closings or job losses resulting from such closings are used to represent the concept of economic turbulence. It seems that a high rate of loss of employment is positively correlated to the rate of firm creation, at least in the United Kingdom (Storey and Jones, 1987; Westhead, 1989).

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4. Empirical Results

4.1. Overview of the Methodology and Principal Results

Tests were performed for the following four dependent variables: DB0191, DB1291, DB3591 and CNT8692. To refine even further, we have added two new dependent variables: the number of companies registered with the CNT in 1986 per 1,000 inhabitants (CNT86) and the number of companies registered with the CNT in 1991, per 1,000 inhabitants (CNT91).

The explanatory variables were selected based on the conceptual framework of the "push" model; that is, negative forces which encourage entrepreneurship. We wanted to represent the three main types of variables which seemed to best conform to the findings of the literature; that is, the unemployment rate, migratory flow, and the number of company deregistrations. We then defined and tested a certain number of variants of these variables to determine which were the most significant. As expected, the most significant variables were found in the models with the highest R².

In order to highlight the impact of regional variations with respect to the firm creation rate, we conducted tests for four alternative groups of geographical clusters: (1) the Quebec census divisions (CD); (2) the Quebec census divisions plus the census subdivisions of the Montreal Urban Community (CD + CSD from MUC: this procedure permits division of the MUC - Montreal Urban Community - into clusters which correspond to the others); (3) the census metropolitan areas plus the Quebec census agglomeration (CMA + CA: this procedure makes it possible to obtain all regions having over 10,000 inhabitants); and (4) the Quebec census divisions minus the census subdivisions included in the census metropolitan areas or census agglomerations (CD - CA + CMA: this procedure makes it possible to obtain the rural regions). The tests showed that the best results are obtained using the dependent variables CNT86, CNT91, CNT86-92. For the sake of simplicity, we have presented only these results, since they were the most significant.
TABLE 4

Independent variables used in the empirical tests

- CNT86DH: number of companies deregistered from the CNT bank in 1986, per 1,000 inhabitants.
- CNT91DH: number of companies deregistered from the CNT bank in 1991, per 1,000 inhabitants.
- CNT8692DH: average annual number of companies deregistered from the CNT bank over the period 1986-92, per 1,000 inhabitants.
- MIGQ86: percentage of migrants 5 years and older relocating within the province of Quebec in 1986.
- MIGQ8186V: variation in the percentage of migrants 5 years and older relocating within the province of Quebec between 1981 and 1986.
- MIGC86: percentage of migrants 5 years and older coming from other Canadian provinces in 1986.
- MIGC8186V: variation in the percentage of migrants 5 years and older coming from other Canadian provinces between 1981 and 1986.
- MIGE86: percentage of foreign immigrants 5 years and older from outside Canada in 1986.
- MIGE8186V: variation in the percentage of foreign immigrants 5 years and older from outside Canada between 1981 and 1986.

4.2. Interpretation of the Results

Our results, obtained by using OLS regressions, are presented in the following tables. Only the most significant results for each of the geographical groupings are discussed below. Other results are available upon request. Because of the different number of observations and the different dependent variables used in the four regressions, it is impossible to use the R² as a criterion to determine which is the best regression. However, our model performed quite well with R², ranging from 0.36 to 0.70, a result generally considered excellent in the context of such a cross-section data set. Thus, it appears that the "push" model is quite useful in predicting the rate of business creation across regions within the province of Quebec, whether across the whole territory or in urban and rural areas.

The role of unemployment

A look at the series of regressions reveals that the unemployment rate prevailing in 1986 is negatively correlated to the rate of firm creation in the different regions of Quebec over the 1986-92 period. The coefficient of unemployment is negative and statistically significant in all regressions, except for rural regions, where it is insignificant.
but still negative. This suggests that unemployment provides a negative incentive to create businesses. In the context of an analysis using data at an aggregate level, this result confirms the findings of other authors.\footnote{11}

This result is hardly surprising considering that the level of unemployment in a given area is more likely to reflect the state of the demand in that area than the incentive of unemployed individuals to create a business. There is a strong argument to support our belief that this is indeed the case: Had we compared unemployed workers' willingness to create a business across different regions of Quebec, we may have found the expected result. However, because the pool of potential entrepreneurs is dominated by individuals who do have a steady job, and because the incentives of these workers to become self-employed should normally be negatively related to the level of unemployment,\footnote{12} the overall effect of unemployment on the rate of entrepreneurship is very likely to be negative. In other words, the negative demand-side effect of unemployment on entrepreneurship may dominate and thus hide its positive supply-side effect, preventing us from observing the phenomenon described by other researchers in the fields of entrepreneurship and economics.\footnote{13}

\footnote{11} The potential endogeneity of unemployment is not an issue here, since the unemployment figures are for 1986, whereas the dependant variable measures the rate of business creation for the 1986-1992 period.

\footnote{12} This is true because high unemployment signals a poor state of the demand (businesses are more likely to fail than usual). Therefore, high unemployment regions may not be optimal areas in which to create a new business. Secondly, given that labour market conditions are more difficult for the unemployed when unemployment is widespread, employed workers would normally hesitate to leave their current job in order to become self-employed.

\footnote{13} The more generous the unemployment benefits and other social programs aimed at unemployed workers, the more likely this will be the case. See Johannisson (1991). Since these programs are relatively generous in Quebec, one might expect the incentive of unemployed workers to start a business to be relatively small. This would also help to explain the relative dominance of the demand-side effect in the data. Another explanation may simply be that unemployment is inhibiting business creation by causing psychological stress, financial insecurity, or by reducing the borrowing capabilities of potential entrepreneurs.
However, in other regressions we included variations in the rate of unemployment as well as the rate of unemployment itself. These regressions are presented in Table 6. This was done so that the level of unemployment would capture the state of the demand in each region, and so that the variations in the level of unemployment would capture the supply-side response of newly unemployed workers to unemployment.
TABLE 6
Regression analysis for CNT8692EH / OLS
Geographical groupings II and III including employment variations

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>II. CD and MUC's CSD</th>
<th>III. CMA and CA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONSTANT</td>
<td>17.03640 *** (0.88859)</td>
<td>20.98086 *** (2.13165)</td>
</tr>
<tr>
<td></td>
<td>10.24537 *** (1.42942)</td>
<td></td>
</tr>
<tr>
<td>TCH86</td>
<td>-39.94217 *** (5.48982)</td>
<td>-66.35844 *** (15.65613)</td>
</tr>
<tr>
<td></td>
<td>-18.85900 *** (-3.24849)</td>
<td></td>
</tr>
<tr>
<td>TCH8186VAR</td>
<td>7.83061 *** (2.47320)</td>
<td>6.97292 * (3.84073)</td>
</tr>
<tr>
<td></td>
<td>1.81398 (2.31951)</td>
<td></td>
</tr>
<tr>
<td>MIGQUE86</td>
<td>-</td>
<td>29.56583 *** (6.26090)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MIGCAN86</td>
<td>-</td>
<td>-39.06586 ** (17.55577)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MIGEXT86</td>
<td>-</td>
<td>154.635 *** (30.57009)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of observations</td>
<td>117</td>
<td>117</td>
</tr>
<tr>
<td>R^2</td>
<td>0.35941</td>
<td>0.53866</td>
</tr>
<tr>
<td>adjusted R^2</td>
<td>0.34817</td>
<td>0.51788</td>
</tr>
</tbody>
</table>

* Significant at the 90% confidence level.
** Significant at the 95% confidence level.
*** Significant at the 99% confidence level.

The results confirm our expectations. The coefficient of unemployment is still negative and significant in all four regressions, whereas the coefficient of the variations in unemployment is always positive and significant when the migration variables are excluded from the regressions. The fact that the results do not seem very robust to the inclusion of the migration variables may be due to the possibility that worker mobility and unemployment are intrinsically linked phenomena, causing coefficient estimates to be relatively unstable. Nonetheless, overall these results suggest that, as expected by the theory, there is an entrepreneurial positive supply-side response of workers to unemployment.
Because there are many reasons to believe that the mobility of workers is strongly linked to variations in unemployment, we conducted an experiment in the hope of controlling for this effect. The results of this explanatory regression method are presented in Table 7. They should be interpreted with caution, however, since we have not yet performed a rigorous statistical analysis to ensure the consistency of this new estimator. The estimator is obtained through a two-step procedure: the first step consists of a series of regressions purging each explanatory variable of the influence of the other explanatory variables; the second step reduces to an Ordinary Least Square regression of the dependent variable on the "purificated" variables; a constant is also included in the regression. In this specific case of the third regression presented in Table 7, we performed 5 auxiliary regressions (not presented here) in which each variable was first projected on all other variables of the original model (including a constant). We then retrieved the residuals from these auxiliary regressions and finally used these residuals (interpreted as information purged of any influence from the other explanatory variables) and a constant as regressors in the final regression presented in Table 7. The results are remarkably stable and are comparable to the results presented in the previous tables. However, they are now all significant at the 99% confidence level.

As expected, the effect of unemployment, which we interpret as a measure of the state of the demand in each geographical area, is still negative. Moreover, in this regression, even when the migration variables are included, the coefficient associated with the variations in unemployment is positive and significant. This suggests that we are able to capture the phenomenon which we set out to identify.

In summary, the effect of unemployment on entrepreneurship is complex. On the one hand, a high level of unemployment appears to signal that business opportunities are scarce. On the other hand, once we control for the level of unemployment, we find that the higher the number of workers joining the pool of unemployed individuals, the higher the incentive to start a business.
TABLE 7
Exploratory model: Regression analysis for CNT8692EH / OLS
Geographical grouping II

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>CD and MUC's CSD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>CONSTANTE</td>
<td>12.76274*** (.30916)</td>
</tr>
<tr>
<td></td>
<td>12.76274*** (.26543)</td>
</tr>
<tr>
<td></td>
<td>12.76274 *** (.26589)</td>
</tr>
<tr>
<td>TCHRES</td>
<td>-40.32673*** (5.49104)</td>
</tr>
<tr>
<td></td>
<td>-58.26146*** (6.81079)</td>
</tr>
<tr>
<td></td>
<td>-60.97246 *** (7.14010)</td>
</tr>
<tr>
<td>TCH8186VARRES</td>
<td>8.21380*** (2.47375)</td>
</tr>
<tr>
<td></td>
<td>9.76787 *** (2.53000)</td>
</tr>
<tr>
<td>MIGQUE8RES</td>
<td>55.24511*** (6.74175)</td>
</tr>
<tr>
<td></td>
<td>59.48253 *** (7.27148)</td>
</tr>
<tr>
<td>MIGCAN8RES</td>
<td>55.52580*** (19.97189)</td>
</tr>
<tr>
<td></td>
<td>55.98443 *** (20.17185)</td>
</tr>
<tr>
<td>MIGEXT18RES</td>
<td>296.144*** (35.25131)</td>
</tr>
<tr>
<td></td>
<td>328.923 *** (39.22112)</td>
</tr>
<tr>
<td>Number of observations</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>117</td>
</tr>
<tr>
<td>R²</td>
<td>.35941</td>
</tr>
<tr>
<td>adjusted R²</td>
<td>.34817</td>
</tr>
<tr>
<td></td>
<td>.53612</td>
</tr>
<tr>
<td></td>
<td>.51956</td>
</tr>
<tr>
<td></td>
<td>.53866</td>
</tr>
<tr>
<td></td>
<td>.51788</td>
</tr>
</tbody>
</table>

* Significant at the 90% confidence level.
** Significant at the 95% confidence level.
*** Significant at the 99% confidence level.

Finally, note that (Table 5) the coefficient of the unemployment variable in the urban regression is much larger than in the rural regression, suggesting that the negative impact of unemployment in urban areas is much more important than in rural areas. This may be attributable to the higher inter-regional proximity in urban areas, which makes it easier for an entrepreneur from a depressed region (with high unemployment) to locate his business in a booming region (with low unemployment). Through a case study of a few regions, further research should focus on understanding the different dynamics between urban and rural areas.

The role of mobility

The results also show that the composition of the population in the different regions is relatively important in explaining the distribution of the rate of entrepreneurship across the various regions. The three variables MIGQUE86, MIGCAN86 and
MIGEXT86 allow us to divide immigration in each region into three components: local immigration (migrants from other parts of Quebec), national immigration (migrants from other provinces of Canada) and international immigration (migrants from other countries).

The results from Tables 5, 6 and 7 indicate that the proportion of foreign immigrants (MIGEXT86) is positively correlated with the rate of business creation in regressions, confirming the vitality of immigrant entrepreneurship often hypothesized in the literature; the results are strongly significant from a statistical point of view. Similarly, the proportion of the population in each region which is made up of individuals coming from another area within the province of Quebec (MIGQUE86) also has a positive impact on the rate of regional business creation. The coefficient of the variable is always positive and statistically different from zero in all four regressions. This shows the importance of inter-regional mobility in the process of firm creation. The relationship seems strongest in rural areas, which suggests the potential of individual mobility to foster regional economic development. Because the regressions control for the level of unemployment and because we used data on the composition of the population at the start of the period (i.e., in 1986), this result cannot be interpreted as a spurious correlation reflecting only the possibility that migrants would be attracted towards more entrepreneurial regions. The correct interpretation seems to be that, while migrants are probably attracted by prosperity, they also contribute to prosperity by eventually creating a firm in the region into which they have moved.

On the other hand, the proportion of immigrants coming to the province of Quebec from other provinces in Canada (MIGCAN86) has a negative impact on the rate of regional entrepreneurship. However, the coefficient of this variable is not statistically significant in the rural equation model. It therefore seems that, overall, Canadians immigrating from other provinces do not immigrate with the perspective of creating a business in the province of Quebec. It is surprising, however, that the coefficient of this variable is negative and statistically significant in most equations. One may think that most Canadians moving to Quebec from other provinces do not come to create a business but rather to occupy a corporate job (for example, a marketing vice-president at the Royal Bank in Toronto may be relocated in Montreal to become Quebec's regional marketing director). To explain the negative correlation between this variable and the rate of business creation, we conjecture that such people may be more likely to live in urban residential areas (suburbs of large cities), where businesses are less often located. Yet, in our experimental regression presented in Table 7, the coefficient associated with inter-provincial mobility is positive and highly significant.

Finally, it is worth mentioning (although these results are not reported in the tables) that we did not detect any statistically significant impact of firm deregistrations (whether measured by CNT86DH, CNT91DH or CNT8692DH) on the rate of business creation for any of the four geographical groupings used in this study. We had hoped that a high rate of firm failure would have signalled a high rate of firm creation. We failed to capture the effect of turbulence on entrepreneurial activities. This may be due to the fact that deregistration is a poor proxy to measure economic turbulence. Let us note, however, that since the series was calculated from 1981 and 1986 figures, it might be interesting to test this hypothesis again when the more recent 1991 census data become available; they are expected next summer.
5. Conclusion

Our study clearly shows that the fundamental thesis of the "push" model, namely that unemployment has a positive impact on entrepreneurial incentives, is empirically rejected in the province of Quebec when we fail to include variations in unemployment in the regressions. As several other studies have already shown, we found that unemployment discourages business creation. The results hold for the period covering 1986-92 for most geographical groupings used in the analysis; one notable exception is rural areas, where unemployment does not seem to have an impact on business creation.

However, we argued that within the context of an empirical study using aggregate cross-section data, it is possible that unemployment captures the state of the demand in each area better than the supply-side response of unemployed individuals setting up businesses that they would not have set up otherwise (i.e., had they been securely employed in the first place). Indeed, most, if not all, studies corroborating such conclusions are regional studies, as in this paper, that use cross-section aggregate data rather than individual data to examine this hypothesis.

We then included both the unemployment rate and variations in the unemployment rate as explanatory variables in our regressions. By using unemployment as a proxy for the state of the demand in the different geographical units, the variations in unemployment are more likely to capture the higher incentive of unemployed individuals to create businesses. Our results suggest that the inclusion of such variables helps to circumvent the difficulties encountered by several authors in identifying the expected effect of unemployment on entrepreneurship in empirical studies using aggregate cross-section data.

The other significant result of this paper is the effect of the three types of immigration on the rate of entrepreneurship across regions. We found that both intra-provincial and international migration had a positive impact on business creation; the opposite result was found for inter-provincial migration (except in our experimental regression). Thus, immigration appears to be an excellent predictor of entrepreneurial activity. This result is consistent with that of other studies on immigrant entrepreneurship.

Our results have important implications for public policy, in particular policies regarding regional development and immigration. For instance, our study reveals that immigration is beneficial to business creation. If we believe, as many authors have shown, that new firms are responsible for the creation of the majority of jobs, then the adoption of more liberal immigration policies would seem appropriate in order to reduce unemployment. This also appears to be an interesting way to promote regional development, especially in regions where unemployment is high. Seen in this


perspective, aggressive programs targeting immigrant-entrepreneurs, such as those of Canada, Australia and New-Zealand, appear particularly useful.

A seemingly paradoxical policy, that is nonetheless in line with orthodox free-market economics, is suggested by our results. In light of our findings concerning the impact of unemployment and mobility, it appears that regional development is not best achieved through the direct creation of jobs, but rather through the promotion of workers' mobility or through the removal of barriers to workers' mobility. Such a policy may appear paradoxical to some, given that it could lead to the exodus of workers from certain regions where the government is investing to foster development and create jobs. However, the government's costly effort is more likely to reduce workers' mobility and be detrimental to the development of other regions where the workers would have relocated at no cost to taxpayers. In the end, such a market-based regional development strategy would lead to a greater variance in income between the different regions, but probably to a higher average income.
Bibliography


Regional Business Creation and "Push" Factors: The Case of Quebec


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