

# Uses of Business Profiles for Economic Development

## Background Notes

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A recent book with some interesting ideas on regional development is:

Jane Jacobs, **The Nature of Economies**, Random House Canada, 2000

“A case can be made that development and co-development foster disorder by throwing new uncertainties into the pot. But with the confusion, redundancy, and unpredictability, the stupendous processes ... are operating:

development and co-development through differentiation;

expansion through diversification;

continuation through self-fueling;

Stabilization through self-correction

- all brought into order through unpredictable self-organization.”  
(p. 145)

## Two Areas

- Same Size (in terms of population)
- One is growing, the other shrinking
- Why?

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Some cases are explained by exogenous shocks - the discovery of a new mine or the exhaustion of an old one.

But other changes are more subtle.

Variations of CSD growth rates of population can be large, from +25% to -25% or more in five years.

The basic underlying model is that employment in a region drives population to either come there, to stay there, or to start working there rather than commuting. With more people, additional employment prospects occur to service the needs of the population, and so on.

## Iowa State University Study

- Differential Incomes (real per capita )
- Human Capital
- Commuting Costs
- Diversity of Local Economy
- Differential Amenities
- Cost of Living

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More **income** has a small, positive effect on increased population growth

More **human capital** actually reduces population growth as returns are higher in urban areas than in rural areas for human capital. (This is particularly strong for farm population growth.)

**Proximity** to an urban area is a positive force for population growth.

**Diversity** of local business is a positive factor. Again this affects farm population growth strongly, perhaps because of the option of supplementing farm income with off-farm work.

Essentially having options for employment either by commuting or by moving to another firm or industry can help keep people living in a rural area.

**Differential local spending** seems to be a wash, with higher spending being offset by higher taxes.

Population growth of younger age group (20-34) is more sensitive to factors than total for ages 20-64.

Tzu-Ling Huang and Peter F. Orazem, "Rural Population Growth, 1950-1990: The Roles of Human Capital, Industry Structure, and Government Policy" (January 1997) Journal Paper J-17205, Iowa Agriculture and Home Economics Experiment Station No. 3450.

//<http://www.econ.iastate.edu/research/abstracts/NDN0016.html>

## Diversity of Local Economy

- Herfindahl Index
  - sum (Employment share\*\*2)
- Options for new entrant
- Options after lay-off
- Options for businesses to serve

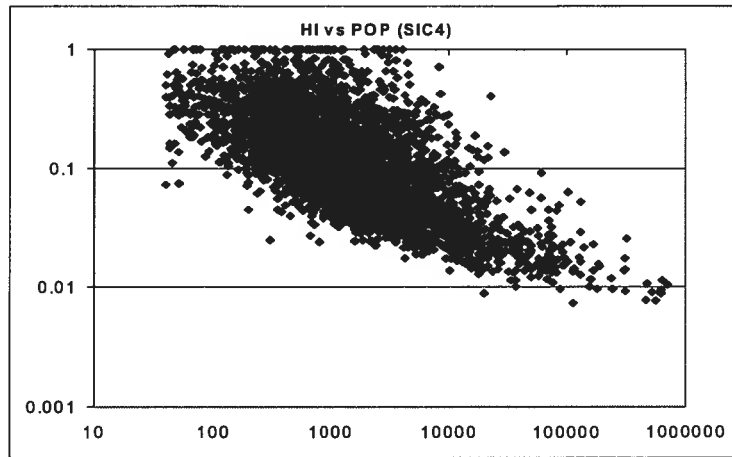
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The measure has a value of 1 if all of employment is concentrated in one industry and a lower limit equal to  $1/k$ , where  $k$  is the number of non-zero industry groupings. For larger cities there are more non-zero industries so there is a tendency for the Herfindahl Index (HFDI) to decline with size. However, there is lots of variation for smaller regions as well.

(See charts with one-digit SICs and 4-digit SIC codes.)

## HI versus POP (SIC 4)

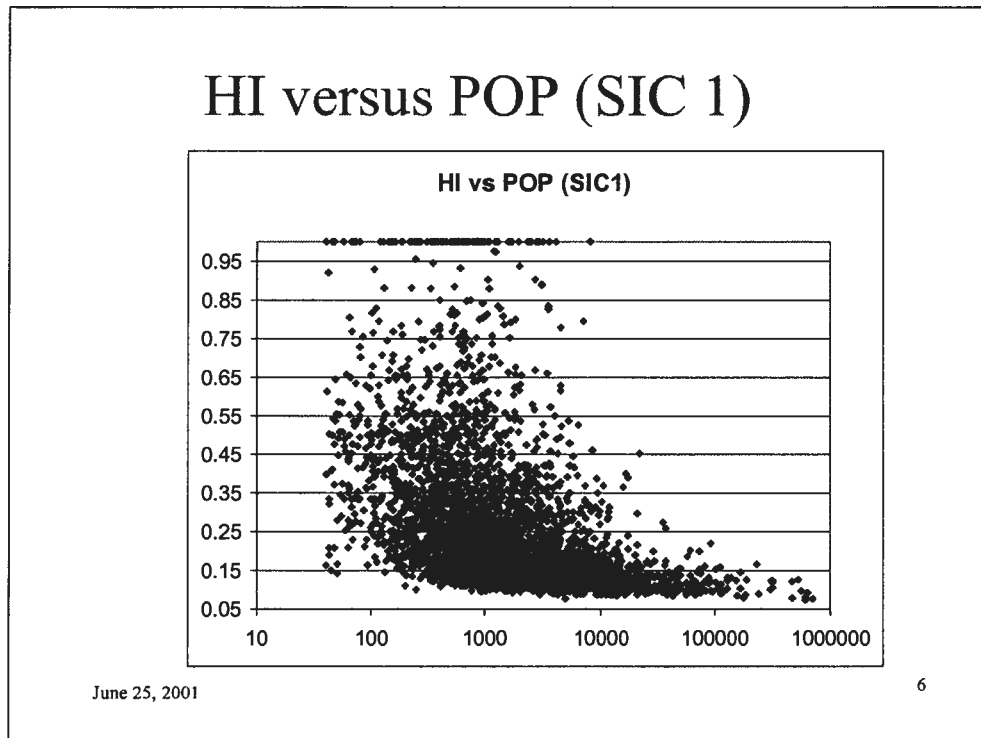


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The tendency for larger towns to have lower Herfindahl Indices is evident above.

However, there is substantial variance for any given size town.



Here the vertical axis is linear. Again the variation is evident. Here we have used the employment share for one-digit SIC categories.

## Size Groupings of CSDs

| <b>Pop Code</b> | <b>Minimum</b> | <b>Maximum</b> |
|-----------------|----------------|----------------|
| 1               | 0              | 2,000          |
| 2               | 2,001          | 4,000          |
| 3               | 4,001          | 10,000         |
| 4               | 10,001         | 20,000         |
| 5               | 20,001         | 50,000         |
| 6               | 50,001         | 10,000,000     |

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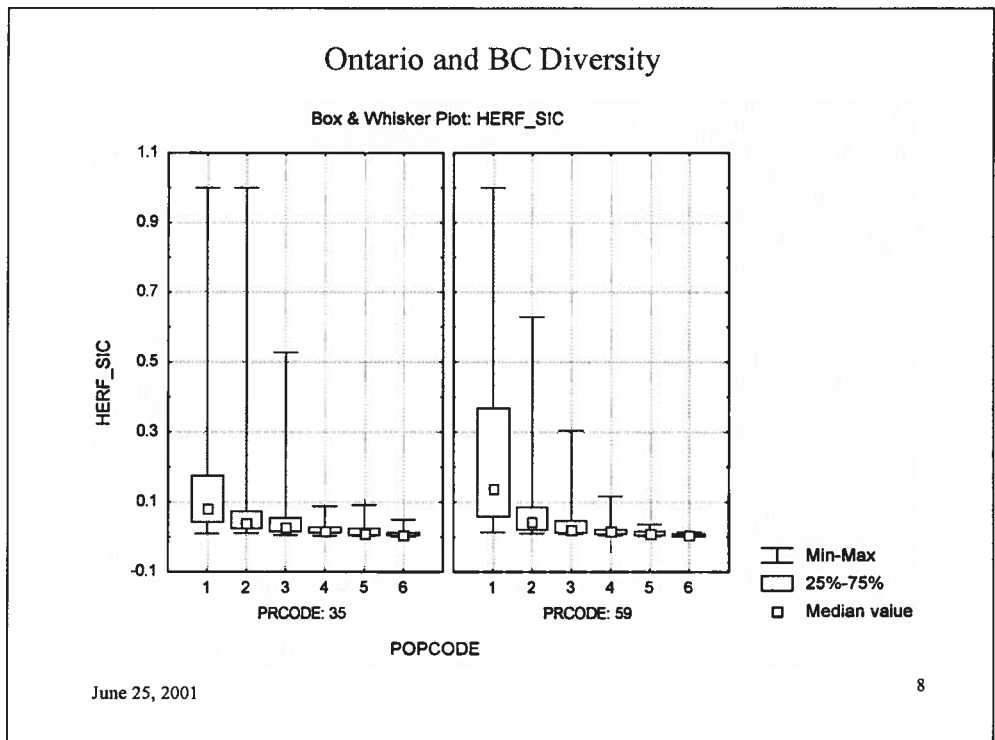
The current size groupings that we are using is indicated above. Suggestions on a better grouping or an alternative to population are welcomed.

Should we group by employment size only?

Is 1,000 a better breakpoint for group 1? Or do we need a group from 0-500?

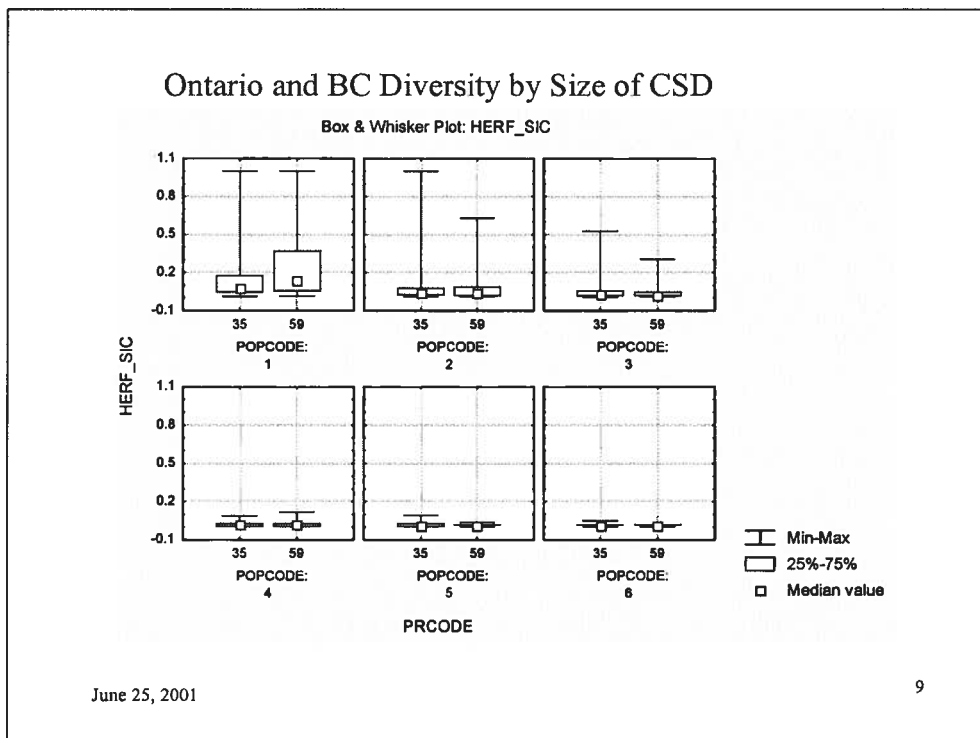
Should Group 6 be disaggregated? Perhaps to 100,000, 500,000, 1,000,000 breakpoints?

Or should we aggregate, treating 0-9,999 as one group, along the lines of StatCan's Rural and Small Town grouping?

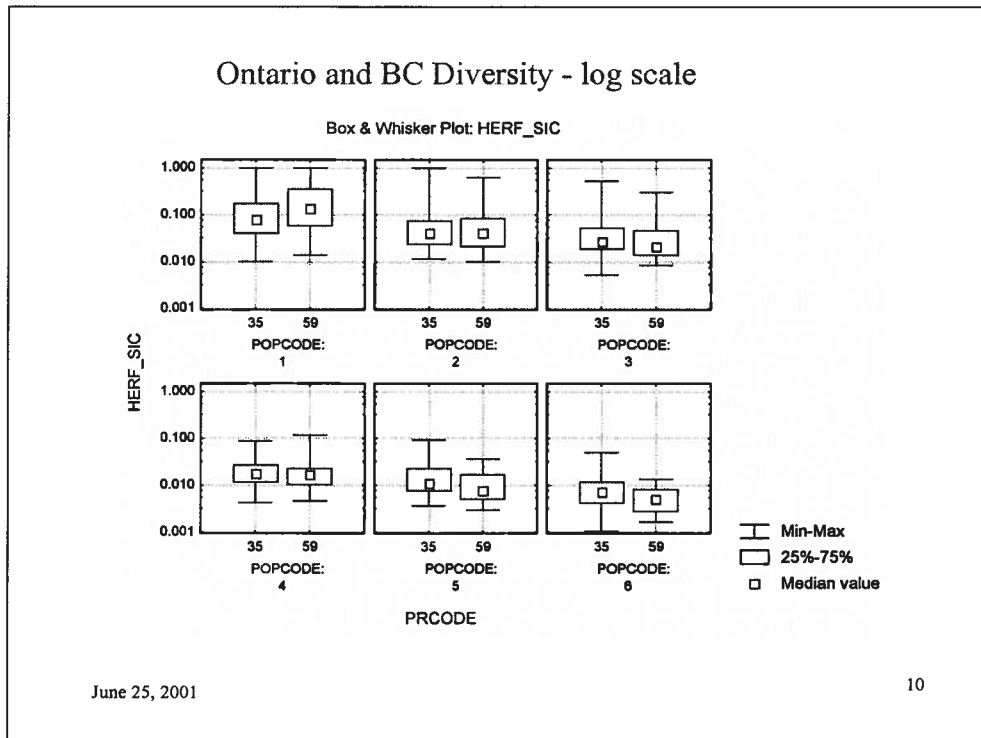


Here we compare a diversity measure for Ontario (35) with British Columbia (59), with different size communities in each province.

The pattern is for a declining median diversity as size increases, coupled with reduced variance with size.



Here the same information is plotted, but the same size community in the two provinces are side-by-side.. Note that patterns are similar for the same-sized community in the different provinces.



By converting the vertical scale to the log of the Herfindahl Index, differences are more apparent between the larger-sized CSDs.

BC communities are more diverse, except for the very small (less than 2,000).

The variations are somewhat less in BC.

## IL Bus Op Analysis

- Identify business opportunities for expansion or new entrants
- Identify “saturated” or “over-served” industries
- Identify Gaps (missing industries)
- Identify Key Industries

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We have been developing for other purposes, a methodology for scanning the industrial structure of many locations, to identify business opportunities or areas of potential “over service”.

The question has arisen as to whether this same methodology or some variant of it, might be of use in identifying opportunities for aboriginal business or community development.

There is also a question of how to validate the model used for identifying business opportunities.

## Application to Remote Areas?

- Import Replacement
- Export Base
- Local Businesses
- Social Services

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Our “gaps” analysis includes a comparison of location quotients or the ratio of employment in a given industry to the local population.

By use of the ratio of employment to population, we are focusing on the “local market” potential, rather than the export or economic base that is so often the starting point for local area analysis.

Since we are looking at both businesses and other SICs, social employment is also implicitly included in the analysis.

Import replacement is indirectly considered by identifying those industries that the town does not have but that many other towns of a similar size do have.

## Issues

- Data Problems with the 1996 BR?
  - Single-person Firms
  - Branches
  - Not reporting
- Poor Networks?
- Entrepreneurship?

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We know we are missing people who are self-employed without payroll. This will be improved with the 1999 BR with the inclusion of people filing GST reports with over \$30,000 in revenue.

People who work for a multi-branch office may be excluded or all of the people working for the company may be included in one location where the payroll is prepared. These “network” organizations create a problem that is not easily overcome without reference to other databases. (Banks, utilities, some multi-branch company-owned store chains, liquor stores, Brewers Retail, some government operations.)

As with most statistical systems, people must be reporting somewhere in order to be “captured” in the records. If there are small businesses that do not file payroll records, do not pay GST, and are otherwise “invisible”, then we won’t be able to identify them here. (This is true whether they are on reserve or in downtown Ottawa.)

But are there other reasons to explain the paucity of businesses? Income is no doubt part of the story. But is there a lack of networks to support a business? Are there barriers to entrepreneurial spirits?

## Possible Applications

- Identify gaps
- Meaningful opportunities?
- Start a discussion of:
  - Barriers?
  - Options for existing businesses to expand
  - Possible new start-ups

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Talking about possible business opportunities in a region is a useful focal point for engaging both the existing businesses and the local government leaders.

Expansion of existing local businesses can be less risky, while still creating additional job opportunities. In other cases, specific human capital may be needed to begin a new business (e.g., a restaurant, a bakery)

## The 1999 Business Profiles

- Added GST Accounts
- Dual-coded: SIC 1980 and NAICS
- 1996 Census Geography
- Large multi-location employers disaggregated

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### Size group Coverage:

- Prior to Oct. 1997, the file covered only establishments with paid employees. The information was collected through Revenue Canada employer tax filings.
- Starting in Oct. 1997, a new "size category" (group "0") was added counting establishments that were "visible" through the GST accounts. Initially, this covered incorporated and unincorporated filers with GST sales over \$30,000.
- Beginning in May 1998, the GST coverage expanded to include incorporated establishments with sales under \$30,000.
- In Oct. 1998, coverage was again extended to include incorporated establishments with no GST account.

Establishments in size group "0" are of indeterminate size. What we can say about them is that they have no paid employees. For our purposes, we have assumed one worker.

The above changes imply that size category "0" has to be analyzed separately in any comparisons that span 1996 through 1998.

## Continuing Problems

- CSD Boundaries
- Postal Code changes and CSD codes
- Large employers remain

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More subtle are problems arising from the underlying geography of the Business Register - namely the Postal Code system. The establishment's postal code is the actual "determinant" of its location. The immediate problem for the Business Profiles database is to unambiguously assign a CSD to the Postal Code. For the most part, this is straightforward since most codes lie entirely within a CSD. However, many do not. In selecting one CSD for ambiguous cases, the remaining CSD(s) is (are) left with no establishments. This can lead to odd results where sizeable towns (e.g., St. Lin and St. Gabriel de Brandon in Quebec) have no establishments. (If the conditions determining the allocation change from one period to the next, it might be possible to see all the industries of one CSD "jump" to another. We've seen no example of this yet.)

This kind of problem also aggravates comparisons over time since the Postal Code system itself is fluid. If a Postal Code is subdivided so that no ambiguity now exists, we observe one CSD "losing" many establishments to an adjacent one, which had none before. (The reverse can also hold in the case where Postal Codes are amalgamated.) Some examples (taken from Lanark County in Ontario) of 1996 to 1999 comparisons follow, where this problem is likely at play.

A large Wool Yarn and Woven Cloth manufacturer disappears from Perth and appears in the adjacent Bathurst Township. Similarly for a large Homes For Personal and Nursing Care facility. A sizeable Folding Carton and Set-up Box Industry disappears from Smiths Falls. An establishment of the same size appears in the 1999 file in the adjacent North Elmsley Township. Further, Smiths Falls single large supermarket appears to have moved to neighboring Montague. North Elmsley, which shares borders with both Perth and Smiths Falls had only a handful of industries in 1996. In 1999 it has over 100. Similarly, Beckwith Township, which borders Carleton Place, had four industries in 1996, and now has over 100.

## Large Employer Example

| Province | Chartered Banks  |                  | Liquor Stores    |                  |
|----------|------------------|------------------|------------------|------------------|
|          | CSD count - 1996 | CSD count - 1999 | CSD count - 1996 | CSD count - 1999 |
| NF       | 1                | 55               | 7                | 11               |
| PE       | 2                | 9                | 1                | 3                |
| NS       | 2                | 44               | 1                | 4                |
| NB       | 3                | 44               | 2                | 8                |
| QU       | 16               | 136              | 3                | 205              |
| ON       | 12               | 260              | 2                | 376              |
| MA       | 1                | 33               | 4                | 12               |
| SA       | 5                | 56               | 4                | 25               |
| AL       | 4                | 91               | 120              | 143              |
| BC       | 5                | 99               | 2                | 11               |
| YK       | 1                | 3                | 1                | 1                |
| NT       | 2                | 4                | 5                | 5                |

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***The firm's location is where the salaries are paid***

For some industries, this is a severe limitation. For example, the 1996 file has almost all of the chartered banks in Toronto. The 1999 file shows them spread around the country, as one would expect. It's not clear at this point whether the change observed in 1999 is due to changes in some or all the banks' tax reporting or salary payment systems, or some change in the Business register information stream itself.

The upshot is that the number of establishments has risen dramatically and they have dispersed throughout the country. This also obscures one's view about the size of the banks: Rather than a few very large ones, we now have very many "small" ones.

A similar example to banks is liquor stores. In 1996, they showed up largely in the provincial capitals (except for Alberta) whereas now (1999) these stores are ubiquitous. The table shows the CSD counts for these two industries in the two years.

## Self-employed w/o paid Employees (thousands)

| <b>Category</b>     | <b>Bus. Profile</b> | <b>LFS</b> |
|---------------------|---------------------|------------|
| Total               | 818                 | 1,578      |
| Agriculture         | 102                 | 197        |
| Trade               | 132                 | 158        |
| British<br>Columbia | 111                 | 255        |

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The Business Profiles show an additional 818,000 businesses, with GST accounts, incorporated and unincorporated, and no payroll. This corresponds with about 1,578,000 in the Labour Force Survey, who are self-employed without payroll. About two persons per business looks to be a good approximation, rather than one per business.

The next step will be to check if there is any other information that could help reconcile these concepts. It is of course possible to use a specific ratio per SIC - province to link the employee per establishment.

It is not clear how much analytical importance is to be attached to the "one-man" band type of business for purposes of describing the economic opportunities in an area.

In some industries, however, this may be an important organizational form.

## Industries with self-employed

- Managers of Non-residential Buildings
- Some Farming and Ranching
- Investment firms
- Insurance and real estate agencies
- Management consultants
- Computer service firms
- Small grocery stores

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|   |      |      |
|---|------|------|
| Operators of Non-residential Buildings                    | 4.4% |      |
| Investment Companies                                      | 4.4% |      |
| Holding Companies   | 4.0% |      |
| Management Consulting Services                            | 3.6% |      |
| Livestock, Field Crop and Horticultural Combination Farms |      | 3.3% |
| Insurance and Real Estate Agencies                        | 3.1% |      |
| Operators of Residential Buildings and Dwellings          | 2.9% |      |
| Other Business Services N.E.C.                            | 2.4% |      |
| General Freight Trucking Industry                         | 2.3% |      |
| Dairy Farms   | 2.1% |      |
| Computer Services   | 2.0% |      |
| Other Investment Intermediaries N.E.C.                    | 1.9% |      |
| Single Family Housing                                     | 1.9% |      |
| Land Developers   | 1.8% |      |
| Cattle Farms  | 1.7% |      |
| Wheat Farms   | 1.4% |      |
| Field Crop Combination Farms                              | 1.2% |      |
| Grocery Stores (Exc. Supermarkets)                        | 1.2% |      |
| Offices of Engineers                                      | 1.0% |      |
| Other Scientific and Technical Services                   | 1.0% |      |

## Next Steps in Business Structure Analysis

- Move to 1999 BP
- Test with 1996 to 1999 patterns
- Extend industry and community typologies

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We are continuing our research on techniques for identifying business opportunities and risks in other parts of Canada.

Application of these same techniques or modified approaches to rural reserves or other remote areas is of interest to us.

An example of a **business typology** -

Export-base: resource linked

- Specialized industry, with concentration of production in a few locations. (e.g., autos, aircraft)
- Business with a national or international focus
- Network industries - banks, utilities, transport, pipelines
- Local business (people) - servicing the needs of people in an area
- Local business (business) - servicing the needs of businesses in an area

**Community typologies:**

High Core, Diverse Service and other variants

Complex structure - multiple defining industries

Doughnut - no core

Crumbs.... Only a few small industries

## Research Challenges

- Delta = 1999 Structure - 1996 Structure
- Changing geography (91 to 96)
- Fuzz from Postal code changes
- SIC changes
- New GST filers
- Breakup of multi-location employers

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The task is to compare two matrices of employment three years apart to determine if there has been a employment change in the expected direction.

As simple as it sounds, we are left with two unstable matrices. Differences may have something to do with our model predictions, but they could also be influenced by the other forces identified above.

One approach is to move up to CD level to reduce geography shifts.

Ignore new GST filers for now.

Check for SIC shifts and if they appear, consolidate at three-digit level.

Sample those industries with predicted changes and compare to a similar number of unselected industries.

## Aboriginal Applications

- Profiles for Different Types of Remote Areas
- Compare Reserves to a Reserve Baseline
- Compare Reserves to Total Baseline
- Add other CSDs with high aboriginal population share

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Application of this technique to aboriginal reserves and settlements is a potential application.

A different standard may be useful, with the comparison being made across all reserves or with locations with high aboriginal populations.

Analysis by province is not likely to be of much interest.

## Examples

- BR Analysis for several small rural towns and for several reserves in Ontario
- Curve Lake First Nation & Lanark (<1000)
- Wikwemikong Unceded, Pikangikum  
and  
Pakenham (<2000)

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The general impression is that there are fewer industries on the reserves, compared to the towns.

Even when there are businesses they are smaller than average in terms of employment relative to the population base.

Social employers can be key industries on a reserve, dominating the total employment. Surprisingly, there seems to be little spin-off activity from these large employers. In the case of Pikangikum, we show 330 employed, but the Census records indicate that only 170 people in the CSD are employed, and 140 of them are employed outside the reserve. This implies a substantial inflow of people to work with the one large employer (out-hospital) from other CSDs.

There are also substantial differences between reserves. On Wikwemikong, there are 25 businesses, employing about 267 people, with 580 people shown as working within the CSD from the Census. (650 total - 70 employed outside the CSD). At Pikangikum, there are only 2 employers, with 300 at the out-hospital and 30 at the other (government administrative facility).

(see detailed tabulations of Census CSD Profiles from Statistics Canada CDROM.)

## RCAP

- Control: Self-Government
- Land and Resources
- Business Development
- Special Employment and Training Initiative

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RCAP saw self-government and greater access to lands and resources as a vital underpinning of economic development in First Nation and other Aboriginal communities.

Self-government would bring decisions closer to those affected, make for more coherence and continuity, clear responsibility, and would help mobilize community resources. The locus of government would be the nation, not the community.

The commission called for a major redistribution of land and resources, among other reasons to establish or strengthen an economic base. It saw participation in resource development projects as an important source of business activity and employment.

The commission made many detailed recommendations about business development, arguing for a continuation of government programs and new initiatives such as a national development bank and venture capital corporations. The commission argued that business development is not inimical to Aboriginal culture, and discussed collective enterprises.

A ten-year Special Employment and Training Initiative would see employers and governments identifying jobs for Aboriginal people, training candidates and giving them experience in the job before opening the job to competition.

## **Aboriginal Economic Development**

- Access to capital
- Capacity Building
  - Business Skills
  - Institutions
- Access to Resources
- Aboriginal Procurement Strategy
- Sectoral focus in business development:

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Aboriginal business development programs originated as a branch of regional economic development programs. Throughout, there has been a dual focus on providing capital and training in business and entrepreneurial skills. Development has been demand (market) driven.

Economic development institutions and loan funds have been developed at the local and regional level.

For many years there have been programs supporting management and exploitation of national resources on Aboriginal lands, participation in resource development projects and training in basic employability skills.

More recently the federal government has put in place an Aboriginal procurement strategy.

At Industry Canada, ABC's activities are subject to departmental priorities.

## Sparse Data?

### British Columbia Reserves

|                             | <i>Zero ET<br/>BR</i> | <i>Non-zero ET<br/>BR</i> |
|-----------------------------|-----------------------|---------------------------|
| Non-zero<br>Pop<br>(Census) | 300                   | 76                        |
| Zero Pop<br>(Census)        | 113 (16)              | 3 (3)                     |

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The 1996 Census Geography shows 492 reserves or Indian settlements in BC. Of these, 413 show no business activity in the BR, and 79 do. The total number of CSDs are 713.

The 1996 Census shows 300 of the zero employment locations with non-zero populations. Most are reserves, but there are three non-reserve locations with substantial population and no employment as well. We think this is a postal code - CSD linkage problem. This could also occur with reserves.

Only 76 locations have both population and business employment information.

The numbers in parentheses are those CSDs for which there was a refusal to answer Census questions.

There is probably a ample number of reserves to compare to similar size (Group I) towns and other CSDs.