Indicators as a Building Tool for Understanding Community Wellbeing

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A Changing Arctic

- Climate change in the Arctic.

- Growing global population and economy with a stronger connection to the Arctic.
  - Anderson et al., 2006.

- Increased resource development in the Arctic.

- Need for research on sustainable natural resource development in the Arctic.
Development Economics Literature

- Faltering economic growth in Sub Saharan Africa due to geographical, institutional, and other challenges.
- BRIC countries (Brazil, Russia, India, China) as fast growing powers of today’s world economy.
- Many Arctic communities can be thought of as developing economies, with their own set of challenges
  - Little economic research has been done for these areas.
Research Objective

• Develop a framework for understanding relationships between economy and wellbeing.
  • Looking at these relationships for demographic groups all across Canada.
  • Including a focus on Arctic communities, with the Inuvialuit Settlement Region as specific case study.
Economic Development is not only economic growth

- Growth: sustained improvement in the level of real per capita income.
- Development is simply the process of improving the quality of all human lives.
Poverty cannot be properly measured by income.

What matters for well-being is not just the commodities consumed, but what use the consumer can and does make of commodities.

- For example, a book is of little value to an illiterate person.

Looking at real income levels, or even the levels of consumption of specific commodities, cannot suffice as a measure of well-being.

- Developing economies may not be able to transform increases in production into higher standards of living.
- e.g. Greater production and greater environmental degradation: what is the “net” effect?
• Use large datasets to examine different attributes of well-being.

• **Why are large datasets useful?**
  • See the big picture in larger populations, and comparisons across smaller populations.
  • Provides evidence on how people’s lives are changing, and can measure these changes.
  • Look at relationships between many different indicators.

• **Limitations:**
  • Data may not contain enough detail.
  • Challenging to get data to show us what is happening.
Three Important Components of Wellbeing:

• Health
  • “Better Health is central to human happiness and well-being.” – World Health Organization.

• Education
  • “Education that is relevant and purposeful has the power to transform people’s lives.” – United Nations Educational, Scientific and Cultural Organization.

• Income/consumption
  • “Richer, better-educated people live longer than poorer less-educated people.” – NBER.

• These are also used in the UN’s Human Development Index.
• To build our framework we will pull data from large datasets to measure these components and their socioeconomic determinants.
Data Available to Examine Economic Development in the Arctic

1. Canadian Community Health Surveys
   • Approximately 240,000 respondents for Canada-wide analysis.

2. Aboriginal Peoples Surveys
   • Approximately 10,000 respondents for Inuit Nunangat.

3. Inuit Health Survey
   • Approximately 360 respondents for the Inuvialuit Settlement Region.

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Analytical Framework (Two-stage approach)

• i) Estimate a system of equations for our three components of wellbeing.

Health = f(X, Z1) + error
Income = f(X, Z2) + error
Education = f(X, Z3) + error

Equations use socioeconomic indicators that affect all aspects of wellbeing (X) and those that are specific to each component of wellbeing (Zs).

• ii) Estimate a life satisfaction model to balance the effects of X and Zs on general wellbeing.

Life Satisfaction = β₀ + β₁Ĥ + β₂Î + β₃Ê + error

The RHS variables of this model are predicted values that incorporate information from all socioeconomic variables in step i).
What Will This Tell Us?

• Learn which socio-economic indicators have negative or positive effects on the three components of wellbeing.

• Learn the socio-economic channels through which indicators have an effect on wellbeing, and whether this effect will be positive or negative overall.

• Be able to measure these effects to implement effective policies.

• For example: resource development may have
  • A positive impact on income/consumption
  • A negative impact on health
  • What is the overall effect?
Next Steps of Research

- Continued collection of micro-data will enable further research on the development of Arctic economies.

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