

**A CRITICAL REVIEW OF THE
FIVE YEAR LABOUR FORCE NEEDS ANALYSIS
PREPARED FOR NUNAVUT IN 2000**

**Report prepared for
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(Nunavut Bureau of Statistics)**

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SUMMARY OF RECOMMENDATIONS

1. The next version of the *LFNA* report should strive to minimize the use of subjective opinions. If reliance upon the opinions of informants proves necessary to construct models of the economy and/or the labour force, the researchers should provide a complete and transparent accounting of the procedures involved in moving from opinions to forecast.
2. The next version of the *LFNA* report should include a model of the labour market and an analysis of how the labour market in Nunavut actually operates, to enable researchers to better integrate their models of the labour force and the economy.
3. Future versions of the *LFNA* report should seek to overcome the more serious problems inherent in the data used to create models and forecasts of the economy, labour force and labour market. Where that is impossible, due to a lack of data, or data that is inappropriately conceptualized, the report should spell out very clearly all the limitations of the resulting analysis.
4. The next version of the *LFNA* report should consider the impact of recent economic events (e.g. the collapse of the high tech industry, the recession, and the economic aftermath of September 11th) on the middle term prospects for the Canadian economy and the economy in Nunavut. Furthermore, it should anticipate the continued operation of the business cycle, and the ever-present danger of economic shocks.
5. The next version of the *LFNA* report should discuss a range of alternative economic scenarios for the middle term (i.e., the next five years), explaining the probability that each scenario will be realized, the factors which are likely to affect that probability, and the significance of each possible outcome.
6. The next version of the *LFNA* report should analyze the impact of broader national, continental and global economic processes on the labour market and economy of Nunavut.
7. The Department of Education and the Department of Sustainable Development should jointly commission a study of the experience of economic and social co-operation in Europe and Québec and the lessons of that experience for economic and labour force development in Nunavut.
8. The Department of Education and the Department of Sustainable Development should study the Canada-wide experiment with Labour Force Development Boards and Sector Councils, and the lessons of that experience for labour force development in Nunavut.
9. The GN should assess which among their territory-wide social partners are not yet sufficiently organized to play a role in creating corporatist arrangements, and assist them to get organized.

10. Future versions of the LFNA report should incorporate data on the quality of the labour supply into its model of the labour force, focusing on the current and projected output from the educational system (e.g. the number and qualifications of graduates and dropout rates as a proportion of youth).
11. Future versions of the LFNA report should use Nunavummit Kiglisiniartiit's 'no jobs available' definition of the labour force to the greatest extent possible. Furthermore, to take account of both northern realities and rapidly changing employment relations, future research on the labour force in Nunavut should be based on a critical re-examination of all the basic concepts that define the major components of the labour force: the employed, the unemployed and the economically inactive. As soon as it becomes feasible to do so, analyses of Nunavut's labour force should incorporate data about people engaged in subsistence activity (i.e., those involved in the land-based economy, childcare, teaching traditional skills, etc.) into the definition of the labour force.
12. The next version of the LFNA report should include an analysis of migration data, looking at the flow of people into and out of the Nunavut labour force, on the basis of both ethnicity and education levels.
13. The next version of the LFNA report should analyze the current labour market differences between the genders and produce forecasts that recognize the importance of gender to developing an effective strategy for labour force development.
14. The next version of the LFNA report should examine the potential for expanding on-the-job education and training as a way to improve the quality of the labour supply.
15. The next version of the LFNA report should examine what lessons can be learned from the demand-side policies of job creation adopted by other governments. It is crucial for the GN to learn more about what kind of demand-side policies can have the greatest impact with the least use of resources.
16. The next version of the LFNA report should examine ways to ensure the transition from school to work is a smooth one, with post-secondary students getting the opportunity to gain work experience, without aborting their education prior to completing their programs.
17. The next version of the LFNA report should include an inventory of the organizations, institutions and information systems that act as labour market intermediaries in Nunavut, with an eye to identifying gaps that should be filled.
18. The Department of Education should encourage employers and job-seekers to move all of their labour market transactions online, and build the electronic infrastructure to enable Nunavut's labour market to be primarily electronic in character.
19. The next version of the LFNA report should address both the demand- and the supply-sides of the current unemployment problem, and propose strategies for actions by the GN on both sides of the problem.

1. INTRODUCTION

Background

In the spring of 2000, RT & Associates prepared a five year (2000-2005) Labour Force Needs Analysis (LFNA) for the Government of Nunavut (GN) Department of Education.¹ The report was commissioned to provide the GN with a strategic direction to further develop the territorial labour force. Specifically, it was intended to guide the Department of Education “in developing training programs and allocating resources” while providing “Nunavummiut with the necessary information to make informed career and job hunting decisions.” (LFNA: 1)

The task undertaken by the authors of the LFNA report was a critical one. There is widespread recognition in Nunavut that labour market issues are central to the social and economic well being of the residents of the new territory. Further development of the economy will require enormous improvements in both the supply of, and demand for, labour. Because the Department of Education bears much of the responsibility for improving the quality of the labour force in Nunavut (supply), and because the economic future of Nunavut is highly dependent upon reducing the current levels of unemployment (demand), a report that offers a strategic perspective on labour force development is very valuable.

Intent, scope and limitations of this report

This report was prepared for Nunavummit Kiglisiniartiit (Nunavut Bureau of Statistics), which has agreed to prepare the second Labour Force Needs Analysis for the GN Department of Education. Before undertaking this work Nunavummit Kiglisiniartiit wanted to obtain an independent assessment of the strengths and weaknesses of the first LFNA report and an identification of issues which should be taken into consideration as the GN becomes more actively engaged in labour market development.

We examine the scope of the original document, the data it used, the models of the economy and the labour force that it was based upon, the methodological assumptions underlying its analysis, and the recommendations it made -- all to determine how a future version of the LFNA can be improved. Our purpose is to offer the Department of Education some indication of what future reports like the LFNA can accomplish by way of defining a strategic perspective for labour force development in Nunavut.

While discussions and recommendations in this report are often referenced to the GN Department of Education, we understand that other GN departments and agencies also have important roles to play in respect to the development of Nunavut’s labour market.

This paper does not provide a summary of the LFNA report, nor does it address every point raised by that document. We comment on some of the key issues raised by the

report and recommend ways to improve the GN's understanding of labour force development in Nunavut. All our discussion presumes the reader is already thoroughly familiar with the LFNA report.

Outline of this paper

Section 2 of this paper outlines the terms of reference for the LFNA report, while Section 3 summarizes some of the principal strengths and weaknesses of that report.

In Section 4 we outline the research strategy employed by the authors, discussing four basic problems: the use of informants, the lack of methodological transparency in the report, the absence of a model of the labour market, and a number of general data problems. That part of the paper also describes the neo-liberal economic perspective that underlies most current discussion of the labour force and economic growth.

The model of the Nunavut economy used in the LFNA report is examined in Section 5 of this paper, before we turn to a consideration of the report's forecast and sectoral analysis of the economy in Section 6.

In Section 7 we turn our attention to the labour force model developed in the LFNA report, as a prelude to considering how the report tries to address the mismatch between the supply of and demand for labour in Section 8.

Section 9 analyzes the recommendations in the original LFNA report, while Section 10 makes some recommendations about the terms of reference for future versions of that document.

Finally, this paper concludes with an Appendix on economic forecasting and scenario building.

2. THE TERMS OF REFERENCE FOR THE *LFNA* REPORT AND ITS SCOPE

The Department of Education's terms of reference for the *LFNA* report required the consultants to construct a model of Nunavut's labour force and its potential development for the period from 2000 to 2005. The authors were asked to examine 5 key issues:

- the sectors of the economy and occupations that would experience the greatest demand over the 5 year period from 2000-2005;
- the employment opportunities likely to emerge within government at the territorial, regional, community and federal levels;
- the sectors of the economy on which the Department of Education should focus its attention;
- the sectors of the economy and/or occupations which would provide new employment opportunities, either because of growth in existing sectors (of the economy) or the development of new sectors; and,
- the sectors of the economy and/or occupations which would provide continued employment opportunities because of turnover. (*LFNA*: 1)

These terms of reference provide one possible benchmark for evaluating the success of the *LFNA* report, and a partial guideline for the 2002 version of the report. However, throughout this paper we will suggest some other standards for evaluating the report. And, in our conclusion, we will suggest the need for altering the terms of reference for subsequent studies like the *LFNA*.

The *LFNA* and a territorial version of COPS?

The authors of the *LFNA* report indicated they considered it the first step towards developing a comprehensive model of the Nunavut labour force. In particular, they suggested the GN should work towards building a territorial version of the forecasting tool used by most other Canadian governments to produce forecasts about their labour forces: the Canadian Occupational Projection System (COPS), a tool developed and maintained by Human Resources Development Canada (HRDC). (*LFNA*: 2)²

The COPS is used by the federal and provincial governments to analyze both the general supply and demand conditions for various occupations, as well as a wide range of other labour market indicators.³ The authors of the *LFNA* report believed the construction of a Nunavut version of COPS would enable the GN to allocate its resources in order to promote economic opportunity and growth. (*LFNA*: 1) However, in their enthusiasm for the COPS, the authors of the *LFNA* report may have glossed over some of its limitations, limitations shared by all models for forecasting conditions in the labour market.⁴ We will return to that point below.

3. AN OVERVIEW OF THE STRENGTHS AND WEAKNESSES OF THE LFNA REPORT

Strengths of the original report

In seeking to develop a model of Nunavut's labour force, the authors of the LFNA report were forced to work without the benefit of much of the basic data normally required for such a task.⁵ Moreover, they were forced to start with almost a blank slate, since very little research had previously been conducted on the labour force in Nunavut.⁶ In short, future analysts owe the authors of the LFNA report a debt of gratitude for grappling with some of the unique problems inherent in any analysis of the labour force in Nunavut. Other researchers will make good use of the report's efforts to incorporate the land-based economy⁷ into an analysis of the labour force, the occupational profiles the authors constructed, the list of key informants they compiled, and other contributions.

Weaknesses of the original report

Having noted some the LFNA report's strengths, the remainder of this paper will examine its weaknesses. In discussing those problems, we distinguish between those that were avoidable, and those which were not. For example, the authors of the LFNA report can hardly be blamed for two major problems they faced:

- the absence of some crucial **data**;⁸ and,
- the lack of **previous research** on which to build.

For the next few years, other researchers with an interest in the economy and labour force of Nunavut will face similar problems, at least until new sources of data become available. (We comment further on the lack of data below.)

There is a much longer list of problems the authors of the LFNA report might have avoided, including the following:

- the LFNA uncritically accepts some theoretical **assumptions** and political orthodoxies that deserve to be questioned (e.g. the reliability of economic forecasting);
- the models of the economy and the labour force developed in the report suffer from a number of **analytical** and conceptual **weaknesses**;
- the overall economic forecast contained in the report is clearly **inaccurate** given events since then;
- the analysis on the LFNA report suffers from a lack of transparency on key **methodological issues**;

- the report contains models of the economy (i.e., the demand for labour) and the labour force (i.e., the supply of labour) without including a model of how the two interact in the **labour market**;
- the *LFNA* report does not include a **comparative** dimension in its analysis;⁹
- while the authors of the report discuss some of the unique features of the economy and labour force in Nunavut, they fail to make much headway in incorporating the **land-based economy** into their analysis;¹⁰ and,
- the *LFNA* report does not contain the kind of **recommendations** the Department of Education needs to make much progress in developing a strategy for labour force development.

4. THE RESEARCH STRATEGY IN THE LFNA REPORT

The LFNA report required the authors to build models of both the economy (the demand for labour) and the labour force (the supply of labour) in Nunavut, as a prelude to analyzing their interaction, and drawing some conclusions about the future of labour force development within the territory.

The research strategy employed in the LFNA report, as outlined by the authors, is summarized in Figure 1. (See LFNA: 3) In this section of the paper we discuss four problems with that research strategy:

- the LFNA report relies heavily upon **subjective evaluations** to build its economic and labour force models;
- some of the key methodological moves made by the authors of the LFNA report are not very **transparent** in character;
- the authors fail to integrate the economic and labour force models with a **model of the labour market**; and,
- there are some real problems inherent in the **data** used.

Phase 1	Data collection
Phase 2	Identification of trends in the data to forecast the future with time series
Phase 3	Sectoral analysis of the Nunavut economy
Phase 4	Consultations with key informants
Phase 5	Revision of the labour force model
Phase 6	Identification of the key issues
Phase 7	Preparation of occupational profiles

Subjectivity: consultations with key informants

The LFNA report was written at a time when no one had yet produced a model of the Nunavut economy, and when some of the data required to do that was not available. In those circumstances, it was inevitable the authors would rely on informants to project the demand for labour for the period from 2000 to 2005. The authors interviewed informants from all sectors of the economy about conditions in their industries, reviewing the number of businesses and jobs involved, the prospects for business and employment growth, and the possible implications for the Department of Education in terms of the education and training required.

The authors also used focus groups to evaluate the value of their labour force and economic models. They queried their informants about the social and economic forces influencing the trends observed in the data, the estimates for employment growth, and the sectors of the economy most likely to drive the Nunavut economy during the next 5 years.

Some of the other problems in the *LFNA* report are compounded by its heavy reliance upon subjective assessments of both the labour force and the economy.¹¹

Lack of methodological transparency in the report

In revising their economic and labour force models on the basis of consultations with their informants, the authors of the *LFNA* report did not explain their methodology adequately. Social scientists demand sufficient methodological transparency to enable someone else to replicate a piece of research. The *LFNA* report does not always meet that standard. For example, the authors frequently do not explain how they modified their models of the labour force and economy based on their consultations. To render the report more transparent methodologically, the authors needed to be more candid in specifying the changes that resulted from their consultations.

Recommendation 1: The next version of the *LFNA* report should strive to minimize the use of subjective opinions. If reliance upon the opinions of informants proves necessary to construct models of the economy and/or the labour force, the researchers should provide a complete and transparent accounting of the procedures involved in moving from opinions to forecast.

The need for a model of the labour market to complete the analysis

Three models are required to carry out a strategic analysis of the future development of the labour force in Nunavut: (1) a model of the economy (i.e., the demand for labour); (2) a model of the labour force (i.e., the supply of labour), and (3) a model of how those two things intersect (i.e., a model of the labour market). (For an indication of what is covered by each of the three models, see Figures 2, 3 and 4.) However, the *LFNA* report did not include much consideration of issues arising from the operation of the labour market itself. That needs to be rectified in future analyses.

Analysis of the labour market should include a consideration of all the legal and institutional factors that shape the interaction between employers and job seekers in the marketplace. Among the issues that should be considered are the following:

- the federal and territorial legislation that regulates the labour market in Nunavut (e.g. labour legislation, employment standards, the legislation governing employment insurance, the Labour Market Development Agreement (LMDA) between the federal and territorial governments, etc.);

- the long-term changes in the matching process by which hiring employers and job-seekers identify and interact with each other, often with the assistance of various labour market intermediaries (e.g. Internet, government or college based services designed to facilitate the matching process);
- the broad social and economic factors that shape the specific nature of the bargains that are struck between employers and job-seekers, such as the prevailing rate of unemployment, the existence of unions, etc.; and,
- the extent to which the labour market of Nunavut is open or closed to people from outside the territory, whether because of legal restrictions, GN policies (e.g. preferential hiring policies intended to help meet Article 23 commitments) or prevailing economic and social conditions (e.g. the unavailability of housing).

Only after looking at such issues will it be possible to analyze how the labour force and the economy interact in Nunavut, and how they might interact in the future.

Recommendation 2: The next version of the LFNA report should include a model of the labour market and an analysis of how the labour market in Nunavut actually operates, to enable researchers to better integrate their models of the labour force and the economy.

**FIGURE 2: MODEL OF THE LABOUR FORCE
(i.e., factors which affect the supply of labour)**

Quantitative dimensions

- population growth
- immigration and emigration (labour mobility)
- level of labour force participation
- tradeoffs between work in the labour market, work outside the labour market (e.g. domestic labour and wildlife harvesting) and other kinds of activities (e.g. leisure)
- hours of work for those participating in the labour market

Qualitative dimensions

- training and education of the labour force
- experience of the labour force
- health of the labour force
- productivity of labour
- affects of social legislation and social transfers (e.g. pensions, social assistance, unemployment insurance, etc.) on incentives to work

FIGURE 3: MODEL OF THE ECONOMY
(i.e., factors which affect the demand for labour)

Factors related to the cost of labour

- wages and benefits
- taxes to support the social wage
- the organization of work
- the transactional costs associated with hiring and firing

Factors influencing the demand for the output of firms and industries

- trade
- global competition
- structure of industry and firms
- public sector restructuring
- mergers and acquisitions
- technological change,
- the organization of work

Other environmental factors shaping the demand for labour

- the cost and quality of inputs from other industries
- the relative strength of other sectors of the economy (e.g. public versus private):
- the economic policies of government (taxation policies, monetary and fiscal policies, etc.)

**FIGURE 4: MODEL OF THE LABOUR MARKET
(i.e., factors which affect the interaction of supply and demand in
the labour market)**

Labour dimensions

- degree of competition between workers for employment
- size and influence of trade unions

Management dimensions

- degree of competition between firms for labour
- size and influence of employers organizations

Government interventions

- employment standards (e.g. minimum wages, hours of work, etc.)
- laws regulating wages (e.g. pay equity), equal opportunities to employment, etc.
- laws regarding collective bargaining
- laws regulating human rights, discrimination, health and safety, etc.

Interaction of factors

- different labour market structures
- institutions (e.g. labour market intermediaries) and practices that affect the matching process
- between job-seekers and hiring employers

General data problems

In addition to the information gathered from informants, the *LFNA* report used quantitative data from a number of sources to construct its model of the labour force (e.g. the Census, territorial labour force surveys, and harvest data from the Department of Sustainable Development). (*LFNA*: 4) However, much of the data needed to construct models of the economy and the labour force was simply not available to the authors. That necessarily limited the type of analysis that was possible.

There were several specific problems with the quantitative data used to produce the *LFNA*'s analysis.

- **Dated data:** A lot of the data available to the *LFNA*'s authors was badly dated, having been collected before the creation of Nunavut and the increased economic activity associated with the establishment of the new territory;
- **Data that was too general in scope:** Much of the data used in creating the labour force model was very general in character. For example, data on the rates of labour force participation and employment by occupation, industry or economic

sector were not used because that authors mistakenly believed that “The NWT and Nunavut Bureaus of Statistics surveys do not include labour force participation by industry or occupation.” (*LFNA*: 6)

- **Data that is inadequate in the face of northern realities:** Some of the data available was so shaped by southern assumptions that it was inappropriate for use in analyzing northern realities. Hence the need to produce and use new types of data (e.g. the unemployment data produced by Nunavummit Kiglisiniartiit, which employs a ‘no jobs available’ criteria in addition to the ‘national’ criteria used by Statistics Canada). While the authors of the *LFNA* clearly recognized the problem, they could not often overcome it. As a result, the *LFNA* report was unable to take full account of the unique role of subsistence activities (i.e., the land-based economy) in Nunavut. (*LFNA*: 6) For example, their working definition of the labour force excluded the people who are active in the land-based economy but not active in the wage economy. (*LFNA*: 17)¹²
- **Data that uncritically accepts the rigid categories of mainstream economics:** As employment relations have become more flexible and diverse in the last two decades, the ability of existing concepts and categories to capture complex realities has diminished. There is now much “greater ambiguity about what constitutes employment, unemployment and inactivity.” As a consequence conventional statistics often provide an incomplete picture of employment realities.¹³

Recommendation 3: Future versions of the *LFNA* report should seek to overcome the more serious problems inherent in the data used to create models and forecasts of the economy, labour force and labour market. Where that is impossible, due to a lack of data, or data that is inappropriately conceptualized, the report should spell out very clearly all the limitations of the resulting analysis.

The LFNA and the debate over supply-side and demand-side solutions to problems with the labour force and the economy

Current efforts to boost employment levels in Nunavut involve action on both the demand- and supply-sides of the problem. And it will take more action on both fronts -- demand-side policies that encourage employers to hire more people and alter the kind of people they hire, and supply-side policies that encourage people to increase their human capital and to accept employment. Employers must hire more Inuit, and more Inuit must be willing to work and have the education required to do so.

While education and training are the best known ways for government to affect labour supply, other things -- like active labour market policies that seek to enhance employability or provide more information about job opportunities -- will also play a role. Policies that focus on labour demand include things like subsidies to employers to create jobs, minimum wage policies, programs that encourage employers to carry out on-

the-job training, employment equity laws, and programs that provide employers with better information on the qualifications of job seekers.¹⁴

In analyzing problems in the labour force and economy of Nunavut, the LFNA report tends to emphasize supply-side solutions more than demand-side ones. (For an outline of the two perspectives, see Figure 5 below.) In that regard, the authors share the view which is currently dominant among economists and policy makers: a rejection of Keynesian-style solutions in favor of those associated with the neo-liberal perspective that has dominated economic policy during the past two decades.

The predominance of the neo-liberal perspective on the labour market is evident in several changes during recent decades: the abandonment of the Keynesian goal of full employment in the 1970s and 1980s, the 1996 reform of unemployment insurance (and the subsequent conclusion of Labour Market Development Agreements (LMDA) with most provinces and territories), and the workfare policies adopted by many provinces.¹⁵

FIGURE 5: THE TWO MAJOR PERSPECTIVES ON EMPLOYMENT AND ECONOMIC DEVELOPMENT

	THE KEYNESIAN-STYLE DEMAND-SIDE PERSPECTIVE	THE NEO-LIBERAL SUPPLY-SIDE PERSPECTIVE
CAUSES OF UNEMPLOYMENT	<ul style="list-style-type: none"> • Too few jobs and/or incomes that are too low to sustain the overall level of demand required • Workers have too little income to sustain a high level of demand in the economy 	<ul style="list-style-type: none"> • The price of labour is too high for employers to hire, and/or • Workers are insufficiently educated or too unskilled to justify being hired by employers
SOLUTIONS TO UNEMPLOYMENT	<ul style="list-style-type: none"> • Workers (including those who are unemployed) need sufficient income to sustain the overall level of economic demand • Employers need to be encouraged to create jobs 	<ul style="list-style-type: none"> • The unemployed need to price themselves back into work with lower wages, and/or • They need to make greater investments in their human capital with more education and/or better skills
ROLE OF THE STATE	<ul style="list-style-type: none"> • Support the poor and the unemployed with state spending to boost the overall level of demand and pursue the goal of full employment • Create jobs directly and/or encourage employers to create jobs through state spending • Support investments in human capital with easy access to post-secondary education and training 	<ul style="list-style-type: none"> • Boost levels of corporate profitability by cutting taxes • Remove impediments to a more flexible labour market, and adopt programs that compel people to work (e.g. workfare) • Encourage workers to invest in human capital by paying for post-secondary education and training
LABOUR MARKET POLICIES	<ul style="list-style-type: none"> • ‘Passive labour market policies’ designed to lessen poverty, inequality, and social exclusion (like unemployment insurance, social assistance and universally accessible post-secondary education) 	<ul style="list-style-type: none"> • Active labour market policies that make it mandatory for the unemployed to participate in programs that enhance their employability by improving their job readiness, work experience, job-search skills, etc.

5. THE GENERAL MODEL AND ECONOMIC FORECAST FOR NUNAVUT

To make recommendations that would enable the Department of Education to plan the future development of the economy and the labour force, the authors of the *LFNA* report had to analyze both the supply- and demand-sides of the labour market.¹⁶ In this section we examine their model of the Nunavut economy, and their general forecast of the future demand for labour in the new territory.

The economic forecast in the 2000 LFNA report

The *LFNA* report forecast there would be slow but steady economic growth for the Nunavut economy during the period from 2000 to 2005. (*LFNA*: 9) Because of the inadequacies of the economic data available to them, the authors gave no estimate of anticipated growth in the Nunavut economy. Unable to produce an econometric model for the territorial economy, the *LFNA* report used informants to examine the economy sector by sector, developing estimates of the numbers of jobs likely to be created from 2000 to 2005.

The sectoral analysis of the economy permitted the report's authors to extrapolate from the present to the future, forecasting growth in both the economy and the labour force. (While the informants consulted by the report's authors anticipated a 25% growth in the number of jobs during the period from 2000 to 2005, the authors forecast a more modest growth of 20%. (*LFNA*: 11,27)) It also enabled them to offer advice to the Department of Education on how to promote labour market development.¹⁷

While the authors of the *LFNA* report were unable to offer a quantitative estimate of the economic growth they were forecasting for the period 2000-2005, a second report on the Nunavut economy did precisely that. The *Nunavut Economic Outlook (NEO)*, produced by the Conference Board of Canada in May 2001, used the existing data and their own econometric models to produce a more precise forecast of the economic future for Nunavut. (See Tables 1 and 2 below.)¹⁸

The *NEO* report forecast an average of 2.42% economic growth for Nunavut compounded over the 20 year period from 1999-2020. But, as Tables 1 and 2 suggest, the rate of growth for Nunavut was expected to be higher than that for Canada as a whole during the first part of the 20 year period, but considerably lower during the second decade. (*NEO*: 73-74,86,89)¹⁹

FIGURE 6: ECONOMIC FORECAST FOR THE NUNAVUT ECONOMY	
TIME PERIOD	RATE OF GROWTH FOR GDP
2000-2004	4.17%
2005-2009	3.36%
2010-2020	1.23%
2000-2020	2.42%
Source: <u>NEO</u>	

FIGURE 7: ECONOMIC FORECAST FOR THE CANADIAN ECONOMY	
TIME PERIOD	RATE OF GROWTH FOR GDP
2000-2007	3.4%
2008-2020	2.5%
Source: <u>NEO</u>	

The problem with economic forecasts

From the vantage point of December 2001, we know that both the very general forecast contained in the LFNA report and the more detailed forecast in the NEO report were too optimistic with respect to the short-term. Since the spring of 2000, the Canadian economy has experienced at least three major economic changes:

- an economic shock with the bursting of the speculative bubble surrounding the high technology sector (during late 2000 and early 2001);
- a cyclical change in the economy, with the shift of the North American economy from boom to slump, a slump most economists are predicting will last until mid 2002; and,
- a political/economic shock in the aftermath of September 11th.

Neither the LFNA nor the NEO reports anticipated the first two economic developments. (Indeed neither of them even mentioned the speculative bubble that had developed around the high-tech sectors in the Canadian and American economies.) In that sense, both reports displayed an uncritical acceptance of the economic wisdom of that time: the claim that economic shocks and cyclical downturns were a thing of the past, given the rise of a ‘new economy.’

Forecasts of the Canadian economy

The *LFNA* and *NEO* reports were not the only forecasts to manifest an uncritical optimism in the prospects for the economy. The December 2001 federal budget was forced to revise the Department of Finance's October 2000 forecast for growth in the Canadian economy down from 3.5% to 1.3% for 2001, and from 3.0% to 1.1% for 2002.²⁰ In his speech, Finance Minister Paul Martin acknowledged that growth in 2001 would be well behind the 4.4% increase in 2000. Like many economists, Martin predicted the current recession would end sometime during the first half of 2002, resulting in modest growth for the current year.²¹

At this point, it is impossible to say how strong the recovery will be, and whether it has already begun. We cannot say whether the recent downturn in the business cycle is indicative of some shift in longer-term trends. Nor do we know whether the bursting of the high tech bubble or the current recession has somehow changed the basic causal relationships that underlie the structure of the Canadian economy. What we can say is that even the federal Department of Finance -- with all its expertise and access to data -- cannot always produce reliable economic forecasts.

The LFNA and NEO reports

The gap between the *LFNA* and *NEO* reports and economic reality serves as a good reminder that it is necessary to pay attention to the business cycle and consider alternative scenarios when making forecasts.²² (For more on the problems inherent in economic forecasting see Appendix 1.)

Unfortunately, the authors of the *LFNA* report did not take sufficient precautions in generating their economic forecast. They naively assumed the economic patterns of the late 1990s would automatically continue into the period from 2000-2005.²³ The gap between their forecast for the 2000-2005 period and the economic realities of 2001 is a reminder of the dangers inherent in forecasting -- even in the best of circumstances.²⁴

While the authors of the *LFNA* report cannot be faulted for not having the data with which to develop a more accurate forecast, they did err by ignoring the possibility the economy would experience external shocks or cyclical change as it has in the past. Future versions of the *LFNA* report should incorporate a number of alternative economic scenarios. For example, if the report were being prepared today it might be advisable to consider at least the following possible outcomes to the current recession:

- a short (less than four quarters in length) and/or shallow recession (less than a 1% drop in GNP on an annual basis) in Canada, followed by a quick return to high levels of economic growth;
- a short (less than four quarters in length) and/or shallow recession (less than a 1% drop in GNP on an annual basis), followed by stagnation or low levels of growth (i.e., a 'jobless recovery');

- a prolonged (i.e., more than 4 quarters in length) and/or deep recession (more than a 1% drop in GNP on an annual basis) in Canada.

This example should suffice to make an important point. Future reports should take the many limitations of economic forecasting far more seriously, stressing the difficulties inherent in the exercise, and couching all forecasts in the probability that various alternative economic scenarios will be realized.

Recommendation 4: The next version of the LFNA report should consider the impact of recent economic events (e.g. the collapse of the high tech industry, the recession, and the economic aftermath of September 11th) on the middle term prospects for the Canadian economy and the economy in Nunavut. Furthermore, it should anticipate the continued operation of the business cycle, and the ever-present danger of economic shocks.

Recommendation 5: The next version of the LFNA report should discuss a range of alternative economic scenarios for the middle term (i.e., the next five years), explaining the probability that each scenario will be realized, the factors which are likely to affect that probability, and the significance of each possible outcome.

The current recession -- still of uncertain depth and length -- will undoubtedly alter the short-term impact of at least three of those factors. Mineral prices, government spending on capital projects, and the severity of social problems are all highly sensitive to macro-economic shifts. Future research on labour force development should take into account the degree of vulnerability of Nunavut to recession, and the impact of a recession on industries that are critical to the economic future (e.g. tourism).

The global context of the Nunavut economy

In today's global economy, it no longer makes sense to develop an economic forecast -- even one as general as that contained in the LFNA report -- in isolation from a consideration of developments in the national and global economies.

The NEO report explicitly linked its economic forecast for Nunavut to a consideration of the territory's links to the broader global economy. Several changes in the global economy were identified as shaping the future of Nunavut's economy, including the following:

- the **global integration of markets** for goods, services, capital and labour which means Nunavut will never be insulated from national and global developments;
- the rise of the **knowledge based economy**, which has placed a premium on knowledge for both for employers and workers;

- the impact of **information technology** and new methods of communication, with their impact on how work gets done;
- the declining importance of labour intensive **manufacturing** industries and the rising importance of knowledge based service industries; and,
- the long-term **decline in commodity prices**, and the negative consequences for resource based economies. (*NEO*: 73)

Although those long-term structural changes in the global economy are also having an impact on the supply of, and demand for, labour in Nunavut, only the last one is mentioned in the *LFNA* report. When the authors of the *LFNA* report identified the five key factors that that would affect the overall rate of economic growth during the period to 2005, only one of them was linked to economic processes beyond the territory. That list included the following:

- the international price for minerals and fuel;
- population growth;
- the level of spending by various governments for capital projects and economic development;
- the state of the transportation infrastructure; and,
- the persistence of various social problems.

Recommendation 6: The next version of the *LFNA* report should analyze the impact of broader national, continental and global economic processes on the labour market and economy of Nunavut.

6. THE SECTORAL ANALYSIS OF THE NUNAVUT ECONOMY AND THE FORECASTED DEMAND FOR LABOUR

As we saw above, the authors of the *LFNA* report focused their efforts on a sectoral analysis of the Nunavut economy. Distinguishing between 5 general sectors of the economy and a larger number of specific industries (see Figure 8 below), the authors used several different kinds of data -- including sectoral and industrial reports from the Department of Sustainable Development, and interviews and focus groups with knowledgeable informants -- to develop their forecast. (*LFNA*: 5,7-8) Not surprisingly, the *LFNA* report focused on those industries perceived to have the greatest potential to create jobs.

Our discussion in this section will evaluate the *LFNA* report's analysis of the growth potential of various industries and sectors, and the consequent increase in the demand for labour.

Subjectivity in the analysis of industries: problems with data and informants

As previously noted, the authors of the *LFNA* report were hampered by a lack of objective data on the Nunavut economy.²⁵ As a consequence, they were compelled to construct an overall portrait of the economy, industry by industry, by consulting dozens of knowledgeable informants for their opinions. (*LFNA*: 5-6)²⁶ There is a problem with the sectoral and industrial forecasts that resulted.

First, it is important to recognize that opinions derived from informants knowledgeable about their own industries cannot be aggregated into a forecast for the entire economy. Unfortunately, the *LFNA* report does not explain the procedure by which the authors moved from individual opinions about an industry, to judgments about the economic prospects for that industry, the sector of the economy it is part of, or the Nunavut economy as a whole.

FIGURE 8: THE FIVE KEY SECTORS OF THE NUNAVUT ECONOMY, AS PORTRAYED IN THE LFNA REPORT

FIVE KEY SECTORS	SUB-SECTORS
GOODS PRODUCTION	<ul style="list-style-type: none"> • commercial arts and crafts • commercial wildlife harvesting • construction • manufacturing • mining and exploration • utilities
TRADE	<ul style="list-style-type: none"> • retail trade • wholesale trade
GOVERNMENT	<ul style="list-style-type: none"> • Designated Inuit Organizations • educational services • government • health and social services
SERVICES TO BUSINESS AND GOVERNMENT	<ul style="list-style-type: none"> • communications • financial services • hospitality • real estate and property management • other services to business and government • transportation and storage
LAND-BASED ECONOMY	<ul style="list-style-type: none"> • subsistence hunting and fishing • non-commercial craft production • child and elder care • informal instruction and training in land-based economy skills
Source: <u>LFNA</u> : 5	

As previously suggested, research that relies so heavily upon subjective assessments of the future direction of the economy is suspect. To enhance the confidence of the skeptical reader in that type of analysis, the researcher must provide a very clear account of all the steps taken to ensure the informants consulted are credible, and the information collected is systematic, representative, and untainted by the researchers' own views. Unfortunately, the LFNA report did not provide such assurances.

Industries with growth potential according to the LFNA forecast

According to the *LFNA* report, the economy in Nunavut has three historical pillars of strength: government activity, mining and subsistence wildlife harvesting. (*LFNA*: 7) However, of those three, only government was deemed to have great potential for growth during the period to 2005.

The authors of the *LFNA* report argued that although the mining sector might grow, that was unlikely to create further employment opportunities for Nunavummiut. Not only is it difficult to replace educated and skilled southern workers with Inuit, but “accommodating the deep-rooted Inuit involvement in harvesting activities within what is now a very structured work rotation” is a “significant issue.” (*LFNA*: 9)²⁷

According to the *LFNA* report, the land-based economy is not likely to grow much without government support. Recognizing the importance of the land-based economy in the mixed economy of Nunavut, the authors suggested the GN should adopt a policy of import substitution to promote land-based activity. (*LFNA*: 7-8, Appendix 4)²⁸

More optimistically, the authors of the *LFNA* report claimed there was a consensus among their informants that the following industries and sectors of the economy would experience above average growth during the five years to 2005 (*LFNA*: 9,12):

- government (especially health and social services)
- the hospitality industry/tourism
- services to business
- communications
- retail trade
- arts and crafts

From economic growth to job creation

The *LFNA* report moved very rapidly from an assessment of the key sectors and industries within the economy to a consideration of which industries had the greatest potential for economic growth and job creation.²⁹ Relying on the opinions of their informants, the authors identified four industries (i.e., government, hospitality/tourism, business services and utilities) as having high potential in that regard and another seven with medium potential. (*LFNA*: 12)

For example, the *LFNA* report devoted a lot of time to discussing the potential contribution of tourism to economic growth. However, the authors noted the future of tourism is highly contingent upon strategic investments by the government -- in things like infrastructure, market development, and the provision of training. (*LFNA*: 9) Tourism has great potential because of its natural linkages to wildlife harvesting (both commercial and subsistence) and the arts and crafts industry. However, in the wake of the recession

and the events of September 11th, the growth potential for the tourism industry may not be so great.

The need for an overall economic development strategy

Given the importance of government within the territorial economy, it is hardly surprising the *LFNA* report stressed the role of GN decisions in shaping future job creation. Indeed, the authors of the report suggested that job creation and labour force development would both be enhanced by the existence of a territorial economic strategy -- something that would enable the government to coordinate its investments in areas like health, education and housing. (*LFNA*: 10)³⁰ The recognition that stakeholders in the Nunavut economy would benefit from greater economic cooperation and coordination was echoed by the Conference Board, with its call for the development of a territorial economic strategy.³¹

Enhancing the degree of territory-wide economic cooperation and coordination would probably require the GN to experiment with a corporatist strategy, drawing all the main economic and social forces within the territory (e.g. business, labour, Designated Inuit Organizations, and the Institutions of Public Government in addition to the GN) into a social partnership.³² In Europe, corporatist-style social partnerships have been most common in northern European countries with a strong social democratic tradition. Within Canada, Québec is the only political unit with some history of promoting a province-wide corporatist arrangement to encourage business, labour and government to cooperate in promoting economic and social development. (For example, the Québec government has occasionally held socio-economic summits with business, labour and other social groups to build a consensus on directions for economic and social development.) Central to that initiative has been the deeply rooted nationalist sentiment in Québec, which has no counterpart in any other province.³³ Inuit nationalism, while not as fully developed or articulated, might play a similar role in enabling the GN to take corporatist initiatives not possible in most other provinces or territories.

Recommendation 7: The Department of Education and the Department of Sustainable Development should jointly commission a study of the experience of economic and social co-operation in Europe and Québec and the lessons of that experience for economic and labour force development in Nunavut.

There is a narrower type of corporatist initiative that is of relevance to this discussion. During the 1990s, the federal government and some provinces created corporatist structures to encourage employers and unions to cooperate with government, to reform labour market policies and to promote training. That experiment with Labour Force Development Boards and Sectoral Councils contains much experience of relevance to Nunavut.³⁴

Recommendation 8: The Department of Education and the Department of Sustainable Development should study the Canada-wide experiment with Labour Force Development Boards and Sector Councils, and the lessons of that experience for labour force development in Nunavut.

A prerequisite for any kind of corporatist arrangement in Nunavut is the existence of territory-wide organizations that can speak for the various social partners involved. In that respect it may be necessary for the GN to assist some partners to get organized. For example, by assisting the business community to create a territory-wide organization the GN could ensure it will have an umbrella organization of employers it can enter a partnership with -- whether that partnership entails corporatist arrangements or something on a smaller scale.

Recommendation 9: The GN should assess which among their territory-wide social partners are not yet sufficiently organized to play a role in creating corporatist arrangements, and assist them to get organized.

Conclusion on the economy and the demand for labour

Because of the shortcomings inherent in economic forecasting, it is advisable for the Department of Education not to tie its' strategy for labour force development too closely to the specific results of any one forecast. It is essential to identify economic and social initiatives that will promote labour force development in Nunavut, regardless of the ups and downs of the business cycle.

7. THE LABOUR FORCE MODEL AND THE ANALYSIS OF THE SUPPLY OF LABOUR

The *LFNA* report examined the supply-side of the employment issue by constructing a model of the labour force in Nunavut, and then analyzing some of the peculiarities of labour supply in the territory. The labour force model used in the report was based on objective data from 1976-1999: a time series forecast that nominally used 7 variables. (*LFNA*: 4)³⁵ In reality, the core of the model centered on only three variables: the size of the regional population, the proportion of the regional population aged 15 and over, and the labour force participation rate. (*LFNA*: 22-25)³⁶

Quantity and quality in the supply of labour

The result was a fairly limited and largely demographic model of the supply of labour. The *LFNA* report told us about the gender, age profile, and geographic distribution of the workforce. (*LFNA*: 19-20) But many of the factors commonly found in models of the labour force were missing (e.g., data on wage rates, and education levels).³⁷ While that may be attributable to difficulties in obtaining data, the result is a model of the labour force that emphasizes the quantitative supply of labour. It does not tell us much about the quality of labour on offer (e.g. the educational levels of people in the labour market).³⁸ In that respect, the model is clearly inadequate. To effectively gauge how supply and demand will intersect, we also need estimates of the qualitative growth of the labour force.

While the quality of the labour force was discussed at various points in the *LFNA* report, the importance of that issue was not fully recognized in the labour force model that resulted. That deficiency should be remedied in future research if the labour force model is to be really useful for assessing the demand for labour. Only when we look at the educational level of new entrants into the labour market (i.e., the changing quality of the supply of labour available) can we really assess the gap between the demand for skilled and educated labour and the supply. That makes measuring the output of the educational system crucial to the analysis, so we can determine the extent to which improved graduation rates are likely to bridge the gap between the supply and demand for educated labour.³⁹

Recommendation 10: Future versions of the *LFNA* report should incorporate data on the quality of the labour supply into its model of the labour force, focusing on the current and projected output from the educational system (e.g. the number and qualifications of graduates and dropout rates as a proportion of youth).⁴⁰

Defining the labour force in Nunavut

The *LFNA* report noted the difference between defining the labour force on the basis of the ‘national’ criteria (used by Statistics Canada) and the ‘no jobs available’ criteria employed by Nunavummit Kiglisiniartiit, noting that the latter definition of unemployment – which includes as unemployed those persons who are not ‘actively’ seeking employment because they perceive that no jobs are available -- is more appropriate for Nunavut. (*LFNA*: 17-18,22) However, the lack of sufficient data based on the latter definition meant that the authors could only make limited use of it to construct their forecast of the labour force. (For example, see *LFNA*: 27.)

That is only one example of a more general problem. The entire conceptual apparatus used by Statistics Canada needs to be critically reviewed before being used to analyze Nunavut’s labour force. Many of the concepts southern statistical agencies use are inappropriate to analyze the labour force in northern regions. For example, the definition of the labour force does not include people not employed in the wage economy but very much engaged in subsistence activities within the land-based economy -- a shortcoming recognized by the authors of the *LFNA* report. Those people do not fit into any of the basic categories southern statisticians use to distinguish between the employed, the unemployed and the economically inactive.

Finally, the whole conceptual apparatus that assumes people are either employed in full-time permanent jobs, unemployed or economically inactive no longer fits the complex realities of employment relations in the age of globalization.⁴¹ That is another reason why researchers studying the labour force in Nunavut must be critical of both the data they use, and its underlying conceptualization.

Recommendation 11: Future versions of the *LFNA* report should use Nunavummit Kiglisiniartiit’s ‘no jobs available’ definition of the labour force to the greatest extent possible.⁴² Furthermore, to take account of both northern realities and rapidly changing employment relations, future research on the labour force in Nunavut should be based on a critical re-examination of all the basic concepts that define the major components of the labour force: the employed, the unemployed and the economically inactive. As soon as it becomes feasible to do so, analyses of Nunavut’s labour force should incorporate data about people engaged in subsistence activity (i.e., those involved in the land-based economy, childcare, teaching traditional skills, etc.) into the definition of the labour force.

Migration and the supply of labour

While the authors of the *LFNA* report show some recognition of the problem of applying southern data and concepts to northern realities, they seem less aware of some other difficulties in the way they defined the labour force. For example, any model of the labour force needs to consider the impact of migration on the overall supply of labour.⁴³ Currently, much of the demand for skilled labour in Nunavut is met through the

immigration of workers from the south. And, as educational levels go up in Nunavut, Nunavummiut will inevitably become more mobile with respect to employment. As a consequence, there is a serious need to examine all aspects of the flow of labour in and out of Nunavut. Any analysis of future developments in the Nunavut labour force should take into account the following:

- whether there will continue to be an adequate supply of educated labour from the south to make up any local shortfall; and,
- whether there will be any leakage of labour trained in Nunavut to the south.

Recommendation 12: The next version of the *LFNA* report should include an analysis of migration data, looking at the flow of people into and out of the Nunavut labour force, on the basis of both ethnicity and education levels.

Gender and labour force participation

The pattern of labour force participation is quite different for men and women. But the *LFNA* report does not disaggregate its data along gender lines, something that is essential to develop a strategy for labour force development. Overall trends in labour force data can mask very large differences between the two genders.⁴⁴ For example, we already know from the *1999 Nunavut Community Labour Force Survey* there are somewhat different patterns of labour force participation between men and women.⁴⁵ Given the very different attitudes young men and women in Nunavut have towards post-secondary education -- with young women being far more likely to plan on attending post-secondary education than young men -- the gender based differences in labour force activity are likely to persist.⁴⁶

Recommendation 13: The next version of the *LFNA* report should analyze the current labour market differences between the genders and produce forecasts that recognize the importance of gender to developing an effective strategy for labour force development.

8. ADDRESSING THE LACK OF A MATCH BETWEEN SUPPLY AND DEMAND: THE NEED FOR A STRATEGY OF LABOUR FORCE DEVELOPMENT

After constructing models of the labour force and the economy, the latter sections of the *LFNA* report move towards a discussion of the key aspects of the gap between the supply and demand for labour in Nunavut -- in both quantitative and qualitative terms. (*LFNA*: 32-35)

The two main problems that continue to shape the development of the labour force in Nunavut are **unemployment** (i.e., an inadequate demand for the quantity of labour that exists) and the **low educational levels** within the existing labour force (i.e., an inadequate supply of the quality of labour employers need). In short, there is a serious mismatch between the relatively unskilled and uneducated labour that is abundant in Nunavut, and the need employers have to fill the highly skilled jobs that currently go to people from outside the territory.

Critical to our analysis is the basic distinction between five different types of unemployment:

- **Seasonal unemployment** stems from differences in the level and type of economic activity that occurs at different times of the year. Primarily used to analyze fluctuations in the demand for people engaged in outdoor occupations (e.g. agriculture), it may have some applicability to the labour market in Nunavut.
- **Frictional unemployment** is the product of labour turnover. It often takes time for people who quit one job to search for and secure another one.
- **Disguised unemployment** refers to the situation of people not normally considered to be unemployed, because they are not counted as part of the labour force. They are potential additions to the labour force, and their character as unemployed people is not normally revealed until employment opportunities become available.
- **Cyclical unemployment** results from changes in the business cycle. As the economy contracts, employers typically reduce their staff, creating a larger pool of unemployed people. This type of unemployment is the product of reduced demand for labour.
- **Structural unemployment** is the type of unemployment that has attracted the most attention in recent years. The name refers to the situation that arises because there is a mismatch between the skills demanded by employers, and those which the unemployed are able to offer. It is the product of long-term structural changes in the economy.

Future studies of the labour force need to examine the importance of all five types of unemployment in Nunavut, concentrating on the last three. The phenomenon of

disguised unemployment has already been partially addressed by Nunavummit Kiglisiniartiit with its use of the ‘no jobs available’ definition of unemployment. With regards to **cyclical unemployment**, there is not yet much appreciation of the impact of recessions on the aggregate demand for labour in Nunavut. Much of the unemployment in Nunavut is actually the product of a long history of inadequate demand for labour within the territory. Job creation is the only solution to that problem.

Much of the attention in the *LFNA* report focuses on the phenomenon of **structural unemployment** (i.e., the low educational levels of the unemployed in Nunavut). In that respect, it is similar to most of the recent work on unemployment in southern Canada, stressing the need for additional education and training to improve the quality of the supply of labour. Despite the tendency for southern governments to emphasize supply-side solutions to unemployment, rather than job creation, there can be little doubt that Nunavut needs action on both fronts.

In this section we explore how well the *LFNA* report handles the two problems of inadequate demand for labour, and the insufficient quality in the supply of labour. However, we also point out the report’s relative neglect of two other issues: the need to improve the matching process within the labour market (the problem of frictional unemployment), and the process by which the government intervenes to shape both the supply and demand for labour (i.e., government action to boost aggregate demand).

Throughout, we will consider how the *LFNA*’s proposals for action could further promote the development of the labour force, where development means an increase in the demand for labour (i.e., job creation), and an increased capability for the existing supply to meet that demand (i.e., increased educational and skill levels).

Unemployment: The inadequate demand for the quantity of labour that exists

According to the *LFNA* report, the gap between the number of people in the labour force (i.e., the supply of labour) and the number of employment opportunities (i.e., the demand for labour) will not close much by 2005. (Given recent events, the forecast in the *LFNA* report must now be judged over-optimistic. Recession may mean that the gap will actually increase as the supply of labour continues to grow, but the number of new employment opportunities decreases.) The report suggests four ways in which the demand for labour -- especially the unskilled labour which is in large supply -- can be increased:

- **Promote the land-based economy** by finding ways to halt the declining levels of youth participation in it, by developing additional programs to transmit traditional knowledge essential to hunting, by enhancing the direct financial support for wildlife harvesting, and by developing a program to substitute ‘country food’ for imported food. (*LFNA*: 33) That may be one way to improve the demand for the relatively unskilled labour that exists in abundance in Nunavut.
- **Increase Inuit participation in the wage economy** by promoting those industries that build on the skills many Inuit already possess (e.g. in the arts and

crafts industry and commercial wildlife harvesting) and have a lot of potential for job creation (e.g. tourism). As the *LFNA* report argues that is one way to increase the demand for the kind of labour the current labour force is able to supply. Another way may be to subsidize wages in some industries. Finally, the report suggested further negotiations with the mining industry might increase levels of Inuit participation through development of a more aggressive strategy for replacing southern workers. (*LFNA*: 29,33)⁴⁷

- **Increase government support for those industries with the greatest potential to create jobs that do not require a university education** (e.g. tourism, harvesting, and arts and crafts), by providing funding for capital investments. That might mean government promotion of tourism, assistance to outfitters to get started, improvements to air transport, government assistance in product development, streamlined funding for training and subsidized wages in some industries. (*LFNA*: 32) Such initiatives are necessary to boost the demand for the unskilled labour that already exists in abundance within Nunavut.
- **Increase the ability of government and business to promote entrepreneurship in the school system**, as a way of encouraging people to create their own solutions to the unemployment problem, by becoming self-employed. (*LFNA*: 33) The *LFNA* report saw that kind of initiative as key to job creation.

Education levels: The inadequate supply of the skilled labour demanded by employers

The second major problem facing those concerned about labour force development in Nunavut stems from the imbalance between the quality of labour demanded by most employers and the educational levels of new entrants into the Nunavut labour force (an aspect of the supply of labour). It is impossible to overestimate the threat to economic growth posed by the current failure to produce sufficient numbers of adequately educated and trained Nunavummiut.

At present, the shortage of educated and skilled workers in the territorial labour market makes it necessary for employers to hire from the south. And, because many of the new jobs that get created demand high levels of education, unemployment levels among Nunavummiut remain high even when the economy creates more jobs.

The *LFNA* report identified a variety of problems in the educational system that contribute to the inadequate supply of educated labour (e.g. the fact that high school graduates are ill-prepared for university, the absence of problem solving skills among graduates, etc.). (*LFNA*: 22) And it suggested five changes to the educational system that would improve the quality of labour:

- enforce the need for higher standards with respect to the quality of education available in Nunavut;
- ensure the curricula in the school system is relevant to all aspects of life in Nunavut, from the land-based economy to the new economy; (e.g. provide

- students with more experience on the land, and more opportunity to acquire Internet skills);
- reinstate a broad liberal arts curriculum in the school system, rather than retaining a narrower focus on training;
 - teach skills that are transferable to different sectors of the economy, including the land-based economy; and,
 - encourage students to remain in school by creating a special stay-in-school program, and by supporting them while they do so (e.g. provide summer jobs that are relevant to their education, create co-op placements, have a school food program, provide courses in early childhood education for students who need them).⁴⁸

Scattered throughout the report are a variety of other suggestions about how to improve the supply of educated labour in Nunavut. Many of them involve ensuring the existence of the social infrastructure needed to help people get and hold jobs, or to remain in school. For example, the provision of childcare can play a crucial role in enabling many young mothers to hold onto their jobs, while counseling can assist in keeping people in school.⁴⁹

The *LFNA* report does not examine ways to improve the quality of the labour supply which fall outside the mainstream educational system. For example, the report does not discuss the importance of on-the-job training and experience. There is a burning need for information about the adoption and success of workplace-based programs that promote greater literacy, numeracy and computer literacy for already employed adults.⁵⁰ For those who have already left the school system, workplace based training that combines instruction and work experience is preferable to training that is carried out in an educational institution separated from work experience.⁵¹

Any discussion of training is fraught with difficulties. Until the creation of federal-provincial Labour Market Development Agreements (LMDAs), beginning in 1996, most training fell into a gray zone in federal-provincial jurisdiction (the economy is under federal jurisdiction, while education belongs to the provinces). As a consequence, there was no “systematic and comparable information” available on the training programs offered by the provinces or industries.⁵² There should be more information and research about training available in the next few years, however some of that work is bound to be of limited relevance for policy makers in the north.

Recommendation 14: The next version of the *LFNA* report should examine the potential for expanding on-the-job education and training as a way to improve the quality of the labour supply.

As we saw previously, governments in southern Canada have adopted a supply-side approach to labour force development, stressing the need to improve the quality of the labour supply through education and training. Their focus is on active labour market policies, as opposed to the more passive policies (e.g. employment insurance and social assistance) that were previously relied upon to create jobs by boosting the aggregate level of demand within the economy.⁵³ Whatever the merits of the supply-side approach with regards to southern Canada, the problem of unemployment in Nunavut cannot be resolved solely with action on the supply-side. Improved education and training levels will not automatically create more jobs, even if it will permit Nunavummiut to take jobs that might otherwise go to southerners.⁵⁴

Research in the US suggests that government-sponsored make-work jobs -- whether they are jobs directly with the government, or jobs with a non-profit employer -- can be a useful complement to supply-side policies. Job creation programs can have some real benefits, provided they target people who would not be otherwise employed, thereby avoiding a possibility of merely displacing the already employed from their jobs.⁵⁵ Among the guidelines for program success are the following:

- such programs usually benefit those whose primary problem is lack of work experience the most, as opposed to those who have difficulty getting and holding a job for other reasons;
- creating jobs that last from six to nine months seems to have the greatest potential benefit in terms of enhancing someone's post-program employability;
- designing programs that make it possible for participants to rollover into permanent jobs with their work sponsor is key to the success of the program;
- the quality of supervision on the job matters in terms of the future employability of participants; and,
- placing people with regular employers rather than putting them in special jobs brings better results, because in real jobs, participants are more likely to experience regular expectations and supervision from the employer.⁵⁶

Recommendation 15: The next version of the LFNA report should examine what lessons can be learned from the demand-side policies of job creation adopted by other governments. It is crucial for the GN to learn more about what kind of demand-side policies can have the greatest impact with the least use of resources.

Another crucial issue the LFNA report does not deal with sufficiently is the way in which education and work experience can be combined to improve the transition from school to work. There is some evidence that youth who are employed part-time during their school years, benefit when they later enter the labour market with work experience. Even experience working in entry-level jobs teach students things like the need for regular and punctual attendance at work, in addition to how to deal with co-workers, customers, and supervisors.⁵⁷ Employers in Nunavut need to be encouraged to create part-time and

summer jobs for students, in addition to internships and opportunities for students to engage in job shadowing.⁵⁸ However, it is also vital for the GN and employers to encourage students in post-secondary educational programs to remain in school long enough to complete their studies. Stay-in-school programs that feature high quality mentoring, additional tutoring, motivational speakers, and graduation incentives have been effective elsewhere.⁵⁹

Recommendation 16: The next version of the *LFNA* report should examine ways to ensure the transition from school to work is a smooth one, with post-secondary students getting the opportunity to gain work experience, without aborting their education prior to completing their programs.

Improving the matching process in the labour market

To ensure the gap between the supply and demand for labour shrinks when the economy grows, it is vital for the GN to do everything it can to facilitate the matching process between job seekers and employers wanting to hire. That means ensuring that all the labour market intermediaries (i.e., the organizations, institutions and information systems) needed for employers and workers to make a match exist, and are effective. In particular, it is vital to make full use of the Internet to promote the development of the E-labour market in Nunavut.

Recommendation 17: The next version of the *LFNA* report should include an inventory of the organizations, institutions and information systems that act as labour market intermediaries in Nunavut, with an eye to identifying gaps that should be filled.

Recommendation 18: The Department of Education should encourage employers and job-seekers to move all of their labour market transactions online, and build the electronic infrastructure to enable Nunavut's labour market to be primarily electronic in character.

Improving the planning system to promote labour force development

The labour market is about more than the transactions that occur between job-seekers and employers wanting to hire. To operate in a way that enhances economic growth and development of the labour force, it is necessary for the government to create the right legal and institutional environment. With the weak and fragmented character of political power in Nunavut, and the overall fragility of business, further development of the territorial labour force will require the kind of concerted action that can only emerge from cooperation among all the stakeholders.

As mentioned above, there is a need for advocates of labour force development (like the Department of Education) to investigate models of government-led, multi-stakeholder cooperation, to create the conditions in which both educational levels and job creation can be improved. However, in the long-term, the GN requires an economic strategy that can increase and sustain the number of good jobs available. (See recommendations 7, 8 and 9 above.)

9. THE CONCLUSIONS IN THE LFNA REPORT

Whatever its faults, the LFNA report indicates there is no magic bullet the GN can use to overcome the obstacles to labour force development: inadequate job creation, an insufficient supply of well educated Nunavummiut, a lack of coordination in the efforts by various stakeholders to promote economic development, and so on.

The LFNA report offers a list of 11 recommendations for action by the GN. (LFNA: 36-37) As the list below indicates, those recommendations focus overwhelmingly on supply-side issues, despite the demand-side focus of the original terms of reference. The LFNA offered only one recommendation that addressed demand-side issues, and two others dealing with the need to improve the flow of information and the matching process in the labour market.

Supply-side recommendations in the LFNA report:

1. The quality of education needs to be improved immediately, so the skill and educational level of the labour force will improve in the long-term.
2. The government needs to enforce quality standards in the educational system, while ensuring the education on offer remains relevant to Nunavut.
3. The educational system needs to stress the importance of transferable skills.
4. The GN needs to provide the social and mental infrastructure needed for students to succeed (e.g. daycare, mental health counselors, teen recreation, etc.).
5. The GN should support programs that promote practical experience in the workplace through mentoring, job shadowing, etc.
6. The school system needs to offer a broad liberal arts education in both elementary and high school.
7. The GN should ensure the transmission of the knowledge required to maintain the land-based economy.
8. The GN should promote entrepreneurial training, especially for those people who want to create small businesses in the tourist industry.

Demand-side recommendations in the LFNA report:

9. The GN needs to work in partnership with the private sector to build infrastructure and develop training programs.

Recommendations re: labour market operation and information in the *LFNA* report:

10. The Department of Education and the Department of Sustainable Development should conduct biannual reviews of the progress made in promoting labour force development.
11. The GN should track labour force participation by ethnicity and the length of residence in the territory.

Organized in this way, it is apparent the *LFNA* report puts almost all the emphasis on supply-side solutions to the problems facing the GN in developing the labour force of Nunavut. Even the two recommendations dealing with labour market processes are influenced by the *LFNA* authors' preoccupations with the supply-side. There is simply too little on issues stemming from the demand-side and labour market processes, not to mention the total absence of recommendations dealing with territorial economic planning.

The one-sided character of these recommendations reflects the prevailing economic orthodoxy: the neo-liberal view of the labour market that suggests that if a government builds an educated and cheap labour force, employers will come. Quite apart from the criticisms that view faces in southern Canada, it makes little sense in the context of Nunavut. Even the recommendations in the *NEO* report -- recommendations from the usually neo-liberal Conference Board of Canada -- have a distinctly Keynesian slant to them by comparison. Close examination of that document reveals a much better balanced set of recommendations with respect to labour force development.

Recommendation 19: The next version of the *LFNA* report should address both the demand- and the supply-sides of the current unemployment problem, and propose strategies for actions by the GN on both sides of the problem.

Additional issues that need to be examined in future reports

In the remainder of this conclusion we will list a series of additional issues that need to be examined in each of the four areas the recommendations should cover: the supply-side, demand-side, labour market processes, and the overall territorial planning process. This is not a complete list of issues to be covered, nor is it a list of recommendations. That must await the analysis in future versions of the *LFNA* report.

Supply-side issues and questions:

The *LFNA* report already contains many ideas about how to promote labour force development with supply-side initiatives. Despite that there are issues and ideas that need to be further explored in future research on labour force development, especially those that relate to the entry of youth into the Nunavut labour force.

- There is a need for a more serious examination of on-the-job forms of training and education, like apprenticeships, literacy, numeracy and computer literacy training, etc. Because Canada does not have a good record in this area, there is also a real need to look elsewhere for ideas and models.⁶⁰
- It is important for the GN to identify who the target population is for its supply-side measures, by age, ethnicity, gender and education levels. Are the limited resources available better spent if they are concentrated on a few high achievers, or spread more equitably?
- In southern Canada, the time it takes youth to make the transition from school to work has lengthened as young people spend more time getting an education and find it takes longer to secure a good paying job after they graduate. The transition from school to work has become “more risky, protracted, and circuitous.”⁶¹ It is vital to study how the dynamics of that process may be changing in Nunavut.
- To make the transition from school to work successfully, youth everywhere need assistance from a “coherent and comprehensive system of education, career, and employment counseling that is accessible to all who need it,” preferably with a single point of entry.⁶²
- Nunavut has a unique problem with respect to youth undergoing the transition from school to work, the danger that employers desperate to hire educated Inuit will draw students out of their school programs before graduation. Not only does their education remain incomplete, but sometimes they may be drawn into jobs in which they are over-employed (i.e., required to carry out tasks that demand more experience or education than they possess), without the support necessary to acquire the skills they need on the job.⁶³
- Nunavut needs a program to help generate the kinds of jobs that can give youth some employment experience before they complete their education and begin their career.
- Large proportions of youth in southern Canada have turned to volunteering in community based organizations as a way of gaining valuable work experience. The Department of Education should examine ways to formally encourage youth to volunteer in Nunavut.⁶⁴
- While unemployment remains the central issue for youth in Nunavut, throughout the OECD countries there is also great concern about the quality of employment available to youth, and the growing difficulties youth have in making a decent living.⁶⁵

Demand-side issues and questions:

While the *LFNA* report raises some vital issues about the economy and job creation, there are many others that still need to be addressed if we are to assess the impact of the economy on the labour force.

- Are there enough unskilled and part-time jobs available in the service sector (and other portions of the economy) to give job seekers (especially youth and students) an opportunity to gain some work experience and initial entry into the LM? If not, how can they be created?
- Are there enough medium-sized employers with internal labour markets that provide viable career ladders, to enable people to begin employment at an entry level and then upgrade their skills with the assistance of employer provided training?
- What is the current impact of various government programs (both federal and territorial) that subsidize wages or provide tax incentives to create employment? To what extent do they actually increase the absolute number of jobs in the economy? Are they sufficiently targeted in character?⁶⁶
- In the south there has been considerable concern about a growing polarization between ‘good jobs’ and ‘bad jobs’ (e.g. in the service sector a polarization between jobs in the upper and lower tiers of the sector). Is the structure of employment in Nunavut more polarized (i.e., between unskilled and highly skilled jobs) than it is in the south? If the job structure is highly polarized, with few career paths from entry level jobs to good quality jobs, then it places a much greater burden on the educational system.
- What has been the impact of the ‘knowledge economy’ on the structure of employment in Nunavut? In the south, the growth of a service economy has coincided with a general increase in the minimum educational level required for many jobs.⁶⁷ To what extent has the same thing happened in Nunavut?
- In past recessions, has the labour market in Nunavut been more or less affected by cyclical or structural unemployment than that in the south? How much did unemployment increase in Nunavut during the early 1990s recession?
- There is a real need to explore the best from the Keynesian and neo-Keynesian traditions when it comes to promoting job creation.

Examination of these and similar issues will be vital in assessing the fit between the supply of and demand for the labour of young workers in Nunavut.

Labour market issues and questions:

- One of the main innovations in labour market transactions stems from the rise of the Internet, and the development of a distinct E-labour market. The impact of the E-labour market on the future development of the Nunavut labour force should be examined.
- Youth everywhere lack meaningful and reliable information about the transition from school to work, the operation of the labour market, and the nature of work. The Department of Education needs to devise a program that will address those issues, with web-based and user-friendly information about (1) the Nunavut labour market; (2) how it is changing; (3) where the good jobs are, and (4) what

kind of education and training is necessary to enter particular occupations. That program should be supported by counseling which is available in both the schools and the communities.

- The Department of Education should distribute copies of the recent HRDC publication *Top 100 Internet Sites for Learning and Employment*, (24 pages on newsprint) to every high school, college and university student in the territory.⁶⁸ Furthermore, the Department of Education should consider printing a ‘Nunavut-ized’ version of this document, possibly in cooperation with HRDC, with additional information of specific use to students in the territory.

The territorial planning process: Issues and questions

- Given the mixed nature of the economy in Nunavut, it will be necessary for Nunavummit Kiglisiniartiit to continue to be innovative in developing statistical data that reflects the complexity of economic life in the territory. For example, the progress already made conceptualizing unemployment needs to be furthered, so that a person who combines 20 hours of part-time work per week in the wage economy with a similar amount of work every week in the land-based economy, can be viewed as being fully employed.
- We have already suggested there is a need for a territory-wide economic summit -- involving employers’ associations, unions, Inuit organizations, key government departments and other stakeholders -- to provide some overall co-ordination to the efforts at labour force and economic development.⁶⁹ If territory wide corporatist initiatives do not prove feasible, the GN should still explore the possibility of creating sectoral or industrial committees (incorporating representatives from business, labour, government, educators with knowledge of the industry, etc.) that can advise it on economic and labour force development.

10. THE RESEARCH STRATEGY AND TERMS OF REFERENCE FOR FUTURE STUDIES ON LABOUR FORCE DEVELOPMENT IN NUNAVUT

Research strategy

Given all we have said about the unreliability of economic forecasting, it is crucial that the next version of the *LFNA* report not rely exclusively -- nor even primarily -- upon that kind of research strategy to develop a perspective on labour force development. Instead, forecasting should be regarded as only one part of a more comprehensive research strategy that uses various kinds of analysis to examine the labour force in Nunavut, and the broader economic environment in which it exists.

Systematic examination of all aspects of labour force development -- from the demand and supply-sides, as well as from the perspective of labour market processes and the need for territory wide planning -- should enable the GN to devise a better strategy for dealing with the unemployment problems it faces. However, to make that possible researchers must approach the task with an adequate conceptual framework, a good command of the literature on labour force issues, a solid grasp of the long-term structural changes occurring in the Canadian and global economies, and a grasp of basic social and economic realities in Nunavut.

Terms of reference

The authors of the *LFNA* report were asked to accomplish five tasks in the original terms of reference. Four of those tasks involved developing forecasts of the economic sectors, industries and occupations that would create jobs over the five-year period from 2000 to 2005. One was to identify where the greatest demand would be; the second involved indicating where there would be new employment opportunities (whether because of economic growth or because of the development of new sectors or industries); the third task required the researchers to name the sectors or industries that would provide continued employment opportunities because of turnover; and the fourth task required the researchers to analyze the employment opportunities that would be generated by governments at all levels (i.e., the community, regional, territorial, and federal levels).

Only one of the five terms of reference shifted the focus away from the demand-side, asking the researchers to identify an appropriate strategy for the Department of Education on the supply-side by specifying which sectors of the economy and industries should be the focus of attention in terms of training and education. Yet, ironically, the *LFNA* report placed far more emphasis on supply-side recommendations.

The terms of reference for any future iteration of the *LFNA* report should direct the researchers to undertake a balanced examination of all the critical demand-side and supply-side issues, as well as the labour market processes and the territorial planning issues. Those terms of reference should also specify that the researchers use a variety of

methodologies, including forecasting, scenario building and a conceptually informed and critical analysis of current economic and labour force realities. Finally the researchers should be asked to demonstrate a thorough appreciation of the long-term structural changes occurring in the labour force and economy of Canada and the world.

APPENDIX: ECONOMIC FORECASTING AND SCENARIO BUILDING

The logic of economic forecasting

Economic forecasting involves the examination of data about the past and/or the present in an effort to predict the future. Though widely accepted as a legitimate research strategy, it is not without its critics. One need only consider how often predications made by even the best economists prove mistaken to recognize why the critics of economic forecasting are able to make some telling points.⁷⁰

Among other things, economic forecasts are inherently unreliable because of the conception of change they rely upon. Most economic forecasts assume that change is quantitative and incremental in character, rather than qualitative and abrupt. Unfortunately, economic forecasters have to contend with at least four quite distinct types of economic changes:

- long-term secular **trends** (e.g. industrialization);
- medium term **cyclical changes** (e.g. periods of economic boom and slump);
- short-term **seasonal variations** in activity (regular yearly changes in economic output that are seasonal in character);
- irregular and unpredictable **shocks** to the economy (e.g. the collapse of the stock market in 1929, the bursting of the speculative boom in real estate in Japan in 1992).

Economic forecasting is easiest during periods when there are no economic shocks, and the economy is not moving into a cyclical change -- like the move from boom to slump that occurred during the period between mid 2000 and mid 2001, after which the current recession began. Because of the prevalence of shocks, and the persistence of the business cycle, forecasts have a greater chance of being inaccurate when they cover longer periods of time (e.g. more than three years). (Economists are notoriously bad at predicating upturns and downturns in the economy, let alone economic shocks.) However, short-term economic forecasts looking at the next year are often badly mistaken, since even the most sophisticated forecasters operate with data that is already months old.⁷¹

When forecasting, prudent economists recognize the limitations of their work and the possibility of alternative outcomes, since economic shocks or the business cycle may alter the economic patterns characteristic of the immediate past. Furthermore, they know the underlying causal relationships between the key variables which they use to build their forecasts may also change, as the structure of the economy changes.

Types of economic forecasts

While there are various strategies researchers use to forecast future economic developments, two interest us here: **basic extrapolations** from historical data, and the use of **econometric models**.⁷²

Basic extrapolations: Time series data are often used to make **extrapolations** about the future. In doing so, forecasters assume the basic causal relationships which have existed within the economy in the past (whatever they might have been) will continue to operate in the future. (Often economists do not examine those causal relationships, being content to merely note them.) To the extent those relationships change, forecasting becomes quite problematic. Furthermore, those underlying relationships are seldom simple or linear in character, often combining elements of long-term trends, business cycles, seasonal changes and economic or political shocks.⁷³

Econometric methods can also be used to develop forecasts. With that methodology, predictions about the future values of certain economic variables are made by examining all the other variables that are considered to be causally related to it. This approach rests on the assumption the investigator knows which factors are important, and what the nature of the relationship between them is. Thus, the construction of such models requires careful judgment in specifying the independent and dependent variables. And because the economic world is complex, often the independent variables in one econometric equation are the dependent variables from previous equations. As a consequence, there can be hundreds of steps involved in constructing an econometric model of an entire economy. This methodology makes it particularly difficult to quantify factors like political uncertainty or economic shocks.

Regardless of which method is used, forecasting is not fool-proof -- something that highly sophisticated investment and financial organizations demonstrate over and over again. There is no such thing as a forecasting method that will generate estimates that are always accurate. Indeed, every forecast involves a margin of error -- a partial recognition of the fact that there is always a range of possible future outcomes. Moreover, forecasts are often inaccurate because researchers are cautious enough in choosing their data and selecting their methods.⁷⁴

An illustration of the problem with economic forecasting

Several years ago, World Bank economist Paul R. De Masi explained the difficulties associated with economic forecasting.⁷⁵ He argued that despite the scientific pretensions of economists, forecasting is more art than science because forecasts are often based on inadequate data and economic outcomes are usually influenced by unanticipated events.

Even the largest economic research organizations in the world frequently produce mistaken economic forecasts. For example, researchers have demonstrated the IMF's record in constructing forecasts (between 1971 and 1994) was not strong enough to suggest that economic forecasting is very accurate.⁷⁶ On average, the IMF's forecasts for

economic growth in the world economy were off by 1 full percentage point -- a fairly significant error when matched against the average growth rate of 2.75% for the period studied. Furthermore, the IMF has historically shown little ability to predict turning points in the business cycle.⁷⁷ The economists examining the IMF's track record concluded that economic forecasts are plagued by several types of errors. First, most forecasts assume that economic policies will not change during the forecast period. Second, forecasters have great difficulties dealing with rapid changes in the structure of the economy. Third, accurate forecasting is made more difficult by the periodic intrusion of exogenous events (e.g. a rise or fall in oil prices, wars, and other political events).

Those concerns are replicated in the serious business press. For example, the editors of the *Financial Times* (of London) have recently criticized the track record of economic forecasters. In an end-of-year editorial, they explained that at the end of 2000, "no serious forecasting organization predicted that each of the world's three largest economies -- the US, Japan and Germany -- would suffer a recession" during the coming year (i.e., 2001). Predictions of 3% growth or better were common. As the editors commented, this deficiency is nothing new:

*Macroeconomic forecasting rarely has a good year. And its record is particularly poor when accuracy is most desired: in predicting a recession, for example... A recent IMF paper showed that the consensus among forecasts was outperformed by the simple rule that next year's economic growth would be the same as the current year's growth.*⁷⁸

Each fall *The Economist* asks prominent private sector to forecast rates of economic growth in the major economies for the coming year. To its credit, the magazine recently reviewed the predictions it published for 2001: "How well did our panel do? Embarrassingly: their forecasts missed by a mile."⁷⁹

The editors of the *Financial Times* gave economists engaged in producing forecasts the following advice:

*Most forecasts give single estimates that convey little information. The more sophisticated offer a range. The best are set in terms of probabilities of different events occurring. A 50 percent chance of deep recession next year provides more useful information...than a prediction of 1% real growth.*⁸⁰

That is excellent advice.⁸¹

Forecasting the labour market

If forecasting the future state of the economy is difficult, forecasting the future state of the labour market is even harder. Labour markets are "among the most complex, locally variable and socially structured of all economic institutions." Despite those complexities, forecasters try to tell us "what the labour market will look like assuming there are no changes in policy and no 'unforeseen' events."⁸²

Prominent Canadian economist Lars Osberg recently gave a good illustration of the problems inherent in forecasting the future demand for skills within the labour market:

When it comes to a concern with skills, Canada has actually been here before, several times. As an example, let me cite a past grand design for the labour market. The formal title is "Labour Market Developments in the 1980s: A Report of the Task Force on Labour Market Development" but around Ottawa it was known as the Dodge Report and it came out 20 years ago. In 1981, like today, there was a lot of concern about future labour market shortages, and there were great big forecasts of huge skill shortages in the future. There was also a lot of concern then -- as now -- with the skills that were being developed and the adequacy of current training and educational institutions.

The Dodge Report made a great many good points and in fact it was a landmark report in a lot of respects. However, a central premise in the Dodge Report was the idea that the run-up in oil prices that we'd seen in the 1970s had ushered in an era of high oil prices and high energy prices in general. If that was going to be the case, and if Canada was going to face high energy prices off into the indefinite future, many oil, gas, coal and hydroelectricity projects would become viable. Of course, it wasn't just the federal government that was making this forecast, it was a general forecast in the private sector as well. A lot of energy mega projects across this country were forecast to pay off, in a major way. There were some very well developed plans for additional coalmines in Cape Breton as well as hydro developments in Labrador and tar sands and frontier natural gas. Most of these were, in essence, huge construction projects in under populated areas of the country.

The labour market demand forecast that came from that macro economic scenario was that we would see a demand shift in Canada that was structural and long term. The occupational demand for labour in Canada would shift towards the skilled construction trades and to jobs in mining and manufacturing and the resource sector. Given the location of these mega-projects and the small population base of these areas, the forecast was for a labour shortage in the outlying regions of the country (such as Cape Breton) of construction workers and miners.

Furthermore, a perceived problem emphasized by the Dodge Report was that Canada just had too many university graduates. The report argued that there had been an over investment in highly qualified person power in Canada, particularly university graduates, who would be in excess supply as the structure of the economy shifted away from the service sector.

Well this forecast came in 1981 and as we all know what actually happened was that around 1985 we had a collapse in energy prices. Until last year, energy prices were extremely low in real terms. Energy mega projects were shelved and the demand for construction labour in places like Cape Breton basically disappeared. What is the moral of this story? ...the basic moral that I take is that the macroeconomic context is absolutely crucial to any labour market projection. We would like to know what specific skills are actually needed, but central forecasting has a poor record of prediction, partly because of the changing macro context of labour market change and partly because of the fluidity and rapidity of change on both the demand and supply-sides of the market.⁸³

As difficult as forecasting the future state of the labour market may be at the national or international level, it is even more complicated to construct forecasts for small political or administrative units. By definition, a place like Nunavut is highly vulnerable to outside developments like economic shocks. For small political units, relatively ‘small’ events on the national or international level can have very big effects.⁸⁴

From forecasting one future to developing scenarios about several possible futures

One way to offset the difficulties with forecasting is to add an alternative method to the research strategy. Scenario building is an ideal alternative to forecasting, which may be used in place of, as check against, or as a complement to forecasting.⁸⁵ Whereas forecasting assumes the continuity of the future with the recent past, scenario building assumes the likelihood of critical discontinuities between the present and the future.⁸⁶

Scenarios can be defined as “alternative images of how the future might unfold,” which are used to “assist in decision-making by offering the possibility to identify problems, threats and opportunities.”⁸⁷ Using alternative scenarios is a reminder of the extent to which forecasting must combine elements of both art as well as science.⁸⁸

As one advocate explains, scenario building provides a powerful alternative research strategy which makes planning possible even though the future is unpredictable:

Unlike traditional forecasting or market research, scenarios present alternative images instead of extrapolating current trends from the present. Scenarios also embrace qualitative perspectives and the potential for sharp discontinuities that econometric models exclude. Consequently, creating scenarios requires decision-makers to question their broadest assumptions about the way the world works so they can foresee decisions that might be missed or denied.⁸⁹

Unlike forecasting, which focuses on a single scenario about the future, multi-scenario research strategies make it possible to avoid the shocks and crises that inevitably result when a forecasted future does not occur. Organizations that invest all their planning in a single scenario derived from a forecast are bound to encounter unforeseen circumstances, and find themselves having to react in less than satisfactory situations.

An illustration of economic scenario building

The state of the world and Canadian economies has changed enormously in the 18 months since the LFNA report was completed. And, the changes in the next year and a half could be as great or even greater.

One short year ago, most financial commentators claimed the economic boom of the late 1990s was attributable to globalization and the new information technologies. They argued the US (and perhaps Canada) had entered a qualitatively new period in economic

history with the emergence of a ‘new economy’ -- something that supposedly made the traditional business cycle obsolete. With hindsight, it is obvious that analyses based on uncritical acceptance of the prevailing economic wisdom of the late 1990s proved wrong.

In a 1999 article, the American economist Thomas Palley provided a good example of what the contemplation of alternative economic scenarios entails. Long before the economic downturn of late 2000 or early 2001 had begun, he discussed three alternative outcomes to the American boom of the 1990s: a soft landing, a hard landing or even a crash.⁹⁰

Palley argued the **soft landing scenario** might involve a slowing of economic growth to an annual rate of perhaps 1% from its late 1990s high of around 4%. After a brief period of slower growth, the economy would recover. Obviously, in retrospect, we know that scenario did not materialize.

The second scenario Palley identified was the possibility of a **hard landing** for the American economy. That was supposed to involve a recession (i.e., at least two consecutive quarters of negative growth), with a recovery occurring only after a period of negative growth. Palley did not indicate how long an American recession might last, or how deep it might go.

The final scenario that Palley discussed was the possibility of a **crash landing**: a prolonged recession that would have the potential of becoming something far worse, possibly a depression.

By envisaging alternative futures like this, organizations and governments can equip themselves to develop a course of action that is capable of being modified as events unfold:

Each distinct future is something from which we can learn how to reconcile our mission with the environment. In the face of the unknown there cannot be predetermined answers. Thus strategy ceases to be a fixed plan but rather a learning process that leads to continuous improvement in the alignment of the organization to its environment.⁹¹

ENDNOTES

- ¹ The title of the report was *Nunavut Department of Education 5 Year Labour Force Needs Analysis*, RT & Associates, Yellowknife, May 2000. In both the text and these endnotes, the report is referred to as the LFNA report.
- ² The goal of creating a Nunavut version of the COPS system was expressed by the authors of the LFNA report. (For a basic description of how COPS works, see the following Internet address: <http://www.aved.gov.bc.ca/labourmarketinfo/chngngskills/content/append1.htm>) They claimed the COPS system provided a precedent for their work. However, the LFNA report really only makes partial use of it (and the related OccInfo system maintained by the government of Alberta) in Appendix 10. It is important to note that while the LFNA report admitted the COPS system works better at the national level than the provincial or territorial level, it did not mention some of the other standard cautions applied to the use of COPS. For example, the main HRDC publication that reports on the data contained in the current version of the COPS (i.e., *Job Futures*) contains the following disclaimer in the Preface: *Projections should be interpreted with caution since no one can say with certainty what the future has in store. These projections are not predictions of what will necessarily happen. Rather, they represent one possible path for occupational developments.* (My emphasis -- BM)
See: Section 5, "Labour Market Information for Career Decisions Making," in *Making Career Sense of Labour Market Information*, a publication by the Canadian Career Development Foundation, with the assistance of HRDC and the BC Ministry of Education, Training and Technology. Section 5 of the report can be found on the Internet at:
<http://workinfontet.bc.ca/lmisi/Making/CHAPTER5/NATLMI1.HTM>
- ³ Among the many factors that are part of the COPS model are the following: average annual growth rates; number of job openings; gender composition; full-time and part-time employment rates; employment in the main industries; provincial distribution of employment; education and skills required for various occupations; types of people that normally enter the occupation; earnings; where the future job prospects will be; and the effects of technological change. For more information, see the description of COPS on the Internet at: <http://workinfontet.bc.ca/lmisi/Making/CHAPTER5/PROV1.HTM>
- ⁴ For comments on COPS, see footnote #2 above. For more on the limitations of economic and labour market forecasting generally, see Appendix 1 of this paper. Also see: Jamie Peck, "Voodoo Economics: 'Art' and 'Science' in Employment Forecasting," in: Daniel Dorling and Stephen Simpson (eds.), *Statistics in Society: The Arithmetic of Politics*, Arnold, 1999.
- ⁵ As mentioned above, the authors did make use of the COPS system.
- ⁶ The paucity of social scientific research on the topic is understandable, given the recent creation of Nunavut. Fortunately, since the LFNA report was completed several new publications have added to our knowledge about the economy and labour market in Nunavut. Two of the most important are: Jack Hicks and Graham White, "Nunavut: Inuit Self-Determination through a Land Claim and Public Government?," in: Jens Dahl, Jack Hicks and Peter Jull (eds.), *Nunavut: Inuit Regain Control of Their Lands and Their Lives*, International Work Group for Indigenous Affairs, 2000; and Conference Board of Canada, *Nunavut Economic Outlook: An Examination of the Nunavut Economy*, May 2001 (referred to hereafter as NEO).
- ⁷ This report employs the concept 'land-based economy' as per section 5.1 of the NEO.
- ⁸ For more information on the kind of data missing see: NEO, page 51.

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- ⁹ Both the *NEO* and the study by Hicks and White, op. cit., have a comparative element built into their analyses.
- ¹⁰ See: *NEO*, page 51.
- ¹¹ For example, if we look at the sectoral analysis of the economy contained in Appendix 4 of the *LFNA* report, we find the informants used by the authors estimated there were 9,450 jobs in Nunavut during 1999 (and an estimated 5,000 people engaged in domestic harvesting: 500 'intensive' harvesters, 1,000 'active' harvesters and another 3,500 'occasional' harvesters). However, as Figure 7 (on page 18) shows, there were actually 11,264 people employed in 1999. The difference between the two figures is slightly more than 15%, an indication of the problems that can arise when estimating employment levels in an entire economy by aggregating subjective estimates of employment levels in each industry.
- ¹² See: *NEO*, pages 54-56. For an indication of some other kinds of data that are missing, see *ibid*, page 92.
- ¹³ For more on this see: Anne E. Green, "Problems of Measuring Participation in the Labour Market," in: Daniel Dorling and Stephen Simpson (eds.), *Statistics in Society: The Arithmetic of Politics*, Arnold, 1999, page 323.
- ¹⁴ See: Timothy J. Bartik, *Jobs for the Poor: Can Labor Demand Policies Help?*, Russell Sage Foundation, 2001, page 23.
- ¹⁵ For information about the Federal-Provincial Labour Market Development Agreements, see: the articles in Tom McIntosh (ed.), *Federalism, Democracy and Labour Market Policy in Canada*, McGill-Queen's University Press, 2000.
- ¹⁶ The *LFNA* report is less systematic and weaker conceptually than the *NEO* report. For example, the latter distinguishes between four factors of production in a wage economy: natural capital (i.e., resources), physical capital, human capital (i.e., labour) and social capital (i.e., social and political organization). By contrast the *LFNA* document does not operate with such systematic conceptual distinctions.
- ¹⁷ Given the absence of a government-generated model of the economy, or even an overall economic strategy, the authors of the *LFNA* report used three things to create an economic model: (1) the sectoral and industry reports from the Department of Sustainable Development; (2) interviews with key informants in government and business; and (3) their own knowledge about the Nunavut economy. (*LFNA*: 5)
- ¹⁸ For example, the *NEO* report forecast that transfer payments are likely to go down relative to the growth in population during the next 20 years, which will lead to slower economic growth. (Transfers from the federal government to Nunavut – including both the Canada Health and Social Transfer and the Federal Formula Financing Plan -- are currently growing at 5.19% per year. (*NEO*: 73,75)
- ¹⁹ For a good summary statement of the *NEO* report's overall forecast for the Nunavut economy, see page 89.
- ²⁰ See: Department of Finance, *The Budget Plan 2001*, page 41.
- ²¹ See: Paul Martin, Minister of Finance, *The Budget Speech 2001*, pages 4-5. The current recession has altered conditions in the Canadian labour market. By September 2001, the national, unemployment rate had risen to 7.7% from 6.6% in January 2000. The recession has also changed the fiscal position of the federal government. The December budget forecast that federal revenues would only grow at an

average annual rate of 1.9% from 2000-01 to 2005-06. (See: *The Budget Plan 2001*, op. cit., pages 35 and 190.)

- ²² For a good example of the use of economic scenarios for the American economy prior to the recession, see: Thomas Palley, “End of the Expansion: Soft Landing, Hard Landing, or Even Crash?”, *Challenge* 42:6, November-December 1999. More on this below.
- ²³ By comparison, the *NEO* report provided a slightly more nuanced argument. (See: page 58). It forecast that transfers from the federal government to the GN would go down relative to population, leading to slower economic growth during the period from 2000 to 2020. That is a good example of the kind of structural change that can occur in an economy, and which can undermine a long-term forecast.
- ²⁴ That weakness in the forecasting contained in the *LFNA* report is shared by the more sophisticated *NEO* report prepared by the Conference Board.
- ²⁵ For more on the lack of objective data on the Nunavut economy, see: *NEO*, pages 91-94. In future years, there will be more data -- from both Statistics Canada and Nunavummit Kiglisiniartiit.
- ²⁶ For an indication of what the informants said, see: *LFNA*, Appendices 1, 3 and 4. Methodologically speaking, there is no clear account of the connection between the comments in those Appendices and the analysis evident in body of the report.
- ²⁷ It is hard to overestimate the importance of mining in the economy of Nunavut. For more information about the future of the mining industry, and the employment of Inuit in it, see: *NEO*, pages 63-65, 78-80.
- ²⁸ The central importance of harvesting was also recognized in the *NEO* report. It recognizes that the two key components of Nunavut’s mixed economy -- the wage economy and the land-based economy -- cannot be counterposed to each other. Most households are preoccupied with finding a way to balance participation in both, since they derive income from both types of activity. (page iv) Furthermore, the land-based economy has an enormous potential for building the self-esteem of youth, making them more employable. (*NEO*, page 18)
- ²⁹ See the table on page 14 of the *LFNA* report, which gives a breakdown of estimated job growth by industry and economic function.
- ³⁰ The *NEO* report says the federal government currently spend \$3.6 million for labour market programs run by HRDC, and the GN spends \$13.7 million on economic development programs. (*NEO*: 45-46)
- ³¹ The call for the GN to develop an economic strategy and promote economic cooperation was echoed in *NEO*, pages 1-2, 49.
- ³² For example, see: J. Pekkarinen et al, *Social Corporatism: A Superior Economic System?*, Clarendon Press, 1992. For a short description of corporatist experiments in Canada see: Tod D. Rutherford, “‘Still in Training?’ Labour Unions and the Restructuring of Canadian Labour Market Policy,” *Economic Geography* 50, pages 136-138. While the *NEO* report emphasizes the need for greater economic cooperation, it does not suggest the involvement of labour. (See: page 98.)
- ³³ See: Rodney Haddow, “Reforming Labour-Market Policy Governance: The Québec Experience,” *Canadian Public Administration* 41:3, 1998.
- ³⁴ See: Andrew Sharpe and Rodney Haddow (eds.), *Social Partnerships for Training*, Queen’s University School of Policy Studies, 1997. Also see: *Report and Proceedings from the CSLS Roundtable on Creating a More Efficient Labour Market*, Centre for the Study of Living Standards, February 26-27, 2001, pages 31-52.

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- ³⁵ To construct their labour force model they used time series data from the Census, territorial labour force surveys, and harvest data from the Department of Sustainable Development. The following seven variables provided the basis for that model: population by region; population by age; labour force participation by region; the labour force participation rate; the labour force participation rate by economic sector; employment by economic sector; and the highest level of education by region. (*LFNA*: 26) The success of a labour force forecast depends, in part, on the ability of the researchers to untangle past cyclical changes from those attributable to cohort effects. The *LFNA* report makes no effort to do that.
- ³⁶ For the exact formula used to forecast the size of the labour force, see: *LFNA*, page 26.
- ³⁷ That is not meant to belittle the importance of demographic data. Clearly, the labour force in Nunavut is growing far more rapidly (5.9% during the period from 1989 to 1999) than the Canadian labour force as a whole (1.1% for the same period). (*LFNA*: 18)
- ³⁸ The *LFNA* report does discuss education (see: page 33 and Appendix 9), but none of that discussion is actually integrated into the labour force model.
- ³⁹ To develop a useful strategy for labour force development, it is necessary to use up to date evidence on the output of the educational system in terms of graduates (both aggregate numbers and trends as a proportion of youth) and compare it with the demand from the economy.
- ⁴⁰ Future versions of the *LFNA* report should incorporate data on labour force participation and employment rates by education levels into the core of the model. For example, we need to know what the educational profile of the labour force is likely to be in 5 or 10 years time. We also need to examine the changes in inactivity rates for youth over time (where inactivity is defined as the proportion of youth ages 15-19 and 20-24 who are neither in school nor working). See: Paul Beaudry and David P. Green, *Individual Responses to Changes in the Canadian Labour Market*, Industry Canada, 1998, page 29.
- ⁴¹ See: Green, "Problems of Measuring Participation in the Labour Market," op. cit., pages 313-323.
- ⁴² See: Green, "Problems of Measuring Participation in the Labour Market," op. cit., on the need to explore other concepts.
- ⁴³ The importance of dealing with the issue of migration is recognized in the *NEO* report. (See: page 77.)
- ⁴⁴ For a recent example see: Beaudry and Green, *Individual Responses to Changes in the Canadian Labour Market*, op. cit., page 5.
- ⁴⁵ There are a number of indications of that spread throughout the report.
- ⁴⁶ According to the *NEO* report, 51% of young women plan to attend post-secondary education, while only 34% of young men do. (See: page 31.) For a discussion of gender differences on the education and work plans among youth in southern Canada, see: Richard Marquardt, *Enter at Your Own Risk: Canadian Youth and the Labour Market*, Between the Lines Press, 1998, pages 56-57 and 102-105, and Richard Marquardt, *Youth and Work in Troubled Times: A Report on Canada in the 1990s*, Canadian Policy Research Networks, 1996, pages 6-7.
- ⁴⁷ The *LFNA* report also discussed the possibility that political pressure might be exerted to make ethnicity a hiring criterion in place of education, to increase the number of Inuit employed. (*LFNA*: 22-23)
- ⁴⁸ For more on education, see the *LFNA* report, page 34, and the *NEO* report, page 95.
- ⁴⁹ Other elements of social infrastructure that would make a contribution include counseling to build the social and coping skills needed to capture and hold jobs. (*LFNA*: 23)
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- ⁵⁰ Research suggests the “economic payoffs” for such training are “higher when the training is received from one’s current employer than from an outside institution.” See: Andrew Sum, Neeta Fogg and Garth Magnum, “Confronting the Youth Population Boom: Labor Market Prospects of Out-of-School Young Adults,” *Challenge*, September/October 2001, page 51.
- ⁵¹ See: Morley Gunderson and W. Craig Riddell, “Training in Canada,” in: Albert Berry (ed.), *Labor Market Policies in Canada and Latin America: Challenges of the New Millennium*, Luwer, 2001, page 262.
- ⁵² Most employers and workers do not have access to good quality information about the complex array of training programs that exist See: Gunderson and Riddell, “Training in Canada,” op. cit., pages 255-256, 263.
- ⁵³ Governments in southern Canada have all shifted away from passive labour market policies (i.e., policies that provide income support to employable individuals while they are unemployed, like employment insurance and social assistance), towards active labour market policies (i.e., policies that push employable recipients to participate in workfare programs, or programs that develop job-related skills, to qualify for social assistance or employment insurance). Active labour market policies are intended to help people find and keep a job and/or improve their income while working. For more on active labour market policies in Canada see: Rodney Haddow, “How Ottawa Shrivels: Ottawa’s Declining Role in Active Labour Market Policy,” in: Leslie Pal (ed.), *How Ottawa Spends, 1998-99*, Oxford University Press, page 100, and Morley Gunderson and W Craig Riddell, “Training in Canada,” in: Albert Berry (ed.), *Labor Market Policies in Canada and Latin America: Challenges of the New Millennium*, Luwer, 2001, pages 248-249.
- ⁵⁴ See: Gunderson and Riddell, “Training in Canada,” op. cit., page 249.
- ⁵⁵ See: Bartik, *Jobs for the Poor: Can Labor Demand Policies Help?*, op. cit., pages 202-203.
- ⁵⁶ See: Bartik, *Jobs for the Poor: Can Labor Demand Policies Help?*, op. cit., pages 85-89.
- ⁵⁷ See: Bartik, *Jobs for the Poor: Can Labor Demand Policies Help?*, op. cit., page 47.
- ⁵⁸ See: Sum et al, “Confronting the Youth Population Boom: Labor Market Prospects of Out-of-School Young Adults,” op. cit., pages 52-53.
- ⁵⁹ See: Bartik, *Jobs for the Poor: Can Labor Demand Policies Help?*, op. cit., page 94.
- ⁶⁰ For example, see: Richard Marquardt, “Labour Market Policies and Programmes Affecting Youth in Canada,” paper prepared for the Organisation for Economic Cooperation and Development (OECD), September 1999, pages 14-16. In addition, for a discussion of how European countries compare with Canada in terms of the role training plays in the transition from school to work, see Marquardt, *Enter at Your Own Risk*, op. cit., pages 64-65, and 117-119.
- ⁶¹ See: the previously cited writings of Richard Marquardt. In addition, see: Graham Lowe, “Youth, Transitions and the New World of Work,” in: Victor Marshall et al., *Restructuring Work and the Life Course*, University of Toronto Press, 2001, page 30.
- ⁶² See: Marquardt, “Labour Market Policies and Programmes Affecting Youth in Canada,” pages 19-20.
- ⁶³ The best discussion of the phenomenon of under-employment in Canada is contained in D. W. Livingstone, *The Education-Jobs Gap*, Garamond, 1999. Much of his analysis can also be used to cast light on the related problem of over-employment.
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- ⁶⁴ See: Lowe, "Youth, Transitions and the New World of Work," op. cit., page 33.
- ⁶⁵ See: Lowe, "Youth, Transitions and the New World of Work," op. cit., page 33, and Nunavummit Kiglisimartiit *1999 Nunavut Community Labour Force Survey: Overall Results and Basic Table*, pages 28 and 30, which shows the 1999 unemployment rate for Inuit youth was 48.1% for those aged 15-24, and 34.8% for those aged 25-34 by the 'no jobs available' criteria, and 38.0% and 28.6% by the national criteria.
- ⁶⁶ For more on this as it applies to Canadian youth, see: Richard Marquardt, "Labour Market Policies and Programmes Affecting Youth in Canada," paper prepared for the Organisation for Economic Cooperation and Development (OECD), September 1999, pages 17-18.
- ⁶⁷ See: the division of the service sector into upper and lower tiers, in Harvey Krahn and Graham Lowe, *Work, Industry and Canadian Society*, third edition, ITP Nelson, 1998, page 57.
- ⁶⁸ There is an Internet version of the publication online at:
<http://www.jobboom.com/conseils/top100A.html>
- ⁶⁹ Since this process would be an exercise in labour force planning, it is important to send copies of the original document to all informants, and solicit opinions and concerns for consideration in the next version.
- ⁷⁰ See: Paula R. De Masi, "The Difficult Art of Economic Forecasting," *Finance and Development*, December 1996. Also see: Michael J. Artis, "How Accurate is the World Economic Outlook? A Post-Mortem on Short-term Forecasting at the International Monetary Fund," Staff Studies for the World Economic Outlook, International Monetary Fund, 1988, and Michael J. Artis "How Accurate are the IMF's Short-term Forecasts? Another Examination of the World Economic Outlook," IMF Working Paper # 96/89, International Monetary Fund, 1996. For a discussion of the sources of uncertainty inherent in economic forecasting see: David F. Hendry and Neil R. Ericsson, "Editor's Introduction," in their book *Understanding Economic Forecasts*, MIT Press, 2001, pages 2-3, and David F. Hendry, "How Economists Forecast," in the same volume, page 19.
- ⁷¹ See: Paul Martin, Minister of Finance, *The Budget Speech 2001*.
- ⁷² For a summary of the types of forecasts that exist, see: David F. Hendry, "Methods of Forecasting," in: David F. Hendry and Neil R. Ericsson, *Understanding Economic Forecasts*, MIT Press, 2001, pages 24-25.
- ⁷³ See: Michael Ward, "Prediction and Forecasting," in: Adam Kuper and Jessica Kuper (eds.), *Social Science Encyclopedia*, second edition, Routledge, 1996, page 663.
- ⁷⁴ When conducting forecasts, "the length of past time series, the interval of the observations and their regularity should be closely related to the time horizon considered important." Ibid.
- ⁷⁵ See: De Masi, "The Difficult Art of Economic Forecasting," op. cit., and Artis, "How Accurate is the World Economic Outlook?," op. cit.
- ⁷⁶ Ibid.
- ⁷⁷ Ibid.
- ⁷⁸ See: "Editorial Comment: Dismal Prophets," *Financial Times*, December 30, 2001
- ⁷⁹ "In December 2000 our panel had an average 2001 growth forecast for the United States of no less than 3.0%. Growth actually turned out to be just 1.2% (at least until the figures are revised again), well
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outside our panel's range of forecasts of 2% (HSBC) to 4.1% (ABN-Amro).” “Economic forecasts: Crystal balls”, *The Economist*, March 14, 2002.

⁸⁰ “Editorial Comment: Dismal Prophets,” op. cit.

⁸¹ Jamie Peck suggests two reasons why economic forecasting remains so popular despite its poor track record: first, that popularity “*may originate in the anti-interventionist culture established in the 1980s: the belief was that the market is right, therefore the market had to decide. Forecasting played a part in this ideology because it was one of the means by which the policy-making process was subordinated to supposedly inevitable market forces. The purpose of policy was to run with the grain of the market (or even mimic the market itself), not to buck the trend.*” (348) Second, is the peculiar “*cultural status of economics, coupled with the spurious degree of accuracy which tends to be associated with numerical data. Quantification itself seems to be a source of assurance for some policy-makers, even if the bases of this quantification remain dubious, as must always be the case with economic forecasts.. Forecasts may look reliable, but behind the façade of scientific respectability is a labyrinth of guesswork, and questionable assumptions. ...Forecasters’ models are only as reliable as the assumptions on which they are constructed and the guesses that are fed into them. The problem of the unpredictability of economic life is endemic in all forecasting work, no matter how precise or convincing the results look. Guesses in, guesses out.*” (347-348) See: Peck, “Voodoo Economics...,” op. cit., page 348

⁸² Ibid, pages 341, 342, and 343.

⁸³ See: Lars Osberg, “A Framework for a More Efficient Labour Market in Canada,” in: *Report and Proceedings from the CSLS Roundtable of Creating a More Efficient Labour Market*, February 26-27, 2001, Ottawa, pages 81-82

⁸⁴ Ibid, page 346.

⁸⁵ See: the Hendry and Ericsson, “Editor’s Introduction,” op. cit., page 9.

⁸⁶ This resumption of change and discontinuity is being increasingly supported by those social scientists embracing innovations from the natural science like chaos and complexity theory. For an explanation see: David Byrne, *Complexity Theory and the Social Sciences: An Introduction*, Routledge, 1998. Also see: Paul Ormerod, *Butterfly Economics*, Pantheon, 2000, “*Toward a More Comprehensive Theory of Economics*,” David P. Timmins, on the Internet at <http://homepage.mac.com/brownsteve/timmins/econ/> and John Kay, “The Failures of Economic Forecasting,” on the Internet at http://www.johnkay.com/articles/search.php? action=view&doc_id=197. The classic text on scenario building is Peter Schwartz, *The Art of the Long View: Planning for the Future in an Uncertain World*, Doubleday, 1992.

⁸⁷ Taken from “Longer-term energy and environment scenarios,” International Energy Agency, October 2001, on the Internet at <http://www.iea.org/envissu/>

⁸⁸ See: Neal Hatch, “Modeling and Forecasting at the Bank of England,” in *Understanding Economic Forecasts*, op. cit., pages 138 and 148.

⁸⁹ See: the discussion about scenario building on the website of the Global Business network, on the Internet at: <http://www.gbn.org/public/gbnstory/scenarios/>

⁹⁰ See: the Palley article mentioned above.

⁹¹ See: “Strategic Thinking with Scenarios,” on the Internet at: <http://www.idongroup.com/assoc/stratscen1.html>