

July 2009



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BEST PRACTICES IN LABOUR MARKET INFORMATION:
RECOMMENDATIONS FOR CANADA'S LMI SYSTEM

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CSLS Research Report 2009-5
July 2009

Prepared for the LMI High-Level Advisory Panel | By the Centre for the Study of Living
Standards

Best Practices in Labour Market Information: Recommendations for Canada's LMI System

Abstract

The objective of this report for the LMI High-Level Advisory Panel is to provide advice on best practices in LMI and policy suggestions to improve the Canadian LMI system. Based on a thorough analysis, it presents 20 recommendations to improve the operation of LMI in Canada in the areas of LMI data, LMI analysis and forecasting, and LMI dissemination. For these recommendations to have traction, two conditions are needed. First, it is crucial that senior policy makers, that is those at the Deputy Minister and Ministerial level, recognize the importance of an effective LMI system for a high-performance economy. Second, it is extremely important that jurisdictional issues do not become a barrier to the provision of high-quality LMI to the public.

Résumé

Le présent rapport est destiné au Groupe consultatif de haut niveau sur l'IMT. Il renferme des conseils à propos des pratiques exemplaires en matière d'IMT, ainsi que des suggestions stratégiques pour améliorer le système d'IMT du Canada. Supporté par une analyse compréhensive, le rapport propose 20 recommandations en vue de l'amélioration de l'IMT au Canada, dans le domaine des données d'IMT, le domaine de l'analyse de l'IMT et l'établissement de prévisions connexes, ainsi que dans le domaine de la diffusion de l'IMT. Ces recommandations ne sont valables que si deux conditions sont remplies. Premièrement, les décideurs qui occupent un poste de ministre et de sous-ministre doivent absolument reconnaître l'importance de l'efficacité d'un système d'IMT pour assurer la performance de l'économie. Deuxièmement, il est extrêmement important que les questions de compétence fédérale ou provinciale ne constituent pas un obstacle à la diffusion d'IMT de qualité.

Best Practices in Labour Market Information: Recommendations for Canada's LMI System

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Best Practices in Labour Market Information: Recommendations for Canada's LMI System

Executive Summary

The objective of this report for the LMI High-Level Advisory Panel is to provide advice on best practices in LMI and policy suggestions to improve the Canadian LMI system. Based on a thorough analysis, it presents 20 recommendations to improve the operation of LMI in Canada in the areas of LMI data, LMI analysis and forecasting, and LMI dissemination.

LMI Data

Statistics Canada has made two steps forward and one step backward in terms of the development and availability of LMI data in recent years. The forward steps include the additional coverage of Aboriginal Canadians, the territories, and immigrants by the LFS, and the development of on-line Community Profiles at a very detailed geographical level to provide census data on the labour market to Canadians at no cost. Backward steps include the discontinuation of the Workplace and Employee Survey (WES) and the Business Condition Survey; the failure to develop a new indicator of unfulfilled labour market demand to replace the discontinued Help Wanted Index, and the failure to provide free on-line access to basic time series on labour market statistics. This latter situations lies in marked contrast to the practices of central statistical agencies in other OECD countries, all of whom make this information freely available to the public.

It is important that Statistics Canada continue the forward progress in the development of and availability of LMI. In this vein, the report makes the following recommendations to the LMI panel to address LMI data gaps.

- To provide timely and more detailed local LMI, SEPH estimates of employment and wages should be made available with much greater geographical disaggregation, including the industry dimension.
- Following the leads of both the United States and the European Union, to provide information needed to identify, monitor and assess labour market imbalances, Statistics Canada should institute a job vacancy survey
- Again following the leads of both the United States and the United Kingdom, to increase understanding of labour market dynamics, Statistics Canada should develop and release reliable estimates of gross labour market flows based on the LFS
- To allow an assessment of the importance of and trends in long-distance commuting, Statistics Canada should add to the LFS a question on the province of work as well as the province of permanent residency.

- To provide a more comprehensive picture of the labour market performance of Aboriginal Canadians, Statistics Canada should strive to include persons living on Indian reserves in the LFS.
- To increase the accessibility of LMI data to Canadians, Statistics Canada should follow through on its intention of establishing a policy of free data access by eliminating charges for CANSIM.
- To allow Canadians to make fully informed decisions on where they would better off in terms of real wages, Statistics Canada should develop estimates of price levels by province (provincial PPPs).

LMI Analysis and Forecasting

Much LMI, including both analysis of current labour market conditions and labour market forecasts by industry and occupation, is currently produced by the federal government, provincial governments, and sector councils. It is important that the organizations responsible for LMI analysis and forecasting in Canada make progress in the development of better LMI products. To this effect, the report makes the following recommendations to the LMI Panel to address LMI analysis and forecasting issues.

- Given the importance of the timeliness of LMI, it is recommended that HRSDC officials, particularly at the most senior level, give greater priority to the timeliness of the LMI released by the department.
- To augment and complement national LMI programs such as COPS and Job Futures, the federal government should encourage sector councils well connected to their industry to mount LMI programs along the lines developed by the Construction Sector Council.
- Given the dearth of information on the different types of users of employment forecasts by occupation and industry and their numbers, and the range of decisions these forecasts inform, it is recommended that the government commission a study to document the uses made of LMI forecast by all users, including public policy makers, educators, employers, and individuals. This information will be essential to determine what priority LMI forecasting should receive in resource allocation decisions.
- Given the lack of evaluation of occupational and industry forecasts, particularly those done by HRSDC, it is recommended that a rigorous evaluation of employment forecasts by occupation and industry be undertaken to determine whether these forecasts are of acceptable accuracy.
- Given the coordination problems identified between officials working on LMI at HRSDC and Service Canada, particularly those in Service Canada offices in the regions, it is recommended that the Deputy Minister of HRSDC, who has

responsibility for both HRSDC and Service Canada, ensures that more effective reporting relationships are implemented for the LMI file.

- To minimize the number of contradictory occupational projections released to the public, in provinces where both levels of government provide occupational forecast, the two levels of government should attempt to present consistent forecasts.
- Given the lack of interest on the part of a number of provinces in the creation of a federal-provincial LMI agency, the idea of an agency should at this time be put aside and efforts to improve LMI should focus on enhancing the operation of existing institutions at both the federal and provincial level and on enhancing the degree of cooperation between the two levels of government.

LMI Dissemination

The major vehicle for LMI dissemination to Canadians is the internet. The CSLS reviewed the state of the websites on LMI maintained by the federal government and the provinces and practices in the realm of LMI dissemination in other countries. The report finds that it is important that the organizations responsible for disseminating LMI in Canada continue to improve the quality of information and services they are providing the public. In this vein, the report makes the following recommendations to the LMI panel to address key LMI dissemination issues.

- To consolidate the information on LMI produced by federal departments and agencies and posted on a number of websites, a single LMI portal should be created. At a minimum, all LMI produced by HRSDC and Service Canada should be available on a single website.
- To address the lack of awareness on the part of Canadians of the many high-quality LMI products available, organizations responsible for LMI dissemination at both the federal and provincial level should develop, hopefully in cooperation with each other, a multimedia publicity campaign to educate the public on how the appropriate use of LMI can contribute to their labour market success.
- Given the key role of guidance and career counselors in directing Canadians to LMI products, it is essential that this group be very well informed about the availability and uses of LMI products. Specific measures such as information sessions and seminars should be taken to ensure that this is indeed the situation.
- The United States has shown that ICT is a very effective tool for LMI delivery as various ICT delivery formats can ensure that LMI covers persons with different media preferences. Canadian LMI providers should investigate whether they are making full use of ICT as a LMI delivery mechanism.

- A key general lesson from international experience in LMI dissemination is that it is crucial to tailor LMI to suit the needs of users. LMI providers in Canada should analyze who are the actual and potential users of their products and then attempt to ascertain if the products fit the needs of all users, and in cases where they do not, adjust their products accordingly.
- The availability of high-quality LMI becomes more important when jobs are scarce, unfortunately a state the Canadian economy is currently entering. This means that the effective dissemination of LMI has now become more important. Governments should recognize this and respond by allocating additional resources to LMI dissemination.

This report has presented 20 recommendations to improve the operation of LMI in Canada in the data of LMI data, LMI analysis and forecasting, and dissemination. For these recommendations to have traction, two conditions are needed. First, it is crucial that senior policy makers, that is those at the Deputy Minister and Ministerial level, recognize the importance of an effective LMI system for a high-performance economy. The current downturn may make this message easier to communicate. Without strong leadership from the top on the LMI file little will happen. Second, it is extremely important that jurisdictional issues do not become a barrier to the provision of high-quality LMI to the public. From the point of view of the vast majority of Canadians, what matters is not which jurisdiction delivers LMI products, but that the products are of high-quality and easily accessible. In the dialogue between federal and provincial officials on LMI issues, this perspective should be front and centre.

Best Practices in Labour Market Information: Recommendations for Canada's LMI System

The objective of this report for the LMI High-Level Advisory Panel is to provide advice on best practices in LMI and policy suggestions to improve the Canadian LMI system.¹ The report is divided into three major parts. The first part looks at the data gaps in the LMI area. The second section looks at the LMI interpretation and analysis. The third section examines the mechanisms for LMI dissemination and areas for improvement. Each section will include in the discussion reference to international best practices and to federal/provincial/territorial cooperation and governance and as well present recommendations. This report draws on earlier work by the author on the LMI issue (Sharpe, 2008 and Sharpe and Qiao, 2006) as well as the author's general experience and knowledge in the area. The final section prioritizes the recommendations contained in the first three sections.

I. LMI Data Gaps

LMI can be divided into two basic types of information. The first is data on actual job vacancies offered by employers and data on the characteristics of individuals seeking jobs. The second is aggregate data on the number and characteristics of jobs and job vacancies and the number and labour market characteristics of the employed and unemployed. The first type of data is used by both persons looking for work and employers in their decisions related to the labour market. The second type of information, while also used directly by individuals and employers in their labour market decision-making, is more widely used by policy analysts and educators for labour market policy development and research as well as educational planning purposes. The private sector has done a very good job in the development of information for matching actual job vacancies and persons looking for work through the internet. The private sector has largely ignored the second type of data because of the greater cost of collecting these data and the limited market for such data. The main supplier (and user) of this second type of data is the public sector. This section focuses more on the second type of data than the first given its greater link to the role of government in LMI provision.

The quality of the labour market information currently available in Canada is already very high, largely due to the efforts of Statistics Canada. In addition to this high quality, the extent of this information has been considerably expanded in recent years, with much more information now available, for example, on recent immigrants² and Aboriginal Canadians. Nevertheless, a number of gaps in the LMI availability have been

¹ The final report of the LMI High-Level Advisory Panel "Working Together to Build a Better Labour Market Information System for Canada" can be found at www.lmi-imt.ca.

² For discussion of data developments at Statistics Canada related to immigrants, see Picot (2008).

identified. This section identifies and assesses seven data gaps that the author considers particularly important.³

Insufficient Local LMI

In the consultations conducted by the Advisory Panel, a very frequently mentioned data gap was a lack of current local LMI on, for example, unemployment rates by industry and occupation and characteristics of the unemployed. It is recognized that the census, with its 20 per cent sample, provides excellent detail on most labour market indicators. But there are long lags in the release of detailed census data, and they quickly become out of date given that estimates are only obtained at five year intervals. There is strong demand for up-to-date detailed LMI at the local level.

The monthly Labour Force Survey (LFS) is the primary source of data on labour market conditions collected on a household basis. But the LFS national sample size of around 50,000 household, while very large for a household survey, is not large enough to provide reliable estimates of basic labour force variables (e.g. employment and unemployment), below the economic region and EI region levels. The sample size is also too small to provide reliable estimates of detailed labour force variables below the provincial level (e.g. the unemployment rate by occupation). It would be very costly to expand the LFS to significantly increase the quantity of reliable detailed local LMI.

The monthly Survey of Payroll, Employment and Hours (SEPH) is the primary source of data on employment and wages collected on an establishment or employer basis.⁴ As administrative data are used in the compilation of SEPH, sample size is not a limiting factor. In principle, estimates can be produced at a detailed geographical level, although no SEPH estimates are currently publically available below the provincial level. Unlike the LFS, SEPH does not provide data on the characteristics of workers (education, age, etc.) or on the labour force or unemployment.

Two options to obtain better local LMI are to substantially increase the sample size for the LFS and to provide greater geographical disaggregation for the SEPH. A major obstacle to the implementation of the first option is the expense, as greater sample size incurs major costs. The second option is relatively inexpensive given that the data are already collected. A more radical, but potentially cost-neutral change would be a larger LFS sample run on a less frequent basis (e.g. 150,000 households surveyed every quarter), with a trade-off between greater detail and timeliness of the data. A related option would be the continuation of the monthly LFS with a reduced sample size for national and provincial estimates combined with a much larger survey at a lower frequency (e.g. 200,000 households once or twice a year).

³ Other data gaps include: a more comprehensive index of labour costs and compensation, including wages and fringe benefits; intercensal data on wages by occupation; data on older and displaced workers; data on employment quality; data on employment by size of employer; data matching field of study with occupation; data on pensions; data on private trainers and private schools; price indexes for education. For presentations on certain of these gaps, see Nault (2008), Bowlby (2008), Bowlby and Michaud (2008), and Giddings (2008)

⁴ An additional source of local data is the employment insurance (EI) administrative data, which provides detailed information on those collecting EI. The weakness of this data set is that it only covers a small sub-set of the working age population.

The United States has done innovative work in developing local LMI in recently years (HRSDC, 2008). In particular, the Longitudinal Employer-Household Dynamics Program (LEHD) uses statistical techniques to combine federal and state administrative data on employers and employees with core Census Bureau censuses and surveys to produce detailed LMI by county on a quarterly basis. The Local Employment Dynamics (LED) partnership between state LMI agencies and the US Bureau of Census has developed new information about local labour market conditions at low cost without additional response burden through the creative use of worker and business records. These two programs should be examined for their applicability to Canada.

It is understandable that everyone would like to have better local data. The issue is whether the cost of producing such data is justified by the additional benefits. It is often unclear what the actual uses of more timely detailed LMI would be (other than curiosity about the local labour market picture) and what the benefits of these uses would be. Consequently, there is a need for a better articulation of the benefits of more detailed local LMI. Nevertheless, given the strong message that has been received from Canadians about the importance of local LMI, the development of data in this area should be a priority.

Lack of Data on Job Vacancies

Canada does not have a job vacancy survey to provide estimates of the number of hard-to-fill vacancies being offered by employers. These vacancies are a measure of unfulfilled demand for labour. Statistics Canada ran a Job Vacancy Survey (JVS) in the 1970s, but it was discontinued in 1978 for budgetary reasons. The Workplace and Employee Survey (WES) did provide some data on job vacancies, but this survey has recently been discontinued. The Help Wanted Index (HWI), based on the number of newspaper job ads in the classified section of newspapers, served as a proxy for changes in job vacancies, but in 2003 this index was also discontinued because it failed to capture the growing number of jobs posted on the internet. In contrast to Canada, both the United States and the European Union have job vacancy surveys (Box 1).

There is no doubt that reliable estimates of job vacancies would be extremely useful information for macroeconomic policy formulation as they would shed light on the unemployment/vacancies relationship, known as the Beveridge Curve (Nickell, 2004). An increase in the number of vacancies at the same time as an increase in unemployment reflects rising mismatch unemployment likely due to structural factors.

Information gathered by Statistics Canada on job vacancies would of course not be directly relevant to job seekers as the information would be released in aggregate terms and would not identify the employer with vacancies. There is already a massive amount of information on firm-specific job vacancies from such sources as the National Job Bank, job opportunities notices on corporate websites, newspaper ads, and electronic labour exchanges. While extremely useful to job seekers, this information has limited analytical value as it is difficult to aggregate because of multiple listings and is not gathered in a consistent manner over time.

Box 1: Job Vacancy Surveys

A job vacancy survey generally includes some or all the following characteristics:

- random sample of companies, selected by industry, size, and region;
- questions about the number and types (*e.g.* full or part time) of positions open for hire;
- questions about hires, quits, layoffs, discharges, and other separations;
- educational, training, and experience requirements for those positions;
- the average pay and benefits offered; and
- expectations about future job vacancies.

The objectives of a job vacancy survey can include:

- helping business managers develop effective recruiting strategies;
- identifying industries and occupations in which jobs are available;
- detecting emerging labour and skills shortages; and
- preventing imbalances between the supply and demand for labour.

In the United States, job vacancy surveys are regularly undertaken by state governments and by the Bureau of Labor Statistics at the federal level through the Job Openings and Labor Turnover Survey (JOLTS). The first estimates from JOLTS were released in 2002. JOLTS differs from many state-run surveys, because it does not ask about occupational information, the difficulty of filling various positions, or openings for specific kinds of employees (*e.g.* skilled or unskilled).

JOLTS is a voluntary monthly survey of 16,000 establishments, out of a sampling frame of 8 million establishments (<http://www.bls.gov/jlt/>). The JOLTS sample is stratified by ownership, census region, major industry division, and size class. JOLTS estimates are published at the Census Region level (Northeast, Midwest, South, and West) for a variety of industry aggregates based on the North American Industry Classification System. JOLTS provides estimates of hires, quits, layoffs, discharges, and other separations. In November 2008, there were 2.8 million job openings in the United States (last day of the month), whereas there were 10.5 million people unemployed.

Outside the United States, many countries have job vacancy surveys, but most were only recently instituted. According to a report by Statistics Netherlands in 1997, only Germany, Sweden, and the Netherlands conducted relatively frequent enterprise-based vacancy surveys. At that time, the United Kingdom, Canada, and the United States surveyed help-wanted advertisements to create indexes as a proxy for job vacancies (Clark and Philips, 2002). Since that time, Finland, Portugal, Spain, and the United Kingdom have launched job vacancy surveys.

In 2002, the European Union (EU) launched a quarterly job vacancy survey similar in many ways to JOLTS, however, participation is not mandatory for member countries. While data are available for 26 EU members except Ireland, some members have not conducted the survey in every quarter. For example, survey results are only available for the third quarter of 2003 in Denmark. Only job vacancy rates by sector are published, actual numbers of job vacancies are not. The job vacancy rate is the proportion of posts that are vacant. In the third quarter of 2008, the job vacancy rate for all countries reporting was 1.9 per cent.

Data on job vacancies are not available in a consistent time series from administrative sources. Thus reliable job vacancy information requires an employer survey. Such a survey can be expensive to run, particularly if the sample size is large enough to allow detailed disaggregation by industry, occupation, and geography. Of course, the larger the sample size the greater the overall cost to employers to comply. Historically there have been methodological issues associated with the precise definition of a vacancy, but the existence of job vacancy surveys in other countries likely means that these issues have been resolved, or have been deemed largely immaterial. The lack of consistent historical data means that it would take a number of years for a new JVS to generate a sufficient time series to shed light on labour market imbalances. Despite this limitation, data from a job vacancy survey would be very useful for the analysis of labour market conditions and should be a priority. A detailed analysis or assessment of the benefits and costs of a JVS (as well as the ratio of costs to benefit of alternative surveys and LMI initiatives) would be useful at this stage to assess whether a JVS should be implemented.

Lack of Estimates on Gross Flows

LFS estimates are generally expressed in net terms. For example, a fall in employment of 50,000 jobs may result from a gain of 100,000 new jobs that was more than offset by a loss of 150,000 jobs, or an increase of 10,000 in the number of unemployed may result from 30,000 persons joining the ranks of the unemployed, 15,000 unemployed persons finding employment and 5,000 unemployed persons leaving the labour force. These figures are called gross flows estimates, and they are very useful in the study of labour market dynamics as they allow the tracking of movements between different labour force statuses. These movements vary with the business cycle and can change over time due to structural factors.

The data needed to estimate gross flows, namely information on the labour market status of individuals 15 and over in the current and previous month, are already collected in the LFS. But for technical reasons which remain unclear, Statistics Canada does not make gross flow estimates available. In contrast, gross flow information is available for the United States from two sources, the household-based Current Population Survey and the establishment-based Quarterly Census of Employment and Wages, and in certain European countries (See Box 2). Consequently, Statistics Canada has fallen behind international best practice in its lack of public estimates of gross flows.

Lack of Data on Long-distance Commuters

A recent labour market development, largely driven by the resources boom in Western Canada and the fall in the price of air transport, has been the emergence of a group of workers who commute long distances on a regular basis. For example, one frequently hears reports of workers in the Alberta oil sands from Newfoundland who maintain a permanent residence in their home province, and visit their families at home up to 10 times a year.

Box 2: Gross Labour Market Flows in the United States

In the United States, two key sources of data provide information on gross labour market flows: the Current Population Survey (CPS) and the Business Employment Dynamics (BED) program.

The CPS is a monthly survey of households which covers the full civilian labor force, including self-employed individuals. It is similar in nature to the Canadian Labour Force Survey (LFS). Gross flows data from the CPS are available monthly and provide flows between the following four categories: employed, unemployed, not in the labour force and other inflows/outflows (death, persons turning 16 and net international migration). The initial dataset was created in 2005, and data are now available back to 1990, but only at the national level. Data are available in seasonally and not seasonally adjusted format and are broken down by gender. No industry details are available publically.

Table 1 provides an example of available data for the period of November to December 2008. The data is presented in matrix form. This matrix represents the number of individuals moving from a given labour market status in November (defined on the left-most column) to another labour market status in December (defined on the top row). The diagonal thus represents the number of people not changing status over the period. The right-most column provides a breakdown of the working age population by their labour market status in November (e.g. 144.1 million people were employed in November 2008) and the bottom row does the same for December (e.g. 143.4 million people were employed in December 2008). Thus, from November to December 2008, on a net basis employment fell 806,000 and the number of unemployed increased 632,000. These estimates reflected large gross flows, with almost 6.5 million individuals leaving employment (2.56 million for unemployment and 3.89 million leaving the labour force altogether) and almost 5.7 million individuals taking up employment (2.09 million from unemployment and 3.49 million from out of the labour force).

Table 1: CPS Labour Force Status Flows, November to December 2008, Seasonally Adjusted (in thousands)

December November	Employed	Unemployed	Not in labour force	Other outflows*	Total
Employed	137,677	2,558	3,886	23	144,144
Unemployed	2,088	6,134	2,252	2	10,476
Not in labour force	3,487	2,380	74,158	183	80,208
Other inflows*	86	36	292	0	415
Total	143,338	11,108	80,588	208	

Source: Bureau of Labor Statistics, http://www.bls.gov/cps/cps_flows.htm

* Includes estimated deaths (outflows), persons just turning 16 (inflows) and adjustments to estimated population totals from net international migration.

The set of statistics from the BED program is derived from the Quarterly Census of Employment and Wages (QCEW). The QCEW is built on administrative data from US establishments, and it covers 98 per cent of US private sector jobs.¹ Flows on job gains and job losses from the BED are available quarterly since 1992 (with a lag of approximately eight months) and are disaggregated by State, industry and firm size. Data on whether job loss/gains are from expanding/contracting or opening/closing establishments are also available. In March 2008, the number of job in private sector establishments was 270,000 lower than in December 2007, with 7.13 million jobs gained and 7.40 million job lost over the period (Table 2). Over the same period employment according to the CPS fell 271,000.²

1. The BED excludes government, private households and establishments with zero employment, as well as self-employment.

Box 2 continued: Gross Labour Market Flows in the United States

Table 2: BED Job Gains/Losses in the US Private Sector, third month of quarter over third month of pervious quarter, seasonally adjusted (in thousands)

	September 2007	December 2007	March 2008
Gross job gains	7,323	7,676	7,130
At expanding establishments	5,849	6,220	5,731
At opening establishments	1,474	1,456	1,399
Gross job losses	7,564	7,366	7,400
At contracting establishments	6,209	6,010	6,047
At closing establishments	1,355	1,356	1,353
Net employment change	-241	310	-270

Source: Bureau of Labor Statistics, <http://www.bls.gov/bdm/#news>

Few European countries either produce gross labour market flows or publically release datasets that can be used to measure gross flows. One which does is the United Kingdom, which produces longitudinal datasets of its Labour Force Survey (LFS) where respondents have been linked over either two or five quarters. These are available for each quarter since 1993. While the UK Office for National Statistics recognizes that gross flows obtained from the LFS are subject to a number of biases (most notably non-response bias and response error bias), they find that such bias can be mitigated by using four-quarter moving average and that they should not affect changes in estimates over time (Brooks and Barham, 2006).

2. Gross and net flows data from the CPS and BED are not always consistent. For example, for the three month period from September to December 2007, the CPS showed an employment increase of 237,000 compared to 310,000 for BED.

The treatment of such individuals in households surveys (unlike establishment surveys) is problematic. It is likely, for example, that a long distance commuter from Newfoundland working in Alberta is captured as living in Newfoundland, since his household would be surveyed in Newfoundland, with another member of the household providing proxy responses. The issue is whether this person is recorded as employed in Newfoundland, when his or her place of employment is outside the province. Some have estimated that up to 10 per cent of the persons included in the LFS employment estimate for Newfoundland actually work in another province, although the evidence to support such a large number is limited.⁵

⁵ One approach to the estimation of the number of interprovincial commuters, on a net basis, may be the cross-provincial variation in the ratio of SEPH employment estimates to LFS employment estimates. SEPH estimates are based on the province of work, while LFS estimates are based on the province of residence. Persons whose permanent residence and family ties are, for example, in Newfoundland, but who commute to work in Alberta will be captured as employed in Alberta in SEPH and employed in Newfoundland in the LFS. A below average SEPH/LFS employment ratio may thus constitute evidence of the long distance commuting phenomenon, although this abstracts from all other potential differences in the SEPH/LFS ratio across provinces. In 2007, Newfoundland did in fact have the lowest SEPH/LFS ratio of any province: 83.2 per cent, compared to the national average of 84.8 per cent. With an increase in long distance commuting, one might expect a fall in the SEPH/LFS ratio. But the average ratio in the 1991-2000 and 2001-2007 periods have been unchanged for both Canada (84.6 per cent versus 84.8 per cent) and Newfoundland (83.2 per cent versus 83.0 per cent). This suggests that long distance commuting is not increasing in relative importance.

The inclusion of a question in the LFS and census on the province of work as well as the province of residence would provide more timely estimates of interprovincial and hopefully long-distance commuters (estimates may be available from the census).

Aboriginal Canadians

Historically, there have been limited data on the labour market performance of Aboriginal Canadians for three reasons: many reserves have historically not participated in the census; the LFS could not capture the labour market performance of the off-reserve Aboriginal population because of the absence of a question on Aboriginal identity and limited sample size; and the LFS excludes persons living on Indian reserves. The first two of these three limitations have now largely been overcome, and some progress is being made on the third.

In the 2006 census, only 22 reserves were not completely enumerated because of a failure to cooperate with census takers, a major improvement from earlier censuses (30 in 2001 and 77 in 1996). Since 2004, the LFS has included a question on Aboriginal identity for the Western provinces and since 2007 the question has been asked at the national level. More importantly, the off-reserve aboriginal population is now oversampled to increase the reliability of estimates. Because of these steps, detailed up-to-date information of the labour market performance of off-reserve Aboriginal Canadians is now available.

The major gap remaining in the collection of labour market information on Aboriginal Canadians to make it comparable in scope to that of non-Aboriginal Canadians is the extension of the LFS to reserves. Statistics Canada has run the LFS on certain reserves in Alberta on a pilot project basis, apparently with success. It is hoped that LFS coverage can be extended to all reserves in the near future. The recently established First Nations Statistical Institute may be able to play an important role in achieving this objective.

Data Accessibility

Canadians should in principle have easy access to LMI produced by Statistics Canada given that they pay for the collection of the data through their taxes and devote time and effort to fill out Statistics Canada surveys. In addition, once the data are gathered and the data distribution system set up, the marginal cost of data dissemination is virtually zero.

Statistics Canada, after long lagging the United States and most other OECD countries, is instituting a policy of free data access. Many time series are available at no charge on the Statistics Canada website. Most Statistics Canada publications are now posted on-line for free access by the public. Statistics Canada plans to make available to all researchers without charge micro-data file (currently, only university-based researchers enjoy free access under the Data Liberation Initiative).

The final barrier to complete free access to all Statistics Canada time series data (excluding of course special runs or custom tabs where a case can be made that the user should pay the cost) is CANSIM, which remains costly to access. In the fall of 2008, Statistics Canada gave serious consideration to making access to CANSIM free. However, a budget cut imposed on the agency by the government made senior management reconsider this plan. It was felt that the organization would have difficulty absorbing the loss in gross revenues from CANSIM estimated to be around \$7 million, although the actual cost of collecting the revenues may mean that net revenues are somewhat lower. It is unclear what proportion of this amount represents an intergovernmental transfer whereby federal government departments and agencies purchase Statistics Canada data, but it is likely a significant proportion of the total. The net cost to the federal government may therefore be significantly less than \$7 million.

It is very important that Statistics Canada proceed with its intention of making access to CANSIM free. Statistics Canada should be a strong advocate of the view that statistics are a public good and contribute importantly to the health and vibrancy of the body politic. A key message that the agency should articulate is that free and easy access by the public to data is strongly in the public interest. In this vein, the federal government should realize the importance of free data access and provide Statistics Canada at least part of the resources needed to complete its free data access policy and make CANSIM available at no charge to all Canadians.

To assess best practice in OECD countries related to the free availability of basic LMI from on-line databases maintained by central statistical offices, CSLS staff visited the websites of OECD statistical agencies to ascertain whether time series on the national unemployment rate and employment level were freely available.⁶ The results are found in Table 1. All 29 countries surveyed have a consistent long-term time series (9-10 years or more) on the national unemployment rate and employment level. In stark contrast, Statistics Canada does not make available on its website a long-term time series for either the national unemployment rate or employment level.⁷ Thus Canada is the only OECD country that does not make basic labour market data available on-line. This is an embarrassing situation for Canada in the eyes of the world and should be immediately rectified. In addition, this situation represents a financial barrier to the use of labour market data by often resource-constrained non-governmental organizations in Canada and to researchers outside Canada who wish to use Canadian data in their research.

⁶ The purpose of the visits was to determine the free availability of the basic labour market data, not to assess the overall extent of the data available and user-friendliness of the websites. On these criteria CANSIM appeared to rank high.

⁷ To be sure, estimates for 2004-2008 are available for these two series, and with sufficient effort, these data may be gleaned from free publications.

Table 1: A Survey of the Free Online Availability of Long Times Series Labour Statistics in OECD Countries

Country	Unemployment Rate	Years*	Employment Level	Years*
Australia	yes	1978-2008	yes	1978-2008
Austria	yes	1995-2007	yes	1995-2007
Belgium	yes	1999-2008	yes	1999-2008
Canada	no	***	no	***
Czech Republic	yes	1993-2007	yes	1993-2007
Denmark	yes	1995-2008	yes	1995-2008
Finland	yes	1989-2008**	yes	1989-2008**
France	yes	1996-2008	yes	1996-2008
Germany	yes	1990-2008	yes	1990-2008
Greece	yes	1998-2008	yes	1998-2008
Hungary	yes	1998-2008	yes	1998-2008
Iceland	yes	1991-2008	yes	1991-2008
Ireland	yes	1988-2008	yes	1988-2008
Italy	yes	1992-2008	yes	1992-2008
Japan	yes	1953-2008	yes	1953-2008
Korea	Yes	2000-2008	Yes	1982-2008
Luxembourg	Yes	2000-2008	Yes	1995-2008
Mexico	Yes	2000-2008	Yes	2000-2008
Netherlands	Yes	1970-2008	Yes	1970-2008
New Zealand	Yes	1987-2008	Yes	1986-2008
Norway	Yes	1962-2007	Yes	1961-2007
Poland	Yes	1990-2008	Yes	2005-2008
Portugal	Yes	1998-2008	Yes	1998-2008
Slovak Republic	Yes	1994-2007	Yes	1994-2007
Spain	Yes	1976-2007	Yes	1976-2007
Sweden	Yes	1992-2008	Yes	1970-2008
Switzerland	Yes	1991-2008	Yes	1991-2007
Turkey	Yes	1988-2006	Yes	1923-2006
United Kingdom	Yes	1971-2007	Yes	1971-2007
United States	Yes	1948-2008	Yes	1939-2008

* In some cases, earlier data are available, but is not consistently presented.

** Database has an annual user charge - yet data was accessed for free without problem.

*** To be sure, estimates for 2004-2008 are available for these two series, and with sufficient effort, earlier data may be gleaned from free publications.

Lack of Purchasing Power Parity Estimates by Province

A key factor affecting the decisions of Canadians to relocate is the relative wage levels in different jurisdictions. Extensive data are available on nominal wage and compensation levels by province, but information is not available on real wages and compensation by provinces because of the lack of availability of estimates of provincial price levels,⁸ which are needed to calculate real wages by province. This absence is surprising as one might expect that information on absolute unit prices would be part of the data collection for the CPI. Equally, Statistics Canada collects information on absolute unit prices in Canada as part of its contribution to the OECD purchasing power parity (PPP) program, and the national estimates may be derived from sub-national data. Differences in the cost of housing is the major reason for differences in the overall price level across provinces, and much information is available on housing prices and rents.

The optimal allocation of labour across provinces requires that reallocation or mobility decisions be based on appropriate data, which means data must take account of spatial differences in prices (comparable to taking account temporal differences in prices). A worker who leaves a job paying \$20 per hour in Newfoundland to accept a job paying \$30 per hour in Alberta will not be better off if the average price level in Alberta is more than 50 per cent higher than in Newfoundland. Because Statistics Canada does not currently release estimates of price levels by province, data on the level of real wages across provinces do not exist, and Canadians cannot make informed decisions on where they would be better off.

The Primary Role of Statistics Canada in LMI Collection

Statistics Canada is the major source of information on the general labour market (as opposed to information on actual job vacancies and persons seeking work) in Canada. The agency provides high quality, unbiased information on a wide range of labour market indicators. But in recent years, LMI data have emerged from other sources, many in the private sector. Many of these new data series have emerged because there was an unmet need for this type of information, a need that Statistics Canada did not seek to fill. For certain types of data of narrow interest and limited importance from a public policy perspective (e.g. compensation series of highly specific occupations), this growth in private sector data provision may be acceptable. But for more general data with a high public good dimension, there is a risk that private sector collection of these data series will be sub-optimal. These organizations do not have the resources, expertise, and credibility of Statistics Canada. Nor do they have the legislative authority to require compliance. Consequently, it is important to closely monitor this growth in private sector LMI collection and not allow the overall quality of LMI in Canada to deteriorate because of poor quality private sector information.

⁸ Data by province are available from Statistics Canada on the rate of change in price indexes such as the GDP deflator or the CPI, but not for the relative level of the price indexes.

Recommendations

Statistics Canada has made two steps forward and one step backward in terms of the development and availability of LMI in recent years. The forward steps include the additional coverage of Aboriginal Canadians, the territories, and immigrants by the LFS, and the development of on-line Community Profiles at a very detailed geographical level to provide census data on the labour market to Canadians at no cost. Backward steps include the discontinuation of the Workplace and Employee Survey (WES) and the Business Condition Survey; the failure to develop a new indicator of unfulfilled labour market demand to replace the discontinued Help Wanted Index, and the failure to provide free on-line access to basic time series on labour market statistics. This latter situations lies in marked contrast to the practices of central statistical agencies in other OECD countries, all of whom make this information freely available to the public.

It is important that Statistics Canada continue the forward progress in the development and availability of LMI. In this vein, the report makes the following recommendations to the LMI panel to address LMI data gaps.

- To provide timely and more detailed local LMI, SEPH estimates of employment and wages should be made available with much greater geographical disaggregation, including the industry dimension.
- Following the leads of both the United States and the European Union, to provide information needed to identify, monitor and assess labour market imbalances, Statistics Canada should institute a job vacancy survey
- Again following the leads of both the United States and the United Kingdom, to increase understanding of labour market dynamics, Statistics Canada should develop and release reliable estimates of gross labour market flows based on the LFS
- To allow an assessment of the importance of and trends in long-distance commuting, Statistics Canada should add to the LFS a question on the province of work as well as the province of permanent residency.
- To provide a more comprehensive picture of the labour market performance of Aboriginal Canadians, Statistics Canada should strive to include persons living on Indian reserves in the LFS.
- To increase the accessibility of LMI data to Canadians, Statistics Canada should follow through on its intention of establishing a policy of free data access by eliminating charges for CANSIM.
- To allow Canadians to make fully informed decisions on where they would better off in terms of real wages, Statistics Canada should develop estimates of price levels by province (provincial PPPs).

II. LMI Analysis and Forecasting

Much LMI, including both analysis of current labour market conditions and labour market forecasts by industry and occupation, is currently produced by the federal government, provincial governments, and sector councils. The objective of this section is to review the adequacy of information from these data sources and to make recommendations. To keep this section to a manageable size the definition of LMI is here used in the narrow sense of information on current and especially future labour market demand and supply by industry and occupation. Consequently, all the information on general labour market trends and developments produced by federal government departments and agencies such as Statistics Canada, Finance Canada, the Bank of Canada, as well as provincial governments, financial institutions such as the chartered banks, economic forecasters, think tanks, and university-based researchers is not discussed.

Federal Government

HRSDC

Human Resource and Skills Development Canada (HRSDC) is the major supplier of LMI at the federal level. One key LMI product produced by HRSDC is the publication *Looking Ahead: A 10-Year Outlook for the Canadian Labour Market*, prepared by the Strategic Policy Research Directorate (Lapointe, Dunn, Tremblay-Cote, Bergeron, and Ignaczak, 2006). The Canadian Occupational Projection System (COPS) is used to generate these forecasts. The document “uses forecasting models to identify likely trends over the medium term in the level, composition and sources of labour demand and labour supply, and in the industrial and occupational distribution of employment. A key objective is to identify occupations where the current and projected states of supply and demand suggest that imbalances could develop or persist over time.”⁹

It is important to note that the outlook is only presented for the national level. This is because supply data are not considered reliable enough at the level of detail needed to carry out comprehensive projections of labour market imbalances by province. The HRSDC website indicates that this publication is produced every year, but the current issue posted on the website was released in October 2006 and is for the 2006-2015 period using 2005 data as the baseline employment estimates.

The second key LMI product produced by HRSDC, jointly with Service Canada, is *Job Futures*, touted as “Canada’s national career and education planning tool.” Long

⁹ The most recent publicly available version of the report provides estimates for the 2006-2015 period for expected demand (expansion demand, retirements, deaths, and emigration), expected supply (school leavers and immigration), and excess demand (expected supply minus expected demand) for 140 three-digit occupations. The report is available at http://www.hrsdc.gc.ca/en/publications_resources/research/categories/labour_market_e/sp_615_10_06/sp_615_10_06e.pdf.

produced in hard copy form and distributed to guidance and career counsellors, the document now appears available only on-line. *Job Futures*, which is largely based on COPS, provides a one-word summary descriptor of employment prospects (limited, fair, good) for the “current” labour market (presumably 2007) and for 2009 from the perspective of the jobseeker for 265 occupational groups, which aggregate all occupations in Canada except military occupations. It also provides forecasts of employment opportunities for 155 areas of study and information on the nature of work in the occupation as well as educational requirements.

Service Canada

Service Canada, which is the service delivery agency of the federal government and reports to the Deputy Minister of HRSDC, employs labour market analysts in its regional offices located in all provinces. These analysts produce forecasts of employment prospects by occupation for their province and sometimes sub-provincial regions. The methodology used to produce these forecasts appears to be based on COPS, but the exact manner in which the forecasts are prepared appears not publicly available. There is great variation in the level of detail (e.g. time horizon, number of occupations, etc.) provided by the different Service Canada regional offices.

In addition to the above information, the Quebec office of Service Canada also provides a Quebec version of *Job Futures*. It provides forecasts for growth and retirements from 2007 to 2011 for all 520 occupations in the National Occupation Classification. Significant analysis is provided to support the projection.

As previously noted in the *Looking Ahead* document produced by HRSDC, labour supply data are not considered reliable enough at the level of detail needed to carry our comprehensive projections of labour market imbalances by province. Only a national outlook is provided. It is unclear how this caveat is reconciled with the provincial occupational forecasts produced by the regional Service Canada offices.

Provincial Governments

All ten provincial governments provide occupational employment forecasts for their province. But information varies greatly in terms of timeliness, number of occupations, time horizon of the forecasts, sub-provincial breakdowns, quantity and quality of background information, and descriptor of occupational prospects used. Table 2 provides details on the occupational forecasts produced by the ten provincial governments.

The most detailed outlooks are provided by Alberta, Quebec, and New Brunswick. Alberta offers year-by-year forecasts of employment from 2008 to 2012, by occupation and region for 140 occupations. Quebec provides an on-line database of occupational outlooks, by region, from 2008 to 2012, with one-word outlook descriptors for 500 occupations. New Brunswick offers 3-, 5-, and 8-year projections for 500 occupations, but with no regional disaggregation.

Table 2: Occupational Forecasting by Governments

Province	Name	Comments	Source
Newfoundland and Labrador	LMI Works	While NL has its own website, the outlook is provided directly by the Service Canada site (www.labourmarketinformation.ca). One-word qualitative description "employment potential".	Government of Newfoundland & Labrador, Department of Human Resources, Labour and Employment
Prince Edward Island	Job Futures Prince Edward Island	Forecasts are out of date. Only go to 2009, like Ontario. One-word qualitative description employment outlook.	Service Canada, in cooperation with the PEI Labour Market Information Network (LMI Network)
Nova Scotia	Career Options Nova Scotia	Estimated change in employment from 2007 to 2012, one-word descriptor ("growing"), and estimated annual openings due to growth and retirements. 300 occupations. Forecast for province as a whole, no disaggregation.	Career Options Nova Scotia based on COPS. Nova Scotia Labour and Workforce Development.
New Brunswick	Labour Market Information Products	Extensive and up-to-date publications, 3-, 5-, and 8-year employment level forecasts from COPS. 500 occupations. For province as a whole, not disaggregated.	Labour Market Analysis Branch of the Department of Post Secondary Education, Training and Labour
Quebec	Information sur le marche du travail	Online database of occupational outlooks, by region, 2008-2012, one-word descriptors. 500 occupations.	Ministere de l'Emploi et de la Solidarite sociale
Ontario	Ontario Job Futures	Last updated for 2004. Outlook for "next five years" (2004-2009) with one-word descriptor. 163 occupations.	Labour Market Information and Research, Ministry of Training, Colleges and Universities and Economic Analysis and Information Directorate, Human Resources Development Canada, Ontario Region
Manitoba	Manitoba Job Futures	Occupation outlook for 2008-2012. Paragraph of qualitative description about occupational outlook. One-word summary descriptor. Outlook for province as a whole, no disaggregation. Over 200 occupations.	Competitiveness, Training and Trade Manitoba, and Service Canada
Saskatchewan	Saskatchewan Job Futures	One-word summary descriptor. Outlook for province as a whole, no disaggregation.	Saskatchewan Advanced Education and Employment and Service Canada

Province	Name	Comments	Source
Alberta	Labour Market Forecasts	Year-by-year forecasts of employment from 2008 to 2012. By occupation and region for 140 occupations.	Alberta Employment and Immigration, Alberta Modified Canadian Occupational Projection System (COPS)
British Columbia	Work Futures: British Columbia Occupational Outlooks	Detailed qualitative analysis with some quantitative projections from COPS for the year 2011 only. For almost 200 occupations. For BC as a whole, no disaggregation. Baseline info is out of date, from 2001.	Service Canada and BC Ministry of Advanced Education
Government of Canada	Job Futures	Occupational forecasts for 265 occupational groups, which aggregate all occupations in Canada, except military occupations. Forecast for 2009 only. One-word summary descriptor (Limited, Fair, and Good) with bullet-point supporting analysis. Also provide forecasts for 155 areas of study. No disaggregation below the national level.	Service Canada
Government of Canada	LMI	Occupational forecasts disaggregated by province and region, but for an unspecified time horizon. One-word descriptors with no supporting analysis or justification. Projections for the year 2015 through a 2005 report available on the HRSDC website. (http://www.hrsdc.gc.ca/en/publications_resources/research/categories/labour_market_e/sp_615_10_06/sp_615_10_06e.pdf)	Service Canada
Government of Canada	Job Futures - Quebec only	For Quebec only forecasts for growth and retirements from 2007 to 2011 for all 520 occupations in the National Occupation Classification. Significant analysis is provided to support the projection. This site is very difficult to find (no obvious links to the Service Canada homepage) and to navigate (no obvious way to compare prospects for the same occupation in multiple provinces, etc.)	Service Canada

Source: Provincial government websites and Service Canada website.

Ontario and Prince Edward Island seemingly use out-of-date *Job Futures* information with only brief qualitative forecasts up to 2009. British Columbia, Manitoba, and Saskatchewan provide a qualitative outlook for around 200 occupations over the 2008-2012 period, but do not provide forecasts disaggregated below the provincial level. Nova Scotia provides estimated changes in employment from 2007 to 2012, a one-word descriptor (*e.g.* "growing"), and estimated annual openings due to growth and retirements for 300 occupations, and for the province as a whole, with no disaggregation.

Sector Council Occupational Forecasting

Of the 33 sector councils funded by the federal government, about one half (17) have undertaken some type of labour market forecasting for the industry or occupation they represent over the past six years (Table 3). Of these 17 councils, nine provide detailed forecast by occupation.

The simplest approach has been to provide a qualitative forecast of aggregate employment for a sector or occupation, usually as part of a broader study on human resources issues in the sector. About half the sector councils have at least taken this step. Some sector councils have gone further by publishing reports that provide more detailed and quantitative forecasts of occupational employment levels. The Electricity Sector Council, the Canadian Plastics Sector Council, the Information and Communications Technology Council, and the Canadian Tourism Human Resource Council have taken this approach.

The sector councils with the most developed occupational forecasts have online databases that allow for detailed and up-to-date forecasts by industry and province or region. The Construction Sector Council falls into this category and has arguably the most developed occupational forecasts of any national sector council.¹⁰

Sectoral councils have both strengths and weaknesses as a vehicle for the provision of LMI to Canadians. Their greatest strength is their industry involvement. This ensures that insights from the industry can be incorporated into LMI prepared by the sector council and that this LMI will in fact be used by the industry, given the close ties between the industry and the sector council. A weakness of the sector council approach to LMI from a national perspective is the incomplete nature of the sector council coverage of the economy, and the unevenness in the ability of existing sector councils to mount effective LMI programs.

¹⁰ See Conference Board of Canada (2005) for a case study of the impact and benefits of the Construction Sector Council's Labour Market Information Program on construction companies and buyers of construction services.

Table 3: A Survey of Occupational Forecasting Undertaken by Sector Councils, January 2009

Name	Aggregate Occupation / Employment Forecasting for the Sector	Detailed Forecast by Occupation	Description of Occupational Forecasting Activity
Sector Councils Participating in the HRSDC Sector Council Program			
Aboriginal Human Resource Council (AHRC)	No	No	
Apparel Human Resources Council (AHRC)	No	No	
BioTalent Canada	Yes	No	Qualitative "Expected HR Challenges in Next 3 to 5 Years" in Labour Market Report
Canadian Agricultural Human Resource Council (CAHRC)	No	No	Report being prepared on 5-year projection of HR needs in the agricultural sector
Canadian Apprenticeship Forum (CAF)	No	No	
Canadian Automotive Repair and Service Council (CARS)	No	No	
Canadian Aviation Maintenance Council (CAMC)	No	No	Labour market information system under development
Canadian Council of Professional Fish Harvesters (CCPFH)	No	No	
Canadian Food Industry Council (CFIC)	No	No	
Canadian Plastics Sector Council (CPSC)	Yes	Yes	In the October 2007 Labour Market Update Project <i>The Plastics Industry to 2016</i>
Canadian Printing Industries Sector Council (CPISC)	No	No	2008 and developing a database and an HR study
Canadian Steel Trade and Employment Congress (CSTEC)	No	No	
Canadian Supply Chain Sector Council (CSCSC)	Yes	No	2005 Strategic Human Resources sector study
Canadian Tourism Human Resource Council (CTHRC)	Yes	Yes	2008 Report with labour supply and demand model by Conference Board; Forecast by province, NAICS industries, and occupations
Canadian Trucking Human Resources Council (CTHRC)	Yes	Yes	Sector HR Study in 2003 projected demand from 2003 to 2008
Child Care Human Resources Sector Council (CCHRSC)	Yes	No	Sector HR Study done in 2004 with outlook
Construction Sector Council (CSC)	Yes	Yes	Forecast by occupation, province, region, to 2015, last updated in May 2008
Contact Centre Canada (CCC)	Yes	No	Very limited qualitative outlook in <i>The Implications of Current Trends on Human Resources</i> report in 2007
Council for Automotive Human Resources (CAHR)	Yes	No	Aggregate employment outlook in <i>Competing Without a Net: The Future of the Canadian Automotive Industry</i> in 2008

Name	Aggregate Occupation / Employment Forecasting for the Sector	Detailed Forecast by Occupation	Description of Occupational Forecasting Activity
Cultural Human Resources Council (CHRC)	No	No	
ECO Canada (ECO)	Yes	No	In Canadian Environmental Employment, 2007, forecast of environmental jobs by NAICS sector
Electricity Sector Council (ESC)	Yes	Yes	In Powering Up the Future: 2008 LMI Study
Forest Products Sector Council	No	No	Website non-functional
Forum for International Trade Training (FITT)	No	No	
HR Council for the Voluntary & Non-profit Sector	No	No	
Information and Communications Technology Council (ICTC)	Yes	Yes	2008 Report <i>Outlook for Human Resources in the ICT Labour Market: 2008-2015</i>
Mining Industry Human Resources Council (MiHR)	Yes	Yes	2005 Report <i>Prospecting the Future</i> . Developing the Mining Industry Workforce Information Network (MIWIN) which will provide information about demand and supply of labour specifically for the Canadian mining sector. (HR Prospector Newsletter, Summer 2008)
Motor Carrier Passenger Council of Canada (MCPCC)	Yes	Yes	Skills demands by occupational category. Human Resources Sector Study 2006
National Seafood Sector Council (NSSC)	No	No	
Petroleum Human Resources Council of Canada (PHRCC)	Yes	Yes	2003 Report updated in 2004: <i>The Decade Ahead</i> . Forecast by region and occupation.
Police Sector Council (PSC)	Yes	No	<i>Policing Environment 2005</i> included a qualitative outlook for 2010
Textiles Human Resources Council (THRC)	No	No	
Wood Manufacturing Council (WMC)	Yes	No	2005 HR Sector Study. Aggregate labour force demand forecasts by NAICS industries
Partner Organizations & Developing Sector Councils			
Association of Canadian Community Colleges (ACCC)	No	No	
Canadian Council of Technicians and Technologists (CCTT)	No	No	
Engineers Canada	No	No	
Installation, Maintenance and Repair Sector Council (IMR)	No	No	

Source: Sector Council websites. List of Sector Councils from the Alliance of Sector Councils:
<http://www.councils.org/tasc/nav.cfm?s=memblast&p=memballs&l=e>

There is no doubt that certain sector councils, such as the Construction Sector Council, have excellent LMI programs and that employers and workers in these industries and occupations greatly benefit from the availability of this information. If sector councils

were the only source of LMI in Canada however, many sectors would be poorly served in terms of LMI, or not served at all, an unacceptable situation. Thus sector council LMI programs can never replace national LMI programs like COPS and Job Futures. But for the sectors where sector councils have the potential to develop effective LMI programs because of high degree of industry buy-in, so no doubt associated with the high value of occupational projections for planning purposes, the federal government should encourage the sector council to implement LMI programs.

Issues Related to LMI Analysis and Forecasting

The above overview of the sources of LMI analysis and forecasting raises a number of issues which are addressed in this section.

The Uses and Value of Occupational and Industry Forecasts

Employment forecasts by occupation and industry represent a key component of any LMI system. An obvious question is who uses these forecasts and what decisions are influenced by them. A second question is the overall reliability of these forecasts.

Traditional users of detailed labour market forecasts by industry and occupation include: government policy makers for decisions related to the allocation of resources for education and training, and decisions related to immigration; post-secondary educators for decisions related to program allocation; employers for the development of in-house training programs for occupations expected to be in short supply as well as for compensation decisions; and of course individual Canadians for decisions related to career paths and relocation.

If the forecasts are widely used for important decisions, then it is possible that more resources should be allocated to their preparation. On the other hand, if there are few users and the decisions they make based on the forecasts are not particularly important, then too many resources may be given to labour market forecasting. More information is needed on the uses of LMI forecasts to ascertain if the amount of resources currently allocated to LMI forecasting is at an appropriate level.

Of course, if employment forecasts by occupation and industry are unreliable, their use in decision-making may not be welfare-enhancing. In 2002, an OECD assessment of occupational forecasting in Canada noted that there was no regular assessment of the accuracy of the forecasts produced by HRSDC using the COPS model (Smith, 2002). An earlier, more detailed review of occupational forecasting, found that accuracy declines significantly with more detailed occupational categories, but that errors cancelled out to some extent when detailed projections were aggregated (Foot and Meltz, 1992). It seems certain that occupation forecasting remains more accurate at higher level of aggregation. As Smith notes, occupational forecasts are more valuable for policy making if they are more disaggregated, so the relationship between accuracy and level of aggregation is problematic.

Box 3: The Limitations of Occupational Forecasting

Forecast Errors in Underlying Macroeconomic Variables. Most occupational forecasts are based on conditional forecasts of GDP, interest rates, employment, and inflation. If this underlying macroeconomic forecast is wrong, then the occupational forecast also will be incorrect.

Technological Change. Since there is no credible way to predict technological change, it is not possible to predict how technologies that have yet to be invented will impact occupational prospects. For instance, in the early 1950s few foresaw how quickly and dramatically containerization would change the occupational prospects of longshore workers. Similarly, at present, it is difficult to predict the impact of service offshoring on traditionally stable professions like accountancy and law. There may be little change, or change may be radical.

Dynamic Supply and Demand Responses. Occupational forecasts that do not take into account how households and firms will respond to changing occupational prospects will provide misleading forecasts. Static models, such as COPS, do not have a feedback mechanism to take into account the response of agents to actions that occur in response to initial conditions. For example, relative wages are assumed to stay constant, which may not be true. There exists dynamic models for occupational forecasting such as the one developed by the Research Centre for Education and the Labour Market at the University of Maastricht University for the Netherlands (Corvers, 2008). These models explicitly take into account substitution arising from changes in relative factor prices. Some of the specific mechanisms missing in static models are explored.

Capital-Labour Substitution. Changes in production technology need not even be new or radically different to pose significant challenges for occupational forecasts. If a labour shortage develops and wages are bid up, firms might have the option of substituting capital for labour in their production processes. For instance, in Alberta in recent years, firms exploiting the oil sands have faced wage pressure as the pace of development has outstripped the growth of labour supply. One response has been to use ever larger dump trucks, such that each worker can move more material per hour.

Labour-Labour Substitution. When facing labour shortages and the associated pressure to raise wages, firms can not only substitute capital for labour, but also labour for labour, often less skilled labour for more skilled labour. This phenomenon is often evident in regulated occupations. In many parts of the United States, the rising cost of healthcare has led to the expansion of healthcare professionals like nurse practitioners who can substitute, albeit imperfectly, for services offered by physicians. A similar trend can be observed in the legal profession. Paralegals now provide a variety of legal services across Canada, offering an alternative to the more costly services offered by lawyers.

There are many reasons for the unreliability of LMI forecasts by occupation and industry, including errors in the underlying macroeconomic assumptions and a failure of static forecasting models to incorporate behavioural responses related to relative factor price changes. These changes can induce substitution of capital for labour, and substitution of one type of labour for another type. The uncertain or unpredictable nature of technological change is another factor that makes detailed LMI forecasting precarious. Box 3 provides additional discussion of these factors limiting the usefulness of occupational forecasts.

It is of course unrealistic to expect LMI forecasts to have a high degree of accuracy. But have such forecasts enjoyed an acceptable degree of accuracy in recent years? Unfortunately, we do not know the answer to this question as no assessment of the accuracy of LMI forecasts appears to have been undertaken for some time. Such an evaluation would be an essential tool to gauge the usefulness of such forecasts.

Coordination of HRSDC-Service Canada LMI Analysis and Forecasting

With the establishment of Service Canada in 2006, labour market analysts in the regional offices of Service Canada were disconnected from HRSDC headquarters in the National Capital Region, to whom they had traditionally reported for their LMI work. They now report to the Director General (DG) of the regional Service Canada office for all functions. This development had two implications. First, with the Regional DGs having more responsibility for resource allocation, some chose to give less priority to LMI than it previously received. This led to atrophy of the LMI function in some instances and may account for the great variation in the extent and possibly quality of LMI by province offered by the Service Canada regional offices.

Second, from 2006 to 2008 there was a lack of formal organizational links between the officials responsible for LMI development at HRSDC headquarters in Gatineau and the officials in the Service Canada regional offices with responsibilities in the LMI area. This meant that new LMI products developed at headquarters may not have been adopted as quickly in the regional offices, compared to the situation when HRSDC still had responsibility for these offices. In addition, HRSDC headquarters can no longer maintain consistency in the LMI analysis and forecasts delivered by the federal government to Canadians at the regional level.

These coordination issues between HRSDC and Service Canada related to LMI analysis and forecasting were well recognized by federal government officials and in November 2008 the regional LMI function was moved back from Service Canada to headquarters.

Duplication in the Provision of LMI Analysis and Forecasts between the Federal and Provincial Governments

As noted above, both the federal government through Service Canada and the provincial governments produce occupational forecasts by province. An obvious question

is whether this situation leads to duplication of resource use. A second question is whether the duplication has the potential to result in conflicting information on employment prospects.

Four types of relationship between the federal and provincial governments in the provision of occupational forecasts can be identified. The first case is where the provincial government does not undertake its own occupational forecasts and relies on those produced by the federal government. Newfoundland is the only province in this category. The second case is that of provinces that produce their own provincial occupational forecasts, but which work closely with Service Canada in the elaboration of these forecasts. Provinces in this category are Prince Edward Island, Manitoba, Saskatchewan, and British Columbia. The third case is where provinces produce their own forecast independent of the forecast produced for the province by Service Canada. Nova Scotia, New Brunswick, and Quebec fall in this category. The final case is where the province produces an occupational forecast, but the federal government does not produce a forecast for the province. Alberta is the only province in this category. In the first and fourth cases there is no duplication in the provision of occupational forecasts as only one level of government produces a forecast, the federal government in the first case and Alberta in the second case.

In the eight provinces where both the federal and provincial governments produce occupational projections, there is the potential danger of conflicting or contradictory signals on likely developments in the labour market. This indeed happens. For example, in Quebec, both Emploi Quebec and Service Canada forecast occupational prospects for the province as a whole for the 2008-2012 period. Generally, forecasts from both organizations are consistent. In a sample of 77 occupations related to infrastructure, Service Canada and Emploi Quebec forecast the same occupational prospects for 52 occupations. For 13 occupations, Emploi Quebec offered a less optimistic outlook than Service Canada, and in 12 occupations, Emploi Quebec offered a more optimistic outlook than Services Canada (El Ackhar, 2009).

In some instances these differences were significant. For example, Service Canada forecast the prospects of longshore workers as "good," while Emploi Quebec viewed their prospects as "limited." Emploi Quebec assessed the prospects of railway and motor transport laborers as "fair," while Service Canada felt the prospects for this type of job were "limited."

Appendix Table 1 provides a comparison of the forecasts by the federal government and the provinces for financial auditors and accountants in each province. This table provides detailed information on the sources for the forecasts. In seven provinces both jurisdictions provide forecasts for the occupation. In six provinces the forecasts are similar, namely good. But in Quebec the forecasts differ. The provincial government rates the demand for financial auditors and accountants as favourable. In contrast, the federal government in *Job Futures* rates the labour market prospects for this occupation as only fair. Interestingly, the federal government - on a different website - rates prospects for this occupation as good, so conflicting signals arise not just from

different federal and provincial projections, but also from differences in occupational projections within the federal government.

A case can be made that this duplication of occupational forecasting is not an optimal use of scarce resources and that it can give conflicting signals to users. It can be argued that in provinces where both levels of government produce independent occupational forecasts the two levels of government should attempt to work together to iron out differences and present consistent forecasts. The counterargument is that competition between providers of occupational forecasts may be beneficial in stimulating the use of best-practice techniques and providing potentially different perspectives on occupational developments, and these benefits exceed the costs of confusing the public through the publication of divergent forecasts.

The Issue of a LMI Agency

The idea of an independent LMI agency to assume responsibility for the LMI activities of the two levels of government has been advanced in recent years. The Canadian Institute for Health Information (CIHI) - a federal-provincial body that gathers, analyses, and disseminates information on health matters - is seen by some as a model for a potential LMI agency for a number of reasons. One reason is the perceived need to end duplication between federal and provincial LMI activities. A second reason is a desire by some to take the LMI activities from HRSDC where these activities may potentially be subject to political interference, and more important, may be of low priority for senior bureaucrats and political officials. As a result, LMI product may be subject to delays in release, reducing their timeliness and hence value. Finally, some argue that LMI analysis and forecasts would have more credibility if produced and released by an independent agency than by government.

Sharpe (2008) develops arguments for two scenarios: an independent LMI agency and what he calls an “enhanced status quo”. He argues that the scenario for a LMI agency should only be applicable to one of the three major LMI areas: LMI analysis and forecasting, and not to data gathering or LMI dissemination.

Given that Statistics Canada is a world class statistical agency with deep expertise, decades of experience, and credibility and authority in the eyes of Canadians, it would make little sense to devolve any of Statistics Canada current activities in the labour statistics area to a new LMI agency, or to assign new LMI data gathering activities to a new agency.

Given that there is already an extensive system across Canada of offices or centres operated by Service Canada and by provincial governments where individuals can obtain LMI, it again makes little sense for a new LMI agency to duplicate or assume responsibility for these centres.

Consequently, the only component of LMI that would be potentially suitable for transfer to a dedicated LMI agency would be the LMI analysis and forecasting activities,

currently undertaken by HRSDC, such as COPS and Job Futures, and the similar work by provincial governments. In the fall of 2007, consultant Brian Purchase interviewed senior provincial government officials responsible for LMI on their views of the LMI governance issues. Respondents expressed little enthusiasm for the establishment of a LMI agency run jointly by federal and provincial governments. Without the support of provincial governments, the chances for the success of a national LMI agency are minimal.

Based on this reality, the most realistic LMI option is the enhanced status quo. As Sharpe (2008) points out, the current organizational structures and personnel can potentially deliver excellent LMI to Canadians if properly funded and given an opportunity to do the job. The large number of shocks to the human resources department in recent years (split of Human Resources Development Canada into Human Resources and Skills Development Canada and Social Development Canada; the merger of the two departments into Human Resources and Social Development Canada; the establishment of Service Canada and transfer of HRSDC personnel outside national headquarters to this body; the continuing devolution of labour market responsibilities to the provinces; increased bureaucratization of operating procedures due to the need for greater accountability arising from sponsorship scandals; etc.) mean that there has never been the stability needed for the LMI system to function effectively.

With the development of institutional stability (a feature of effective governmental organizations such as Finance Canada and Statistics Canada), and with adequate financial resources, HRSDC, and its Service Canada delivery arm, could provide high quality LMI to Canadians. According to this view, current LMI governance structures pose no significant barrier to the effective operation of Canada's LMI system and any attempt to fundamentally recast these structures could seriously impede the operation of the LMI system, at least in the short-to-medium term. Nonetheless, this option requires institutional stability and the decision from senior management that LMI is a priority.

Recommendations

It is important that the organizations responsible for LMI analysis and forecasting in Canada make progress in the development of better LMI products. To this effect, the report makes the following recommendations to the LMI Panel to address LMI analysis and forecasting issues.

- Given the importance of the timeliness of LMI, it is recommended that HRSDC officials, particularly at the most senior level, give greater priority to the timeliness of the LMI released by the department.
- To augment and complement national LMI programs such as COPS and Job Futures, the federal government should encourage sector councils well connected to their industry to mount LMI programs along the lines developed by the Construction Sector Council.

- Given the dearth of information on the different types of users of employment forecasts by occupation and industry and their numbers, and the range of decisions these forecasts inform, it is recommended that the government commission a study to document the uses made of LMI forecast by all users, including public policy makers, educators, employers, and individuals. This information will be essential to determine what priority LMI forecasting should receive in resource allocation decisions.
- Given the lack of evaluation of occupational and industry forecasts, particularly those done by HRSDC, it is recommended that a rigorous evaluation of employment forecasts by occupation and industry be undertaken to determine whether these forecasts are of acceptable accuracy.
- Given the coordination problems identified between officials working on LMI at HRSDC and Service Canada, particularly those in Service Canada offices in the regions, it is recommended that the Deputy Minister of HRSDC, who has responsibility for both HRSDC and Service Canada, ensures that more effective reporting relationships are implemented for the LMI file.
- To minimize the number of contradictory occupational projections released to the public, in provinces where both levels of government provide occupational forecast, the two levels of government should attempt to present consistent forecasts.
- Given the lack of interest on the part of a number of provinces in the creation of a federal-provincial LMI agency, the idea of an agency should at this time be put aside and efforts to improve LMI should focus on enhancing the operation of existing institutions at both the federal and provincial level and on enhancing the degree of cooperation between the two levels of government.

III. LMI Dissemination

This third section of the report discusses the issue of LMI dissemination both in Canada and abroad. The major vehicle for LMI dissemination to Canadians is the internet. The state of the websites on LMI maintained by the federal government and the provinces are reviewed. Potential lessons for Canada from LMI dissemination activities in other countries are then discussed.

LMI Websites

Federal Government

Two federal government websites provide forecasts of job prospects by occupation. Job Futures (www.jobfutures.ca) provides occupational forecasts for 265 occupational groups, which aggregate all occupations in Canada, except military occupations. The forecast are for 2009 only. The site also provides one-word summary descriptors of occupational prospects (Limited, Fair, and Good) with bullet-point supporting analysis. Job Futures also forecasts job prospects for 155 areas of study. No disaggregation below the national level is available.

The second website maintained by the federal government is called Labour Market Information (www.labourmarketinformation.ca). This website is run by "a team of professionals from all parts of Canada [which] provides the information available in this site. They work mostly in local Service Canada / Human Resources and Skills Development Canada (HRSDC) offices in all parts of the country." The LMI website provides occupational forecasts disaggregated by province and region, but for an unspecified time horizon, and one-word descriptors with no supporting analysis or justification. It also provides projections for the year 2015 through a 2006 *Looking Ahead* report available on the HRSDC website. The Service Canada LMI website does not appear to have the same level of detail as some of the provincial websites. For example, a search for the occupational prospects for "financial auditors and accountants" (NOC 1111) in Alberta produced a five-year demand forecast on the Alberta Labour Market Forecasts website (see Appendix Table 1 for details). A search for the same occupation on the Service Canada LMI website yielded a page stating that "no information is available."

The relationship between the two Government of Canada websites is unclear. They seem to provide similar, and in some cases overlapping, information. The use of program names such as Job Futures as website addresses appears inconsistent with the federal government move to standardize all website addresses.¹¹ One portal for the LMI produced by all federal departments and agencies would be an obvious improvement over the current fragmented landscape of federal government LMI websites.

¹¹ For example, because of this government wide policy Statistics Canada's website address of www.statcan.ca was changed to www.statcan.gc.ca.

Provincial Websites

The relationship between the Government of Canada LMI websites and the provincial government LMI websites is also unclear. Once again, they seem to provide similar, and in some cases overlapping, information. In Newfoundland and Labrador the provincial website does not overlap with the federal website, as the provincial website links directly to *Labour Market Information* (www.labourmarketinformation.ca) for occupational forecasts. In Alberta, the federal site, *Labour Market Information*, does not provide any forecasts for occupations (or at least for a sample that were tested by the authors.)

Most of the provincial websites do have some overlap with the Service Canada *Labour Market Information* site. As noted above, *Labour Market Information* is maintained by “a team of professionals from all parts of Canada [which] provides the information available in this site. They work mostly in local Service Canada / Human Resources and Skills Development Canada (HRSDC) offices in all parts of the country.” Most provincial sites are maintained by a partnership between the provincial government and the federal government represented by Service Canada. For example, in PEI, Job Futures is “produced by Service Canada, in cooperation with the PEI Labour Market Information Network (LMI Network). The LMI Network is a federal/provincial Labour Market Information working group in PEI which is chaired by Service Canada and includes representatives of various federal and provincial government departments and agencies.” There is no question that there is significant overlap between federal and provincial government websites in terms of the dissemination of occupational forecast.

International Experience in LMI Dissemination

In a 2006 report prepared for the Skills Research Initiative organized by HRSDC, SSHRC, and Industry Canada, Sharpe and Qiao (2006) reviewed the LMI systems in the United States, the United Kingdom, Germany and Australia, and discussed lessons for Canada. This section, which draws on that report, highlights some of these findings in the LMI dissemination area.

Experience in the United Kingdom LMI system suggests that LMI producers should fund a multimedia publicity campaign to encourage people to seek LMI. In particular, government providers should use this strategy to attract people of different ages and backgrounds. The U.K. experience also reveals that the existence of personal advisers in the delivery of LMI is very important. In addition, the effective enforcement of the 1997 Education Act in the United Kingdom indicates the importance of developing legislative arrangements that makes LMI available both in educational institutions and in workplaces.

Germany’s LMI focuses on counseling and placement information. The specialization among counselors (i.e. different counselors have different responsibilities in the provision of LMI) in the German public sector ensures that LMI delivered by counselors is user-friendly and oriented to what users need. However, practice in Germany also shows that LMI produced and delivered by the government cannot fulfill the needs of

all groups, such as employed skilled workers. Moreover, the bureaucratic structure in the German LMI operation subsystem decreases the effectiveness of the LMI system to facilitate job matches for skilled workers.

As active ICT absorbers, U.S. government LMI producers successfully combine video, print, CDROM, telephone and the internet to disseminate LMI. The varied delivery formats ensures that LMI covers persons with different media preferences. In addition, the effective use of ICT enhances the attractiveness of LMI products to target users. Operation in the U.S. of one-stop information centres suggests that one-stop LMI centres can effectively transform fragmented LMI into an integrated service delivery system.

Much of LMI in Australia is based on partnerships between the government and the private sector. This quasi-market arrangement has proven effective in the provision of LMI by a private sector which is funded by government on a competitive basis. However, this arrangement also includes some risk. The government should take actions to improve the quality of LMI provided by the private sector. Experiences in Australia also indicate that addressing young people's LMI needs in the educational system and addressing the needs of high school drop-outs is very important for an LMI system, since the specialized skill needs of the future labour market can only be met by shaping the skills of all labour force participants, and of young people in particular.

Sharpe and Qiao (2006) concluded that the provision of LMI positively affects the outcomes of labour market adjustments. Compared to other active public employment programs and initiatives, LMI is less expensive. The report also found several approaches to enhance the effectiveness of an LMI system in facilitating labour market adjustments, which include:

- A co-ordinated LMI agency and one-stop information centre can make it easier to link different types of information, and can solve the problem of overlap and duplication in LMI.
- The job search method most widely used by job seekers is checking directly with employers whether or not they have posted job vacancies. This may suggest that the provision of lists of employers by industry and by metropolitan area is valuable.
- Job search strategies and job-seekers' dependence on LMI may change over the business cycle. LMI is more desired by users when jobs are scarce. This may imply that LMI providers should devote more efforts to LMI products during recessions.
- ICT has the potential to diversify LMI delivery approaches and to widen access. However, it can also lead to a "digital divide". As disadvantaged groups may not have access to the internet at home, they would use the internet less often as a job searching tool. Once access is provided, however, disadvantaged groups are able to use the Internet quite effectively, and it becomes a particularly important tool as they tend to have fewer informal contacts and networks.

The main problems in Canada's LMI dissemination system are the lack of easily accessible tools and the lack of high quality LMI tailored to targeted users, in particular to skilled workers. Sharpe and Qiao (2009) suggest public policy strategies to improve LMI in Canada, which include simplifying information content, improving users' awareness of LMI, and tailoring information to the needs of users.

LMI Dissemination in Denmark

The LMI Panel has expressed specific interest in the Danish LMI system. This section provides an overview of the LMI system in Denmark, with particular reference to the country's use of guidance or career counseling to disseminate LMI.

The bedrock of the Danish labour market information system is its system of educational and vocational guidance, which in Canada would be called career counseling. Denmark is unusual among OECD countries in having specific legislation on educational and vocational guidance. An Act on Vocational Guidance was first passed in the mid-1950s. It was replaced in 1981 by an Act on Educational and Vocational Guidance which led to the creation of a key policy coordinating unit, the Danish National Council for Educational and Vocational Guidance (RUE). A new legislation introduced in 2003 led to the abolition of the RUE. The publishing unit of the RUE was privatized and its role in policy coordination was assumed by a new entity, the Danish National Forum for Dialogue in Educational and Vocational Guidance (Plant, 2005).

These recent changes in the structure of the guidance policy-making structure in Denmark make it more difficult to assess its efficiency. Nonetheless, some of the key features of the Danish system have remained largely unchanged and can provide interesting insights to Canadian policy makers.

General Review of the Danish Labour Market Information System

Historically, and despite its small population (about 5.5 millions in 2008), Denmark has been a highly decentralized country.¹² Likewise, the Danish system of educational and vocational guidance is highly decentralized. Guidance services are located mostly in the education system, but also include the public employment offices, the union-based unemployment insurance system and services by the municipalities for unemployed people outside the union-based system.

Yet, the decentralized system in Denmark has benefited from a high level of coordination when compared to other OECD countries. National guidelines and objectives set out in the legislation as well as the existence of a policy coordinating entity (formerly the RUE, now the National Forum) create more cohesive policies than would otherwise prevail. A certain level of coordination is essential in Denmark given that robust active

¹² Before 2006, Denmark was composed of 270 municipalities and 15 counties, all of which had executive powers and contributed to policy-making. Effective on January 1st 2007, the counties were replaced by 5 regions whose primary responsibility lies in the area of health services, and the number of municipalities was slashed to 98.

labour market policies are central to the system and thus cannot be left entirely to local discretion.

In 2002, the OECD (2002) reviewed the Danish system of guidance and identified a number of strengths and weaknesses. The following features of the Danish system were commended:

- The system provides a wide range of services (e.g. individual education plans, short-term work experience programs, income-support linked to career planning action plans and placement services), many of them strongly embedded within the education system.
- The decentralized structure produces a rich diversity of practice, with strong local ownership of what is provided.
- There are potential mechanisms for co-ordination and for developing, in consultation with relevant partners, coherent policies cross-cutting the various sectors involved.
- There are a number of distinctive features of the system – e.g. the youth follow-up system and the range of ‘taster’ courses – which are worthy of emulation by other OECD countries.

The OECD (2002) also identified some significant weaknesses, namely:

- Sector-based guidance services may be more inward-looking and not sufficiently effective in one of their key tasks: helping individuals not only to progress within their own sector but also to move effectively into other sectors.
- It seems likely that a large number of people do not have access to services: notably adults who are neither unemployed nor enrolled on educational courses.
- The system is weakly professionalized in comparison with some other OECD countries.
- There is a lack of effective quality-assurance procedures within the system. There are a lot of guidelines, but the mechanisms to assure the extent and quality of the service offered to the end-user are, on the whole, weak.

Similar conclusions have emerged from other analysis of the Danish system. For example, Plant and Kofoed (2001) find that:

“Danish career development services and activities are curiously paradoxical: both well developed and underdeveloped; both coherent and scattered. *Well developed* in terms of coverage, pastoral care, mentoring, careers education, one-stop centres, information services and materials. *Less developed*

in terms of academic underpinning of practice. *Coherent* in terms of national, regional, and local co-ordination structures in which career development practitioners play an active policy-making role. *Scattered* in terms of fragmentation of services.”

The 2003 reform was aimed at dealing with many of these criticisms. For example, one of the seven key goals set in the Act was to establish a system that is “independent of sectoral and institutional interests”, which it did by setting up independent Guidance Centres. The quality control mechanisms were improved, with each Centre forced to implement a quality-assurance system based on guidelines developed by the Ministry of Education. The performance of each Centre is evaluated in their respective annual report, which are approved by the Ministry and made public. Finally, the system was professionalized with the development of a six months full-time study program compulsory for all Guidance counselor employed in Guidance Centres.

One of the strengths of the Danish system is its ability to reach all individuals (Danish Ministry of Education, 2004). In addition to a number of compulsory activities for students enrolled in schools, Guidance Centres are obliged to establish contact with young people under the age of 19 who are outside schools and the labour force. This is relatively straightforward as Guidance Centres are automatically informed when a young person drops out of school or college. It can also be noted that the 2003 reform established increased use of ICT-based tools as one of its key goal. Not only was a new web portal established, but some guidance centres have made it possible to book appointments through SMS messaging.

The creation of the National Forum, which replaced the now defunct RUE, reemphasized the importance for the Danish system of having a key policy coordinating unit. The National Forum is composed of a mix of government ministries, individual members, and member organizations such as employers and employees’ organization, guidance counselor organizations, youth organizations and local and regional authorities. The Forum acts primarily as a channel for dialogue, with “3 to 4 annual meetings where best practices, experiences, new ideas and innovative thinking within the field of guidance are discussed.” (Danish Ministry of Education, 2004). An online discussion board allows for continuous interaction between members of the Forum.

While Denmark’s LMI service provision is highly decentralized, it benefits from a good level of national coordination. The responsibility for LMI provision rests mainly with the Ministry of Education and the policy dialogue and development process is guided by the National Forum. National coordination is reinforced by Denmark’s active labour market policies which necessitate strong local provision but give little scope for local discretion.¹³

The Danish LMI system is relatively seamless, particularly for individuals below the age of 25. In 2007, a new comprehensive plan for Adult Guidance was agreed upon in the

¹³ For example, in Denmark municipalities are responsible for the provision of services to the unemployed on social assistance, including employment insurance benefits (Mosley, 2008).

Danish parliament, which includes among others the creation of Adult Guidance Centres (Danish Ministry of Education, 2008). This should improve further the seamlessness of LMI provision in Denmark, which was deemed “patchy” for adults by the OECD in 2002. In short, the success of the Danish LMI system is supported by strong and relatively seamless local delivery, adequate national coordination and intensive use of ICT-tools.

Recommendations

It is important that the organizations responsible for disseminating LMI in Canada continue to improve the quality of information and services they are providing the public. In this vein, the report makes the following recommendations to the LMI panel to address LMI dissemination issues.

- To consolidate the information on LMI produced by federal departments and agencies and posted on a number of websites, a single LMI portal should be created. At a minimum, all LMI produced by HRSDC and Service Canada should be available on a single website.
- To address the lack of awareness on the part of Canadians of the many high-quality LMI products available, organizations responsible for LMI dissemination at both the federal and provincial level should develop, hopefully in cooperation with each other, a multimedia publicity campaign to educate the public on how the appropriate use of LMI can contribute to their labour market success.
- Given the key role of guidance and career counselors in directing Canadians to LMI products, it is essential that this group be very well informed about the availability and uses of LMI products. Specific measures such as information sessions and seminars should be taken to ensure that this is indeed the situation.
- The United States has shown that ICT is a very effective tool for LMI delivery as various ICT delivery formats can ensure that LMI covers persons with different media preferences. Canadian LMI providers should investigate whether they are making full use of ICT as a LMI delivery mechanism.
- A key general lesson from international experience in LMI dissemination is that it is crucial to tailor LMI to suit the needs of users. LMI providers in Canada should analyze who are the actual and potential users of their products and then attempt to ascertain if the products fit the needs of all users, and in cases where they do not, adjust their products accordingly.
- The availability of high-quality LMI becomes more important when jobs are scarce, unfortunately a state the Canadian economy is currently entering. This means that the effective dissemination of LMI has now become more important. Governments should recognize this and respond by allocating additional resources to LMI dissemination.

IV. Conclusion

This report has presented 20 recommendations to improve the operation of LMI in Canada in the areas of LMI data, LMI analysis and forecasting, and LMI dissemination. For these recommendations to have traction, two conditions are needed. First, it is crucial that senior policy makers, that is those at the Deputy Minister and Ministerial level, recognize the importance of an effective LMI system for a high-performance economy. The current downturn may make this message easier to communicate. Without strong leadership from the top on the LMI file little will happen. Second, it is extremely important that jurisdictional issues do not become a barrier to the provision of high-quality LMI to the public. From the point of view of the vast majority of Canadians, what matters is not which jurisdiction delivers LMI products, but that the products are of high-quality and easily accessible. In the dialogue between federal and provincial officials on LMI issues, this perspective should be front and centre.

References

- Advisory Panel on Labour Market Information (2009) "Working Together to Build a Better Labour Market Information System for Canada," May. Available at http://www.imt-lmi.ca/eng/flmm/final_report-eng.shtml
- Arsenault, Jean-Francois (2008) "Understanding Productivity through the LMI Lens," presentation to the Sixth National Labour Market Information Forum, Fredericton, New Brunswick, October 20-22.
- Bowlby, Geoff (2008) "Labour Statistics at Statistics Canada," presentation to the Roundtable on Labour Data, Le Chateau Cartier, Gatineau, Quebec, December 18.
- Bowlby, Geoff and Sylvie Michaud (2008) "Compensation Statistics at Statistics Canada," presentation to the Roundtable on Labour Data, Le Chateau Cartier, Gatineau, Quebec, December 18.
- Conference Board of Canada (2005) "Acting on Human Resource Information to Build and Maintain Capacity in the Canadian Construction Sector," Case Study, September.
- Covers, Frank (2008) "Identifying Future Labour Market Imbalances: concepts and methodology used in the Netherlands," presentation to the Sixth National Labour Market Information Forum, Fredericton, New Brunswick, October 20-22.
- Danish Ministry of Education (2004) "Guidance in Education: A new Guidance System in Denmark," available at <http://pub.uvm.dk/2004/guidance/hel.pdf>
- Danish Ministry of Education (2008) "The Danish guidance system in brief," available at <http://www.eng.uvm.dk/Uddannelse/Educational%20and%20vocational%20guidance/The%20Danish%20guidance%20system.aspx>
- El Achkar, Souleima (2009) "The Ontario-Quebec Continental Gateway: A Situational Analysis of Human Resources Needs," CSLS Research Report 2009-2, May.
- Foot, David and Noah Meltz (1992) "An Ex Post Evaluation of Canadian Occupational Projections, 1961-1981," *Relations Industrielles/Industrial Relations*, Vol. 47, No. 2, pp. 200-211.
- Giddings, Doug (2008) "The Identification of Current Gaps in Labour Market Information: Implications for Data Development," presentation to the Roundtable on Labour Data, Le Chateau Cartier, Gatineau, Quebec, December 18.
- Human Resources and Social Development Canada (2008) "Adapting our Data System to New Realities," presentation to the Roundtable on Labour Data, Le Chateau Cartier, Gatineau, Quebec, December 18.

Lapointe, Mario, Kevin Dunn, Nicolas Tremblay-Cote, Louis-Philippe Bergeron, and Luke Ignaczak (2006) "Looking-Ahead: A 10-Year Outlook for the Canadian Labour Market (2006-2015)," Labour Market and Skills Forecasting and Analysis Unit, Strategic Policy Research Directorate, Human Resources and Social Development Canada, SP-615-10-06E, October.

Mosley, Hugh (2008) "Decentralisation and Accountability in Labour Market Policy," paper presented at the *Decentralisation and Co-ordination: The Twin Challenges of Labour Market Policy* conference organized by the Italian Senate of the Republic, the Italian Ministry of Labour and Social Security, and the OECD LEED Programme, 17-19 April. Available at <http://www.oecd.org/dataoecd/34/55/40917889.pdf>

Nault, Francois (2008) "Educational Surveys," presentation to the Roundtable on Labour Data, Le Chateau Cartier, Gatineau, Quebec, December 18.

OECD (2002) "OECD Review of Career Guidance Policies: Denmark," Country Note, April. Available at <http://www.oecd.org/dataoecd/51/19/2088292.pdf>

Picot, Garnet (2008) Immigrant Economic and Social Outcomes in Canada: Research and DAa Development at Statistics Canada, : Research Paper Series No. 319, , Analytical Studies, Statistics Canada, December.

Plant, Peter (2005) "The National Guidance Fora: The Danish Case, August. Available at http://www.innove.ee/orb.aw/class=file/action=preview/id=3460/4_DK_guidance_2005_Aug_7.pdf

Plant, Peter and Lis Kofoed (2001) "Denmark," paper presented at the Second International Symposium on Career Development and Public Policy, Vancouver, British Columbia, Canada, March 5-6. Available at www.iaevg.org/crc/files/symp01_country_Denmark_e632_2.doc

Sharpe, Andrew (2008) "Governance of Canada's Labour Market Information System," Final Report prepared by the Centre for the Study of Living Standards for Human Resources and Skills Development Canada, August 24

Sharpe, Andrew and Sharon Qiao (2006) "The Role of Labour Market Information for Adjustment: International Comparisons," Skills Research Initiative Working Paper Series, C-15.

Smith, Douglas A. (2002) "Forecasting future skill needs in Canada," in *Forecasting Labour Markets in OECD Countries: Measuring and Tackling Mismatches*, Ed. Michael Neugart and Klaus Schömann Edward Elgar, http://books.google.ca/books?id=cdgrcJLIPoYC&dq=accuracy+of+occupational+forecasting+oecd&source=gbs_summary_s&cad=0.

Appendix Table 1: Comparison of Federal and Provincial Occupational Forecasts, A Case Study for Financial Auditors and Accountants (NOC 1111)

	Forecast Period	One-Word Descriptor	Last Update	Analysis	Site Name and Source
Newfoundland and Labrador					
Provincial Site	Direct link to www.labourmarketinformation.ca				LMI Works. http://www.lmiworks.nl.ca/
Federal Site	N/A	"Currently under review"	Dec 2008	<p>Information provided by the Institute of Chartered Accountants of Newfoundland confirms the market for CAs is growing in Newfoundland and Labrador. Many are leaving accounting firms to work in other private firms, thus creating job openings.</p> <p>The Certified General Accountants Association has a positive outlook for Certified General Accountants (CGA). In 1997, the provincial government made changes to the Public Accountancy Act. These changes allow certified members who meet certain criteria to become licensed to practice public accounting in this province. This was formerly limited to Chartered Accountants only. Certified Management Accountants who meet these criteria are also able to be licensed for this purpose.</p> <p>Any new growth in the provincial and global economy may also have a positive impact on this occupation. The professional accounting designations are recognized throughout Canada and internationally. As a result, members have employment opportunities available to them outside the province.</p> <p>Efforts are also being made to increase the number of placements for articling students. This may increase the employment opportunities for Accountants.</p>	www.labourmarketinformation.ca

	Forecast Period	One-Word Descriptor	Last Update	Analysis	Site Name and Source
Prince Edward Island					
Provincial Site	2009	Good	N/A	<p>In P.E.I., the employment outlook for this occupation is good. Employment is expected to grow at a faster rate than the average for comparable professional occupations.</p> <p>Continued growth in Prince Edward Island's economy will be reflected in some new employment opportunities in this occupation.</p> <p>The retirement rate is expected to be above average, and this will create demand for additional auditors and accountants over the forecast period. Other positions may become available as a result of the need to replace accountants who change jobs seeking career advancement.</p> <p>As the economy expands, opportunities may occur for people who wish to operate their own accounting practice.</p>	<p>PEI Job Futures was produced by Service Canada, in cooperation with the PEI Labour Market Information Network (LMI Network). The LMI Network is a federal/provincial Labour Market Information working group in PEI which is chaired by Service Canada and includes representatives of various federal and provincial government departments and agencies.</p> <p>http://www.pei.jobfutures.org/home.cfm?lang=en&site=graphic</p>
Federal Site	Sep 2008 - Mar 2009	Good	Aug 2008	<p>Currently the chances of qualified Financial Auditors and Accountants finding employment are considered to be good in the local area. Within the next 3 to 6 months there will be employment opportunities for skilled workers in this occupation.</p> <p>Most job openings will occur from the need to replace accountants who change jobs seeking career advancement. In addition, some jobs may become available as some workers retire.</p>	<p>www.labourmarketinformation.ca</p>

	Forecast Period	One-Word Descriptor	Last Update	Analysis	Site Name and Source
Nova Scotia					
Provincial Site	2007-2012	Good	N/A	Job opportunities for accountants and financial auditors are good. This is a large occupational group and a large number of jobs will become available in the next few years due to retirement or other turnover in the work force. Also, it is expected that a number of new jobs will be created as demand for this occupation grows. Some of this demand is fueled by changes in accounting controls and the increasing complexity of corporate transactions.	Career Options. Nova Scotia Department of Labour and Workforce Development. http://novascotiacaareeroptions.ca/
Federal Site	Nov 2008 -April 2009	Good	N/A	For Halifax: Currently the chances of qualified Financial Auditors and Accountants finding employment are considered to be good in the local area. This occupation is found across all industries, and the area has a large government presence, and a high number of national, regional, and local firms. Therefore, because it is a large occupational group, many positions become available through the replacement of workers. Also, Halifax continues to be a large regional financial centre, and many international companies have set up here in recent years. While those with experience and accreditation are most sought after, their hiring opens up other positions throughout industry area as workers change jobs. With the development of more sophisticated and flexible accounting systems, accountants now focus more on analyzing and planning rather than just providing financial data. In addition to the opportunities in the local area, good employment opportunities exist in a number of other areas of the province. People who are able to work elsewhere may want to research opportunities for this occupation in other labour markets within Nova Scotia and across the country. The future employment outlook for Financial Auditors and Accountants in Nova Scotia is expected to be good over the next 5 years. The outlook nationally is fair.	www.labourmarketinformation.ca

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New Brunswick					
Provincial Site	2009-2016	N/A	Oct 2008	<i>Quantitative 2-, ,5-, and 8-year employment level forecasts from COPS. 500 occupations. For province as a whole, not disaggregated.</i>	Labour Market Information Products. Prepared by the Labour Market Analysis Branch of the Department of Post Secondary Education, Training and Labour. http://www.gnb.ca/0126/index-e.asp
Federal Site	N/A	Good	Jun 2007	<p>For Moncton/Shediac/Sackville/Richibucto (only region available): Almost one third of the provincial labour force for this occupation is found in this region. There are more females than males in this occupation. The largest portion of this occupation is between the age 30 and 54, resulting in an anticipated loss of 36% of the labour force over the next 15 years due to retirement.</p> <p>The unemployment rate for this occupation is significantly lower than the unemployment rate for all occupations.</p> <p>The number of Employment Insurance (EI) claimants has remained stable and low over the last few years. The average annual number of claimants in 2006 was 18.</p> <p>The number of advertised job vacancies has been consistently high. Many opportunities are for part-time, seasonal or contract work.</p> <p>Employment potential for this occupation is good. Employers may have difficulty recruiting particularly during the peak employment periods (tax season).</p>	www.labourmarketinformation.ca

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Quebec					
Provincial Site	2008-2012	Favorables	Mar 2008	La demande de main-d'œuvre prévue est modérée. Elle est principalement attribuable au fait que de nombreuses personnes quittent leur emploi pour occuper un emploi disponible dans une autre profession (mobilité interprofessionnelle). Compte tenu de cette demande et du faible taux de chômage (en 2006), les perspectives d'emploi sont favorables	Ministere de l'Emploi et de la Solidarite sociale http://imt.emploiquebec.net/mtg/inter/noncache/contenu/asp/mtg941_accueil_fran_01.asp?PT4=53&apropof=1111&lang=FRAN&Porte=1&cregn=QC&PT1=1&type=cle&motpro=comptable&PT2=17&pro=1111&PT3=9&cmpregn=QC
Federal Site: Job Futures	2007-2011	Fair	May 2007	Job prospects in this occupation are fair. This conclusion is related to average job prospects in the various specializations in this occupation. Job prospects for each of the specializations may vary considerably.	http://www1.servicecanada.gc.ca/eng/qc/job_futures/job_futures_statistics.shtml
Federal Site: Labour Market Information	2008-2010	Good	Jan 2009	None.	www.labourmarketinformation.ca

	Forecast Period	One-Word Descriptor	Last Update	Analysis	Site Name and Source
Ontario					
Provincial Site	2005-2009	Average	Jun 2005	Employment for this occupation is expected to increase more slowly than the average for all occupations through 2009. However, because of the large size of this occupational group, replacement needs will create a substantial number of new positions yearly. Recent changes to the Ontario Public Accounting Act now enable qualified Chartered Accountants, Certified General Accountants and Certified Management Accountants to obtain a license to practice public accounting, which was once largely restricted to Chartered Accountants. These changes will increase competition within the industry, and possibly result in industry consolidation over the longer term. As well, the "off-shoring" of some routine accounting-related services to other countries, such as India, will continue to moderate future employment growth...	http://www.ontariojobfutures.ca/home_page.html
Federal Site	Next few years.	Good	Dec 2008	<p>For Toronto: Employment for financial auditors and accountants is expected to grow about as fast as the average for all occupations in the next few years. This is a very large occupation because of the concentration of audit and accounting firms and banks and insurance companies in the Toronto area. According to the 2001 Census, there were about 39,000 financial auditors and accountants in the Toronto Census Metropolitan Area (CMA) or about 59% of financial auditors and accountants in Ontario.</p> <p>Recent changes to the Ontario Public Accounting Act now enable qualified Chartered Accountants, Certified General Accountants and Certified Management Accountants to obtain a license to practice public accounting, which was once largely restricted to Chartered Accountants. These changes will increase competition within the industry, and possibly result in industry consolidation over the longer term. As well, the "off-shoring" of some routine accounting-related services to other countries, such as India, will continue to moderate future employment growth...</p>	The Ontario Job Futures website is a cooperative effort of the Government of Canada and the Ontario Ministry of Training, Colleges and Universities.

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Manitoba					
Provincial Site	2008-2012	Good	N/A	<p>Employment prospects for financial auditors and accountants are expected to be good in the 2008 - 2012 period. Employment in Manitoba in 2008 is estimated at 6,080.</p> <p>The services of financial auditors and accountants are required by businesses in all sectors, regardless of economic conditions. Due to the increasing complexity of the global marketplace, businesses rely on auditors and accountants to deal with risk management, internal audit controls and financial laws and regulations related to international trade.</p>	<p>Manitoba Job Futures is a joint project of the federal/provincial Labour Market Information Committee in Manitoba. The profiles are continually updated by Labour Market Analysts in Manitoba Competitiveness, Training and Trade, and Service Canada, Manitoba Region. http://mb.jobfutures.org/home.cfm?lang=en&site=graphic</p>
Federal Site	2009	Good	Nov 2008	<p>Employment prospects for Financial Auditors and Accountants are good for 2009. This occupation is found throughout all industry sectors. The majority of opportunities in Northern Manitoba are with local governments, financial institutions, professional services, school divisions, regional health care authorities, mining and forestry employers, and private employers. Employee turnover is relatively low but job openings occur as accountants retire or move to other positions. Demand for accountants and auditors is not seasonal, and is fairly insulated from changing economic conditions. Due to the increasing complexity of the marketplace, businesses rely on auditors and accountants to deal with risk management, internal audit controls and financial laws and regulations . A combination of a professional accounting designation and experience may help individuals advance to management positions or teach at the post-secondary level.</p>	<p>www.labourmarketinformation.ca</p>

	Forecast Period	One-Word Descriptor	Last Update	Analysis	Site Name and Source
Saskatchewan					
Provincial Site	N/A	Good	N/A	<p>There will always be job openings in Saskatchewan for auditors, accountants and investment professionals. This has much to do with the large size of this occupational group. In 2000, there were more than 6,500 auditors, accountants and investment professionals employed in the province. Consequently, a high number of jobs will become available in the next few years due to retirement or other turnover in the work force. A number of new jobs are expected as well, particularly for financial auditors and accountants, by far the largest occupation in this group.</p> <p>Most of these openings will be in the finance, insurance, real estate and leasing; and professional, scientific and technical services industries. Nearly 65% of all auditors, accountants and investment professionals in Saskatchewan worked in these three industries in 2001. Auditors, accountants and investment professionals are well paid in Saskatchewan. The average full-time income for these professionals was \$51,481 per year in 2000. This marked a slight increase from the average in 1995 and remains significantly higher than the provincial average for all occupations (\$35,461 per year). Professionals working in Saskatoon and Regina typically earn more than their counterparts elsewhere in the province...</p>	<p>Saskatchewan Job Futures is the result of a unique partnership between the Federal and Provincial Governments. Since 1998, Service Canada and Saskatchewan Advanced Education, Employment and Labour have used this site jointly to publish important information about hundreds of Saskatchewan occupations. http://www.saskjobfutures.ca/index.cfm?lang=en&site=graphic</p>
Federal Site	N/A	Good	Dec 2008 (Saskatoon)	<p>For Saskatoon and rural west area: The role of accountants continues to grow. The highest demand is for specializations in international accounting, financial planning, financial analysis, taxation, forensic accounting, environmental auditing and corporate reorganization and turnaround (mergers, acquisitions, etc.). They must have good communication skills and a knowledge of computerized accounting systems.</p>	<p>www.labourmarketinformation.ca</p>

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Alberta					
Provincial Site: Alberta Learning Information Service	N/A	N/A	Oct 2008	Employment turnover in addition to average occupational growth in Alberta	Alberta Learning Information Service. The Province of Alberta is working in partnership with the Government of Canada to provide employment support programs and services. These benefits and measures are funded in whole or in part by the Government of Canada from the Employment Insurance Account. http://www.alis.gov.ab.ca/occinfo/Content/RequestAction.asp?format=html&aspAction=GetHomePage&Page=Home
Provincial Site: Labour Market Forecasts	2007-2017	Supply surplus to 2017	Apr 2008	N/A. 10-year supply and demand projections.	Alberta Employment and Immigration Labour Market Forecasts. http://employment.alberta.ca/cps/rde/xchg/hre/hs.xsl/2656.html
Federal Site	"No information is available."				www.labourmarketinformation.ca

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British Columbia					
Provincial Site	2001-2011	N/A	May 2005	<p>Analysts project that this occupational group will grow at an annual rate of 2.0%, which is faster than the overall average growth of 1.4% forecast for all occupations. However, the occupation isn't projected to grow as quickly as it has in the past decade. This occupation is found across many industries and so is subject to general trends in the economy. Good economic growth should contribute to occupational growth. On the other hand, many accounting functions, such as preparing tax returns and financial reports, must be done even when business is not growing, so short-term economic declines probably wouldn't impact jobs very much.</p> <p>Some growth in the occupation has been driven by changes in the demands for accounting controls. For example, the arrival of competing international corporations forces existing businesses to maximize profits through stricter cost controls. Large business scandals over the past several years also increase the demand for clear and detailed financial data so businesses can be openly accountable for their actions...</p>	<p>Work Futures provides a comprehensive description of close to 200 occupations as they relate directly to the B.C. labour market. It is for learners, individuals interested in changing careers or re-entering the labour market, and for career practitioners.</p> <p>http://www.workfutures.bc.ca/article.cfm?article=home&lang=en&site=graphic</p>
Federal Site	2003-2013	Good	Aug 2007	<p>Accounting occupations in BC are predicted to grow by an annual rate of 1.7% to the year 2013, which is slightly higher than the average annual growth of 1.5% forecast for all occupations. It is estimated that there will be 4,500 job openings between 2003 and 2013 in BC.</p> <p>The Lower Mainland Southwest region accounts for 62% of the total labour force in the province of British Columbia.</p> <p>Good employment prospects are due to the growing demand for business services and the increasing variety and complexity of the financial services being developed to serve a growing and diversifying economy. Adding to the prospects for growth is the development and ease of international commerce using new technologies such as e-commerce...</p>	<p>www.labourmarketinformation.ca</p>

Notes:

N/A stands for "Not Available."

For most provinces (excluding NL, PE, MB, AB) www.labourmarketinformation.ca does not provide aggregate provincial forecast, but only forecasts for the regions within each province. In order to estimate a provincial rating the average regional forecast is used. The analysis provided is for the largest metropolitan area in the province. This is justifiable, because the purpose of this exercise is to provide a sample of the type of analysis available. This case study was undertaken in January 2009.