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The Role of Labour Market Information for Adjustment: International Comparisons

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CSLS Research Report 2006-03
Skills Research Initiative Working Paper 2006-C 14
December 2006

Prepared by the Centre for the Study of Living Standards for the Skills Research Initiative, organized by Human Resources and Social Development Canada, Industry Canada, and the Social Sciences and Humanities Research Council.

This report is also available online under the SRI Working Paper Series at:

http://strategis.ic.gc.ca/epic/internet/ineas-aes.nsf/en/h_ra01877e.html

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The Role of Labour Market Information for Adjustment: International Comparisons

Abstract

Labour Market Information (LMI) is a policy instrument that governments use to coordinate labour market adjustments. Many approaches are utilized in the provision of this information in OECD countries. This report examines approaches in five OECD countries (Canada, the United Kingdom, Germany, the United States and Australia) in order to assess their efficiency in facilitating adjustments in labour markets. This report finds that although Canada has well developed labour market information mechanisms, further efforts should be made by the Canadian government to improve our labour market information delivery system. In particular, attempts should be made to simplify information content, improve users' awareness, and tailor information to the needs of users, in order to ensure that our extensive information system facilitates labour market adjustments.

The Role of Labour Market Information for Adjustment: International Comparisons

Executive Summary

As the result of innovation and technological progress, the process of globalization has increasingly integrated economies around the world and promoted the movement of labour across international borders. International competition among developed countries has increased accordingly, which in turn poses challenges to the Canadian labour market. This has exacerbated the need for the Canadian government to implement initiatives aimed at easing labour market adjustments.

Workers differ from one another in terms of the skills they possess; firms differ from one another in terms of the skills they demand. This heterogeneity in the labour market creates search costs as both firms and workers seek out one another. If sufficiently large, these costs can create considerable friction in the labour market, reducing the efficiency of the matching process. The heterogeneity in the education system can also make resource allocation inefficient. As an active labour market adjustment program, Labour Market Information (LMI) has the potential to improve the matching process and reduce labour market frictions.

The purpose of this report is to address important characteristics of LMI which facilitate adjustments for labour market participants, particularly skilled workers, by comparing LMI systems in five selected OECD countries. It also provides policy recommendations for the development of a more effective LMI system in Canada. The focus of this study will be primarily on the major lessons learned from evaluations of existing LMI systems in order to highlight successful experiences and effective practices.

This report is divided into five major parts. The first part describes the main features of LMI, including the definition of LMI, why it matters, and how it is produced. Part two presents a comprehensive analysis of Canada's LMI system. The third part describes the LMI systems in four selected OECD countries: the United Kingdom, Germany, the United States and Australia, with particular attention to the strengths of each LMI system. The fourth part provides a discussion on how LMI can serve public policy objectives more effectively, and important lessons learned from the international comparison of these practices. The report concludes by outlining the major gaps in Canada's LMI system, and presenting three strategies to improve LMI in Canada.

The report finds that well-organized LMI can reduce job search costs for both firms and workers and help workers reallocate themselves among different employers and industries effectively. By facilitating the reallocation of labour in the direction of basic market forces, LMI can enhance productivity, competitiveness, and economic growth, while also reducing social inequality. In addition, individuals need LMI to support their educational choices. LMI is crucial in managing transitions from one level of education to another, and transitions between education and working

life. Therefore, most OECD countries now place increased emphasis upon LMI for people who seek to expand job and learning opportunities.

Canada has one of the best LMI systems in the world. The main characteristics of Canada's LMI system are as follows:

- HRSDC has had a significant role in all LMI areas, by delivering, initiating and funding LMI products. Industry Canada, Citizenship and Immigration Canada, Statistics Canada and provincial governments are also major players in the production and distribution of LMI.
- The LMI delivery mechanism combines various delivery channels with various distribution formats. Internet and CD-ROM based LMI is growing rapidly in Canada. Traditional delivery channels, such as class-based activities and printed publications, are also widely used to ensure accessibility. There is very good co-ordination of LMI data-collection and delivery between the national and provincial/territorial levels. These arrangements are rightly claimed to be among the best in the world (OECD, 2002c).
- The LMI system makes extensive use of information and communication technologies (ICT) tools. Canada makes significant use of ICT in its provision of LMI products. The web-based LMI has been well organized through both the public and the private sectors. This arrangement maximizes access to labour market information and reduces the costs in the provision of LMI.

However, there are still some weaknesses in Canada's LMI system that should be emphasized.

The examination of LMI systems in other OECD countries can highlight aspects of LMI which are most important to labour market adjustments.

Experience in the United Kingdom LMI system suggests that LMI producers should fund a multi-media 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, CD-ROM, telephone and the internet to disseminate LMI. The varied delivery formats can ensure 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.

This evaluation of LMI finds 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 finds 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 system are the lack of easily accessible tools and the lack of high quality LMI tailored to targeted users, in particular to skilled workers. This report provides 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.

The Role of Labour Market Information for Adjustment: International Comparisons¹

1. An Overview of Labour Market Information

1.1 Introduction

Recently, Labour Market Information (LMI), an initiative for facilitating labour market adjustments, has been increasingly recognized as a much needed service by a variety of countries, including Canada. Numerous programs have been developed in order to increase both the amount and quality of the information provided. In the *Economic and Fiscal Update* released in November 2005, Finance Canada signaled out LMI as crucial for improving labour mobility and labour market efficiency in Canada, and allocated additional resources to strengthen LMI.²

While the details of LMI vary among countries, the basic components are similar. In this report, we analyse the role of labour market information (LMI) in facilitating adjustments for labour market participants, with particular emphasis on skilled workers. By comparing LMI systems in Canada and four other selected OECD countries (the United Kingdom, Germany, the United States and Australia), this report provides important policy recommendations for the development of a more effective LMI system in Canada. The focus of this study is on the major lessons learned from existing LMI systems, highlighting successful experiences and effective practices.

The structure of the report is as follows: Part 1 describes the main features of LMI, including the definition of LMI, why it matters, and how it is produced; Part 2 presents a comprehensive analysis of Canada's LMI system; Part 3 describes LMI systems in four selected OECD countries: the United Kingdom, Germany, the United States and Australia; Part 4 provides a discussion on how LMI can serve public policy objectives more effectively and states important lessons learned from the international comparison of these practices; Part 5 outlines the major gaps in Canada's LMI system and presents three strategies to improve LMI in Canada.

In Part 1, we address the context for examining the role of LMI in labour market adjustment in Canada. Then we discuss conceptual issues related to LMI: what is Labour Market Information? Who are the target users? What specific information does it typically provide? Why does it matter for public policy? How is it produced? And finally, what is an effective LMI system? In order to answer these questions, this part describes the main users of LMI and the information they need, outlines key policy objectives in which LMI has played a significant role, and provides a comprehensive overview of the main characteristics of LMI.

¹ The authors would like to thank officials at Industry Canada and Human Resources and Social Development Canada for comments on earlier drafts of this report.

² As described in the *Economic and Fiscal Update*, Finance Canada "proposes new investments of \$40 million over the next five years to expand and enhance data collection for labour market information and forecasting capacity" (Department of Finance Canada, 2005a).

1.2 Labour Market Context for Examination of the Role of LMI in Labour Market Adjustment

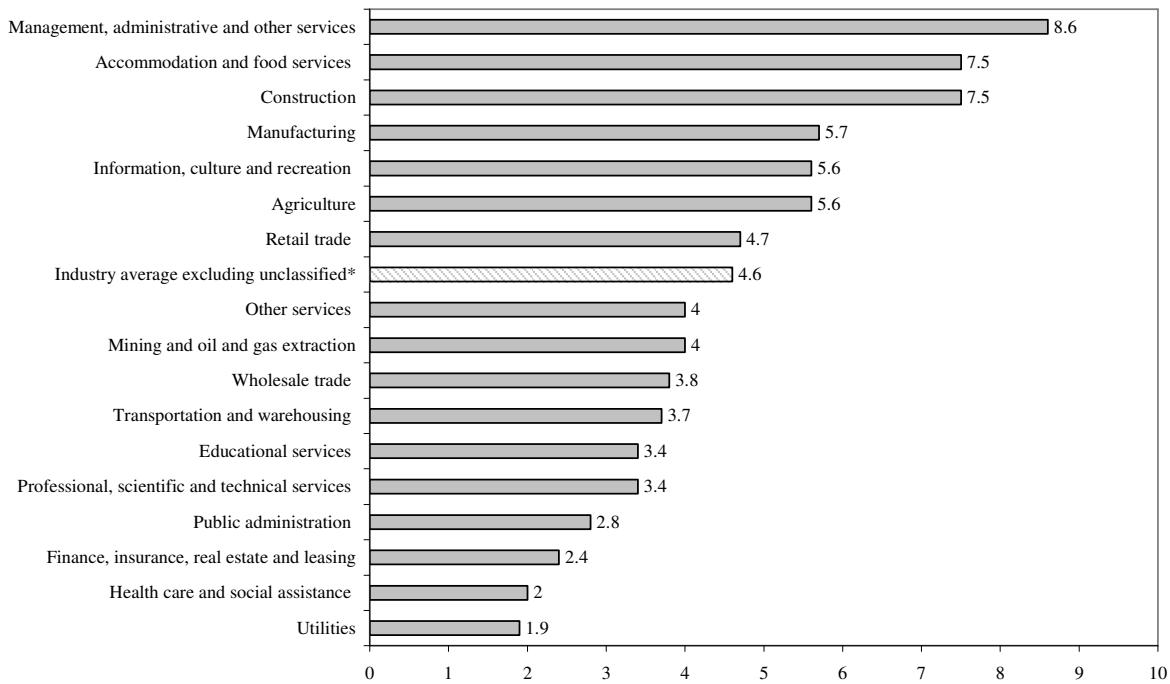
As the result of innovation and technological progress, the process of globalization has increasingly integrated economies around the world and promoted the movement of labour across international borders. This process offered opportunities to and imposed challenges on labour markets. OECD countries have observed several trends due to globalization. One such trend is that as industrial economies mature, they become more service-oriented to meet the changing demand of their population. Another trend is the shift toward more highly skilled jobs since competition from "low-wage economies" displaces workers from low-wage jobs and decreases the demand for less skilled workers. Not surprisingly, international competition between developing and developed countries has increased.

Canada's labour market similarly faces big challenges in the context of globalization. A 2002 study entitled *Future Shortage in the Canadian Labour Market* projected that Canada was about to enter a period of "severe labour shortages."³ A survey conducted by the Canadian Federation of Independent Business (CFIB) estimated an approximate 265,000 job vacancies unfilled in the Canadian small business sector in 2002.⁴ Generally, those industries with lower unemployment rates such as utilities, health care and social assistance, and finance services experienced a more severe shortage of labour supply (see Chart 1-1).⁵ However, those with relatively higher unemployment rates also suffered from labour shortages.

³ See Canadian Council of Technicians and Technologists (2003) "Canada Faces 'Worst-ever' Labour Shortage," available online www.cctt.ca.

⁴ Canadian Federation of Independent Business (2002) "Small Business Survey Finds 265,000 unfilled jobs across Canada," is available online at www.cfib.ca.

⁵ It is widely recognized that the number of unfilled job vacancies are an indicator of labour shortages. But there is no survey which directly measures job vacancies in Canada since the termination of the Job Vacancy Survey in 1978. Thus we use the unemployment rate as a proximate indicator of labour shortages here.

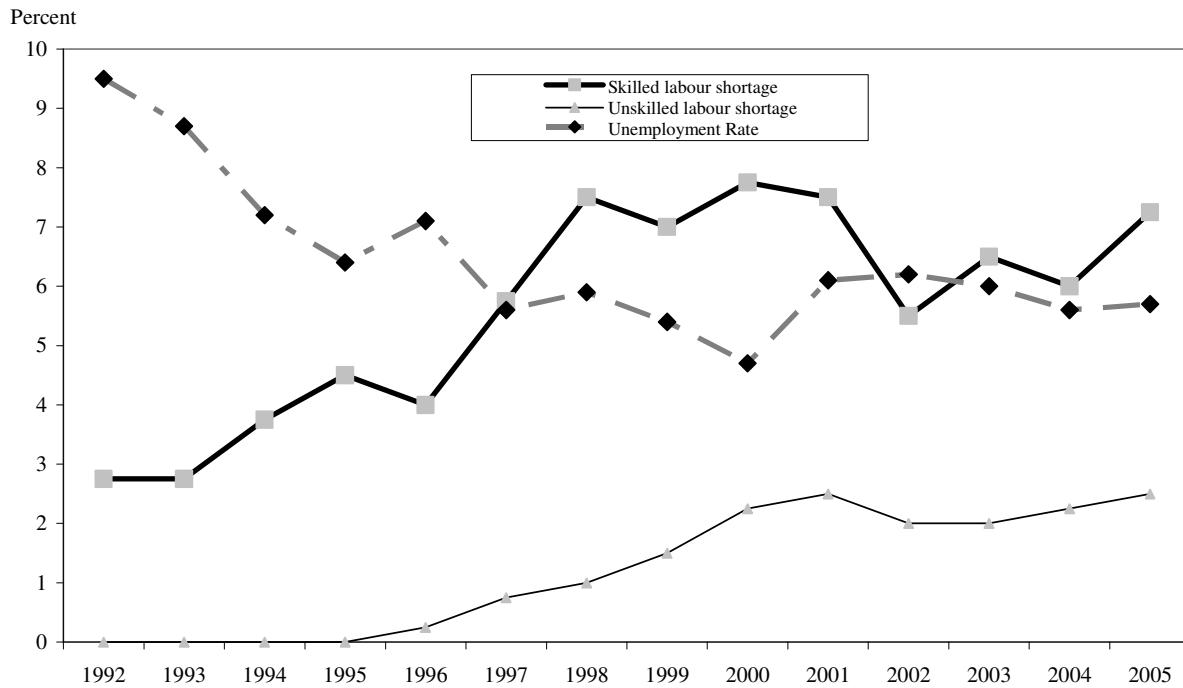
Chart 1-1: Unemployment Rate by NAICS industry, Canada, 2005

Source: Statistics Canada, Labour Force Survey, CANSIM II Table 282-0008.

Note: The "unclassified" category comprises unemployed persons who have never worked before, and those persons who last worked more than one year ago.

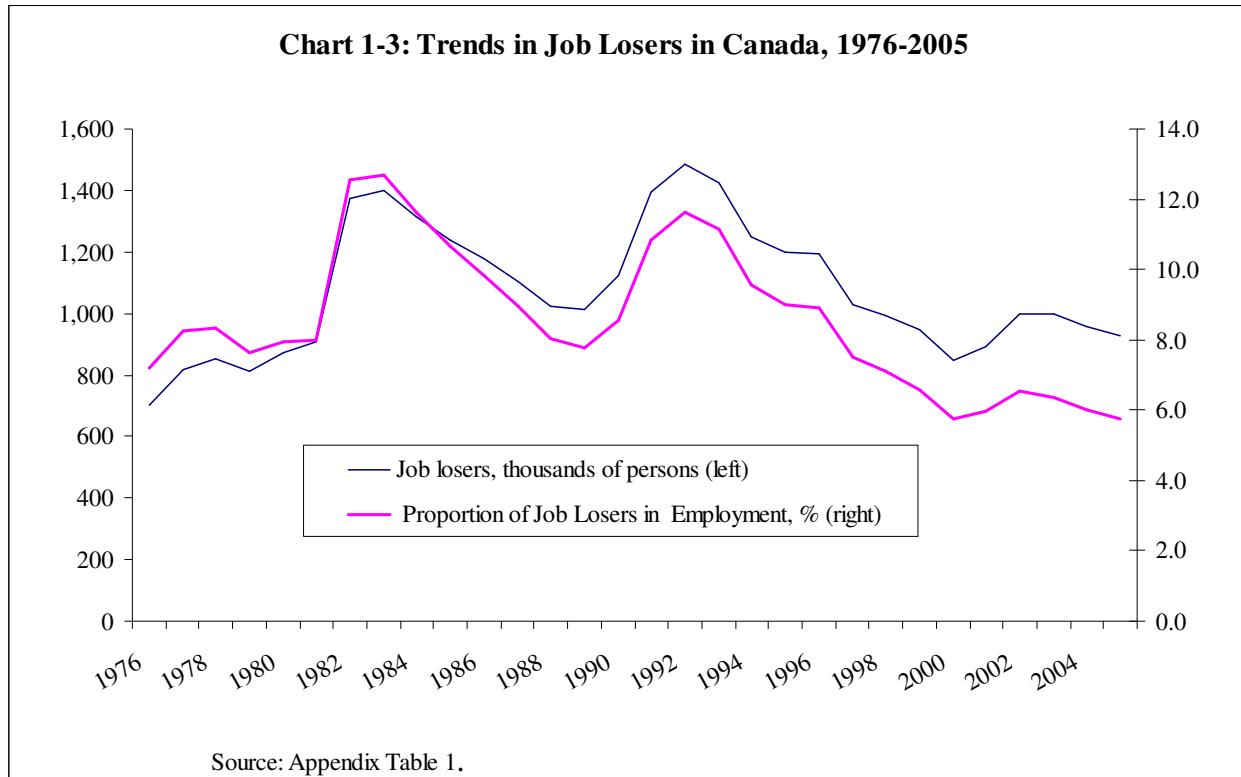
Data from Statistics Canada's Business Conditions Survey show that with a relatively high unemployment rate of 5.7 per cent in 2005, compared to other industries, an approximate of 7.3 per cent of manufacturing businesses still had the problem of skilled labour shortages and 2.5 per cent of them had unskilled labour shortages. The difficulty of finding skilled labour seems to increase as the unemployment rate goes down (See Chart 1-2). In early 1990s, only 2.8 per cent of manufacturing businesses experienced skilled labour shortages, while the unemployment rate in this industry was as high as 9.5 per cent. When the industry reached its lowest unemployment rate over the 1992-2005 period in 2000 (at 4.7 per cent), 7.8 per cent of business respondents reported skilled labour shortages. Labour shortages increased the need for the Canadian government to implement more initiatives to facilitate labour market adjustments.

Chart 1-2: Trends in Labour Shortages in the Manufacturing Industry, Canada, 1992-2005



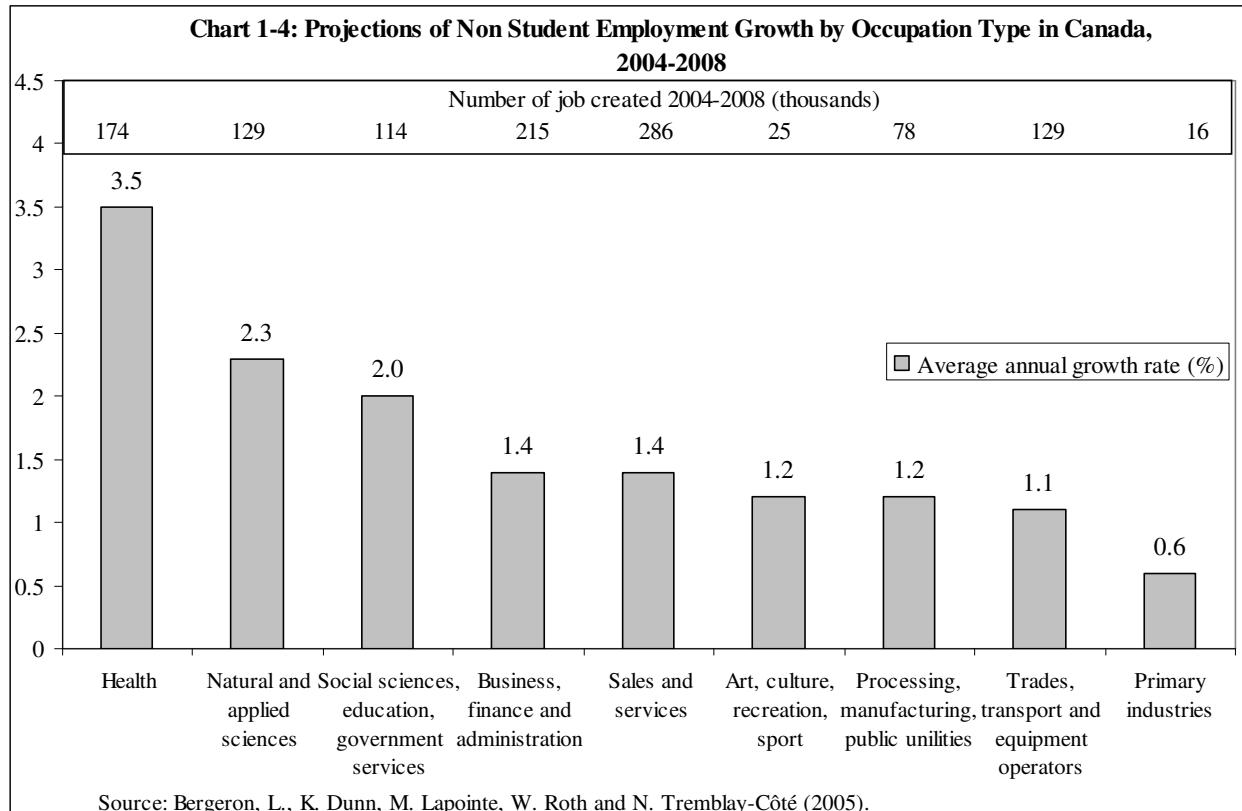
Source: Statistics Canada, Business Conditions Survey, CANSIM II: Table 302-0007 and Labour Force Survey, CANSIM II Table 282-0008.

Perhaps surprisingly, the incidence of job loss in the Canadian economy in the first years of the current decade is lower than that in the preceding decades. From 2000 to 2005, the number of laid-off workers averaged 6.1 per cent of employed workers, down from an average of 9.2 per cent in the 1976-1999 period. This suggests that globalization and other forces such as technological change have not led to increased labour market turbulence. Nevertheless, the number of job losers is still large in absolute terms—926,000 in 2005—and it continues to represent a challenge for public policy (See Chart 1-3).



According to forecasts by an HRSDC paper (Bergeron et al. (2005)), between 2004 and 2008, the overall employment in Canada is expected to grow at an average annual rate of 1.5 per cent, which is lower than the 2.2 per cent annual growth rate from 1999 to 2003. The Canadian economy is expected to create about 1.26 million new jobs over the same period. Health care, social sciences, education, government services, and natural and applied sciences are the sectors expected to register the strongest employment growth. The primary sector, including agriculture, forestry, fishing and oil and gas extraction, is expected to experience the weakest employment growth. Occupations in the trades, transportation and equipment operation are also expected to be negatively affected (See Chart 1-4).

In order to meet these human resource challenges, Canada needs to encourage labour market flexibility to increase competitive capacity in the knowledge-based economy. Much of the discussion to date on this issue has been concentrated on adjustment mechanisms that tend to correct labour market imbalances from skill shortages or skill surpluses. Boothby and Rainville (2004) argue that various institutional changes might facilitate these adjustments. These include reducing the barriers that prevent entry, mobility or substitution, and enhancing “institutional arrangements that could facilitate adjustments through re-skilling, provision of information, and possible market imperfections” (Boothby and Rainville, 2004: 25). The role of the provision of labour market information in facilitating adjustments has been highlighted, since better information could improve decisions made by labour market participants.



1.3 What is Labour Market Information?

Labour Market Information (LMI), as defined by the LMI Working Group of the Forum of Labour Market Ministers (FLMM), is the “information needed to make a labour market decision.” (FLMM-LMI Working Group, 2005) According to the definition, any information that has an impact on labour market decisions should be included in LMI, including information not normally associated with the labour market, such as transportation information.

As mentioned by the Working Group, “there are many competing definitions of LMI”.⁶ There are those who prefer not to use a definition of LMI at all since it is difficult to come to an agreement on the “right” definition. However, all LMI experts agree that LMI should be defined by clients’ information needs.

⁶ For example, the International Labour Organization (ILO) defines LMI as “any information concerning the size and composition of the labour market or any part of the labour market, the way it or any part of it functions, its problems, the opportunities which may be available to it, and the employment-related intentions or aspirations of those who are part of it” (Thuy et al, 2001:57). O'Reilly (2001:4) defines LMI as information concerning conditions in, or the operation of, the labour market.

Exhibit 1-1: The Targeted Users of LMI and their Information Needs

Targeted Users		Information Needs
Public Policy Makers with Responsibility for	Fiscal and monetary policy	General labour force statistics such as population, labour force, unemployment, participation rate, wage rates, productivity, etc.
	National, regional and local economic development	General labour force statistics, industry specific labour force information, and occupational labour supply.
	Government budgets	Demographic trends, labour force trends and composition.
	Labour market programs	Projected occupational and skill shortages, industry-based training programs, labour market information for specific groups such as women, youth, immigrants, and the disabled.
	Educational programs	Demographic trends; the number, types and location of educational institutions and vocational institutions, funding levels and tuition fees.
Employment Service Agencies	Public Employment Services staff	Job vacancies, job seekers, changes in skill and occupational requirements, career prospects in various industries and occupations, and education and training programs related to employability skills.
	Private vocational guidance and career counsellors	
Educational Institutions	Staff at educational and vocational training institutions	Labour market trends, skill requirements of the economy, technological change, programs offered by other institutions, and education attainment.
Labour Market Participants	Firms (Employers)	Number of job seekers, the skill composition of the workforce, training program costs and benefits, productivity, wage expectations of job seekers, labour market standards, health and safety regulations.
	Workers (Employees and unemployed individuals)	Job vacancies, educational and skill requirements of the job openings, wage and benefit levels, working conditions, collective agreement settlements, labour regulations, social security programs.
Persons out of Labour Force	Students	Occupational information, information that relates school subjects to specific occupations and careers, information on interests, abilities related to each occupation, current and future skill requirements of the labour market, education and training programs, tuition fees and student financial assistance programs, career counsellor services.
	Non-students	Labour market trends, government welfare programs, career counselling, educational and training programs, information on interests, abilities related to each occupation.

Source: CSLS.

Exhibit 1-1 provides an overview of the targeted users of LMI and their information needs. Different groups of information users need LMI for different reasons. For instance, public policy makers need LMI to identify policies and design programs that will encourage long term economic growth. By using LMI in conjunction with information on general economic trends, policy makers are better able to determine the need for expanding or reducing certain types of government programs.⁷ In the case of educational and vocational training institutions, LMI plays a very important part in helping planners develop and adjust their educational and training programs efficiently. As participants in the labour market, employers, employees and job seekers need LMI to make labour demand or supply decisions more effectively. Students and other persons out of the labour force need LMI to develop career plans, make career choices, and obtain information about education and training opportunities.

1.4 Why does LMI matter?

1.4.1 LMI and labour market adjustment

Unlike spot market transactions, labour market transactions involve negotiations, contracting and exchange (i.e. the productive employment of labour in the production process), which continue over time in the context of ongoing employment relationships. Moreover, the existence of heterogeneity in the labour market results in workers that differ from one another in terms of the skills they possess and firms that differ from one another in terms of the skills they demand. Incomplete information on either side creates information asymmetries, making it difficult for both sides to find appropriate matches. Thus, labour market transactions are characterized by a high degree of uncertainty.

This incomplete information results in high transaction costs. Both firms and workers have to incur a sunk cost before they find each other. The transaction costs are sometimes so high that ineffective matching between employers and employees may occur. In turn, sub-optimal matching can result in negative externalities, such as increasing turnover and thereby raising the cost for social security systems. Providing information to all market participants can reduce transaction costs and further mitigate the negative externalities. However, since LMI is usually viewed as a public good (for it is non-excludable and non-rival; and its value is difficult to identify and measure in monetary terms, as are its positive externalities) it cannot be provided solely through private optimizing behaviour. This calls for public policy intervention in the labour market.

In light of changing demand and supply conditions, LMI represents a key mechanism by which to facilitate labour market adjustments. Well-organized LMI can reduce job search costs for both firms and workers and help workers reallocate themselves among different employers and

⁷ A typical example of how policy makers exchange certain types of government programs through utilizing LMI is the launch of the Government of Canada's Foreign Credential Recognition Program on April 25, 2005, which provides \$68 million in funding to facilitate the assessment and recognition of foreign qualifications for occupations in demand.

industries effectively. Improved LMI can also make the supply of job candidates and the demand of employers more elastic. This means that all labour market participants can respond to wage changes rapidly, which in turn should make labour markets more flexible and adaptable to changing circumstances. Downes and Gunderson (2002) argue that this reallocation can simultaneously alleviate both downside labour market outcomes (i.e., layoffs, terminations, under-employment) and upside adjustment problems (i.e., vacancies, skill shortages, and training needs).

1.4.2 LMI and public policy objectives

LMI can both effectively ease labour market adjustments and contribute to public policy objectives. As Grubb (2002) points out, the selection of an appropriate occupation is valuable not only for individual purposes but also for the economic goals of increased efficiency, productivity, and competitiveness. For skilled workers, a better labour market adjustment mechanism resulting from a well developed LMI system means better career-management skills, a lower possibility of unemployment and higher income. For firms, effective LMI results in fewer skill shortages and a lower turnover rate due to better job matches. As such, the whole society would be better off as better LMI leads to higher employment and income levels. The answer to why LMI matters is thus based on public policy goals. By advancing the reallocation of skilled workers in the direction of basic market forces, LMI can enhance productivity, competitiveness, and economic growth, while also reducing wage inequality.

LMI also plays an important role in improving the efficiency of the education system by increasing information on learning opportunities and raising completion rates. In the consumer-driven learning market, individuals need sufficient information to support their educational choices. This increases the importance of LMI in helping to manage transitions from one level of education to another, and transitions between education and working life. Therefore, many countries place increased emphasis on LMI for people who seek to expand their job and learning opportunities.

Education and employment opportunities are important determinants of social mobility: access to these opportunities is a key indicator of social equity. With the help of LMI, people, regardless of their gender, social background, or ethnicity, can make better use of their talents. LMI can assist the disadvantaged (who may be less confident in their skills) in finding opportunities that suit their interests and maximize their talents. It can also help them to overcome barriers to these opportunities. Therefore, LMI plays a role in advancing a key public policy objective: social equity.

1.5 Conclusion

This part of the report discussed the definition of LMI and identified the different users of LMI and the type of information they need.⁸ It also demonstrated how LMI assists policy makers in achieving key policy objectives, including labour market and education system efficiency, and social equity. Though most countries have similar systems to collect, process, analyse and

⁸ For information on important characteristics of LMI, please see Appendix 1.

disseminate labour market information, the capacity of the system to attain specific policy goals varies among countries.

Canada has one of the best LMI systems in the world (CSLS, 2001:4), as will be discussed in Part 2 of the report. Its strength in providing extensive and high quality labour market information is widely recognized. However, there are still gaps that need to be filled, and weaknesses that need to be improved in the LMI. As described by Finance Canada (2005b: 84), “Canada has good aggregate labour market information, but is less successful in getting this information to individuals, firms and educational institutions”. Enhanced labour market information will “help Canadians improve their career choices, enhance labour market mobility, and result in better matches between workers and employers in different regions of the country” (Department of Finance Canada, 2005a: 117). In this respect, studying LMI in other OECD countries and evaluating different approaches of the provision of LMI is very important in order to improve Canada’s Labour Market Information system.

2. LMI in Canada: How Do We Perform?

2.1 Introduction

LMI is clearly recognized in Canada as a public good which should be freely accessible to all (OECD, 2002b: 3). Thus, the Government of Canada has placed a high priority on LMI over the last two decades. Public investment in such information was considerable, and the products were impressive.⁹ This effort resulted in a highly developed LMI system, enabling Canadians, including public policy makers, employers, workers, job seekers and educational institutions, to make informed labour market decisions.

Complex, decentralized, and involving many players, the LMI system in Canada is structured to reflect the constitutional and legislative divisions of responsibilities between federal and provincial/territorial governments in education, training, and labour market matters. It is also designed to adapt to cultural and ethnic diversity and to reflect economic developments in Canada's labour market.

Canada is a country of diversity. In addition to Aboriginal people and the traditional British and French cultures, there is a wide variety of ethnic groups currently represented in the Canadian population. In 2001, the proportion of the population who were foreign-born was 17.4 per cent (compared to 5.1 per cent in the European Union, for example). Immigrants accounted for over 70 per cent of the net labour force growth during the last decade, and it is estimated that by 2011 they will account for all such growth (OECD 2002b:3).

In recent decades, technological change and globalization have brought about a transformation of the economy and of labour markets. The service sector has expanded rapidly. A large share of employment, 75.2 per cent of the civilian employment in Canada, works in this sector, compared to the average of 66.6 per cent in OECD countries (See Appendix Table 2). Canada's labour force participation for persons 15-64 years old was 77.8 per cent in 2005. This is a very high rate compared to the OECD average of 70.3 per cent. The unemployment rate in Canada at 6.8 per cent in 2005 was a little higher than the OECD average (6.7 per cent), but the incidence of long-term unemployment in Canada was relatively low (9.6 per cent in Canada compared to the OECD average of 32.9 per cent). These characteristics have been taken into account in the development of the LMI system in Canada.

2.2 LMI providers and key LMI sources

The Government of Canada plays a significant role in the production of LMI. Increasingly, this role is shared with provinces/territories as many have requested the transfer of federal funding and responsibilities through Labour Market Development Agreements (LMDAs). At the federal

⁹ As pointed out by the FLMM LMI Working group, the priority given to LMI and investment in LMI has been eroding for some time, but is currently moving back into prominence.

level, four departments and agencies are key LMI providers: Human Resources and Social Development Canada (HRSDC),¹⁰ Industry Canada, Citizenship and Immigration Canada (CIC), and Statistics Canada.

2.21 Human Resources and Social Development Canada (HRSDC)

HRSDC is the main department responsible for Labour Market Information. Its activities include producing labour market data and providing key LMI resources at the national, regional and local levels; participating collaboratively with other departments such as CIC, and developing strategic plans to continually improve the efficacy of the LMI system; and enhancing quality and access of LMI through directly funding organizations.

The following are three important organizations or initiatives supported by HRSDC that provide LMI.

- Canada Career Consortium (CCC) is a national forum devoted to developing and co-ordinating career and labour market information that enables all Canadians to make labour market decisions. Its members include industry sector councils and council-like organizations, education and training organizations, career development organizations, not for profit career resource developers and providers, aboriginal peoples, persons with disabilities, visible minorities, women, communities of interest and end users, francophone career development communities, federal departments or agencies, and provincial/territorial government agencies. The CCC develops and co-ordinates career and labour market information to enable all Canadians to make labour market transitions.
- Canadian Career Information Partnerships (CCIP) serves as a national forum for career development organizations from both national and provincial levels to promote a culture of career development. Its goals are to “identify career information needs of young people and adults, to pool together information, research and knowledge on career development and labour markets across the country, and to explore and develop electronic access to career information.”¹¹
- Sector Councils bring together representatives from business, labour, education, and other professional groups at the industry sector level in a neutral forum in order to comprehensively and cooperatively analyse and address sector-wide human resource issues.

HRSDC has a Labour Program known as Labour Canada. The program collects and distributes information on collective bargaining, federal workers’ compensation, labour education and training, and labour legislation. One of Labour Canada’s initiatives is Workplace Information Directorate (WID), which is an up-to-date source for information on workplace conditions, trends

¹⁰ In 2003, Human Resources and Skills Development Canada (HRSDC) and Social Development Canada (SDC) were established to replace the former Department of Human Resources Development Canada (HRDC). In 2006, Human Resources and Skills Development Canada and Social Development Canada have been merged to form Human Resources and Social Development Canada.

¹¹ For more information, see the CCIP website: www.ccip-picc.org

and innovative practices. WID provides information through diverse approaches, such as direct personal counselling services, electronic means, and various publications which include the Workplace Gazette and the Wage Settlements Bulletin. Individuals and businesses that need LMI can easily obtain it from the HRSDC website.

HRSDC provides sophisticated and complex labour market data and information. At the core are the National Occupational Classification (NOC), Job Futures, the Labour Market Information website, and the Job Bank. Employment counsellors and career development practitioners in Canada widely use these HRSDC LMI sources. Exhibit 2-1 shows how these sources are established or developed and what type of information they provide to users.

2.22 Industry Canada

Industry Canada works in all parts of the country to foster a growing, competitive, knowledge-based Canadian economy, and to build a fair and efficient marketplace. The LMI provided by Industry Canada mainly addresses the needs of specific groups such as youth, aboriginal people, and immigrants, helping them make effective labour market decisions. Moreover, Industry Canada develops important programs and initiatives to produce and disseminate LMI. These include the Post-Secondary Co-operative Education and Internship program (providing information on co-op opportunities in the federal government), the Community Access Program (providing youth with information on work opportunities in local communities), Canadian Information Centre for International Credentials (providing information on assessment and recognition of foreign credentials), CareerPLACE (providing information on education, training and career opportunities for aboriginal people) and SkillNet (providing online one-stop labour market information for employers and job seekers). Two initiatives, SkillNet and CareerPLACE, are addressed in detail in Exhibit 2-1.

2.23 Citizenship and Immigration Canada (CIC)

Citizenship and Immigration Canada (CIC) was established in 1994 to link immigration services with citizenship registration. The department provides labour market information for potential immigrants, new arrivals, foreign students, temporary workers and refugees in order to help newcomers adapt to Canadian society. As part of settlement and adaptation programs, the special information and services that CIC offers to new immigrants are impressive. They include employment counselling services, job-search programs, assistance with recognition of foreign credentials, and prior learning assessment.

2.24 Statistics Canada

Statistics Canada is the national central statistical agency that collects and produces data related to LMI. It conducts a Census every five years and hosts many surveys such as the Labour Force Survey (LFS), Workplace and Employee Survey (WES), Survey of Employment, Payrolls and Hours (SEPH), and the National Graduate Survey (NGS), which provide policy makers with a solid foundation for analysis. Details of the five most important LMI sources provided by Statistics Canada are represented in Exhibit 2-1.

Exhibit 2-1: Important LMI Sources in Canada

Providers	LMI Sources	Characteristics
HRSDC	National Occupational Classification (NOC)	NOC 2001 provides a standardized framework for organizing occupational information in a manageable and understandable system, based on extensive occupational research, analysis and consultation conducted across the country. The NOC 2001 Web site (http://www23.hrdcdrhc.gc.ca/2001/e/generic/welcome.shtml) contains the classification structure and description of 520 occupational unit groups and includes over 30,000 occupational titles. As one of the counselling components of the NOC system, the Career Handbook offers descriptions of occupational profiles, examples of job titles, employment requirements, physical activities, environmental conditions, education indicators and work settings of each occupation. It also identifies skills, worker characteristics and other indicators related to occupations.
	Job Futures	Job Futures is a career tool that combines information and data from the LFS, the census and other sources on 226 occupational groups and work experiences of recent graduates from 155 programs of study. It focuses on the link between the educational system and the labour market through the analysis of occupational projections and labour market outcomes. It helps information users, particularly youth, to make better decisions and to plan for a better career.
	The National Labour Market Information Website	The National LMI web site is the main distribution mechanism of LMI products provided by a network of 150 labour market analysts across Canada who are responsible for coordinating the collection and distribution of local labour market information. (http://www.labourmarketinformation.ca). It provides information on employment prospects, wages/salaries, local employers, job descriptions, and training opportunities of each occupation in the NOC 2001.
	Job Bank	Job Bank (http://jb-ge.hrdc-drhc.gc.ca/) is the main labour exchange service managed by HRSDC. It includes an electronic job posting service available free to all Canadian employers and job seekers. Employers are able to post their vacancies directly rather than via HRSDC staff, which means that the information is updated more quickly. This encourages labour mobility within Canada and facilitates better matching between workers and employers.
Industry Canada	SkillNET	SkillNET is a network of on-line services for employers and job seekers. The services and tools provided by the SkillNET can help the target users use the Internet for recruitment, job search and learning.
	CareerPLACE	An initiative of the Native Women's Association in partnership with Industry Canada's SkillNet.ca Program, CarrerPLACE is designed for Aboriginal recruitment activities. Users can register on the site to access a variety of labour exchange services.
CIC	Annual Immigration Overview	The annual immigration overview provides annual information on admissions to Canada, which is derived from CIC's administrative data files. It is one of the main sources of immigration statistics for both the government and the private sector.
Statistics Canada	The Labour Force Survey (LFS)	LFS provides estimates of employment and unemployment. LFS data are used to produce the well-known unemployment rate as well as other standard labour market indicators such as the employment rate and the participation rate. LFS estimates are the major monthly economic data series that helps labour market policy makers track the main trends in the Canadian labour market.

	Workplace and Employee Survey (WES)	WES provides a broad range of information relating to employers and their employees. In the survey, employers and employees are linked at the micro data level. It offers specific LMI about human resource policies on the employer's side, and training, job stability and earnings on the employee's side.
	Survey of Employment, Payrolls and Hours (SEPH)	SEPH is Canada's only source of detailed annual information on the total number of paid employees, value of payrolls, and hours at detailed industrial, provincial and territorial levels. The data are widely used by labour market participants for employment decisions such as contract formulation and wage rate determination.
	Survey of Labour and Income Dynamics (SLID)	SLID is designed to understand the economic well-being of Canadians. It provides national data on the fluctuations in income that a typical family or individual experiences over time which complements the tradition survey data and shed light on the nature and extent of poverty in the Canadian labour market.
Statistics Canada	The National Graduate Survey (NGS)	NGS is an occasional survey of recent university graduates conducted by Statistics Canada. It is designed to determine such factors as: the extent to which graduates of postsecondary programs have been successful in obtaining employment since graduation; the relationship between the graduates' programs of study and the employment subsequently obtained; the graduates' job and career satisfaction; the rates of under-employment and unemployment; the type of employment obtained related to career expectations and qualification requirements; and the influence of postsecondary education on occupational achievement. It helps people to make better education and training decisions when engaging with the Canadian education system.

Source: CSLS.

2.25 Provincial government

In addition to the federal government, the provincial or territorial governments also have the responsibility to produce LMI and make it available to the public. Through the Labour Market Development Agreements (LMDAs), the provincial or territorial governments started to transfer labour market services from the federal government (Alberta, Manitoba, New Brunswick, North West Territories, Nunavut, Quebec and Saskatchewan) or co-manage labour market services with the federal government (British Columbia, Newfoundland and Labrador, Nova Scotia, Prince Edward Island and Yukon). Ontario is the only provinces which still receives labour market programs directly through HRSDC. Federal and provincial co-ordination in relation to labour market matters is managed through the Forum of Labour Market Ministers (FLMM), which established a Labour Market Information Working Group to co-ordinate federal, provincial and territorial governments' work for more accurate and relevant LMI.

Most provinces and territories (except Quebec) established a one-stop information platform that produces and disseminates LMI for their own residents through the initiative Canada WorkInfoNet (WIN), which provides three types of information, including career planning, learning and employment.¹² Usually, target LMI users are job seekers and employers, with a particular emphasis on youth, recent immigrants, aboriginal people, and persons with a disability. (See Appendix 1 for detailed information of LMI activities in provincial government)

¹² Although Quebec does not have a one-stop LMI platform such as WIN, the government of Quebec provides LMI through other online resources. For example, Quebec Job Futures provides provincial and regional occupational outlooks (www150.hrdc-drhc.qc.ca-job-futures).

2.25 Other Providers

Non-government organizations also have an important role in the provision of LMI in Canada. According to an OECD report (2002c), a large number of companies research, develop and deliver LMI, particularly career information products (print and Internet-based). They either deliver these products through the market, or do so under contract to HRSDC or a provincial/territorial government department. This occurs due to reductions in the size of governments, and the desire of governments to increase private sector involvement in the provision of labour market services. In addition, a number of academics at Canadian universities frequently work under contract to provide a range of services and products related to LMI.

2.26 LMI collection mechanisms

Canada's LMI collection mechanisms are among the best in the world (OECD 2002c: 84). There are several reasons for this. First, an elaborate network consisting of a number of information experts, methodologists, statisticians, economists, researchers and analysts is brought together. Second, due to a good relationship between LMI collection agencies at the national level (i.e. Statistics Canada) and the provincial or territorial level, ensures that information can be gathered in a timely manner. For example, Statistics Canada gathers data through such vehicles as the Census, LFS, WES and other specially-designed surveys at the national level, and provincial LMI collection agencies also conduct numerous surveys as Statistics Canada's liaisons. Third, FLMM plays a key role in coordinating the different provincial governments and building a wide range of national and local LMI networks.

2.27 LMI standards

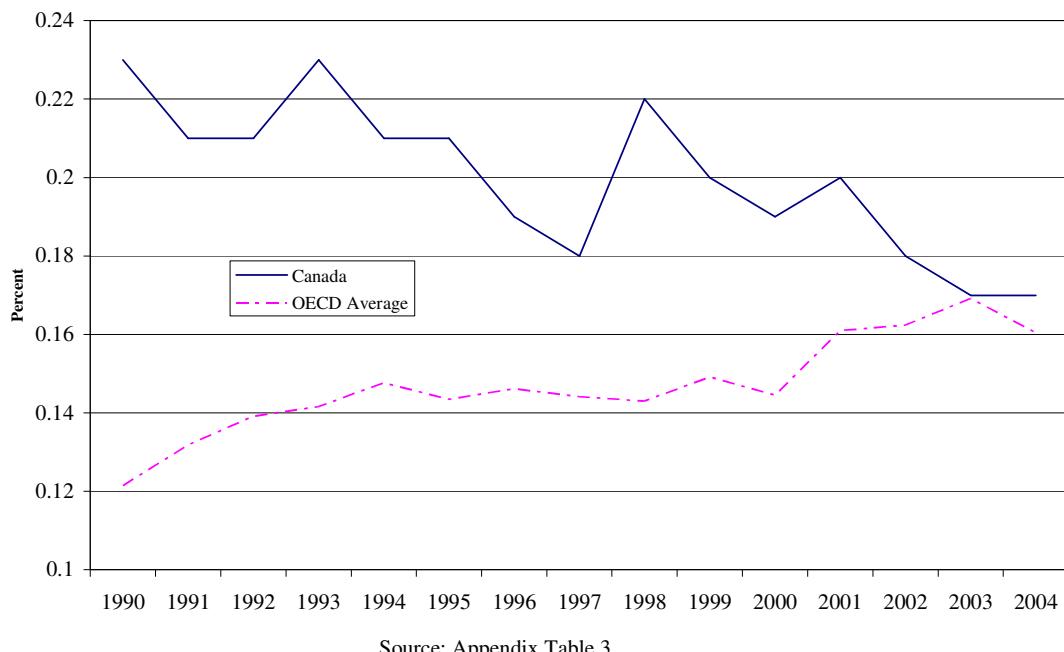
Because Canada's LMI contains a great number of services and products, it is often difficult for information users to sift through the wide range of information without any help. This reduces the value of Canada's extensive LMI since users might not be able to find the specific information they need. LMI is useful only if the target users can find relevant information and take advantage of it. In addition, the quality of services and products related to LMI varies considerably. This calls for the establishment of LMI standards in Canada. Effective LMI standards should have two functions. First, they should provide guidelines for LMI service delivery so that users can have easy access to LMI. Second, they should provide guidelines for LMI products, including the organizational templates of information; in this way, users can find appropriate LMI easily and use it effectively.

The FLMM's LMI Working Group has been devoted to the development of LMI standards since 1999. Its goal is to produce guidelines concerning the following three areas of the LMI system: 1) Labour Market Information resources; 2) Labour Market Information products; and 3) Labour Market Information service delivery. These guidelines are available on FLMM's website (www.flmm-lmi.org) and have been widely distributed to LMI producers (See Appendix 4 for detailed information). Another important guideline, the Canadian Standards and Guidelines for Career Development Practitioners, was developed by the National Steering Committee for Career Development Guidelines and Standards (www.career-dev-guidelines.org). This initiative provides a practical guide for people who work in career development and counselling areas.

2.28 Public expenditures

There is no specific information available on how much the Federal Government spends on the Canadian LMI system. However, we can examine data for public expenditures on public employment services to obtain general information on this issue. According to the OECD (2006), public expenditure on public employment services as a percentage of GDP in Canada was 0.17 per cent in the 2004-2005 fiscal year, above the OECD average of 0.16 per cent (See Chart 2-1). The proportion spent on placements was relatively low within the total amount of public expenditure on public employment services compared to most other OECD countries, with 12 per cent. As well, the expenditure on administration was 23.5 per cent of the total expenditure on public employment services, which is lower than the OECD average (31.6 per cent). The longitudinal data analysis for Canada's public expenditures indicates that the government of Canada reduced the proportion of spending on public employment services during the last decade by 0.06 percentage points (from 0.23 per cent in the 1990-1991 year to 0.17 per cent). On the contrary, the OECD average had increased the public expenditure on public employment services from 0.12 per cent to 0.16 per cent over the same period.

Chart 2-1: Public Expenditure in Public Employment Services as a percentage of GDP in Canada and OECD Average, 1990-2004



Source: Appendix Table 3.

2.3 Main LMI distributors

2.31 Schools

Education in Canada is a provincial responsibility. Provincial governments set the basic curriculum and set standards for the provision of LMI. LMI in schools has traditionally been delivered by guidance counsellors. A few provinces have defined minimum counsellor-student ratios. For example, in British Columbia the K-12 ratio is 1:693. However, most provinces do not have a compulsory counsellor-student ratio and leave it to school boards. Guidance counsellors are generally licensed teachers who also have a graduate qualification in guidance and counselling.

Another way to distribute LMI to students is to embed career education within the school curriculum. In Canada, efforts to embed career education within the school curriculum have been on-going but vary considerably across the provinces. In some provinces, career education is offered throughout the period of schooling. For example, it is mandatory to devote 60 hours per year from kindergarten to grade 12 to career and personal planning in British Columbia. In others, the education is offered in the curriculum during certain grades.

The Real Game Series,¹³ a significant curriculum innovation, has been introduced to enrich the LMI system in schools in Canada. It is based on the extensive use of role-play and active learning to help students know the “real world” of working. Up to now, students at more than 12,000 schools have used this program in Canada. Some or all of the series has already been successfully adapted for use in a number of other countries, including the United States, Germany, Australia and the United Kingdom.

2.32 Universities and Community Colleges

The LMI system in Canadian universities and colleges varies a great deal from institution to institution. Emphasis on LMI or career services is generally not the top priority for most institutions. In certain cases, universities have personal counsellors who also are responsible for the provision of LMI. However, the information is generally limited to those in co-operative education programs, student summer work placements and on-campus recruiting by employers. In other cases, in order to increase the employment rates of their graduates, universities have strong incentives to develop their own LMI systems. The efforts include developing self-service information rooms for students, introducing the use of peer helpers, or holding group meetings for LMI dissemination.

Some universities and colleges have co-operative education programs in particular subject areas (e.g. engineering). The information on co-op education is available through different institutional resources such as websites or career centres. Students who are enrolled in the program have an advantage over those who do not have access to the recruiting information of employers. However, the proportion of students participating in such programs is quite small.

2.33 Public Employment Services

¹³ The Real Game Series is a career educational program created by Bill Barry, a former Canadian teacher. The purpose of the program is to give young people a simulated career practice run while still in school. The *Real Game Series* has been funded by HRSDC since 1994 and is now used around the world.

Public employment services which are run through HRSDC and provincial governments in Canada are currently targeted mainly at groups which have experienced labour market difficulties, such as the unemployed, youth, poorly skilled immigrants, and persons with disabilities. The provision of LMI to these groups aims to integrate or reintegrate them into the labour market as quickly as possible.

Through screening interviews, the information needs of targeted groups are established. The Public Employment Service Centres then offer LMI accordingly, either through career counsellors, or through self-service resources. The information may consist of training opportunities, job search and interviewing skills, wage-subsidized work experience, financial assistance, and business start-up assistance. Notably, some or all of these services, usually provided by the public employment services, may be “contracted out” to for-profit or not-for-profit organizations. One advantage of this arrangement is that these organizations can be better positioned to identify the special needs of their clients, and thus provide more relevant LMI. In addition, contracting out can result in lower costs.

HRSDC has retained responsibility for a number of programs related to career development information for young people, Aboriginals, and people with disabilities. For example, the Youth Employment Strategy (YES), which is operated by HRSDC directly, provides information for people aged 15-30 years old on various internship programs, financial assistance programs (student loan) and employment opportunities for student summer placements. As part of the YES, HRSDC publishes the Youth Link book every year, providing the most current LMI for youth. All information can also be obtained online at www.youth.gc.ca. Some provinces also provide this type of information. For example, in Quebec, Youth Employment Centres offer information and guidance services alongside various workshops and cultural/social/travel projects for young people aged 16-35, through a network of 106 service centres.

2.34 Community centres

Since federal and provincial employment services have contracted out some of their services to community-based organizations, the role of community centres in the provision of LMI has become more specified. For example, some focus on Aboriginal communities; some focus on particular immigrant groups; some on persons with particular disabilities; and others on groups such as the homeless.

It is estimated that there are over 10,000 community-based organizations delivering LMI to different clienteles across Canada (OECD, 2002b:11). The LMI they transfer contains information on job search skills, career planning, the government LMI resources, and education and training opportunities.

2.35 Private sector

The private sector also plays a prominent role in the delivery of LMI. This includes a wide range of agencies that work in the labour market such as private career counselling companies, private companies with a human resource department, temporary employment agencies, headhunters and professional associations. According to the OECD (2002b:12), many leading publications and web-based products on career information are produced by private companies. The market for

these products is generally unregulated (OECD, 2002: 12). Although the FLMM's LMI Working Group has established national standards guidelines for LMI products and LMI services delivery, it is unclear whether the guidelines are enforced or not in the private sector.

However, two competitive forces push the private sector to offer high quality LMI products. The first one is market competition. The second is competition for resources from HRSDC. The role of HRSDC in this respect is to organize the collaboration of public and private sectors and to manage them. Overall, this system works well to assure high quality information.

2.4 Conclusion

As the OECD (2002b: 25) points out, Canada is widely recognized as a world leader in career development, and its LMI system is also among one of the best LMI systems in the world. In summary, the main characteristics of Canada's LMI system are as follows:

- HRSDC has had a significant role in all LMI areas, by delivering, initiating and funding LMI products. Industry Canada, Citizenship and Immigration Canada, Statistics Canada and provincial governments are also major players in the production and distribution of LMI.
- The LMI delivery mechanism combines various delivery channels with various distribution formats. Internet and CD-ROM based LMI is growing rapidly in Canada. Traditional delivery channels, such as class-based activities and printed publications, are also widely used to ensure accessibility. There is very good co-ordination of LMI data-collection and delivery between the national and provincial/territorial levels. These arrangements are rightly claimed to be among the best in the world (OECD, 2002c).
- The LMI system makes extensive use of information and communication technologies (ICT) tools. Canada makes significant use of ICT in its provision of LMI products. The web-based LMI has been well organized through both the public and the private sectors. This arrangement maximizes access to labour market information and reduces the costs of the provision of LMI.

However, there are still some weaknesses in Canada's LMI system that should be emphasized, such as the ineffective enforcement of LMI standards, and the lack of requirements in the provision of LMI by educational institutions. Nevertheless, it is not appropriate to evaluate Canada's LMI system without comparing it to any other systems. Next, we will take an international perspective and investigate LMI systems in other OECD countries. The examination can also provide examples that highlight which aspects of LMI are most important in labour market adjustments.

3. LMI Systems in an International Perspective

3.1 Introduction

When we investigate current practices in the production, analysis and dissemination of LMI in different OECD countries, it is important to focus on two issues: first, whether the LMI contributes to labour market adjustment; that is, does the system improve the efficiency of the labour market and education system transitions? And second, whether the system delivers the information effectively; that is, does the system provide accurate, timely, widely accessible information in an affordable way? Obviously, no two countries approach the provision of LMI in exactly the same way. Therefore, we can exploit the variations to identify the most effective approaches to the provision of LMI.

This part of the report provides an overview of LMI systems in four OECD countries, namely the United Kingdom, Germany, the United States and Australia. The reason for choosing these countries lies in the special features of their LMI systems and, for three countries (the United Kingdom, the United States and Australia), in their similarity to Canada. The review will focus upon important differences in the development of four subsystems of LMI practices, which are listed as follows:

- Type of information the system provides;
- LMI producers and target users;
- Data collection and processing techniques and dissemination mechanisms;
- Typical programs and initiatives.

3.2 The United Kingdom: a world LMI leader

The United Kingdom has a highly developed Labour Market Information system. One of its most distinctive characteristics is that it has a well developed set of institutional support arrangements: obligations of LMI providers and individuals, quality standards, policy advice and co-ordination mechanisms, political support, and research and evaluation support. The LMI system is also notable because the LMI provided reflects labour market reforms in the United Kingdom.¹⁴

The U.K. labour market is widely regarded as well-functioning. At 76.1 per cent of the working age population (15-64 years old), the labour force participation rate in 2005 was above the OECD average of 70.3 per cent. At 4.6 per cent in 2005, the unemployment rate in the United Kingdom was considerably below the OECD average of 6.7 per cent. Compared to many other OECD

¹⁴ These reforms include reducing trade union power, decreasing the relative level of state welfare benefits, increasing pension rights, and investing more on education and training. The reforms enhanced flexibility within the labour market and education systems, expanded individual choices, and introduced initiatives to reduce welfare dependency.

countries, the U.K. labour market is very flexible. First, the level of employment protection is relatively low,¹⁵ making it relatively easy for employers to both hire and fire workers. Second, few limitations are placed upon the operation of private employment agencies. Third, a high proportion of the youth population has work experience. Nearly 66 per cent of youth aged 15-24 in the United Kingdom participate in the labour market, compared to an OECD average of 50 per cent. 58 per cent of 15-24 year-olds had a job in the United Kingdom in 2005, compared to an OECD average of around 43 per cent.

Historically, LMI in the United Kingdom has tended to be targeted at young people, particularly those approaching a key transition point, such as the end of secondary education. However, key changes in the labour market and the associated move away from “a job for life” has meant that a wider range of individuals (including those who are older) can benefit from LMI. Indeed, LMI can help persons of all ages find employment, enhance their vocational skills or reduce their dependency on welfare.

Generally, compared to most other OECD countries, the strengths of the U.K. LMI system are:

- Wide accessibility of LMI for all individuals. Through a wide range and diversity of delivery mechanisms, information can be transferred to users effectively, including to policy makers, career counsellors, students, employers, employees, unemployed workers, welfare recipients and school teachers.
- High quality information. There is a well-organized set of instruments to make sure that quality has been seriously taken into account when information is collected.
- Highly innovative and creative initiatives. Significant innovations have occurred in the U.K. LMI system since the 1980s, reflecting developments of the U.K. labour market. A large, well-trained and committed body of LMI practitioners have been involved in the innovations. LMI policy and program evaluation is also well developed.

3.21 Information providers

For many years the main national agency responsible for labour market information in the United Kingdom has been the Department for Education and Skills (DfES). DfES has a team, the Career and Occupational Information Centre, to produce and distribute LMI.

Other national departments or organizations in the United Kingdom that are responsible for labour market information are:

¹⁵ Employment protection refers to employment protection legislation (EPL), which is any form of law that raises the time required to or financial costs of firing or layoffs for firms. EPL is relatively low in the United Kingdom. For example, for an individual dismissal, U.K. employers only need to present the employee with a written notice stating the reason for dismissal. In Germany, on the other hand, the employer must consult with an employee representative; in France, the employer has to present the employee a letter of dismissal before the dismissal; in the Netherlands, authorization from a government labour office is required before dismissal.

- Office for National Statistics (ONS), which provides information on labour market trends at the national and regional level.
- Department of Trade and Industry (DTI), which provides information on a wide range of issues affecting people at work; for example, employment relations, employment rights, work-life balance, and labour market research and analysis.
- Department for Work and Pensions (DWP), which provides information on work opportunities and benefits for all ages.

From the availability of information listed above, the U.K. government plays a key strategic role in developing labour market information, with a focus on youth employment and lifelong learning. Although the roles of other organizations (for example, educational institutions, trade unions, private firms, etc.) vary significantly, they, similar to the U.K. government, place an emphasis on graduate follow-up studies to evaluate the labour market impact of educational programs.

3.22 LMI distributors and target users

The Careers Service, which is funded by the DfES, is the most important LMI distributor in the United Kingdom. Through local authorities the Careers Service provides career information to people of all ages, although its services tend to be mainly targeting young people in the final years of schooling. Between 1991 and 1995, the Careers Service in England, Scotland and Wales was “privatized”, and the core contracts were awarded by the DfES to local companies by a competitive process. However, its fundamental features remain the same in many respects.

3.221 LMI provided for youth

The mechanics for delivering LMI to youth are varied among different regions of the U.K. In England, a single service centre, Connexions, was set up in April 2001 to improve supportive services for young people, including LMI services. However, in other parts of the United Kingdom, LMI for youth is administrated mostly by organizations that have wider responsibilities, such as Careers Wales and the Careers Service in Northern Ireland. In addition, the Employment Service (known as Jobcentre Plus in some areas) operates across all administrative areas as a standard program, offering supportive information for young people in the labour market.

In England, the Connexions contracts were awarded to local private companies (called local Connexions Partnership companies) which demonstrated that they can meet government-set criteria through which a high standard of information can be achieved. As a new approach of providing LMI to youth, the range of information Connexions provides is broader than earlier programs. In addition to the information needed by youth in the transition from school to work, it also includes information on teenage pregnancy, personal finance issues, housing, drug problems, and community service and volunteering. In general, Connexions identifies its services as personal planning other than career counselling. Thus, those who provide LMI and related services are called Personal Advisers.

In order to ensure that high quality LMI is provided, all Personal Advisers are required to take a special training course that focuses upon generic skills required for working with young people.

The information provided by Connexions can be delivered either through the Connexions Personal Adviser themselves or through local Connexions Partnership companies. Personal Advisers can perform a range of roles including one-to-one support for young people, and working with school and college staff to ensure that all students have access to high quality LMI. The local Connexions partnerships are coterminous with Local Learning and Skills Council (LLSC) boundaries. In this way, youths who enter the LLSC can easily obtain the information they need. Some Connexions services provide youth career-related information through school curriculum, or provide information about employer contacts and work experience placements in schools through other non-curriculum means. Information and Communication Technology (ICT), and other self-help methods, are used in some services. For example, the Coventry and Warwickshire Connexions services have established innovative “one stop shops” that include a range of information resources and self-help services, with screening tools used to allocate more intensive services to those with the greatest needs.

In general, Connexions has had a positive effect in helping youth make decisions about the future. A Connexions service customer satisfaction survey found that a total of 60 to 70 per cent of respondents indicated they had benefited from the Connexions service (Capital Connexions, 2003).

One of the strengths of the United Kingdom approach to providing LMI for young people is that youth can access information they need through schools or universities directly. This helps to ensure that the information is not only market-bound but also has a strong link with the education system.

The 1997 Education Act requires that all schools provide a minimum program of career education and ensure that all young people have access to impartial career guidance (OECD, 2003b:94). One significant aspect of the provision of career information in the United Kingdom is that all schools are required to have an accessible careers library that contains up-to-date information on career opportunities and on opportunities for those older than 16 for further learning, such as colleges and training programs. This seems to be unique among OECD countries. The DfES conducted a “Survey of Careers Education and Guidance in Secondary Schools,” and the results showed that “90% of schools have a careers library and 75% of schools have a good range of careers information” in the United Kingdom (2003b: 95).

In most regular and special secondary schools, a member of the teaching staff is usually designated as a Careers Co-ordinator and liaises with the Connexions Service or Careers Services. However, the qualifications and training of the teachers who provide or co-ordinate career education vary widely, with many having no specialized training. According to Barnes et al. (2003), only around one third of the teachers involved in career education hold relevant qualifications.

In the United Kingdom, Higher Education Institutions (HEIs) have no statutory responsibility to provide LMI or other career services. However, such provision is seen as increasingly important for contemporary universities or colleges. Almost all HEIs in the United Kingdom have

established their own dedicated Careers Service. Information provided by the services can be found both in printed materials and on line. This type of LMI may contain information on how to access self-help techniques, careers fairs, employer interviews, vacation placements, interview skills, and management skills training.

The qualifications of staff involved in the HEI Careers Services are varied. The Association of Graduate Careers Advisory Services (AGCAS) initially developed a set of standards for the provision of career guidance in HEIs. However, universities and colleges need only comply with the standards on a voluntary basis. AGCAS, in association with the National Association of Colleges and Employers (NACE), also provides professional training for staff working in HEIs Careers Services.

3.222 LMI provided for adults

LMI for adults in the United Kingdom is available at public employment services and in a range of community and voluntary organizational settings. It is also available through health centres and social services centres, and through some private employment agencies. Adults can receive Labour Market Information from Connexions services or from Careers Services. Funds used to provide these services are different than funds used to provide youth services and come from organizations such as the European Social Fund, or fees charged to employers.

A 1998 report of the Department for Education and Employment (DfEE) titled *The Learning Age* highlighted the need to expand and improve LMI for adults. To meet this objective, the Local Information, Advice and Guidance (IAG) Partnerships were set up in 1999 to become the main source of LMI for adults. In order to receive funds, IAG partnerships must demonstrate that they have been accredited against the quality standard administrated by the Employment National Training Organization. Partners normally include a range of public, private, voluntary and community organizations. Partnerships are required to co-operate effectively with public employment service, and to have extensive local arrangements for referral and information sharing. IAG partnerships have very flexible services for adults. While they must adhere to national priorities and target their information to persons with less education, ex-offenders, and those for whom English is not their first language, they are also able to target their information to reflect local needs.

Learndirect is another highly innovative approach to meeting the LMI needs of adults.¹⁶ Launched in 1998, its core is built around call centre technology funded through the University for Industry (UfI).¹⁷ It offers free and impartial information to assist adults to access further education and training opportunities. To support counselling and information on learning opportunities, learndirect provides information on funding for learning and on childcare. learndirect is open to all adults, but it focuses on adults with low levels of qualifications or skills. Call centre help lines are open between 8:00 and 22:00, 365 days a year. This makes the service

¹⁶ learndirect is a brand name that is normally written without an initial capital letter. In addition, in U.K. government documents it is normally printed in bold formatting as a further means of emphasising its unique identity.

¹⁷ The University for Industry is an initiative launched by the U.K. Government to promote lifelong learning among businesses and individuals. It acts as a broker helping people and businesses to identify their learning needs and to access this information through online services or hotlines.

accessible well outside of standard business hours. By the end of 2003, over five million people had called learntdirect and received customized information. learntdirect also provides an online database of hundreds of specially created courses in computers, office skills and self-development at www.learndirect.co.uk. An online diagnostic package can be used to assess career interests and preferences. There have been over 10 million hits on the site since it opened in 2000. Any adult who wants to improve his employable skills can choose suitable courses online and find an easily accessible learntdirect centre at which to begin training. Learndirect centres are located in various places such as sports clubs, leisure and community centres, churches, libraries, university campuses and railway stations. These locations are convenient to help adults to get started - no matter when and where they decide to learn.

In order to attract callers, learntdirect conducts regular and systematic marketing campaigns. These make heavy use of radio and television advertisements, which can be targeted at particular occupations. UfI even employs experienced marketing staff to buy advertising time and space for learntdirect.

Union Learning Representatives (ULRs) is another initiative that provides LMI for adults. The initiative was launched jointly by the government and the Trades Union Congress (TUC) and targets low-skilled and poorly qualified workers. The main activities of trained ULRs are encouraging and supporting people back into skill training. Through a network of over 8,000 representatives who collect information on individuals' learning needs, provide target clients with information on learning opportunities, and communicate workplace learning needs to managers, this initiative has been able to effectively promote training in the workplace.

3.23 Institutional framework for LMI

In order to support its highly developed LMI system, the United Kingdom has established and developed a wide range of institutional frameworks to which few other OECD countries can compare. They include bodies for policy co-ordination, for standard setting and quality-assurance, and for advocacy and representation. Some of the more important of these are outlined below:

- The National Information Advice and Guidance Board was set up to ensure coherence in the planning of the career guidance services for adults and young people. It is provided or supported by the Department for Education and Skills and the Department for Work and Pensions, and it is an important mechanism to ensure co-ordination of LMI policy and provision both within and between education and employment portfolios.
- The Guidance Council is involved with policy development and advocacy on behalf of the LMI and career services; the promotion of LMI quality; and commissioning research on assessment of how quality LMI supports workers' skill development and helps them achieve personal and economic objectives.
- The Institute of Career Guidance (ICG) represents career service practitioners, and has a lobbying, advocacy and policy role. In addition, it is the awarding body for the Qualification in Careers Services which has replaced the Diploma in Careers Services. The Institute registers students who want to become career advisers to the Qualification in Careers Services

course, and awards their certificates. The Institute accredits institutions that provide the Qualification, and as such has a quality-assuring role within the overall United Kingdom LMI system.

- The Sector Skills Development Agency (SSDA) is a non-departmental public body responsible for funding, supporting and monitoring the network of 25 Sector Skills Councils (SSCs). Each SSC is an employer-led, independent organisation that covers a specific sector across the U.K., with responsibility to reduce skill gaps and shortages, and increase the opportunities to boost the skills of the sector's labour force. SSDA provides employers with a unique forum to express the skill needs that are pertinent to their sectors.

3.24 Conclusion

Overall, the United Kingdom has a very diverse and highly developed Labour Market Information system. Compared to other OECD countries, the LMI system in the United Kingdom plays a more important role in lifelong learning policies and active labour market policies. Many other OECD countries have much to learn from these LMI innovations (Some important innovations are listed in Exhibit 3-1).

Exhibit 3-1: Key LMI Innovations in the United Kingdom

Innovation	Details
Personal Advisers	Provide LMI for youth through internet, telephone hotlines and hard copy resources, or through Connexions companies, schools and colleges.
1997 Education Act	Made a requirement that all schools must provide a minimum program of career education and have an accessible careers library which contains LMI.
learndirect	Offers free and impartial LMI for adults through call centre hotlines. In order to attract callers, it conducts marketing campaigns.

Source: CSLS.

Lessons we can learn from the U.K. LMI system include:

- LMI producers should fund a multi-media publicity campaign to encourage people to seek LMI. As noticed by the Guidance Council (2005), learndirect's marketing campaign can be viewed as successful in promoting the use of LMI. Learndirect uses diverse media to attract people of different ages and backgrounds. The strategy is important particularly for government LMI providers in order to attract information users.
- The existence of personal advisers who deliver of LMI is very important. Self-help delivery mechanisms cannot completely replace the role that personal advisers play in a LMI system. A study conducted by the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre, 2004) reveals that some young people find the LMI given by careers advisers to be the most useful in helping them make labour market decisions.

- Government should develop legislative arrangements to make LMI available both in educational institutions and in workplaces. The practices in the United Kingdom show how effective the 1997 Education Act has been in the dissemination of LMI in schools.

3.3 Germany: focusing on counselling and placement

Traditionally, compared to the private sector, the German public sector plays a much more important role in the provision of LMI. The Federal Employment Service (BA) is the largest single producer and publisher of LMI in Germany.¹⁸ Local *Länder* employment offices are responsible for collecting and publishing regional LMI. On the other hand, responsibility for information on educational institutions, programs and courses is placed within the educational institutions themselves, although complementary responsibilities and financing lie with the school authorities of *Länder*.¹⁹ The monopoly of provision of LMI by the federal employment service was formally abolished in 1998. This has resulted in the growth of new services within the voluntary and private sectors.

Although there is a distinction between educational and vocational services, the German LMI system has some important mechanisms and arrangements intended to strengthen the relationship between education and working life. An important role of the German LMI is to help individuals of all ages to take more responsibility for the development of their lives in a well-informed and well-supported way. In this respect, LMI certainly improves the effectiveness and efficiency in the labour market and education systems. These following features play important roles in the provision of German LMI:

- The strong administrative role of the Federal Employment Service in gathering, analysing and disseminating LMI. As one of the main channels that provide information to targeted groups, career service counsellors are required to take a training program offered by the Federal Employment Service. Private LMI publishers and providers are strictly regulated by the Federal Employment Service.
- The strong, formally defined partnerships between the Federal Employment Service and educational institutions. Collaborative relationships between higher education institutions and the Federal Employment Service's higher education teams (*Hochschulteam*) are regulated contractually through a national agreement between the service and the Standing Committee of Rectors (HRK), through more detailed agreements at the *Länder* level, and through regular meetings at the local level. A concrete example of the partnerships between the Federal Employment Services and schools is career counsellors from the Federal Employment Service who visit a school once every month or two and run one to two-hour sessions with each class in the penultimate year of compulsory schooling.
- The strong partnership between educational institutions and labour market participants with

¹⁸ BA is *Bundesagentur für Arbeit* in German.

¹⁹ Refers to the Ministries of Education and Cultural Affairs of the *Länder*.

specific attention on placement information. Schools are responsible for incorporating elements of vocational orientation, including the LMI, in the curriculum. This is commonly described as *Arbeitslehre* (learning about the world of work). Links with the “world of work” are supported by a well-established network of around 450 school-business partnerships. A dual apprenticeship training system is another traditional approach for school drop-outs to attend school and obtain work experience through placements. Information regarding placements, apprenticeships and other work-related issues is broadly shared by all schools.

In this section, we provide a brief overview of the German LMI system by describing the main information providers and indicating how the responsibilities of running the system are divided between different Ministries, different levels of government; and between the government and other providers. Also, the overview includes assessments of both the strengths and weaknesses of the system.

3.31 Public LMI providers

3.311 Public Employment Service

The Federal Employment Service (BA) has a statutory responsibility for carrying out the duties on “work promotion”. It provides information to youth and adults in helping to make career or study choices. Exhibit 3-2 describes information from the BA provided in four catalogues.²⁰

Exhibit 3-2: Information provided by the German Federal Employment Service

Information Catalogue	Information
Training and Education	Types of training, training locations, financial supports before and during vocational training.
Counselling	Individual/group/team counselling services, European career counselling centres.
Jobs	Job profiles and vacancies, labour market developments and trends.
Events	Vocational training and advanced education opportunities for parents, teachers, students, employees and employers

Source: CSLS.

One of the responsibilities of the Federal Employment Service in promoting work is to offer career guidance to persons of all ages. This is a special delivery mechanism of LMI, as all information can be delivered face-to-face through career counsellors. Generally it has two separate structures that support the delivery of LMI for youth and for adults.

In relation to young people, vocational counsellors (*Berufsberater*) play a key role in the delivery

²⁰ The information is also available on the BA web site at <http://www.arbeitsagentur.de>. This is a German website. We obtained the information by using the Google language tool, which automatically translates the home website from German into English.

of information on training and education opportunities, job vacancies and placements, and other work or education related issues. Recently, particular attention has been given to young people who are experiencing difficulties in gaining access to training and to the labour market.

In the case of adults, the information is delivered by two types of counsellors: the work counsellor (*Arbeitsberater*) and the placement officer (*Arbeitsvermittler*). The responsibility of the placement officer is to develop an individual profile for unemployed adults in order to estimate their chances of reintegration into the labour market and determine the type of assistance they likely need. In this way, unemployed adults can choose to either find a job by using the LMI themselves, or receive help from a work counsellor. The services are also available to employed individuals, helping them explore new opportunities in the labour market, including opportunities for continuing education or retraining, and identifying financial support. In addition, the Federal Employment Service has a special rehabilitation counsellor (*Reha-Berater*), who collects, maintains, and provides a comprehensive source of information relevant to the needs of persons with disabilities.

The main goals of the BA are reducing long-term unemployment and youth unemployment, and implementing measures to promote lifelong learning for all individuals. In this respect, the face-to-face delivery mechanism is not sufficient to provide information to a wide range of people with different needs due to staff constraints. Thus, electronic mechanisms were also developed. The most impressive electronic LMI product the public employment service provides is a projection of long-term labour market demand, including a number of separate databases on occupations (BerufeNET), training opportunities (KURS), apprenticeship and training vacancies (ASIS), and job vacancies (SIS). BA also provides a career selection program (MACH'S RICHTIG) and other self-exploration programs.

In addition to providing information to individuals, the Federal Employment Service also offers information to firms, especially small and medium-sized enterprises, helping them to develop strategies for recruitment and training of staff. The service thus links a job and an individual together to make an appropriate match in the labour market.

As a national producer of LMI in Germany, the role of the Federal Employment Service is strongly influenced by the service's other functions: counselling, placement and welfare administration. In fact, the service states that its core tasks are career counselling and placement, and that all other services are secondary. Therefore, the LMI generated by the service is related to the common needs for career counselling and opportunities for job placements. This approach has both strengths and weaknesses.

On the one hand, the information produced by the service is strongly grounded in the needs of participants in the labour market. First, counsellors know exactly what clients need since they meet with the clients directly. An individual who needs career counselling has to fill out and submit an application form, stating clearly his or her information requirements. In this way, counsellors accordingly gather information before the meeting, making the meeting more effective. Second, the placement information comes from firms or industries that actually want to find people to fill their job vacancies, and job seekers or youth who need opportunities. The service thus establishes an effective job-matching environment. Third, the delivery mechanisms are periodically evaluated with the target groups in mind, e.g. by means of user surveys,

evaluation of statistical checks on the Internet and at the BIZ computers and terminals. The service uses these surveys to ensure that the information is user-friendly and oriented to user needs.

On the other hand, the capacity of the services is quite limited. First, the use of counselling has limited the range of people who can be served. Although it creates user-oriented information, the service can only transfer it to one or several clients through career counsellors. Second, due to the constrained resources of the service, waiting lists for career guidance interviews tend to be very long (sometimes up to six weeks). Third, the service's web-based information is not well developed. By comparison with some other countries, the Federal Employment Service has been relatively slow in applying ICT to its career counselling and placement services. Fourth, the services for employed skilled workers are weaker than those for young people and unemployed adults in the Federal Employment Service since the services primarily target those at risk in the labour market.

3.32 Private sector

There are also private firms that provide and deliver LMI for profit. The growing importance of the private sector resulted not so much from the explicit intention of the German government to increase the share of this sector in the distribution of LMI, but from staffing constraints in the public employment services. As in the public sector, information provided by the private sector is concentrated on placement opportunities and counselling services. In addition, the private sector publishes books, magazines, CD-ROMs and other media to deliver LMI. E-commerce companies increasingly publish LMI on their web sites. However, private companies hardly play a key role in terms of the distribution of LMI as they limit access to their database paying users instead of offering it to all individuals in need.

In order to regulate LMI delivery in Germany, especially in the private sector, the German Association for Career Counselling (*Deutsche Verband für Berufsberatung e.V.*) established a Career Counsellor Register system in 2000, where all public and private counsellors or institutions offering career counselling services can register on a voluntary basis. The association developed prerequisites to ensure that registered counsellors are qualified to serve clients properly, including certain formal qualifications, certified professional experience and regular continuing training.

In Germany, private companies providing placement and counselling have to obtain a permit from the Federal Employment Service to open their business, which is linked to certain conditions (reliability, orderly financial circumstances and adequate business premises). If they fail to meet those conditions, their permit can be withdrawn. These private companies usually only charge fees to employers and not to the persons seeking placement. They also have responsibility to submit data on job and training placement to the Federal Employment Service, which in turn publishes official statistics. Although there were about 5,500 permit holders in June 2001, they only provided 140,600 job and training placements in 1999, which accounted for 3 per cent of the placements provided by the BA in that year.

3.33 Educational LMI distributors

3.331 Schools

In Germany, pupils usually start career orientation in their last two years of compulsory schooling (14, 15 or 16 years old). All schools are required to provide career information through either specific subjects such as economics, technology and home economics or through broader curriculums, which have been described as *Arbeitslehre* (learning about the world of work). School psychologists, school counsellors or career teachers are available in offering information to students. Sometimes, the curriculum on vocational orientation is supplemented by work visits, and also by work-experience placements of one to three weeks in years 9 or 10 of the education system.

Schools in Germany generally have good relationships with local businesses, which are encouraged by most local authorities. For example, 450 German schools established partnerships with local businesses in 2001, which greatly supported the provision of LMI in schools. The partnerships make the LMI delivered more practical, as schools can share experiences with particular companies and offer more detailed information. The Federal Ministry of Education and Research (BMBF) developed a School-industry/Working-life program to help schools facilitate their students' training, in order to fit into the labour market.

Schools in Germany also have strong links with the Federal Employment Service, which have been formally defined through an agreement between the service and the Standing Conference of Ministers of Education and Cultural Affairs in the *Länder*. According to the arrangement, the BA sends career counsellors to visit schools, or regularly runs career related sessions with classes to complement the schools' responsibilities of providing LMI. Sometimes, career counselling or information classes can be given in the career information centre where teachers, pupils and their parents can become familiar with the centre's facilities and learn how to utilize the information to help them make vocational decisions. The Federal Employment Service also provides a range of free LMI (magazines, handbooks, brochures, CD-ROMs and on-line information) for all school students and for teachers.

The dual apprenticeship system is another institution in Germany that provides vocational education for youth. The system is largely regulated by sectoral chambers and the target students are high school drop-outs who want to obtain a certificate in a state-recognized occupation. The chambers are responsible for offering LMI to apprentices, as well as to the employers involved in the training. The information is quite useful for youth wishing to change or leave their apprenticeship or seek a new employer upon completion, and for employers looking for qualified apprentices. The Federal Employment Services also play a role in providing information on apprenticeship opportunities.

3.332 Higher education

Higher education institutions in Germany have assumed little responsibility for launching students into careers after leaving university. When it comes to LMI, they concentrate on information directly related to the higher education institutions themselves, such as course, program and admission requirements. This is, however, beginning to change as the competition between institutions grows and links between higher education institutions and the labour market become closer.

Higher education institutions have a responsibility to inform students and applicants about the opportunities and conditions of various careers and fields of study. To meet the requirements, Central Student Counselling Services or Career Centres²¹ in some higher education institutions -- accompanied by some academic members who are responsible for vocational education, and the higher education teams of the Federal Employment Services²² -- became the main sources where LMI is produced, collected, processed and distributed to the students.

In addition to these central services, most institutions also require faculties to appoint members of their academic staff to be responsible for linking LMI to individual courses. Thus students can obtain LMI such as labour market trends and occupational skill requirements directly from the staff in class. This is a big advantage in the delivery of LMI. However, the quality of these services is extremely variable – mainly depending on the efforts and capacities of academic staff.

A national agreement between the Federal Employment Service and the Standing Committee of Rectors (HRK) has been formally set up to promote the collaborative relationships between higher education institutions and the Federal Employment Service's higher education teams. About 60 higher education teams from the Federal Employment Service have established partnerships with major universities by 2002. In that way, the employment office provides a great deal of LMI to higher education students and graduates. In principle, the BA's higher education teams focus on offering vocational and placement information, whereas the institutions' own services focus on educational information. In practice, there is some overlap between the two – particularly where students change study fields or drop out – and they commonly co-operate in organizing such activities as careers fairs and workshops.

3.34 Conclusion

Germany is experiencing a cultural shift. Individuals are moving from settled lives within stable institutional structures towards “riskier” lives within a more dynamic environment. LMI, as one of the resources to ensure individuals are well equipped for such a transition, has played an important role in the labour market. The delivery mechanism in the Federal Employment Service which pays attention to career counseling and job placements is especially impressive. However, there are weaknesses in the German LMI system, which adversely influence its efficiency in improving both the labour market and education systems.

Lessons learned from Germany's LMI system are as follows:

- LMI produced and delivered by the government can not fulfill the needs of all individuals, such as employed high-skill workers. Particularly, experiences in Germany suggest that the

²¹ Central Student Counselling Services or Career Centres in most universities work for both prospective students and current students who have questions or encounter difficulties related to their studies or future career. Much of their work involves brief responses to requests for information and advice (some by telephone and e-mail), but most also provide more intensive counselling to students.

²² The service's higher education teams are based at every higher education institution which has a student body larger than 10,000. They commonly offer their services on the premises of the institution, often in close proximity to the institution's Central Student Counselling Service.

bureaucratic structures in LMI operations decrease the effectiveness of LMI in facilitating the job matching of skilled workers.

- Career counsellors are an effective way to deliver LMI. The specialization among counsellors (i.e. different counsellors concentrate on different LMI areas) can ensure that LMI is user-friendly and oriented to users needs.
- Institutional support for enforcing national standards for LMI quality is much more important as the establishment of the standards. The German LMI system has established national standards for LMI. However, a control mechanism to enforce these standards has not been well developed, which to some degree explains why the LMI in Germany is not well-organized.

3.4 United States: the active information technology absorber

The labour market in the United States experienced a strong expansion during the 1990s, characterized by substantial growth in employment and a dramatic decline in the unemployment rate. Although the unemployment rate has increased since the 2001 recession, it remains relatively low in comparison with other OECD countries: it was 5.1 per cent in 2005, as compared to an average of 6.7 per cent for all 30 OECD countries and 9.1 per cent for OECD Europe (OECD, 2006). The 2006 *OECD Employment Outlook* argues that one reason for the low unemployment rate is that persons who become unemployed find new jobs more rapidly in the United States than in most other OECD countries. The share of the unemployed who have been out of work for 1 year or longer in the United States, at 11.8 per cent, is only about one-third of the corresponding share for the rest of the OECD. The share was even lower before 2001 in the United States: for example, 5.5 per cent in 1990, and 6.0 per cent in 2000. In contrast, the average for all OECD countries was about 30 per cent during the last decade.

A series of labour market and social policy reforms (e.g. providing job training and placement services for welfare recipients, strengthening higher education for a future skilled workforce, etc.) undertaken by federal and state governments during the 1990s have significantly contributed to the expansion of the labour market. Within this context, the tools by which participants have been able to obtain relevant information and interact with each other have been of great importance. The U.S. Labour Market Information System is one of these tools. Using well-developed information technology, the LMI system in the United States aims to provide policy makers, administrators, educators, employers, workers and other labour market participants with valid and reliable national, state, and local data on the labour market. In fact, the U.S. LMI system has played an important role in the U.S. labour market. This recognition is built upon the following main features of the U.S. Labour Market Information System:

- The extensive use of information and communication technology. The United States has a higher proportion of ICT users in the total economy than almost any other OECD country. As a result, ICT has been widely used in the U.S. LMI system in order to serve target users more effectively. The extensive use of ICT helps U.S. LMI producers save time spent on processing

paperwork, analyzing data and releasing results. Also, using ICT helps LMI users understand the ongoing labour market trends and make more timely decisions.

- A well-developed one-stop information centre. With one federal agency, one state agency and one funding stream governance structure, the U.S. LMI system provides a one-stop information centre that serves information users more effectively. This effort has proven a success in breaking down barriers among different employment and education programs, different funding streams and different client groups. Customers of the LMI system can access core LMI services in one centre. Integrated information provision can also increase the quality of LMI.
- The private sector's capability to produce in-depth LMI. The U.S. LMI system has a wide range of private sector information producers who conduct in-depth research on LMI-related topics.

3.41 Extensive use of ICT

In the early 1990s, the U.S. federal government launched a number of information infrastructure initiatives to accompany the development of information and communication networks and ensure access to "information highways". Thus ICT and Internet use have become increasingly significant both at the workplace and at home. According to the *OECD Information Technology Outlook 2004*, the United States was among the countries with the highest proportion of households with access to the Internet during the last decade.²³ In 2003, more than half of the top 250 ICT firms in the OECD (139 firms, accounting for 56 per cent) were based in the United States (OECD, 2004c: 302).²⁴ LMI data collection methods have been improved and LMI products are being developed and disseminated much faster than before.

One impressive initiative by the U.S. government in the use of ICT is called American's Career Kit, which provides information to job seekers and employers. It is a network that connects employment, education, and training services into a coherent system of resources at the local, state, and national level. Operating this network depends heavily on the use of ICTs. It is based on three national databases that are accessible free of charge via the Internet. The core of the updated labour exchange service is built around electronic vacancy and resume databases, known as American's Job Bank (AJB) and American's Talent Bank (ATB), respectively. A third database, American's Career InfoNet (ACI) provides users with basic labour market information. In May 1998, an integrated user interface was implemented for all three, establishing an electronic one-stop for labour exchange users (www.careeronestop.org). The Career One Stop can help individuals and businesses make better choices by presenting information on labour or learning exchanges.

²³ For example, in 1998, 26 per cent of US households had access to the internet, ranking first among 9 OECD countries (OECD, 2004c:357). The latest data revealed that the U.S. still occupied the top position.

²⁴ The OECD uses the Top 250 ICT firms to explore the experience and performance of information and communication technology and Internet firms. It examines the top 250 ICT firms in the six major ICT industry sectors: communication equipment and systems, electronics and components, information technology (IT) equipment and systems, IT services, software and telecommunications. A variety of sources were used to identify the top 250 ICT firms. They include *Business Week's* Information Technology 100, various Forbes company listings and a number of other Internet listings (including Wall Street Research Network, Yahoo!Finance and MultexInvestor).

In 2001, the U.S. Department of Labor commissioned an outcomes study on AJB, which provides meaningful insight into the dynamics of Internet job search for both employers and job seekers (See Woods and Frugoli, 2004 for details). This was a short-term longitudinal study to track AJB users (employers and job seekers) posting new jobs and resumes over a three-month period. The findings show that AJB appears to be a very successful resource to make initial contacts between employers and job seekers. A total of 83 per cent of the employers received at least one resume during the survey period, and on average, those receiving resumes received 21 resumes. Also, the results show that AJB provides enough quality resumes to interest employers in the interviewing stage as employers interviewed about 13 per cent of the resumes received. Finally, the study indicates that AJB was relatively successful in leading to hires: while the ratio of resumes received from all other sources to AJB-generated resumes was 3.4 to 1, the ratio of hires by job orders from all other sources to AJB was 2.4 to 1.

Another electronic tool is O*NET (<http://online.onetcenter.org>), the Occupational Information Network, which replaces an older database, Dictionary of Occupational Titles. O*NET was built through a federal-state collaborative effort drawing on technical support from private contractors and developed in consultation with potential users. The occupational classification data are already used in the AJB system, but the database has a potential for a range of tasks related to collecting, organizing, describing and disseminating data on job characteristics and worker attributes. Users can obtain information through occupation searches, skill searches and crosswalk searches.²⁵ Three powerful interactive search engines make it much easier to find specific information.

The website of Career Voyages (www.careervoyages.gov) is another initiative that takes great advantage of ICTs. The website is the result of collaboration between the U.S. Department of Labor and the U.S. Department of Education, and it is designed to provide information on high growth/high demand occupations along with the skills and education needed to attain those jobs. This website helps “bridge the gap between education and employment skills,” said Emily Stover DeRocco, Assistant Secretary of Labor for Employment and Training in 2003 at the Department of Education’s High School Leadership Summit. The website provides information on growing occupations by industry through short videos, data and charts. Target users such as students, parents, workers looking to make career changes and career advisors can access well-organized occupational LMI through the online voyages. The effective use of ICT makes the users’ journey of seeking information an interesting experience.

ICT is aiding the delivery of LMI in other ways. For example, in Oregon, a community voice mail system has been developed to help job seekers without personal telephones. Through this system, job seekers are assigned telephone mail boxes where employers can leave messages. Later, job seekers can access their voice mail boxes by calling from local one-stop information centres, pay phones, or other locations. This allows job seekers to provide employers with a local phone number to contact them in order to schedule an interview or discuss a job opportunity.

²⁵ A crosswalk search is the searching method where users enter a code or title from the Dictionary of Occupational Title, Military Occupational Classroom, etc. to find matching O*NET occupations.

3.42 The One-stop Information Centre

The goal in developing the one-stop information centre in the United States was very simple: to build a single, customer-friendly system to fulfil an individual's information needs in training, education and employment programs and opportunities. It was based in the Workforce Investment Act of 1998. The underlying notion of "One-stop" is the integration of programs, services and governance structures. It provides quality information to the public about jobs, the dynamics of the labour market, available training and education opportunities, and links to other public and private labour market services.

3.421 Bureau of Labor Statistics (BLS): the Federal Agency

At the federal level, the Bureau of Labor Statistics (BLS) is the lead agency for labour market information. The Workforce Investment Act of 1998 states this clearly. The BLS has two attributes that allow it to run the LMI system at the federal level. First, the BLS has a historical mission in data development, collection, analysis, and dissemination. The BLS does not need to change its model of administration or operation to provide LMI. Second, BLS does not administer any service programs. It is an unbiased statistical agency which provides information. This is a great advantage since information users can identify and judge the programs themselves through the objective information. There are many different agencies and programs that deliver vocational, education and training services in the United States, such as private companies, industry associations, schools, vocational-technical institutions, community colleges, and community-based organizations. It is very difficult to bring these agencies and programs together without a common language for planning and program evaluation. The BLS can stand above all these agencies and programs to deliver LMI in an objective way.

The BLS relies heavily on ICTs, especially on the Internet, to support the processing and dissemination of LMI. For example, both household and labour force surveys have electronic modes of submission for survey responses, through which the information analyst can quickly process data and release results. The network also includes some interactive platforms such as an online-chat and email contacts to link information producers and information users together, increasing the dynamism of the one-stop system. On its official website (www.bls.gov), LMI users can access all information at no charge through an easy navigation system. It mainly includes three types of information:

- Data related to the labour market: inflation, consumer spending, wages, earnings and benefits, productivity, employment and unemployment, labour costs, demographics, and international comparisons.
- Information related to safety and health, occupational outlooks, and career information for young people.
- Information on where and how to obtain additional labour market information.

To ensure and maximize the quality, utility, objectivity, and integrity of its LMI, the BLS established guidelines for informing users of issues related to LMI quality and methodology such as the BLS statistical data quality principles, and the methods and procedures used to develop and produce its statistical products. In this way, information users have better knowledge of the data they use, its advantages and limitations.

In addition to the BLS, other parts of the Department of Labor (DOL) are also involved in the LMI system, supporting the provision of LMI to the target clients. For example, Occupational Safety and Health Administration (OSHA), whose mission is to assure the safety and health of U.S. workers by setting and enforcing health and safety standards; providing training, outreach, and education related to health and safety issues; establishing partnerships and encouraging continual improvement in workplace safety and health, is responsible for offering information on occupational safety and health. The Employment and Training Administration (ETA) provides information on federal government job training and worker dislocation programs, federal grants to states for public employment service programs, and unemployment insurance benefits.

In order to improve collaboration between these different government agencies and to integrate information on the content of jobs, education and training options, and labour market supply and demand, a federal interagency committee, the National Occupational Information Coordinating Committee (NOICC) was established by Congress in 1976. Its members include representatives of ten key agencies within the U.S. Departments of Labor, Education, Commerce, Defence and Agriculture. NOICC coordinates the development, dissemination, and use of LMI in concert with fifty-six State Occupational Information Coordinating Committees (SOICCs) to provide career development tools, updated occupational information, and in-service training for employment and training professionals and educators at the State and local level. This institutional arrangement avoids costly overlap between different government agencies or fragmentation.

3.422 The state agencies

The Workforce Investment Act of 1998 requires that a “single state agency” be responsible for the provision of LMI. The agency must have technical and statistical skills, and access to confidential unemployment insurance data in order to carry out the existing BLS cooperative programs. These programs are the heart of LMI; they form the foundation for the system of LMI envisioned in the law.

The states participate with the BLS as true partners in the joint governance of the LMI system. The organization that assumes the single state agency function varies among states. In some states (e.g. Arizona), it is the Department of Education or part of the department; in other states (e.g. Connecticut), it is the Department of Labor or part of the department. However, like the BLS, they are all active ICT users. Most states have their LMI web pages connected with that of the BLS, providing online information services.

At the state level, State Occupational Information Coordinating Committees (SOICCs) play an important role in fostering collaboration between different government agencies. Some SOICCs have designed LMI as a learning tool, rather than simply as a way to provide basic information. For example, the Pennsylvania Occupational Information Coordinating Committee (POICC) has

developed a "Pennsylvania Careers" program that allows users to identify job and career options that suit their individual interests, abilities, and educational goals. Another program in Pennsylvania, "CHOICES," aims specifically at helping high school students relate their skills, abilities, and goals to specific career options. Two related programs, CHOICES JR and CHOICES CT, offer assistance to junior high/middle school children and to adults in career transition, respectively.

3.423 Local One-Stop Information Centres

The Workforce Investment Act of 1998 (WIA) requires the establishment of at least one comprehensive one-stop centre in each local area. Each one-stop centre is comprised of twelve mandatory one-stop partners,²⁶ and the WIA encourages the participation of other agencies that operate human resource programs (See Exhibit 3-3). This enables youth and adult users to access different types of LMI at one location. By 2000, almost all local public employment service offices have become local one-stop sites. This is viewed as a way to make the LMI system more transparent to the clients, as well as integrating a broad range of LMI products.

Exhibit 3-3: Mandatory One-Stop Local Partners in the United States

Agencies With Responsibility for	Targeted Clients
Training programs	Adults and dislocated workers
Adult Education	Adults
Youth Employment Service	Youth
Post-secondary Vocational Education	Post-secondary students
The Older Americans Act	Older workers
Trade Adjustment Assistance	Displaced workers
NAFTA Transitional Adjustment Assistance	Displaced workers
Veterans Employment and Training	Veterans
Community Services Block Grant	Low income persons
Housing and Urban Development	Low income persons
Unemployment Insurance Program	Unemployed persons
Vocational Rehabilitation	Injured or disabled workers

Source: OECD (2001: 154) and U.S. Department of Labor website (<http://www.dol.org>).

In one-stop centres across the United States, information is delivered to jobseekers and employers in a variety of ways including remote self-service, facilitated self-help service (i.e. staff member assistance in the use of self-service technologies) in resource rooms, one-on-one consultations, and group activities such as workshops. Additionally, information is sometimes offered off-site at local businesses; such services include business consultations for employers, job training, or

²⁶ According to the WIA, mandatory one-stop partners are those agencies that should make their services available to customers through the local one-stop delivery system. There were thirteen mandatory one-stop partners identified by WIA in 1998. Those agencies that were responsible for welfare-to-work ended operations in 2004.

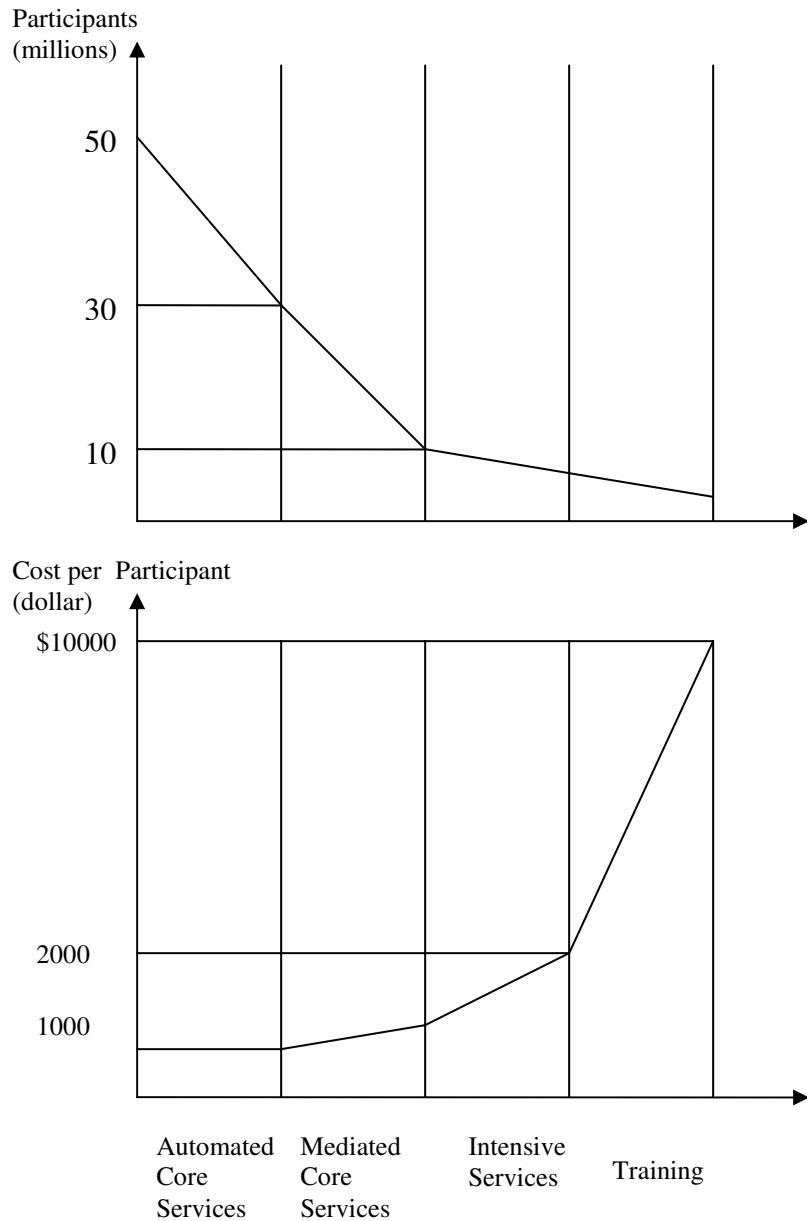
unemployment insurance information services for workers confronting mass layoffs or plant closings.

Many one-stop centres provide their clients with resource rooms. As with public libraries, resource rooms provide information, books, brochures, videos, directories and computer-based tools. Job seekers are able to use these rooms as their business offices for the purpose of job finding. Staff members are present in resource rooms to assist job seekers in using the services and equipment.

Some one-stop centres can use ICT to track customer usage of information and services. They implement a barcode tracking system such as swipe cards to monitor the use of self-service resources. The data are collected to use in understanding jobseekers' needs and also to develop better LMI resources.

Generally, services provided by the one-stop centres are divided into four levels: automated core services (including labour market information, self-assessments), mediated core services (including resume workshops and assessment interviews), intensive services (including individual and group counselling, case management, aptitude and skill proficiency testing, job finding clubs, etc.) and training. Chart 3-1 shows how services within each level are different in terms of the number of participants and the cost per participant. Core services have the broadest access and the least staff involvement, thus costing the least of the three categories in terms of service expenditure. The chart clearly reveals that ICT based core LMI is among one of the cheapest services in U.S. one-stop centres.

Chart 3-1: Use and Cost of One-Stop Career Centre Services in the United States



Source: Eberts, R. W., O'Leary, C. J. and DeRango, K. J (1999) "A Frontline Decision Support System for One-Stop Centers," in *Targeting Employment Services*, Eberts, R. W., O'Leary, C. J. and Wandner, S. A. editors, W.E. Upjohn Institute for Employment Research, Kalamazoo, Michigan, 2002.

3.43 The role of the private sector

In the United States, labour market information is not only provided through government agencies, but also offered through private companies, schools and universities, industry associations, and professional organizations. One common feature of these information agencies

is the provision of ICT-based services. These agencies connect together through telephone, Internet or other computer-mediated tools, sharing data sources, providing information to their own clients, evaluating information, and conducting research.

There is a large market for books, pamphlets, magazines, and newspapers (including want ads) offering advice and self-help, information about job openings, and information about education opportunities (including promotional materials published by colleges and universities). Much of this material has now moved to the Web.

U.S. private companies not only provide LMI but also offer comprehensive LMI guidance. The following agencies are particularly important in collecting, processing and delivering LMI or in the provision of professional standards for LMI service staff in the United States.

- Association of Computer-Based Systems for Career Information (ACSCI): ACSCI is a professional association, formed in 1978, which works for the advancement of career information and its delivery. The association has worked to advance the use of LMI, information technology related to the LMI system, and services to LMI users through establishing standards, offering professional development opportunities, and providing public information. Its career information standards help to ensure the quality of career information delivery systems.
- The National Board for Certified Counselors (NBCC): NBCC is an independent not-for-profit accrediting body for counsellors. It was established to recognize those counsellors who have voluntarily sought and obtained certification, and to maintain a register of those counsellors. NBCC's certification program recognizes counsellors through the National Counselor Examination for Licensure and Certification (NCE). NBCC has over 36,000 certified counsellors. Its examinations are widely used to certify career counsellors across the United States.
- American Counseling Association (ACA): ACA is a professional and educational organization that is dedicated to the growth and enhancement of the counselling profession. By providing leadership training, publications, continuing education opportunities, and advocacy services to nearly 52,000 members, ACA helps counselling professionals develop their skills and expand their knowledge base. ACA has been instrumental in setting professional and ethical standards for the counselling profession. The association has made considerable strides in accreditation, licensure, and national certification.
- The National Career Development Association (NCDA): NCDA is an association of approximately 4,500 career development professionals who work in education, business and industry, community and government agencies, and private practice. The mission of the NCDA is to enhance the career development of all Americans across their life span.

In addition to these organizations, other online sources also provide in-depth research on LMI. Some private organizations even provide micro data to evaluate the different information delivery mechanisms. For example, the Gallup Organization conducts a national survey of working Americans every two years, providing micro data on the current employment status (the results

can be accessed on their website at www.ncda.org), the need for help with selecting or obtaining a job in the last year, sources of help and information in selecting, changing or obtaining a job, and evaluation of the availability and usefulness of LMI.

In Gallup's 1999 national survey, a sample of 1,003 adults aged 18 or older were randomly surveyed by telephone (See Table 3-1). The results show seven in ten adults (69 per cent) report that if they were starting over, they would try to obtain more information about job and career options open to them than they obtained the first time. When asked the sources used to obtain information about jobs or careers, 42 per cent mention that they use newspapers, magazines or television. Almost as many (35 per cent) report that the information about jobs or careers comes from their friends, relatives or associates. Only 6 per cent of adults say that they use a public job service or job training program and only 4 per cent of adults claim that they use a one-stop centre run by state or local government. The findings show that the U.S. private sector, especially the media industry, plays an important role in the distribution of LMI. On the other hand, it suggests that U.S. public LMI producers should conduct systematic marketing campaigns to promote the use of their services.

Table 3-1: Sources Used to Obtain Information about Jobs or Careers in Gallup's Survey

<i>Sources</i>	<i>Percentage Used</i>
Newspaper/magazines/television	42
Friends/relatives/associates	35
A career information centre in a community college or in a 4-year college or university	16
A career site on the Internet	12
The public library	12
A career information centre in a high school	6
A public job service or job training program	6
Some other career information centre in your community	6
A computer-based career information system	5
A one-stop centre run by state or local government	4
Employment agency	2
Human resource department	1
None/you have used no sources	15
Other	2
Don't know/ Refused	3

Source: The Gallup Organization (1999) "National Survey of Working America, 1999", P. 11.

Note: The sum of percentages is over 100 per cent because some interviewers use two or more sources.

3.44 Conclusion

The U.S. Labour Market Information System is a dynamic system that produces high-quality, standardized labour market information and tools through a variety of media and in different formats for use by policy makers, job seekers, employers, and workforce development professionals. The U.S. LMI system has federal, state and local agencies which engage in data

collection and analysis, research and development, product development, direct service delivery, technical assistance, and capacity-building. In addition, the private sector also plays an important role in collecting and delivering LMI. In summary, the well-developed LMI system effectively aids labour market participants to make informed choices in a changing labour market environment.

Lessons learned from the U.S. LMI system include:

- The various delivery formats can ensure LMI covers persons with different media preferences. As active ICT absorbers, U.S. government LMI producers successfully combine video, print, CD-ROM, telephone and Internet to disseminate LMI. In addition, the effective use of ICT enhances the attractiveness of LMI products to target users.
- The one-stop information centre is an organizing vehicle for transforming fragmented information into an integrated service delivery system for labour market participants. The U.S. experience indicates that the coordination among different levels of government is very important for one-stop information centres to operate effectively.
- The private sector, especially the media industry, plays an important role in the distribution of LMI. In order to ensure LMI quality, the government should make more of an effort to regulate the private LMI producers.

3.5 Australia: focusing on the quasi-market mechanism

3.51 Introduction

Australia has recently enjoyed a period of sustained economic growth. Between 2000 and 2005 its GDP grew on average by 3.2 per cent per year, compared to an OECD average of 2.1 per cent. One of the most important outcomes of the economic growth has been a significant improvement in the labour market. In 2005, a high proportion of its 15-64 population was employed, 71.6 per cent, compared to the OECD average of 65.5 per cent. The unemployment rate for Australian workers aged 15-64 has decreased dramatically from 10.8 per cent in 1993 to 5.2 per cent in 2005. Over the same period, the unemployment rate for OECD working age people declined only by 1.3 percentage points (from 8 per cent to 6.7 per cent).

The legislated employment protection in the Australian labour market is less extensive than in other OECD countries. This makes the labour market more flexible. A total of 27.3 per cent of jobs in Australia were part-time in 2005, while the OECD average was 15.4 per cent. A very high proportion of young people aged 15-24 were in the labour force: 71.3 per cent in 2005; while the OECD's youth labour force participation rate averaged 49.4 per cent the same year. The youth unemployment rate was 10.8 per cent (the OECD average was 13.3 per cent).

In Australia, major labour market and education related governmental responsibilities are divided between the Commonwealth and the six states and two territories. The Commonwealth is responsible for public employment services, which have been largely contracted out to private providers. The states are responsible for providing schooling. The Commonwealth provides additional funding to the states for education. The provision of university education is primarily a Commonwealth responsibility. In addition, through the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA), the Commonwealth works with states to identify national standards and priorities in the labour market and in the education system.

Generally, the public sector is the primary producer of LMI. In some cases, the public sector provides LMI directly; in other cases, it contracts out production to private LMI providers. In Australia, there is a larger private sector in the LMI field than in some other countries (OECD 2002d). The private sector works well under public management, providing comprehensive information to the general public. This can be viewed as one of the strengths of the Australian LMI system. Other strengths include:

- The substantial efforts made to offer students LMI in school in order to help youth understand the labour market and succeed in the initial transition from school to work. Recently, the Australian LMI system has become strongly influenced by two key policy issues. The first is the move to promote Vocational Education and Training (VET) pathways in schools. The second is the growing concern for school drop-outs. Therefore, the LMI system has concentrated more on forging partnerships across the traditional boundaries between educational institutions and employers.
- The increased focus on local labour market information through national initiatives such as the National Career Information System. There is a growing recognition of the need for coordination between Commonwealth and state governments in order to address the changing needs of information users in the labour market. The LMI produced by the Commonwealth Government is mainly regionalized at the state level, and the LMI produced by the states is more likely to have sub-state regional information. This makes it easier for the Australian LMI system to reflect labour market trends.

All of these strengths in the Australian LMI system can ensure that the LMI provides opportunities for Australians, in particular youth, to develop the skills that will enable them to manage their careers in the changing labour market.

3.52 The public sector LMI providers

The Commonwealth Department of Education, Training and Youth Affairs (DEST) and the Commonwealth Department of Employment and Workplace Relations (DEWR) are the key agencies that provide LMI to the public. State education/training authorities and ministries or sub-ministries responsible for employment provide local LMI across the country.

At the Commonwealth government level, DEST provides funding to national and local projects in order to encourage other public and private sector organizations to play a role in the provision of LMI in their sector or region. In addition, it promotes innovation and creativity in the field by

funding organizations such as the Enterprise and Career Education Foundation (ECEF) which produces LMI related to local regions and supports local education-industry partnerships.

The main LMI sources produced or supported by DEST include the Job Guide, the Australian Courses and Careers Database (OZJAC) and the National Career Information System (NCIS).

As a national coordinator, DEWR also produces complementary LMI for all Australians. However, compared to DEST's LMI, DEWR's LMI focuses more on statistical information concerning occupations, employment by industry, job prospects and the availability of relevant training. The LMI products supported by DEWR include the Job Outlook, Vacancy Reports and National Skills Shortage List. All of them are located within the Australian Workplace portal website (www.workplace.gov.au). These products are not only presented online, but also distributed through hard copy publication.

Exhibit 3-4: The Main LMI Sources Provided by the Australian Government

Supporter	LMI Source	Details
Department of Education, Training and Youth Affairs (DEST)	Job Guide	Provides an in-depth look at a range of occupations, and their education and training pathways. It also gives useful information on how to determine what occupations suit job seeker best, based on interests and abilities.
	Australian Courses and Careers Database (OZJAC)	An easy-to-use computer program that can help young people and adults find answers to job, course and career questions. It provides official Higher Education and Vocational Education and Training (VET) courses offered by universities, institutes of TAFE and registered private providers
	National Career Information System (NCIS)	The NCIS delivers a career exploration service, primarily targeted at school drop-outs and used by career counsellors. It is also available to others seeking direction for career options.
Department of Employment and Workplace Relations (DEWR)	Job Outlook	Provides detailed and forward-looking information for around 400 occupations, as well as links to vacancies by region (Australian JobSearch), local education and training opportunities (Australian Training) and information (Job Explorer) for each occupation.
	Vacancy Reports	A monthly online report containing the Skilled Vacancies Index; the Information and Communication Technology (ICT) Vacancy Index; and Australian JobSearch vacancies by occupation.

Source: CSLS.

At the state government level, there is considerable unevenness in the production and provision of LMI. For example, the state of Victoria has a Youth Employment Link (YEL) site, which includes localized occupational profiles and course information. Western Australia's GetAccess websites contain over 300 occupational profiles with a local labour market flavor. Some states have also developed LMI for specific clients. For instance, New South Wales has produced a range of resource materials for its aboriginal population.

3.53 LMI delivered through the educational system

State education authorities are involved in the production of career information through the development of curriculum materials, which increasingly have employment related content built in. However, state policies regarding the provision of LMI in schools vary considerably. For example, New South Wales has a full-time career adviser in each secondary school, complemented by school counsellors. The two roles are combined in the form of guidance officers in Queensland. In Western Australia, there is no state policy regarding the structure of career guidance provision and schools make their own decisions. In addition, the location of LMI in state curriculum frameworks varies. In some cases, it is located within personal development, health and physical education syllabuses. In others, it is located within social studies.

The provision of LMI is supposed to start in Year 7 or earlier. The main materials provided in school are the Job Guide and the OZJAC. These are usually supported by a variety of other activities, including careers exhibitions, careers visits, university open days, guest speakers, information seminars, careers libraries and the like. The Real Game, a Canadian career and life skills program, was imported in some schools in order to improve the quality of LMI provided.

Technical and further education (TAFE) institutes are the largest provider of vocational education and training (VET) in Australia. Responsibility for the management and delivery of LMI regarding VET resides with state training authorities. State VET systems produce course handbooks, brochures and fact sheets which sometimes contain information on job prospects and career pathways related to courses provided. Students can obtain the LMI directly. They can also receive LMI from the TAFE career counsellors.

Some universities produce LMI through their career service centres and relationships with industry and professional associations. The material contains career pathway opportunities for special courses, stories of alumni, as well as detailed information on courses. In universities, LMI is provided in all formats: handbooks, fact sheets, brochures and electronic-based media.

The universities in Australia also support the Graduate Career Council of Australia (GCCA), which conducts graduate destination surveys and provides comprehensive analysis of the trends in the graduate labour market for all Australians.

3.54 The private LMI providers

Recently, the Australian government has tended to contract out the production of LMI to the private sector. The government also encourages partnerships between the public and private sectors in the provision of LMI.

The research and production of much of the LMI provided by DEST is contracted to private companies. For example, OZJAC is owned by the Curriculum Corporation,²⁷ and its management

²⁷ Curriculum Corporation is an independent education support organization established by the Australian education ministers to assist education systems in improving student learning outcomes.

is outsourced to Hobsons Australia, which is part of an international private organization dedicated to assisting students to choose the right education and career paths.

With respect to Job Outlook, officers within DEWR have undertaken most of the research and data manipulation. However, some information such as job turnover estimates and economic employment-modelling forecasts is privately provided.

The private sector in the LMI field is strong in Australia. Most of these private companies are publishing companies or research organizations with an interest in labour market issues. In addition, it was estimated in 1999 to include some 250 outplacement agencies and around 600 individuals or organizations offering career counselling to the general public (OECD 2002d).

In effect, many of these providers have participated successfully in a number of the government programs. However, the operation in this sector is less transparent, compared to the public sector. Hence further efforts should be paid to conduct surveys to evaluate the effectiveness of the private sector in the provision of LMI and its potential for expansion. The Commonwealth government should also set clearer and stronger quality standards to govern the practices of the private sector as a LMI provider.

3.55 Conclusion

Lessons learned from Australian LMI system are:

- The quasi-market arrangement has proven effective in the provision of LMI by the private sector on a competitive basis. Much of the LMI in Australia is based on partnerships between government and the private sector. However, this arrangement also includes some risk. Thus the government should continue taking actions to improve the LMI quality provided by the private sector.
- Addressing young people's LMI needs in the educational system and addressing the needs of high school drop-outs are very important for the LMI system, since the specialized skill needs of the future labour market can only be met through shaping the skills of all labour force participants, in particular young people. Programs in Australia such as Vocational Education and Training (VET) effectively satisfy the youth LMI needs.
- In order to describe the changing needs of LMI users in the labour market, local market information should be provided, which can only be done through the coordination between different level of governments or agencies.

4. Evaluation of LMI: How Can LMI Systems Work More Effectively?

4.1 Introduction

In this part, we first investigate the impact of LMI on the labour market and whether or not the provision of LMI as a component of an active labour market policy is efficient. Based on the description of LMI systems in the previously studied countries, we then analyse what are the features of LMI that enhance the efficiency of the labour market; that is, what approaches are more likely to lead to the most positive labour market outcomes?

Generally, it is difficult to define and measure the effectiveness of LMI approaches for two reasons. First, data regarding the outcomes at the individual and the market levels are either not available or of poor quality. Second, there are numerous factors that affect the outcomes of the labour market and education system, and it is difficult to decompose the contribution of a specific factor such as LMI.

However, researchers have developed experimental and non-experimental methods for the evaluation of labour market programs including LMI (OECD (2005):224-225). We can evaluate the role of LMI through survey data analysis and literature review. For example, we can track numbers of registered users for several specific LMI programs to compare their capacity at widening accessibility. In order to examine whether the information is timely or not, we can investigate how long it takes for information providers to update their information. In the United States, legislation allows governments to conduct random assignment methods for evaluation of the outcomes of labour market programs. The employment policy in the United Kingdom has been managed with close attention to comparative tracking of the numbers of targeted people as a function of the different interventions and services delivered. There are also other practices in OECD countries for the evaluation of labour market programs including LMI. We will use some of them to examine various approaches to the LMI system.

In this part, we focus on some important issues in order to evaluate the various approaches to the provision of LMI among selected OECD countries. That is, the study exploits the variation across jurisdictions to identify the practices that create an effective LMI system. There are a number of specific questions that will be examined:

- Impact of LMI on the labour market: Does it affect the matching process? That is, do workers and firms find it useful when searching for each other? Does it help individuals in their job search and educational decisions? Does it help institutions in planning their educational programs? Does it help other organizations in planning the career services they offer?
- Roles of the parties: What are the appropriate roles of education authorities, labour market authorities, national, provincial, local and other levels of government, professional associations, employers, trade unions, community agencies and the private sector in the provision of LMI? How can LMI be well coordinated between these parties? What are their main user groups?

- Costs and benefits: How can the need for LMI be established? What potential is there for screening tools to establish client needs and allocate LMI resources? What are the costs and benefits of different delivery models? How do the costs and benefits vary according to the nature of the user group and the type of LMI provided? How can cost-effectiveness be maximized in selecting an optimal mix of delivery models? And what are the respective roles of governments, employers and individuals in financing a LMI system?
- Quality: What level of detail in the information provided is most efficient for the purpose of improving the efficiency of the labour market? How can quality be defined, measured and assessed for LMI? What qualification and training are appropriate for LMI personnel? What role can public authorities, professional associations and trade unions play in setting and monitoring standards and quality? What research and evaluation base is needed to support the quality standards?

4.2 Impact of LMI: does it have positive outcomes?

Provision of LMI positively affects the outcomes of labour market adjustments. Our literature review suggests that better information could improve the stakeholders' labour market and educational decisions.

Romer (2001) claims that the lack of information on returns to careers in natural sciences and engineering, which is part of LMI, is an important factor that causes the low supply of new researchers in these fields in the United States. As he demonstrated in the study, compared to business and law programs, science and engineering programs in the United States are less likely to provide useful information about labour market outcomes such as salaries and future opportunities for degree recipients. And the incomplete information available to students about the programs is "a big factor limiting the entry process". Given problems related to this situation, he believes "it would surely be of value" in providing this kind of information to students. In a report by Montmarquette and Boisclair (2004), students' educational choice process has been stressed as a crucial step towards improving the responsiveness of the public employment system to the labour market. Their research reveals that a good information system could improve potential students' decisions as to whether to pursue post-secondary education or what field of study to specialize in.

Martin (2000) finds that job-search assistance is the least costly active labour market program. In turn, the provision of LMI is viewed as a good tool for job-search assistance. Gunderson (2003) also feels that basic, inexpensive programs such as LMI are more cost-effective than more expensive training programs. In addition, a study conducted by GAO (1999) on the effectiveness of different welfare-to-work approaches suggests that programs with a combined approach—including both job search assistance and some education and training—tend to be more effective than either approach alone in increasing employment and earnings while reducing welfare payments. The results show that successful policy instruments for labour market adjustment should include such approaches as enhancing job-search assistance and providing timely LMI.

In addition to improving users' labour market decisions, the provision of LMI also helps stakeholders to save time and money, and to meet their labour force development needs. In 1998,

HRDC and Saskatchewan Post-secondary Education and Skills Training conducted a telephone survey to evaluate one of Saskatchewan's LMI initiatives: the Saskatchewan Sector Studies (HRDC and Saskatchewan Post-secondary Education and Skills Training, 1999). Since the target groups for the Sector Studies are regional educational organizations and government department agencies with responsibilities for labour market policies, the survey sample includes 64 government employees, one industry employee, and 22 educational/training institute employees. The result shows that 93 per cent of survey respondents use the information in the Sector Studies as research tools to "provide background information in such areas as occupational studies, new job training concepts, evaluation of existing training programs, skill shortages in specific sectors, and so on". The results also indicate that 68 per cent of respondents claimed that the Sector Studies were saving them time and 54 per cent said that the Studies were saving them money. This was mainly due to the fact that respondents did not have to collect LMI on their own. Therefore, the evaluation report believes that the LMI initiative has been "cost-effective for the target market organizations". In this respect, the social benefit of LMI should be positive.

4.3 Role of parties: who should do what?

4.31 Introduction

LMI is widely recognized as a public good for two characteristics: nonexcludability and nonrivalrous consumption. The first aspect means that LMI should be freely available to all individuals, where no one is excluded; the second aspect implies that anyone can use LMI without increasing the LMI's cost or diminishing anyone else's enjoyment. In this respect, government should play an essential role in the provision of LMI for reasons of both efficiency and equity. But there are other incentives in the labour market that drive educational institutions, employers, professional associations, trade unions and other private sector players to supply LMI. Hence it is very important to identify the appropriate roles of these parties as LMI providers.

4.32 LMI providers: public sector versus private sector

LMI is formally provided by the public sector in most OECD countries, where governments play a significant role in funding the collection, organization, linking, and distribution of LMI. In a few cases, governments provide LMI through a single official channel; in most cases, they provide LMI through individual ministries such as educational authorities and labour market authorities. These ministries supply LMI either independently, or by contracting out to the private sector and establishing formal partnerships with private sector organizations.

The modality of government provision of LMI in the United Kingdom and Australia is a quasi-market arrangement. Under this arrangement, competing private providers deliver career services and LMI, taking over the responsibility from the public sector. According to the OECD (2005: 219-222), this arrangement can be effective through a "survival of the fittest" mechanism,²⁸ but also includes some risks:

²⁸ For example, in the United Kingdom, the long-term unemployed in selected disadvantaged urban areas are referred to a special private program called Employment Zone, which takes over the responsibility from the public providers. Hales et al. (2003) found that 34 per cent of EZ participants had experienced a spell of paid work compared to 24 per cent in the control group served by the public system.

- Transaction costs can be high: the costs of contract management for both parties, and costs at the level of individual clients.
- Providers may be able to devise strategies (such as vacancy hoarding²⁹) that improve outcomes for their own clients, but prevent the wide accessibility of LMI.
- The public authority may be faced with a “black box”, i.e. it may lack knowledge of what providers are doing. This may limit its ability to identify and control negative externalities, or make it more difficult to identify and disseminate good practices.

Despite these potential risks, experience in the United Kingdom, Australia and Canada already shows that private providers can be reasonably manageable.

Compared to quasi-market arrangements, the traditional method of government LMI provision has some advantages. It can partly avoid the institutional constraints and transaction costs that arise from the strict separation between the provider and purchaser roles that is needed to operate a quasi-market. It can potentially implement approaches where multiple types of information needs are considered. Government LMI provision can also take action to evaluate various LMI inputs and use those that work best, while in a quasi-market the impact of each provider is evaluated as the basis for managing the market, but detailed strategies remain inside a “black box”. In this sense, the best practices might not spread quickly in a quasi-market arrangement.

In many countries, there is also a private sector not funded by government to provide or deliver LMI. As Grubb (2002) points out, at least two distinct private markets of LMI exist: the market for career information and self-help materials, where publishers provide a wide range of books, pamphlets, and electronic sources; and a private market, offering information on placement opportunities and counselling. In both cases, the markets can expand or contract according to the level of demand. Some private LMI producers are financed by sales to users; some by advertisements (whether overt or disguised in an editorially controlled form); and some by a mix of both. An example is JobStar Central, originally funded through a United States federal government grant and now supported through the Wall Street Journal’s careers site. It provides users with access to a recruitment database as well as to occupational, educational and training information. In the United States many of the educational portals which provide information on college entry mirror the market that has long existed for such private guides in print form. According to a study conducted by Bortnick and Harrison Ports (1992), although private placement agencies are obviously one of the least important job search channels used by the unemployed, those who enlisted their services had the highest likelihood of finding employment. However, Walwei (1996) argues that the results cannot be interpreted as suggesting that the use of private sector LMI is the most efficient way because the researchers did or could not control for background variables, such as skills or qualifications of unemployed job seekers.

In general, the strengths of the public sector as LMI providers are:

²⁹ Vacancy hoarding refers to private LMI providers that only make information on job vacancies available to their clients, instead of to all job seekers.

- It can ensure wide access to the LMI. Because the production of information is not driven by profit like in the public sector, it can provide LMI for individuals who cannot pay, and for disadvantaged groups.
- It is easy to control the quality of LMI, ensuring that the information is accurate.

However, as we mentioned before, the public sector as a LMI provider may suffer from the following problems: the overly bureaucratic structure, the lack of effective budget constraints leading to waste, and insufficient information-processing capacities at public agencies. Moreover, LMI provided by public sectors may be provider-driven rather than user-driven. The public sector tends to provide information according to the requirements of their public policy objectives, for example, decreasing the rate of youth unemployment. Thus it would offer youth information on job vacancies or training opportunities. However, the format of the information they provide and the delivery methods they choose might not be the ones which youth really prefer. That is why the private sector exists in the LMI system. Nevertheless, public employment services (which produce LMI) are still the main source for information users. For example, in the United States, about 18.3 per cent of job seekers used public employment agencies as an active job seeking method in 2005, compared to only 6.7 per cent of job seekers who turn for help to the private sector (See Appendix Table 6).

4.33 The co-ordination between different parties

In many OECD countries LMI is not well co-ordinated between different ministries and agencies or between different levels of government. This limits its transparency and consistency. In particular, educational, occupational and labour market information on supply and demand are too often separated, and too infrequently linked to self-assessment tools.³⁰ This raises two serious problems in the LMI system. First, the information provided by different agencies can be either overlapping or inaccurate. Second, users encounter difficulties in finding what they need from the different sources, or they find it hard to distinguish one type of information from another when information is not compatible from different sources. Hence, the situation becomes one of barriers that restrict access to LMI.

A few countries solve this problem through a separate co-ordinated agency. Exhibit 4-1 shows 4 OECD countries with this kind of experience.

³⁰ Self-assessment tools refer to questionnaires or other examinations that are designed to better understand users' characteristics and to identify users' information needs.

Exhibit 4-1: Co-ordinated Agencies of the LMI System in Selected OECD Countries

Countries	Co-ordinated Agency
Netherlands	National Career Service Centre (LDC)
Denmark	National Council for Educational and Vocational Guidance (RUE)
Germany	<i>Bundesagentur für Arbeit</i> (BA)
United States	National Occupational Information Co-ordinating Committee

Source: CSLS.

One advantage of such agencies is that they can more easily co-ordinate the collection of information across portfolios, particularly education and labour; across different sectors of education; and between different levels of government administration such as state and national governments. Such agencies also make it easier to link different types of information, or to compile it in a single source.

4.34 One-Stop Information Centre

If good co-ordination does not exist, fragmented responsibility for LMI information between different ministries or agencies can result in a lack of transparency and fragmentation of the information itself. For example, in Ireland, separate information products have been produced for post-secondary courses of education, for vocational training, and for adult education. In Austria, a growing interest in producing on-line databases of adult education courses initially resulted in many regions producing their own, unconnected databases. In Norway, there are also a number of overlapping databases on adult education, which together provide only partial coverage of what is available. In order to improve the efficiency of information searching, steps have to be taken to connect these separate databases.

One way to integrate all information sources is to build a one-stop information centre for the user. The BLS online information site is a good example of a one-stop information centre in the United States. The main features of this type of information centre are:

- Collection of information from various sources and dissemination through a single channel: Usually it is located in the national or local public employment service centres (for example, Germany) or available on-line (for example, the United States).
- Compatibility of LMI: It makes LMI compatible and comparable even if the information comes from different agencies.
- Extensive use of ICT tools: It uses ICT tools to gather and deliver LMI in a timely manner.

The main advantage of such one-stop information centres is the convenience in searching and obtaining LMI for all users. Like the coordinating agencies do, one-stop information centres to some degree solve the problem of overlap and duplication in LMI. More importantly, the services greatly widen the accessibility to LMI.

4.4 Costs and benefits: how LMI can work more efficiently

4.41 Effective delivery mechanisms

Does the method of dissemination of LMI matter? Experiences in five OECD countries show that the method of dissemination makes a difference in the efficiency of LMI for two reasons. First, different LMI users have different preferences between methods of obtaining information. Providing the right method to deliver LMI to the right user maximizes the efficiency of dissemination. Second, LMI users are geographically spread out, and have differing schedules, which makes wide accessibility a challenge for traditional delivery channels such as printed materials and face to face counselling. The LMI designer has to develop a better combination of channels to meet all information needs.

If so, what tools are effective to deliver LMI? The following are lessons learned from various OECD practices and the literature review.

4.411 Oral-based LMI vs. written-based LMI

People can access labour market information on an oral basis or a written basis. There are numerous oral-based LMI, such as talking with friends or relatives, guidance from career counsellors, courses given by teachers in the classroom, etc. The construction of most LMI systems tends to focus on written LMI forms such as reference books, government publications, research reports, computer-based versions like online sources and CD-ROMs, and other electronic materials. However, as David Olson (1994) has emphasized, many individuals and groups do not fully accept such written sources and the oral tradition of conveying the information is more important for these individuals and groups. Thus, we need to distinguish the more “oral” user groups from the more “written” groups. The OECD (2004) points out that some low-status groups — especially low-income recipients, rural people, immigrants with limited knowledge of the dominant language — seem to be more “oral”. Although these are contentious issues without much empirical data, an effective LMI system has to take into account the preference to oral patterns, particularly among low-income people, in order to reduce the information gap.³¹

³¹ As a reviewer of this document pointed out, one type of oral LMI, “oral information about job vacancies, namely information from social networks, is likely important in certain types of jobs because that is how employers recruit for those jobs.” Actually, one commentator on the preliminary draft commented that “jobs obtained through social networks may tend to be better than jobs obtained through classifieds and the like”. This indicates that the advantages of oral LMI are not necessarily confined to low-status groups, and that social networking skills are an important tool for all job seekers to access that type of oral LMI. Of course, career counsellors and employment advisers should be provided to help those who rely on oral LMI due to literacy or resource barriers.

However, the disadvantages of oral-based LMI are obvious because the delivery of this type of LMI information is labour-intensive. First, the labour cost of oral forms is higher than that of written forms if both forms produce the same type of LMI. Second, fewer users can access the LMI through oral means. Thus an effective LMI system should arrange appropriate combinations of oral and written forms to meet the challenge of widening access to LMI.

4.412 Effective delivery approaches

A number of cost-effective LMI delivery approaches are available in most OECD countries. These include self-help techniques, the creation of open-access information centres, and the use of community centres. More flexible approaches to the organization of public employment centres, including extended hours and outreach methods, can also be used to extend access to LMI. Some countries have already utilized ICT (Information and Communication Technology) to extend access to LMI. Exhibit 4-2 lists some of these innovations in OECD countries.

All of these more innovative and cost-effective ways to deliver LMI imply a need for better qualification and training of LMI system personnel. They also require a better use of screening skills in LMI that allow user needs to be matched to the information available.

Exhibit 4-2: Some Important Initiatives to Deliver LMI in Selected OECD Countries

Country	Innovations
The United Kingdom	Embedding LMI in the high school course curriculum; Using community settings to deliver LMI; Using call centre technology to deliver LMI
Germany	Group LMI delivery through career counsellors; Extended open hours of public employment services
The United States	One-stop LMI centre; Using ICT, especially Internet, to deliver LMI.
Australia	Introducing Vocational Education and Training (VET) pathways to school; Using help-line to deliver LMI.

Source: CSLS.

4.413 Job search methods

In order to establish an effective LMI delivery mechanism, we have to take into account the job searching methods that unemployed workers use. Table 4-1 shows the active job searching methods used by unemployed jobseekers in Canada and the United States. From the table we realize that in 2005 the two most widely used methods in both countries were checking with employers directly, and looking at job ads. This may suggest that the provision of lists of employers by industry and by metropolis is valuable because the information is sought by end-users. Using public employment agencies, checking with friends or relatives, and placing or answering ads are also important job search methods.

There is an interesting phenomenon in Canada that the percentage of job seekers who go to public employment agencies has declined dramatically from 58.0 per cent in 1976 to 18.8 per cent in 2005. At the same time, the proportion of job seekers who go to private employment agencies to seek help slightly increased; the proportion of persons who use the “other methods” has significantly increased, reflecting increased use of the Internet. Interestingly, the role of private employment agencies tends to be the smallest in terms of their use as a job-search method in both countries, at 6.3 per cent in Canada and 6.7 per cent in U.S. in 2005.

Table 4-1: Active Job-Searching Methods Used by Unemployed Jobseekers in Canada and the United States

	checked with employers directly	used public employment agency	checked with private employment agency	looked at job ads	checked with friends or relatives	placed or answered ads;	used other methods
Canada							
1976	63.6	58.0	5.5	37.6	12.1	14.3	4.5
1994	66.3	35.9	3.6	54.7	24.9	18.2	4.9
2005	49.5	18.8	6.3	43.0	15.9	23.4	21.6
United States							
1994	68.6	20.6	6.7	39.4	19.0	22.1	8.4
2005	60.6	18.3	6.7	55.5	17.7	14.8	11.1

Source: Appendix Tables 6 and 7.

Note: The data shows the number of jobseekers who use the method as a percentage of total jobseekers. The percentage using each method will always total more than 100 because many jobseekers use more than one method.

Osberg (1993) found that job-search strategies may change over the business cycle. His investigation on early 1980s Labour Force Survey data indicates that “public employment agencies do not help much at the peak of the business cycle, but do perform a valuable ‘safety net’ function for the long-duration male jobless in the trough of the recession and provide significant assistance to jobless women at the midpoint of the business cycle”. The study shows that jobless members tend to use public employment agencies more than other job search methods in a depressed labour market. Thus, the estimated social benefit to public employment agencies, measured by the reduction in unemployment insurance payments caused by more rapid job finding, is much greater than the cost of the public employment intervention system in recessionary troughs. Osberg explains it as the following: at the peak time, jobs are relatively plentiful for job seekers, and thus they can find jobs on their own; but during a recession, it is difficult for job seekers to find jobs through informal job-search strategies such as talking to friends or relatives, forcing them to change their job-search strategies and go to public employment agencies more often. In this respect, it is reasonable to conclude that labour market information is more desired by end-users when jobs are scarce, because more users are either looking for jobs, or considering quit labour market, or looking for training or advanced education programs during that time—they all need LMI to help them make decisions. This implies that LMI providers should devote more efforts to LMI products during a recession since end-users are more dependent on LMI.

4.42 The role of ICT

ICT is a powerful tool that has the potential to diversify LMI delivery approaches and to widen access to LMI. ICT can be used in a variety of ways. First, it can be used to collect LMI and analyse data, improving the effectiveness of information processing. Second, it can be used to disseminate information, thereby widening LMI resources. Third, it can be used to help LMI users to make better labour market decisions. The OECD (2004a:77) summarizes the four potential uses of ICT in helping the decision making of users:

- Self-awareness. Some ICT resources help users to assess themselves and develop a profile that can be related to learning and work opportunities. They range from simple self-assessment questionnaires to more sophisticated psychometric tests.
- Opportunity-awareness. Some ICT databases include learning and work opportunities, with a menu of search criteria which enable users to find the information that they need.
- Decision making. Some ICT tools provide automatic systems which let users match their personal profiles to learning or work opportunities. In this way, users can learn how to conduct relevant searches among thousands of opportunities.
- Transition learning. These ICT resources help users to implement decisions. They may include support in developing action plans, preparing curricula vitae, completing application forms, and preparing for job interviews. They may also include help in obtaining funding for courses of study or in becoming self-employed.

Although these ICT resources can be available on CD-ROMs, telephone hotlines and other electronic tools, they are increasingly available on the Internet. When they are available on the Internet, users can access LMI through a wide variety of locations such as the workplace and home. This advantage of using the Internet as an LMI delivery tool, combined with the low cost and quick delivery, allows for the use of the Internet to produce the wide range of LMI resources, including user self-assessment, job matching systems, and better transition skills. The OECD (2004c:256) cited a report by Monster U.K. shows that jobs which are advertised on-line tend to be filled within 30 days, on average, compared to the average of 90 days for jobs advertised in print. Another survey report by CareerBuilder.com, cited by the OECD (2004c), found that 77 per cent of managing positions are filled within one month and nearly 50 per cent within two weeks. As a result, many LMI producers have begun to develop their own web sites, allowing them to combine their on-line and off-line LMI services and offer more comprehensive ways to meet users' requirements. In the United States, the one-stop LMI centres, which have their own on-line stops, have greatly extended access to LMI. In the United Kingdom, learndirect operates a network of more than 2,000 online learning centres, providing access to a range of e-learning opportunities. Since its launch in 2000, 1.3 million users have enrolled in almost three million learndirect courses.

Call centre technology can also be used to extend access to LMI. In Australia, Career Information Centres respond to users' requirements through a hotline. In only the first six months of 2001, 12 Career Information Centres dealt with 40,000 enquiries by telephone. In the United Kingdom,

learndirect also provides LMI through hotlines. It has taken more than six million calls since its launch in 1998. However, according to the OECD's (2004:79) investigation, help lines are an under-exploited LMI delivery initiative in most countries.

ICT, especially Internet technology, has been widely considered to have a positive effect on the functioning of the labour market since Internet searchers had shorter unemployment durations than workers who did not use the Internet to locate new jobs. However, an empirical study conducted by Kuhn and Skuterud (2004) indicates that either Internet job searchers are ineffective in reducing unemployment durations, or Internet job searchers are negatively selected based on unobserved characteristics.³²

Use of ICT tools to deliver LMI is of particular value in helping to increase access for those who cannot easily visit traditional LMI services such as public employment service centres. People who live in rural areas and remote communities, single parents, disabled persons, and even employees who want to change jobs benefit from these ICT applications. However, there are important limitations to using ICT tools. One limitation is the lack of access to ICT. For people who are poor or older, or those who live in remote areas without telephone or Internet access, using ICT to deliver LMI can cause a problem termed the "digital divide".³³ As an example, in Australia, a government decision to reduce the number of printed copies of its Job Guide because it is available on-line was widely criticized by schools because many students did not have easy access to the Internet at school or at home. The decision was subsequently reversed. In France, a survey in 2000 found that many more young people still consulted paper documents than the Internet or CD-ROMs (Tricot, 2002).

Kuhn and Skuterud (2000) analysed data from the 1998 Current Population Survey in the United States to compare Internet job searching to traditional job search methods. Their study indicates that the use of the Internet for job searches is becoming a more common and realistic option: about 42 per cent of adults in the United States were "on-line" in 1998, with 15 per cent of unemployed job seekers searching on-line. For employed persons, Internet job searches were the most common procedure used. Whites are about twice as likely to use the Internet for job search methods as are Blacks or Hispanics. However, this is completely explained by the greater access of Whites to computers in their homes, since most Internet job searches are conducted from a home computer. When the data are restricted to persons with a computer in their home, Whites are no more likely than Blacks or Hispanics to use the Internet for job searches. Their finding suggests that disadvantaged groups do not use the Internet for job search methods mainly because they do not have easy access to the Internet at home. Once access is provided, however, disadvantaged groups use the Internet quite effectively, especially because they may have fewer informal contacts and networks.

³² In Kuhn and Skuterud's data set, they found that Internet job searchers are better educated, previously worked in occupations with lower unemployment rates, and had several other characteristics which are usually associated with shorter unemployment durations. However, once these observable differences between Internet and other searchers are held constant, they found no difference in unemployment durations, and in some specifications even significantly longer durations among Internet searchers.

³³ The OECD has defined the digital divide as the gap between individuals, households, businesses and geographical areas at different socioeconomic levels with regard both to their opportunities to access ICT and to their use of the Internet for a wide variety of activities (Lindsay, 2005).

A survey that was carried out in Glasgow, Scotland in 2003 suggests that, despite the presence of Internet and telephone provision, ICT services play a fairly marginal role in the job-search activities of most unemployed people (Lindsay, 2005). The survey shows that only 31 per cent of interviewees reported using the Internet on a regular basis to look for work, and only 7 per cent regularly used the Jobseeker Direct telephone help line, compared to 92 per cent using newspaper advertisements (See Table 4-2).

Table 4-2: Percentage of Respondents Using Selected Job-Search Methods in the Survey of Glasgow, 2003

Job search method	Used at least weekly	Used at some time	Never used
Newspaper advertisements	92	4	4
Job centre	65	34	1
Job centre staff	57	43	0
Personal contacts	58	34	8
Direct approach	44	31	25
Internet	31	11	58
Community organizations	13	15	72
Jobseek Direct help line	7	17	76

Source: Lindsay (2005).

Another limitation of using ICT is the lack of skills to use ICT among disadvantaged people. Although the LMI ICT resources have a wide range of content and can meet all kinds of information needs, the lack of ability to search and use ICT limits many LMI users. This problem mainly exists among older, low-income persons, persons with disabilities, and poorly-educated persons. Moreover, if individuals are unsophisticated in their use of information, or lack the skill to use information in their decision-making, then simply providing extensive LMI will be inadequate to improve their decision-making. This is a serious problem, particularly for young people who are starting to make the decisions that will affect their futures. All these problems imply that skill development for using ICT information in order to make better decisions is required for LMI to be effective.

4.5 Quality matters

Whatever cost-effective methods are used in the LMI system, the management of the system (the government) needs to ensure the quality of information. There are two overriding requirements: a needs assessment of the population and the need to establish quality standards.

There are many indicators to assess the level of LMI quality: accuracy, timeliness, relevance to

the target group, and comprehensiveness. It is not easy to evaluate whether information is timely or relevant if the evaluation system does not consider the needs of information users. The degree to which the system is user-driven thus becomes an important indicator for an effective LMI system. Many initiatives have been conducted to assess users' needs and to build LMI quality bases. In the United States, the Current Population Survey, a monthly survey of households conducted by the Bureau of Census for the Bureau of Labour Statistics, provides a comprehensive body of data on the labour force and persons not in the labour force, and releases important characteristics of the different groups.

The diversity of both LMI and LMI providers in a LMI system calls for government to establish standards to ensure LMI quality and to regulate the activities by all LMI parties. A number of countries have developed standards, either for LMI itself or for the staff in the LMI system. In the United States, standards have been developed by the National Career Development Association for career information literature, video career media, software, and web sites. This is the first model of its kind. It contains a list of items to help editors of career information: dating and revisions, credits, accuracy of information, format, vocabulary, use of information, bias and stereotyping, and graphics, followed by comprehensive content guidelines (See Appendix 3). Guidelines for LMI have also been developed in Canada (See Appendix 4), Denmark and the Netherlands. In Germany, the Federal Employment Service has established some professional standards for career counsellors such as educational qualifications. However, at present, not all of these standards are strictly enforced.

4.5 Summary

What lessons can be learned from the evaluation of LMI practices in selected OECD countries? The following conclusions are offered:

- LMI is formally provided by the public sector in most OECD countries, where governments play a significant role in the provision of LMI. Public LMI sources are the most used information sources.
- A quasi-market arrangement of governments' provision of LMI may have potential risks, but all of them can be reasonably manageable.
- A co-ordinated LMI agency can more easily align the collection of information across different departments, different sectors, and between different levels of government administration. Such agencies also make it easier to link different types of information, or to compile it in a single source.
- A one-stop information centre makes it convenient to search and obtain LMI for all users. It also, to some degree, solves the problem of overlap and duplication in LMI. As well, it greatly widens the accessibility to LMI.
- Many individuals and groups do not fully accept written sources of LMI; the oral tradition of conveying the information can be very important. Informal search procedures through family

and friends and referrals from employees can be very effective since they tend to convey useful information concerning both the jobs and the job seekers.

- More flexible approaches to public employment centres, including extended hours and outreach methods, can also be used to extend access to LMI.
- Disadvantaged groups do not use Internet job search methods mainly because they do not have easy access to the Internet at home. Once access is provided, however, disadvantaged groups tend to be able to use the Internet quite effectively, which is particularly important because they may have fewer informal contacts and networks.
- The most widely used job search method is checking with employers directly. This may suggest that the provision of lists of employers by industry and by metropolis is valuable because the information is sought by end-users.
- Job search strategies may change over the business cycle. Similarly, job-seekers' dependence on LMI may also change over the business cycle. LMI is more desired by users when jobs are scarce. This may imply that the LMI providers should devote more efforts to LMI products during recessions.
- ICT has the potential to diversify LMI delivery approaches and to widen access to LMI. However, it can also lead to a "digital divide" between those with access to ICT and knowledge of using it, and those without.

What are the most important approaches in establishing an effective LMI system? They are:

- Having a well-coordinated relationship among the different parties providing LMI.
- User-driven. Information providers should contact the users through initiatives such as user surveys to specify their needs, to process data accordingly and to deliver LMI in a timely manner.
- Using ICT tools to support the delivery system.

5. Canada's LMI: Gaps and Recommendations

5.1 LMI in Canada: gaps needed to be filled

Although Canada's LMI system has many strengths, it still has some weaknesses that should be addressed to make the system more effective. They include:

- The lack of a coherent framework for LMI within the educational system.
- The lack of free access to many of Statistics Canada's LMI products.
- The lack of user education on how to use LMI more efficiently. There still exists a digital divide for the most disadvantaged groups.
- The lack of adequate quality-assurance mechanisms across the LMI field.
- The lack of information on specific topics such as apprenticeship outcomes and the job market for immigrants.

We now address these issues in two respects: the accessibility of LMI and the quality of LMI.

5.11 Access to LMI: need for widened accessibility

An effective LMI system should make LMI available to all users. That is, all information users should have equal access to the much-needed LMI, and in particular access must be ensured to specific disadvantaged groups. In addition, the ways to obtain LMI should not be beyond the abilities of targeted users. However, studies on Canada's LMI show that there are some gaps in this field.

5.111 Gaps in education system

Compared to other OECD countries, the LMI delivery system is weak within the Canadian education system. First, there are no legislative regulations on the provision of LMI in educational institutions. Schools offer LMI to students depending mainly on the arrangements by school boards. Second, the delivery mechanisms are very humdrum. Thus, it is very hard to attract students to LMI services on campuses. Most schools use guidance counsellors as the main delivery channel of LMI, with the ratio of counsellors to student no better than 1:1200 (OECD, 2002b: 4). Comparably, the United Kingdom embeds LMI into the curriculum and makes legislative arrangements for LMI in the education system. Third, schools lack initiatives such as the program of “understanding the world of work” in Germany or the “Vocational Education Training” in Australia that promote LMI.

Julien (1999) identified the main difficulties of adolescent Canadian students in accessing guidance information (See Table 5-1). The results of the survey show that many young people in Canada have difficulties accessing LMI, in particular information related to career opportunities. 89.4 per cent of young people questioned said that they knew how to find out opportunities for continuing their education. However, only 62.1 per cent said that they knew how to get skills in job searching. The proportion of people who were informed about financial assistance was even lower, at only 43 per cent. This data reflect significant gaps in promoting LMI on campuses.

Table 5-1: Questions Related to Access to Information for Adolescent Canadian Students

Questions	Percentage of Persons who answered “Yes”
I know how to find out about opportunities for continuing my education	89.4
I know how to get skills in job searching	62.1
I know how to find out about different jobs I might enjoy	76.8
I feel confident about asking for the information I need	76.6
I know how to find out about getting money to support my education beyond high school	43.0
I think that there are places where I could find answers to questions about my future	86.8
I know what courses I need to take in high school so I can achieve my career goals	62.0
I know what grades I need in order to achieve my career goals	61.7
I find it difficult to find out about everything I need to make a career decision	59.7
I need to go to too many places to get the help I need to make a career decision	39.7
I know what I would enjoy doing for a career	68.5
I know where to go to get answers to my questions about my future	62.4
I know where [?]to find out about how to get a job	60.4

Source: Julien (1999).

5.112 Weaknesses in access

There are four issues related to this topic: the lack of free access to Statistics Canada's labour market statistics, the lack of effective links between different information resources, the lack of awareness of LMI products among target users, and the lack of education on how to access LMI, in particular among disadvantaged groups.

As the national central statistical agency, Statistics Canada provides important LMI products, which are essential for labour market participants in order to make informed decisions. However,

most of Statistics Canada's online databases such as CANSIM and trade products and services are not free of charge to external users. Moreover, when clients need data that are not available online, they have to pay even more to obtain the data. As well, it seems that there is no standard quoting system open to the public associated with special requests in Statistics Canada. All these arrangements make the official labour market statistics inconvenient for users in need.

Although Canada has extensive resources for LMI at the national, provincial and local levels, the organization of LMI is not coordinated to ensure that all users can easily access what they need. For example, information users seeking basic labour market data go to Statistics Canada; however, when they need descriptions of different occupation groups, they have to search HRSDC's web site; while more in-depth research on specific occupations might be found on the CCC's web site. According to a survey (CCC, 1998), the biggest problem (36 per cent, calculated according to the percentage of the frequency answered) with the current LMI in Canada is the access to information. The following is a selection of what the participants said:

- “Information is scattered and uncoordinated”
- “We find most information by accident”

How to choose the right approaches to deliver LMI is always a major question for public policy makers who have the responsibility for planning and managing the labour market. An appropriate delivery model should take into account the needs of targeted users and reflect the trends in the labour market. However, the LMI system in Canada fails to meet these challenges. Differences in delivery approaches are based on the interests and budgets of LMI providers, and not on end-user needs.

There is no value in producing information if users are not aware of it. There are a number of good LMI products available in Canada. However, information users may not know the existence of the information. This may be the result of a lack of marketing campaigns for most LMI products in Canada. The U.K. LMI initiative, *learndirect*, sets a good example in this regard. Canadian LMI providers need to fill in this gap to attract target users.

The lack of skills and knowledge on how to use LMI is another important gap in Canada's LMI system that needs to be addressed. The 1998 CCC survey showed that some interviewees had problems using LMI. They claimed that they had not had enough training or lacked knowledge to review and use LMI resources well. This situation commonly exists among disadvantaged groups. This fact suggests that, despite the recent emphasis on electronic communication, some end-users still prefer print material and that, in the short term, it is important to produce hard copy material. This situation will change over time according to the survey. However, there will always be some groups in society that need more oral or less technology-intensive LMI products. These include older people, low income persons, and persons with disabilities.

As a matter of fact, Career and Employment Information Specialists and Employment and Career Counsellors can help those groups that lack the skills and knowledge on how to use LMI. These professionals are skilled in identifying user's information needs and can locate and select the appropriate information for them. As FLMM LMI Working Group pointed out, Canada has pioneered the development of Career and Employment Information Specialists (Industry Canada,

2005). This group built a system that defines the competencies and duties of this position and standardizes the training for individuals in this position (See Appendix 5 for details). But there are two problems related to this issue. The first problem is that there is not enough access to counselling for all individuals in need in Canada. The second one is that the qualifications of these specialists vary, thus the services they provide may not satisfy the clients' needs.

5.12 Quality of LMI: need to be enhanced

In Canada, LMI is driven more by supply factors than demand factors, a situation which cannot ensure that LMI provided by the system matches the user needs. This might lead to a waste of public money. In addition, the lack of adequate quality-assuring mechanisms in Canada also leads to resource waste since LMI that is not timely, accurate or relevant cannot help information users in their decision-making.

5.121 Gaps in the supply-driven mechanism

The experiences of countries with LMI systems are so different that it is not feasible to prescribe a one-size-fits-all criterion of an effective LMI system. It is therefore considered of importance for countries to develop a LMI system that is able to address and respond to the needs of different users. Currently Canada's LMI lacks this flexibility. The information appears to be organized according to the needs of LMI providers instead of end-users, which results in a great waste within the LMI system. Some information is overlapping while other information is not available for end-users.

According to the 1998 CCC survey mentioned above, the content of LMI that end-users want to use contains information on: labour market supply and demand, work skills, education, training and learning, career building, work search and living skills. The results reveal that work skills information is more important for users than occupational information. The lack of information on work skills is a significant weakness of Canada's LMI system.

Currently, LMI on some specific topics is lacking in Canada. For example, Sharpe and Gibson (2005) point out that there is a lack of basic information on the labour market experience of apprentices. The information needed includes two aspects: 1) information on journeyperson earnings and annual hours worked, wages for apprentices, and employer costs in engaging apprentices by trade and by province; and 2) information about apprenticeship opportunities both in absolute terms and relative to other types of education programs. In particular, Sharpe and Gibson argue that existing LMI on this issue is "poorly understood and worthy of further research". (2005:84)

The culture and ethnic diversity in Canada also requires adaptability from the LMI system. In the United States, the national one-stop labour market information centre provides language translation tools to help people whose first language is not English obtain LMI easily. By using the CareerOneStop Translation Services, information users can access LMI in Spanish, Italian, French, German, Brazilian Portuguese, Simplified Chinese, Traditional Chinese, Japanese and Korean. This is crucial for immigrants and minority groups. The LMI in Canada does not have

this function. It only provides LMI in the two official languages. It has taken no significant initiative to reflect the diversity of various information users. As Strachan (2004) mentions, for skilled workers from places such as China, current LMI is not enough to help them participate in the local market because most jobs are not advertised in Chinese and people have to work hard to find the information.

The lack of demand-side studies on LMI products is another weakness in Canada's LMI quality-assurance system. There is little information available on employer or job seeker outcomes for the use of LMI products. Although it is easy to track the usage of a LMI product such as a website, it is difficult to determine whether a job matching process (a hiring decision) actually occurs after using a particular LMI product. However, the U.S. AJB Outcomes Study (mentioned on Page 40) illustrates well how the job matching process can be tracked. In order to serve end users more efficiently, similar studies should be conducted in Canada for the Job Bank website, Job Futures website, and other websites.

5.122 Gaps in the LMI quality-assurance mechanisms

There are two gaps in Canada's LMI system on this issue. One is the weak implementation of national standards for LMI products; another is the unclear professional qualifications of LMI staff.

There are efforts that have been made for Canada's LMI services and products to establish quality standards. For example, in HRSDC, the Human Resource Partnerships Directorate has national funding criteria for partnerships and product development. The Canada Career Information Partnership (CCIP) has similar criteria. The most important effort is made by the FLMM's Labour Market Working Group, which has released three sets of guidelines for the provision of LMI. However, adoption of these criteria is voluntary, which means that they cannot affect the overall LMI quality significantly.

In addition, there is no current initiative to implement professional qualifications for career counsellors and other LMI services staffs. In particular, there are no specific professional qualifications for career counsellors who work in the educational system.

5.2 Strategies for improving the LMI system in Canada

5.21 Tailor LMI to the needs of users

Strategies that are designed to respond to the needs of different users mainly include:

- Not developing more products, but finding more ways to connect with information users to share the best practices, solve common issues, build a network of appropriate referral sources, and develop working local networks.
- Simplify information content and provide labelled and standardized LMI products so that target users can easily take advantage of information (Kunin, 2002). The FLMM's Labour

Market Information Working Group has established guidelines for LMI products (see Appendix 3), which are clear and practical. The problem is how to regulate LMI providers to make sure that they adhere to the guidelines. In Australia, the government only provides funds to those organizations and companies that produce LMI according to the FLMM's guidelines.

- Develop strategies to build a more effective LMI dissemination system in schools, universities and colleges, and bring more work-related information on campuses. First, as we mentioned before, the LMI practices in the United Kingdom and Germany show that career advisers or counsellors are very useful to help youth make informed labour market decisions. These findings may suggest that more career advisers and counsellors are needed in schools and educational institutions to help deliver LMI. Second, the LMI products delivered in schools and educational institutions should focus on the connection between school subjects or programs and employable skills or occupational profiles. Career education initiatives that enable youth to relate learning to career choices, such as the Real Game, should be widely used on campus. Third, LMI has an important role in education and training institutions as individuals explore their interests and abilities, and plan their career paths. In this case, LMI products like Job Futures' Interest Quiz should also be promoted on campus.
- Develop more skilled-based labour market information rather than occupationally based LMI. Continue investigating the use of an index of indirect measures of skill shortages and surpluses at the local labour market level (Gunderson, 2003:13). The Sector Skills Councils for the United Kingdom set a good example on this issue.
- Build partnerships among LMI providers and end-users, provide a well-coordinated strategy to ensure that users receive information in a regular and timely fashion, and also in a useable form. One way to build this partnership is to conduct regular user surveys to collect information on how the end-users use the product and whether they benefit from the product.

5.22 Improve the access to LMI

It is very important to identify the trend of users' needs in the format of LMI. According to the survey conducted by CCC (1998), 63 per cent of end-users and 83 per cent of practitioners think that the Internet will be the most popular format for the future delivery of LMI. Computer software (51 per cent for end-users, 75 per cent for practitioners) and CD-ROMs (43 per cent for end-users, 78 per cent for practitioners) are ranked higher than other formats for both groups. The system should, therefore, put emphasis on these electronic formats in the future. Thus, education and training on the use of LMI (and ICT) is an important contributor to the LMI system.

Other strategies include:

- Conduct marketing campaigns for LMI through TV, newspaper, radio, Internet and other media to enhance users' awareness of the existence of effective LMI products and services. The United Kingdom established a standard on this issue since most of the U.K.'s public LMI products such as Connexions and learndirect are well known by the target users.

- Support the establishment of one-stop information centres, offering users easy access to most extensive LMI products. The local HRSDC employment service centres and community centres may play important roles in establishing one-stop LMI centres. In addition, the participation of other agencies that relate to human resource programs should be encouraged in the one-stop LMI centre, like the mandatory one-stop local partners in the United States.
- Create a search and classification system that helps users in utilizing LMI products, and develop an easy-to-use guide to today's LMI system, flexible enough to be tailored to the needs of different users. HRSDC has already developed a useful LMI guide for youth, an annual publication named *Youth Link*.³⁴ This is very helpful to youth who make the transition from school to work. However, online and printed sources for *Youth Link* are not enough for all youth in need. The government of Canada should design a systematic information delivery approach like Connexions in the United Kingdom to help all youth in the transition process. A similar service is also needed for adults.
- Increase funding for the public LMI providers, allowing most LMI products to be available to users free of charge. In particular, Statistics Canada's online databases and special publications related to labour market statistics should be free and open to all users.

5.23 Develop more quality-assurance mechanisms

The following recommendations are important mechanisms for the LMI system to enhance quality:

- Promote general guidelines to assist providers of career information to create superior resources. The FLMM's Labour Market Information Working Group has developed an up-to-date resource guide to help LMI practitioners and professionals locate the electronic sources of labour market statistics. However, this guide itself should be promoted to make LMI practitioners and professionals aware of its existence.
- Develop political and institutional support in order to establish and maintain a credible career counsellors system. Since the literature review reveals that career advisers or employment counsellors are more helpful for youth and disadvantaged adult groups, it is important to increase the quality and quantity of the specialists. Currently, the FLMM LMI Working Group has developed training for Career and Employment Information Specialists. LMI providers should encourage their career counsellors to attend the training.
- Conduct studies to obtain feedback from LMI providers and end-users, develop an assessment system to identify the results of matching supply and demand. Statistics Canada or other government agencies could conduct LMI client satisfaction surveys on a regular basis. For a specific program such as the Youth Employment Strategies, the department or organization responsible should do research to obtain information on how the end users feel about the program and what should be done in order to improve it.

³⁴ For more information, see the website:
<http://www.jeunesse.gc.ca/yoaux.jsp?&lang=en&flash=1&ta=1&auxpageid=886>

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Appendix

Appendix 1: Important Characteristics of LMI

How is LMI produced?

The LMI needed for targeted users comes from various sources. Different organizations are involved in the collection and dissemination of this information. According to Mangozhao (2003), the production of labour market information has the following three stages:

- Collection. Organizations who are responsible for collecting data and information (for example, the national central statistical agencies, Ministries of Labour, Ministries of Education, training institutes, employment offices, employer and worker organizations, and social security organizations) conduct population censuses, labour force surveys and other household surveys to collect primary data, or gather administrative data.
- Processing and analysis. Information processing agencies compare, select, sort, and label information according to the specific LMI requirements, create tables and charts, develop models to analyse and forecast, and write reports and produce various LMI products.
- Dissemination: through traditional employment service centres, community centres, educational institutions or through computer-based materials (CD Rom or website) information is delivered to targeted users.

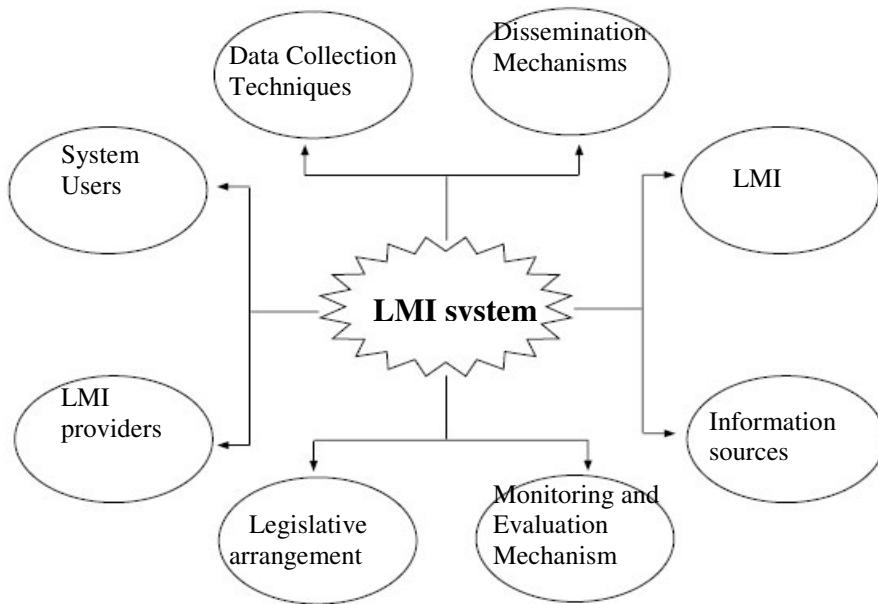
What is an LMI system?

In order to produce, process, analyse and disseminate LMI from a variety of sources to benefit a broad spectrum of users, “a set of institutional arrangements, procedures and mechanisms have to be set up through markets and policy interventions” (Sparraboom, 1999). This is called a labour market information system (LMI system). An LMI system is usually made up by several subsystems as follows:

- LMI. This subsystem includes all types of labour market information for all information users, as well as the information sources. It is the core subsystem of an LMI system because all other subsystems are developed to support LMI.
- LMI participant subsystem. This subsystem includes LMI producers and LMI users. The former contains all agencies that are responsible for collection, processing and analysis of LMI, while the latter includes all information users described in Exhibit 1-1. In this report, LMI users mainly refer to skilled workers who need better LMI to make better labour market decisions.
- LMI operation subsystem. This subsystem deals with data collection, processing and analysis techniques and information dissemination mechanisms. The goal of designing this subsystem is to produce LMI and to help transmit LMI between the LMI producers and target users.
- LMI institutional support subsystem. This subsystem includes two mechanisms: one is the legislative arrangement for LMI; the other is the monitoring and evaluation mechanism. The monitoring and evaluation of LMI initiative and program outcomes is the basis to develop an effective LMI system. The mechanism is capable of identifying superior LMI programs through the results from evaluative research. The legislative arrangement can help government promote effective practices, which is important for whole LMI system.

Exhibit A-1 illustrates the components of a labour market information system (LMIS). The figure clearly shows that effective labour market information must be supported by an effective labour market information system. Though the figure is very explicit in format and style, it should be noted that challenges exist for each sub-system, and as will be demonstrated later in this report, countries are at different levels or stages in dealing with these challenges.

Exhibit A-1: Components of a Labour Market Information System



Source: CSLS.

What is an effective LMI system?

An effective LMI system should help in the attainment of the policy objectives outlined above. In summary, an effective LMI system should have the following characteristics:

- Wide accessibility. This requires an effective LMI system to deliver LMI to a wide range of populations in need, no matter whether they are young persons or adults, employed or unemployed, students or workers, policy makers or labour market professionals. It also means making LMI universally accessible throughout an individual's life span.
- Timely, accurate and relevant information. This requirement establishes the standard for high quality LMI. Timeliness and accuracy requires that the LMI system collect data and information in a timely manner, and process and disseminate the information by using appropriate tools and mechanisms to minimize the distortion of information. Also, the information should be highly relevant to the needs of target users, reflecting current and future trends of the labour market.
- Flexible and diverse delivery models. This means that an appropriate balance between different LMI delivery channels needs to be achieved. Delivery channels for LMI include: classroom-based, one-on-one

career counselling, telephone information services, community-based LMI provision, computer-based information services and workplace LMI delivery.

- Cost-effectiveness. This requires the LMI system to improve LMI services without incurring a substantial increase in unit cost.

Appendix 2: LMI Initiatives and Activities in Provinces

Newfoundland and Labrador

- **NLWIN** (www.gov.nf.ca/nlwin) is a government funded website that provides access to quality, up-to-date, provincial information on Career and Employment planning for residents of Newfoundland and Labrador. Through NLWIN, users may also gain access to national and international information on these subjects via the national resource workinfonet.ca.
- The province has leading two initiatives in the labour market—**Strengthening Partnerships** and **Identifying Skills Gaps**—in partnership with business, labour, and different levels of government to improve access to LMI. The first involves developing regional labour market profiles, workshops and a web portal that better share data and tools. The second focuses on developing data on skills gaps and shortages.

Prince Edward Island

- **PEI Job Futures** (www.pei.jobfutures.org) provides detailed information on employment requirements and skills up to 2009 for 265 occupational groups on P.E.I. The estimates of future employment prospects are based on research, analysis, and the best judgement of the PEI Job Futures team. PEI Job Futures also provides up to date information specific to the P.E.I. labour market. As a supplement to PEI Job Futures, the **PEI Job Chart** was produced as a user-friendly vehicle for delivering LMI to clients. It provides a summary of job descriptions, income information, and employment levels and outlook up to 2009 for 120 occupational groups in P.E.I., all organized by skill type and skill level.
- **PEI Commuting Patterns** examines the relationship between an individual's place of residence in P.E.I. and his/her place of work. It provides information to help people make labour market decisions.

New Brunswick

- **New Brunswick Job Futures** (<http://nb.jobfutures.org>) provides detailed information on 154 occupations that are important to the New Brunswick labour market, including wages and salaries, employment requirements, skills, education and training course availability, future employment outlook, and more.

Nova Scotia

- **Career Options website** (www.careeroptions.ednet.ns.ca) is a web resource for students who need to make career plans, and their parents. It helps students explore their interests through online quizzes. It also explains to students why they should stay in school and how to map out their future.
- The Federal-Provincial Nova Scotia LMI Committee is preparing a set of guidelines and standards for use by sector councils, industry associations and other non-government organizations that are seeking funding to undertake labour market research. This will be circulated with a bilingual copy of the **Guide to Labour Market Research for Sectors and Occupations**, a publication prepared by PEI Business Development Inc. and available for use in Nova Scotia.

Quebec

- **Job Future Quebec** (<http://www150.hrdc-drhc.gc.ca/job-futures/accueil.asp?LastPage=-7>) is an online and printed source that provides information on occupational trends in Quebec. It provides information on statistics, job descriptions, the most up-to-date job titles and the main industries that are hiring for each of the 520 occupations listed in the National Occupational Classification. It also provides a detailed analysis of over 200 occupations with prospects, required training, useful addresses and important pointers.

- **Emploi-Quebec** (<http://emploiquebec.net/anglais/index.htm>) has published a number of analyses of the labour market in Quebec and its regions, with most products available on its website. It provides key statistical information related to the labour market in Quebec, and also develops tools to assist students in Quebec form career plans using labour market information.

Ontario

- **Job Future Ontario** (www1.on.hrdc-drhc.gc.ca) is a publication which provides information on the current trends and future outlook for 163 occupations which are common in Ontario. It is a joint effort by the Province of Ontario and the Government of Canada.
- **Ontario WorkInfoNet** (<http://onwin.ca>) provides employment and career information over the Internet and specializes in providing links to work and career related Web sites in Ontario.
- **Ontario Colleges Application Centre** (www.ontariocolleges.ca) and **Ontario Universities Application Centre** (www.ouac.on.ca) provides administrative systems and application processing services for Ontario's 25 Colleges of Applied Arts and Technology, 3 Agricultural Colleges and The Michener Institute for Applied Health Sciences and 17 universities.

Manitoba

- **Manitoba's Aboriginal Population: A Statistical Profile and Compendium** is a report that provides labour market and education information relating to aboriginal peoples in Manitoba, as well as comparisons of trends between aboriginal and non-aboriginal groups.
- The LMI Unit of Manitoba Advanced Education and Training releases **Weekly E-Report on LMI**, which includes LMI related news, reports and releases from a variety of sources.
- **Manitoba Job Future** (<http://mb.jobfutures.org>) currently consists of 183 occupational profiles. These provide detailed information on employment prospects, wages and salaries, skills, working conditions, and education/training routes. The profiles address current and anticipated conditions in the Manitoba labour market and are developed for students, guidance counsellors, parents, or anyone choosing or changing a career.

Saskatchewan

- **Saskatchewan Job Futures** (<http://saskjobfutures.ca>) provides important information about hundreds of Saskatchewan occupations, researching particular occupations in depth, and includes comparisons of wage rates, education and training requirements, and employment potential for several occupations at once. Saskatchewan Job Charts is complementary to Job Futures and it provides quick summaries for each of the occupations profiled on Job Futures.
- **Saskatchewan Learning** (www.sasked.gov.sk.ca) provides students and parents with information related to learning in Saskatchewan. It includes information on school boards, teachers, subjects or programs in each school, college and university. Its online learning centres offer learners e-learning opportunities based on partnerships with most institutions in Saskatchewan.

Alberta:

- Alberta opened the “**Alberta Career Information Hotline**” to help workers find appropriate LMI. Career consultants are made available by telephone, e-mail or fax to provide information on career planning, job searching skills, occupation descriptions, education options and education funding. This initiative increases the range of delivery of LMI in Alberta.
- Over the past several years, Alberta Human Resource and Employment focused on working with employers and industry. It has developed new **LMI products for employers**, including publications on workplace rights and responsibilities, work-life balance, recruitment and retention strategies etc. These products are available online at www.alis.gov.ab.ca/careershop.
- Alberta Human Resource and Employment has also developed a labour supply and demand **Dashboard**, which looks at the unemployment rate, vacancy rate, and hiring difficulty rate for a number of occupations, serving as a “red-yellow-green traffic light system” to identify labour market concerns.
- **Labour Market Information** website (www.gov.ab.ca/hre/lmi) is a collection of online LMI products in Alberta, which includes information on labour force statistics, labour market outlook, labour force profiles for special groups, and a regional occupational forecast.

British Columbia:

- **The Work Future**, the British Columbia occupational Outlook provides a comprehensive description of close to 200 occupations which relate directly to the B.C. labour market. B.C.’s Ministry of Advanced Education and Service Canada recently released *Hands On! Work Futures for Trade and Technical Occupations* (<http://handson.workfutures.bc.ca>), which provides information on trades and technical occupations in B.C. for potential trades and technical studies, career counsellors, youth, parents and the public.
- **WorkInfoNet Website** (www.workinfnet.bc.ca) offers useful LMI on the B.C. labour market. One of its effective features is that information is well-organized according to target user groups such as adults in transition, educators, newcomers, employers, etc. This makes it easy for users to navigate the website.
- **What’s Key** website (www.whatskey.org) is a catalogue of selected information resources for British Columbia’s career practitioners, young people and adult job-seekers. This website and the companion brochure were designed to steer users toward an array of selected LMI sources and tools, handpicked by knowledgeable practitioners.

Source: FLMM-LMI Working Group (2005) *LMI Research and Best Practices Newsletters*, Fall 2005-Issue 3.

Appendix 3: Guidelines for U.S.'s Career and Occupational Information Literature

The U.S. National Career Development Association (NCDA) designed a series of guidelines to assess the U.S.'s career and occupational information literature. NCDA thinks that it is very important that this information be accurately and comprehensively conveyed to the user, as this literature may be an individual's initial exposure to a specific occupation or occupational field. The Guidelines represent the NCDA's views of what constitutes good career and occupational literature. The general guidelines include:

1. Dating and Revisions

The date of publication should be clearly indicated. Because of rapid changes in employment outlook and earnings, material should be revised at least every three to four years to stay current and accurate.

2. Credits

Credits should include (a) publisher, (b) consultants, (c) sponsor, and (d) sources of any statistical data. Photographs and original artwork should be accompanied by the name of the photographer/artist, photographic outfit, and copyright mark (if any).

3. Accuracy of Information

Information should be accurate and free from distortion caused by self-serving bias, sex stereotyping, or dated resources. Whenever possible, resources over five years old should be avoided. Information should be secured from and/or reviewed by knowledgeable sources within the occupation, the occupational field, or career research. Reviewers should be selected to reflect different viewpoints germane to an occupation (e.g., business and labour) and be trained in the evaluation process.

Reviewers must not use the literature to promote their own concerns or viewpoints. Data such as earnings and employment projections should be based on current, reliable, and comprehensive research.

4. Format

The information should be conveyed in a clear, concise, and interesting manner. Although information from the Content Guidelines should appear in all publications, publishers are encouraged to vary the manner of presentation for the sake of stimulation and appeal. A standard style and format for grammar should be adopted and utilized throughout the document.

5. Vocabulary

The vocabulary of the information should be appropriate to the target group. Career and occupational information is used by people of varying ages and abilities. Information designed for a specific age range or for any other clearly identifiable group should be clearly identified as such. Information designed for broader use should be comprehensible to younger persons but suitable in style for adults.

Technical terminology or jargon should be either fully explained or avoided.

6. Use of Information

The intended purpose, the target audience, and the potential use of the information should be clearly identified in the introduction to the material. Reviews should specify the intended audience, such as elementary schools, middle/junior high schools, high schools, vocational schools, community college, colleges/universities, employment/training programs, rehabilitation agencies, correctional agencies, libraries, or specify other audiences. Persons often do not have the opportunity to thoroughly review materials until after the materials have been purchased. The authors and publishers should help potential purchasers determine whether the materials present useful information.

7. Bias and Stereotyping

Care should be taken in all publications to eliminate bias and stereotyping against persons with a disability, or based on gender, race, social status, ethnicity, age, or religion. Job titles and information should be biasfree. Particular care should be taken to ensure the use of gender-free language. If graphics are used, people of

different races, ages, sexes, and physical abilities should be portrayed at various occupational levels. Where applicable, data, information, or resources relevant to providing equal opportunity for women, minorities, or persons with a disability should be included.

8. Graphics

Graphic displays, when used, should enhance the value of the narrative information. Pictures should be current and portray individuals engaged in activities primary to the occupation or unique to it. Again, the importance of portraying individuals of different genders, races, ages, and physical abilities in a variety of roles cannot be overemphasized.

Source: National Career Development Association's (NCDA) web site <http://www.ncda.org/pdf/Guidelines.pdf>.

Appendix 4: The Forum of Labour Market Ministers' Labour Market Information Product Guidelines

1. Privacy and Ethical Practices

1.a Product and service suppliers must abide by the Canadian Guidelines Association (CSA) voluntary national code for the protection of personal information, and by existing federal and provincial freedom of information, privacy and human rights legislation (for example, the *Canadian Human Rights Act*).

1.b LMI products and services must use language that adheres to the principle of equity, is nondiscriminatory, inclusive and sensitive to people from different cultures or with special needs.

1.c Copyright of information featured in LMI products and services must be respected and appropriately attributed.

2. Accuracy, Completeness and Timeliness

2.a Information must be clear, concise, and accurate.

2.b Information must be sufficiently comprehensive to enable intended users to make informed labour market decisions.

2.c LMI products and services must be regularly updated to reflect recent findings and developments (job openings, Labour Force Survey data, etc.).

3. Information Relevance to User Needs

3.a LMI products and services must be designed and developed to be client-centered and be relevant to life, work and career decision making.

4. Accessibility

4.a Suppliers of LMI products and services must use methods and technology that meet the needs of users with varying ability, experience, and cultural and socio-economic backgrounds.

4.b Text must be written in plain language and at a readability level that will enable the maximum number of target users to understand the text.

4.c Users must be provided with information on where to obtain access to free LMI products and services.

5. Internet Delivery

5.a Internet-based products and services must be compatible with the level of technology that is accessible by the widest possible audience, for whom the information is intended.

5.b The layout and navigation of web sites must be intuitive, user-friendly, easy for people to use independently, and interesting to work with.

5.c Users of LMI sites must be given the choice of going directly to desired information or using a guided approach that will lead them through a structured decision making process tailored to their life and work transition needs.

5.d Users must have access to on-line help and/or human support.

6. Program and Service Information

6.a Information on programs and services offered by public and private organizations, agencies and institutions must be complete and transparent to enable users to make informed decisions.

7. Jobs and Recruiting Information

7.a Job vacancy, job recruitment and job matching systems must be designed and built to support and promote fair recruitment, employment, and selection practices.

7.b Job vacancy, job recruitment and job matching systems must be operated and maintained to provide job seekers and employers with the opportunity to provide, enter and access sufficient and accurate information, enabling them to make informed job and work decisions.

7.c Generic occupational descriptions and skill checklists must be compiled and maintained by authoritative institutions or organizations representative of government and/or industry or business sectors.

8. Career Planning Information

8.a Occupational and skill information must be linked to the National Occupation Classification (NOC) coding structure.

8.b Career information must enable users to identify:

- occupations that match their skills, knowledge, interests and/or aptitudes as closely as possible;
- learning and training opportunities to help them bridge the skills and knowledge requirements of desired occupations; and
- wage/salary ranges for occupations.

8.c The application and use of Prior Learning Assessment and Recognition (PLAR) guidelines and/or other learning assessment methods and products must be an integral component of an integrated career and skill development service or system.

9. Education and Training Information

9.a Public and private suppliers of education and training should provide sufficient information on their institutions and course offerings to enable users to make informed learning decisions.

9.b Program or course entry information should list:

- the skills, knowledge and aptitudes that are most likely to lead to success; and
- if available, previous course completion, graduation and employment placement results.

9.c Program and course information must provide full disclosure of the financial assistance programs that are available to students.

10. Labour Market Profile Information

10.a Employment outlook and earnings information by occupation and/or industry must be useful, reliable and be made available at the national and provincial levels. Local employment and earnings should be made available where this information exists and is reliable.

Source: FLMM website: <http://www.flmm-lmi.org/english/index.asp>.

Appendix 5: The Forum of Labour Market Ministers' Career and Labour Market Information Specialist Competencies and Duties

Career and labour market information specialists help clients with their career and LMI needs. They help determine the client's information needs, identify and locate resources and, if needed, provide assistance in using them. They also ensure that current, accurate and appropriate career information resources are acquired/purchased to meet the needs of all clients, and are then catalogued and displayed in a logical and easily accessible arrangement in the information area.

The career and labour market information specialist must also ensure that the information area and its contents are integrated with all other services offered in the centre in which s/he is employed. These are typically career, employment and administrative areas.

Career and labour market information specialists often work closely with employment counsellors and career counsellors. People in these two counselling roles help clients with job search strategies and career decision-making, respectively.

To perform the job of career and labour market information specialist, the following competencies (skills, knowledge and personal qualities required for successful job performance) and duties are required.

Competencies

Skills

1. Good communication skills:
 - a) Conveys ideas and information (orally or in writing) clearly and concisely.
 - b) Adjusts style of communication, written or verbal, in order to meet the needs of the audience.

2. Good interpersonal and consulting skills:
 - a) Creates a comfortable rapport with clients.
 - b) Adjusts approach to meet individual client needs.
 - c) Attends to verbal and non-verbal cues.
 - d) Effectively assists the client in assessing needs and options, and suggests courses of action.
 - e) Is accessible and responsive to clients.
 - f) Develops and maintains a referral network.
 - g) Interacts effectively with people of diverse backgrounds.

3. Diagnostic information gathering skills:
 - a) Quickly acquires and applies relevant information.
 - b) Recognizes pertinent facts and issues.
 - c) Identifies the specific information needed to clarify a situation or make a decision.
 - d) Identifies and acquires information products/services based on client and community needs.
 - e) Identifies the most useful and appropriate tools and technologies to meet requirements of the task.

4. Organizational and planning skills:
 - a) Develops and implements plans and projects.
 - b) Organizes work and resources to meet goals and objectives.

5. Staff management skills (if applicable):
 - a) Demonstrates fairness and equity in the delegation of tasks and assignments.
 - b) Sets realistic and challenging goals, objectives, and deadlines while respecting others' needs for a balanced work life.
 - c) Communicates expectations so that they can be acted upon and assists in establishing priorities.

- d) Strives to ensure that employees are aware of management goals and how individual efforts assist in accomplishing these.
- e) Ensures that appropriate resources are available to accomplish workplan commitments.

Knowledge

1. Knowledge of career development processes and the role of information in those processes.
2. Knowledge of decision-making processes and the role of information in those processes.
3. Knowledge of equipment /technology used in the information resource centre (e.g. computers, Internet).
4. Knowledge of government and community service providers.
5. Knowledge of relevant codes of ethics and privacy legislation.
6. Knowledge of ordering/purchasing/accounting procedures (if applicable).
7. Knowledge of local/regional labour market and economic conditions.
8. Knowledge of marketing and promotional techniques of their organization.

Personal Qualities

1. Adjusts readily to change.
2. Engages in learning and professional development.
3. Is creative and innovative.
4. Is attentive to the needs, concerns and ideas of others.
5. Respects individual differences.
6. Works well with others.
7. Willingly uses available technologies to work and learn.

Duties

The following duties fall within the function of a career and labour market information specialist:

1. Assist clients to clarify their career decision-making questions, and connect them to the appropriate information.
2. Assess client needs and determine the most appropriate information delivery modes.
3. Research, recommend or select, and acquire appropriate display mechanisms.
4. Locate the resources/information on occupations, workplace, industry trends and education programs/services locally, regionally, nationally and internationally.
5. Assist clients to use career and labour market information effectively, and in an integrated way with other career and labour market services available to them, so as to foster client self-reliance and self-management.
6. Determine appropriate content for the information resource centre to meet client and community needs.
7. Develop the information area, including such functions as acquiring and managing (i) career information resources, (ii) capital equipment and (iii) staff.
8. Make appropriate client referrals (including financial), both internal and external to the organization.
9. Ensure privacy, confidentiality, ethical behaviour, and adherence to professional guidelines (including those in the Career Practitioners Guidelines and Standards) pertinent to the career and labour market information specialist functions.
10. Provide input to and implement the centre's marketing plan as it relates to the information area.
11. Provide and catalogue print, audiovisual and electronic resources that are current, accurate, sufficient and appropriate to client needs. The resources should include information on occupational, educational, labour market, self-awareness, work search techniques and career planning processes.
12. Maintain the structures necessary for tracking the resources.
13. Provide group presentations related to the delivery of career information both internally and externally to the organization.
14. Participate in such events as job fairs and community career fairs.
15. Participate in professional association/organizations involved with career information, career development and labour market information.
16. Assist in special projects, e.g. website content and design.
17. Implement evaluation/feedback mechanisms to gauge client satisfaction with career information delivery.

18. Develop and maintain statistical reports of client usage of career information delivery service.
19. Administer the annually dedicated funds for the acquisition and maintenance of information resources (print, audiovisual and electronic) and capital equipment.
20. Ensure ease of access and use of the information area through such things as providing appropriate signage, adequate floor space and furnishings, and convenient and efficient display of resources.
21. Oversee the day-to-day operations of managing the information and the information area.
22. Provide manuals of operations/procedures for the day-to-day running of the information area and the resource classification system.
23. Establish internal and external communication and networking channels to ensure acquisition and distribution of information.
24. Determine any gaps in programs and services and develop the necessary information /programs /services to meet client needs.

Source: FLMM website: <http://www.flmm-lmi.org/english/index.asp>

Appendix Table 1: Trends in Number of Job Losers in Canada, 1976-2005

	Job losers, thousands of persons	Permanent layoff, thousand persons	Temporary layoff, thousand persons,	Employment, thousand persons	The Proportion of Job Losers in Employment, %
	A=B+C	B	C	D	E=A/D*100
1976	703	636	67	9,748	7.2
1977	816	749	68	9,917	8.2
1978	852	788	63	10,220	8.3
1979	813	755	58	10,669	7.6
1980	870	797	74	10,984	7.9
1981	905	830	76	11,305	8.0
1982	1,375	1,256	119	10,944	12.6
1983	1,398	1,313	86	11,022	12.7
1984	1,314	1,248	66	11,302	11.6
1985	1,239	1,182	57	11,627	10.7
1986	1,178	1,116	62	11,987	9.8
1987	1,105	1,047	58	12,333	9.0
1988	1,022	962	61	12,710	8.0
1989	1,011	951	61	12,996	7.8
1990	1,122	1,037	85	13,086	8.6
1991	1,395	1,295	100	12,857	10.8
1992	1,483	1,399	84	12,731	11.7
1993	1,426	1,346	80	12,793	11.1
1994	1,247	1,158	89	13,059	9.5
1995	1,197	1,102	95	13,295	9.0
1996	1,196	1,092	104	13,421	8.9
1997	1,030	943	86	13,706	7.5
1998	996	898	97	14,046	7.1
1999	946	859	86	14,407	6.6
2000	850	774	76	14,764	5.8
2001	895	806	89	14,946	6.0
2002	999	909	90	15,310	6.5
2003	999	908	91	15,672	6.4
2004	957	875	82	15,947	6.0
2005	926	847	80	16,170	5.7
Average Annual Growth Rate, %				Percentage Point Change	
81-89	1.39	1.72	-2.76	1.76	-0.2
89-00	-1.57	-1.85	2.02	1.17	-2.0
81-05	0.09	0.08	0.20	1.50	-2.3
81-04	0.24	0.23	0.36	1.51	-2.0
00-05	1.74	1.80	1.06	1.84	0.0

Source: Data for job losers, permanent layoff and temporary layoff from unpublished database in Statistics Canada Labour Division, May 24,2005.

Employment from Statistics Canada Labour Force Survey in CANSIM II: v2461119, August 2, 2006.

Appendix Table 2: Civilian Employment by Sectors in Selected OECD Countries, 2005
 (thousands)

	Civilian Employment in Agriculture	Civilian Employment in Industry	Civilian Employment in Service	Total Civilian Employment	The Proportion of Civilian Employment in Service Sector in Total Civilian Employment
Australia	365	2,129	7,493	9,987	75.0
Austria	210	1,053	2,550	3,813	66.9
Canada	440	3,564	12,166	16,170	75.2
Switzerland	159	991	3,032	4,182	72.5
Czech Republic	189	1,880	2,679	4,748	56.4
Finland	115	618	1,658	2,391	69.3
Japan	2,830	17,490	43,240	63,560	68.0
Korea	1,815	6,137	14,904	22,856	65.2
Denmark	83	653	1,963	2,699	72.7
Spain	1,001	5,637	12,335	18,973	65.0
Slovak Republic	105	859	1,252	2,216	56.5
Sweden	87	943	3,215	4,245	75.7
Hungary	194	1,264	2,398	3,856	62.2
Ireland	115	539	1,298	1,952	66.5
Italy	947	6,940	14,484	22,371	64.7
Norway	75	476	1,722	2,273	75.8
New Zealand	148	458	1,467	2,073	70.8
Poland	2,452	4,127	7,537	14,116	53.4
Portugal	606	1,567	2,921	5,094	57.3
OECD Total*	11,936	57,325	138,314	207,575	66.6

Source: OECD Statistics, Main Economic Indicators data, August 3, 2006.

Note: OECD Total only refers to the total of the numbers in 19 OECD countries presented in this table.

Appendix Table 3: Public Expenditures in Public Employment Services as a Percentage of GDP in OECD Countries, 1995-2004¹

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Australia ²	0.23	0.23	0.21	0.2	0.2	0.2	0.2	0.17	0.19	0.19
Austria	0.13	0.14	0.14	0.13	0.13	0.13	0.14	0.15	0.17	0.17
Belgium	0.22	0.2	0.19	0.21	0.2	0.18	0.21	0.21	0.22	0.23
Canada³	0.21	0.19	0.18	0.22	0.2	0.19	0.2	0.18	0.17	0.17
Czech Republic	0.1	0.09	0.08	0.08	0.09	0.08	0.07	0.07	0.08	0.12
Denmark	0.12	0.11	0.12	0.12	0.12	0.12	n.a.	0.26	0.27	0.32
Finland	0.16	0.15	0.14	0.13	0.15	0.11	0.12	0.14	0.16	0.2
France	0.15	0.16	0.16	0.16	0.17	0.18	0.18	n.a.	0.24	0.25
Germany	0.23	0.23	0.21	0.23	0.23	0.23	0.23	0.24	0.3	0.29
Greece	0.14	0.14	0.12	0.06	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Hungary	0.13	0.11	0.13	0.12	0.12	0.11	0.12	n.a.	0.11	0.1
Ireland	0.27	0.24	n.a.	n.a.	n.a.	n.a.	0.24	0.13	0.13	0.12
Italy	0.04	0.04	0.04	0.04	0.04	n.a.	n.a.	n.a.	n.a.	0.04
Japan ³	0.03	0.19	0.24	0.17	0.17	0.17	0.17	0.23	0.23	0.21
Korea	0.03	0.03	0.01	0.05	0.04	0.04	0.04	0.04	0.02	0.03
Luxembourg	0.03	0.03	0.03	n.a.	n.a.	n.a.	n.a.	0.04	0.04	0.04
Netherlands	0.37	0.39	0.32	0.31	0.28	0.26	0.28	0.32	0.34	0.32
New Zealand ²	0.13	0.15	0.15	0.12	0.15	0.12	0.12	0.1	0.12	0.12
Norway	0.18	0.16	0.15	0.15	0.15	0.12	0.13	0.13	0.12	0.13
Poland	0.01	0.02	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Portugal	0.1	0.1	0.11	0.11	0.11	0.11	n.a.	0.16	0.16	0.15
Slovak Republic	n.a.	n.a.	n.a.	n.a.	0.16	0.15	0.17	n.a.	n.a.	n.a.
Spain ⁴	0.09	0.08	0.07	0.07	0.11	0.1	0.1	0.06	0.05	0.08
Sweden ⁶	0.26	0.26	0.29	0.28	0.29	0.3	0.35	0.25	0.24	0.24
Switzerland	0.11	0.12	0.15	0.14	0.15	0.11	0.11	0.11	0.13	0.13
United Kingdom ^{3,5}	0.19	0.18	0.16	0.13	0.13	0.13	n.a.	0.38	0.36	n.a.
United States ⁷	0.07	0.06	0.06	0.06	0.04	0.04	0.04	0.04	0.04	0.04

Source: OECD Employment Outlook 1993-2006, Paris.

Note: 1 OECD Employment Outlook series may contain different versions of data for the same variable, only the newest version has been used here. For example, the number of public expenditures on the public employment services as a percentage of GDP in Austria for 2002 is 0.14% in Employment Outlook 2004, but becomes 0.15% in Employment Outlook 2005: we use the latter. 2 Fiscal year starts on July 1, thus the year here refers to the one that the fiscal year starts. For example, 2003 refers to July 1 2003- June 30 2004. 3 Fiscal year starts on April 1, thus the year here refers to the one that the fiscal year starts. 4 Data include expenditure on LMPs financed by the Autonomous Communities and municipalities. The methodology for collecting expenditure data for Spanish autonomous regions and municipalities changed in 2004, thus affecting comparisons with earlier years. 5 Excluding Northern Ireland. 6 Before 1995-1996, fiscal year started on July 1. From 1997, calendar year is used as fiscal year. Here 1995 only includes 6 months, from July 1, 1995 to December 31, 1995. 7 Fiscal year starts on October 1.

Appendix Table 4: Incidence of Long-term Unemployment in OECD Countries, 1994 and 2002-2005
as a percentage of total unemployment

Minimum No. of Months Unemployed	1994		2002		2003		2004		2005	
	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over
Australia	52.6	36.1	36.2	22.3	34.8	21.3	33.5	20.5	30.2	17.7
Austria	31.8	18.4	33.5	19.2	41	24.5	46.3	27.6	43.2	25.3
Belgium	75.2	58.3	67.3	49.6	64.7	46.3	68.9	49.6	68.3	51.6
Canada	32.7	17.9	18.5	9.6	18.3	10	17.8	9.5	17.2	9.6
Czech Republic	41.9	22.3	70.3	50.7	69.9	49.9	71.6	51.8	72.7	53.6
Denmark	54	32.1	33.3	19.7	40.9	19.9	45	22.6	43.8	25.9
Finland	n.a.	n.a.	41.7	24.4	41.4	24.7	40.8	23.4	41.8	24.9
France	61.7	38.5	53.4	33.8	62	42.9	61.3	41.6	61.2	42.5
Germany	63.8	44.3	64.8	47.9	68.5	50	67.6	51.8	71	54
Greece	72.8	50.5	72.4	52.7	74.3	56.3	74.4	54.8	72.6	53.7
Hungary	62.6	41.3	67.4	44.8	65.4	42.2	61.7	45.1	63.4	46.1
Iceland	32.2	15.1	24.8	11.1	21	8.1	21.3	11.2	n.a.	n.a.
Ireland	80.7	64.3	50.5	29.4	57	35.5	55	34.3	52.6	34.3
Italy	79.5	61.5	75.7	59.2	74.1	58.2	65.5	49.7	67.7	52.2
Japan	36.1	17.5	49	30.8	50.9	33.5	50	33.7	49.1	33.3
Korea	20.7	5.4	13.8	2.5	10	0.6	11.4	1.1	11.6	0.8
Luxembourg	54.7	29.6	46.8	27.4	42.6	24.9	44.8	20.8	51	26.3
Mexico	n.a.	n.a.	5.4	0.9	4.9	1	5.1	1.1	6.8	2.4
Netherlands	77.5	49.4	43.2	26.7	49.3	29.2	55.1	32.5	59.9	40.1
New Zealand	50.4	32.7	28.6	14.5	27.4	13.5	23.9	11.7	21.5	9.4
Norway	43.7	28.8	20	6.4	20.6	6.4	25.3	9.2	25.3	9.5
Poland	65.2	40.4	70	48.4	70.2	49.7	68.7	47.9	71.6	52.2
Portugal	57.2	43.4	54.5	35.5	57.8	32.8	65	43.2	69.3	48.6
Slovak Republic	63.9	42.6	77.5	59.8	76.4	61.1	77	60.6	81.4	68.1
Spain	73.4	56.2	59.2	40.2	59.6	39.8	58	37.7	47.7	32.6
Sweden	46.7	25.7	36.2	21	35.4	17.8	37.3	18.9	n.a.	n.a.
Switzerland	50.1	29	37.4	21.8	47.8	26.3	53.9	33.5	59.2	38.8
Turkey	68.9	45.9	45.5	29.4	39.9	24.4	56.9	39.2	55.6	39.6
United Kingdom	63.4	45.4	38.7	22.9	37.2	22.8	38.8	21.4	38.2	22.4
United States	20.3	12.2	18.3	8.5	22	11.8	21.9	12.7	19.6	11.8
EU-15	67.6	48.4	59.1	41.5	61.5	43.4	60.4	42.4	61.4	44.3
EU-19	66.9	47	62.1	43.6	63.7	45.1	62.5	44.1	63.8	46.4
OECD Europe	66.9	46.7	59.8	41.6	60.6	42.4	61.6	43.3	62.6	45.3
Total OECD	52.6	35.5	44.9	29.6	46.3	30.9	47.1	31.9	47	32.9

Source: OECD Employment Outlook 2006, Paris.

Appendix Table 5: Key Labour Market Statistics in Selected OECD Countries and Regions in 2005 (Persons aged 15-64 years)

Country or Region	Unemployment Rate	Labour Force Participation Rate	Employment Rate
Australia	5.2	75.4	71.6
Canada	6.8	77.8	72.5
Germany	11.3	73.8	65.5
Europe	9.1	68.1	61.9
G7 countries	7.2	72.5	67.3
United Kingdom	4.6	76.1	72.6
OECD countries	6.7	70.3	65.5
United States	5.1	75.4	71.5

Source: OECD Statistics.

Appendix Table 6: Unemployed Jobseekers (16 years and over) by Active Job searching Methods in the United States, 1994-2005

Total unemployed	Total Job seekers	Job searching Methods							Others	Average numbers of methods used
		Employers directly	Sent out Resumes or filled out applications	Places or Answer ads	Friends or Relatives	Public Employment Agency	Private Employment Agency			
Thousands of person									As a percentage of total job seekers	
1994	7,996	7,019	68.6	39.4	22.1	19.0	20.6	6.7	8.4	1.8
1995	7,404	6,375	65.3	45.1	18.5	17.3	18.8	6.5	7.9	1.8
1996	7,326	6,214	65.8	46.9	17.8	17.5	19.2	7.0	8.0	1.8
1997	6,739	5,808	64.9	48.4	16.9	16.1	18.7	6.9	8.1	1.8
1998	6,210	5,344	64.7	48.6	15.9	14.8	19.2	6.9	8.8	1.8
1999	5,880	5,032	65.4	49.4	14.5	14.0	17.6	7.0	9.7	1.8
2000	5,692	4,840	64.4	47.6	13.1	13.3	17.4	7.2	10.1	1.7
2001	6,801	5,734	62.5	51.4	15.7	15.6	19.2	8.5	11.4	1.8
2002	8,378	7,254	62.9	54.4	16.7	17.2	20.3	8.5	11.8	1.9
2003	8,774	7,653	63.8	54.6	17.2	18.8	20.6	9.0	12.2	2.0
2004	8,149	7,151	62.7	54.5	16.4	18.0	19.9	7.7	11.8	1.9
2005	7,591	6,657	60.6	55.4	14.8	17.7	18.3	6.7	11.1	1.9

Source: Bureau of Labour Statistics, Current Population Survey, Table 34, 1994-2005.

Note: 1 Data on the number of jobseekers and the job search methods used exclude persons on temporary layoff.

2 The jobseekers total is less than the total unemployed because it does not include persons on temporary layoff. The percent

using each method will always total more than 100 because many jobseekers use more than one method.

Beginning in January 2005, data reflect revised population controls used in the household survey.

Appendix Table 7: Unemployed Jobseekers (15 years and over) by Active Jobsearching Methods in Canada, 1976-2005

	Total un- employed	Total Job Seekers	Job Search Methods								Average numbers of methods used
			check with employ- ers directly	use public employ- ment agency	look at job ads	check with private employ- ment agency	check with check with friends or relative	placed or answer ads	use other methods		
in thousands of persons			As a percentage of total job seekers								
1976	744	675	63.6	58.0	37.6	5.5	3.6	12.1	14.3	0.9	2.0
1977	868	799	66.0	57.7	38.3	4.9	3.8	12.2	13.8	1.0	2.0
1978	934	871	68.1	53.7	38.0	4.1	3.2	11.5	12.8	0.9	1.9
1979	868	811	68.0	50.4	38.0	3.6	3.1	10.9	12.5	0.8	1.9
1980	895	822	69.3	48.7	37.7	3.6	3.1	10.7	12.6	0.7	1.9
1981	931	855	69.1	47.4	37.8	3.3	2.7	11.0	12.3	0.7	1.8
1982	1,358	1,239	69.4	48.5	45.0	3.8	3.3	12.6	14.0	0.8	2.0
1983	1,506	1,419	68.5	45.3	44.8	3.2	4.5	13.5	14.6	0.9	2.0
1984	1,446	1,380	68.6	42.1	43.8	2.7	3.9	13.4	14.6	0.8	1.9
1985	1,385	1,328	68.2	40.7	45.5	2.8	3.2	15.0	15.1	1.1	1.9
1986	1,286	1,223	68.4	39.1	45.3	2.7	2.9	14.7	15.9	1.1	1.9
1987	1,193	1,135	68.3	39.9	47.8	2.8	2.6	15.0	16.3	1.3	1.9
1988	1,070	1,009	68.2	38.0	48.7	2.8	2.2	13.3	16.0	1.6	1.9
1989	1,061	1,000	66.2	36.9	50.2	2.8	2.1	14.3	15.8	1.6	1.9
1990	1,158	1,073	67.5	38.3	52.2	3.3	2.6	15.1	18.1	1.6	2.0
1991	1,479	1,379	68.5	39.7	56.9	3.8	3.2	16.7	18.5	1.4	2.1
1992	1,605	1,519	68.4	37.5	57.3	3.5	2.8	19.3	18.9	1.7	2.1
1993	1,642	1,563	67.0	36.4	57.7	3.6	3.0	21.1	19.2	1.8	2.1
1994	1,515	1,425	66.3	35.9	54.7	3.6	2.6	24.9	18.2	2.3	2.1
1995	1,394	1,298	64.6	32.9	49.5	3.6	2.0	20.4	16.9	2.4	1.9
1996	1,432	1,328	66.3	31.2	48.3	3.8	1.6	20.3	16.3	2.8	1.9
1997	1,373	1,288	66.6	30.6	45.7	5.1	1.9	21.0	18.1	3.5	1.9
1998	1,270	1,173	68.0	31.2	47.4	5.7	1.9	23.6	20.1	4.5	2.0
1999	1,182	1,096	67.3	31.7	49.5	6.7	2.0	26.5	21.8	5.9	2.1
2000	1,083	1,008	58.9	28.4	47.7	6.9	1.9	24.5	23.4	10.4	2.0
2001	1,164	1,075	51.5	27.5	46.9	7.9	2.6	21.1	28.0	12.4	2.0
2002	1,269	1,179	54.3	24.5	46.2	7.8	2.3	21.9	25.9	19.0	2.0
2003	1,286	1,195	54.0	22.1	45.3	7.4	2.0	20.3	23.6	18.8	1.9
2004	1,235	1,153	53.9	21.4	44.1	6.8	1.8	18.3	22.8	19.4	1.9
2005	1,173	1,093	49.5	18.8	43.0	6.3	1.4	15.9	23.4	21.6	1.8

Source: Statistics Canada, CANSIM II: Labour Force Survey Table 282-0050:
v2352742,v2352743,v2352744,v2352745,v2352746,v2352747,v2352748,v2352749,v2352750,v2352751,v235275
2,v2352753,v2352754.

Note: 1 Data on the number of jobseekers and the jobsearch methods used exclude persons on temporary layoff.

2 The jobseekers total is less than the total unemployed because it does not include persons on temporary layoff. The percent using each method will always total more than 100 because many jobseekers use more than one method