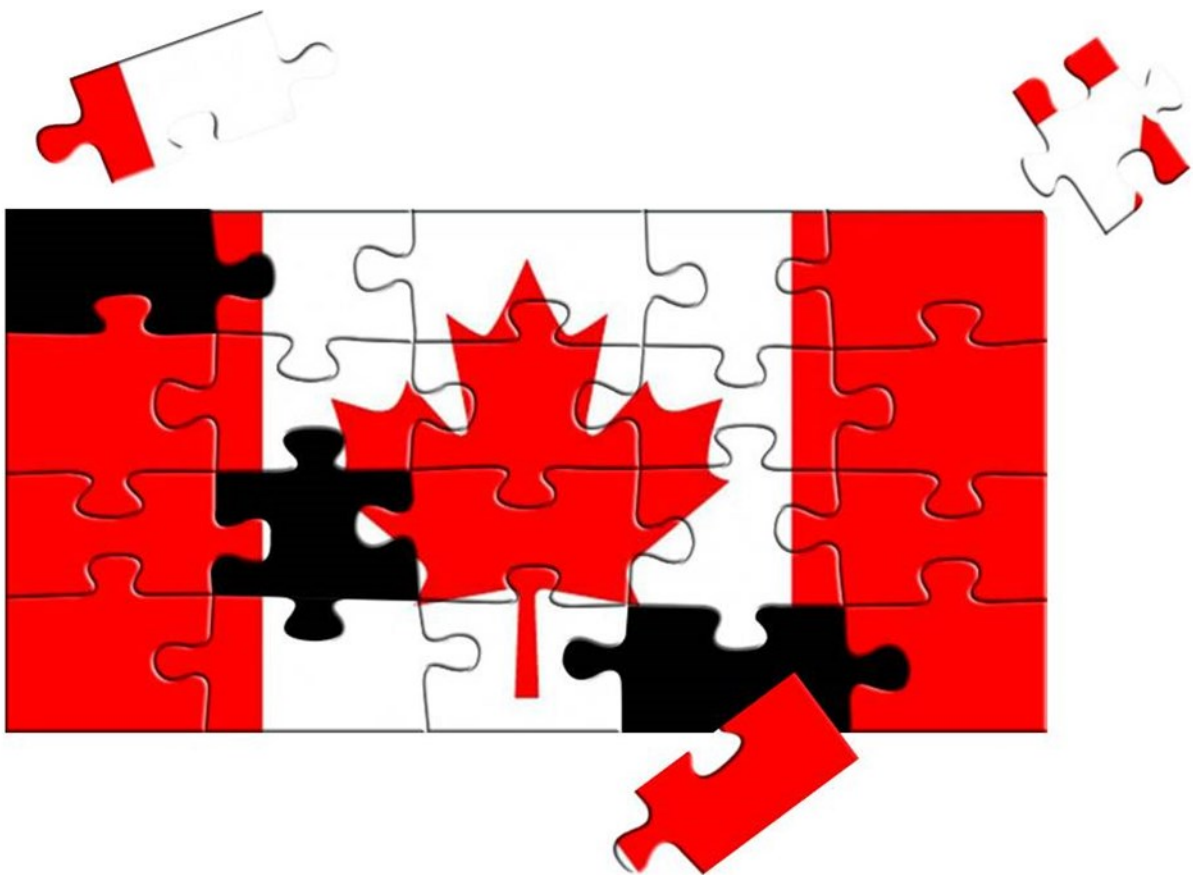


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# II

## **The Great Canadian Skills Mismatch: People Without Jobs, Jobs Without People and MORE**



Rick Miner, Ph.D.

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## **Executive Summary**

According to David Foot and Daniel Stoffman, two internationally renowned demographers, “Demographics explain about two-thirds of everything.” (1996, page 2). Yet, in the case of Canada’s labour market future, one might reasonably push that estimate into the 80th percentile. The 2010 and 2012 reports published by Miner, in the *People Without Jobs, Jobs Without People* series, investigated the impact of the baby boomer generation exiting the workforce resulting in significant labour force shortages for Canada.

Since the publication of these reports almost four years ago, a number of dramatic shifts have occurred that warrant a re-analysis of the earlier findings. The changes of most significance are:

- Labour force participation rates for those 55 and older have increased.
- A number of new immigration programs, targeting younger immigrants with employable skills, have been established.
- Labour force demand projections have decreased.
- Canadian educational attainment levels are higher than previously projected.
- Retirement benefit provisions are moving eligibility from 65 to 67 years.

Using this and updated Statistics Canada information, the data show that shortages still exist and are far from trivial. Rather than needing an additional 2.7 million workers by 2031, the shortage is now forecasted to be a little less than 2 million. Similarly, projected skills shortages drop significantly from 4.2 million to 2.3 million because of increased educational attainment levels, but a major problem will still exist.

To address these shortages we need more workers and we need them to have the right skill sets. To increase the size of our work force, it is best to look for employment growth opportunities among those who have historically been under represented in the work force. These are immigrants, aboriginals, persons with disabilities, women, youth and older

workers. Yet, we must be cognizant of the fact that these skill increases need to correspond to areas where skill shortages exist, and not to areas where there are surpluses. Earlier, it was assumed that simply having an educational attainment level beyond high school would be sufficient to meet employers' skill requirements. This assumption was far too simplistic, and a simple increase in educational attainment will not automatically resolve the skills mismatch problems that do and will exist.

Although the debate over the existence or non-existence of skills mismatches rages on, many are considering only the supply-demand mismatches. We actually have multiple skills mismatches. These are:

- Supply-demand mismatches
- Geographical mismatches
- Under-employment (over-skilled) mismatches
- Under-skilled/over-employment mismatches

So, we have multiple mismatches requiring a variety of solutions. First and foremost, we need to increase the overall size of our labour force. To do this, as mentioned previously but worth repeating, we need to concentrate our efforts on increasing labour force participation rates among under-represented groups. Using a “what if analysis”, the report investigates a variety of options for achieving such increases and shows that with even modest levels of growth in each under-represented group, we could add another 1.1 million people to the work force by 2031, thus reducing our labour shortage to 858,000. More aggressive targets would actually achieve a surplus of labour. Various policy options are presented.

So, our numerical shortage is solvable, but we still need to avoid the skills mismatches by having more of the right people with the right skills in the right place at the right time. To do this, to get the right skill matches, we need to make a number of significant changes. These include:

- Drastically improving our labour market information (LMI) systems.
- Developing a national education and training strategy.

- With good data, establish “mandatory” career counselling opportunities for all high school students (perhaps even earlier), their parents, teachers and administrators.
- Investing in basic literacy and employability skills training.
- Implementing a variety of changes to our post-secondary system to make it more accessible, flexible, responsive, relevant and affordable.

Employers also need to become more active participants by offering more co-op and internship opportunities, providing targeted financial support for post-secondary institutions offering programs of anticipated job growth, improving hiring practices by concentrating more on competencies than credentials, expanding on-the-job training programs, and being more forthcoming about actual and anticipated job growth.

Governments, aside from also being large employers, also have critical roles to play by disproportionately investing in post-secondary institutions that are providing the educational/training needed for the economy to expand, “forcing” institutions to re-align the balance between their research and teaching mandates, working with educational institutions to help eliminate the perceived educational hierarchy, and investing in significantly better LMI systems.

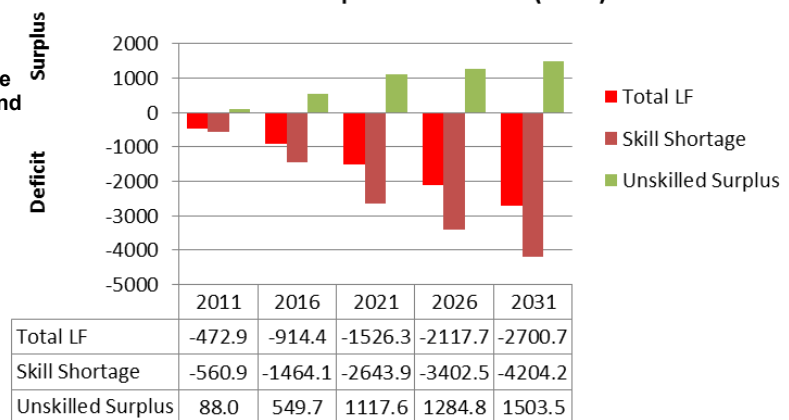
Demographic changes, along with increased skill requirements, are the origin of our current and future labour force challenges. We will need to BOTH increase the size of our labour force and also insure that we avoid skills mismatches by aligning our educational attainments to the labour force needs that will arise. Success will ultimately require concerted and cooperative efforts between businesses, governments and educational institutions to address and resolve these problems. Resistance to change will be encountered, but a solution to these problems will give Canada a significant economic and social advantage.

## Introduction

In 2010, the *People Without Jobs, Jobs Without People* reports (one for Canada and another for Ontario) were published by Miner (2010a, 2010b). Both investigated the labour market implications brought about by an aging society and the movement from a labour to a knowledge/skill based economy. The findings were disturbing. Assuming a medium population growth, historical labour force participation rates, and conservative projections regarding the need for skilled workers, the results showed both a significant shortage of skilled workers and an increased number of workers who would not have the skills necessary to qualify for the jobs emerging in the new knowledge/skill based economy.

As can be seen in Figure 1, the 2010 projections for Canada showed a labour shortage (red bar) rising slightly from about a half million in 2011 to 2.7 million by 2031. As well, an increased skills shortage (mauve bar) was apparent rising from over half million in 2011 to over 4 million in 2031. Finally, a noticeable and increasing surplus of unskilled workers (green bar) was projected increasing from 88 thousand in 2011 to 1.5 million by 2031. The social and economic consequences of such changes are obviously significant. This is where we stood in 2010.

**Figure 1. Canada Labour Force Balance: Medium Population Growth (2010)**



In the past four years a number of significant changes, both positive and negative, have

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occurred that warrant a re-evaluation. Of particular note:

- After years of relatively stable labour force participation rates, older workers (55+) have decided to stay in the work force longer.
- New immigration policies have come into effect which should positively impact the number of immigrants entering the workforce and finding employment. Changes in both the Canadian Experience Class (CEC) and the newly initiated Foreign Skilled Worker (FSWP) and Foreign Skilled Trade Worker Programs (FSTWP) are meant to increase labour force participation rates by better aligning immigrant skills with labour force demands.
- According to the Organization of Economic Co-operation and Development data (OECD, 2013a) and 2011 Canadian National Household Survey data (Statistics Canada, 2013a) Canada continues to achieve higher and higher levels of educational attainment which have surpassed the 2010 projections.
- Revised Canadian population projections have been published by Statistics Canada.
- While the eventual impact is still years ahead, the recent decisions to increase educational expenditures for aboriginals and persons with disabilities should positively impact the ability of both groups to find skilled employment.
- High school graduation rates continue to climb and are now reported to be over 80% (OECD, 2012).
- More attention is being paid to the importance of adult literacy which should provide a better foundation for the advanced training and educational needs of a knowledge/skill based economy. Yet, recent OECD data show Canada's literacy rates declining relative to others (OECD, 2013b).
- The federal government has initiated a number of Employment Insurance (EI) related policies that have the potential to increase the size of the work force and/or reduce unemployment. Individuals will now have to accept jobs that they can do, even if the jobs are outside their primary occupational areas, and accept jobs where the compensation is lower than they have historically

made. While very controversial, these changes could have an impact on employment levels.

- As has already occurred in Europe, the realities of an older demographic and its relationship to retirement support have become apparent. It is being increasingly recognized that society's ability to financially support individuals who are living longer and longer has its limits. For this reason the age for receiving Canada Pension Plan benefits will be increased from 65 to 67 years. While this change will be phased in over the next decade, the "message has been sent", and people recognize that retirement assumptions need to change. As people work longer, labour force participation rates should increase.
- Slowly, but discernibly, the number of apprenticeships are increasing as the skills shortage becomes more apparent and the value of these jobs is recognized.

The previous changes are seen to largely have a positive impact on labour market size and the skill shortages problems, but not all changes, as with the declining literacy rates mentioned earlier, are in a positive direction. For example, labour force participation rates for younger workers have decreased. This will have a negative impact (i.e., smaller work force), but the explanation for this decrease seems to be related to increases in university and college enrolments which should positively impact on our skill needs, provided enrolments align with work force shortages. Another "negative" change has been the slower than anticipated economic recovery which has resulted in a projected decreased demand for labour.

In 2010, a desirable educational skills level was defined as a level of education and/or training beyond high school. As will be discussed, it is now apparent that this was far too simplistic a definition. As a result, we will not only have a shortage of labour, but we will also have more and more skill mismatches. Research evidence shows that in addition to supply-demand shortages, we have a huge under-employment problem. Hiring university graduates for less skilled positions creates an under-employed class who are taking jobs away from others (say high school graduates) who are well qualified for that type of work but remain unemployed/under-employed because the work they can do is being done by someone who is over qualified. As a result we end up with frustrated and disillusioned youth who cannot find

work commensurate with their skills and abilities. When combined with the geographical mismatches, surpluses in one part of the country and shortages in another, and conditions of over employment, the concept of skills mismatch gets far more complex than a simple shortage of skilled labour.

### **Reworking the Numbers**

In order to consider the impact of the changes to the labour market, the basic assumptions underlying the earlier analysis need to be updated, and estimates need to be provided regarding the anticipated impact of the various changes that were presented earlier (immigration, changing labour force participation rates, educational attainment level changes, etc.). The assumptions used to generate each new projection will be made clear so that those feeling the estimate is too liberal or too conservative can make their own adjustments.

### **Demographic Projections**

Statistics Canada (2010) routinely reviews and updates its predictions of Canada's future demographic profile using seven models that vary largely around immigration, fertility rates and death rate assumptions. For our purposes we will use the medium population growth model (M3) as our best estimate of Canada's demographic future.

### **Labour Force Demand**

The most recent labour force demand projections by Human Resources and Skills Development Canada (HRSDC, 2012) assume a growth rate of 1.8% in 2011 declining to 0.7% by 2020. In order to allow for an analysis of the data through 2031 it has been very conservatively assumed that the 0.7% rate will remain constant over the remaining period (2020-2031).

### **Labour Force Participation Rates**

As can be seen in Table 1, labour force participation rates have changed somewhat in the last five years. There has been an increased participation rate among those who are 55 years of age or older with specific increases of 3.5% (55-59), 4.6% (60-64) and 3.7% (65+) for each age

group. Yet, on the other end of the spectrum, there have been decreases of 5.7% (15-19) and 2.3% (20-24) among younger workers. For the purpose of our re-analysis, the 2012 numbers (Statistics Canada, 2013) are the most current annual numbers available and will be used. This will allow us to compare the 2010 assumptions (2007 data) with the revised figures.

**Table 1. Canadian Labour Force Participation Rates (2012 vs. 2007)**

Age group (years)	2007	2012	difference
15-19	55.2	49.5	-5.7
20-24	78.4	76.1	-2.3
25-29	86.1	85.9	-0.2
30-34	87.6	86.8	-0.8
35-39	87.8	87.6	-0.2
40-44	87.7	88.1	0.4
45-49	86.8	87.1	0.3
50-54	83.7	84.4	0.7
55-59	70.6	74.1	3.5
60-64	47.1	51.7	4.6
65+	8.9	12.6	3.7

Source: Statistics Canada, 2013

### **Educational Attainment**

In 2010, it was assumed (Miner 2010a) that Canada would have a labour force skill availability of 62% increasing to 66% by 2031. Research (OECD, 2012) now shows a Canadian high school graduation rate of 81% (first time success rate) and a combined post-secondary completion rate of over 67% for younger workers (25-34 years). It is clear that our success in educational attainment has exceeded the earlier projections. A recent release of the 2011 Canadian Household Survey results (Statistics Canada, 2013a) show similar completion rates. So we know youth labour force participation rates are going down. We know high school graduation rates are going up and we know that university and college enrolments are increasing even with fewer high school graduates.

Given these findings, for this discussion, it is now assumed that in 2011 we had a labour force skill availability of 64% and that this number will increase by 1% per year for each five year period reaching 68% by 2031.

### New Job Skill Requirements

It was assumed in earlier Miner reports that the educational attainment level for new jobs would be at 70% in 2011 rising to 80% by 2031. Since that time HRSDC (2012) has raised its projected skill requirement for new jobs from 65% (HRSDC, 2007) to 75%. British Columbia indicates the need for an overall attainment level of 80% (British Columbia, 2010) and Ontario wants an overall attainment level of 70% by 2021 (McGuinty, 2010). Using these upward revisions, one could probably build the case for increasing the earlier estimates of the new skill levels required for our new economy. Yet it will continue to be assumed that the earlier projection of 70% in 2011 rising at 2.5% intervals every five years to 80% in 2031 is still appropriate. It could be well argued that these assumptions are too conservative and that view is accepted.

Table 2 provides an overview of the assumptions being used in the re-analysis of our labour market present and future.

**Table 2: Analytical Assumptions**

Variables	Assumptions
Demographics	Statistics Canada Model M3
Labour Force Participation Rates	2012 rates (Statistics Canada, 2013)
Labour Force Demand	HRSDC Projections (2012) at 1.8% for 2011 falling to 0.7% by 2020 and constant at that rate through 2031
Educational Attainment	At 64% in 2011 and rising by 1% per five year period to 68% by 2031
Educational Demand (New Jobs)	70% in 2011 rising by 2.5% per five year period reaching 80% by 2031

### Findings

Figure 2 provides the results of the new *People Without Jobs, Jobs Without People* data using the revised assumptions. As can be seen, shortages still exist but they are not as pronounced as the 2010 projections.

**Figure 2. Canadian Labour Force Balance: Medium Population Growth**

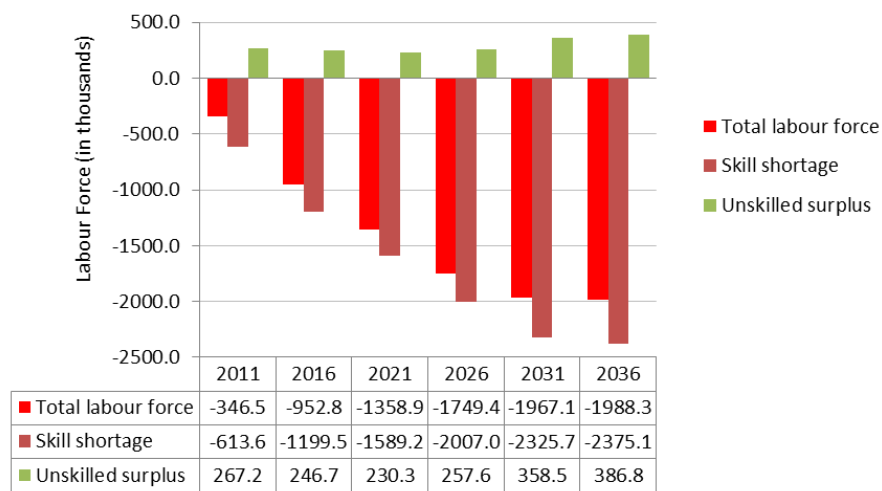


Table 3 provides a comparison of the 2010 and 2014 findings. Things have changed largely for the better but significant shortages still exist. The results indicate that our overall labour force shortage in 2031 will be 1.96 million compared to the earlier projection of 2.7 million. As for the skills shortage, it dropped from 4.2 million to 2.3 million. Finally, the number of additional “unskilled” workers drops from 1.5 million to a little less than 400 thousand. While things are not as bad as earlier predicted, we still end up with labour force shortages, skill shortages and increased levels of unemployment. Corrective action will need to be applied to avoid a social and economic crisis. As will be discussed, we will also need to better match the skills we have with the skills we need.

**Table 3. Labour Force Projection Comparisons: 2010 - 2014**

<b>Current and Previous Projections</b>	<b>2011</b>	<b>2016</b>	<b>2021</b>	<b>2026</b>	<b>2031</b>
New Labour Force Shortage Projections (2014)	-346.5	-952.8	-1,358.9	-1,749.4	-1,967.1
Previous Labour Force Shortage Projections (2010)	-472.9	-914.4	-1,526.3	-2,117.7	-2,700.7
Difference	-126.4	38.4	-167.4	-368.3	-733.6
New Skills Shortage (2014)	-613.6	-1,199.5	-1,589.2	-2,007.0	-2,325.7
Previous Skills Shortage (2010)	-560.9	-1,464.1	-2,643.9	-3,402.5	-4,204.2
Difference	52.7	-264.6	-1,054.7	-1,395.5	-1,878.5
New unskilled Surplus (2014)	267.2	246.7	230.3	257.6	358.5
Previous Unskilled Surplus (2010)	88.0	549.7	1,117.6	1,284.8	1,503.5
Difference	179.2	-303.0	-887.3	-1,027.2	-1,145.0

**Options and Implications**

Let's now consider some of the things we should be doing and some of the things that need to change. In doing so, the data and assumptions will be laid out in such a way that one can easily insert their own views and determine their own estimates of the changes that will be needed and can be achieved.

**Literacy**

As we move more and more toward a knowledge and/or skilled based economy, basic literacy levels become the essential foundation upon which subsequent advanced education/training can be built. Currently, it is estimated that 40% of our population (ABC, 2009) have literacy difficulties and this figure rises to 60% for immigrants.

A recent OECD study (2013b) seems to confirm these earlier findings. Even more disturbingly, the study finds that Canada's literacy rate for 16 to 24 year olds is below the OECD average. Yet, when we consider ways of increasing the size and skills of our work force with the educational attainment levels we want, it is those who have historically had greater literacy challenges (immigrants, older workers, aboriginals, persons with disabilities) who hold the most promise for providing the number of workers required. So, dealing with our literacy challenges, early on, is an issue which underpins many of the options that follow.

**Immigrants**

Many see immigration as the "silver bullet" for our labour force problems. Over the last decade, we naively assumed that if we encouraged more and more academically

qualified immigrants to come to Canada, we would not only increase the size of our workforce, but also populate it with the type of employees that Canadian businesses needed. Unfortunately, the dreams and aspirations of those we encouraged to come to Canada encountered a disturbing reality. As can be seen in Table 4 (Statistics Canada, 2012) it takes over ten years for the employment rate of immigrants to reach a level close to that of individuals born in Canada. The obvious question is "Why should well qualified people entering the Canadian labour market have such difficulties finding suitable employment?" The answers are now apparent and revolve around a lack of recognition of foreign credentials, real or perceived language competency issues and the lack of Canadian work experience. The result is that some very highly qualified individuals are either unemployed or working well below their skill and knowledge levels (i.e. under employed).



**Table 4. Immigrant vs. Born in Canada Employment Rates: 25 - 54 Years of Age**

Labour Force Participation Rate	Canadian <sup>1</sup>	Immigrant <sup>2</sup>		
		Very Recent	Recent	Established
	83.2%	66.4%	75.1%	80.3%

<sup>1</sup> Born in Canada

<sup>2</sup> Very Recent = 5 years or less

Recent = 5 to 10 years

Established = 10 years or more

Source: Statistics Canada, 2012 <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/labor91a-eng.htm>

In response to these issues the Government of Canada has developed three new programs which should impact positively on immigrant employment. The first, Canadian Experience Class (CEC), targets students undertaking PSE study in Canada. It is structured in such a way that a student attending and graduating from a Canadian PSE institution is allowed to stay and work in Canada and then apply for permanent residency status without leaving the country. In 2011, Citizenship and Immigration (CIC) reported that there were 98,387 foreign students in Canada (CIC, 2013). The numbers continue to increase and the federal government plans to increase international student enrolment to 450,000 by 2022 (Bradshaw, 2014) which should result in significantly more CEC applicants. It is evident that international graduates of Canadian PSE institutions should avoid the pitfalls experienced by earlier immigrants as their credentials should be recognized, their language proficiency should be high, and their post-graduation work experience should give them appropriate Canadian work experience. One could, therefore, reasonably assume they will have a much higher employment rate than previous immigrant cohorts.

The two other new programs are the Foreign Skilled Worker and Foreign Skilled Trade Worker Programs. Just having been announced, their mechanics are still a work in progress, but the intent is to match skilled immigrants with areas of occupational shortages. Conceptually, CIC working with Employment and Social Development

Canada (ESDC; formerly HRSDC), and the provinces, would develop a list of occupations in which shortages exist. Ideally, this list would be updated frequently. Canada would then “encourage” foreign applicants with the skills in demand to apply for citizenship. Along with language consideration and the existence of a “firm” job offer, these applicants would be expedited to meet our skill needs. At present, the programs are projected to attract 50-60,000 immigrants annually. Given the close fit between skills and jobs, one would expect to see higher immigrant employment rates as a result.

In order to make some defensible estimates of how many additional workers might enter Canada’s workforce as a result of these new programs, the following assumptions are made:

- On average, individuals in the new programs will achieve employment outcomes equal to persons born in Canada.
- Most will be young and/or working age (25 to 54 years).
- At full implementation, the three programs will have approximately 73,000 participants annually.
- As there is no projected increase in overall immigration numbers, (currently approximately 250,000/year), these new entrants will replace the economic immigrants who would otherwise have been admitted to Canada as shown in Table 5 (CIC, 2013b).

**Table 5: Canadian Immigration Patterns**

Category	2009	2010	2011	2012
Family Class	65,207	60,224	56,447	65,008
Economic Immigrant	153,492	186,918	156,118	160,008
Refugee	22,850	24,697	27,873	23,094
Other	10,624	8,852	8,308	8,961

The most recent annual data (Statistics Canada, 2013b) show that for 25 to 54 year olds born in Canada, the labour force participation rate is 83.2%. If one assumes the immigrants in these new programs will achieve this level of labour force participation, one must recognize that they are not net “new” additional immigrants but rather they are “replacing” people who would have arrived in Canada under existing programs. Hence, the overall labour force participation impact is the difference between employment levels for the previous vs. new immigrants. Table 6 provides the result of these changes and two other projections (improving labour force participation rates among “traditional” immigrants by 5% and increasing the number of net new skilled immigrants by 50,000 annually).

increase the labour force by 57,751 by 2031. The most significant change would be an overall annual increase in immigrant levels by 50,000 skilled immigrants. Using a labour force participation rate of 83.2%, this would result in an overall increase of 624,000 skilled workers through 2031. Of course, while such a policy change would result in an immediate impact, one must also recognize that it could adversely impact (reduce job opportunities) the other under-represented groups that will be discussed.

### Older Workers

As previously mentioned, labour force participation rates among older workers are increasing. The obvious questions are: how much more will they increase and what will be the impact on Canada’s labour force? Table 7 provides a glimpse into the

possibilities. Using United States labour force participation rates for those 55 years and older as a proxy for our future, two projections are provided. The first assumes that by 2021 we will achieve the US labour force participation rate average, currently 65.6% for those 55-64 years and 18.4% for those 65 years and older (compared to Canadian rates of 62.9% and 12.6%, respectively). The second assumption is that these levels will be achieved by 2026. As can be seen below, such changes would result in a labour force increase of at least 147,606 by 2026, with the more aggressive projection resulting in more available workers even earlier.

**Table 6. Immigration Policy Changes: Labour Force Implications**

Programs	2011	2016	2021	2026	2031
Projected CEC,FSW, FSTWP Intake (1)	0	242,000	365,000	365,000	365,000
Projected Labour Force “Growth” (2)	0	40,656	80,923	90,885	90,885
Improve LFP Rates for “Traditional” Immigrants (3)	0	5,774	34,644	57,741	57,751
Admit Additional 50,000 FSWs, CECs, FSTWPs in 2016	0	41,600	249,600	416,000	624,000

**Notes:**

1. Assumes an intake of 10,000 in 2012, 32,000 in 2013, 54,000 in 2014 and 73,000 in 2015 there after.
2. Assumes targeted immigrants labour force participation rates equal to the Canadian average for 25-54 year olds (83.2%) increasing participation rates by 16.8% (83.2%-66.4%) for their first five years and 8.1% for the next five.
3. Assumes an annual intake of 188,481 (2011) between 15-64 , less FSWs, FSTWP and CECs, and increasing LFP by 5% beginning in 2016 for first ten years in Canada

The overall result of these new programs, at current intake levels, is projected to increase the labour force by 90,885 skilled workers by 2031. A 5% improvement in employment among the remaining “traditional” immigrants is projected to

**Table 7. Potential Impact of Increased LFP Rates for those 55 and older**

Projections (1)	2011	2016	2021	2026	2031
LFP Rates for those 55 and over equal the current US Average by 2026	0	37,767	95,039	147,606	152,585
LFP Rates for those 55 and over equal the current US Average by 2021	0	64,188	141,514	147,606	152,585

Note 1: Increases are equally distributed over each five year period involved.

## Aboriginals

The aboriginal population represents one of the fastest growing demographic groups in Canadian society. Hence, it provides a potential solution to some of the labour force participation and labour force size issues previously discussed. Recent trends however, indicate that aboriginal employment is more adversely affected by economic downturns than that of the non-aboriginal population. For example, the Centre for the Study of Living Standards (2012) found that in 2011, aboriginals living off reserve had unemployment rates 5.6% higher (12.9% compared to 7.3%) than non-aboriginal Canadians. In 2009, for workers 25 to 54 years, employment rates fell by 2.8% (7,300) in 2008 and 4.9% (12,400) in 2010 for aboriginal workers (Statistics Canada, 2011).

Ultimately, improvements in labour force participation among aboriginals will be based on

an educational strategy resulting in significantly higher literacy rates, more high school graduations and ultimately, increased participation and success in post-secondary programs. At the lower end of these educational objectives, some success is being made already, in that higher high school graduation rates are being reported. This is certainly encouraging, but with the movement to a knowledge/skill economy there will need to be increased success in the post-secondary system as well. While some increased investment in post-secondary aboriginal success was announced in the 2012 Federal budget (Flaherty, 2012), a lot more will still need to be done to achieve the levels of success that will be required.

Table 8 shows the labour force impact if we were able to achieve labour force participation rate increases for aboriginals equal to those of the non-

**Table 8. Projected Aboriginal Labour Force Participation Rate Targets**

Projections (1)	2011	2016	2021	2026	2031
Aboriginal LFP Rates equal the non-aboriginal rates by 2031	0	21,483	45,160	72,779	103,486
Aboriginal LFP Rates equal the non-aboriginal rates by 2026	0	28,654	60,201	97,043	103,486

Note 1: Increases are equally distributed over each five year period involved.

aboriginal population by 2026 and 2031. If we were able to achieve either of these objectives, our work force would increase by over 100,000 by 2031. The more aggressive objective (2026 target) would result in increases of over 60,000 and 100,000 by 2021 and 2026, respectively.

### Persons with Disabilities

As with the aboriginal education and employment issues, there has recently been more attention paid to such issues facing persons with disabilities and their role in the Canadian labour force. Unfortunately, as with the aboriginal population, there needs to be more investment in this area to achieve the results that persons with disabilities deserve. Table 9 shows there is a huge potential opportunity to improve our labour force outcomes if we can find ways to get persons with disabilities more fully integrated into the work force. To consider the options, the first and more defensible project would be to reduce the labour force participation gap between persons with and without disabilities by 25%. The second and admittedly more aggressive assumption would be to reduce this gap by 50%. The implications are striking: achieving the 25% reduction would increase the Canadian labour force by 137,644 workers by 2031, and the more aggressive target would result in an increase of 275,289 workers by that year.

**Table 9. Projected Labour Force Participation Rate Targets for Persons With Disabilities**

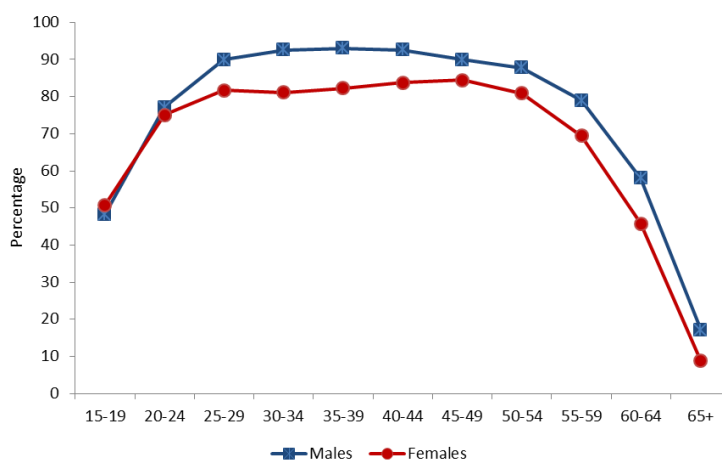
Projections (1)	2011	2016	2021	2026	2031
The LFP Rate Gap will be reduced by a quarter by 2031	0	34,411	68,822	92,173	137,644
The LFP Rate Gap will be reduced by half by 2031	0	68,822	137,645	184,346	275,289

Note 1: Increases are equally distributed over each five year period involved

### Women

One of the most promising opportunities, in numerical terms, is increasing female labour force participation rates. In our society women have disproportionately assumed the child-rearing responsibilities which has resulted in historically lower labour force participation rates as compared to those of men. As can be seen in Figure 3, female participation is lower than male participation in virtually every age group.

**Figure 3. Canadian Participation Rates by Gender and Age**



Source: Statistics Canada 2012

Yet, given the size of the female population, even small changes in labour force participation rates could result in significant increases in the labour force. Table 10 demonstrates this reality if we were to assume the gap between male and female labour force participation rates was to be reduced by either 50% or 75% by 2031. With the lower objective, the size of the Canadian labour force would increase by 466,000, and increase by almost 700,000 with the higher target. Obviously, these are huge numbers and would go a long way toward lessening our projected labour force shortages, but they would also require significant changes in the way

**Table 10. Potential Female Labour Force Participation Rate Targets (15-64)**

<b>Projections (1)</b>	<b>2011</b>	<b>2016</b>	<b>2021</b>	<b>2026</b>	<b>2031</b>
Female LFP Rate gap reduced by half the Male Rate by 2031	0	111,303	225,594	342,858	466,112
Female LFP Rate gap reduced by 3/4s of the Male Rate by 2031	0	166,985	338,390	514,287	699,168

Note 1: Increases are equally distributed over each five year period involved.

we deal with child rearing and families. Ontario and Quebec have been “experimenting” in this area. In Quebec, (Fortin, Godbout and St-Cerny, 2012) it is reported that a program providing improved child care support resulted in an increase of 70,000 women in the labour force. Although it is too early to gauge the implication, it will be interesting to see if Ontario’s decision to implement full day junior and senior kindergarten will result in changes in female labour market participation rates in that province.

### **Youth**

The sooner we can get young people successfully integrated into the labour force, the better it will be for us and for them. While trends showing higher university and college enrolments are obviously positive, it is also evident that our post-secondary system is not as well structured as it could be. Students are forced to make decisions far too early, and too many programs have only loose connections to employment opportunities. Little good career counseling is available or widely-used, resulting in students making decisions on no, poor or out-dated information. As a result, students are staying in the post-secondary system far too long. And, they are accumulating higher and higher levels of debt. Both they, and their parents are becoming more critical of the system.

Even modest efficiencies would make a big difference. For example, a 5% improvement would result in 100,000 students entering the job market

a year earlier. A 10% increase would double that number. Given the opportunities to better coordinate university and college programs, drastically improve credit transfer arrangements, increase monetary support for students to finish their programs earlier, offer better career guidance, and more and better program integration, it does not seem to be unreasonable to assume that a 5% or even a 10% level of improvement could be achieved.

As mentioned earlier (Miner, 2012) and reiterated recently (Coates and Miner, 2013) our post-secondary system is an area with huge potential, but one that is very resistant to change. As a result, students often spend too much time in post-secondary studies that have very little relationship to labour force needs, resulting in high student debt, frustrated youth, discouraged employers, and angry parents. Very quietly, the Canadian government recently “wrote off” almost three-quarters of a billion dollars in uncollectable student loans (Woods, 2013).

### **Overview**

Up to this point we have looked at a variety of options for increasing the size of our workforce. Admittedly, some will be more difficult to achieve than others, but from a policy perspective it is important to not only understand the magnitude of the problems, but also to understand the magnitude of the potential solutions. Table 11 summarizes each of the options that have been considered and their numerical impact.

**Table 11. Policy Considerations**

Options	2011	2016	2021	2026	2031
Projected Shortages	346,500	952,800	1,358,900	1,749,400	1,967,100
FSW, FSTWP, and CEC Changes	0	40,656	80,923	90,885	90,885
Improved Immigrant LFP Rates	0	5,774	34,644	57,741	57,741
Increased FSW/CEC /FSTWP Immigrants (50,000)	0	41,600	249,600	416,000	624,000
Aboriginal LFP Rate Increase by 2031	0	21,483	45,160	72,779	103,486
Aboriginal LFP Rate Increase by 2026	0	28,654	60,201	97,043	103,486
Disability LFP Rate Increases by 1/4	0	34,411	68,822	92,173	137,644
Disability LFP Rate Increases by 1/2	0	68,822	137,645	184,346	275,289
Female LFP Rate Increases by ½	0	111,303	225,594	342,858	466,112
Female LFP Rate Increases by 3/4	0	166,985	338,390	514,287	699,168
Youth LFP Rate Increases	0	100,000	100,000	100,000	100,000
Older Worker LFP Rate Increases to US by 2026	0	37,767	95,039	147,606	152,584
Older Worker LFP Rate Increases to US by 2016	0	64,188	141,514	147,606	152,584

Table 12 looks at the projected shortages and then calculates the labour force impact if we were able to achieve the lowest and the highest levels of labour force change in each under-represented group. Admittedly, we could “mix and match” these estimates depending on their perceived likelihood of being achieved, and it is for this reason that readers are provided with detail on all options in order to make their own projections.

Before proceeding, it is critically important to make everyone aware that this approach does result in some **DOUBLE COUNTING** and thus, caution needs to be taken. For example, if you were an aboriginal woman with a disability, you would end up being “triple counted” since you would be included in all three under-represented groups. The resulting numerical impact here is not very large, but a small overestimate does exist and needs to be conceptually factored in.

**Table12. By The Numbers**

**Caution: “Double Counting” Exists**

Projections	2011	2016	2021	2026	2031
SHORTAGE	346,500	952,800	1,358,900	1,748,000	1,967,100
Low Projection Impact	0	351,394	650,182	904,042	1,108,452
High Projection Impact	0	516,679	1,142,917	1,607,908	2,103,153
Low Projection Net	-346,500	-601,406	-708,718	-843,958	-858,648
High Projection Net	-346,500	-436,121	-215,983	-140,092	+136,053
OTHER OPTIONS					
PSE Efficiency to 10%	0	100,000	100,000	100,000	100,000
50,000 More FSWs/CECs/FSTWPs	0	41,600	249,600	416,000	624,000

Table 12 shows that if we were able to achieve our lower level objectives we would be able to reduce our labour force shortage by 1.1 million by 2031, resulting in a remaining shortage of 858,000 workers. If, however, our more optimistic targets were met, we would actually have a surplus of 136,000 workers by 2031. Two other options are also provided (increasing PSE efficiency from 5% to 10 % and increasing skilled worker immigration levels by 50,000). An increase in skilled immigrants has a particularly dramatic impact and should be considered as an obvious policy option. However, using it as the major lever of change without addressing the participation levels of historically under-represented groups would be a major policy mistake as it would only result in higher levels of unemployment and dissatisfaction for those already looking for work. In fact, Halliwell (2013) argues that temporary foreign worker and traditional immigration programs might well need to be scaled back to provide opportunities for others. Yet, if the economy improves and labour force

demand increases the option of using immigration to help solve our skill and labour market size issues will become more and more attractive.

In terms of the overall worker shortage, the results of this analysis show that there are options to reduce the projected shortfall. Each provides some relief, but none by themselves present the proverbial silver bullet.

### **Skills Mismatches**

To this point, the analysis has focused on labour shortages, but we now need to turn our attention to the question of whether the skills we are producing are matching-up to the labour demands that exist. Here, there has been a fair degree of controversy over the existence or non-existence of a skills mismatch. Unfortunately, most of the debate has centered on supply-demand imbalances and not all mismatches. This is important because there are

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actually four mismatches, and the ways of dealing with each differ. Aside from the supply-demand mismatch, we also have geographical, under-employment and over-employment mismatches.

In earlier work (Miner, 2010a, 2010b and 2012) the skill level desired for our new economy was simplistically expressed as some level of educational attainment beyond high school (i.e., university, college (public or private), polytechnic, apprenticeship, industry qualification, etc.). Generally, this has also been the way that HRSDC (now ESDC) and its provincial counterparts have defined the level of education needed for the jobs of the future. It is, however, becoming increasingly obvious that this definition is far too simplistic because even as we achieve higher levels of educational attainment, we are still observing a variety of skill mismatches.

### **Skills Mismatch Evidence**

There is now ample evidence that our system of aligning people with jobs needs a major overhaul both in terms of the over-supply of people for non-existent jobs (“People Without Jobs”) and an under-supply of people where qualified workers are needed (“Jobs Without People”). The Canadian Occupations Projections System (COPS) produced by HRSDC/ESDC published a projection of occupations which are in short supply, balanced and or in over-supply. Of the 140 occupations listed, they found that 25% were in an over-supply situation, 15% in under-supply and 60% were balanced (Vincent and Tremble-Cote, 2012, p. 99). So, we have a 40% mismatch. Yet, one could still argue that these shortage estimates are under-projected. COPS has an historical bias in that it looks at changes to existing jobs, which are easier to predict than evolving or new jobs which frequently encounter shortage situations. Furthermore, COPS was last updated in 2011 based on 2006 census data; many of the jobs that have emerged in the last eight years are not even found in the list of jobs included in COPS.

The Canadian Chamber of Commerce (2012)

published a report entitled *Canada’s Skill Crisis-What we Heard*. Their thesis is that there is and will be an increasing mismatch between what is needed and what is available. Looking at reports from various Canadian sector councils and human resource councils (Table 13), they also report significant anticipated shortages. Yet, in reviewing these figures keep the following points in mind-- first, the estimates typically include replacement demand (retirements largely), anticipated growth and in some cases existing shortages. So, these are not all net forecasted new jobs. Hence, the demand is somewhat inflated and many replacements will be met through existing mechanisms. Second, when surveyed, one typically finds that industry tends to overestimate demand. This is just “good business” to ask for more than you need so the supply will be greater than demand, which will lower labour costs.

Likewise, while society would like to see the ideal relationship between labour supply and demand (skilled people and skilled jobs equally matched) in balance, individuals and unions would prefer an under supply, thus making their skills more valuable. So, when considering labour supply projections, always keep in mind who is making the projection and whether they have an ulterior motive or vested interest.

In addition to the 12 sector council reports predicting shortages, IBM (2012), Blackwell (2013), CIBC (Tal, 2012) and Engineers Canada (2012) also project skill shortages as can be seen in Table 13. Yet not everyone sees the labour market the same way. For example, a TD Bank study (Burleton et al., 2013) used traditional economic techniques (i.e., degree of salary increases in high demand jobs and unemployment/job vacancy ratios) to conclude that there was little evidence that a skills shortage currently exists in Canada. They were less definitive about whether a shortage will exist. South of the border, the existence of a real skills mismatch is being questioned (e.g., Kiviat, 2012). Citing the views of others (Federal Reserve Bank of Chicago, University of California-Berkley and the Wharton School) Kiviat notes the expressed skepticism about the existence of a skills mismatch. Some other explanations for the



**Table 13. The “Evidence” Says: Yes**

Source	Areas	Shortage	Comment(s)	Time Frame
Mismatch Study	Various	2.3 million	Analysis Follows	2031
IBM	Cloud, Mobile Analytical and Social Computing	100,000	Specialized Areas	2016
Engineers Canada	Various Engineers	95,000	Retirees	2020
Agriculture Council	Various	90,000	Additions	2013
Construction Council	Various	219,000	Retirees	2020
Environmental Careers	Various	100,483	Retirees	2022
Electrical Councils	Various	45,000	New	2016
Food Processing Council	Various	32,500	Retirees	2015
Information and Communications	Various	105,000		2017
Petroleum Council	Various	15,000	New	2015
Printing Industry Council	Various	41% of Industry Retiring	Retirees	Soon
Supply Chain Council	Various	27,000	Current Vacancies	Now
Supply Chain Council	Various	60,000	Replacements	Annual
Tourism Council	Various	114,000	Unfilled	2020
		228,000	Unfilled	2036
Trucking Council	Various	199,800	New	2017
OECD	Various	33.6% Under Qualified	2005 Data	“Now”
OECD	Various	23.7% Over Qualified	2005 Data	“Now”
CIBC (2012)	Various	25 Shortage Occupations	1% unemployed	Now
CIBC (2012)	Various	20 Surplus Occupations		Now
Certified General Accountants of Canada (2012)	Various	24.5% Under Employment	Recent University Graduates	Now
C. D Howe Institute	Various	Accepted Skills Mismatch	Suggestions to Improve	Now

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apparent skills shortages are attributed to outdated human resource practices that overly exclude qualified workers rather than accept the risk of applicants that do not meet every qualification (Cappelli, 2012).

Overall, the existence of a skills mismatch in Canada seems well founded given the frequent cries from business for more and more skilled workers and the equally-strong pleas from educated youth who cannot find suitable employment. One report (Tal, 2012) indicated that 30% of Canadian businesses say they now possess a skills shortage -- double what was reported in 2010. The Canadian Education and Research Institute for Counselling (2014) just released the findings of their national business survey. The 500 senior executives questioned listed a shortage of skilled workers as being the greatest challenge facing Canadian businesses. Yet, there is still a view that more of the skills are available, but business is unwilling to pay the premium associated with a skills shortage. In fact, McQuillan (2013) contends that the increased use of temporary foreign workers has been counterproductive, reducing the employment opportunities for under-represented groups and allowing business an easy way to avoid employing Canadians.

### **Supply-Demand Mismatch**

While the current situation is depressing enough, other more futuristic projections (Table 14) indicate that it may actually get worse. The Conference Board (Munro and Stuckey, 2013), HRSDC (2012), and the British Columbia Ministry of Labour (2012) project a higher demand for individuals with college, polytechnic and trade credentials. Yet, university enrolments are increasing significantly more than those of more applied, non-university programs (Statistics Canada, 2013c). Having said this, one must be cautious about the educational data base being used. This concern arises because the questions on the Canadian National Household Survey used to gauge educational

attainment create an educational hierarchy, with university completion seen to be the highest level of achievement. So, when respondents are asked what field of study they completed in their highest credential, their answer may well distort the relationship between educational attainment and employment. To demonstrate the problem, let's take an example: suppose you were a university graduate who subsequently went to a college in order to get a college post graduate credential that led to you getting a job. When asked what the field of study was in your highest level of education, what would you respond? Why, your university field of study of course, even if it was the college qualification that led to your employment.

So again, what is the problem? The problem is that more and more people are entering college/polytechnic applied programs after graduating from university. In many large urban colleges, university graduates represent more than 15% of all full-time enrolments (over 50% of part-time enrolments) -- one Canadian polytechnic institution reports their full-time figure to be 25%. So when a university graduate uses a college program to get a job, the National Household Survey is not able to identify that reality and, as a result, we do not have an accurate inventory of the skills we have in Canada. Furthermore, there are incomplete data collected on private career colleges and their contribution to the education process.

The most recent Statistic Canada data (2013c) showed university enrolments in the humanities were 358,689, education program enrolments were 102,810, and social and behavioral sciences and law enrolments were 249,792. Thus, over 700,000 students were enrolled in programs that have less direct employment opportunities (with law being an exception) resulting in higher levels of unemployment and under-employed among these graduates. While they may eventually achieve employment success, the route is becoming an increasingly painful one. At the same time, areas with higher employment demand like science and technology had enrolments of 98,811, engineering and related technology was 184,500 and math, computer science and information science came in

at 57,894. To put it bluntly, there are fewer students enrolled in all of these higher demand areas than enrolment in the humanities. We need to find better ways of aligning our educational enrolments with labour force needs.

### Geographical Mismatch

If the concept of a skills mismatch is not controversial or confusing enough, let's consider one more facet. We are a very, very big country with labour markets that differ considerably across regions. Supply and demand in one area can be entirely different than that found in another area. As a result, we are increasingly seeing geographical mismatches. As stated by Vincent and Tremblay-Cotes (2012) "In a diversified economy such as Canada's with different regions having quite different industrial mixes and demographics, a nation-level assessment of pressures in occupational labour markets could easily mask major differences across regions."

We have all read about the oil patch shortages. But as resources become dearer and less accessible and as more mega projects come on stream, we can expect more and more of these geographical mismatches.

In Northern BC we have demand for Liquid Natural Gas facility construction, forestry and mining. In Alberta and Saskatchewan it is all about oil, gas and natural resources and perhaps a western pipeline in the not so distant future. In Northern Ontario, the mining industry is starting to revive. Will forestry be far behind? Labrador is soon to start a multi-billion dollar energy project at Muskrat Falls. Similar projects are planned for Quebec. Then we have the ship-building projects that will significantly boost the economies and labour market demand in Vancouver and Halifax. Just recently, the possibility of an eastern pipeline heading to Saint John, NB was proposed. The list goes on and on. The problem is that even if we know what will be needed, we do not have a good way to match demand with supply on a geographical basis. An expanded temporary foreign worker program is not the solution, but other possibilities exist and will be discussed.

### Over-Qualified Mismatch

Given the rising educational attainment levels and the increasing skill mismatches, it is not surprising to find high levels of over-qualified (under-employed) mismatches. The Certified General Accountants of Canada (2012) provide research where they found that 24.5% of recent university graduates in Canada were underemployed. In the US the figure is reported to be 48% (Lubin, 2013).

**Table 14. Job Educational Requirements Are Shifting**

Education	Conference Board (2013) Employer Needs	HRSDC Projection (2012)	BC Projection (2012)
University	44%	21.3%	35%
College	57%		42%
College/Trades		34.3%	
Trades	41%		
Management		10.8%	
On The Job		8.6%	
High School		24.9%	19%
Below High School			3%

Some (Vedder, Denhart and Robe, 2013) argue that while an over-qualified (under-employed) mismatch may exist, these individuals are at least employed. Regrettably, this is a far too simplistic understanding of the situation, because it fails to realize the domino effect that is going on. Under-employed university graduates are taking jobs (typically retail and service sector positions) away from less well educated individuals who are more than qualified to work in the position held by the university graduate. They in turn become

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unemployed or take jobs below their skill level and the dominos keep falling. So each person becomes a loser! No wonder parents and recent graduates are increasingly critical of the system.

### **Under-Qualified Mismatch**

The existence of an under-qualified mismatch also deserves a brief reference. While perhaps best characterized by the “Peter Principle” (managers being promoted to their level of incompetency), this mismatch has a broader constituency group. This is not simply an issue of being promoted into incompetency, but also includes the hiring of individuals who are under qualified and cases where job complexity evolves beyond the capabilities of the people who hold those jobs. Companies with good internal training programs can address these problems themselves. Unfortunately, those companies are the exception to the rule. Given the rapid change in technology (increased complexity), increasing supply-demand imbalances, and geographical mismatches, it is anticipated that more under-qualified people will be hired resulting in higher levels of over employment which will result in lower productivity.

### **Overview**

At this point, we can accept that skill mismatches exist and they are just as big and important problems as the labour shortages earlier reported. It is the supply-demand mismatch that seems to worry most businesses (i.e., not enough skilled workers), but we also have an under-employment mismatch that worries youth and their parents (i.e., too few jobs that align with the level of education obtained). Let’s not forget the geographical mismatch where the skills exist, but they are geographically separated from the demand. Finally, the under-skilled/over-employed mismatch that has occurred because of necessity, neglect and/or management error, creates significant inefficiencies and has often been overlooked. There might be a legitimate debate about the size of each mismatch, but given the profound

demographic shift we are facing and the increased need for higher and more focused levels of skills and training, one would be hard pressed to conclude that the skills needed will emerge without some type of proactive intervention.

Two other things need to happen. First, as earlier discussed, we need a larger labour force with more people engaged in the skills and training programs that directly correspond to the economic and social needs of our society. At present, our PSE systems are too supply side driven (Coates and Miner, 2013). We let hundreds of thousands of 17 and 18 year olds, along with their willing but unaware parents, dictate the profile of our future labour force. Like it or not, there is a PSE hierarchy which is propagated by high school teachers, parents, administrators and guidance counselors. If you are good enough, go to university. Take whatever you want but go to university. If you are bad at math, don’t worry, there are still university programs that will let you avoid math. If you are not good university material, go to college. Next in the hierarchy is apprenticeship, with completing a high school diploma as the default goal. I doubt if private colleges are ever discussed. Yet, there are some good private colleges that may well fit the needs of specific individuals -- even though they typically have significantly higher tuition costs, their graduation time-lines are typically shorter and their programs more career-focused, resulting in options that may be appropriate in certain circumstances.

Second, we need to be able to train and retrain those whose skills are out of sync with labour market demands (Halliwell, 2013). To do so will require a concentrated effort by industry, government, educational institutions and future students. So, what do we need to facilitate this transition and minimize mismatches?

### **Labour Market, Educational and Training Adjustments**

Changing an entire system of education, employment and training that has evolved over decades and differs from jurisdiction to jurisdiction (provinces and territories) is obviously not an easy

task. A lot needs to be done and we do not have a lot of time to debate the most elegant solutions. Perhaps trying things, getting going, perhaps even making some errors is preferable to getting into endless jurisdictional and philosophical debates. Here are some of the changes we need to consider.

### Labour Market Information (LMI)

How can we expect people (employers, current and future employees and governments) to make good labour market decisions in the absence of good labour market data? The obvious answer is that we cannot expect such an outcome. So, why is collecting good educationally related labour market data such a problem? The answer quickly gets us into our national obsession with provincial and federal jurisdictional arguments regarding educational and labour market responsibilities. This very limited and self-serving debate needs to stop. As should be apparent, in the educational realm, we are dealing with a national and not

simply a provincial problem. While CMEC (Council of Ministers of Education of Canada) tries its best to be an effective national voice and coordinating body for education in Canada, its limitations are becoming increasingly apparent. Even at times where good will exists, the lack of long term member continuity and consistent policy direction are major limiting factors. Being the only G8 country that does not have a national ministry and/or national education strategy should be instructive. Even the United States which has been fixated on “states’ rights” for centuries, has found a way of creating the US Department of Education.

How did we get into this situation? A review of the political climate in Canada at the time of Confederation shows that the educational decisions reached at that time had far more to do with religion than PSE. In fact, in 1867 there were only 2,591 students enrolled in post-secondary education (Lowe and Harvey, 1866) and many of these students were clergy or teachers (Table 15).

**Table 15. 1867 PSE Enrolment**

<u>“Province”</u>	<u>Institution</u>	<u>Enrolment</u>
<b>Upper Canada</b>	<b>All</b>	<b>1,820</b>

Includes: University of Toronto, University College, Upper Canada College, Royal Grammar School, University of Victoria College, University of Queen’s College, St. Michael’s College, University of Trinity College, Classical College, Knox’s College, Huron College, Belleville Seminary, Canadian Literary Institute, Wesleyan Female College, Friends Seminary, Regiopolis College

<b>Lower Canada</b>	<b>All</b>	<b>537</b>
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Includes: McGill College University, Laval University, St. Hyacinthe, Masson and Assumption Colleges, Bishops College, St. Francis College, Nicolet College, Three Rivers College, and several other unnamed colleges and institutes. Enrolment includes normal schools which would not typically be considered as university enrolments.

<b>Maritimes</b>	<b>All</b>	<b>234</b>
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Includes: The University of New Brunswick (five professor but no enrolment numbers provided), Mt Allison Academy (23), St. Francis Xavier (58), St Mary’s (no professor or enrolment numbers provided), Presbyterian Theological Hall (no reports), Dalhousie (49), Kings (29), Acadia (50), Mt Allison 21: reported as Nova Scotia, St Dunstan’s (5 professors but no enrolments provided), Prince of Wales (3), Newfoundland data are not broken out by college level but appear to be small regardless of how they are counted.

**TOTAL 2,591**

The relatively minor role of post-secondary education in our society and economy at that time, can be easily explained by the nature of the work that was being undertaken. Table 16 (Lowe and Harvey, 1867) provides an indication of the nature of work at the time of Confederation. As can be seen, the types of positions that required post-secondary education/training were few and far between.

**Table 16. Canadian Population by Occupation (at time of Confederation)**

<u>Occupation</u>	<u>Number</u>
Farmer	320,952
Mechanic & Handicraftsman	115,272
Labourer (incl. Lumberman)	209,909
Trade & Commerce	32,619
Mariner & Fisherman	25,009
Miner	1,207
Professional man	10,119
Miscellaneous	30,543
TOTAL	745,630

Source: 1868 Year Book of Canada (Lowe and Harvey, 1867)

At that time, the real provincial priority was to ensure that elementary, middle and (to some degree) high school students would be provided religious instruction as part of their education. Hence, education was designated as a provincial responsibility. I am sure the founding fathers had no understanding of how the nature of education would change, and how it would become a national, if not an international, issue and not simply a provincial one. Remember, most people of that day lived, worked and died within a few miles of where they were born. How times have changed!

Aside from educationally-related data, we have insufficient information about our labour force and its needs. To make better decisions we really need to have a better understanding of where the labour market may be heading and the numbers (employment opportunities) involved.

At a minimum, to improve our LMI we need to do the following:

- Collect educational attainment data in a way that will actually allow us to know what skills and abilities we have and how they relate to our employment needs. It is particularly important to be able to appreciate the total educational achievement of our population and not simply the “highest level” of education achieved.
- Go back to the long form “mandatory” census. The first attempt with the new Canadian National Household Survey resulted in a 68% response rate compared to a 93% rate (Fekete, 2013) when the long form was last used. Besides having a significantly lower response rate, the new approach excludes Canadians who are out of the country or in a “communal living relationship”. To what extent the response rate and sampling changes affect the results are unknown, but one has to be concerned about impact on data validity and comparability.
- Establish standard and more frequent labour force and labour market demand surveys. This will allow us to better understand labour market dynamics and the type of jobs that are emerging. To get good business data, it might require some form of confidential disclosure since “true” employment plans, both in terms of number and types, are valuable business intelligence which businesses generally want to safe guard.
- Provide alternative labour market forecasts with varying assumptions about the Canadian economy and its impact on employment.
- Make data publically available at no cost for others to use and access.
- Upgrade the Canadian Occupation Projection System (COPS), updating it more often, making it more current and more user friendly.
- Finally, and perhaps most importantly, establish long term funding for Statistics Canada to undertake these changes.

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- Other suggested LMI changes can be found in *Working Together to Build a Better Labour Market Information System for Canada* (Drummond, Beale, Kolby, Loisel, and Miner, 2009).

### **“Mandatory” Career Counselling**

Assuming our data collection, data analysis and information distribution problems can be improved upon, this would enhance our ability to understand what we have, what we need, and when we will need it. Yes, we will not have a perfect model that will ensure everyone will get a job and all vacancies will be filled with qualified people, but we will have a better system than we have now. We will still have students drawn to medieval history, eighteenth century English literature, poetry and classics and that is fine. The purpose here is not to dissuade people from doing what their hearts desire. Rather, it is to provide them with good, accurate, reliable information upon which they can make informed decisions. The proposed educational reforms that will be provided shortly suggest creating pathways for those who want to follow their dreams but ultimately want to turn those dreams into a career.

In order for these new improved data to make a difference, career counselling should be “mandatory” and not just for students but for parents, teachers, guidance counsellors, administrators, government representatives, and businesses. It should be available as early as possible in the educational system and continue to be easily accessible for all employees through retirement. We need to find ways to help people better understand the employment dynamics that are in play and will be in play, and how they can prepare themselves.

### **Basic Literacy and Employability Skills**

The most recent Canadian data addressing job and career change frequencies (reported in Statistics Canada, 2008 and 2014) found that, on average,

people change careers about three times during their working lives, and change jobs far more frequently. Unfortunately, these data are getting dated as they were originally collected in 2004. One suspects that, with the advent of more complex technology, the fallout of the recent economic down turn, and the globalization of the world economy, these job and career predictions are most likely out-dated and people should expect to change jobs and careers far more frequently. The point here is that career and job transitions typically necessitate some form of additional education/training. For this to be successful, it is necessary to build on an existing foundation of employability and literacy skills.

This necessity became particularly apparent in 2009, when Canada had an economic downturn resulting in thousands and thousands of layoffs in the manufacturing sector in Ontario. In response to this economic difficulty, the Ontario government established a Second Careers Program offered to those unemployed workers. The program provided significant financial support to help laid off workers retrain into areas where employment opportunities currently existed or were likely to emerge. Eligible candidates were directed to public and private colleges which were tasked with providing the training. Most educational institutions discovered that many of these new students had significant literacy problems. As a result, they needed upgrade training and basic literacy training before undertaking their new academic programs.

Given the increased frequency of change, we must recognize that basic literacy and employability skills have become essential for life-long learning and employment. For this to be achieved, all our educational programs should have both a content portion (specifics of what is being studied) and an essential skills component as part of the educational/training process. In fact, reporting performance (report cards, transcripts, annual performance reviews, etc.) should be reporting not only academic and work success but the maintenance of employability and literacy skills. For example, Northern Arizona University (2013) now issues transcripts showing both the student content and skills mastery. Money spent in this

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area is surely a wise investment.

### **Educational Reforms**

Our post-secondary education systems are increasingly less responsive to the significant employment and economic shifts that are currently occurring. Our economy is changing rapidly, resulting in the creation of many new and previously unknown jobs. It is instructive to look at some of the business growth predictions (Knudsen, 2013) like 3D printing, big data, lifestyle diseases, global luxury, and cloud computing, where more training will be required for Canada to be competitive. As a result, we need post-secondary systems that are more flexible, more responsive, less hierarchical, more affordable, more student-centered and which support change leaders not change followers. To achieve these ends the following changes are proposed:

- A certain percentage of all educationally-related post-secondary program funding should be dedicated to developing curriculum and training programs for emerging jobs.
- We need an increased number of integrated university/college programs with the applied portion of the program occurring at the end of the educational/training experience. Such programs could be structured in a 3 year (university) plus 1 year (college/polytechnic) arrangement.
- Expand entrepreneurship programs either as “stand alone” entities or integrated into existing programs.
- Develop more stand-alone, shorter transitional programs that can be used to quickly align employees with employment opportunities.
- Continue apprenticeship reform initiatives with particular focus on enrolment growth, improved completion rates and better journey person-apprentice ratios.
- Restrict funding to programs that have little direct

employment opportunities unless pathways have been developed that would allow graduates to easily transition into more career-focused opportunities.

- Expand enrolments in applied programs.
- Move toward more competence-based educational and training programs.
- Through program design, shorten the interval between applied learning and employment.
- Shift the balance, primarily in universities, between the research and teaching functions. The present emphasis is clearly on research, which is important, but overshadows the important role of teaching.

Clearly a lot could be done in the area of educational reform, but it must be recognized that this is a sector highly resistant to change. While British Columbia and Alberta have made some strides, they have only “scratched the surface” and a lot more needs to be done. This is not a call to alter the whole system, far from it. It is to suggest that our educational and training systems should be more responsive to the types of economic changes that are occurring and the types of training that will be needed. There is still plenty of room left in the system for the more traditional ways of doing things. Surprisingly, many university professors agree. They have experienced the consequences of the “massification” of the university system (huge enrolment growths achieved through lower standards) which has watered down the intellectual pursuits that used to characterize a university experience.

### **Business Contributions**

Canadian businesses and their national associations need to get off the sidelines and become far more active and responsive players in the supply-demand and skills development processes. Admittedly, although somewhat out of date, our available data show that Canadian businesses invest less in education and training



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(1.5% of gross salaries) compared to their US (2.5 to 2.8%) and European (over 3.0%) counterparts (Bailey, 2007 and Campbell and Hughes, 2009). The prevailing assumption that getting people ready for work is government's responsibility is both out-dated and counterproductive. To improve this situation, businesses need to:

- Invest significantly more in education and training with a particular focus on workplace literacy and essential skills.
- Increase co-op, internship and apprenticeship opportunities.
- Provide financial support (scholarships, bursaries, donations) to positively support the type of education/training being provided by colleges and universities.
- Improve hiring practices to recognize and require the demonstration of competencies rather than simply academic credentials.
- Provide accurate and timely data on future employment directions with confidentiality being assured.

### **Government Contributions**

Let's recognize from the outset that governments are also employers so everything businesses should do, should also be done by governments. In addition, they should:

- Find a way to develop national educational/training strategies. To assume all post-secondary institutions and their home provinces will routinely act in the best interests of Canada is both naïve and simplistic. The labour and skills shortages will span this country, and it is doubtful that any province/territory acting alone will be able to solve their own problems.
- Disproportionately invest in educational/training institutions that commit to developing curricula for the jobs of the future.

- Become more willing and able to accept well-intended failure. When making educational/training investments, understand that failure lays the groundwork for success. We have become so accountability-focused that our willingness to accept risk has diminished to the point that our innovation is being discouraged. Yes, this might result in some political scars, but there might also be some monumental successes.

- In conjunction with the federal government invest in good provincial/territorial LMI.

- Invest in the training and basic skills needed by under-represented groups to prepare them for current and future jobs.

Although businesses and educational institutions must find better ways of working together, governments will represent the true impetus for making things happen. Their roles will be paramount because of the inter-jurisdictional issues involved. Their willingness and creativity will be put to the test. Let's hope they can find a way of working together.

### **Geographical mismatches: An alternative view**

The changes proposed above relate either directly or indirectly to all mismatch types. Yet, geographical mismatches present a particularly difficult situation. All of us can tell stories about sitting next to someone on a flight out of the west where he/she has been working long hours for two or three weeks and is now heading "home to the east" for two weeks off. This cycle of employment starts again as soon as the two week break is over. Alternatively, we have all heard of the couple who had to sell their house at a loss, pull up roots and head west. These patterns of employment have taken their toll on the Atlantic Provinces, and we are now seeing similar movement in Ontario and Quebec. As a consequence, the Atlantic Provinces in particular are being faced with some of the most serious economic and demographic problems in Canada. Their youth are leaving and the prospects for the future look dismal. Economically, the

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communities are spiralling downwards faster and faster. Traditionally, governments have tried to find new business to fill the void, but historically this approach has not been overly successful. Subsidizing businesses has resulted in some of them hanging on for a while, but when the inducement goes away, so do they. Yet, there might be hope.

If the labour and skill shortage predictions become even partially true, we are going to enter a new era where labour rather than capital or land will become the dominant economic variable. Thus, communities that have and can create well and appropriately educated/trained youth will become a far more desirable location for businesses. Thus, skills shortages may be a way of successfully moving work to communities rather than individuals to work. This will not be an either-or game. Both strategies will be needed, but it should give governments alternative strategies for dealing with the very real economic problems that are facing many communities in our country.

## **Conclusion**

The data presented reveal that improved educational attainment levels, increased labour force participation rates for those 55 years and older, and changes in immigration policy have improved our labour market situation. Yet, we still have and will have, scary skills shortages.

With no further changes, by 2031 we will have an overall worker shortage of 1,967,000 and an additional 358,500 people wanting jobs but unable to find them because their skills do not match the vacancies that exist. The flip side is that 2,325,700 positions will be unfilled because of the lack of skilled workers. Clearly, problems are evident.

For the issue of an insufficient number of workers, aside from changing our immigration quotas, we will need to find ways to increase our labour force participation rates. This will be achieved by

concentrating on the under-represented groups (youth, older workers, aboriginals, women, persons with disabilities and immigrants) and finding ways through policies and/or incentives to increase their labour force involvement.

Yet, increased numbers alone will not be enough unless job seekers possess the skills that are required. Here, our post-secondary institutions need to rethink what they do and who they do it for. Our enrolment should not be dictated by the interests of 17 and 18 year olds. There should be more demand-side influence to achieve the labour force we need. We need mechanisms that give us better data, advice and, if necessary, incentives.

Will the post-secondary education changes proposed here solve all our labour market problems? Of course not! Business will have to step up and take a leadership role. They will need to increase their investment in education and training particularly in the area of literacy skills. On-the-job training used to be more prevalent in business. It is less supported today and needs to come back. Businesses cannot expect that their future employees will arrive at their door fully trained and ready to go. They have a responsibility here as well.

With proper training, we should be able to greatly reduce the labour skill shortages and mismatches that are projected to emerge. If successful, this will result in increased economic growth, improved employment rates, significantly less under employment, more satisfied employees and employers, and increased productivity, all of which will be good for Canada's social and economic fabric. This is why governments will need to take a far more proactive role in solving the problems identified.

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#### **ABOUT THE AUTHOR**

DR. RICK MINER has over 40 years of experience working in Canada's post-secondary sector. He was most recently the President of Seneca College, and before that held senior administrative positions at the University of New Brunswick and Saint Mary's University. He is now a principal at Miner and Miner Management Consultants ([minerandminer.ca](http://minerandminer.ca)).