

## LABOUR SHORTAGES IN SASKATCHEWAN

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### SUMMARY

The predictions in the media and from think tanks sound altogether alarming: Saskatchewan, with its booming economy, could be facing a worker shortage so severe that it could drastically hobble the province's ultimate economic potential. While the world craves only more of Saskatchewan's abundant natural resources, the province won't possibly be able to keep up, due to a scarcity of workers that could be as significant as one-fifth of the labour supply by 2020. The Saskatchewan government has rushed to analyze the predicament, issuing reports that urgently seek solutions. But it hasn't really developed any solutions. In fact, it hasn't done much about the supposedly looming crisis at all. And that, actually, might just be all it can — and should — do.

In truth, Saskatchewan can't be sure it will be facing a serious shortage, or any shortage, at all. And any attempt by the provincial government to substantially intervene in the labour market could cause more problems for employers and the economy, than it addresses. Saskatchewan's labour market has already shown a remarkable ability to adjust, on its own, to the commodities boom, and what employers today call a shortage, could well just be everyone getting used to a much tighter, but still very functional, labour market.

The province's lack of action did mean it missed a once-in-a-lifetime opportunity to redirect a huge cohort of Gen-Y students into training for trades that are in high demand (that cohort is already in its mid-20s and finished, or finishing, its career training). That was a mistake. But one big thing the Saskatchewan government can still do to help employers — and workers — is to stop making the strains on labour worse by launching imminent public infrastructure projects that compete with the private sector for labour. Instead, the province should plan those for when the boom slows down and workers need the jobs. It should also abandon any ideas of ramping up the import of temporary foreign workers to fill short-term job vacancies: those workers have a way of dampening wage signals that would draw more permanent, and therefore desirable, workers to the province.

What few things the province could be actively doing, it should do anyway. It should help re-train workers with skills in low-demand for jobs in higher demand. It should recruit migrants from other provinces and overseas to settle in Saskatchewan. It should carefully review its post-secondary education system to minimize drop-out rates from apprenticeship programs and to ensure it is training people to match the economy's demands. And it should be finding ways to mobilize large portions of the population that could be working, yet aren't, including underemployed males and Aboriginals, but also the elderly and disabled. If there is, indeed, a shortage somewhere in Saskatchewan's future, having those people working can only help. But even if there is never a shortage, having large pools of potential labour sitting idle is something that will truly limit Saskatchewan's economic potential.

<sup>†</sup> Thanks to Patrick Vallance for research assistance.

## INTRODUCTION

Saskatchewan has experienced a remarkable decade of growth, arising from the strong global demand for Saskatchewan's diverse and abundant natural resources and agricultural products. But finding sufficient labour to keep the boom going has emerged as an important policy issue. The October release of the provincial government's *Saskatchewan Plan for Growth: Vision 2020 and Beyond* points out that the continuation of the province's dynamic decade will require the addition of 60,000 new workers by 2020 if the province is to meet its population target of 1.2 million by 2020.

In this paper, I present information on a number of commonly proposed indicators for the existence of a labour shortage that generally confirm the characterization that Saskatchewan's labour market has been extremely "tight," if not in a shortage position, since the mid-2000s and that these conditions can be expected to persist in the absence of labour-force planning and policy actions on the part of the Saskatchewan government.

The Saskatchewan government is to be commended for its efforts to date on labour-force planning and its actions to enhance migration to the province through the New West Partnership Trade Agreement and the Saskatchewan Immigrant Nominee Program. Indeed, most of the labour market's adjustment to date has taken place through market forces, with labour supply enabled by these policies in particular, as well as the Saskatchewan population's favourable demographic characteristics. That said, the higher wages relative to other Canadian labour markets that have provided the market stimulus for in-migration appear to have run their course, and the large "generation Y" cohort of young Saskatchewan residents — which has primarily driven higher numbers of post-secondary trainees — is now moving through and beyond the traditional age for post-secondary training.

The next steps needed for Saskatchewan to produce the necessary labour supply for its growth targets will require more policy effort and public cost than efforts to date, as the incremental additions to the labour force are increasingly difficult to achieve.

The report lists some specific policy advice for the government of Saskatchewan.

- 1) **Pick up the pace** — The troubling aspect of Saskatchewan's efforts to deal with the tight labour-market conditions is the slow pace of *detailed* planning for changes to the post-secondary system or for encouraging greater labour-force participation of under-represented groups. In the five years since the Saskatchewan Labour Market Commission was created, including the three years since the province's labour-market strategy was announced, the government has largely produced targets and general directions, but not detailed plans for how to meet those targets. In particular, the government has not identified how it will better align the post-secondary system's training capacity with projections for the province's labour-market needs. Finally, increasing labour-force participation rates of Aboriginal Canadians, the elderly, females and the disabled have been major challenges for decades, and finding cost-effective policy options remains an outstanding task.

- 2) **Stay away from temporary foreign workers (TFWs)** — If the policy objective is to develop labour supply to meet longer-term growth targets, rather than distributing short-term rents to employers, then TFWs should not be part of the province’s labour-market strategy. TFWs undermine long-run labour-market adjustment and skills capacity by dampening the wage signals that would lead to higher numbers of permanent in-migrants and more Saskatchewan residents choosing to invest in skills that are in demand.
- 3) **Develop cyclical infrastructure planning** — Infrastructure planning is a policy instrument for developing skilled labour supply and giving employers some short-run relief. Compared to other provincial labour markets for construction trades, employment in Saskatchewan shows greater volatility, which creates headaches for employers in the peak periods and discourages workers from choosing Saskatchewan as a place to live and work. To the extent that public sector capital spending in Saskatchewan has been adding fuel to this fire, infrastructure planning to shift the timing of projects to the inevitable transitory periods of lower private sector labour demand would be an instrument for smoothing cyclical/transitory changes in employment.
- 4) **Make a greater effort to leverage the human capital investments made to date** — Saskatchewan has large numbers of residents who begin, but never complete apprenticeship training. The government has announced that it will fund additional apprenticeship training spaces in the post-secondary system, but what will it do to encourage higher rates of apprenticeship completion to increase the supply of qualified journeypersons? It may be that the government can do more for labour-market needs in the nearer term by considering policies like changing how technical apprenticeship training is delivered by post-secondary institutions; paying for full-time apprentice mentors; or paying apprentices during their technical training when they cannot work for pay.
- 5) **Don’t forget about the boys** – Like most provinces in Canada, Saskatchewan has a large pool of underemployed males aged 15 to 24, many of whom have completed high school. In addition to recruiting labour from outside the province, more effort could be made to entice this particular underemployed group in Saskatchewan, particularly those beyond the ages reachable by guidance counselors, into post-secondary trades training.

## LABOUR SHORTAGES IN SASKATCHEWAN

Saskatchewan has experienced a remarkable decade of robust and sustained growth arising from the strong demand for its diverse and abundant natural resources and agricultural products. But finding sufficient labour to keep the boom going has emerged as an important policy issue.<sup>1</sup> Large-scale construction projects, booming residential and commercial building, and the need for government to install infrastructure, have made the scarcity of the skilled building trades particularly acute, adding to the overall costs of the development of the province’s economy. Beyond the immediate forces of high commodity demand, longer-run forces, such as population aging and the expected brain (and brawn) drain from the workforce

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<sup>1</sup> Glen Hodgson, “Saskatchewan has Limitless Opportunities – If It Can Find the Needed Workforce,” The Conference Board of Canada (June 2012) and Abbington Research, “Merit Saskatchewan Labour Shortage Survey,” presentation (June 2012).

associated with the retirement of the baby boom generation, are expected to exacerbate the tightness of Saskatchewan's skilled labour markets.<sup>2</sup> The October release of the Saskatchewan government's *Saskatchewan Plan for Growth: Vision 2020 and Beyond* reports that the continuation of the province's dynamic decade will require the addition of 60,000 new workers by 2020 if the province is to meet its population target of 1.2 million by 2020.<sup>3</sup>

One recent estimate projects that Saskatchewan can expect a labour shortage (demand exceeding supply) of 120,000 workers, or 20 per cent of the total labour supply, by 2020.<sup>4</sup> This is an enormous shortfall when one considers that Alberta, which has a much larger labour market, has a forecasted labour shortage of 114,000 workers in 2021, which is only five per cent of its expected total labour supply in that year.<sup>5</sup> The fact that the larger and typically higher wage labour markets of Alberta and British Columbia are also perceived to be facing labour shortages creates an added challenge for Saskatchewan, as its two provincial partners in the Trade, Investment and Labour Mobility Agreement (TILMA) and the New West Partnership Trade Agreement could create fierce competition for western Canadian labour.

Labour shortages are an important challenge to address if the Saskatchewan government is to meet its target sizes for the province's economy and population.<sup>6</sup> Labour shortages are negative influences for the investment climate in Saskatchewan, as an inability to hire labour, or an increased cost of hiring labour, reduces the rate of return on investment, which could limit GDP growth by as much as a full percentage point per year.<sup>7</sup> Where this impact is particularly problematic is with respect to natural resource development. As Denton and Spencer have argued, the development of energy resources can be seen as "urgent large-scale investment activity imposing additional demands on the economy to produce investment goods, and hence augmenting the demand for labour."<sup>8</sup> With a labour shortage, or in a situation where labour supply growth is insufficient to keep pace with the growth in labour demand, it is difficult to support such resource development without crowding out investment in other sectors of the economy or without reducing consumption levels in the economy.

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<sup>2</sup> Saskatchewan Labour Market Commission, *Right People, Right Place, Right Time: Saskatchewan's Labour Market Strategy* (May 27, 2009)

<sup>3</sup> Government of Saskatchewan, *Saskatchewan Plan for Growth: Vision 2020 and Beyond* (October 2012).

<sup>4</sup> Saskatchewan Labour Market Commission, *Right People, Right Place, Right Time* (2009), page 10 and figure 4.

<sup>5</sup> See: Government of Alberta, "Alberta's Occupational Demand and Supply Outlook 2011-2021" (<http://eae.alberta.ca/documents/occupational-demand-and-supply-outlook.pdf>). This forecasted shortage of workers in Saskatchewan is double the size of that forecasted for British Columbia in 2020. See: "Irish workers vie for skilled jobs in B.C.," *The Globe and Mail*, October 27, 2012, B17.

<sup>6</sup> In the absence of these "extensive growth" targets for larger population and economy, labour shortages are considered as short-term and benign influences on the economy that are largely self-correcting and not necessarily bad for the standard of living. See: J.C. Herbert Emery, "Alberta's Labour Market Needs to 2015," University of Calgary, I.S.E.E.E. Alberta Energy Futures Project Paper No. 8, (2006).

<sup>7</sup> Government of Saskatchewan, *Saskatchewan Plan for Growth* (October 2012); Glen Hodgson, "Saskatchewan has Limitless Opportunities – If It Can Find the Needed Workforce," The Conference Board of Canada, (June 2012). A June 2012 survey of firms in the Saskatchewan construction industry by Merit Saskatchewan revealed that labour shortages were a major challenge for businesses, particularly when it came to hiring journeypersons. The higher wages being paid to deal with the shortages were increasing costs of projects or making it unfeasible to bid on new projects resulting in slower business growth (Abbington Research, "Merit Saskatchewan Labour Shortage Survey," presentation (June 2012)).

<sup>8</sup> Frank T. Denton and Byron G. Spencer, "On the Prospect of a Labour Shortage," *Canadian Public Policy* IV(1) (1978) 103.

The appropriateness of a response from the Saskatchewan government to deal with labour shortages depends upon the nature and cause of the economic problem. Governments should constrain their interventions to cases where there are market failures, such as where coordination failures or other barriers to market adjustments preclude the expansion of training capacity in the province or the entry of skilled workers into the Saskatchewan labour market. This perspective seems to be well understood in Saskatchewan. The Saskatchewan Labour Market Commission (established in 2007), the government of Saskatchewan and construction employers have all expressed the view that the appropriate roles for government are to provide labour-market information to ensure efficient labour-market adjustment; to promote conditions to increase labour-force participation of under-represented groups in the labour market and to attract needed skills to the province; and to ensure that education and training systems are aligned with long-run labour-market needs.<sup>9</sup> While construction firms would prefer that wage costs be moderated with an increase in labour supply sooner rather than later, most discussion of Saskatchewan's labour shortages are focused on addressing labour supply to address long-term conditions rather than purely for short-term relief.

In this paper, I discuss the economics of a labour shortage to identify how shortages can be measured and to identify the rationale(s) that may exist for government intervention. Second, I look at various indicators for the existence of a labour shortage to identify if shortages exist today and out to 2020, and to identify if the current and expected shortages are specific to some occupations and skills or if they are a general condition of the Saskatchewan labour market. Finally, policy options will be identified for addressing how Saskatchewan can meet its labour needs to ensure a sustainable and prosperous economy.

### **The concept of a labour shortage: What does it mean and how is it measured?**

While the concept of a "labour shortage" seems straightforward, Sue Richardson notes that there is no universally applied definition of labour shortages, nor are there objective measures or direct indicators of labour shortages.<sup>10</sup> Denton and Spencer generally define a labour shortage as a situation where there is some level below which the quantity of labour supplied is inadequate.<sup>11</sup> Arrow and Capron define a labour shortage as a situation where there is the existence of unfilled vacancies with salaries equal to those of skilled workers currently employed by the firm and who are performing equivalent service.<sup>12</sup> Richardson provides a basic definition of a labour shortage as a situation where the supply of workers is not sufficient to meet the demand at current rates of pay.<sup>13</sup>

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<sup>9</sup> See: Saskatchewan Labour Market Commission, *Right People, Right Place, Right Time* (2009); Abingdon Research, "Merit Saskatchewan Labour Shortage Survey" (June 2012).

<sup>10</sup> Sue Richardson, *What is a Skill Shortage?* National Institute for Labour Studies, Flinders University, (April 2005).

<sup>11</sup> Frank T. Denton and Byron G. Spencer, "On the Prospect of a Labour Shortage" (1978).

<sup>12</sup> Kenneth J. Arrow and William M. Capron, "Dynamic Shortages and Price Rises: The Engineer-Scientist Case," *Quarterly Journal of Economics* 73(2) (1959), 305.

<sup>13</sup> Richardson, *What is a Skill Shortage?* (2005).

Arrow and Capron identified the difficulties associated with providing a clear operational definition for the term “shortage” as applied to the labour market. Often the notion comes from surveys of prominent employers who are asked if they are experiencing, or expect to experience, a shortage of labour. Arrow and Capron argue that respondents could interpret the concept of a skill shortage in their firm as one where there are job vacancies with salaries equal to those of skilled workers currently employed by the firm and who are performing equivalent service. In other words, the concept requires a quantity dimension (job vacancies) and a price dimension (at the going wage/salary). There is also a “quality” aspect to a labour shortage situation as employers may choose to fill vacancies with workers who, prior to the skills shortage, would have been seen as under-qualified and unsuitable for the job. These notions are operationalized in Arrow and Capron’s preferred definition of a skills shortage:

“A shortage exists when the number of workers available (the supply) increases less rapidly than the number demanded at the salaries paid in the recent past. Then salaries will rise, and activities which were once performed by (say) engineers must now be performed by a class of workers less well trained and less expensive” ... By definition a shortage exists if the relative earnings of engineers have risen.<sup>14</sup>

Shah and Burke suggest that employers are likely to report a labour shortage in two distinct circumstances.<sup>15</sup> First when they encounter a “skills gap,” where job vacancies are filled, but with workers considered by the employer to have deficient skills relative to what the employer desires. Second, employers will report shortages when they have difficulty recruiting despite a sufficient supply of qualified people. Richardson<sup>16</sup> argues that there needs to be a distinction made between situations where there is no one available to hire that possesses the minimal skills and/or credentials for the job and situations where such people are available, but for some reason, they are choosing not to apply to fill the vacancies. In the former case, firms will resort to “poaching” workers from other firms, whereas in the latter case, the vacancy can be filled by locating and attracting those workers who are not yet using the skills that are in short supply.

Other than the Denton and Spencer definition, it is important to note that labour shortages are defined as disequilibrium situations, where demand exceeds supply because the price of labour has not increased (at least not sufficiently) to restore labour-market equilibrium.<sup>17</sup> The perceived existence of a labour shortage could also reflect that the labour market is in equilibrium but the adjustment to higher wages, in the face of sudden and dramatic increases in labour demand, triggers complaints about labour shortages from firms with marginal profitability. From this perspective, it would not be surprising to find Saskatchewan employers complaining of shortages while they get used to the fact that the price of skilled labour has

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<sup>14</sup> Arrow and Capron, “Dynamic Shortages and Price Rises,” page 305. This definition comes from David M. Blank and George J. Stigler, *The Demand and Supply of Scientific Personnel* (New York: National Bureau of Economic Research, 1957).

<sup>15</sup> Chandra Shah and Gerald Burke, “Skills Shortages: Concepts, Measurement and Policy Responses,” *Australian Bulletin of Labour* 31(1) (2005), 44-71.

<sup>16</sup> Richardson, *What is a Skill Shortage?* (2005).

<sup>17</sup> There is a still another sense in which the term shortage is applied to the labour market that arises due to a deficiency in demand for skilled labour. For example, Arrow and Capron (1959, 307) give the example of statements contending that there are not as many engineers and scientists as the economy should have to do all of the necessary activities to maintain rapid technical progress and to raise our standard of living. In other words, demand for skilled labour ought to be greater than it is.

risen substantially due to changes in the supply of, and the demand for, that labour. Paul Darby of the Conference Board of Canada makes this point when he notes that while wages in Alberta were rising at a seven per cent annual rate prior to 2008, wages could go even higher to attract more labour to the province but “businesses don’t necessarily like to do that. That can get to be expensive.”<sup>18</sup>

Finally, some stakeholder groups, such as organized labour, view labour shortages as “myths” intended to mislead the public for the purposes of promoting policies intended to lower wage costs for employers at the expense of broader economic well being in the population.<sup>19</sup> The Alberta Federation of Labour (AFL) has been critical of the forecasting methodology applied to provincial labour markets and using its own calculations has shown that Alberta will face skilled labour surpluses in the near term.<sup>20</sup> A recent report by the Certified General Accountants Association of Canada highlighted that whatever skilled labour shortages do exist, the shortages are short-lived, lasting usually less than one year, and are largely self-correcting.<sup>21</sup> The question remains as to whether the tight labour market conditions, if not shortages, are short-lived and not important, or whether the higher wage levels that they produce as part of the labour market’s adjustment are harmful to the economy.

### Labour shortages in Saskatchewan?

With the booming Saskatchewan economy and frequent media reports about labour-market tightness, if not labour market shortages, it is commonly believed that Saskatchewan is experiencing a shortage of labour that will worsen over the coming decade as its aging labour force reaches the normal age of retirement. The Saskatchewan government has shown foresight and diligence in addressing the impending labour shortage beginning with its establishment of Saskatchewan Labour Market Commission in 2007,<sup>22</sup> which in 2009 released a document laying out the need for and the broad blueprint for a labour-market strategy, *Right People, Right Place, Right Time: Saskatchewan’s Labour-Market Strategy*. This government activity, in and of itself, creates the impression that there must be a problem to address. If that is the case, then it should be possible to find systematic evidence that there is a problem.

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<sup>18</sup> Geoffrey Scotton, “Alberta Worker Shortfall could hit 350,000 by 2025: Investment rates ‘phenomenal’, overwhelming,” *Calgary Herald*, April 11, 2006, D3.

<sup>19</sup> See: Alberta Federation of Labour, “AFL says government is wrong and Chartered Accountants are right: labour shortage fears are overblown,” press release (July 25, 2012) (<http://www.afl.org/index.php/Press-Release/alberta-relying-of-bogus-labour-shortage-figures.html>). Also see: Alberta Federation of Labour, *Beyond Chicken Little: Understanding the Need for Measured Reforms to Alberta’s System for Skills Training* (April 2006).

<sup>20</sup> Alberta Federation of Labour (AFL), “Labour Shortage Backgrounder” (2012) Available at: <http://www.afl.org/index.php/Reports/labour-shortage-background.html> See also: <http://www.afl.org/index.php/Press-Release/alberta-relying-of-bogus-labour-shortage-figures.html>. AFL president Gil McGowan calls the claims of a catastrophic labour shortage “economics gobbledeegook intended to mislead the public about the actual state of the labour market.” “There is no question there are tight labour markets for some select trades,” says McGowan. “But a somewhat tight labour market for select occupations or skills doesn’t translate into an economy-wide shortage.” “Select skills shortages can be solved by government and industry investments in training and apprenticeship,” continues McGowan. “The provincial government should also be working with the federal government to more effectively connect unemployed people in other provinces with jobs in Alberta. For example, we should be talking about things like making relocation allowance part of the EI program.”

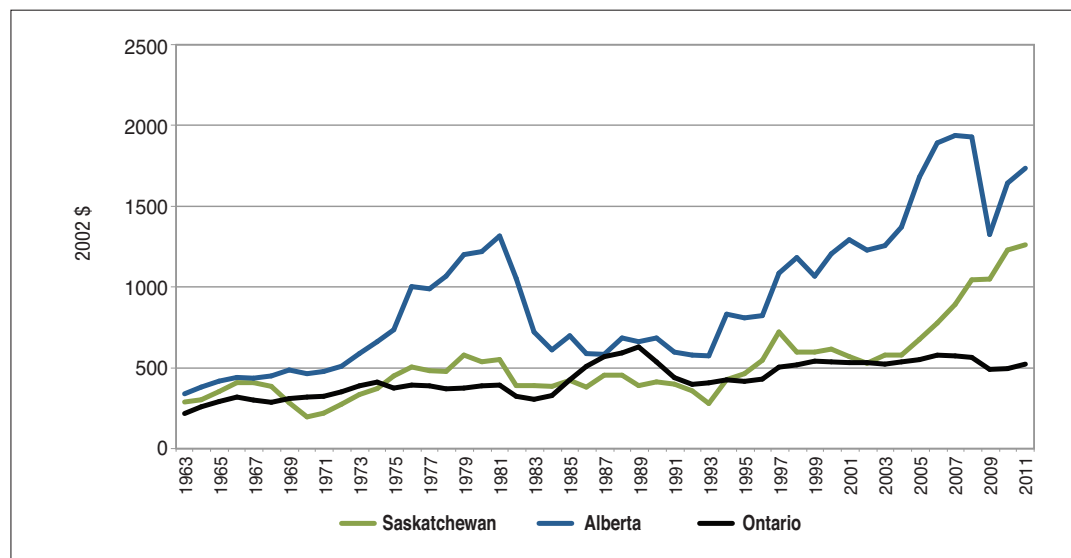
<sup>21</sup> Rock Lefebvre, Elena Simonova and Liang Wang, *Labour Shortages in Skilled Trades – The Best Guestimate?* Certified General Accountants Association of Canada (2012).

<sup>22</sup> Saskatchewan Labour Market Commission, Annual Report 2007/08.

## IS THERE A PROBLEM AT PRESENT?

Employers in Saskatchewan, particularly in small business and construction, identify shortages of skilled labour as the biggest challenge for doing business in Saskatchewan.<sup>23</sup> Merit Saskatchewan’s 2012 survey of Saskatchewan construction firms found that 80 per cent of respondents saw the current shortage of skilled labour as the most severe, or as severe, as shortages in the past. The pressures that those firms are facing are real. Figure 1 shows private sector capital spending per capita in Saskatchewan, Alberta and Ontario since 1962 (adjusted to 2002 purchasing power dollars). The capital spending in Saskatchewan driving labour demand in the province is double the highest levels seen over the 40 years prior to 2002.<sup>24</sup> Moreover, the rising investment levels have been sustained for a decade. Where Alberta’s labour market “took a breather” with the 2008 recession, Saskatchewan’s did not.

**FIGURE 1 PER-CAPITA PRIVATE SECTOR INVESTMENT, SASKATCHEWAN, ALBERTA AND ONTARIO (2002 PURCHASING POWER)**



Sources: *Capital Expenditures, Total Private Investment, 1963-1990*: CANSIM v50326, v50326, v49778. *Capital Expenditures, Private, 1991-2011*: CANSIM v759375, v759368, v759354. *Population, 1963-1970*: CANSIM v2159, v2158, v2156. *Population, 1971-2011*: CANSIM v469503, v469188, v468558. *Consumer Price Index, all items, Canada*: CANSIM v41693271.

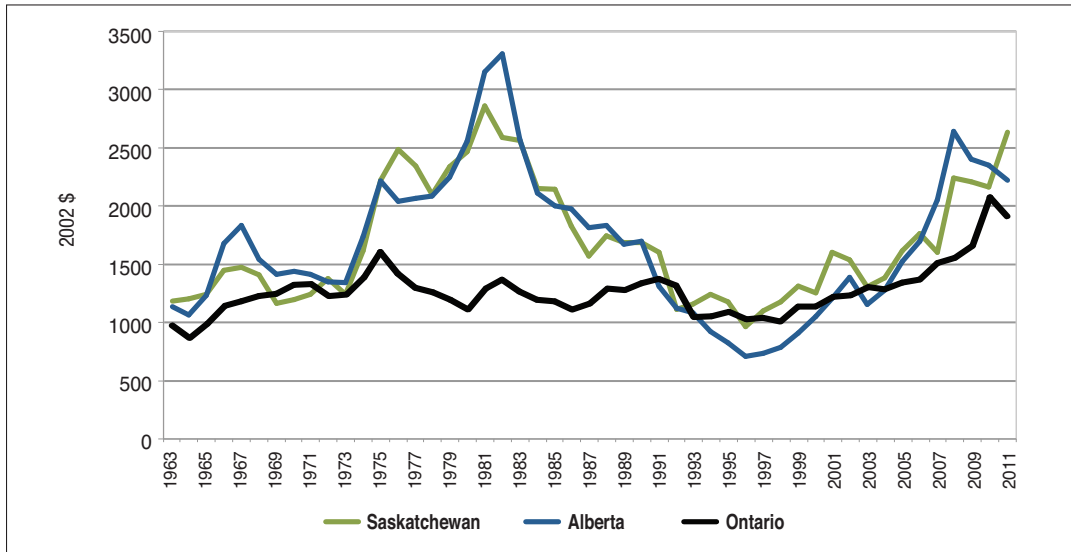
Public sector capital spending in Saskatchewan has added further fuel to the heated labour-market conditions in Saskatchewan. Figure 2 shows that Saskatchewan’s public sector investment has matched its previous peak, which occurred in the early 1980s.

<sup>23</sup> Abingdon Research “Merit Saskatchewan Labour Shortage Survey” (June 2012); Canadian Independent Federation of Business, “Sask small business optimism declines in September, but remains ahead of national average,” news release (2012). (<http://www.cfib-fcei.ca/english/article/4464-saskatchewan-small-business-optimism-declines-in-september.html> accessed Oct. 5, 2012)

<sup>24</sup> A reviewer notes that some of this increase in capital spending (a.k.a. investment) could reflect a substitution of capital for labour due to the shortages and higher wages. That is, it is a response to the labour shortage as well as a driver of labour demand.



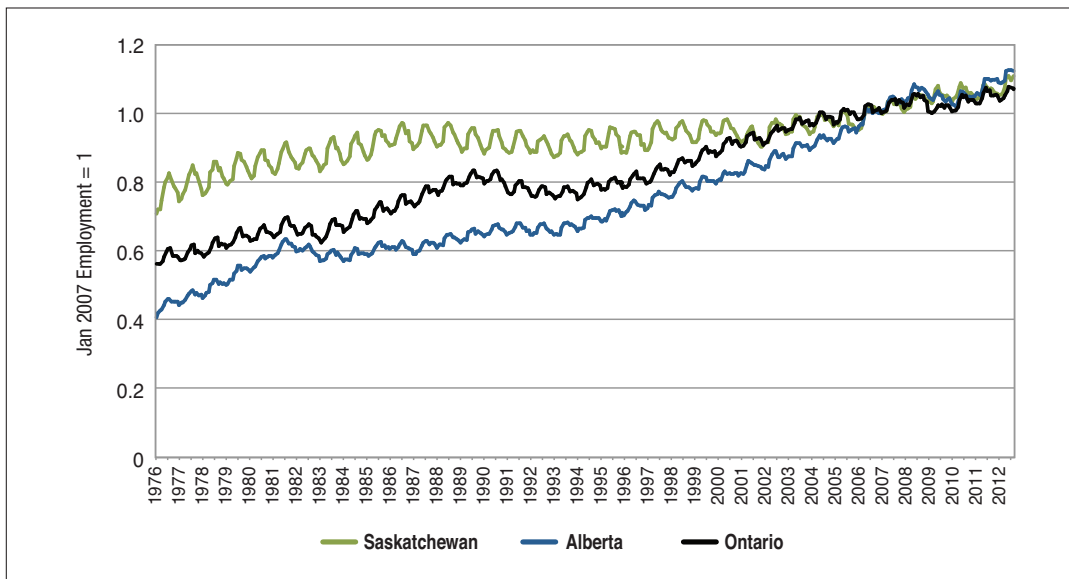
**FIGURE 2 PER CAPITA PUBLIC SECTOR INVESTMENT, SASKATCHEWAN, ALBERTA AND ONTARIO (2002 PURCHASING POWER)**



Sources: Capital Expenditures, Total Public Investment, 1963-1990: CANSIM v50326, v50326, v49778. Capital Expenditures, Public, 1991-2011: CANSIM v759375, v759368, v759354. Population, 1963-1970: CANSIM v2159, v2158, v2156. Population, 1971-2011: CANSIM v469503, v469188, v468558. Consumer Price Index, all items, Canada: CANSIM v41693271.

Figure 3 shows indexes of total employment (total employment in a given month divided by employment in January 2007). In terms of total employment, Saskatchewan's decade of trend increase, beginning in 2002, is a marked change from the stagnant employment level in the province over the preceding two decades. It also interesting to note that the seasonality of total employment in Saskatchewan has declined over the past decade, and now resembles much more the seasonality in Ontario and Alberta.

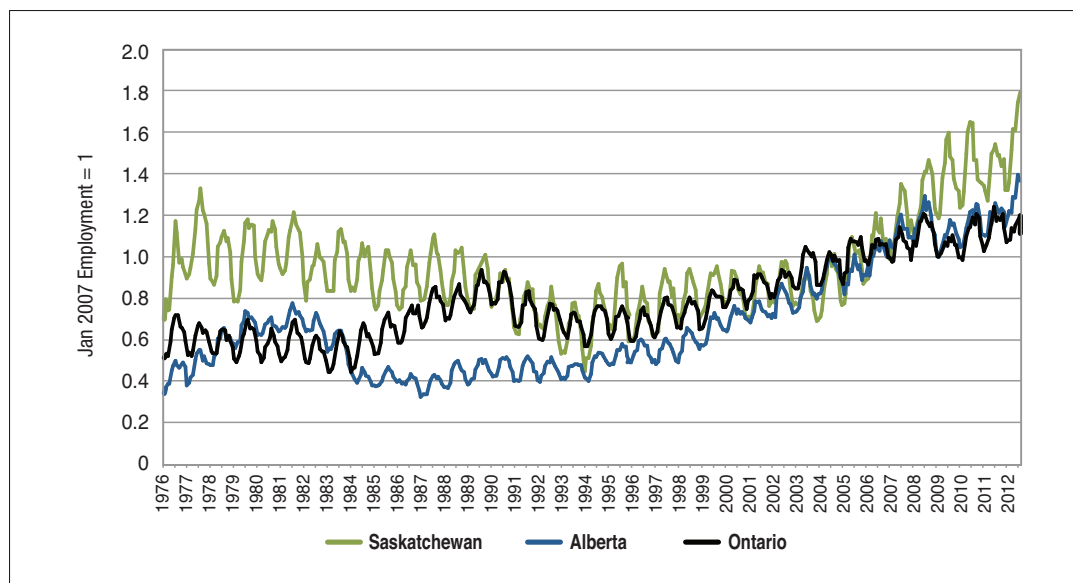
**FIGURE 3 INDEXES OF MONTHLY TOTAL EMPLOYMENT, BOTH SEXES AGE 15 AND OVER, ONTARIO, SASKATCHEWAN AND ALBERTA, JANUARY 1976 TO AUGUST 2012 (JANUARY 2007 BASE)**



Source: CANSIM II, v2719601 Ontario; Employment (Persons); Total, all industries; Both sexes; 15 years and over; v2720621 Saskatchewan; Employment (Persons); Total, all industries; Both sexes; 15 years and over; v2721131 Alberta; Employment (Persons); Total, all industries; Both sexes; 15 years and over.

Figure 4 shows indexes of construction employment. Construction is a sector where employment driven by an investment boom is often the most obvious in a resource-based economy. Construction shows a more marked increase in trend-employment levels than total employment, but the sector has shown no decline in the seasonal variation of employment. Between the highest and lowest employment months, employment is changing as much as 30 per cent within the year. As construction employment in Alberta and Ontario shows less seasonal variation over the year, Saskatchewan's seasonal volatility would make it a less desirable province in which to work, even though its wage rates are approaching those paid in Alberta and Ontario (shown later in Figures 7 and 8). *Ceteris paribus*, part of the wage rate offered by Saskatchewan employers would need to compensate for this greater volatility of employment and earnings over the year. It is also notable that Merit Saskatchewan's 2012 survey was conducted in a year where peak labour demand was more than 10 per cent higher than the previous year's peak. It is no wonder that Saskatchewan employers in construction are reporting challenges in hiring.

**FIGURE 4 INDEXES OF MONTHLY CONSTRUCTION EMPLOYMENT, BOTH SEXES AGE 15 AND OVER, ONTARIO, SASKATCHEWAN AND ALBERTA, JANUARY 1976 TO AUGUST 2012 (JANUARY 2007 BASE)**



Source: CANSIM II v2719609 Ontario; Employment (Persons); Construction [23]; Both sexes; 15 years and over; v2720629 Saskatchewan; Employment (Persons); Construction [23]; Both sexes; 15 years and over; v2721139 Alberta; Employment (Persons); Construction [23]; Both sexes; 15 years and over.

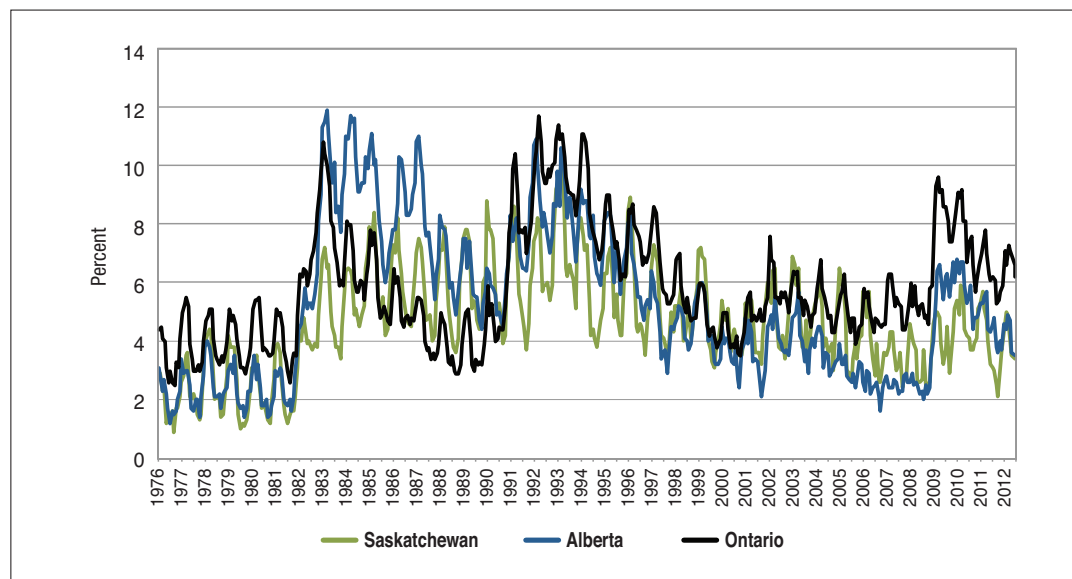
A common indicator for the existence of a labour shortage is the unemployment rate. Alberta government's Labour Force Planning Committee interpreted an unemployment rate of five per cent as indicating a "balanced labour market"; 4.5 per cent to five per cent indicating a "tight labour market"; and less than 4.5 per cent as indicating a "labour shortage."<sup>25</sup> The relevance of the unemployment rate as a measure of labour shortages comes from its correlation with other indicators of a tight labour market, such as an increase in unfilled job openings and pressure on wages.

<sup>25</sup> These interpretations are based on 4.5 per cent unemployment, as would prevail under "full employment." Labour Force Planning Committee, Government of Alberta, *Prepared for Growth: Building Alberta's Labour Supply* (October 2001) page 2.

Figure 5 shows that since 2000, unemployment rates in Saskatchewan have been low enough to fit the description of a labour shortage, with the situation becoming particularly severe in the summer of 2012, when unemployment rates dropped to a low of two per cent. Further, where Saskatchewan had a less severe shortage than Alberta prior to 2008, it now has a tighter labour market than Alberta.

There are three other notable things in Figure 5. First, the post-2000 labour-market tightness in Saskatchewan is not as severe as what the province experienced prior to 1982. Saskatchewan in the late 1970s had persistently low unemployment rates, and less seasonal variation in the rates than during the post-2000 boom. In the late 1970s attracting labour from other provinces would have been challenged by the fact that labour markets were also tight in Ontario and Alberta. Since 2008, Ontario, and to a lesser extent Alberta, have had much looser labour-market conditions than Saskatchewan. Finally, the sizeable seasonal fluctuation in Saskatchewan employment is a feature of the labour market that will create challenges for employers seeking to attract labour. Other provinces can offer employment that is less variable in annual hours, meaning incomes will generally be more stable for workers. The earnings risk, or volatility of employment and earnings, in Saskatchewan will make the province a less desirable location for migrants.

**FIGURE 5 UNEMPLOYMENT RATES FOR MALES 25 AND OVER, ONTARIO, SASKATCHEWAN AND ALBERTA, JANUARY 1976 TO JUNE 2012**

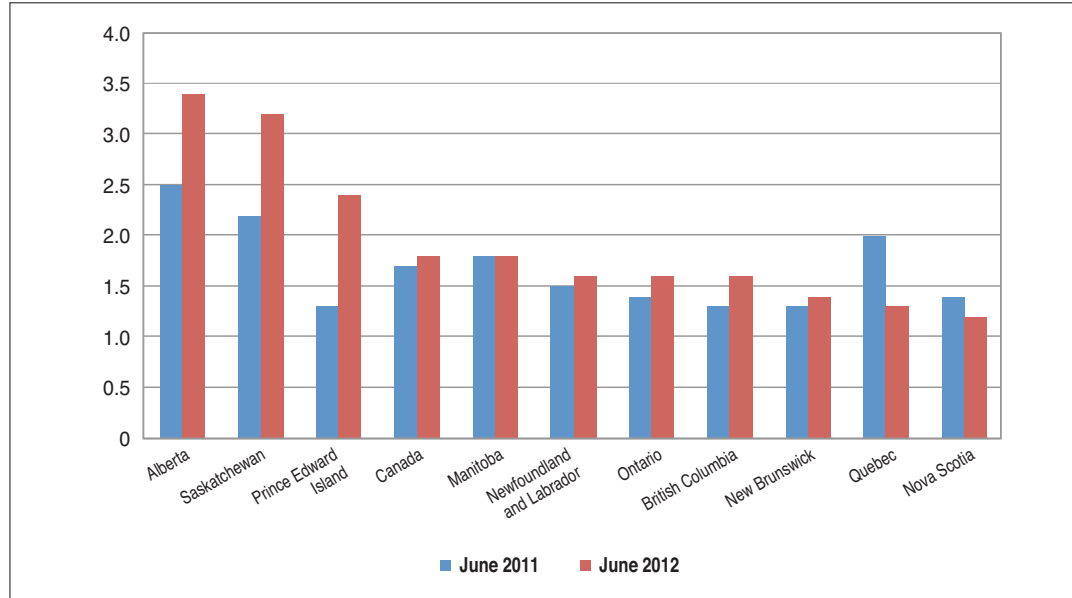


Source: v2095178 Ontario; Unemployment rate (Rate); Males; 25 years and over; v2096438 Saskatchewan; Unemployment rate (Rate); Males; 25 years and over; v2097068 Alberta; Unemployment rate (Rate); Males; 25 years and over

Another indicator of labour-market tightness, if not a labour shortage, is the “job vacancy rate,” which is the ratio of job vacancies to the sum of vacant jobs and employed persons. As Figure 6 shows, Saskatchewan had a high job vacancy rate in the spring of 2011 that increased sharply the following spring.<sup>26</sup>

<sup>26</sup> A second way that this information can be depicted is the number of unemployed workers in the labour market divided by the number of job vacancies. If you consider the falling unemployment rates in Figure 5 along with the vacancy rates in Figure 7, it is obvious that this vacancy-rate measure will give the same information: the Saskatchewan labour market is tight!

**FIGURE 6 JOB VACANCY RATE BY PROVINCE, THREE-MONTH AVERAGE, JUNE 2011 AND JUNE 2012**



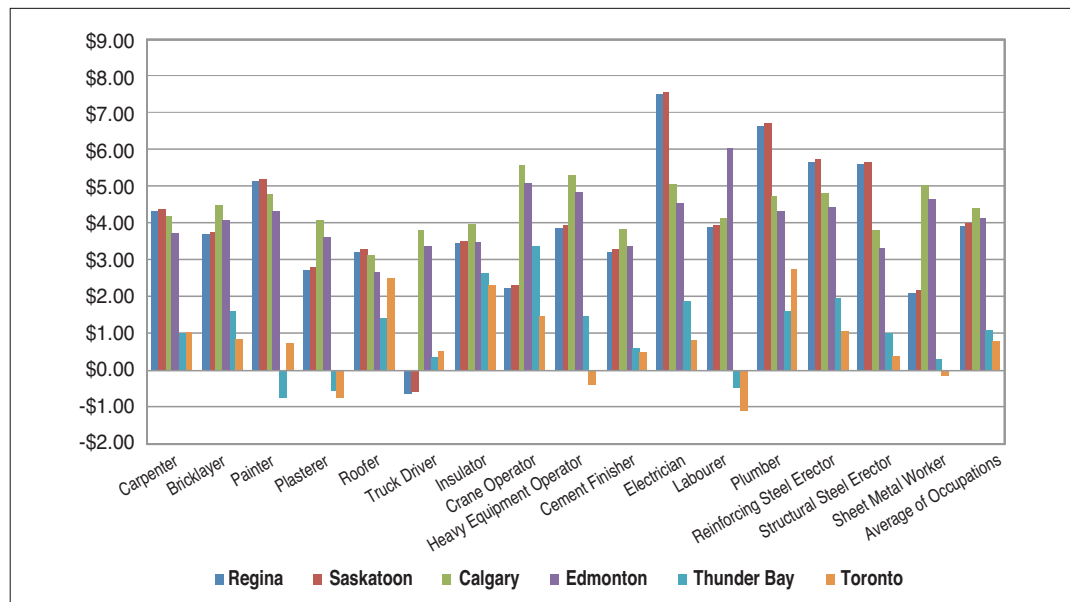
Source: "Job vacancies, three-month period ending in June 2012," Statistics Canada, *The Daily*, Sept. 18, 2012, Chart 3. The "job vacancy rate" is the ratio of job vacancies to the sum of vacant jobs and employed persons.

In terms of the quality dimension of a labour shortage, we do not have a great deal of information from Saskatchewan. Surveys of employers and industry representatives show that, in addition to the labour shortages at this time being specific to certain occupations and sectors, the shortage is not a shortage of people but a shortage of skilled, or qualified, people. The Merit Saskatchewan survey from June 2012 found that many employers had trouble hiring higher-skilled labour, such as journeypersons, estimators, project managers and superintendents, but had more success hiring apprentices and labourers.<sup>27</sup>

Despite the low unemployment rates and high job-vacancy rates in Saskatchewan, wage levels and wage increases for construction trades have not been remarkable compared to Alberta. Statistics Canada's CANSIM database has union wage information for construction trades for Saskatchewan only beginning in 2007. In Figure 7, those data show that Regina and Saskatoon have experienced large increases in hourly wage rates in several trades compared to the same trades in Calgary and Edmonton. But across all trades, Regina and Saskatoon's hourly increase matches the average for Calgary and Edmonton. Overall, the four prairie cities have seen comparable wage increases since 2007, but where the Saskatchewan cities have paid a lot more for electricians and plumbers, the Alberta cities have been paying more for crane operators, heavy equipment operators and sheet metal workers. In most other cases, the wage increases have been similar in size. What is notable is the anemic wage increases for trades in the two Ontario cities in Figure 7.

<sup>27</sup> Abingdon Research, "Merit Saskatchewan Labour Shortage Survey" (June 2012).

**FIGURE 7 CHANGES IN HOURLY WAGE RATES (2002 PURCHASING POWER) JANUARY 2007 TO JANUARY 2012, BUILDING TRADES IN SELECTED CITIES**

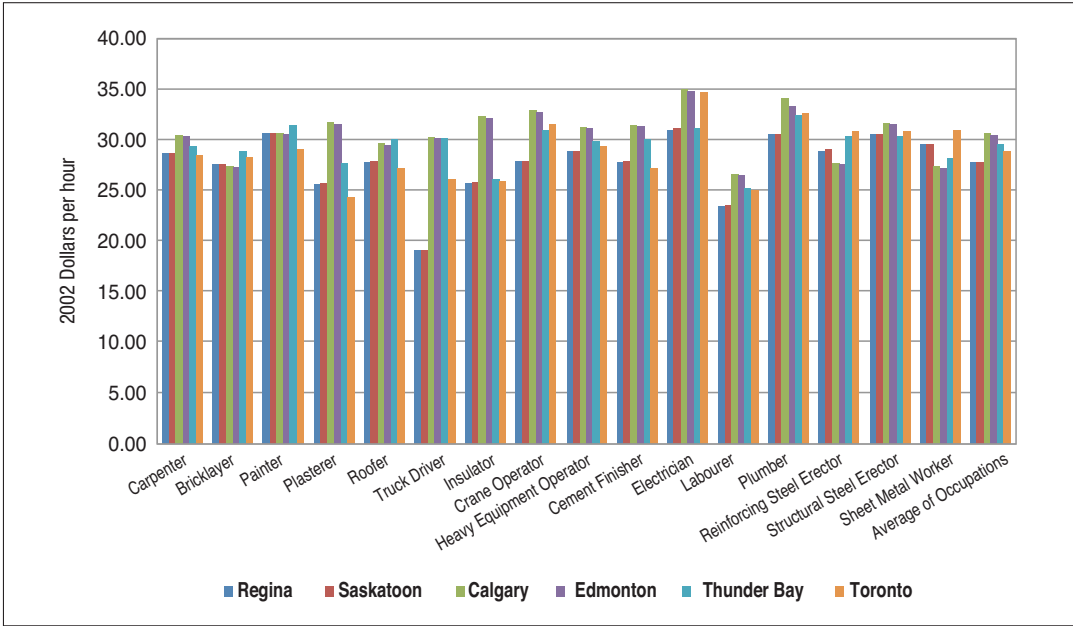


Source: Basic construction union wage rates are from CANSIM II Table 3270003: "Construction Union Wage Rates, Monthly (Dollars)." All wage rates are in 2002 purchasing power using province-specific Consumer Price Indexes (CPIs).

Despite the higher wages offered in Saskatchewan, reports of labour shortages persist. In the context of construction trades, this reflects that the wage increases since 2007 have not created a reason for workers to choose working in Saskatchewan over working in other provinces. Figure 8 shows that after accounting for cost-of-living differences, even after sizeable increases in the hourly wage rate, Saskatchewan wage rates are still lower than Alberta wage rates as well as wages in Toronto and Thunder Bay.<sup>28</sup> In this context, the wages paid in Saskatchewan are not acting as a further stimulus to interprovincial migration.

<sup>28</sup> CPIs available through CANSIM II do not account for spatial variations in cost of living. For a discussion of this issue see J.C. Herbert Emery and Clint Levitt, "Cost of Living, Real Wages and Real Incomes in Thirteen Canadian Cities, 1900-1950," *Canadian Journal of Economics* 35(1) (2002) 115-137; and Patrick J. Coe and J.C. Herbert Emery, "The Dis-Integrating Canadian Labour Market? The Extent of the Market Then and Now," *Canadian Journal of Economics*, 37(4) (2004) 879-897. In 1999, Winnipeg (as a proxy for Thunder Bay), Regina and Edmonton all had a comparable cost of living, but the cost of living in those cities was 85 per cent of Toronto's. Accounting for this initially much-higher cost of living in Toronto, in Figure 8 Toronto has wage levels in January 2012 roughly equal to those paid in Regina and Saskatoon.

**FIGURE 8 UNION HOURLY WAGE RATES FOR CONSTRUCTION TRADES, SELECTED CITIES, JANUARY 2012 (2002 PURCHASING POWER)**



Source: Basic construction union wage rates are from CANSIM II Table 3270003: "Construction Union Wage Rates, Monthly (Dollars)." All wage rates are in 2002 purchasing power using province-specific CPIs.

**WHAT ABOUT THE FUTURE?**

The skilled labour shortages that currently exist in Saskatchewan are expected to worsen over the coming decade. This is based on the expectation (assumption) of sustained strong growth in labour demand and slow labour force growth associated with an aging Saskatchewan workforce and historic patterns and levels of labour supply growth. The Saskatchewan Labour Market Commission<sup>29</sup> forecasted that from 2008 to 2020, the province will need 10,000 additional workers per year over what can be expected to be supplied, given historic patterns of labour-supply growth. From a balanced labour-market position in 2008, the total labour supply shortfall in 2020 will be 120,000 workers. This is an enormous labour shortage. As noted earlier, representing roughly 20 per cent of the projected Saskatchewan labour supply in 2020, this is roughly four times the magnitude of the labour shortage forecast for Alberta. From this perspective, it would seem that Saskatchewan is on the brink of a long-term and persistent challenge to ensure that it has the necessary supply of skilled labour to allow its economy to continue to grow.

<sup>29</sup> Saskatchewan Labour Market Commission, *Right People, Right Place, Right Time* (2009) page 10.

From a different perspective, these sorts of projections for the labour force should not be interpreted as actual “shortages” of labour.<sup>30</sup> Instead, the shortfall of 120,000 workers by 2020 highlights the degree to which the labour market will be strained if labour demand and labour supply do not adjust. These sorts of labour-market projections assume that labour productivity growth remains at current levels and that there is consequently no wage inflation or substitution away from labour and toward capital. As the Conference Board of Canada recognized, these assumptions amount to a presumption that markets do not adjust to worker shortages, and so, this situation is unlikely to occur over the long run.<sup>31</sup> Wage inflation and substitution toward capital to conserve on labour needs, or the investment in productivity-enhancing technologies, would eventually balance labour supply and labour demand.<sup>32</sup>

The Saskatchewan Ministry of Advanced Education, Employment and Immigration presented projections of job opportunities in Saskatchewan arising from expansion in labour demand and opportunities arising due to attrition/retirements over the period 2009 to 2014 based on part of Human Resources and Skills Development Canada’s Canadian Occupational Projection System (COPS).<sup>33</sup> These projections suggest less of a long-run labour shortage than projected in the forecasts of the Saskatchewan Labour Market Commission, and that one-third of the shortages will be accounted for in trades/transportation/equipment operation. Most of the new employment opportunities will require high school/on-the-job training or a post-secondary certificate/diploma. Around 2,000 new employment opportunities over the period 2009 to 2014 will be in construction, requiring 400 additional construction workers per year.

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<sup>30</sup> Sue Richardson and Yan Tan indicate that many OECD economies, including Canada, use computable general equilibrium models of their economies that can be used to project employment by quite detailed levels of skill. These models are complex, large and dynamic, but it has been assessed that while these models are useful for predicting aggregate trends, they have been more limited in their usefulness for accurately predicting growth in specific occupations. Richardson and Tan indicate that the forecasts are often inaccurate by 10 to 20 per cent within only a few years (Sue Richardson and Yan Tan, “Forecasting Future Demands: What We Can and Cannot Know,” National Institute Of Labour Studies, Flinders University, (August 2005) page 6). It is interesting to note that a 2008 forecast for Alberta had the shortage for 2018 at 93,000 workers ([http://ab-cca.ca/uploads/files/PDF/LMI-LMF\\_occ\\_demand\\_supply.pdf](http://ab-cca.ca/uploads/files/PDF/LMI-LMF_occ_demand_supply.pdf)). A 2011 forecast for Alberta using the same model had the shortage back up to 114,000 for 2021 (<http://employment.alberta.ca/documents/occupational-demand-and-supply-outlook.pdf>).

<sup>31</sup> Alicia Coughlin, “Alberta’s Labour Shortage: Just the Tip of the Iceberg,” Conference Board of Canada publication 010-07 (2006).

<sup>32</sup> *Ibid.*, page 2. The study notes that in either case, whether the market adjusts via higher wages to balance labour supply and labour demand, or if an actual shortage of labour occurs, the outcome will lower rates of GDP growth.

<sup>33</sup> Forecasts of future labour-market conditions by detailed occupational group are from the Canadian Occupational Projection System (COPS) from Human Resources and Skills Development Canada. The COPS compares a demand model where New Openings = Expansion + Replacement to a supply model where Supply = School Leavers + Immigrants + Re-entrants. In the COPS, excess demand, or a labour shortage, would be a situation where ((Supply + unemployed) – New Openings) < 0, and a labour surplus if ((Supply + unemployed) – New Openings) > 0. The 2010 Saskatchewan Employment Forecasts published by the Saskatchewan Ministry of Advanced Education, Employment and Immigration, appear to only report the “new openings” projected by the COPS. See “Occupational Employment Outlook, 2009-2014,” “Industrial Employment Outlook, 2009-2014” and “Detailed Occupational Outlook (2009-2014).”

While it is not entirely clear how the Saskatchewan Labour Market Commission forecasts labour supply and labour demand, the commission shows labour supply as roughly constant from 2008 to 2020. This suggests that Saskatchewan is able to produce sufficient labour to replace workers lost through retirement and attrition, so the 10,000-worker shortage per year arises from an expansion of demand beyond 2008 levels. In the COPS job opportunities projections to 2014 for Saskatchewan, 54,170 of 76,990 employment opportunities will result from attrition from the existing workforce. Over the five years, only 22,820 opportunities will arise from the expansion in demand. To the extent that the commission has already accounted for attrition in supply, the employment opportunities from expansion of demand in the COPS system suggest a shortfall of 4,000 workers per year rather than the 10,000 forecast by the commission.<sup>34</sup> In its recent *Plan for Growth*, the Saskatchewan government finds that the province will need 60,000 new workers by 2020 if the province is to reach the government's target for population of 1.2 million residents. This suggests a shortfall of labour of around 7,500 workers per year.

While the COPS projections to 2014 do not suggest the emergence of a serious general-labour shortage in Saskatchewan, it could still be the case that specific skills and occupations are in short supply. It is certainly the case that skilled building trades are projected to have persistently strong demand, while lower-skilled occupations, such as building labourers, are forecasted to have weaker demand growth. Overall, the Saskatchewan Ministry of Advanced Education, Employment and Immigration forecasts<sup>35</sup> that around one-third of 354 occupations will face good employment prospects to 2014, while the remainder face “fair” to “limited” employment prospects.<sup>36</sup> This suggests that there is some scope in the province for up-skilling and “other skilling” the existing Saskatchewan labour force to move workers from low-demand occupations to higher-demand occupations. From a policy perspective, however, it will be necessary to ensure that workers can be moved between occupations experiencing a labour surplus to occupations facing a shortage. In some cases it may be possible to “up-skill” a labourer into a journeyman, but in other cases it may be more difficult to transition a choreographer into a carpenter. In the latter case, the more likely channels will involve directing young workers to train for occupations that are forecasted to be in shortage, over choosing to train for occupations with a surplus of labour.

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<sup>34</sup> I am interpreting the COPS number as a five-year cumulative number. Emery (2006) describes the details of the COPS as well as Alberta's Occupational Demand and Supply Outlook (AODSO) labour market projections and finds that when those projections are compared to the more widely publicized shortage forecasts, the COPS produces shortage estimates one-fifth of the size of the other projections. In addition, the AODSO and COPS showed Alberta with a labour surplus in 2005 — when shortages were reported in the media — and that there would be a measured shortage until 2015.

<sup>35</sup> Saskatchewan Ministry of Advanced Education, Employment and Immigration forecasts, 2010.

<sup>36</sup> Ministry of Advanced Education, Employment and Immigration “Detailed Occupational Outlook (2009-2014)” (Fall 2010).



## What does the Saskatchewan government need to do?

The appropriateness of a response from the Saskatchewan government to deal with labour-market shortages depends upon the nature and causes of the shortages. Denton and Spencer<sup>37</sup> distinguish between two situations that could constitute a labour shortage: one of excess labour demand generally, and one of excess demand for labour in specific sectors, industries, occupations or skills. In the former case, the shortage would be expected to be temporary as wages and prices adjust to restore equilibrium to the labour market. The authors suggest that this notion would generally apply to a time horizon of five to 10 years into the future, but more recent studies (discussed below) show that adjustment in the labour market is more rapid, taking less than two years. In contrast, where excess demand for specific types of labour exists, there is also an excess supply of other types of labour. For a labour shortage to exist, it must be the case that either relative wage rates do not adjust sufficiently due to labour-market inflexibility, or production processes are insufficiently flexible to allow for the substitution of abundant labour for scarce types of labour. These situations are characterized as structural problems and deemed the result of a temporary failure of market mechanisms to equilibrate supply and demand. In these cases, there may be considerable scope for manpower policies to have an effect.

Sue Richardson argues that in a situation where there are few people who possess essential technical skills for a job but are not already using those skills, and there is a long training period to acquire the skills as well as limits to training capacity in organizations, the shortage of labour will be a severe obstacle to expanding firms, and the appropriate policy response would be one that provides long-term planning for training systems, which would anticipate skills-needs and ensure that appropriate training capacity exists.<sup>38</sup> In cases where training periods are short and where organizations can expand the capacity to train, labour-market adjustment should be able to solve the shortage problem. Similarly, it is obvious that a public policy response is warranted in situations where many people have the skills that are in demand but are not currently using the skills and are not willing to apply for available jobs under current conditions, or where employers can hire people who possess the essential skills but who lack in some other qualities that employers think are important.<sup>39</sup>

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<sup>37</sup> Denton and Spencer, "On the Prospect of a Labour Shortage" (1978).

<sup>38</sup> Richardson, *What is a Skill Shortage?* (2005).

<sup>39</sup> A common example of where labour-market adjustment may not work well for addressing manpower issues in a timely fashion is that of physician manpower. Training capacity is limited, costly to expand, and training periods are lengthy. Thus, to address a manpower shortage in medicine through an expansion of education capacity could take up to a decade to have a substantial impact. But as Sue Richardson points out, physician manpower is also an example of how these "body count" measures of labour supply (the number of physicians) are a poor proxy measure of the true size of physician manpower in the province. Physicians vary in the number of hours that they work; some physicians no longer practice medicine having gone into politics, administration or other careers. It is also the case that the current organization of medical-services delivery may not fully employ physician skills, hence the effective pool of physician manpower could be increased if tasks not requiring physician skills could be delegated to other types of medical professionals, such as nurses.

Governments should constrain their interventions to cases where there are market failures that impede the labour market from operating efficiently. These are situations where workers, employers, prospective students or in-migrants lack information about earnings and employment in Saskatchewan, where unnecessary barriers<sup>40</sup> to labour-market entry exist, or where a lack of markets in the educational sector results in a misalignment of training capacity and labour-market needs. Governments may also want to pursue policies to address issues for distribution of income between employers and employees, if the booming labour market results in a socially undesirable division of income. Finally, the government may seek to intervene in the labour market to support other policy objectives such as growing the total population of the province, or in attempts to encourage economic diversification through support of currently not-so-profitable enterprises.<sup>41</sup>

The Saskatchewan government clearly understands these roles for government intervention, and the province's labour-market strategy of 2009, reiterated most recently in its 2012 *Plan for Growth*, lays out a focus on ensuring efficient labour-market adjustment over the short and long run, and to a lesser extent, pursuing distributive goals through the increased participation of members of the population who are materially disadvantaged (e.g. the Aboriginal population).<sup>42</sup> The province's labour-market strategy will focus on developing labour-market information and communication with employers and sector councils to align career choices and labour-supply development with labour demand; workforce and workplace enhancement to increase labour-force participation of under-represented groups; and retention and attraction of highly skilled individuals.<sup>43</sup> For the most part, it appears that the government is engaged in planning beyond the immediate term, which seems like a sensible thing for it to do. Saskatchewan construction firms facing what they see as severe labour-market shortages for journeypersons do not see the government as having a lot to do to alleviate the shortage situation.<sup>44</sup> For the most part, these employers also see the government's role as primarily taking steps to ensure that the labour market adjusts efficiently through immigration and interprovincial migration, as well as through investments in training. Beyond these policy actions, are there other things that the Saskatchewan government should do or should not do?

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<sup>40</sup> Unnecessary with respect to issues of safety and quality and largely for the purposes of generating persistent rents or wage premiums above the marginal product of labour.

<sup>41</sup> The Saskatchewan government may also need to address short-run labour shortages associated with a resource boom as a way to eliminate the risk of a reduction in the province's standard of living, arising from its resource wealth, over the long run. For example, if the labour shortage "crowds out" projects that would install capacity for forward processing of natural resources. If such projects are constructed outside the province, even due to short-run labour-market conditions, then this permanent loss of forward processing activity represents a long-run cost to the provincial economy due to the labour shortage. Similarly, if the resource sector inflates wage and other production costs in Saskatchewan, non-resource production could be "crowded out" via a "Dutch disease" dynamic, which has more recently been dubbed the "resource curse." For a discussion of these issues see John R. Boyce and J.C. Herbert Emery, "Is a negative correlation between resource abundance and growth sufficient evidence that there is a 'resource curse'?" *Resources Policy* 36(1) (2011) 1-13.

<sup>42</sup> Saskatchewan Labour Market Commission, *Right People, Right Place, Right Time* (2009). Probe Research Inc., *Saskatchewan Labour-Market Strategy*, consultation document (July 31, 2012). Government of Saskatchewan, *Saskatchewan Plan for Growth* (October 2012).

<sup>43</sup> Saskatchewan Labour Market Commission, *Right People, Right Place, Right Time* (2009).

<sup>44</sup> Abingdon Research, "Merit Saskatchewan Labour Shortage Survey" (June 2012).

## **FIRST, TRY NOT TO MAKE THINGS WORSE...**

As Figures 1 and 2 show, private and public sector investment spending in Saskatchewan is procyclic and high levels of public sector investment are contributing to the high level of labour demand. While much of the timing and magnitude of this investment may not be alterable, it would make sense for the government to determine what projects could be deferred to future times when labour shortages are not so apparent. This capital-project planning could provide short-term relief to private sector employers while benefiting skilled labour over the longer term by reducing the cyclical variation in construction employment.

The government of Saskatchewan is planning substantial levels of public investment in infrastructure and housing over the next three years.<sup>45</sup> There is no discussion of how the timing of this investment is to be managed or planned, which is a missed opportunity with respect to labour-force development. Small, open economies that are dependent on natural resources for export, as Saskatchewan is, have labour demands that are strongly driven by world prices for commodities. Should demand for natural resources soften, Saskatchewan could see abrupt decreases in labour demand on the part of private sector employers. To the extent that infrastructure investments are to be made to address long-term economic interests of the province rather than short-run export market conditions, the government of Saskatchewan could plan, or time, its infrastructure projects to smooth out total labour demand in the province over cyclical changes in private sector labour demand. This reduction in employment volatility would aid the long-run retention of labour in Saskatchewan and reduce upward pressure on wages in the province by stabilizing employment.

## **NEXT, DO NO HARM: THE CASE FOR DOING NOTHING ABOUT THE SHORT-TERM SHORTAGES**

The government of Saskatchewan's 2012 Plan for Growth to 2020 states that the government will "Negotiate a Temporary Foreign Worker Annex with the government of Canada to expedite entry of foreign workers into Saskatchewan to meet critical skill shortages."<sup>46</sup> There is a strong case that can be made that the Saskatchewan government should not pursue this particular policy since the short-run benefit of temporary relief, no matter how "critical" the shortage, could come with greater long-run costs, due to impaired labour-market adjustment. Evidence suggests that temporary foreign workers (TFWs), as opposed to permanent migrants, will create a problem for the province in meeting its long-run growth targets and for developing its labour supply for the long term.

Shah and Burke point out that, in a competitive labour market, there will always be unfilled vacancies, some of which may be "hard to fill." Even when the number of unfilled vacancies reaches an "intolerable" level, this situation may be socially optimal and part of a necessary adjustment process in the labour market. As such, public intervention that interferes with labour-market adjustment merely adds to the costs of adjustment being borne by the market.<sup>47</sup>

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<sup>45</sup> Government of Saskatchewan, *Saskatchewan Plan for Growth* (October 2012) pages 31-36.

<sup>46</sup> Government of Saskatchewan, *Saskatchewan Plan for Growth* (October 2012) page 39.

<sup>47</sup> Shah and Burke, "Skills Shortages" (2005) page 63.

For example, Gross and Schmitt find that the post-2002 expansion of Canada's temporary foreign worker (TFW) program may have addressed interests in fuelling short-run growth in provincial economies, but it was costly for the longer term as TFWs dampened wage increases, which in turn reduced interprovincial migration.<sup>48</sup> In a sense, reliance on TFWs likely allowed employers to expand business more than they otherwise would have in the short run, but reduced the linkages of labour supplies across the provinces. Similarly, recent consultations by the federal government with First Nations members on immigration targets for 2013 revealed that Aboriginal Canadians feel that high immigration levels, particularly of temporary foreign workers, discourages the integration of Canada's young, Aboriginal population into the workforce.<sup>49</sup>

It is important to recognize that the Saskatchewan labour market adjusts rapidly and the government has taken the necessary steps to ensure that this is the case. The Fraser Institute identifies Saskatchewan as having the second-highest-performing labour market amongst Canadian provinces (behind Alberta).<sup>50</sup> While Coe and Emery did not include Saskatchewan in their studies of labour-market adjustment in construction trades in Canada's largest cities due to a lack of Statistics Canada wage-rate data, they find that construction labour markets in Canada adjust rapidly.<sup>51</sup> To the extent that Saskatchewan's labour market is identified by the Fraser Institute as similar in performance to Alberta's, we can only assume that that this characterization holds for Saskatchewan as well. Finally, the 2010 New West Partnership Trade Agreement (NWTPA), between Saskatchewan, Alberta and British Columbia, with its agreement to "Mutually recognize or otherwise reconcile unnecessary differences in their standards and regulations," effectively allows free mobility of accredited skilled labour — such as journeypersons in construction trades and regulated professions — across the three provinces.<sup>52</sup>

Despite the fact that the supply of education and training institutions and opportunities are not responsive to labour-market needs in the short or long run, it is clear that on the demand side, students and trainees in Saskatchewan do seek out programs and opportunities that align with labour demand. Figure 9 takes the percentage change in hourly wage rates for the construction trades from Figure 7 and compares them to the percentage changes between 2007 and 2010 in apprenticeship registrations for the same trades. While apprenticeship registrations are

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<sup>48</sup> Dominique M. Gross and Nicolas Schmitt, "Temporary Foreign Workers and Regional Labour Market Disparities in Canada," *Canadian Public Policy/Analyse de politiques* XXXVIII (2) (2012) 233-263.

<sup>49</sup> Bruce Cheadle, "First Nations consulted on 2013 immigration targets as Tories break new ground," The Canadian Press, posted: Sept. 20, 2012 (<http://www.winnipegfreepress.com/canada/first-nations-consulted-on-2013-immigration-targets-as-tories-break-new-ground-170586636.html>)

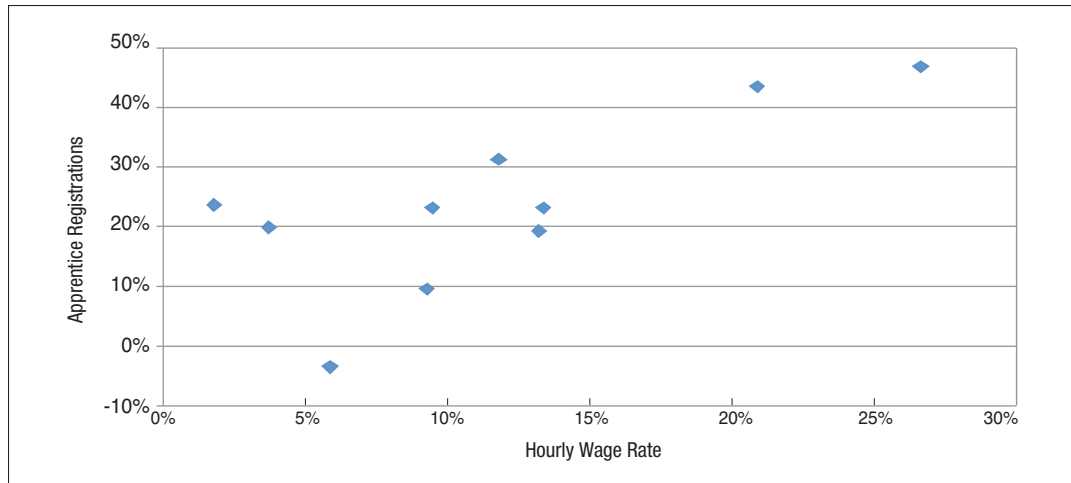
<sup>50</sup> Amela Karabegovic, Alex Gainer and Niels Veldhuis, *Measuring Labour Markets in Canada and the United States: 2011 Edition*, Fraser Institute (September 2011).

<sup>51</sup> Patrick J. Coe and J.C. Herbert Emery, "The Dis-Integrating Canadian Labour Market? The Extent of the Market Then and Now," *Canadian Journal of Economics*, 37(4) (2004), 879-897. Patrick J. Coe and J.C. Herbert Emery, "Accreditation Requirements and the Speed of Labour Market Adjustment in Canadian Building Trades," *Canadian Public Policy/Analyse de politiques* XXXVIII(1) (2012) 91-111.

<sup>52</sup> See [http://www.newwestpartnershiptrade.ca/the\\_agreement.asp](http://www.newwestpartnershiptrade.ca/the_agreement.asp). The agreement that built on the Trade, Investment and Labour Mobility Agreement (TILMA) between British Columbia and Alberta came into effect on July 1, 2010 and is to be fully implemented on July 1, 2013.

generally 20 per cent higher in 2010 than in 2007, the size of the change in registrations is positively correlated with the size of wage increases. This does suggest that higher wages do result in increases in long-term skilled labour supply.<sup>53</sup>

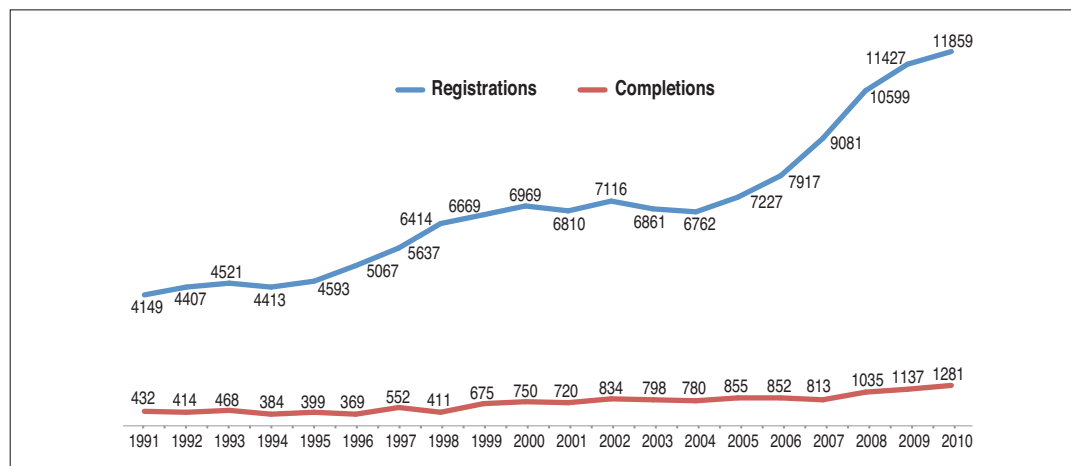
**FIGURE 9 2007 TO 2010 CHANGES IN APPRENTICESHIP REGISTRATIONS AND CONSTANT DOLLAR HOURLY WAGE RATES, SELECTED CONSTRUCTION TRADES, SASKATCHEWAN**



Sources: Wage-rate changes are taken from construction hourly wage rates for Saskatoon from CANSIM II. Wage rates are in 2002 constant dollars-per-hour. Changes are from January 2007 to January 2010 for wages and 2007 to 2010 for annual counts of apprentice registrations. Table 4770053 - Registered apprenticeship training, registrations, by age groups, sex and major trade groups, annually (Number)

Figure 10 shows that in total, apprentice registrations and completions have increased substantially over the past decade.

**FIGURE 10 APPRENTICESHIP REGISTRATIONS AND COMPLETIONS, ALL MAJOR TRADE GROUPS, SASKATCHEWAN 1991-2010**

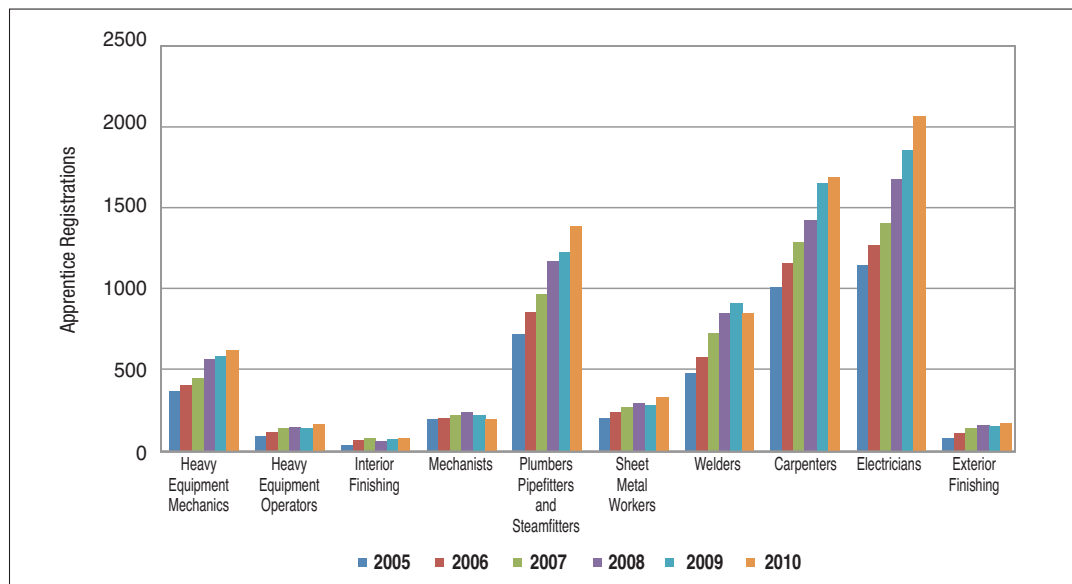


Sources: Completions, v53478648 Saskatchewan; Total age groups; Both sexes; Total major trade groups; Registrations, v53471047 Saskatchewan; Total age groups; Both sexes; Total major trade groups.

<sup>53</sup> Even where high wages result in increased drop-out rates during a resource boom, this reflects interruptions in schooling that are associated with higher ultimate levels of educational attainment. See J.C. Herbert Emery, Ana Ferrer and David Green, "Long-Term Consequences of Natural Resource Booms for Human Capital Accumulation," *ILRReview* 65(3) (2012) 708-734.

Figure 11 shows the number of apprenticeship registrations by building trades annually, from 2005 to 2010. The trades with the highest wage increases in Figure 8 have seen the number of apprenticeship registrations double in five years. As completion rates for registered apprentices have remained fixed over the past decade at around 10 per cent (see Figure 10), this increase in registrations should drive a commensurate increase in journeypersons. Assuming that the rate of annual registrations to apprenticeship completions for Saskatchewan remains at its historic rate of 10 per cent, the increase in apprenticeship registrations to date appears sufficient to meet the number of new employment opportunities in the COPS forecast for Saskatchewan.

**FIGURE 11 APPRENTICESHIP REGISTRATIONS BY TRADE, SASKATCHEWAN, 2005 TO 2010**



Source: CANSIM II Table 4770053 - Registered apprenticeship training, registrations, by age groups, sex and major trade groups, annually (Number)

This point needs to be considered when one evaluates policy suggestions such as lowering tax burdens for firms so they have more resources for hiring, training and retention, or encouraging students to pursue trades. Planning should occur in the context of assessing the unmet labour-market demands after market adjustments have been accounted for. If the labour-market responses in the absence of government intervention are generating sufficient labour, then further government actions will make the labour supply too large. If the current economic boom in Saskatchewan is expected to be followed by a bust, then implementing policies to increase labour supply will allow the economy to get too large in the short run and will make the inevitable crash worse. This point is extremely important if much of the short-run employment stimulus is in sectors such as construction, where there may be limited scope to encourage labour to shift into other occupations or sectors once the construction boom is over. Mansell and Percy argue that the severity of the crash of the Alberta economy in the 1980s was in part the consequence of the high levels of employment in construction that were driven by oil and gas.<sup>54</sup>

<sup>54</sup> Robert Mansell and Michael Percy, *Strength in Adversity: A Study of the Alberta Economy* (Edmonton: University of Alberta Press, 1990) page 17. The authors estimate that one-half of construction activity in Alberta was related to oil and gas. The Alberta Federation of Labour in 2006 estimated that 60 per cent of major construction projects in Alberta were associated with oilsands development (see: Alberta Federation of Labour, *Beyond Chicken Little: Understanding the Need for Measured Reforms to Alberta's System for Skills Training* (April 2006)).

## **DON'T LET SHORT-RUN ADJUSTMENTS MAKE YOU COMPLACENT ABOUT PLANNING**

To date, it appears that the Saskatchewan government's planning and development of a labour-market strategy appears to have not progressed from its "high-level" discussion to development of concrete proposals and changes to address longer-term labour-market needs. Saskatchewan has made many positive institutional/structural changes, such as the Saskatchewan Immigrant Nominee Program and its decision to effectively join the TILMA with B.C. and Alberta through the 2010 NWTPA. But has the province taken steps to determine how it will use these programs in an active way, rather than passively, to address labour-market needs?

Even where the government's planning appears more active, the details of what the government will do are still being developed. It is not clear how the government will create an incentive for or fund post-secondary institutions to orient programs to meet labour-market requirements, or how financial supports for students and immigrants will be aligned with education and employment opportunities. If a goal of a labour-market strategy is to increase the labour-force participation of females, elderly workers or disabled workers, then what steps has the government taken towards enhancing work supports, such as affordable daycare and eldercare? What policies are in place for enhancing transportation options for the elderly and the disabled? Increasing the labour-force participation and skills training of Aboriginal Canadians will require an increase in the number of young Aboriginals completing high school. What steps have been taken for this to happen, beyond the mere stating of goals? What is the province doing to take advantage of the large pool of unemployed young males in Saskatchewan in its efforts to build the province's labour force?

The delay in the development of a detailed labour-market strategy for Saskatchewan has potentially resulted in the province missing an important opportunity with respect to training and education. Figure 12 shows the distribution of Saskatchewan's population by five-year age groups in 2006 (just prior to the establishment of the Saskatchewan Labour Market Commission), in 2009 (the year of the first release of Saskatchewan's labour-market strategy) and in 2012 (which marked the latest consultation for further developing Saskatchewan's labour-market strategy). Over that time period, the Gen-Y or baby-boom-echo cohort has aged six years, with the peak of its population size now between the ages 20 and 24. In 2006, changes to career counseling in high schools and changes in post-secondary programs would have occurred just as a large population bulge was in high school, or finishing high school, and making career choices and investing in their own human capital. For the most part, short-term labour-market conditions will have directed these decisions, instead, and the majority of people in this generation are now beyond the secondary-school ages where it would have been relatively easy for the government to reach them.

FIGURE 12 SASKATCHEWAN POPULATION BY FIVE-YEAR AGE GROUPS, 2006, 2009 AND 2012

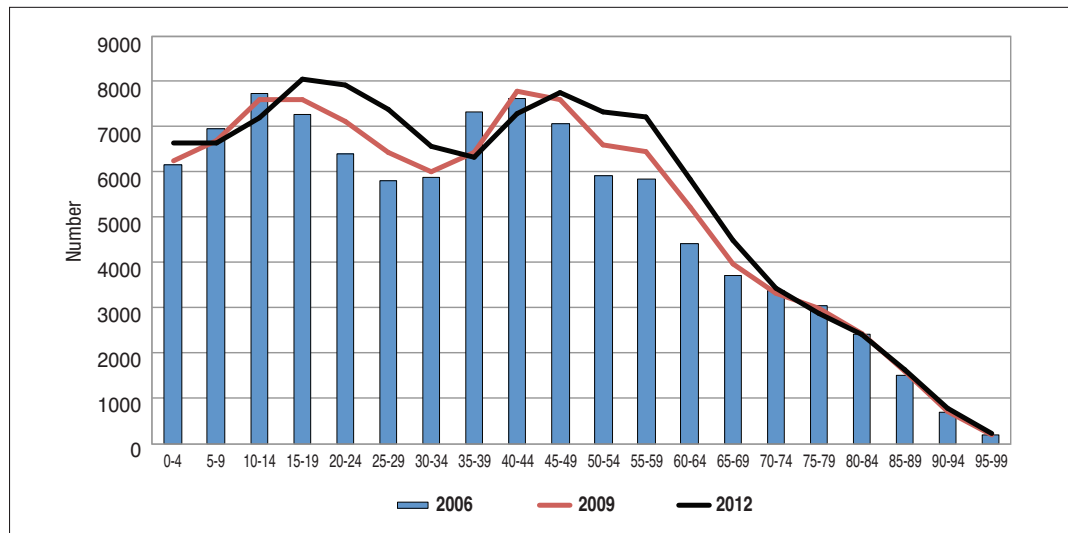


Table 510001 - Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annually (Persons unless specified)

The lack of any detailed development for a labour-market strategy may, in part, reflect that market-based responses to short-term labour-market conditions and demographics have initiated sufficient increases in apprenticeship training and sufficient levels of immigration and in-migration, despite whatever barriers to these responses may exist. The problem for the government is going to be that these strong short-run labour-market signals will inevitably moderate, even if commodity prices remain high, which in turn will lead to deficient numbers of trainees and in-migrants to meet longer-term labour-market demands.<sup>55</sup>

The lack of detailed development of a labour-market strategy to date may also reflect “rational hedging” through procrastination on the part of the Saskatchewan government. While the government may trust forecasted levels of labour demand over the coming decade, the government may also expect that it is only a matter of time before there may be a “glut” in skilled labour, particularly in construction, in Western Canada. A 2006 Alberta Federation of Labour (AFL) report identified that whatever shortages were being experienced in Alberta would not persist beyond a few years, as oilsands development gave way to a new phase of oilsands production.<sup>56</sup> While the AFL may not have correctly predicted the timing of the decline in Alberta’s demand for construction workers, it is reasonable to expect that a forecasted decline in oilsands construction employment will occur over the planning horizon of

<sup>55</sup> For discussions of the labour market dynamics of a small open economy reliant on natural resource exports see E. Chambers and D. Gordon, “Primary Products and Economic Growth: An Empirical Measurement,” *Journal of Political Economy* 74 (1966) 315-32; John R. Boyce and J.C. Herbert Emery, “Is a negative correlation between resource abundance and growth sufficient evidence that there is a ‘resource curse’?” *Resources Policy* 36(1) (2011) 1-13; J.C. Herbert Emery and Ronald D. Kneebone, “Socialists, Populists, Resources and the Divergent Development of Alberta and Saskatchewan,” *Canadian Public Policy* 34(4) (2008) 419-440; and Emery and Kneebone (2012).

<sup>56</sup> The Alberta Federation of Labour reported that 60 per cent of the total value of construction projects in the province are associated with oilsands development. The overall demand for skilled construction workers in major projects (over \$2 million in value) was forecast to decline from a peak of 24,000 in 2008 to 8,800 in 2009. The AFL concluded that what had been described as a labour shortage was instead just a very tight labour market and the tight labour market conditions would be gone as early as 2009 (Alberta Federation of Labour, *Beyond Chicken Little: Understanding the Need for Measured Reforms to Alberta’s System for Skills Training* (April 2006) pages 4-7).

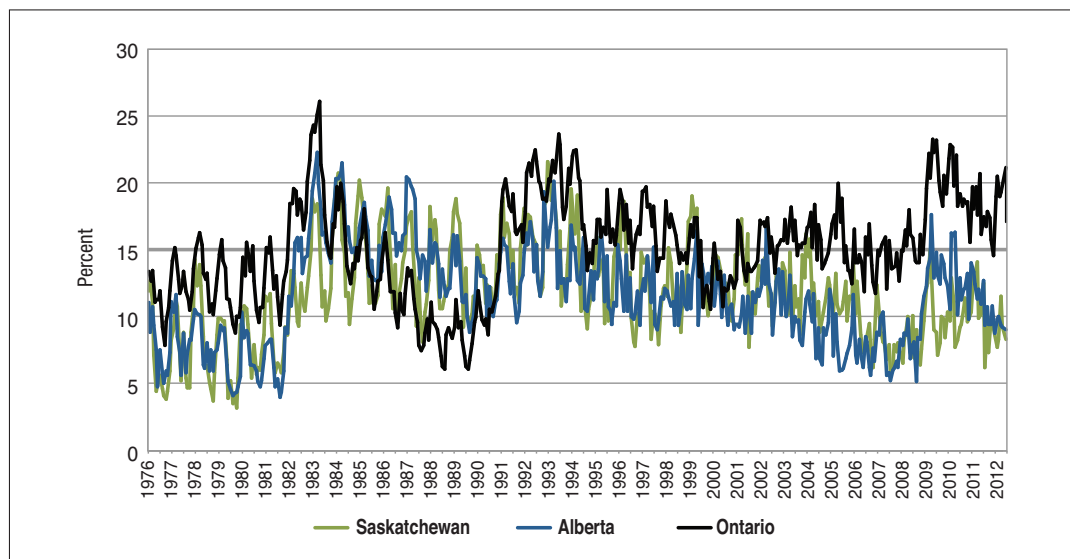


the current Saskatchewan government. If we also consider that, after the 2010 Winter Olympics, there has likely been a construction slump in B.C., then there will be a much larger potential supply of construction labour for western Canada.<sup>57</sup> Of course if Alberta and B.C. are going to experience skills surpluses, then Saskatchewan may not face labour shortages, either because its own forecasting methodology is flawed, or the surplus labour in Alberta will relocate to Saskatchewan.

### MAKE MORE EFFECTIVE USE OF THE EXISTING POTENTIAL LABOUR SUPPLY

Figure 13 shows that, despite labour-market tightness in Saskatchewan for prime-age workers, there is a large pool of potential labour supply for the province. Unemployment rates for males age 15 to 24 have remained high, despite the strong demand for labour. This likely reflects a mismatch of skills-needs and skills-supply for this demographic group. Encouraging young males to acquire the skills, education and training that are in high demand is an obvious policy direction for the government of Saskatchewan to take.

**FIGURE 13 UNEMPLOYMENT RATES FOR MALES 15-24, ONTARIO, SASKATCHEWAN AND ALBERTA, JANUARY 1976 TO JUNE 2012**



SOURCE: v2096437 Saskatchewan; Unemployment rate (Rate); Males; 15 to 24 years; v2097067 Alberta; Unemployment rate (Rate); Males; 15 to 24 years; v2095177 Ontario; Unemployment rate (Rate); Males; 15 to 24 years

A striking feature of apprenticeship training in Canada is that, despite high and growing numbers of apprentice registrations, completed apprenticeships represent a surprisingly small share of registrations.<sup>58</sup> Figure 11 shows that for Saskatchewan over the past 20 years, completed apprenticeships in a given year are only 10 per cent of total registrations. The low completion rates suggest that it should be possible to increase the supply of fully qualified tradespeople by addressing conditions that result in non-completed training.

<sup>57</sup> David A. Green, "Olympic Impacts: Should we expect an employment boom?", Canadian Centre for Policy Alternatives, B.C. Office (February 2003).

<sup>58</sup> Sandrine Prasil, "Registered Apprentices: The Class of 1992, a Decade Later," Statistics Canada Research Paper, Catalogue no. 81-595-MIE — No. 035 (2005) (<http://publications.gc.ca/collections/Collection/Statcan/81-595-MIE/81-595-MIE2005035.pdf>); Karl Skof, "Trends in Registered Apprenticeship Training in Canada, 1991 to 2009," *Education Matters: Insights on Education, Learning and Training in Canada*, Statistics Canada, 81-004-X (2011) (<http://www.statcan.gc.ca/pub/81-004-x/2011003/article/11538-eng.htm>).

Patrick Coe reports that younger apprentices have higher completion rates than people who begin apprenticeships at higher ages.<sup>59</sup> Coe also finds that higher minimum-education requirements for apprenticeship training raise completion rates, but in turn, may reduce registrations. Block release — which requires trainees to leave work for the training period — is also thought to be a barrier to completion, since it requires a period of disrupted earnings for an apprentice, despite the eligibility for employment insurance benefits while in class.<sup>60</sup> Possible solutions to this problem include changing the way curriculum is delivered. Both the federal government and the government of Saskatchewan have established incentives for apprenticeships and their completions through tax credits, tax deductions and grants. The remaining financial lever to encourage apprenticeship completion would be to have government pay apprentices for the periods of time that they are in class, perhaps as a top-up to employment insurance benefits. Policies aimed at encouraging higher completion rates of apprenticeship programs could provide a substantial boost in the pool of skilled labour in the province and could occur relatively quickly, but would not necessarily require any further expansion of training programs. Similarly, the government of Saskatchewan, in cooperation with other provincial governments, could collectively improve the labour-market mobility of skilled tradespeople by working to develop policies to increase the proportion of “red seal”-qualified tradespersons in all provinces.<sup>61</sup>

Finally, immigrants often face challenges receiving accreditation to work in their fields. Acquiring the necessary work experience, additional education and credentials for working in Canada is made more difficult by a lack of financial resources. Most government financial aid is intended for full-time students in formal education programs. A lack of credit history in Canada and low earnings in survival jobs makes it difficult to acquire credit in Canada. In Alberta, the Immigrant Access Fund addressed this market failure for immigrants. The fund provides small loans for any expenses, not just education costs, for immigrants seeking accreditation in a wide range of professions and trades. Evidence, to date, is that this program has been a cost-effective way to increase the supply of sought-after skills among immigrants who are already in the province.<sup>62</sup>

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<sup>59</sup> Patrick J. Coe, “Apprenticeship Program Requirements and Apprenticeship Completion Rates in Canada,” Canadian Labour Market and Skills Researcher Network Working Paper No. 71 (2011) (<http://www.clsrn.econ.ubc.ca/workingpapers/CLSRN%20Working%20Paper%20no.%2071%20-%20Patrick%20Coe.pdf>).

<sup>60</sup> The federal government and the government of Saskatchewan currently provide financial incentives to encourage Canadians to pursue and complete apprenticeship training. See <http://www.red-seal.ca/c4nt.2nt@-eng.jsp?cid=24> for information on federal tax credits and deductions for apprentices and the cash grant for completing apprenticeships. See <http://www.saskapprenticeship.ca/tax-programs/> for information on Saskatchewan’s tax credits and supports to encourage post-secondary education and training and to encourage graduates to remain in Saskatchewan.

<sup>61</sup> The Canadian Federation of Independent Business (CFIB) and the Conference Board of Canada both provide similar policy suggestions for the Alberta government to enhance interprovincial labour mobility. The conference board highlights the recent agreement between Alberta and British Columbia that allows for recognition across the border of credentials for a number of industries. Both organizations call for government to improve access to training and allow for more flexible labour laws. (Coughlin, “Alberta’s Labour Shortage” (2006) pages 5-5; CFIB, “Alberta’s Growing Shortage of Qualified Labour” (2006) page 4.)

<sup>62</sup> Herbert Emery and Ana Ferrer, “The Social Rate of Return to Investing in Character: An Economic Evaluation of Alberta’s Immigrant Access Fund Small Loan Program,” University of Calgary, Department of Economics, working paper, January 2012. (<http://ideas.repec.org/p/clg/wpaper/2012-01.html>)

## ATTRACT AND RETAIN SKILLED LABOUR TO SASKATCHEWAN

In dealing with labour shortages, what should matter for the province of Saskatchewan is attracting the skills that are in demand, irrespective of the home address of the skilled workers. Interprovincial and international migration and increased labour retention are substitute strategies for increasing labour supply. Determining which strategy should be pursued, or the relative reliance on the three different strategies, should depend on the relative costs and returns to the Saskatchewan economy.

As the relatively large baby-boom-echo cohort ages into its mid-20s, which closes the window of high-returns for policy responses able to affect the education, training and career choices of young Saskatchewan residents, Saskatchewan will inevitably need to meet growing labour demand by focusing on increasing its levels of interprovincial migration, immigration and retention of skilled labour. Increasing interprovincial migration levels will prove to be a challenge, however, as wage rates across provinces have converged, meaning that wage increases in Saskatchewan are keeping pace with those of other provinces, rather than stimulating further in-migration.

A recent report in the *Calgary Herald* highlighted the strategy of governments and employers in Alberta and Saskatchewan to recruit labour from Ireland and Scotland, two economies with high unemployment and which are home to workers who would potentially fit well into the western Canadian economies:

“While Alberta’s unemployment rate currently hovers around four per cent — tied with Saskatchewan for the lowest rate of joblessness in Canada — unemployment rates in Ireland and Scotland are at 15 per cent and eight per cent respectively. With no language barrier and education systems that are similar to Canada’s, the U.K. and Ireland have become ripe recruiting grounds for Canadian employers. In March of this year, a labour force attraction mission to Ireland led by Saskatchewan Premier Brad Wall drew 15,000 attendees and resulted in more than 600 job offers by Saskatchewan companies.”<sup>63</sup>

Curiously, the same description — other than the attempts to recruit labour — could be applied to Ontario (Northern Ontario standing in for Ireland, in terms of unemployment levels, and southwestern Ontario standing in for Scotland), yet the premiers of the prairie provinces, to date, have not been leading recruiting missions to Ontario the way they have overseas. The 2012 *Saskatchewan Plan for Growth* states that there will be five national and international job missions conducted annually to attract migrants to Saskatchewan to address skills-needs in the province, but the relative expenditures and efforts placed on conducting national versus international recruiting missions is not stated.<sup>64</sup> It is also not clear what the relative efforts between national and international recruiting should be. Labour in Ontario may be potentially less expensive to attract than international migrants, but may be less motivated to move given

<sup>63</sup> Amanda Stephenson, “CED targets Irish, Scottish hires,” *Calgary Herald*, October 5, 2012. (<http://www.calgaryherald.com/business/targets+Irish+Scottish+hires/7349966/story.html#ixzz28SDbgODK>). British Columbia is also looking for construction workers in Ireland: “Irish workers vie for skilled jobs in B.C.,” *The Globe and Mail*, October 27, 2012, B17.

<sup>64</sup> Government of Saskatchewan, *Saskatchewan Plan for Growth* (October 2012) page 39.

the existing wage differentials. In these cases, addressing the up-front transaction costs faced by international migrants may yield higher returns to recruiting efforts, since international migrants are more willing to accept the existing wage contract. In addition, it appears that provincial nominee programs for immigration result in good retention of labour brought into the province, whereas interprovincial migrants may be too mobile and harder to retain.<sup>65</sup>

#### **FINALLY, NEVER LET A GOOD CRISIS PASS: DO THINGS THAT SHOULD BE DONE ANYWAY**

Increasing the labour-force participation of materially disadvantaged groups in society who are under-represented in the labour market should be done if it improves the well being of members of those groups, regardless of the state of the labour market. In the case of Aboriginal Canadians, steps toward improving educational outcomes to increase labour-force participation and incomes should be done regardless of the state of the labour market. If a collateral benefit of that outcome is aligned with long-run labour-supply development, then that is just another reason for this to happen. Similarly, supports to enable the disabled to work and earn income should also be developed.

Saskatchewan, like all Canadian provinces, spends a substantial share of its budget on its post-secondary education system. Whether we have the correct balance of resources divided between universities and college vocational programs has not been rigorously assessed, and whether we could alter the balance to achieve better outcomes for both students and the province is an open question at this time. With perceived shortages of qualified tradespeople, provincial governments have an opportunity to investigate these issues.

## **CONCLUSIONS**

Saskatchewan has experienced remarkably strong growth in labour demand over the past decade and this growth is forecast to continue to 2020 if the province can find enough labour. Saskatchewan's labour market has rapidly adjusted in response to short-run conditions, so there is not a strong case for the government to do anything about the short-run labour-market tightness since at best the actions would be benign, but at worse they could undermine the development of labour supply over the long run, particularly amongst the Aboriginal population. There is a strong case for the government to continue pursuing its longer horizon planning for the labour market initiated in 2009. The Saskatchewan government needs to ensure that its education systems, financial support systems for education and skills training, etc. align with long-run labour-supply needs and fit with the needs of the population. Perhaps the strongest recommendation is that the Saskatchewan government needs to pick up its pace, as the lack of concrete progress since 2009 has resulted in no action while the key, Gen-Y cohort is aging beyond the traditional ages at which education, training and occupations are selected.

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<sup>65</sup> Tom Carter, Manish Pandey and James Townsend, "The Manitoba Provincial Nominee Program: Attraction, Integration and Retention of Immigrants," Institute for Research on Public Policy study no. 10 (October 2010). ([http://www.irpp.org/pubs/IRPPstudy/IRPP\\_Study\\_no10.pdf](http://www.irpp.org/pubs/IRPPstudy/IRPP_Study_no10.pdf)).

### **About the Author**

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