CANADIAN TOURISM HUMAN RESOURCE COUNCIL

CONSEIL CANADIEN DES RESSOURCES HUMAINES EN TOURISME

THE FUTURE OF CANADA'S TOURISM SECTOR:

LONG ON PROSPECTS... ... SHORT ON PEOPLE

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Introduction

The Conference Board of Canada and the Canadian Tourism Human Resource Council worked together on this project to develop an in-depth analysis of the supply of and demand for labour in the tourism sector over the medium and longer term. This project objectively and independently estimates the potential supply and demand for labour in tourism in Canada going forward. Rather than accepting that labour shortages will restrict the performance of Canada's tourism sector as a *fait accompli*, our analysis attempts to provide a broader perspective on the extent of missed opportunities introduced by labour shortages.

Labour shortages are already leading to changes in the tourism sector. To varying degrees, these changes have increased the consolidation of the sector and forced many investors to reconsider investment decisions. As well, output of the tourism sector is being further restricted as tourism businesses reduce their hours of operation or limit their product offerings because of labour shortages.

Given evidence that tourism demand will continue to expand, there is a need to objectively assess the future supply of labour available to fill tourism jobs. Longer life spans and falling fertility rates are aging the population at an accelerating rate—not only in Canada, but in many countries of the world. The demographic trend of an aging population, combined with the increase in retirement, is lowering labour force growth, leading to tighter labour markets and limiting economic potential. In response to this dramatic shift in trends, public and organizational policies and practices must begin to change now, to offset the longer term economic and social repercussions.

Although increases in productivity will reduce the demand for labour in some sectors, these impacts are not expected to offset the pressure of labour shortages on the whole. Similarly, rising immigration—even under the most optimistic assumptions—will not suffice to alleviate labour shortages over the medium and long term. Other measures are required to address these issues. It is hoped that, by identifying the potential missed opportunities of the tourism sector going forward, stakeholders can take action to limit, if not eliminate, the potential constraints imposed by labour shortages.

Overview of Trends

Canada's growing labour shortage has garnered a lot of attention in recent years, especially within the tourism sector. Current projections suggest that as labour demand in Canada increases over the next two decades, the pool of available labour will have an increasingly difficult time keeping up.

Continued growth in demand for tourism goods and services contrasted with a slowing Canadian labour force are two of the main reasons for the growing imbalance between labour demand and labour supply in the tourism sector. Falling fertility rates, longer lifespans, and the aging of the baby-boom generation are all contributing to the aging of Canada's population. Although immigration is rising, overall labour force growth is still being dampened by the combined effects of lower fertility rates and the aging of the baby boomers.

The gap between potential labour supply and demand in the tourism sector is expected to intensify after 2010, when a large proportion of the Canadian population passes age 65 and the baby-boom generation begins leaving the labour force in large numbers. This will precipitate a dramatic slowdown in the growth of Canada's overall labour force, resulting in a shortage of workers to replace the soaring number of retirees.

The negative economic effects of these demographic changes will be magnified in the tourism sector. On the demand side, Canadian baby boomers are expected to significantly increase their consumption of tourism and tourism-related goods and services over the forecast period. What's more, similar baby booms in Canada's key international markets are also boosting foreign tourism demand in Canada. Thus, demand for tourism goods and services is expected to keep growing at a healthy pace. Meanwhile, on the supply side, the exodus of the baby boomers from the labour force is creating an increasing void of unfilled positions. Because of declining fertility rates, fewer young people are available to fill this void, thus limiting a critical source of labour supply for the tourism sector.

To assess the impact of these trends, it is necessary to analyze the potential demand for workers in the tourism sector, as well as the potential supply of labour that will be available to fill tourism jobs in the future.

Potential Labour Demand in the Tourism Sector

The Conference Board of Canada's forecast of the potential demand for tourism goods and services in Canada suggests that spending could rise from $130 billion in 2005 up to $220 billion in 2025 (at inflation-adjusted 1997 dollars). Growth in demand is expected to be strongest between 2005 and 2010, when baseline demand is forecast to increase at an average annual rate of 3.5 per cent per year. Over the long term, although potential demand for tourism goods and services will keep expanding at a healthy pace, growth will ease somewhat as domestic demand resulting from tourism and non-tourism activity moderates in combination with the slowing growth of the Canadian population. Changing demographics in Canada's domestic travel market will also play a role in slowing down demand growth (Tables 1a and 1b).

Over the next two decades, growth in potential demand for Canadian tourism goods and services related to tourism activity is expected to outpace the growth forecast for the potential demand generated by non-tourism activity (such as dining at a local restaurant). The Conference Board of Canada expects growth in spending from domestic and foreign tourists on tourism good and services in Canada could increase from $54.4 billion in 2005 to $101.7 billion in 2025, a potential gain of 86 per cent. Meanwhile, demand for tourism goods and services generated from non-tourism activities could grow from $75.4 billion in 2005 to $118.4 billion in 2025, a potential gain of 57 per cent.

Table 1a: Potential Demand for Tourism Goods and Services in Canada (1997 $ millions)

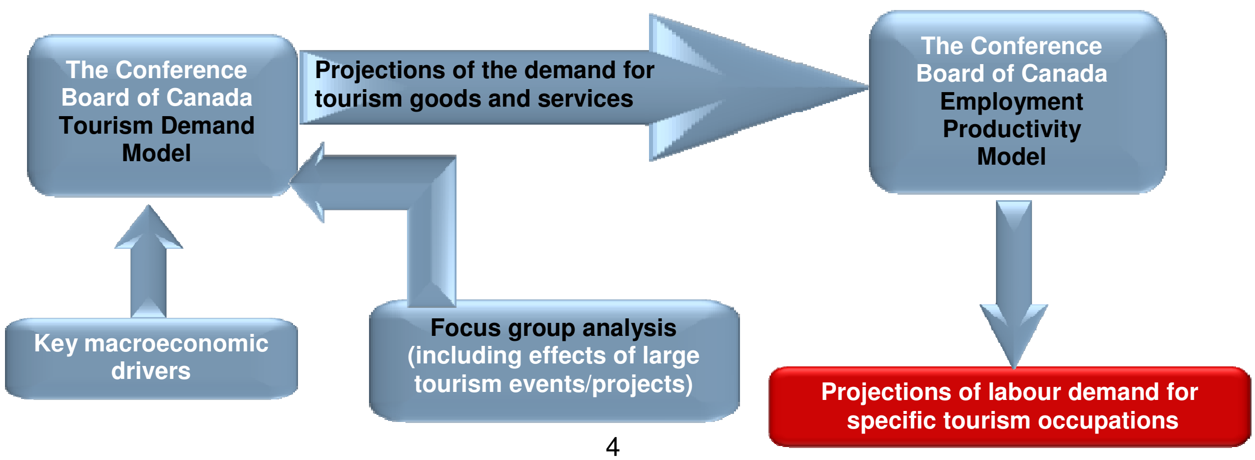
	2005	2010	2015	2020	2025
Tourism demand	54,430	68,305	80,587	91,161	101,727
Domestic	39,982	52,763	62,431	70,163	77,571
Foreign	14,449	15,541	18,156	20,998	24,156
Non-tourism demand	75,370	85,506	96,516	107,251	118,367
TOTAL DEMAND	**129,800**	**153,810**	**177,103**	**198,412**	**220,094**

Table 1b: Potential Demand for Tourism Goods and Services in Canada (1997 $ millions, compound annual growth rate)

	2005–2010	2010–2015	2015–2020	2020–2025
Tourism demand	4.6%	3.4%	2.5%	2.2%
Domestic	5.7%	3.4%	2.4%	2.0%
Foreign	1.5%	3.2%	3.0%	2.8%
Non-tourism demand	2.6%	2.5%	2.1%	2.0%
TOTAL DEMAND	**3.5%**	**2.9%**	**2.3%**	**2.1%**

Although growth in potential demand for tourism goods and services in Canada is expected to decelerate slightly overall during the next 20 years, it will stay strong enough to bolster the demand for labour in the tourism sector. Exhibit 1 provides a basic visual representation of how our analysis modelled the potential demand for labour in tourism jobs using the underlying projections of demand for tourism goods and services as well as assumptions about the sector's productivity.

Exhibit 1: Modelling Potential Labour Demand in the Tourism Sector



Projections for labour demand in the Canadian tourism sector indicate that labour demand could grow from 1.7 million jobs in 2005 to 2.2 million jobs in 2025, a potential increase of 33 per cent (Table 2a).

Table 2a: Potential Labour Demand in Canada's Tourism Sector (jobs)					
	2005	**2010**	**2015**	**2020**	**2025**
Transportation	238,070	260,056	275,490	288,567	300,677
Air transportation	70,864	80,526	87,628	93,355	98,526
Rail transportation	10,221	10,308	10,576	10,880	11,180
Other transportation	156,985	169,222	177,285	184,332	190,971
Accommodation	227,805	252,597	266,920	279,595	293,559
Food and beverage services	837,231	917,064	1,006,201	1,082,102	1,162,484
Recreation and entertainment	304,463	334,362	360,958	377,365	386,745
Travel services	45,443	47,537	50,585	53,612	56,763
TOTAL LABOUR DEMAND	**1,653,012**	**1,811,616**	**1,960,153**	**2,081,240**	**2,200,228**

By far, the largest increase in potential labour demand will occur in the food and beverage services industry. The industry could support nearly 1.2 million full-year jobs by 2025, up from 837,000 full-year jobs in 2005. Growth in the demand for labour in this industry will remain strong up to 2015, and then ease slightly between 2015 and 2025.

Overall, growth in potential labour demand for the tourism sector is expected to be highest between 2005 and 2010 (1.8 per cent on average). After 2010, the pace of growth in labour demand is expected to ease, slowing to a compound annual growth rate of 1.1 per cent between 2020 and 2025 (Table 2b).

Table 2b: Potential Labour Demand in Canada's Tourism Sector (jobs, compound annual growth rate)				
	2005–2010	**2010–2015**	**2015–2020**	**2020–2025**
Transportation	1.8%	1.2%	0.9%	0.8%
Air transportation	2.6%	1.7%	1.3%	1.1%
Rail transportation	0.2%	0.5%	0.6%	0.5%
Other transportation	1.5%	0.9%	0.8%	0.7%
Accommodation	2.1%	1.1%	0.9%	1.0%
Food and beverage services	1.8%	1.9%	1.5%	1.4%
Recreation and entertainment	1.9%	1.5%	0.9%	0.5%
Travel services	0.9%	1.3%	1.2%	1.1%
TOTAL LABOUR DEMAND	**1.8%**	**1.6%**	**1.2%**	**1.1%**

Among the provinces, Alberta is expected to generate the highest potential growth in labour demand, followed by Ontario and British Columbia. Between 2005 and 2025, Alberta's demand for tourism workers could rise from 189,344 jobs to 288,324 jobs, a potential increase of 52 per cent. During that same period, potential labour demand is forecast to rise 39 per cent in Ontario and 36 per cent in British Columbia (Tables 3a and 3b).

The higher growth in labour demand in Alberta, Ontario, and British Columbia reflects the continued strength in the demand for tourism goods and services in those provinces. Alberta, Ontario, and British Columbia tend to attract the highest number of domestic and foreign visitors among all Canadian provinces. Since growth in tourism demand is expected to outpace growth in non-tourism demand over the forecast period, these provinces are expected to enjoy stronger-than-average demand for tourism goods and services. Still, in British Columbia, non-tourism demand is also expected to grow strongly, given the province's status as a Canadian retirement destination.

Conversely, growth in potential labour demand is lowest in the Atlantic Provinces. In fact, potential labour demand is expected to start declining in Newfoundland and Labrador after 2010 and in Nova Scotia and New Brunswick after 2015. Only Prince Edward Island, a retirement destination for Atlantic Canadians, is expected to experience small but continued increases in potential labour demand out to 2025.

Table 3a: Potential Labour Demand in the Tourism Sector by Province (jobs)

	2005	2010	2015	2020	2025
Newfoundland and Labrador	20,999	22,582	21,876	21,688	20,631
Prince Edward Island	6,635	7,109	7,559	7,874	8,182
Nova Scotia	43,829	46,194	47,424	47,229	46,891
New Brunswick	31,202	33,202	33,798	33,660	33,402
Quebec	359,700	383,204	405,504	418,459	430,449
Ontario	618,750	666,203	737,902	799,285	861,554
Manitoba	63,666	69,936	74,789	79,257	84,095
Saskatchewan	47,145	51,454	54,064	55,687	57,048
Alberta	189,344	227,693	250,865	269,632	288,324
British Columbia	271,742	304,039	326,373	348,469	369,652
TOTAL LABOUR DEMAND	**1,653,012**	**1,811,616**	**1,960,153**	**2,081,240**	**2,200,228**

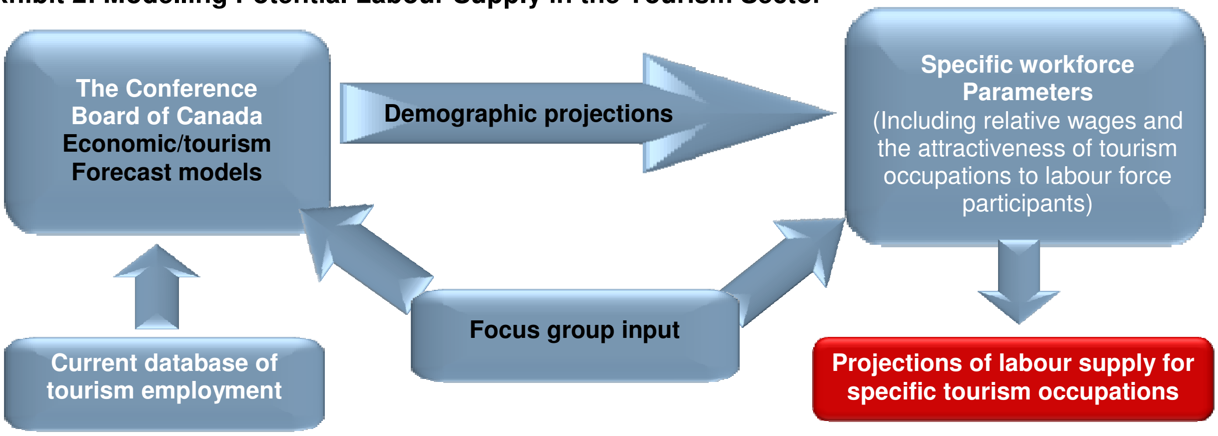
Table 3b: Potential Labour Demand in the Tourism Sector by Province (jobs, compound annual growth rate)

	2005–2010	2010–2015	2015–2020	2020–2025
Newfoundland and Labrador	1.5%	-0.6%	-0.2%	-1.0%
Prince Edward Island	1.4%	1.2%	0.8%	0.8%
Nova Scotia	1.1%	0.5%	-0.1%	-0.1%
New Brunswick	1.3%	0.4%	-0.1%	-0.2%
Quebec	1.3%	1.1%	0.6%	0.6%
Ontario	1.5%	2.1%	1.6%	1.5%
Manitoba	1.9%	1.4%	1.2%	1.2%
Saskatchewan	1.8%	1.0%	0.6%	0.5%
Alberta	3.8%	2.0%	1.5%	1.3%
British Columbia	2.3%	1.4%	1.3%	1.2%
TOTAL LABOUR DEMAND	**1.8%**	**1.6%**	**1.2%**	**1.1%**

Potential Labour Supply in the Tourism Sector

Demographic projections of Canada's workforce are the most important determinant in forecasting potential labour supply in the tourism sector. However, other key factors influencing the supply of labour in the tourism sector will be relative wages and the attractiveness of tourism occupations to various segments of labour force participants. Exhibit 2 provides a basic visual representation of how our analysis modelled the potential supply of labour in the tourism sector.

Exhibit 2: Modelling Potential Labour Supply in the Tourism Sector



The projections for the potential growth of labour supply in the tourism sector indicate that overall tourism employment could rise from 1.6 million jobs in 2005 to nearly 1.9 million jobs in 2025. Between 2005 and 2010, the compound annual growth rate of potential labour supply in the tourism sector could reach 1.3 per cent, before decreasing to a rate of 0.7 per cent over the subsequent five years. Potential labour supply growth is expected to expand only minimally between 2015 and 2025 (tables 4a and 4b).

The accommodation industry and the travel services industry are expected to see the largest increases in potential tourism labour supply over the next 20 years. The supply of labour to the accommodation industry could rise from close to 224,000 jobs in 2005 to nearly 275,000 jobs in 2025, an increase of 23 per cent. Meanwhile, potential labour supply to the travel services industry is forecast to increase from 45,112 jobs in 2005 to 57,423 jobs in 2025, a 27 per cent gain.

Table 4c: Potential Labour Supply in Canada's Tourism Sector (jobs)

	2005	2010	2015	2020	2025
Transportation	232,213	247,208	254,282	257,346	260,998
Air transportation	69,116	73,104	75,907	77,993	79,335
Rail transportation	9,985	10,239	10,405	10,551	10,626
Other transportation	153,112	163,866	167,970	168,802	171,038
Accommodation	223,743	243,662	257,210	265,990	274,598
Food and beverage services	827,799	882,094	912,158	918,432	931,928
Recreation and entertainment	299,550	316,513	324,941	325,707	327,308
Travel services	45,112	48,788	52,238	55,161	57,423
TOTAL LABOUR SUPPLY	**1,628,417**	**1,738,266**	**1,800,830**	**1,822,636**	**1,852,254**

Table 4b: Potential Labour Supply in Canada's Tourism Sector (jobs, compound annual growth rate)

	2005–2010	2010–2015	2015–2020	2020–2025
Transportation	1.3%	0.6%	0.2%	0.3%
Air transportation	1.1%	0.8%	0.5%	0.3%
Rail transportation	0.5%	0.3%	0.3%	0.1%
Other transportation	1.4%	0.5%	0.1%	0.3%
Accommodation	1.7%	1.1%	0.7%	0.6%
Food and beverage services	1.3%	0.7%	0.1%	0.3%

Recreation and entertainment	1.1%	0.5%	0.0%	0.1%
Travel services	1.6%	1.4%	1.1%	0.8%
TOTAL LABOUR SUPPLY	**1.3%**	**0.7%**	**0.2%**	**0.3%**

Projections of potential labour supply in Canada's tourism sector by province indicate tourism labour supply will grow the most in Alberta over the next two decades. The potential labour supply to Alberta's tourism sector is expected to increase from 185,499 jobs in 2005 to 240,314 jobs in 2025. The supply of labour to Alberta's tourism sector is forecast to grow at an average annual growth rate of 2.7 per cent between 2005 and 2010, but ease to 1 per cent growth between 2010 and 2015. Between 2015 and 2025, growth is expected to be less than 1 per cent (tables 5a and 5b).

While potential tourism labour supply is expected to grow strongly in Alberta over the next 20 years, supply will decrease in several other provinces. The potential labour supply in Newfoundland, Nova Scotia, and New Brunswick is expected to decrease steadily between 2005 and 2025. Also, potential labour supply in the tourism sector is expected to begin declining in Saskatchewan after 2010 and in Quebec after 2015.

Table 5a: Potential Labour Supply in the Tourism Sector by Province (jobs)

	2005	**2010**	**2015**	**2020**	**2025**
Newfoundland and Labrador	20,556	20,010	18,938	17,692	16,543
Prince Edward Island	6,586	6,861	6,871	6,740	6,695
Nova Scotia	43,308	43,018	41,816	39,531	37,488
New Brunswick	30,834	30,870	29,804	27,901	26,296
Quebec	353,617	366,356	368,470	359,749	357,713
Ontario	608,827	656,807	697,915	721,095	741,909
Manitoba	62,994	66,907	69,787	71,234	73,148
Saskatchewan	46,804	48,467	48,245	47,298	47,023
Alberta	185,499	212,231	222,731	231,000	240,314
British Columbia	269,392	286,739	296,254	300,396	305,125
TOTAL LABOUR SUPPLY	**1,628,417**	**1,738,266**	**1,800,830**	**1,822,636**	**1,852,254**

Table 5b: Potential Labour Supply in the Tourism Sector by Province (jobs, compound annual growth rate)

	2005–2010	**2010–2015**	**2015–2020**	**2020–2025**
Newfoundland and Labrador	-0.5%	-1.1%	-1.4%	-1.3%
Prince Edward Island	0.8%	0.0%	-0.4%	-0.1%
Nova Scotia	-0.1%	-0.6%	-1.1%	-1.1%
New Brunswick	0.0%	-0.7%	-1.3%	-1.2%
Quebec	0.7%	0.1%	-0.5%	-0.1%
Ontario	1.5%	1.2%	0.7%	0.6%
Manitoba	1.2%	0.8%	0.4%	0.5%
Saskatchewan	0.7%	-0.1%	-0.4%	-0.1%
Alberta	2.7%	1.0%	0.7%	0.8%
British Columbia	1.3%	0.7%	0.3%	0.3%
TOTAL LABOUR SUPPLY	**1.3%**	**0.7%**	**0.2%**	**0.3%**

Potential Labour Shortage in the Tourism Sector

Similar to many other sectors of the Canadian economy, tourism is already experiencing a shift towards tighter labour markets. These projections suggest the potential labour shortage in Canada will worsen significantly over the next two decades. The industries with the greatest potential for labour shortages are the food and beverage services industry and the recreation and entertainment industry.

At the moment, the occupations with short supply are similar across all regions of Canada. Aside from chefs and some supervisory and middle-management positions, potential shortages seem to be most acute in front-line, customer-service occupations and jobs that are physically strenuous. Furthermore, recruiting for these occupations is often difficult, requiring longer lead times and the hiring of less-than-ideal candidates. In the Western provinces, some positions are even left unfilled.

Projections for the potential labour shortage in the tourism sector indicate that the labour shortage will grow significantly between 2005 and 2025. In 2005, we estimate a shortage of nearly 25,000 jobs in the tourism sector. By 2025, this figure could rise to nearly 350,000 jobs. As a percentage of labour demand, the labour shortage is expected to be most acute in the food and beverage industry, which could experience a potential shortfall of 231,000 workers by 2025. The recreation and entertainment industry is also expected to experience a significant shortage in the number of available workers over the next 20 years (Table 6).

Travel services is the only industry in the tourism sector that is not expected to experience a significant labour shortage over the next 20 years. Although a slight shortage of labour in this industry is estimated in 2005 (331 jobs short relative to potential demand), between 2010 and 2025 the industry may in fact witness a slight surplus in the amount of labour available.

Table 6: Potential Labour Shortage in Canada's Tourism Sector (jobs)

	2005	2010	2015	2020	2025
Transportation	5,857	12,848	21,208	31,220	39,679
Air transportation	1,748	7,422	11,721	15,362	19,191
Rail transportation	237	70	171	329	554
Other transportation	3,872	5,356	9,315	15,530	19,933
Accommodation	4,062	8,934	9,709	13,604	18,961
Food and beverage services	9,432	34,970	94,044	163,670	230,557
Recreation and entertainment	4,914	17,849	36,016	51,659	59,437
Travel services	331	-1,251	-1,654	-1,549	-660
TOTAL LABOUR SHORTAGE	**24,595**	**73,350**	**159,323**	**258,604**	**347,974**

Projections for potential labour shortages in the tourism sector by province indicate that Ontario will likely experience the most significant labour shortage. By 2025, Ontario's supply of labour could fall nearly 120,000 full-year jobs short of potential labour demand. Labour shortages are also expected to worsen substantially in Quebec, British Columbia, and Alberta (Table 7).

Table 7: Potential Labour Shortage in the Tourism Sector by Province (jobs)

	2005	2010	2015	2020	2025
Newfoundland and Labrador	443	2,572	2,938	3,996	4,088
Prince Edward Island	49	247	687	1,134	1,488
Nova Scotia	522	3,177	5,608	7,698	9,402
New Brunswick	368	2,332	3,994	5,759	7,107
Quebec	6,083	16,848	37,034	58,711	72,736
Ontario	9,924	9,395	39,987	78,189	119,645
Manitoba	672	3,028	5,002	8,023	10,947
Saskatchewan	341	2,987	5,820	8,389	10,025
Alberta	3,844	15,463	28,134	38,632	48,010

British Columbia	2,350	17,300	30,119	48,073	64,526
TOTAL LABOUR SHORTAGE	**24,595**	**73,350**	**159,323**	**258,604**	**347,974**

By contrast, the degree of potential labour shortages in the tourism sector is expected to be most acute in Atlantic Canada. By 2025, the Atlantic Provinces are expected to experience tourism labour shortages ranging from 18 per cent of labour demand in Prince Edward Island to 21 per cent of labour demand in New Brunswick. In fact, the labour shortage—measured as a percentage of labour demand—in Atlantic Canada is expected to be even more acute than in British Columbia or Alberta, two provinces where labour shortages currently present the biggest challenge. Still, the labour shortages as a percentage of labour demand in British Columbia and Alberta are also projected to reach high levels, at 17.5 per cent and 16.7 per cent respectively.

The five tourism occupations that could experience the most significant shortage of workers over the next 20 years are all in the food and beverage industry. By far, the largest labour shortage is expected to occur among food-counter attendants and kitchen helpers, as well as food and beverage servers. As Table 8 shows, by 2025 these occupations could experience a shortage of nearly 72,000 full-year jobs and 62,000 full-year jobs respectively, when compared with potential demand. Cooks, bartenders, and restaurant and food service managers round out the top five occupations projected to experience the largest potential labour shortages.

Table 8: Potential Labour Shortage in Canada's Tourism Sector by Occupation (five occupations expected to witness the largest labour shortages, jobs)

	2005	2010	2015	2020	2025
1. Food-counter attendants and kitchen helpers*	2,689	9,588	28,201	51,813	71,768
2. Food and beverage servers*	2,405	11,546	26,803	44,504	61,925
3. Cooks*	1,577	4,812	13,586	24,480	34,689
4. Bartenders*	565	2,609	6,559	11,086	15,838
5. Restaurant and food service managers	994	2,968	6,222	8,957	13,484

*Note: The figures for these occupations include the combined labour shortages from the food and beverage and accommodation industries.

Potential Labour Shortages and the Impact of Raising Wages

If the tourism sector does not make collective changes to address the looming labour crunch, individual tourism businesses will be forced to react to address the potential shortages in isolation. Thus, rather than acting proactively, the most likely action on the part of tourism businesses will be to raise real wages to attract more employees.

While raising wages would eliminate the labour shortage, this study shows that increasing real wages will have only limited success in increasing the supply of labour available to the industry. By raising wages, the tourism sector as a whole will be able to increase the supply of labour only by enough to fill 61,977 jobs (3.3 per cent of total labour supply) (Table 9) .

Table 9: Additional Tourism Labour Supply Generated by Raising Wages in Canada (jobs)

	2005	2010	2015	2020	2025
Transportation	-	7,273	8,958	10,928	12,539
Air transportation	-	2,899	3,742	4,438	5,143
Rail transportation	-	199	220	253	299
Other transportation	-	4,176	4,995	6,238	7,097
Accommodation	-	4,920	5,012	5,684	6,613
Food and beverage services	-	12,167	18,266	25,001	31,161
Recreation and entertainment	-	6,535	8,736	10,547	11,429
Travel services*	-	190	154	161	235

TOTAL ADDITIONAL SUPPLY	**-**	**31,085**	**41,126**	**52,322**	**61,977**

* Note: The small surplus of labour in travel services leads to a reduction in relative wages for this industry. Lower costs are expected to reduce prices and stimulate demand for travel services. As a result, overall employment in the industry increases.

Potential labour demand in the tourism sector will call for 347,974 more jobs than will be supplied by workers in 2025—barring any adjustments by the sector. By raising wages, the tourism sector would induce an additional supply of only roughly 62,000 jobs. The rest of the shortfall would be eliminated through reduced demand as a result of higher prices. This study shows that the impact of raising wages would be to effectively reduce tourism demand with very little stimulus to labour supply. In other words, raising wages will not be enough to encourage greater labour supply, but it will end up reducing tourism demand. As a result, by raising wages to eliminate the labour shortage, the tourism sector will forgo nearly 290,000 jobs by 2025. This result is clearly not desirable.

The loss in potential output associated with raising wages to increase the supply of labour would be 12.5 per cent of total spending in the sector by 2025. This would amount to an estimated $27.6 billion in spending. What's more, the resulting wage increases would impose a heavy toll on the tourism sector's profitability. In turn, the growing difficulty and expense of filling jobs in the tourism sector would constrain the growth of capital investments and tourism-related infrastructure.

Therefore, our analysis suggests that a more effective means of reducing the supply-demand imbalances (rather than entering into a "bidding war" for workers) would be to find ways to raise the productivity of the sector and to increase the availability of labour at the prevailing wage rate.

Summary

The projected labour shortages in the tourism sector are caused by the increasing demand for labour during a period when the labour force is expected to experience a sizable shift in its growth and composition. Traditionally, the tourism sector has relied heavily on young people as a source of labour. However, the rate at which young people are entering the labour force is decreasing, while the competition to attract young people is increasing from other sectors.

In 2005, the sector fell short of meeting potential demand for tourism goods and services by an estimated 24,600 full-year jobs. In turn, the difficulty of finding workers is putting a great deal of pressure on current tourism business models. To attract more workers, many business owners are raising wages and are offering other types of incentives such as non-monetary benefits, flex-time, training, and a better working environment. Despite these efforts, labour shortages appear to be triggering changes to overall market conditions. For example, there has been evidence of sector rationalization, as well as delays in or even cancelling of infrastructure investment. Examples of this include moving investments from short-term accommodations to long-stay vacation rentals, as well as deferring or even cancelling new restaurant openings.

If demand for tourism goods and services continues to grow from within Canada and from international markets, the tourism sector could face a potential labour shortage of nearly 348,000 jobs by 2025. This shortage represents the cumulative effect of missed opportunities and unfulfilled demand over the 20-year period.

The food and beverage services industry is forecast to suffer the largest labour shortage among the various tourism industries, followed by recreation and entertainment, transportation, and accommodation. The travel services industry is not expected to suffer any significant shortages over the next 20 years. Not surprisingly, occupations in the food and beverage industry—such as food-counter attendants, servers, and cooks—will experience the greatest labour shortage among the tourism sector occupations.

The traditional method of raising wages to deal with the shortage is undesirable. Granted, raising wages can alleviate the shortage; however, doing so effectively curbs the demand for tourism more than it stimulates the supply of labour. What's more, the resulting wage increases would impose a heavy toll on the tourism sector's profitability. The ensuing difficulty and expense of filling jobs in the tourism sector would constrain the growth of capital investments and tourism-related infrastructure.

Forecast Methodology and Background

The Conference Board of Canada's modelling of potential labour shortages in Canada's tourism sector is based on three components: a baseline forecast of potential labour demand in Canada's tourism sector; a baseline forecast of the potential supply of labour to the sector; and the market adjustment mechanism, that is, the way in which labour supply and demand interact to reach an equilibrium where there is neither excess supply nor excess demand (i.e. market clearing). This approach was first developed on a national basis and then extended to each of the provinces.

The baseline forecast of potential labour demand in the tourism sector by Canada and the provinces is an extension of the potential demand for tourism goods and services generated by Canadians and foreigners. By contrast, the baseline forecast for labour supply is a function of Canada's population and the propensity of people to fill jobs in the tourism sector. The following sections outline the detailed methodology used to derive potential labour demand and labour supply, as well as the market adjustment process.

Methodology Used to Forecast Potential Labour Demand in the Tourism Sector

The forecast of potential labour demand in the tourism sector involves forecasting the demand for tourism goods and services faced by the sector and then translating this demand into the requirement for workers or jobs. This process was first done on a national basis and then repeated on a provincial basis.

Data Sources

Data for labour demand are based on data published in Statistics Canada's Human Resource Module of the Tourism Satellite Account. All data use the 2005 update of the module, which includes data from 1997 to 2005. The Human Resource Module includes data on the number of jobs in the tourism sector related to both tourism and non-tourism activity. Since this project involves the entire tourism sector, regardless of whether demand arises from tourism or non-tourism activity, the employment data used is the sum of the tourism and non-tourism employment.

The Human Resource Module publishes detailed employment data according to industry and occupational classifications. The module uses the North American Industry Classification System (NAICS) 1997 to classify industries, and it uses the Standard Occupational Classification (SOC) 1991 to classify occupations. On an industry basis, the module publishes tourism sector employment for transportation, accommodation, food and beverage services, recreation and entertainment, and travel services. In terms of occupations, the module includes a breakdown of 37 occupations. A detailed list of the NAICS and SOC classification codes covered by the Human Resource Module are provided in appendices A and B.

The unit of measure for employment in the Human Resource Module is jobs. As a result, jobs are used as the unit of analysis for this study. A job is defined as work for the period of one year, regardless of the number of hours. Thus, a job may be work for 10 hours per week or 40 hours per week, as long as it is for the duration of one year. On the other hand, if the work is only for three months of the year, then it counts only for one-quarter of a job.

The Human Resource Module only publishes data for Canada's tourism sector and does not publish data on a provincial basis. In general, there exists no time series of detailed provincial employment data by tourism industry and by occupation. Data for tourism employment by province, industry, and occupation are therefore imputed by applying employment shares published in the Canadian Tourism Human Resource Council's *Total Tourism Sector Employment in Canada: 2005 Update* to the job data published in the Human Resource Module. In the few cases where data were suppressed by Statistics Canada, employment shares for specific occupations by province needed to be imputed using the corresponding national or regional shares. To ensure the internal consistency of the data, employment by provinces, industry, and occupation was constrained to the national Human Resource Module data.[1]

Given that the data on a provincial basis are imputed, they should not be taken as an absolute measure of employment in a particular occupation or industry. This is especially true for the smaller Atlantic Provinces and Saskatchewan. However, the data generated by this approach provide a useful starting point to analyze labour shortages by province, by industry, and by occupation.

Data for the demand for tourism goods and services are generated using Statistics Canada's National Tourism Indicators. These indicators are published quarterly and cover the usual set of tourism industries. They include data on the total supply of tourism goods and services as well as the demand for tourism commodities related to tourism activity. Thus, when our analysis refers to demand stemming from non-tourism activity, we mean the difference between the supply of tourism goods and services and the demand for goods and services related to tourism activity. Also, constant dollar measures of tourism demand in the National Tourism Indicators are currently using the 2002 base year. However, at the outset of this project, the constant dollar measure of real tourism demand in the indicators was using the 1997 base year. Hence, our analysis retains the 1997 dollars measure.

Since the National Tourism Indicators are only available for Canada as a whole, proxy data for the demand for tourism goods and services by province and industry were imputed. The last reference year for which the demand and supply of tourism goods and services are available on a provincial basis is 1998. These data are published in the latest edition of Statistics Canada's Provincial and Territorial Tourism Satellite Accounts for Canada. In an effort to obtain a reasonable starting point for the demand for tourism goods and services by province and industry, The Conference Board of Canada applied the shares from the 1998 Provincial and Territorial Tourism Satellite Accounts to the annual National Tourism Indicators data for 2005. In some cases, these shares needed to be imputed using national or regional shares. Also, since the industries shifted in relative importance between 1998 and 2005, data needed to be constrained to the totals corresponding to the 2005 indicators by industry and province.

As is the case for the employment data, the proxy data for the demand for tourism goods and services should not be taken as an absolute measure of the demand for tourism goods and services in a particular province or industry. This is especially true for the smaller Atlantic Provinces and Saskatchewan. However, the data generated by this approach provide a useful starting point for forecasting future growth in demand for tourism goods and services by province and industry. Since it is the growth in demand for tourism goods and services that ultimately determines the labour demand by the tourism sector, the fact that the imputed proxy data may not fully reflect the actual industry makeup in 2005 is only secondary.

The Conference Board of Canada produces a wide variety of economic forecasts on a national, provincial, metropolitan, and industrial basis that are used as exogenous variables in the model. Historical data for these forecasts are often provided by Statistics Canada; however, the forecasts of those variables are based on models and methodology developed by the Conference Board. All of the long-term macroeconomic drivers are consistent with the Conference Board's long-term economic outlook for Canada and the provinces as outlined in the *Canadian Outlook 2007, Long-Term Economic Forecast* and in the *Provincial Outlook 2007, Long-Term Economic Forecast*. The economic variables used are largely consistent with the variables that underpin employment forecasts conducted by the department of Human Resources and Social Development Canada.

Projections for the Demand for Tourism Goods and Services

To develop detailed projections for the demand for tourism goods and services, Conference Board used its expertise and experience in the area of tourism monitoring and forecasting. Specifically, we used the results of our existing models as a baseline forecast of potential demand for tourism goods and services.

The baseline forecast of the demand for tourism goods and services is made up of two components: demand stemming from tourism activity (tourism demand) and demand stemming from non-tourism activity (non-tourism demand). For instance, a meal in a Canadian restaurant by a foreign traveller is considered tourism demand, but the same meal in the same restaurant by a local patron is considered non-tourism demand. Both are, however,

[1] A slight limitation of this approach is that the Human Resource Module includes tourism sector employment in the territories, while the data from Statistics Canada's Labour Force Survey do not. As a result, the provincial data generated using this methodology is slightly overstated.

considered demand for tourism goods and services, and both are serviced by the tourism sector. For some tourism industries, such as the accommodation industry, demand for goods and services stems almost exclusively from tourism activity. For other industries, such as food and beverage services, a significant portion of their overall demand is the result of non-tourism activity.

Tourism demand for tourism goods and services was further broken up into domestic demand, demand stemming from the United States, and demand from other international markets. Baseline forecasts for these demand streams were taken from the Canadian Tourism Research Institute's Domestic Market Origin Destination Model, U.S. Market Model, and International Markets Model. In turn, real tourism demand by industry and province was created by allocating the relevant shares from Statistics Canada's latest available International Travel Survey, the Travel Survey of Residents of Canada, and the National Tourism Indicators. This process was followed on a national and provincial basis, although all provincial data were constrained to add up to the Canadian totals.

Table 10 summarizes the baseline forecast of the demand for tourism goods and services for Canada. Appendix C includes detailed tables on the baseline forecasts for each province.

Table 10: Baseline Forecast of the Demand for Tourism Goods and Services in Canada (1997 $ millions)

	2005	2010	2015	2020	2025
Transportation	51,164	62,075	71,716	80,101	88,536
Air transportation	13,071	18,942	24,528	28,809	33,056
Rail transportation	259	297	339	384	432
Other transportation	37,834	42,836	46,849	50,908	55,048
Accommodation	8,430	9,703	10,681	11,689	12,806
Food and beverage services	38,267	43,100	48,487	53,556	59,045
Recreation and entertainment	17,091	20,628	23,949	26,864	29,471
Travel services	2,601	2,737	2,872	3,000	3,133
DEMAND FOR TOURISM GOODS AND SERVICES	**129,800**	**153,810**	**177,103**	**198,412**	**220,094**

Productivity Assumptions

Projections of productivity growth play an important role in determining future labour requirements. In general, increases in output by the tourism sector can be achieved in two ways: through increases in the number of people employed, or through increases in the productivity of those already employed. Conversely, for a given level of output and a given level of productivity, the corresponding demand for labour can be calculated. Thus, by projecting the demand for tourism goods and services and by projecting productivity growth in the tourism sector, The Conference Board of Canada can project the potential demand for labour in the tourism sector.

In general, Canadian employers in all industries will seek to replace labour with capital over the forecast period wherever possible. This will be motivated by rising labour costs and by stiff international competition associated with greater trade openness. Increasing the amount and quality of capital available to each worker will result in an increase in labour productivity. Gains in the quality of labour and innovation also contribute to productivity gains.

Canadian productivity is expected to increase over the forecast period for several reasons. First, the aging of the labour force will result in proportionately more experienced workers. Second, greater trade openness will send more of Canada's low-skill and labour-intensive jobs to low-wage countries. Third, the surge in university enrolment following the 1990–91 recession signals a trend that will increase the share of highly educated workers in the labour force. In 1990, only one-third of the population had completed some form of post-secondary education; by 2007, this share had increased to 50 per cent. Finally, the capital-to-labour ratio will continue to rise over the forecast period as Canadian companies are forced by a tightening labour market and international competition to invest more in machinery and equipment.

While productivity growth is expected to increase over the forecast period for all industries, gains in productivity for the tourism sector are expected to lag those of other industries. This is due to the fact that the tourism sector is part of the services sector, and industries in the services sector generally find it more difficult to substitute capital for labour than goods-producing industries do. What's more, historically, the tourism sector has trailed the overall services sector in productivity growth. Given the current structure of the tourism sector—with a significant proportion of low-skilled jobs integral to the production process—these trends are expected to continue over the forecast period. Table 11 outlines productivity assumptions for Canada.

Table 11: Productivity Assumptions for Canada's Tourism Sector

	2005–2010	**2010–2015**	**2015–2020**	**2020–2025**
Transportation	1.8%	1.2%	0.9%	0.8%
Air transportation	2.6%	1.7%	1.3%	1.1%
Rail transportation	0.2%	0.5%	0.6%	0.5%
Other transportation	1.5%	0.9%	0.8%	0.7%
Accommodation	2.1%	1.1%	0.9%	1.0%
Food and beverage services	1.8%	1.9%	1.5%	1.4%
Recreation and entertainment	1.9%	1.5%	0.9%	0.5%
Travel services	0.9%	1.3%	1.2%	1.1%
TOTAL TOURISM SECTOR	**1.8%**	**1.6%**	**1.2%**	**1.1%**

Productivity estimates through to 2011 for the industries that make up the tourism sector were derived using historical relationships in trend productivity. However, given the significant challenges to the tourism sector since 2001, these estimates were enriched with tourism market intelligence gathered by the Canadian Tourism Research Institute, as well as The Conference Board of Canada's productivity projections from the Canadian Industrial Outlook Service publications for accommodation, food and beverage services, and air transportation.

Over the long term (from 2012 onward) productivity in the various tourism industries was indexed to Canadian non-government services sector productivity. The rates at which productivity by industry were indexed to non-government service sector productivity were based on historical estimates for each industry. This was done for two reasons. First, it helps ensure productivity estimates remain consistent with The Conference Board of Canada's long-term productivity assumptions for Canada as a whole. Second, separate industry forecasts of productivity would be misleading in the long run because they would ignore the effects of the interplay of demand and supply across the economy and the resulting pressures on productivity in each industry.

Given these productivity assumptions, potential demand for labour in the tourism sector can be derived by subtracting the growth rate in productivity from the growth in potential demand for tourism goods and services.[2] This was done for Canada as a whole, as well as for each of the provinces; however, the resulting potential demand for labour by province and industry is constrained to the Canadian total. Also, it should be noted that productivity gains by industry were assumed to be the same for all the provinces. Granted, over short periods of time, we expect some industries to witness different productivity gains across the provinces as a result of different demand and supply conditions. However, we expect that the industries in the tourism sector are sufficiently integrated across the country to ensure that trend productivity by industry is the same in each province.

Our methodology used to forecast labour demand in the tourism sector is somewhat different than traditional models of labour demand. Traditionally, forecasts of labour demand try to estimate the additional demand for labour based on the growth of the industry (expansion demand) and then add to this the demand of labour stemming from people retiring (replacement demand). This approach is useful for industries where people tend to have long careers in the same occupation and industry. However, this approach may not be as suitable for the tourism sector. This is due to the fact that many jobs in the tourism sector are filled by younger people, are often carried out on a part-time basis, and often also have lower skill requirements. In addition, there is significant mobility into and out of the tourism sector and there is also significant movement between jobs and occupations

[2] Productivity is generally defined as output per hours worked. We replaced growth in output per hours worked with the growth in real spending at 1997 prices per full-year job without loss of accuracy.

within the tourism sector[3]. Thus, the idea that someone stays in their current job or even occupation for life may not be applicable for many people working in tourism; hence, the concept of replacement demand due to retirement seems less appropriate for an analysis of labour demand. Instead, the current methodology looks at the potential demand for goods and services in the tourism sector. Applying productivity to the potential demand for goods and services provides a forecast of the total number of jobs required to fulfill that demand, thereby eliminating the need to forecast expansion demand and replacement demand separately.

Methodology Used to Forecast Labour Supply in the Tourism Sector

The potential supply of labour to the tourism sector is an important determinant of the future performance of the sector overall. After all, if not enough labour supply is available to fulfill the potential labour demand, then some of the potential labour demand may go unfilled. Indeed, feedback from focus groups shows that the difficulty of finding workers is already forcing tourism businesses to reduce service quality and in some cases even reduce tourism product offerings.

Our forecast of the potential labour supply entailed two basic components: a forecast of the Canadian population and labour force, and the likelihood of a particular person working in the tourism sector. To arrive at our baseline forecast for labour supply in the tourism sector, we applied the likelihood of a person working in the tourism sector to the available labour force at a given point in time.

Data Sources

Data for the supply of labour are based on data provided by Statistics Canada's Human Resource Module and The Conference Board of Canada's demographic and labour force projections.

In addition to providing employment data by industry and occupation, the Human Resource Module also includes detailed data on age, sex, and immigrant status by occupation and industry. Using this detail, the penetration rate—the percentage of people working in a specific occupation—was calculated by age, sex, and immigrant status.

Since the Human Resource Model only publishes data for Canada as a whole, penetration rates by provinces had to be imputed. To do this, we first calculated the Canadian shares of each occupation by age, sex, and immigrant status relative to the total for the industry in which the occupation appears. These relative shares were then applied to the total employment by industry in each province. The resulting employment figures by age, sex, immigration status, and province were then constrained to the corresponding national and provincial aggregates to ensure an internally consistent system. After that, an imputed penetration rate by province was calculated.

The penetration rates by province, occupation, age, sex, and immigration status calculated in this way are only an approximation of the demographic profile of each occupation by province. However, the approximation is reliable enough to provide a forecast for the supply of labour going forward. Because we maintain the same penetration rates throughout the forecast, the driving force behind changes in labour supply by province are the movements of the underlying population and labour force. In other words, as long as the demographic makeup of each occupation by province, specifically the true penetration rates, do not differ drastically from those for Canada overall, then this methodology will provide a reasonable forecast. In fact, this approach is likely more reliable than trying to estimate penetration rates using census data. Detailed census data can include radical swings from year to year, especially for the smaller provinces. Using penetration rates calculated this way would almost certainly provide abnormal results. By comparison, our approach guards against outliers and swings in the data but still maintains the individual differences by province and industry.

The Conference Board of Canada uses Statistics Canada's population models to arrive at its long-term forecast of the Canadian population. For Canada, the details about the outcomes and assumptions regarding those projections are outlined below. A summary of assumptions for each province is included in Appendix D.

Canada's Population Is Aging

Increased life expectancy, the size of the baby-boom cohort, and low fertility rates over the last few decades have set the stage for a greying of Canada's population. By 2030, nearly one out of every four Canadians will be 65 years or older, a significant increase from the 12.6 per cent share in 2000.

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[3] Further study is required to determine the extent to which people change jobs and occupations within the tourism sector and the degree of upward mobility in the sector.

Fertility rates have been falling over the last few decades as the participation rate of women in the labour force has soared. Going forward, women's participation in the labour force is projected to remain fairly stable and will not influence fertility rates. Thus, the fertility rate was assumed to remain constant over the forecast period, at 1.54 live births per woman of child-bearing age. To maintain population through natural increases, a fertility rate of 2.1 is required to replace the parents and account for infant and child mortality. Clearly, the current fertility rate of 1.54 is insufficient to maintain the population through natural means. However, despite the flat fertility rate, the number of births will continue to rise until 2025 as the members of the echo-boom generation move through their peak child-bearing years and the country sees a steady inflow of young new Canadians.

While fertility rates have fallen, life expectancy has continued to rise. This trend is expected to continue over the next two decades, assuming continued medical advances and economic prosperity. Nevertheless, as the population as a whole gets older, the death rate will increase—from around 7.5 deaths per 1,000 people in 2007 to 8.5 per 1,000 by 2030.

An International Comparison of Aging Populations

The challenges resulting from a rapidly aging society will not be felt by Canada alone. Between now and 2030, the 65-and-over population share is expected to increase in every major region of the world. At 14.7 per cent in 2000, Europe had the highest share of people aged 65 and over among major regions, and this situation is not expected to change in the coming years. The share of Europe's 65-and-over population is expected to increase 7.9 percentage points by 2030 to reach 22.6 per cent. Canada's 65-and-over population share in 2030 is expected to be 22 per cent in 2030—lower than Europe's. However, Canada's population is aging more quickly than the overall population in any of the major regions, with the 65-and-over share expected to gain 9.5 percentage points from the 12.6 per cent observed in 2000.

The greatest and the most rapid aging of the population will occur in the leading mature industrialized countries. In terms of both magnitude and speed, the aging of the population will be greatest in Japan, where the share of the population 65 and over is expected to increase from 19.7 per cent in 2005 to 30.6 per cent by 2030. Aside from Japan, the aging of the population will be most notable in western Europe, where the share of the population 65 and over is expected to reach 27.3 per cent in Germany, 27 per cent in Italy, and 23.2 per cent in France. At 22 per cent, Canada is expected to fare slightly better than those three countries. However, Canada will have a larger share of population over 65 than that anticipated in the United Kingdom (21 per cent share 65 and over), Australia (21.3 per cent), and the United States (19.4 per cent).

International Immigration to Canada

Canada's low fertility rate will put downward pressure on Canadian population growth going forward. But we assume that a strong and growing level of immigration will shore up overall population growth. Since 1991, immigration has been responsible for more than half of Canada's population growth. This represents a major shift from the pattern of the middle decades of the 20th century, when immigration accounted for just one-fifth of population growth in Canada. At that time, the baby boom was in full swing and fertility rates were high, so the Canadian-born population was rising rapidly on its own. However, over the next two decades, immigration's role in population growth will become much more important, accounting for a greater majority of Canada's population increase. In 2007, it is estimated that immigration accounted for almost 80 per cent of population growth. By 2030, it will account for over 100 per cent of net population growth.

Canada's immigration policy admits permanent immigrants in three main categories: economic class (mainly skilled workers and business migrants), family class (spouses, partners, and close family members), and refugees. In 2006, these categories represented 55 per cent, 28 per cent, and 13 per cent respectively of the total intake of immigrants. The lack of a fully coordinated system has meant that Canada's immigration policies and practices have evolved gradually since the Second World War. But over the past few decades, two trends stand out. The first is that economic migrants have made up a much more prominent share of total immigration. The second is that that the skills bar for newcomers in this category has been raised steadily—moving from a general set of criteria for selection to one that emphasizes advanced skills.

As Canada's immigration policy increasingly favours highly educated immigrants, the profile of the adult immigrant population is changing. Today, many more are skilled workers. Moreover, many immigrants are highly skilled: 24 per cent of immigrants aged 25–64 who arrived in Canada between 1996 and 2000 work in highly skilled occupations, compared with only 13 per cent of those who arrived between 1986 and 1990. For 2008, the federal government aims to attract between 240,000 and 265,000 immigrants, the same target as last year.

With the need for skilled workers to replace retiring boomers, and given the stated aims of policy-makers, the Conference Board anticipates a gradual rise in immigration over the long term. By the end of the current decade, many of the oldest baby boomers will already have retired, while others will be entering their 60s and considering retirement. Although Canada will have to compete with other countries for economic migrants, the pressure on labour markets from the retiring of the boomers is expected to help lift immigration levels higher. Thus, this forecast assumes that immigration will rise slowly—from 260,000 in 2008 to a peak of 359,000 in 2024, before falling back to 355,000 by 2030.

Thanks to strong net immigration, Canadian population growth will be sustained over the long term. Growth is forecast to come up slightly from its current pace of 0.9 per cent to average about 1 per cent per year over 2010–20. It will then ease to 0.8 per cent annually in the last few years of the forecast.

Slowing Population Growth Constrains Canada's Labour Force

Higher immigration will not suffice to offset the aging of the population, and the resulting demographic challenges will act as a growing constraint on labour force growth. As the baby boomers slowly transition into retirement over the forecast period, Canada's job market will change decidedly. With the average age of retirement in Canada at 61.6 years, the baby boomers' move into retirement has just begun—but it will accelerate as the first baby boomers reach age 65 in 2012. Given that the baby boomers currently make up almost 30 per cent of the population, their entry into the 65-and-over age group will raise the overall age of the population and significantly reduce growth in labour supply. The loss of labour associated with the retiring of the boomers will be partially offset by rising immigration and a higher degree of labour market activity by women. These factors, however, will not be enough to prevent a worker shortage. Canada's low fertility rate will also hinder labour force growth, since low fertility means there will not be enough young people moving into the labour force to replace those leaving.

Together, these developments will sharply curb the growth of labour supply after 2010. The annual compound growth of the labour force will fall from an already weak 1.4 per cent over the second half of this decade to 0.9 per cent for 2011 to 2015. Over the following decade, demographic change will further limit labour force growth, and annual gains in the workforce will drop to 0.4 per cent between 2025 and 2030.

The forecasts of the labour force underlying our potential labour supply forecast are based on the Conference Board's assumptions about labour force participation. Detailed labour force participation rates by age and sex are outlined in Table 12. These were applied to the available source population to arrive at the forecast for the labour force.

Table 12: Canadian Labour Force Participation Rates by Age and Sex
(per cent of source population)

	1980		1990		2000		2010		2020		2030	
	Men /	Women	Men /	Women	Men /	Women	Men /	Women	Men /	Women	Men /	Women
15–19	59	53	60	56	52	52	55	56	55	56	56	56
20–24	87	75	84	77	80	74	83	78	83	79	84	80
25–34	95	63	94	77	92	80	92	82	93	83	93	84
35–44	96	61	94	78	92	80	93	83	93	84	93	85
45–54	92	53	91	68	89	75	91	82	92	84	92	85
55–64	74	33	64	35	61	41	67	55	68	60	68	61
65+	**13**	**4**	**11**	**4**	**9**	**3**	**13**	**5**	**13**	**6**	**14**	**6**
15+	**78**	**51**	**76**	**58**	**72**	**59**	**73**	**63**	**70**	**61**	**67**	**59**

The slowdown in the labour force growth will contribute to increasing pressures in the labour market. In turn, the tightening labour market is assumed to produce high real wage growth, which will lead firms to substitute capital for labour wherever feasible. Higher wages will mean that some workers eligible to retire will instead remain in the workforce. Also, labour productivity is expected to increase dramatically as investment in technology continues.

Estimating Past Labour Shortages

Estimating labour shortages in 2005 provides a reasonable starting point from which to start the forecast. The difficulty in estimating shortages lies in the fact that we only observe the transactions that take place in the marketplace. The corresponding data show “what happened”, rather than what “could have happened”. Therefore, we can never actually observe a shortage in the data. To derive the actual shortage (or surplus) in the market, one would need to know the entire demand curve and the entire supply curve. Although supply and demand curves may be possible to estimate for an individual occupation, to do so for each occupation within the tourism sector lies well outside the scope of this study. Thus, an alternative approach needed to be developed.

The methodology used to estimate the labour shortage in 2005 was based on the performance of the tourism sector and on recent productivity trends. We started with 2003 as a reference year. In that year, the tourism sector was still feeling the after-effects of the 2001 terrorist attacks. In addition, the sector had to absorb the negative effects of the war in Iraq and SARS. As a result, the tourism sector shed over 25,000 jobs that year—the only time the number of full-year tourism jobs has declined in the years for which the Human Resource Module publishes tourism employment data (1997–2007). Thus, we assumed it was unlikely that the tourism sector was facing a labour shortage in 2003. It may be that businesses let too many people go, but given that the situation at the time was viewed as only temporary, the correct action for employers was to hang on to as many employees as possible, in order to have proper staffing levels once tourism demand rebounded again. The data seem to confirm this: just one year later, tourism employers had filled more than the previous year’s cuts. Thus, we can assume that in 2003, labour demand and labour supply were in relative alignment and that there was no shortage of workers to fill jobs.

From the 2003 starting point, we combined the results of two approaches. Under the first approach, we applied the trend productivity gains by province to see what level of employment would have been supported by demand in 2005. Under the second approach, we applied the trend productivity by industry to determine the level of employment that would have been supported in 2005. Our final estimate of the labour shortage in 2005 averaged the results from both approaches and then used the input from the focus group to make adjustments by industry and occupation.

Forecasting Potential Labour Supply

The most important determinant of potential labour supply is the available labour force. While the labour force determines how many people are available for work overall, the number of people available to work in the tourism sector depends of the likelihood of people choosing a career in tourism.

One of the challenges facing the tourism sector is the fact that labour supply is very mobile among different occupations and industries. People can easily move from working in one occupation and industry to another occupation in another industry. Part of the reason for this significant mobility is that many jobs in the tourism sector have relatively low skill requirements. However, another reason is that skills in the tourism sector are highly transferable from one place of work to another. This makes it difficult to define what the typical career path in the tourism sector might look like. In turn, traditional approaches of modelling labour supply by following people’s career paths are not necessarily valid for the tourism sector. This problem is magnified by the significant amount of part-time work, as well as the heavy concentration of young people (particularly students) working in the tourism sector.

Our methodology to forecast potential labour supply for the tourism sector therefore uses the likelihood that someone works in the tourism sector and applies this likelihood to the available labour force at different points in the future. To do so, we calculated a penetration rate (the number of people working relative to the labour force) by occupation, age, sex, and immigrant status[4] for the year 2005. We then maintained these penetration rates throughout the forecast and set the likelihood of working in the tourism sector to equal to those rates. This provided us with a baseline forecast of potential labour supply by province and industry.

This methodology essentially assumed that the relative attractiveness of occupations in the tourism sector will not change as the forecast progresses. This may not necessarily be true; however, given that the tourism sector will have to compete with other sectors of the economy for all available workers, it provides a reasonable starting point. Meanwhile, the effects of changing wages are dealt with in the section reconciling demand and supply.

[4] To calculate the penetration rate by immigrant status, we calculated a quasi immigrant labour force based on the latest census data and Canadian participation rates. We then forecast this labour force using the same demographic parameters as the overall Canadian population.

Reconciling Demand and Supply: The Market Adjustment Process Using Wages

The combination of potential demand for labour and potential supply of labour in the tourism sector provides an outline of how employment in the tourism sector may ultimately progress. The gap between the demand for labour and the supply of labour also provides a useful guide when discussing potential labour shortages facing the tourism sector over the next 20 years.

In practice, however, the market will adjust at some point to eliminate the discrepancy between the demand for labour and the supply for labour. To account for this, we first identified industry sectors and occupations where significant discrepancies exist between the projections for potential labour demand and potential labour supply.

Then, we specifically modelled the adjustment process that takes place between labour supply and labour demand to eliminate some of those discrepancies. If supply exceeds demand, the adjustment process stimulates demand until the excess supply is eliminated and all the demand is fulfilled. Conversely, if demand exceeds supply, wages and working conditions need to be adjusted to attract more workers. The key to simulating the interaction between labour supply and demand is to account for the reaction and interaction of other influential factors. For instance, factors that could stimulate labour supply include wages, recruitment, education, training, and credential programs. Conversely, factors that could restrict demand could include relative wage growth, rising prices, and declining service quality.

This process refined the potential labour demand and labour supply projections and generated a forecast of what the equilibrium level of employment is expected to be in the tourism sector. Thus, by comparing the results of the forecast for equilibrium employment with the potential labour demand, the lost employment and output associated with the initial labour shortage was assessed.

Methodology of the Market Adjustment Process

The market adjustment process for labour demand and labour supply depends on several key elasticities. On the supply side, the adjustment process was modelled using only changes in real wages. Granted, other factors such as benefits, time off, and work environment also play a role in practice. However, from both the firm's perspective and the employee's perspective, these can be assigned a monetary value and thus translated into a composite wage.

Unfortunately, we found little literature on the elasticity of supply with respect to wages, particularly on an industry basis or for the occupations in the tourism sector. We therefore proceeded to estimate those elasticities. Using a number of structural equation specifications for the tourism sector as a whole, as well as for the food and beverage services industry and the accommodation industry in particular, we estimated that the elasticity of the labour supply is likely to range between 0.07 (overall sector), 0.10 (accommodation) and 0.12 (food and beverage services). Not surprisingly, the estimated elasticities are fairly low. It would be very difficult for labour supply in the entire sector to increase significantly as a result of changes in wages. Based on the estimated relationships, the elasticity of supply with respect to wages was set to 0.1 for all the industries in the tourism sector.

While raising wages to attract additional workers increases the supply of workers, it also lowers the demand for workers at the same time. This occurs because companies will have to pass on at least part of the increase in labour costs to consumers in the form of higher prices. The increase in prices that companies would have to charge is related to the share of wages and salaries as a share of total operating expenses as well as to total value added. These shares range from 30 per cent in the transportation industry, to 42 per cent in the accommodation industry and in food and beverage services, to 42.5 per cent in the recreation and entertainment industry, to 50 per cent in travel services. These shares are imputed from data published by Statistics Canada's input-output tables and its Financial and Taxation Statistics for Enterprises.

Finally, on the demand side, we used data from the National Tourism Indicators to estimate the elasticity of demand with respect to price for each industry. This gave us an indication by how much demand for tourism goods and services would fall, given an increase in prices. Specifically, we ran structural regressions on domestic demand, based on National Tourism Indicators, to see the effect price has on demand for each industry. The elasticities we estimated ranged from a low of 18 per cent for the accommodation industry, to 40 per cent for the transportation industry, to 77 per cent for the recreation and entertainment industry, to 110 per cent for food and beverage services, to 139 per cent in travel services. By combining the elasticities of demand for tourism goods and services with our productivity assumptions, we calculated the reduction in labour demand brought about by the increase in wages.[5]

[5] Raising wages would be accompanied by an increase in productivity. However, given that our forecast already includes significant increases in productivity as a result of the labour shortage, we chose not to model the second-round effects of increased wages on productivity.

We used the parameters we estimated on an industry basis for Canada and applied them to each province. We then solved the model for each occupation in each province to arrive at an equilibrium level of employment where there is no excess labour demand and no excess labour supply in each province and industry.[6] The equilibrium results were then aggregated to their corresponding industries and for Canada as a whole.

[6] Some occupations, such as cooks, appear in more than one industry category. In those cases, we modelled the market adjustment process separately in each industry to maintain the different cost structures of the industries as well as their individual demand and supply elasticities and characteristics.

Appendix A: NAICS Industries Included in the Tourism Sector

1. Transportation

Air transportation

4811 – Scheduled air transport
4812 – Non-scheduled air transport

All other transportation industries

4821 – Rail transportation
4831 – Deep sea, coastal and Great Lakes water transportation
4832 – Inland Water Transportation
4851 – Urban transit systems
4852 – Interurban and rural bus transportation
4853 – Taxi and limousine service
4854 – School and employee bus transportation
4855 – Charter bus industry
4859 – Other transit and group passenger transportation
4871 – Scenic and sightseeing transportation, land
4872 – Scenic and sightseeing transportation, water
4879 – Scenic and sightseeing transportation, other
5321 – Automotive equipment rental and leasing

2. Accommodation

7211 – Traveler accommodation
7212 – RV (recreational vehicle) parks and campgrounds

3. Food and beverage services

7221 – Full-service restaurants
7222 – Limited-service eating places
7224 – Drinking places (alcoholic beverages)

4. Recreation and entertainment

51213 – Motion picture and video exhibition
7111 – Performing arts companies
7112 – Spectator sports
7115 – Independent artists, writers and performers
7121 – Heritage institutions
7131 – Amusement parks and arcades
7132 – Gambling industries
7139 – Other amusement and recreation industries

5. Travel services

5615 – Travel arrangement and reservation services

Appendix B: SOC Classification for Occupations in the Tourism Sector

Accommodation
Accommodation service managers A222
Chefs G411
Cooks G412
Bartenders G512
Food and beverage servers G513
Hotel and front desk clerks G715
Light duty cleaners G931
Janitors, caretakers and building superintendents G933
Food counter attendants and kitchen helpers G961
All other accommodation occupations

Air transportation
Air pilots, flight engineers and flying instructors C171
Pursers and flight attendants G712
Airline sales and service agents G713
Aircraft mechanics and aircraft inspectors H415
Air transport ramp attendants H737
All other air transportation occupations

All other transportation
Transportation managers A373
Retail salespersons and sales clerks G211
Railway car men/women H414
Motor vehicle mechanics, technicians and repairers H421
Bus drivers and subway and other transit operators H712
Taxi and limousine drivers and chauffeurs H713
Railway and yard locomotives engineers H721
Railway conductors and brakemen/women H722
Railway track maintenance workers H732
All other transportation occupations

Food and beverage services
Restaurant and food service managers A221
Food service supervisors G012
Cashiers G311
Chefs G411
Cooks G412
Maître d'hôtel and hosts/hostesses G511
Bartenders G512
Food and beverage servers G513
Bakers G942
Food counter attendants and kitchen helpers G961
Delivery drivers H714
All other food and beverage occupations

Recreation and entertainment
Facility operation and maintenance managers A141
Recreation and sport program and service directors A343
Program leaders and instructors in recreation/sport F154
Retail salespersons and sales clerks G211
Cashiers G311
Security guards and related occupations G631
Attendants in amusement, recreation and sport G731
Janitors, caretakers and building superintendents G933
Landscaping and grounds maintenance laborers I212
All other recreation and entertainment occupations
Travel agent services
Retail trade managers A211
Travel counselors G711
All other travel agent service occupations

Appendix C: Potential Demand for Tourism Goods & Services

Table C1: Baseline Forecast of the Demand for Tourism Goods and Services (1997 $ millions)					
CANADA	**2005**	**2010**	**2015**	**2020**	**2025**
Transportation	51,164	62,075	71,716	80,101	88,536
Air transportation	13,071	18,942	24,528	28,809	33,056
Rail transportation	259	297	339	384	432
Other transportation	37,834	42,836	46,849	50,908	55,048
Accommodation	8,430	9,703	10,681	11,689	12,806
Food and beverage services	38,267	43,100	48,487	53,556	59,045
Recreation and entertainment	17,091	20,628	23,949	26,864	29,471
Travel services	2,601	2,737	2,872	3,000	3,133
Other	12,247	15,567	19,399	23,202	27,103
TOTAL DEMAND	**129,800**	**153,810**	**177,103**	**198,412**	**220,094**

Table C2: Baseline Forecast of the Demand for Tourism Goods and Services (1997 $ millions)					
NEWFOUNDLAND & LABRADOR	**2005**	**2010**	**2015**	**2020**	**2025**
Transportation	704	794	784	794	767
Air transportation	40	60	68	73	71
Rail transportation	8	9	9	10	10
Other transportation	657	725	707	712	686
Accommodation	84	98	97	99	97
Food and beverage services	354	382	386	398	397
Recreation and entertainment	143	166	175	184	184
Travel services	24	25	23	22	20
Other	199	253	285	322	332
TOTAL DEMAND	**1,509**	**1,718**	**1,749**	**1,820**	**1,797**

Table C3: Baseline Forecast of the Demand for Tourism Goods and Services (1997 $ millions)					
PRINCE EDWARD ISLAND	**2005**	**2010**	**2015**	**2020**	**2025**
Transportation	146	162	173	184	196
Air transportation	1	1	1	1	1
Rail transportation	1	2	2	2	2
Other transportation	144	159	171	181	192
Accommodation	47	54	59	63	67
Food and beverage services	116	126	138	150	162
Recreation and entertainment	53	62	71	78	84
Travel services	3	3	3	3	3
Other	49	60	74	88	101
TOTAL DEMAND	**414**	**467**	**519**	**566**	**613**

Table C4: Baseline Forecast of the Demand for Tourism Goods and Services (1997 $ millions)					
NOVA SCOTIA	**2005**	**2010**	**2015**	**2020**	**2025**
Transportation	1,266	1,412	1,488	1,522	1,546
Air transportation	100	143	177	195	208
Rail transportation	14	15	17	19	20
Other transportation	1,152	1,253	1,294	1,309	1,318
Accommodation	206	234	246	254	262
Food and beverage services	787	841	892	919	946
Recreation and entertainment	375	432	474	499	515
Travel services	35	36	36	35	34
Other	408	506	609	690	760
TOTAL DEMAND	**3,077**	**3,460**	**3,746**	**3,919**	**4,064**

Table C5: Baseline Forecast of the Demand for Tourism Goods and Services (1997 $ millions)					
NEW BRUNSWICK	**2005**	**2010**	**2015**	**2020**	**2025**
Transportation	925	1,018	1,045	1,063	1,074
Air transportation	15	22	27	30	32
Rail transportation	6	6	7	8	8
Other transportation	904	989	1,011	1,025	1,035
Accommodation	129	148	154	158	161
Food and beverage services	691	746	782	806	829
Recreation and entertainment	261	301	328	345	355
Travel services	12	12	12	12	12
Other	241	303	366	416	459
TOTAL DEMAND	**2,259**	**2,528**	**2,687**	**2,799**	**2,891**

Table C6: Baseline Forecast of the Demand for Tourism Goods and Services (1997 $ millions)					
QUEBEC	**2005**	**2010**	**2015**	**2020**	**2025**
Transportation	10,658	12,588	14,209	15,315	16,344
Air transportation	2,636	3,786	4,794	5,359	5,857
Rail transportation	50	55	63	70	77
Other transportation	7,972	8,748	9,352	9,887	10,410
Accommodation	1,418	1,583	1,721	1,843	1,982
Food and beverage services	7,095	7,762	8,505	9,102	9,733
Recreation and entertainment	3,884	4,589	5,207	5,679	6,060
Travel services	710	719	737	739	742
Other	2,382	2,926	3,581	4,137	4,678
TOTAL DEMAND	**26,147**	**30,168**	**33,960**	**36,814**	**39,539**

Table C7: Baseline Forecast of the Demand for Tourism Goods and Services (1997 $ millions)					
ONTARIO	**2005**	**2010**	**2015**	**2020**	**2025**
Transportation	20,684	24,915	29,686	34,055	38,591
Air transportation	6,546	9,172	11,970	14,313	16,693
Rail transportation	61	68	79	90	103
Other transportation	14,077	15,675	17,637	19,652	21,795
Accommodation	3,131	3,472	3,844	4,247	4,688
Food and beverage services	15,536	17,181	19,779	22,277	25,049
Recreation and entertainment	7,366	8,760	10,378	11,848	13,231
Travel services	992	1,015	1,081	1,157	1,234
Other	4,317	5,241	6,558	7,960	9,436
TOTAL DEMAND	**52,026**	**60,584**	**71,325**	**81,545**	**92,229**

Table C8: Baseline Forecast of the Demand for Tourism Goods and Services (1997 $ millions)					
MANITOBA	**2005**	**2010**	**2015**	**2020**	**2025**
Transportation	1,826	2,162	2,403	2,638	2,886
Air transportation	219	340	441	519	597
Rail transportation	14	16	19	21	24
Other transportation	1,594	1,806	1,944	2,098	2,265
Accommodation	262	310	336	366	400
Food and beverage services	1,215	1,350	1,493	1,634	1,798
Recreation and entertainment	524	623	715	800	881
Travel services	60	64	67	71	75
Other	451	587	740	906	1,081
TOTAL DEMAND	**4,338**	**5,095**	**5,753**	**6,414**	**7,121**

Table C9: Baseline Forecast of the Demand for Tourism Goods and Services (1997 $ millions)					
SASKATCHEWAN	**2005**	**2010**	**2015**	**2020**	**2025**
Transportation	1,630	1,858	2,001	2,124	2,233
Air transportation	87	134	175	201	226
Rail transportation	15	17	20	22	24
Other transportation	1,529	1,706	1,807	1,901	1,983
Accommodation	238	284	306	325	346
Food and beverage services	1,224	1,347	1,460	1,554	1,646
Recreation and entertainment	418	496	557	606	641
Travel services	38	41	42	44	45
Other	496	643	811	972	1,134
TOTAL DEMAND	**4,044**	**4,668**	**5,177**	**5,624**	**6,045**

Table C10: Baseline Forecast of the Demand for Tourism Goods and Services (1997 $ millions)					
ALBERTA	**2005**	**2010**	**2015**	**2020**	**2025**
Transportation	5,955	7,818	9,077	10,184	11,303
Air transportation	909	1,581	2,137	2,563	2,992
Rail transportation	39	48	57	66	76
Other transportation	5,007	6,189	6,883	7,555	8,235
Accommodation	1,215	1,585	1,786	1,982	2,202
Food and beverage services	5,484	6,703	7,641	8,499	9,418
Recreation and entertainment	1,930	2,539	2,994	3,393	3,752
Travel services	261	321	350	377	404
Other	1,756	2,590	3,379	4,172	5,014
TOTAL DEMAND	**16,601**	**21,557**	**25,227**	**28,606**	**32,095**

Table C11: Baseline Forecast of the Demand for Tourism Goods and Services (1997 $ millions)					
BRITISH COLUMBIA	**2005**	**2010**	**2015**	**2020**	**2025**
Transportation	7,370	9,349	10,849	12,222	13,595
Air transportation	2,519	3,704	4,737	5,555	6,378
Rail transportation	52	59	67	77	87
Other transportation	4,798	5,585	6,044	6,590	7,130
Accommodation	1,700	1,934	2,132	2,353	2,599
Food and beverage services	5,765	6,662	7,412	8,217	9,066
Recreation and entertainment	2,137	2,658	3,050	3,432	3,767
Travel services	466	501	520	541	563
Other	1,947	2,460	2,996	3,540	4,110
TOTAL DEMAND	**19,383**	**23,566**	**26,960**	**30,305**	**33,701**

Appendix D: Demographic Assumptions by Province

NEWFOUNDLAND AND LABRADOR

Aging of the Canadian Population

- The average age of the population will steadily increase.
- Demographic changes are expected to moderate economic growth in Newfoundland and Labrador over the long term more significantly than in Canada as a whole.

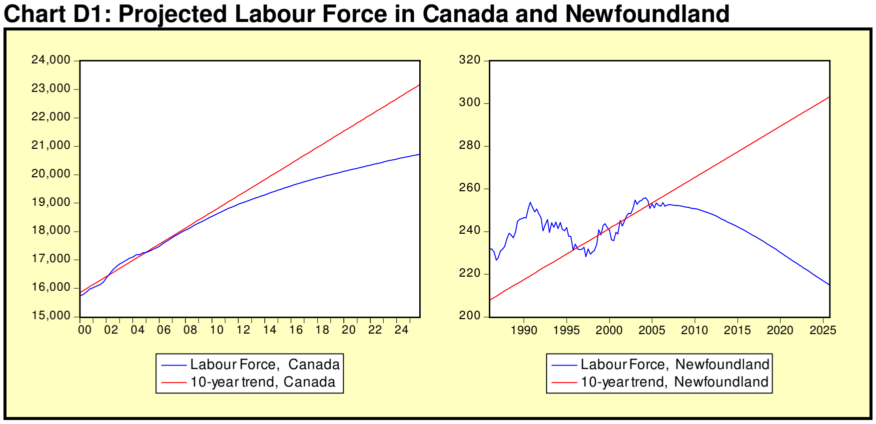
Population Growth

- High levels of out-migration and a rising average age will cause Newfoundland and Labrador's population to decrease at an average annual compound growth rate of 0.3 per cent from 2006 to 2030. The total population of the province is expected to fall from 510,413 in 2006 to 472,439 in 2030.
- Negative net interprovincial migration is expected to continue over the forecast period, averaging about –1,656 annually over 2007 to 2011 and –599 annually over the long term (2012 to 2030).
- Net international immigration will remain steady, averaging 464 people per year over the forecast period.
- The 25-to-34 age group, which made up 12.3 per cent of the population in 2006, will account for only 10.1 per cent of the population by 2030. Meanwhile, the proportion of the population 65 years of age and older will increase from 13.4 per cent in 2006 to 29.3 per cent in 2030.

Labour Force Growth

- The number of people of working age (aged 15 to 64) represented 71.4 per cent of the population in 2006. This number will shrink to 59.3 per cent by 2030.
- The provincial participation rate peaked at 59.1 around 2007 and is expected to decline gradually over the rest of the forecast.
- The labour force will shrink more quickly, at a compound rate of 0.9 per cent over the rest of the forecast.

Chart D1: Projected Labour Force in Canada and Newfoundland



PRINCE EDWARD ISLAND

Aging of the Canadian Population

- The average age of the population will steadily increase.
- Demographic changes are expected to moderate economic growth in Prince Edward Island over the long term more significantly than in Canada as a whole.

Population Growth

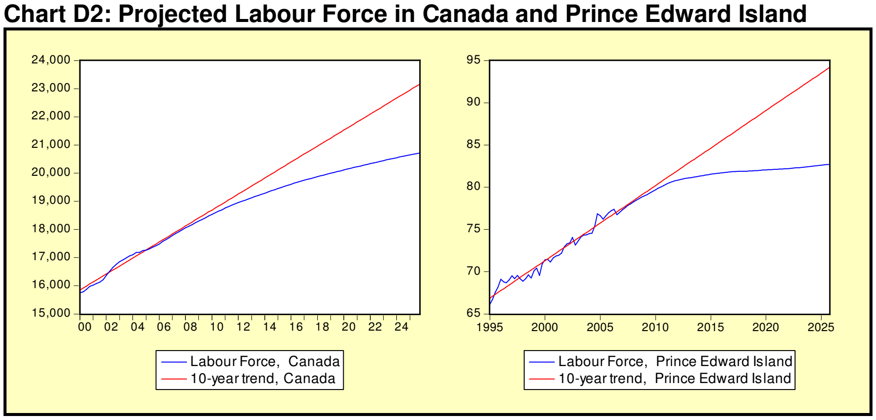
- Prince Edward Island's population is expected to grow at an annual average rate of 0.6 per cent over 2006 to 2030. The province will post modest population gains of an average of 0.5 per cent between 2006 and 2011. Then, population growth will average 0.7 per cent from 2012 to 2030.

- Net interprovincial migration is expected to make steady gains from 205 in 2006 to 688 people a year in 2030. Over the forecast period, net interprovincial migration will add a total of 13,540 people to the Island's population, an average of 542 people per year.
- Net international immigration numbered 250 people in 2006 and will increase to approximately 311 people per year by 2030. Overall, net international immigration is expected to boost the population of the Island by 7,273 people over the forecast period.
- The proportion of those aged 65 and over is expected to increase from 14.3 per cent in 2006 to 25.4 per cent by 2030.
- The natural rate of increase (the number of births minus deaths) is expected to draw down population growth, as the number of deaths will begin outpacing the number of births in 2024.

Labour Force Growth

- The number of people of working age (aged 15 to 64) represented 71.4 per cent of the population in 2006; this number will shrink to 59.3 per cent by 2030.
- The participation rate is expected to remain around 68.6 per cent for the rest of the decade and then slowly decline to 62.1 per cent throughout the rest of the forecast.
- Employment will grow by an average of 0.8 per cent per year until 2011 before sliding back to average 0.2 per cent growth per year from 2012 to 2030.

Chart D2: Projected Labour Force in Canada and Prince Edward Island



NOVA SCOTIA

Aging of the Canadian Population

- The average age of the population will steadily increase.
- Demographic changes are expected to moderate economic growth in Nova Scotia over the long term much more significantly than in Canada as a whole.

Population Growth

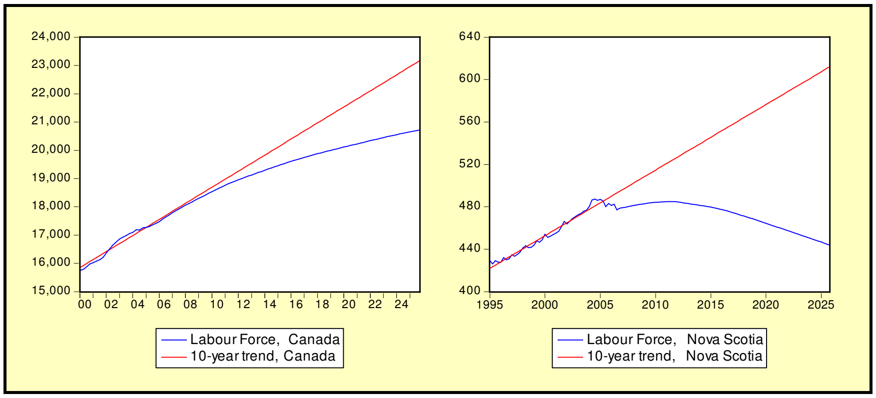
- Nova Scotia's population is expected to increase until 2021 and then decline gently during the last decade of the forecast. Overall, the population will drop slightly from 934,000 currently to 932,000 in 2030.
- Nova Scotia will continue to lose its young people to other provinces, as net interprovincial out-migration will average 714 people per year.
- Nova Scotia's net international immigration will remain strong; the province will receive a total of 41,430 people over the forecast period.
- The proportion of the population aged 65 years and older will swell from 14.5 per cent in 2006 to 27.3 per cent in 2030.
- The natural increase in population (that is, the excess of births over deaths) has been decelerating since 1961 and but will turn negative in 2007.

Labour Force Growth

- The labour force participation rate hit an all-time high of 64.7 per cent in 2004 but is expected to drop steadily over the forecast period, reaching 54.2 per cent by 2030
- Following scant growth over the next few years, the labour force will start to decline at a fairly rapid pace. Over the last 15 years of the forecast, the labour force will shrink at an average annual rate of 0.8 per cent per year.

- Employment is expected to register moderate gains of 0.3 per cent per year over 2006–10, but will decline by an average of 0.6 per cent over the rest of the forecast.

Chart D3: Projected Labour Force in Canada and Nova Scotia



NEW BRUNSWICK

Aging of the Canadian Population

- The average age of the population will steadily increase.
- Demographic changes are expected to moderate economic growth in New Brunswick over the long term as in Canada as a whole.

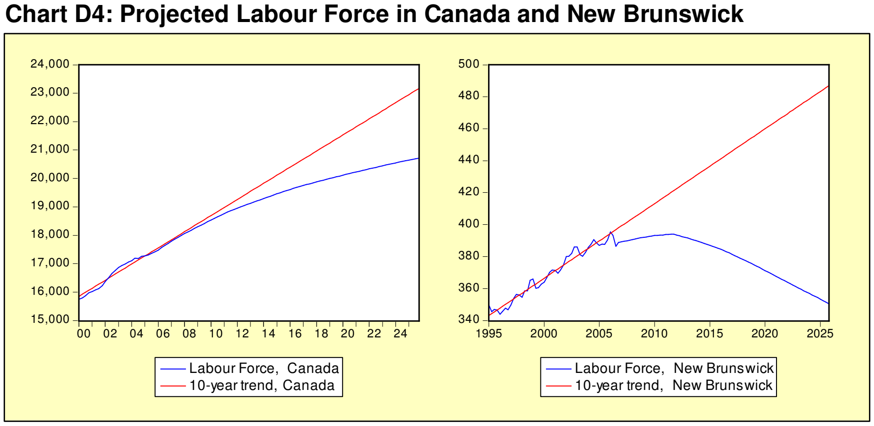
Population Growth

- New Brunswick's population is expected to decline by an annual average rate of 0.1 per cent over 2006–30.
- New Brunswick will continue to lose its young people to other provinces, as net interprovincial out-migration will average 774 people per year.
- New Brunswick's net international immigration will remain strong: the province will receive a total of 18,250 people over the forecast period.
- By the end of the forecast period, total population will stand at 729,444, or 26,744 fewer people than in 2005, representing an average annual decline of 0.1 per cent.
- The proportion aged 65 and over will swell from 14.2 per cent in 2006 to 28.2 per cent in 2030.
- The natural increase in population (that is, the excess of births over deaths) will continue to decelerate and turn negative by 2009.

Labour Force Growth

- The labour force is expected to decline by 0.9 per cent per year from 2012 to 2030, reaching 332,695 people, the lowest level since 1989.
- Employment will average annual growth of 0.7 per cent until 2010, but will decline by 0.6 per cent per year over 2011–20. During the last decade of the forecast, job losses will gain momentum, declining by an annual average of 1 per cent.

Chart D4: Projected Labour Force in Canada and New Brunswick



QUEBEC

Aging of the Canadian Population

- The average age of the population will steadily increase.
- Demographic changes are expected to moderate economic growth in Quebec over the long term as in Canada as a whole.

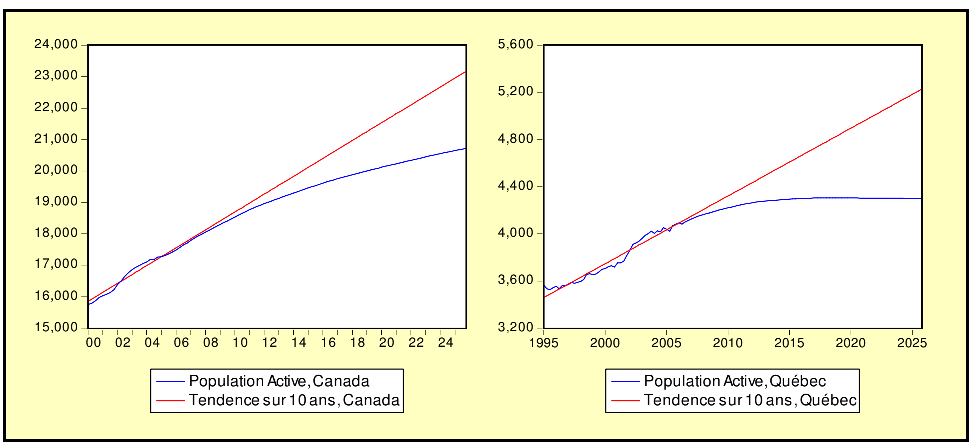
Population Growth

- Quebec's population growth will remain fairly constant, at an annual average rate of 0.6 per cent until 2020, then decelerate, advancing at an annual average rate of 0.4 per cent over 2021–30.
- Average annual net international migration to Quebec is forecast to rise steadily, from around 34,400 in 2006 to 54,150 by 2030.
- However, interprovincial migration will remain negative over the entire forecast, averaging 11,839 people per year.
- The population aged 65 and over, which accounted for roughly 10 per cent of the population in 2006, will rise to over 24 per cent of the population by 2030. Meanwhile, the proportion of people aged between 15 and 19 will drop from 6.2 per cent to 5 per cent over the same time period.
- The natural rate of increase in the population (births minus deaths) is projected to fall steadily over the forecast period, and deaths will outnumber births starting in 2022.

Labour Force Growth

- Average growth in the labour force will decline from 1.7 per cent per year in 2000–05 to just 0.2 per cent between 2006 and 2030. In fact, labour force growth will drop to zero by 2018 and turn negative in 2030.
- Employment growth is expected to ease from an annual average of 2 per cent between 1996 and 2005 to an annual average of 0.3 per cent over the forecast period. Total employment will stagnate starting in 2019.

Chart D5: Projected Labour Force in Canada and Québec



ONTARIO

Aging of the Canadian Population

- The average age of the population will steadily increase.
- Demographic changes are expected to moderate economic growth in Ontario over the long term as in Canada as a whole.

Population Growth

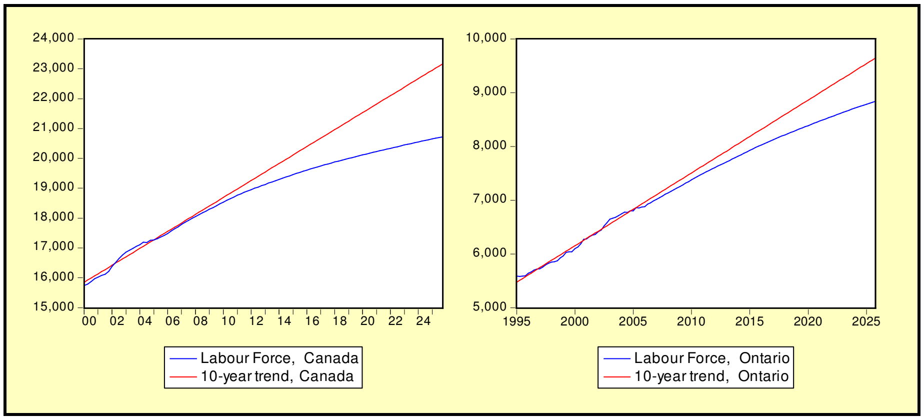
- Ontario's population is expected to grow at an annual average rate of 1.3 per cent over 2006 to 2030. However, the average age of the population will steadily increase.
- Ontario's net interprovincial migration will remain negative until the end of the decade, then recover, averaging 1,363 people per year between 2011 and 2030.
- Net international migration will drive population growth, rising from 113,510 people in 2006 to 162,652 people in 2030.
- The population aged 65 and over, which accounted for roughly 13 per cent of the total population in 2006, will rise to over 20 per cent of the population by 2030.

- The natural rate of increase in the population (births minus deaths) is projected to fall steadily starting over the forecast period.

Labour Force Growth

- Labour force growth will retreat from an average annual compound growth rate of 1.6 per cent over 2005–2010, to 1.3 per cent between 2010 and 2020 and 0.8 per cent between 2020 and 2030.
- Employment growth will decelerate in the outer years of the forecast, shrinking to an average 0.9 per cent over 2016–30, compared with an average annual increase of 1.6 per cent from 2006 to 2015.

Chart D6: Projected Labour Force in Canada and Ontario



MANITOBA

Aging of the Canadian Population

- The average age of the population will steadily increase.
- In contrast to Canada overall, demographic changes are not expected to moderate economic growth significantly in Manitoba over the long term.

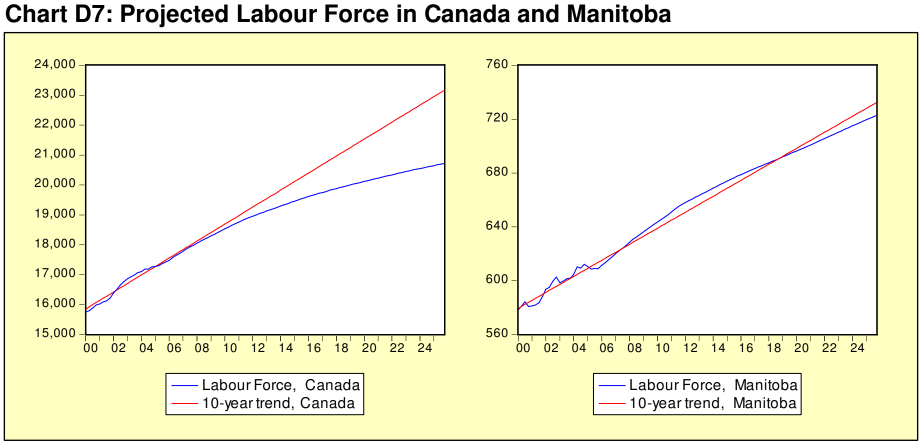
Population Growth

- While population growth will hold steady, the aging of the province's population will lead to changes in consumption patterns of goods and services.
- Manitoba's population growth will remain steady at around 1 per cent per year over the forecast.
- Good economic conditions will reduce the flow of out-migration and result in increased international migration.
- The natural rate of increase in the population (births minus deaths) is projected to rise but then start to fall around 2023.

Labour Force Growth

- Labour force growth will retreat from an average annual compound growth rate of 1.2 per cent over 2005–2010 to 0.8 per cent in between 2010 and 2020 and to 0.6 per cent between 2020 and 2030.
- Employment growth will be constrained by the available labour force. Employment will grow at an average annual rate of 1.2 per cent from 2005 to 2010, 0.8 per cent between 2010 and 2020, and 0.6 per cent between 2020 and 2030.

Chart D7: Projected Labour Force in Canada and Manitoba



SASKATCHEWAN

Aging of the Canadian Population

- The average age of the population will steadily increase.
- Demographic changes are expected to moderate economic growth in Saskatchewan over the long term as in Canada as a whole.

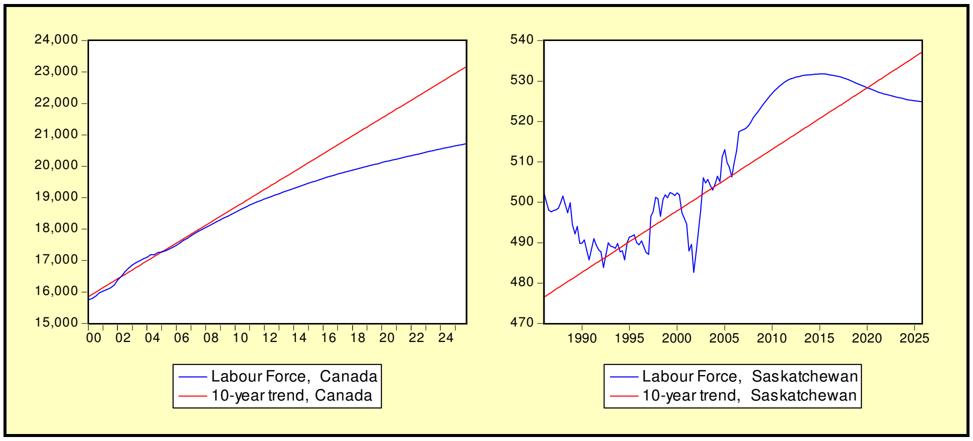
Population Growth

- Population growth is projected to remain fairly constant but weak at only 0.2 per cent per year.
- Saskatchewan will suffer out-migration to other provinces, losing on average 2,529 people per year over the forecast period.
- Saskatchewan has the highest fertility rate among the provinces at 1.7, but still below the replacement rate of 2.1.

Employment and the Labour Force

- Labour force growth will slow as the population ages, rising by an average of only 0.3 per cent between 2006 and 2015 and declining by an average of 0.1 per cent until 2030.
- Employment will inch up by an average of 0.4 per cent between 2006 and 2015 and decline by an average of 0.1 per cent between 2016 and 2030.

Chart D8: Projected Labour Force in Canada and Saskatchewan



ALBERTA

Aging of the Canadian Population

- The average age of the population will steadily increase.
- Demographic changes are expected to moderate economic growth in Alberta over the long term as in Canada as a whole.

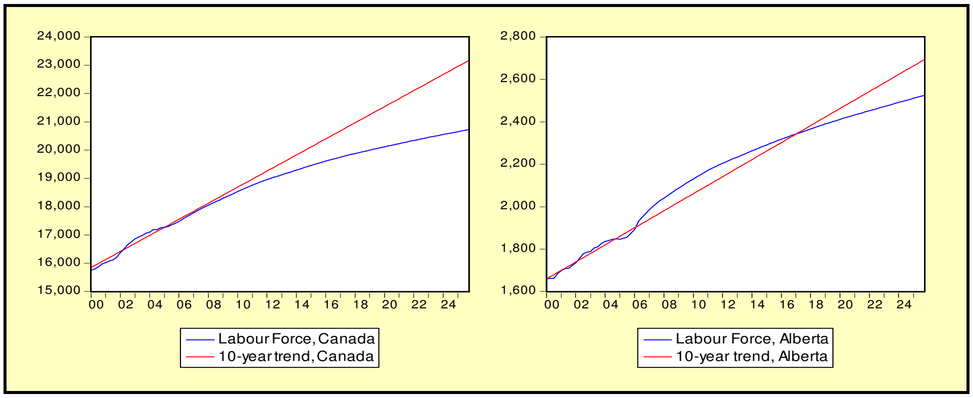
Population Growth

- As the population ages, population growth in Alberta is expected to slow from an annual compound rate of 1.9 per cent in this decade to 1.5 per cent over 2011–20 and 1.1 per cent in 2021–30.
- Record resource revenues and the robust job market will continue to attract businesses and job seekers, boosting Alberta's population growth beyond that of other provinces.
- Significant net interprovincial migration will continue in Alberta over the short term, with an annual average of 28,338 people from 2006 to 2010. In the long term, however, interprovincial migration will moderate to an average of 10,260 in 2011–30.
- The natural rate of increase in the population (births minus deaths) is projected to fall steadily starting in 2014–15.
- Total population growth is projected to weaken, dampening demand for consumer goods and housing.

Labour Force Growth

- Labour force growth will retreat from an average annual compound rate of 2.6 per cent over 2001–2010 to 0.9 per cent in 2020 and finally to 0.7 per cent in 2030.
- Employment growth is expected to advance solidly, at an average annual compound rate of 2.7 per cent from 2001 to 2010. But it will decelerate to 1.2 per cent over 2011 to 2020 before slowing further to 0.8 per cent over 2021 to 2030.

Chart D9: Projected Labour Force in Canada and Alberta



BRITISH COLUMBIA

Aging of the Canadian Population

- The average age of the population will steadily increase.
- The aging of the population will slow growth in domestic demand, with consumer spending patterns and housing activity undergoing the most pronounced changes.

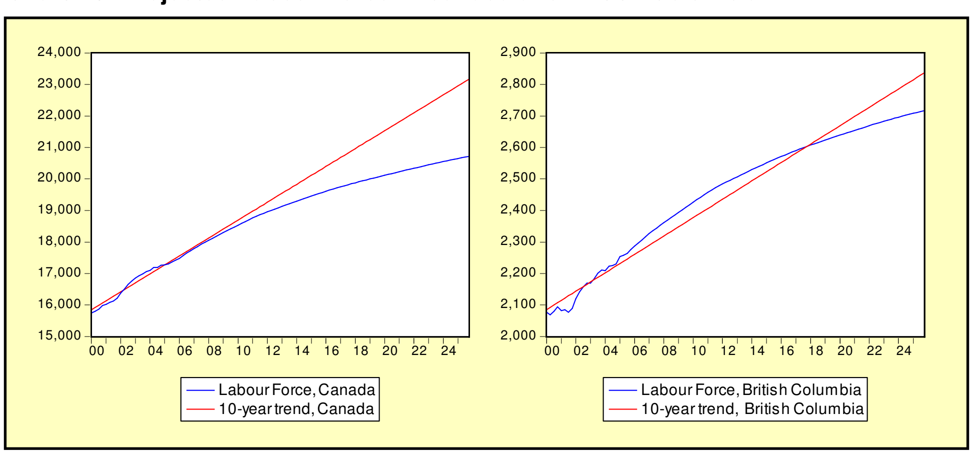
Population Growth

- As in the rest of Canada, demographic changes are expected to moderate economic growth in British Columbia over the long term. Despite positive net interprovincial migration, population growth is expected to slow over the forecast period. But while sluggish, population growth will be higher than in most other provinces, with a compound annual rate of 1.1 per cent from 2006 to 2030.
- British Columbia's population growth will remain steady over the forecast period, slowing down as it approaches the end.

Labour Force Growth

- Large-scale infrastructure investment and a host of projects in preparation for the 2010 Olympics is keeping activity healthy in the province's construction sector.
- Labour force participation is expected to increase from 65.6 per cent in 2006 to 65.8 per cent in 2010. But as the baby boomers exit the labour force and enter retirement, the participation rate will weaken throughout the rest of the forecast, reaching 58.9 per cent by 2030. As a result, B.C.'s labour force growth will slow from 1.7 per cent growth in 2006 to 0.4 per cent in 2025.
- Overall, the average annual growth rate of potential output is expected to decline from 3 per cent over the medium term to 1.9 per cent in the long term.

Chart D9: Projected Labour Force in Canada and British Columbia



Appendix E: Economic Background for Canada and the Provinces

Table E1: Exogenous Model Variables
(compound annual growth rate unless otherwise noted)

NEWFOUNDLAND AND LABRADOR	2005–10	2010–15	2015–20	2020–25	2025–30
Population	-0.6%	-0.3%	-0.2%	-0.2%	-0.5%
Interprovincial migration (000s)	3.11	0.76	0.12	0.00	0.00
Labour force	-0.2%	-0.5%	-0.9%	-1.1%	-1.2%
Participation rate (difference)	0.3%	-1.5%	-2.2%	-2.3%	-2.2%
Unemployment rate (difference)	-4.3%	-1.2%	0.3%	-0.2%	0.7%
Employment	0.8%	-0.2%	-0.9%	-1.0%	-1.4%
Real GDP	-0.2%	-0.5%	-0.9%	-1.1%	-1.2%
Personal disposable income	4.6%	2.9%	2.5%	2.5%	2.3%
Consumer Price Index	1.8%	1.6%	1.6%	1.6%	1.6%

Table E2: Exogenous Model Variables
(compound annual growth rate unless otherwise noted)

PRINCE EDWARD ISLAND	2005–10	2010–15	2015–20	2020–25	2025–30
Population	0.4%	0.7%	0.7%	0.7%	0.5%
Interprovincial migration (000s)	0.63	0.14	0.08	0.07	0.00
Labour force	0.5%	0.4%	0.2%	0.2%	0.1%
Participation rate (difference)	-1.0%	-1.4%	-1.6%	-1.5%	-1.6%
Unemployment rate (difference)	-0.6%	0.1%	-0.4%	-0.1%	0.1%
Employment	0.7%	0.4%	0.3%	0.2%	0.1%
Real GDP	0.5%	0.4%	0.2%	0.2%	0.1%
Personal disposable income	4.0%	3.6%	3.5%	3.6%	3.5%
Consumer Price Index	1.9%	1.7%	1.7%	1.7%	1.8%

Table E3: Exogenous Model Variables
(compound annual growth rate unless otherwise noted)

NOVA SCOTIA	2005–10	2010–15	2015–20	2020–25	2025–30
Population	0.0%	0.1%	0.1%	0.1%	-0.2%
Interprovincial migration (000s)	3.96	(0.90)	0.00	0.02	0.00
Labour force	0.0%	-0.2%	-0.6%	-0.7%	-0.9%
Participation rate (difference)	-1.1%	-1.4%	-2.1%	-2.1%	-2.2%
Unemployment rate (difference)	-1.5%	-0.1%	-0.3%	-0.1%	-0.2%
Employment	0.3%	-0.1%	-0.6%	-0.7%	-0.8%
Real GDP	0.0%	-0.2%	-0.6%	-0.7%	-0.9%
Personal disposable income	3.7%	3.0%	2.8%	2.8%	2.7%
Consumer Price Index	1.9%	1.7%	1.7%	1.9%	2.0%

Table E4: Exogenous Model Variables
(compound annual growth rate unless otherwise noted)

NEW BRUNSWICK	2005–10	2010–15	2015–20	2020–25	2025–30
Population	0.1%	0.0%	-0.1%	-0.1%	-0.3%
Interprovincial migration (000s)	2.80	(0.97)	(0.02)	0.06	0.00
Labour force	0.6%	-0.1%	-0.6%	-0.7%	-0.9%
Participation rate (difference)	0.6%	-1.2%	-1.8%	-1.9%	-2.0%
Unemployment rate (difference)	-2.7%	0.1%	0.1%	0.0%	0.2%
Employment	1.2%	-0.1%	-0.6%	-0.7%	-0.9%
Real GDP	0.6%	-0.1%	-0.6%	-0.7%	-0.9%
Personal disposable income	3.9%	3.1%	2.9%	2.9%	2.7%
Consumer Price Index	1.9%	1.8%	1.7%	1.8%	1.9%

Table E5: Exogenous Model Variables
(compound annual growth rate unless otherwise noted)

QUEBEC	2005–10	2010–15	2015–20	2020–25	2025–30
Population	0.6%	0.6%	0.6%	0.6%	0.4%
Interprovincial migration (000s)	(4.38)	(0.62)	(0.30)	(0.19)	0.01
Labour force	0.9%	0.4%	0.1%	0.1%	0.0%
Participation rate (difference)	-0.1%	-1.0%	-1.7%	-1.6%	-1.5%
Unemployment rate (difference)	-1.4%	-0.7%	-0.2%	0.1%	0.2%
Employment	1.2%	0.5%	0.1%	0.0%	0.0%
Real GDP	0.9%	0.4%	0.1%	0.1%	0.0%
Personal disposable income	4.5%	3.5%	3.4%	3.4%	3.3%
Consumer Price Index	1.8%	2.0%	2.0%	2.0%	2.1%

Table E6: Exogenous Model Variables
(compound annual growth rate unless otherwise noted)

ONTARIO	2005–10	2010–15	2015–20	2020–25	2025–30
Population	1.0%	1.4%	1.4%	1.4%	1.2%
Interprovincial migration (000s)	10.15	5.22	0.71	0.10	0.01
Labour force	1.5%	1.4%	1.1%	1.0%	0.7%
Participation rate (difference)	0.1%	-0.5%	-1.0%	-1.3%	-1.7%
Unemployment rate (difference)	-0.2%	-0.2%	-0.4%	-0.4%	-0.1%
Employment	1.5%	1.5%	1.2%	1.1%	0.8%
Real GDP	1.5%	1.4%	1.1%	1.0%	0.7%
Personal disposable income	4.7%	4.4%	4.3%	4.3%	4.1%
Consumer Price Index	2.0%	2.1%	2.1%	2.2%	2.3%

Table E7: Exogenous Model Variables
(compound annual growth rate unless otherwise noted)

MANITOBA	2005–10	2010–15	2015–20	2020–25	2025–30
Population	0.7%	0.9%	1.0%	1.0%	1.0%
Interprovincial migration (000s)	7.21	0.39	0.38	0.33	(0.01)
Labour force	1.1%	0.9%	0.7%	0.7%	0.6%
Participation rate (difference)	0.8%	-0.4%	-1.0%	-1.1%	-1.2%
Unemployment rate (difference)	-0.5%	0.0%	0.0%	0.2%	0.1%
Employment	1.2%	0.9%	0.7%	0.6%	0.6%
Real GDP	1.1%	0.9%	0.7%	0.7%	0.6%
Personal disposable income	4.8%	3.8%	3.8%	3.9%	3.9%
Consumer Price Index	2.1%	1.8%	1.9%	1.8%	2.0%

Table E8: Exogenous Model Variables
(compound annual growth rate unless otherwise noted)

SASKATCHEWAN	2005–10	2010–15	2015–20	2020–25	2025–30
Population	0.3%	0.3%	0.3%	0.3%	0.3%
Interprovincial migration (000s)	7.36	(0.16)	0.33	0.32	0.00
Labour force	1.0%	0.1%	-0.1%	-0.1%	0.0%
Participation rate (difference)	1.9%	-0.6%	-1.2%	-1.3%	-1.2%
Unemployment rate (difference)	-0.7%	-0.3%	-0.2%	0.1%	0.1%
Employment	1.2%	0.2%	0.0%	-0.1%	0.0%
Real GDP	1.0%	0.1%	-0.1%	-0.1%	0.0%
Personal disposable income	4.5%	3.1%	3.3%	3.4%	3.4%
Consumer Price Index	2.7%	1.8%	1.9%	1.8%	2.0%

Table E9: Exogenous Model Variables
(compound annual growth rate unless otherwise noted)

ALBERTA	2005–10	2010–15	2015–20	2020–25	2025–30
Population	2.2%	1.5%	1.4%	1.4%	1.1%
Interprovincial migration (000s)	(29.63)	(3.44)	(1.91)	(1.07)	(0.02)
Labour force	3.1%	1.4%	1.0%	0.9%	0.8%
Participation rate (difference)	1.8%	-0.5%	-1.3%	-1.6%	-1.7%
Unemployment rate (difference)	-0.5%	-0.1%	0.1%	-0.1%	0.0%
Employment	3.2%	1.4%	1.0%	0.9%	0.8%
Real GDP	3.1%	1.4%	1.0%	0.9%	0.8%
Personal disposable income	8.0%	4.8%	4.7%	4.7%	4.5%
Consumer Price Index	3.5%	2.0%	2.0%	2.0%	2.1%

Table E10: Exogenous Model Variables (compound annual growth rate unless otherwise noted)					
BRITISH COLUMBIA	**2005–10**	**2010–15**	**2015–20**	**2020–25**	**2025–30**
Population	1.2%	1.2%	1.2%	1.2%	0.9%
Interprovincial migration (000s)	(2.49)	0.54	0.76	0.31	0.00
Labour force	1.6%	0.9%	0.7%	0.6%	0.4%
Participation rate (difference)	0.3%	-1.2%	-1.7%	-1.8%	-1.8%
Unemployment rate (difference)	-1.8%	0.3%	0.3%	0.1%	0.1%
Employment	2.0%	0.9%	0.6%	0.6%	0.4%
Real GDP	1.6%	0.9%	0.7%	0.6%	0.4%
Personal disposable income	5.4%	4.0%	4.0%	4.0%	3.9%
Consumer Price Index	2.0%	1.9%	1.9%	2.0%	2.0%

Table E11: Exogenous Model Variables (compound annual growth rate unless otherwise noted)					
CANADA	**2005–10**	**2010–15**	**2015–20**	**2020–25**	**2025–30**
Population	0.9%	1.0%	1.1%	1.1%	0.9%
Labour force	1.4%	0.9%	0.7%	0.6%	0.4%
Participation rate (difference)	0.4%	-0.7%	-1.3%	-1.4%	-1.6%
Unemployment rate (difference)	-0.9%	-0.2%	-0.2%	-0.1%	0.0%
Employment	1.6%	1.0%	0.7%	0.6%	0.4%
Real GDP	1.4%	0.9%	0.7%	0.6%	0.4%
Personal disposable income	5.1%	4.1%	4.0%	4.0%	3.9%
Consumer Price Index	2.1%	1.9%	2.0%	2.0%	2.0%