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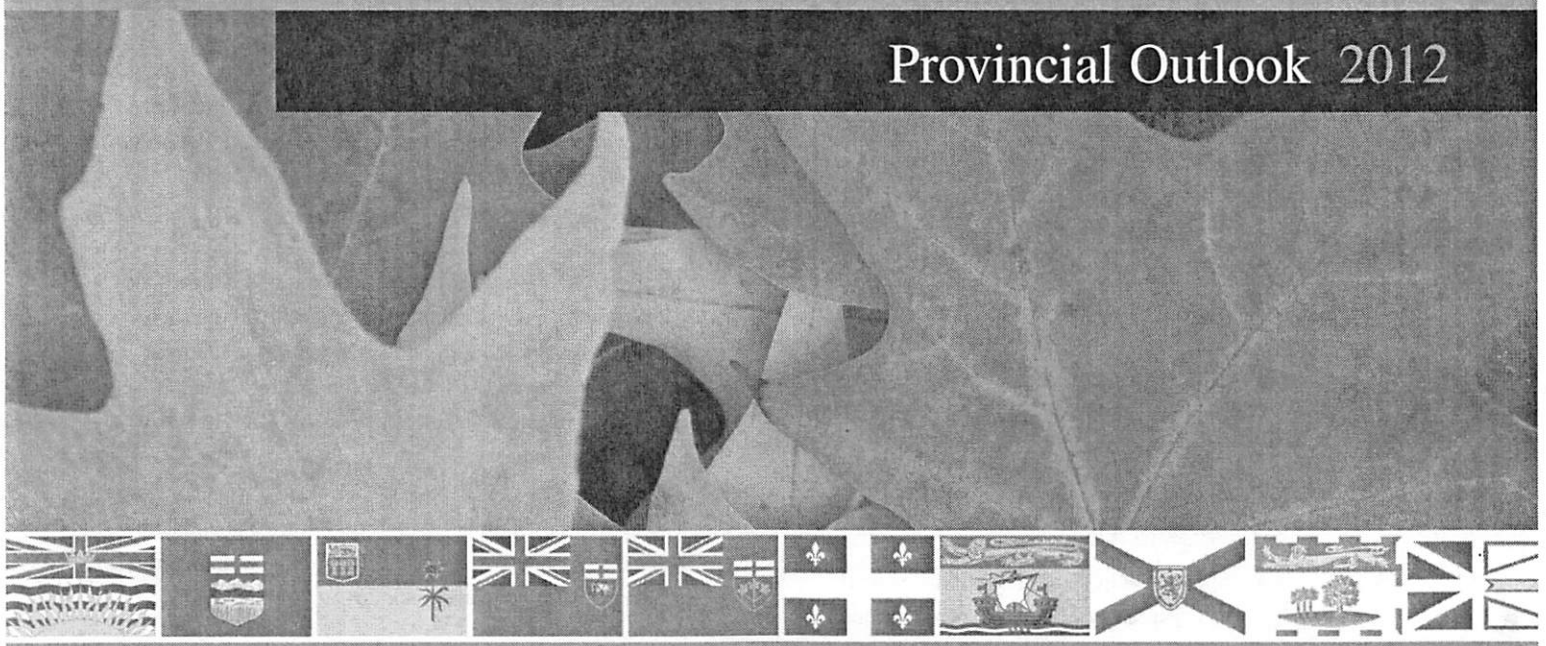

Provincial Outlook 2012

Long-Term Economic Forecast

ECONOMIC PERFORMANCE AND TRENDS

The Conference Board of Canada
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Provincial Outlook Long-Term Economic Forecast 2012
by *The Conference Board of Canada*

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Preface

The Provincial Outlook Long-Term Economic Forecast 2012 was prepared by Marie-Christine Bernard, Associate Director, under the general direction of Paul Darby, Deputy Chief Economist.

The report examines the long-term economic outlook for the provinces, including gross domestic product (GDP), output by industry and labour market conditions. At the end of the report, there is a forecast for Canadian economic indicators and a comparison of GDP by province and industry.

The Provincial Outlook Long-Term Forecast is updated annually using the Conference Board's large econometric model of the provincial economies.

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NATIONAL OVERVIEW

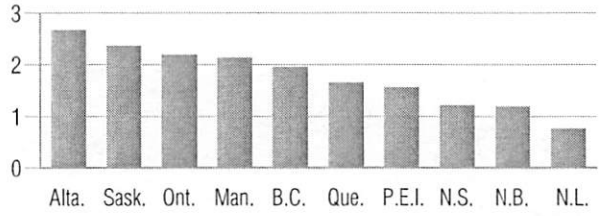
Canada's economy has rebounded nicely from the devastating effects of the 2008–09 recession, especially when compared with the performance of many other advanced economies. Employment levels have surpassed their pre-recession peak, business investment has rebounded at a quicker-than-expected pace, and exports are also on a strong recovery path. But despite the solid starting point, closing the remaining gap on potential output and full employment will be a long and protracted process, as real GDP growth will be lacklustre over the next few years. The culprit is softer growth in the domestic economy. In particular, the recovery in household spending will be kept in check by softer wage gains, higher taxes, and a heavy debt burden coupled with rising interest rates. Moreover, heavy fiscal restraint suggests that the contribution of the public sector to real GDP will be negative in 2012 and contribute very little over the next five years. Overall, real GDP will advance at an average pace of 2.7 per cent from 2012 to 2016.

Beyond 2016, economic growth will slow drastically as it realigns with weakening growth in potential output. Slower population growth and the effects of an aging population will restrain labour force growth and heavily influence income and spending patterns. The oldest members of the large baby-boom cohort are now 65, and many were approaching retirement age just as equity markets around the world tumbled. While some boomers have decided to hold off on retirement until their investment nest eggs have fully recovered, this will only delay the massive and growing wave of boomer retirements that is just around the corner. Despite the negative effects on the economy of these demographic trends, real GDP growth will average 2.1 per cent annually over the 2016 to 2020 period, thanks to heavy investment in machinery and equipment and technology and to firms utilizing more highly skilled workers and more innovative production processes. Over the 2021 to 2035 period, strong labour productivity—getting more output per hour worked—is a key assumption behind our projections. Still, real GDP growth is forecast to ease to below 2 per cent over the later years of the forecast. Interestingly though, growth will start to strengthen slightly over the 2031–35 period as the exodus of baby boomers from the labour force finally comes to an end.

PROVINCIAL OVERVIEW

Alberta, Saskatchewan, Ontario, Manitoba, and British Columbia will post the strongest economic growth over the long term, while real GDP in the rest of the country will average just 1.5 per cent (compounded annually) from 2011 to 2035. (See Chart 1.) In the top two spots, Alberta and Saskatchewan are expected to do particularly well, followed by Ontario. Not surprisingly, it will be the natural resource-oriented economies that surge ahead over the long term, as emerging countries require increasingly large quantities of primary commodities—in particular, petroleum and mineral and non-metallic mineral-related products.

Chart 1
Long-Term Growth
(GDP, annual average growth, per cent)



Sources: The Confernece Board of Canada; Statistics Canada.

Alberta will lead all provinces. Stronger crude oil and natural gas prices will encourage the development of the energy industry in the long term. The energy sector will be the main driving force in Alberta as the province benefits from rising oil prices, several multibillion-dollar investment projects, an immense non-conventional oil supply, and better extraction technology.

Saskatchewan will also see a lot of action in its mining sector—oil, potash, uranium, and other mining commodities will be in high demand going forward. The economy is already seeing a boom in its mining industry.

While the near term will be challenging for Ontario, the long-term prospects are brighter. With a large deficit to bring under control, provincial government spending on goods and services will post only limited gains until 2017–18. Strong population growth, combined with an improving economy south of the border, will offset the weakness in Ontario's public sector. The province will continue to narrow its output gap (the difference between what Ontario produces and its productive capacity), but the gap will not be closed for another few years. Ontario should perform better over 2021–35. Robust international migration will benefit the province, especially the service sector. The manufacturing sector will benefit from rising vehicle sales south of the border.

Manitoba and British Columbia will have similar growth patterns over the next 24 years. Their ability to attract interprovincial and out-of-country migrants will benefit economic growth. Over the longer term, with a significant number of Canada's baby boomers expected to move to British Columbia once they retire, population and service sector output will grow. The same holds true for Prince Edward Island.

The depletion of oil reserves and the end of mega energy projects will severely slow Newfoundland and Labrador's overall economic growth over the last 15 years of the forecast—enough to leave the province with the lowest average growth rate for the entire forecast period of any province. At first glance, the 2 percentage point gap separating the fastest- and slowest-growing provinces may not seem significant. But it becomes huge when compounded over more than two decades.

The key factors influencing the long-term performance of an economy are population growth, labour force productivity, and investment patterns. Population growth will vary considerably from province to province, though all provinces will be dealing with a declining natural rate of increase. Moreover, although significant advances in communication technology have lessened the importance of location for many industries, the overall movement of population within and between provinces is expected to continue to be one in which people move from smaller to larger centres—and net international migration will favour the larger provinces. These trends will result in declining populations and a faster aging of the population in two Atlantic provinces—Newfoundland and Labrador, and New Brunswick. This profound demographic change will mean fewer people of working age—and therefore weaker economic growth. Even if stronger productivity gains mitigate the demographic effects on real GDP growth, real economic growth in the Atlantic provinces over 2011–35 will be much weaker over the next two and a half decades (except in Prince Edward Island) compared with recent history. However, those productivity gains should allow growth in real GDP per capita to continue, albeit at a slower pace, over the next 24 years.

Estimates of potential output have been generated for all provinces by taking into account growth in potential employment, the capital stock, and total factor productivity. Detailed demographic analysis—an essential determinant of potential output—has been conducted for each province, taking into account the unique population characteristics of each over the long term. One clear

result emerges from these estimates of potential output—potential output growth will decelerate in every province over the next 24 years. This general finding is attributable mainly to an aging population, which will dampen growth in the labour force considerably in the last decade of the forecast.

AGRICULTURE

The 1986–94 Uruguay Round of international trade negotiations ended with the creation of the World Trade Organization (WTO) to replace the General Agreement on Tariffs and Trade (GATT). And since then, there has been a global trend toward freer trade. That has led to fewer subsidies for agriculture and has forced the agricultural sector to be more efficient. Lower transportation subsidies have changed the cost structure for grain farmers in the Prairies since the mid-1990s, resulting in greater concentration of ownership, changes to the crop mix, and a move to higher value-added products at home. As livestock producers take advantage of economies of scale, production in this industry too has become increasingly concentrated. On December 15, 2011, the federal government finally succeeded in its efforts to legislate an end to the Canadian Wheat Board's monopoly, thereby decreasing trade-distorting regulation in the agricultural sector. This legislation is currently being challenged in the courts through various lawsuits. But should it stand, the result will be a more competitive wheat and barley marketing system in Western Canada. And while the transition is likely to be difficult for small farmers, it should help increase the international competitiveness of Canadian agriculture and agricultural services over time. A gradual global movement away from protectionism in agriculture markets is expected to further enhance Canada's export potential.

The federal government continues to defend supply management groups (dairy, poultry, eggs, and turkey producers) when negotiating modalities on agricultural trade with the WTO. Canada is moving toward significant reductions in trade-distorting domestic support, improvements to market access, and the elimination of export subsidies for its traditional export products. But it takes a more protectionist stance on "sensitive products"—products marketed under supply management regulation. It is not clear how much longer the government can simultaneously defend these two opposing approaches at the WTO negotiations.

In addition, Canada has accelerated the process of negotiating a free trade agreement with the European Union. If successful Canada would be the first developed country to have a free trade agreement with the EU, opening up numerous opportunities for many sectors in Canada, including agriculture. But this is not a done deal. Just as Canada has maintained supply management in its dairy and poultry industries, Europe continues to manage its beef industry in a similar fashion. Canada has also expressed an interest in joining the new Asia-Pacific free trade bloc (known as the Trans-Pacific Partnership), and this process will most likely bring supply management back into the spotlight.

A gradual global movement away from protectionism in agriculture markets is expected to further enhance Canada's export potential.

Agricultural output will be shaped over the long term by developments in global demand and supply. Rising population, income growth, and agricultural policies are the main drivers of changes in demand. The U.S. Census Bureau is forecasting that the world population will expand from 6.9 billion in 2011 to 8.6 billion by 2035. Over that span, Canadian agricultural exports are expected to shift to non-traditional markets with high growth in population and wealth, such as the BRIC countries (Brazil, Russia, India, and China). For example, China is becoming increasingly dependent on agricultural imports. This reflects the improvements in Chinese living standards and the resulting shift to a diet higher in protein—which provides a potentially vast export market for Canadian grains and meat products.

The Doha Development Round is the current trade-negotiation phase of the WTO. The objective is to lower trade barriers around the world. The most recent round of negotiations took place in July 2008, but collapsed

after countries failed to reach a compromise on agricultural import rules. As no major negotiations are scheduled in the immediate future, Canada's agriculture industry will have to find new trade opportunities through bilateral agreements in order to access new markets. The success of free-trade relationships with the U.S., Mexico, Chile, and Peru has encouraged the government to step up its efforts to seek partnerships with other countries, especially emerging countries.

Agriculture output is expected to increase by an average annual rate of 2.4 per cent (compounded) over 2016–35. However, highly volatile commodity prices present growing challenges to farmers who have to decide in advance on seeding variety and quantity. Pressure to protect the land, conserve water resources, and preserve the environment will continue to build in the long term. Moreover, increased competition from other agricultural-exporting countries—such as Ukraine, Russia, and Kazakhstan (all of which have improved their agricultural infrastructures)—will limit Canada's potential growth in grain production and exports.

Highly volatile commodity prices present growing challenges to farmers who have to decide in advance on seeding variety and quantity.

Over the longer term, crop prices will rise due to the expansion in world production of ethanol and biodiesel. Use of these new fuels is growing rapidly, thanks to policies in Canada and in several other developed economies aimed at reducing reliance on fossil fuels. This year, ethanol production is expected to consume nearly 40 per cent of the corn produced in the United States. Strong demand for corn and soybeans is already being reflected in high prices. In the short term, increased crop production will dampen food price inflation. In fact, the U.S. Department of Agriculture (USDA) estimates that global production of many grains and oilseeds will hit record or near-record levels this year. However, looking further ahead the USDA forecasts that prices will rise steadily over the next few years, driven higher by structural changes that will persist going forward. Upward pressure on agricultural commodity prices is also expected to come from the supply side as global arable land becomes scarcer. All these factors should spur productivity-enhancing research and development, including a greater reliance on genetically modified organisms (GMOs).

Canada is slowly succeeding in its efforts to rebuild its beef industry, which suffered heavily after the discovery of mad cow disease in 2003. After 2005, the U.S. border was reopened to live bovine animals under 30 months of age. And in 2007, older animals were permitted as well, which led to more trade activity. More recently, this past January, South Korea announced that it was lifting its eight-year-old ban on Canadian cattle, allowing the import of beef from cattle under 30 months of age. The WTO recently ruled that some of the country of origin labelling (COOL) requirements violate international trade rules, so exports are expected to increase. (That decision, however, could still be appealed.) The COOL regulations went into effect on September 30, 2008, for a variety of cut meat products, seafood, and agricultural commodities, and they have hampered livestock exports to the United States.

Also, Canada is moving toward a national beef traceability system, which would go a long way toward managing and reducing any health-related risks. Implementation of this system will help to open up foreign markets to Canadian beef products and to differentiate Canadian products from those of major competitors, such as the United States. The recent opening up of new markets such as China and Mexico will benefit Canadian ranchers going forward. In the long run, access to the vast Chinese and Indian markets should also help the Canadian livestock industry grow. As well, Canada's struggling pork producers can look forward to better times. There have been severe cutbacks in Canadian pork production in recent years, but that should set the stage for price increases in the near future. Overall, Canadian livestock producers are blessed with space, abundant supplies of feed grains, and established infrastructure (such as roads). All provide Canada with key advantages that haven't yet been maximized by producers as they compete on the global market.

One downward risk for agriculture over the long term is the increased volatility of agricultural output due to climate change. New risk management tools are likely to appear in agriculture services in order to cope with the new challenges ahead.

FISHING

Supply constraints will limit growth in fishing output over the long term along both the Atlantic and Pacific coasts. The Atlantic fishery now relies solely on its shellfish stocks for growth. Prior to the imposition of a moratorium in 1992, the cod fishery represented roughly one-quarter of the value of commercial landings on the east coast. But years of overfishing depleted the stocks, and two decades after the moratorium was first imposed, there are few measurable signs of improvement. According to 2010 data, groundfish species such as cod and haddock account for just over 12 per cent of landed values in the Atlantic region—a mere fraction of their historical share.

The slump in the groundfish industry forced East Coast harvesters to turn their attention to molluscs and crustaceans. Landings of crab and shrimp have shown especially strong growth in recent years. However, the invasive green crab, a transplant from European and North African waters, continues to threaten native populations. After infesting shallow bays from Nova Scotia to Prince Edward Island, the green crab reached Newfoundland and Labrador's Placentia Bay in 2007. Monitoring programs show that green crab populations continue to grow in these areas, thanks in part to prolific breeding and a lack of natural predators or parasites. Their competitive advantages allow them to drive out or consume other crustaceans, while also destroying established habitats on the ocean floor. Commercial sea fisheries may be substantially damaged if the green crab expansion is not contained.

Demographics and finances are also expected to constrain fishing output in the future. The reliance on shellfish makes harvesters vulnerable to economic downturns. Nominal lobster prices fell to 20-year lows in 2009, preventing most lobstermen from generating even a small profit. Despite improved economic conditions domestically and abroad, the price of lobster remains depressed. Over the first half of 2011, the price per pound was in the $4 to $5 range, but it subsequently fell back down to the $3 to $3.50 range. The continued strength of the loonie continues to hamper exports to the United States—Canada's biggest export market—and this is unlikely to change in the near term. On a positive note, the lobster market should firm up as U.S. consumer confidence strengthens, but the experience of the last few years demonstrates that shellfish markets are particularly sensitive to business cycles. Tight margins and market uncertainty can only hurt industry efforts to slow the tide of youth out-migration from coastal communities.

The West Coast salmon fishery has gone through dramatic volatility over the past few seasons. The Fraser River sockeye run is perhaps the best example. After several poor years, barely 1 million sockeye returned to spawn in the Fraser in 2009, less than 10 per cent of the expected level. The return was so poor that a judicial inquiry was appointed to investigate its causes. Then, in 2010, over 30 million sockeye returned, raising an equally large number of questions. Last year, an estimated 4.5 million sockeye returned. (This is considered to be a healthy number because sockeye run on a four-year cycle). The causes of these large fluctuations are the subject of much debate—explanations put forward range from sea lice to volcanic activity. Overall, the industry's potential contribution to long-term growth in British Columbia is limited.

In contrast, the aquaculture industry (which is classified under agriculture) has a more positive outlook but still faces challenges. The recent disease-induced collapse of Chile's salmon industry spurred investment in Canadian-farmed salmon. This was only a short-run situation, as the troubles in Chile's industry were not permanent and are now being overcome. Also, the recent decision by the United States International Trade Commission to drop a decade old anti-dumping duty on imports of Norwegian salmon (estimated to be roughly 24 per cent) will lead to increased competition for farmed salmon exports to the United States. Still, demand for aquaculture products is expected to grow over the next decade, leading to rising prices and new export opportunities for Canadian producers.

Environmental concerns continue to pose a serious challenge for the industry. For example, allegations that sea lice from salmon farms contributed to B.C.'s disastrous sockeye run in 2009 reinforced public concerns about aquaculture's impact on local ecosystems. Yet the overall outlook for aquaculture is positive, and new investments are expected to generate higher volumes of farmed seafood.

The outlook for the fishing industry is not bright. Average annual growth of just 0.7 per cent is expected over 2011–20, and the remainder of the forecast is even bleaker. The combination of depleted stocks, environmental impacts, financial pressures, and reduced labour supply will curtail growth. Although governments have shown determination by applying strict catch restrictions and quota reductions in order to rebuild stocks, the level of uncertainty in the industry is high and there is little hope of any dramatic recovery. All told, real fishing output in Canada is expected to decline at an average annual compound rate of 0.3 per cent from 2021 to 2035. The contraction is expected to be more severe on the west coast than on the east coast, due to the increasingly threatened state of British Columbia's salmon stocks. Recently the federal government announced its intention to modernize commercial fisheries in Canada, with the goal of making Canada's fishery management practices more scientifically sound, and align them with those in peer countries. A more sustainable commercial fishery should be the result.

FORESTRY

Canada's forestry sector will face serious supply and demand constraints in the long term, causing the industry to experience declining or slow growth. Forestry accounted for 1.6 per cent of total real output in the goods sector over the past 10 years, but will account for a mere 1.1 per cent by 2035. Overall, the sector is forecast to experience average annual compound growth of just 1 per cent from 2011 to 2035, with the strongest of the growth occurring over the next three years as the industry recovers from record lows.

Right now, the Canadian forestry industry feeds two main types of production: wood products (used primarily for North American housing markets), and pulp and paper. The former will experience rapid growth in the coming years, as the U.S. housing market recovers from the crisis. In the long term, global demand from non-traditional sources, such as Asia, will also be a dominant factor. Demand for pulp and paper is also at a record low right now—but unlike wood products, a strong recovery is not in the outlook. Newspaper distribution has seen steady declines, and the world has made a permanent shift into the digital age.

Canada's forestry sector will face serious supply and demand constraints in the long term, causing the industry to experience declining or slow growth.

After the U.S. housing market recovers, the forestry industry will face supply-side problems. In British Columbia, the forestry industry continues to face a natural disaster in the form of the mountain pine beetle infestation. Since the late 1990s, the beetles have destroyed more than half of the province's most commercially valuable timber. It is estimated that by 2015 the insects will have killed 78 per cent of the province's mature lodgepole pine, which accounts for 28 per cent of British Columbia's timber supply. Next door, Alberta is experiencing the spillover effects of B.C.'s crisis. Beetles have travelled across the border and have already eaten their way through large swathes of Alberta's forests. However, the epidemic has been better managed in Alberta, and the impacts of the outbreak are expected to be much less than in British Columbia. In the outer years of the forecast, the industry in both beetle-affected provinces will begin to recover from the infestation as new wood species are harvested and young pine forests continue to mature.

Unconventional uses for forestry products are being developed. The potential for an emerging biomass fuel industry will lead to increased demand over the long term. Prices for oil and other commodities are expected to be higher than historical levels over the long term, and this

will fuel demand for alternative sources of energy. Demand for biomass has been a saviour for many contractors and sawmillers during the tough economic times, and the demand will continue to be vital to the forestry sector even after the U.S. housing market picks up again. Wood pellet plants are already producing pellets for domestic and foreign markets. Political pressure to use more environmentally friendly sources of energy may also favour development of the biomass industry over the long term. Not only is it a renewable source of energy, but residual wood is a material that would not otherwise be used.

From 2011 to 2015, with the U.S. housing market recovering from record lows, forestry output will grow at an average annual compound rate of 2.9 per cent. From 2016 to 2020, the industry will contract by 0.6 per cent a year on average (compounded annually) due to the pine beetle infestation. In the outer years of the forecast (from 2021 to 2035), the industry will experience 0.9 per cent compound annual growth as forests are diversified, global demand strengthens, and prices increase in response to wood shortages resulting from the mountain pine beetle devastation.

MINING

The mining sector is expected to post decent growth over the long term, outpacing national GDP over the majority of the forecast period. Among the four industry subgroupings (metals, non-metallic minerals, mineral fuels, and services incidental to mining), metal mining will expand the fastest, while mineral fuels will remain the largest sector. Overall, the mining sector will grow at an average annual compound rate of 2.4 per cent from 2011 to 2035.

METALS AND NON-METALLIC MINERALS

Rapid growth in the emerging economies is propelling demand for Canadian minerals. Commodity prices, for the most part, increased in 2011. Silver prices soared, up 75 per cent over their 2010 prices. Gold prices continued to find new highs, and averaged $1,568/troy oz in 2011. But for base metals, the story was less bright. Base metal prices were stronger in early 2011 than they were later in the year. The slowdown can be attributed to concerns about the global economic outlook and slowing demand in emerging markets, notably China. Due to supply tightness, copper prices rebounded toward the end of the year, to post a 17.2 per cent gain over 2010. (Nickel markets, however, did not experience the same pickup in demand; expectations of large new nickel production capacity in 2012 kept prices steady in 2011.)

The high commodity prices have spurred increased exploration activity. Spending on exploration and deposit appraisal was up 36.8 per cent in 2011, to an estimated $3.8 billion. Prospectors have developed a special interest in the country's northern regions. Exploration spending in Yukon is 3.4 times higher in 2011, relative to the lows of 2009. Exploration spending in British Columbia and Newfoundland and Labrador almost tripled over the same period.

When it comes to the global metal mining industry, Canada has many advantages. Political stability, a highly skilled workforce, and access to North American markets complement Canada's large untapped reserves. Canadian jurisdictions are some of the most attractive places in the world for mineral exploration and mining investment. But there are also challenges for those wanting to develop mines. Land use and claims need to be appropriately balanced. The environmental assessment processes are time-consuming and often cumbersome. However, in the 2012 federal budget, the government promised to shorten the regulatory process so that reviews for natural resource projects will take no longer than two years to complete. As well, the federal government wants to pursue a "one project, one review" system for environmental reviews, which would see the combining of reviews at the provincial and federal levels, thereby speeding up the process and avoiding duplication. Much of Canada's untapped resources are in remote areas of the North where little or no infrastructure or manpower is present. And more cost-effective mines in other parts of the world will continue to challenge the industry over the forecast period. Increased global demand for metals, coinciding with improved global economic growth, will result in real metal mining growing at an average annual compounded rate of 10.5 per cent from 2011 to 2020, and 1.3 per cent from 2021 to 2035.

Prospects for the non-metallic mineral mining sector are mixed, but positive overall. Demand for diamonds decreased 18.8 per cent during 2009 as people responded to the recession by turning their backs on luxury goods. So far, the industry has failed to regain its footing. The large deposits in the Northwest Territories are maturing and diamond prices have not made significant gains. However, in the later years of the forecast, beyond 2016, the industry is expected to turn around. Three new mines are expected to open, one each in Quebec, Saskatchewan, and the Northwest Territories.

Canada's proven oil reserves now total in excess of 175 billion barrels. That puts Canada behind only Saudi Arabia and Venezuela, and represents 11.5 per cent of global reserves.

Demand for potash will post more stable growth relative to diamonds. Demand plummeted in 2009, and output fell 58.1 per cent. But after the global recession ended, output regained its footing and has now surpassed pre-recession levels. While production can fluctuate significantly with prices and contracts, the long-term prospects for potash demand are bright, as the gradual erosion of soil nutrients will result in more intensive use of fertilizers. Saskatchewan holds a large portion of the world's potash supply, and the increased demand for fertilizer will be a boon for the non-metal mining industry. Taking diamonds, potash, and other non-metallic minerals together, this sector will grow at an annual compound rate of 6.5 per cent from 2011 to 2020, and another 1.6 per cent from 2021 to 2035.

MINERAL FUELS

According to British Petroleum's *Statistical Review of World Energy 2011*, Canada's proven oil reserves now total in excess of 175 billion barrels. That puts Canada behind only Saudi Arabia and Venezuela, and represents 11.5 per cent of global reserves. Roughly 82 per cent of Canada's reserves are estimated to be in the oil sands, of which 80 per cent are estimated to be recoverable by in situ methods, with the remainder being mineable reserves. Thus, this incredibly large resource will dominate the Canadian production mix for years to come. Importantly, Canada is easily the world's largest holder of oil reserves not controlled by a state-owned oil company.

Canada's oil sands are located in four major deposits that lie mostly or entirely in Alberta—Athabasca, Peace River, Wabasca, and Cold Lake. Of the remaining proven reserves, only 26 billion barrels are currently under active development. In 2011, production of non-conventional crude is estimated to have reached 1.6 million barrels per day (mmbd), up from just 740,000 barrels per day 10 years earlier. With dozens of oil sands projects on the horizon, non-conventional production in Canada will surge throughout the forecast, eventually reaching 4.2 mmbd in 2035. By then, non-conventional production will account for 77 per cent of all Canadian crude production. Production could expand at a quicker rate than that, but the current forecast takes into account several potential constraints. These include the dense concentration of the resource (which makes simultaneous development more costly), labour shortages in Western Canada, and significant cost increases over the forecast period.

CONVENTIONAL OIL PRODUCTION

Although waning, the conventional oil sector still has much to contribute to the Canadian economy going forward. Remaining conventional reserves are estimated to be roughly 34 billion barrels. However, geographic placement of these reserves makes future development a challenge. Seventy-two per cent are in what are considered "frontier" regions, which include East Coast offshore fields, Northern Canada, and other basins that are still relatively unexplored. The more developed light and heavy deposits are in the mature Western Canadian Sedimentary Basin (WCSB).

According to the Energy Resources Conservation Board of Alberta (ERCB), production from existing wells in Alberta is forecast to decline 14 per cent a year, which means that a high number of new wells would need to be completed each year in order to replace falling production in Canada's largest-producing province. The ERCB estimates that initial production rates from vertical wells in Alberta will fall from around 8,000 barrels

per year (b/y) last year to roughly 4,600 b/y by 2020, and then stabilize thereafter. Horizontal wells, which have higher initial productivity, are also expected to decline over the forecast period. Production is expected to increase in the near term as a result of improved drilling techniques and higher drilling activity. Ultimately, however, the gains will be limited by the maturity of the WCSB.

Manitoba's oil production has increased considerably in the last five years, and higher drilling rates will keep production there at elevated levels in the medium term. After that, production will begin to decline. The Bakken play in Saskatchewan is now accessible thanks to new drilling technologies, which will yield highly productive wells in that region in the near term. Enhanced oil recovery is also under way at the province's Weyburn and Midale oil fields. Bitumen deposits are also known to exist in Saskatchewan. However, reliable estimates of their size do not exist at this time. As such, non-conventional production in Saskatchewan is not included in the forecast, ultimately leading to a long-term oil decline in the province.

The Bakken play in Saskatchewan is now accessible thanks to new drilling technologies, which will yield highly productive wells in that region in the near term.

Newfoundland and Labrador's offshore oil production will also decline over the forecast. However, the decline has been delayed thanks to the recent addition of production from the North Amethyst pool and the prospect of several other satellite fields coming online in the medium term. Those fields include the Hibernia South Extension Unit (including the AA blocks), and West and South White Rose. Combined, these satellite fields add more than 200 million barrels of recoverable reserves to the forecast. Additionally, the Hebron field, which contains 800 million barrels and has a 25-year lifespan, is slated to begin production in 2017, with peak production expected several years after that. Finally, the more speculative Old Harry Basin is also included in this forecast, and will help offset declines at existing offshore sites, provided oil prices continue to increase. The site contains as much as 2 billion barrels of oil and 5 trillion cubic feet of natural gas.

NATURAL GAS

The natural gas industry has struggled but the outlook today is decidedly brighter. Still, the next decade will be marked by uncertainty, as pricing is projected to remain extremely weak and estimates of the remaining resource base in Canada vary considerably, depending on the estimator's opinion of unconventional and frontier reserves.

Volumes will fall precipitously in Alberta—still the largest source of natural gas production in Canada. Operating costs are relatively high in the province due to competition for labour and material inputs from the oil industry, and that is pushing up the break-even cost for new drilling. Conventional production in particular will fall throughout the forecast, as the maturity of the WCSB continues to weigh on the outlook. Production from coal-bed methane will increase steadily over the next 25 years, but the increase will be far less than the expected loss in conventional production in the province. The current outlook calls for Alberta's production to plunge to just 6.2 billion cubic feet per day (bcf/d) by 2035, down 36 per cent from today and more than 50 per cent below the historical peak in the province.

Activity in the industry has focused on deep conventional, tight, and shale gas resources over the last few years, as technological advances have lowered production costs. This has contributed to a recent uptick in initial well productivity, as the most prolific pools are being exploited early on in the unconventional revolution. Exploration has been particularly active in the tight gas Montney play and the shale of the Horn River basin. Moreover, because Montney production includes natural gas liquids that sell at prices based on crude oil (on an energy-equivalent basis), drilling there is more profitable.

Because break-even costs are projected to be lower in British Columbia, production there is expected to be strong enough to offset the declines in Alberta and actually push Canadian natural gas production higher over the long term. The National Energy Board expects Montney production to increase from 0.9 bcf/d in 2011 to 5.1 bcf/d in 2035. Production in Horn River is expected to increase at a similar rate—going from 0.5 bcf/d to 4 bcf/d over the outlook period.

The rise of unconventional natural gas production will bring about stark changes in the Canadian petroleum production mix. British Columbia is now expected to become Canada's largest-producing natural gas province sometime around the end of this decade and to retain its lead over Alberta throughout the rest of the forecast. The majority of new production over the forecast is now expected to come from unconventional sources. There may also be additional resources brought to market from offshore fields in Eastern Canada. Currently, natural gas associated with crude oil production in Newfoundland and Labrador is not marketed; instead, it is re-injected into the fields to maintain reservoir pressure. Ultimately, as oil production declines at these fields, re-injection should stop, and as much as 0.5 bcf/d of natural gas may reach market in the later years of the forecast. Production at the Sable Offshore Energy Project in Nova Scotia is already on a declining path, but the drop will be offset to some degree by the onset of production at the Deep Panuke field.

British Columbia is now expected to become Canada's largest-producing natural gas province sometime around the end of this decade.

Shale gas resources are also known to exist in Quebec, New Brunswick, and Nova Scotia. However, very little investigation into their viability has been completed. Moreover, public debate on the topic in these regions has been intense. Until these issues are resolved, no new production from these regions can be assumed in the forecast.

The only remaining significant source of potential future production lies in Northern Canada, where natural gas production is currently 0.2 bcf/d. However, production in the North has been on a downward trend for several years and is expected to remain low going forward. Northern Canada is thought to contain 115 trillion cubic feet (Tcf) of remaining marketable gas—half of it in the Mackenzie–Beaufort region. Although the Mackenzie Valley pipeline has received conditional approval from regulators, the project is not included in our forecast at this time. As such, no significant additions to natural gas production are expected from this region in this outlook. The Mackenzie pipeline project does present upside risk to the forecast. But weak pricing, high capital costs, labour shortages, and the wide availability of reserves in traditional producing regions make this project speculative at this time. All in all, Canadian natural gas production is forecast to decline slightly through the medium term, before reversing course and increasing moderately through 2035 to reach 15.8 bcf/d.

MANUFACTURING

Manufacturing has been on a perpetual roller-coaster ride since the beginning of the millennium. After real manufacturing output peaked at $189 billion in 2000, the sector struggled as a result of rising input costs, the appreciation of the Canadian dollar, and stiffer competition in the global marketplace. The full impact of these factors was not felt until the economic crisis of 2008–09 forced many firms to reduce operations and others to close down completely. As international trade flows receded, the manufacturing industry in Canada shrank by roughly 12 per cent over a two-year period. Fortunately, the sector has recovered substantially since then. Growing industrial production in the U.S. suggests this momentum can be maintained, as intra-industry trade with the U.S. accounts for a large share of Canadian exports. While the high value of the Canadian dollar will limit some of the upward momentum, real merchandise exports are expected to grow strongly over the medium term, providing a needed boost to manufacturers.

On the international stage, intensified competition from low-wage countries—such as China, India, and other emerging countries—will continue to exert downward pressure on product prices. In an effort to improve profitability in this new industrial era, manufacturers must focus on reducing operating costs by retooling, implementing better production processes, adopting new technologies, or devising other pro-competitive strategies. And with the Canadian dollar at a high level, the present is an ideal time to purchase new machinery and equipment. Opportunities to increase orders and profits will abound as less-developed economies close the gap with advanced countries. Manufacturers that adapt to global competition by becoming more efficient and flexible stand to gain the most.

Auto and parts producers—arguably Canada's most important manufacturing segment—suffered a precipitous decline during the recent recession. The sector shrank by 43 per cent in real terms from 2007 to 2009 as U.S. vehicle sales sank to historical lows. Fortunately, the industry has experienced mostly positive growth since bottoming out in mid-2009. Real exports of automobiles and parts bounced back in 2010, expanding by 38.8 per cent. And although the natural disaster in Japan caused supply disruptions that suppressed production in 2011, real exports to the United States were still able to expand by 6.7 per cent. Vehicles sales in the U.S. are still below replacement levels and therefore should continue to improve in the medium term. The Conference Board estimates that sales of new motor vehicles in the U.S.—the final destination of roughly 85 per cent of Canadian-manufactured vehicles—will increase from 13.4 million units in 2011 to 17.8 million units by 2016, surpassing the level of the 2001–05 period. Consequently, real exports of autos and auto parts will grow strongly in the coming years. In the longer run, auto and parts manufacturers will be among the strongest performers. From 2017 to 2035, real output in the sector is expected to grow at an annual compound rate of 3 per cent.

In contrast to the auto sector, Canada's food production industry is one of its least volatile sectors, thanks to predictable and stable demand. Most manufacturing enterprises struggled during the recession, but the downturn barely affected the country's food manufacturers. Real output in the industry grew 1.6 per cent in 2009 and 1.2 per cent in 2010, enabling it to overtake motor vehicles and parts as Canada's largest manufacturing sector. While it will not wear the crown for much longer, this remarkable achievement speaks volumes about the importance of food manufacturing to Canada's economic health. And with Canadian incomes rising, sales and profits should continue to improve throughout the medium term. In the long term, Canadian manufacturers are well positioned to meet growing demand for meat and seafood products in emerging markets. The sector is forecast to grow at an annual compound rate of 1.2 per cent over 2011–35, accounting for 10 per cent of all manufacturing output by the end of the forecast.

The U.S.-led recovery is expected to propel total manufacturing output forward at an annual compound pace of 2.8 per cent from 2011 to 2016. Over the rest of the forecast, the manufacturing sector will experience more modest growth, expanding at an annual average compound rate of 1.5 per cent. Computers and electronic equipment, furniture, transportation equipment (aerospace and motor vehicles), and non-metallic mineral and primary metal product manufacturing will be among the strongest subsectors. Western Canada's manufacturing industry outperformed the industry in rest of the country in the years prior to the global downturn. Large investments in natural resources, along with robust construction activity, supported strong demand for fabricated metals, primary metals, and other industrial goods. These trends will ease in the future, however, and manufacturing growth in the Western provinces is expected to be in line with the national average over the long term.

CONSTRUCTION

The outlook for construction over the long term is dominated by energy projects. Capital expenditures on crude oil and natural gas make up the majority of what the Conference Board calls "other primary" energy investment, with development of coal making up the (much smaller) remainder. Pipeline and electric power infrastructure are categorized as "commercial services" investment. Together, these two categories account for 99 per cent of all energy investment in Canada, with oil and gas activities specifically accounting for 65 per cent. After falling precipitously during the recession, oil and gas-related investment is nearly back to its pre-recession levels, with all indicators suggesting another boom is just around the corner.

Even though the economic recovery has yet to take firm hold in the world's developed regions, the long-term prospects for Canada's oil sands remain bright. Oil prices are elevated and are widely expected to remain high, given the current prospects for the supply-demand balance going forward. Statistics Canada data show that investment in non-conventional oil extraction 10 years ago

was just $7.4 billion. The Conference Board estimates that in 2011, that number had increased to more than $16 billion. Investment will continue to increase over the outlook as global demand continues to rise, allowing Canada to play an increasingly important role on the world stage.

Future oil sands development does face a multitude of challenges, however. Shortages of necessary materials and labour have plagued the industry almost since its inception, resulting in dramatic cost increases. This cost escalation peaked in the 2004–07 period, when the annual increase in non-residential oil and gas investment reached 8.1 per cent. Average costs were pushed down precipitously for many other industries during the recession, but were only slowed for oil sands producers. As a new wave of investment begins, costs will once again start to pick up if the root problems are not rectified. Alberta needs more workers to staff its resource-based construction projects, and the proper infrastructure to accommodate them.

Future oil sands development does face a multitude of challenges, however. Shortages of necessary materials and labour have plagued the industry.

Although the oil sands will be the primary driver of energy investment throughout the medium term, the energy sector is enjoying a huge increase in prominence all across the country. Expenditures on unconventional gas in British Columbia are also expected to be substantial. The Montney tight gas and Horn River shale gas plays have some of the best economics in Western Canada. Activity in these two areas is expected to remain strong throughout the forecast, as technological advancements have lowered the supply costs of horizontal drilling and multi-stage hydraulic fracturing. Still, according to the National Energy Board, the number of gas wells drilled annually will average just shy of 2,700 over the forecast. That amounts to only about 20 per cent of the annual average over the last decade.

Unconventional resources exist elsewhere in Canada. However, outside of B.C., the only unconventional resource to be seriously developed so far is coal-bed methane in Alberta. Other potential developments include shale resources, such as those in the Duvernay and Exshaw areas of Alberta, the Utica shale in Quebec, and the Horton Bluff shale in New Brunswick. Future development of these areas could add to the strong investment outlook, but all remain in various forms of public and regulatory delay, particularly in New Brunswick and Quebec. There is further potential for natural gas development off the coast of Newfoundland and Labrador. Currently, the natural gas that is produced is related to oil development and is subsequently re-injected into the reservoir to maintain pressure. However, as oil production tapers off at existing fields, some investment may occur to re-extract this natural gas. Any development will depend heavily on natural gas pricing and the potential for further oil discovery.

ELECTRICAL GENERATION

Although oil and gas-related expenditures will provide the majority of new energy investment over the forecast, electrical generation should not be overlooked. In recent years, non-residential investment in this industry has been nearly as large as investment in the oil sands.

The profile will be marked by a series of megaprojects. Included in this outlook is the recently approved Lower Churchill project in Labrador, which is expected to have three principal components. First, a generating station at Muskrat Falls will add 800–850 megawatts of generating capacity at a cost of $5.5 billion. There will also be transmission links to the main land, followed by another $4 billion spent on the Gull Island generation station that will add as much as 2250 megawatts of capacity.

Hydro-Quebec is also heavily committed to investment in new and existing hydroelectric projects. The laundry list of projects is long, but includes the estimated $6 billion that will be required to complete the Romaine Complex A. As well, the public utility will add 3000 megawatts of hydroelectric generating capacity in the Northern regions of the province under the Quebec government's ambitious $80-billion Plan Nord, which is aimed at developing the region's vast mineral resources. Demand for clean, renewable energy is expected to be strong over the next several

decades, providing an impetus for this initiative. Other planned projects over the outlook include a 1500 megawatt station on the Petit Mécatina river, and the Grande-Baleine project, which consists of three separate stations totalling almost 3200 megawatts. These two projects alone will cost $15 billion.

Finally, interest in wind energy is on the rise in all Canadian regions. Current installed capacity of wind power is roughly 5200 megawatts. But more than 10000 megawatts of additional capacity is planned, with either a signed purchase power agreement or a construction plan already in place. Moreover, these projects are mostly expected to be completed over the next 10 years, allowing for further expansions later in the forecast. The projects will help some provinces to develop and manage their own secure sources of electricity and reduce their electricity deficit and reliance on imports.

Residential investment will continue to grow over the long term at a modest pace. Elevated household indebtedness, weak consumer confidence, and tighter mortgage rules suggest that housing activity will cool over the next two years, helping to take some of the recent heat off home price inflation. But despite the soft starting point, other factors will help sustain demand for homes over the near term. Interest rates are now expected to remain low for longer than previously anticipated, consumer confidence is improving, and employment is forecast to post better gains in 2012 and 2013. This should give homebuilders sufficient motivation to start 186,000 units in 2012 and 202,000 in 2013. Over the long term, household formation will be the main driver of housing starts. Household formation is expected to increase each year from 2013 to 2015 before returning to a demographically driven downward trend over the rest of the forecast period. This will result in a slow easing in the annual number of new homes built.

SERVICE SECTOR

The shift in the age structure of the population is expected to boost domestic demand for services over the long term. With continued improvement in global communications technology, a significant portion of these services will be imported. Consequently, total imports of services are expected to outpace service exports, increasing the services trade deficit substantially.

However, domestic service industries will also benefit from increased demand in the long term. Manufacturing is expected to drive growth in the transportation, wholesale trade, and business services industries. The trend toward outsourcing of key business processes will continue, ensuring steady growth in consulting services. The financial services industry is expected to post strong growth as well over the forecast, as a growing number of senior citizens require wealth management services. At the same time, demand for housing will wane, so the real estate sector is expected to suffer from lower demand for its services. Overall, service sector output is forecast to increase at a compound annual rate of 2.1 per cent over 2011–35.

The recession has pushed most provincial budgets deep into the red, and the provincial deficits are much more structural than at the federal level. Substantial improvements in balancing the books will be particularly difficult for the provinces, since they face a steady rise in health-care costs—the result of an aging population. Consequently, while the provinces will begin to make some headway in reducing their collective deficits, revenue growth will soon start to slow, making continued improvements more difficult. Growth in public output is expected to rise by an annual average of 1.2 per cent from 2011 to 2015 as fiscal restraint is felt around the country. After 2016, public sector output will expand at a stronger pace, averaging 2.3 per cent (at compound annual rates) from 2016 to 2035.

NEWFOUNDLAND AND LABRADOR

Newfoundland and Labrador is expected to post modest growth in real GDP over the long term, advancing at an average annual compound rate of 0.8 per cent from 2011 to 2035—the lowest in Canada. A shrinking labour force is a major contributor to this weak outlook. Persistent outmigration, especially after the development of major

energy infrastructure projects has been completed, combined with a low and falling natural rate of population increase, will lead to the population declining starting late this decade. Moreover, labour force participation rates will fall as the population ages, a national trend that will be magnified in Newfoundland and Labrador. The picture is slightly skewed, however, by the projected decline in offshore oil production, an industry that accounts for a very large share of GDP. Excluding mineral fuels, GDP in Newfoundland and Labrador is forecast to grow at an annual compound rate of 1.2 per cent over 2011–35, second fastest in the Atlantic region.

Over much of the past decade, the province's economy has been boosted by major investments in natural resources, production start-ups, stimulatory fiscal measures, high commodity prices, and strong global demand. Most of these factors will continue to play a driving role in the province's economy over the medium term. New investments in commodities and energy will be particularly vital. The upswing, however, will not last forever, and a significant slowdown in non-oil GDP growth is anticipated beyond 2014.

Fortunately, a decade of escalating offshore royalties has allowed the government to substantially reduce the level of debt per capita in the province. That said, Newfoundland and Labrador still has a debt-to-GDP ratio that is well above the national average. Reducing the per person debt load will remain a fiscal priority over the near term. The swings in the budget balance over the past two fiscal years demonstrate the sensitivity of the province's finances to changes in offshore petroleum royalties. In the long run, a smaller workforce and a comparatively large cohort of retirees will put pressure on the provincial budget from both sides.

PRINCE EDWARD ISLAND

Prince Edward Island will experience moderate long-term growth, thanks to a positive demographic outlook. The Island will lead the Atlantic provinces in gross domestic product growth, averaging 1.6 per cent compounded annually over 2011 to 2035. Over the near term, investment will ease as public infrastructure spending from the $510-million capital spending plan winds down and leads to a decline in construction. Housing starts will also cool off as the exceptionally high growth in international migration levels off, reducing the need for new homes.

Over the long term, steady gains in aerospace, food-processing, and biomedical industries will support manufacturing. The importance of the service sector will increase over time, as retirees start to account for a larger share of the Island's population. Utilities will see a brisk expansion thanks to an upward trend in demand for renewable energy sources and a provincial commitment to increase wind energy generation. Population growth will benefit from positive net interprovincial migration, reinforcing the province's image as a retirement haven for Canadians. Steady international migration will further support population growth on the Island. As a result, P.E.I. will post the highest average rate of population growth in the Atlantic region, a demographic trend that will help sustain consumption growth in the long term. By comparison, Newfoundland and Labrador will see its population decline over the long run, as will New Brunswick, while Nova Scotia's population will start to decline near the end of the forecast period. Growth in the consumption of services will be steady in P.E.I., as an aging population tends to purchase relatively more services, such as health care and travel.

Overall, compounded real economic growth will advance at a healthy annual average pace of 1.7 per cent from 2011 to 2020, but weakening demographic fundamentals will limit growth to 1.5 per cent a year over the rest of the forecast (2021 to 2035).

NOVA SCOTIA

Real GDP in Nova Scotia has been averaging less than 2 per cent growth over the last decade. Some weakness in private and public investment, as well as fiscal austerity measures, will keep real GDP growth in check over the near term. But the provincial economy will receive a boost starting in 2013 as natural gas begins to flow at the new Deep Panuke offshore field. Moreover, the $25-billion contract won by Irving Shipbuilding to build 21 combat ships for the Royal Canadian Navy should provide momentum for the economy over the next decade. This is part

of the federal government's $35-billion National Shipbuilding Procurement Strategy. With shipbuilding activities expected to get under way in 2013, the benefits of this multibillion-dollar contract are expected to continue for the next three decades. However, government austerity measures, limited private investment, and weak demographic fundamentals will combine to offset some of the gains from the shipbuilding work. The Nova Scotia economy is forecast to advance by an average of 1.2 per cent annually from 2011 to 2035, ranking it eighth in terms of growth among the 10 provinces. This is an improvement over what we had projected in our 2011 long-term *Provincial Outlook*, when Nova Scotia was projected to have the weakest real GDP growth among the provinces.

With shipbuilding activities expected to get under way in 2013, the benefits of this multibillion-dollar contract are expected to continue for the next three decades.

Apart from the manufacturing sector, where shipbuilding activity will boost output by an average of 2 per cent per year over the entire forecast, growth in most of the province's domestic industries is expected to be modest at best. In particular, mineral fuels output will drop by an average of 0.4 per cent annually as producing fields are exhausted. Owners of the Sable Island natural gas project have also scaled back reserve estimates for the field, effectively reducing the life of the project by 10 years. In order to revive interest in the Scotian Shelf, the provincial government commissioned a $15-million comprehensive study to analyze the province's offshore oil and natural gas potential. The Play Fairway Analysis report provides a comprehensive atlas of the offshore basin geology. It also shed new light on the size of the potential hydrocarbons under the province's ocean floor, which it estimated at 121 trillion cubic feet of natural gas reserves and 8 billion barrels of oil—an amount far greater than previously anticipated. The report is already yielding dividends, as Shell Canada has proposed spending $970 million on exploration activities over six years, starting in 2014. This investment represents a significant upside risk to the long-term forecast, which was concluded before Shell Canada made this announcement. And it may be a sign that more petroleum companies will return to the province. (At the time of the forecast, only three petroleum companies were holding active licences, with work commitments totalling $353.7 million between now and 2017.)

Nova Scotia will face a number of fundamental demographic challenges over the forecast period. First, the average age of the population will gradually increase due to the aging of the baby boomers. The oldest boomers are now moving into their retirement years, and that will put enormous strain on the province's fiscal resources. At the same time that more spending on facilities and services will be required for health and long-term care for the baby boomers, the aging of the population will slow economic growth and thus the government's revenue-generating capacity. A compositional shift in consumer spending will also result as people buy fewer durable goods and consume more services. As well, low fertility rates and negative interprovincial migration will slow population growth in the province.

Weak demographic fundamentals are expected to dominate the population outlook, exerting a profound impact on the province's labour market and the economy. Overall, economic growth is projected to average 1.8 per cent annually in the first five years of the forecast and to decelerate to 1.1 per cent over the remainder of the forecast as the consequences of the demographic change slow down the economy.

NEW BRUNSWICK

Real GDP in New Brunswick is projected to grow at the relatively slow average annual rate of 1.2 per cent from 2011 to 2035—good enough for only ninth place among the 10 provinces. In the long term, overall growth will be limited by weakness in the construction industry as the province grapples with the completion of mega-projects and declining home construction. Forestry will add to the drag on economic growth as structural changes in market conditions stifle demand for pulp and paper. Demand for lumber will also falter on fewer home-building activities in Canada, while the depletion of fish stocks will hamper growth in the fishing and trapping industry. Mining is the only industry expected to post strong long-term growth—a whopping 5.7 per cent

annually over the entire forecast as demand for metal and non-metal minerals from emerging economies (such as Brazil, China, and India) continues to spur prospecting and production of these minerals in the province.

The construction industry will languish in the medium term, due to the lack of major construction projects. The drop in business investment during the global recession devastated the province's construction industry, and the federal and the provincial governments had little choice but to come to the rescue. Together, they spent a total of $1.6 billion on infrastructure projects over 2009–10 to help jump-start the provincial economy. With the New Brunswick economy performing better, the provincial government announced plans to pare its capital expenditures. The development of the $1.7-billion PotashCorp mine and processing facility near Sussex is progressing well but will not be enough to make up for weaknesses elsewhere in the province.

New Brunswick's fertility rate, one of the lowest in the country, will be a drag on population growth.

Weak demographic dynamics will dominate the outlook over the long term. One notable factor will be a rise in the average age of the population. As the proportion of those 65 and older increases, consumption patterns will change, both for government and for consumers. Spending on health care will have to rise significantly to meet the changing needs of the aging population. In addition, rising net international immigration will be largely offset by a net outflow of people to other parts of Canada. Finally, New Brunswick's fertility rate, one of the lowest in the country, will be a drag on population growth. Total population is projected to start shrinking in 2023 when the rising number of deaths outweighs the gains from immigration.

The aging and the decline of the population will have significant consequences for the province's labour market and overall economic growth. The Conference Board expects growth in real GDP to decelerate from an annual average of 1.8 per cent in 2011–15 to 1.2 per cent over 2016–25. During the last decade of the forecast, real GDP growth will decelerate further, falling to an average annual compound rate of 0.8 per cent.

QUEBEC

The next few years will be challenging for Quebec as the domestic economy cools off. With the health care contribution rising to $200 in fiscal 2012–13 (up from $25 in 2010–11), households will have less money to spend. Despite a slowdown in its domestic economy, Quebec can expect to see an improvement in exports over the medium term. The long-awaited revival in the export sector finally appears set to begin. Aerospace companies have been signing new contracts, and a healthier increase in deliveries is forecast for the aerospace industry in 2012. Also, the resource sector will continue to support our outlook for trade, as major expansions in the mining sector will fuel production and shipments out of Quebec for many years to come.

Despite several large health care projects in the Montréal area, public investment will contract over 2012–13 and grow only slowly after that. The provincial and federal governments have both committed themselves to balancing their budgets, partly by reducing infrastructure spending. Our outlook does take into account the construction of a new bridge in Montréal to replace the aging Champlain Bridge; but no firm development plans have been finalized at this time, and it is assumed that it will be at least several more years before construction begins. Business non-residential investment will continue to climb, but at a more moderate pace as residential investment cools and a number of large projects wrap up. Additional projects in the mining sector and the Phase III expansion project at Aluminerie Alouette in Sept-Îles provide upside potential and could propel private investment higher.

Over 2011–15, real GDP at market prices is expected to rise at an average annual compound rate of 2 per cent. In the long term, demographic changes will weigh on economic prospects, and GDP will advance at an average annual compound rate of 1.6 per cent from 2016 to 2035.

Economic growth will slow over the long term as the aging of the baby boomers and a fertility rate below the replacement rate weaken population growth. Population growth will drop to a compound annual rate of just 0.7 per cent over 2016–35, reducing the momentum in consumer expenditures and housing demand. The proportion of the population aged 65 and older will increase substantially over the entire forecast period, rising more than 9 percentage points to 24.9 per cent by 2035. Encouragingly, the higher fertility rate since the middle of the last decade will lead to an increase in the size of the 0–20 age cohort over the forecast period (an improvement from our earlier outlooks when we projected a decrease in this cohort). Nevertheless, housing starts will fall steadily—from 48,387 units in 2011 to 26,150 units in 2035—as demographic factors weaken the number of new households and the need for new housing. Real exports—battered by the steady appreciation of the Canadian dollar over the last few years, the severe recession south of the border, and intense global competition—will see growth decelerate gradually over the long term as U.S. growth slows and the Canadian dollar continues to hover near parity with its U.S. counterpart. The telecommunications, transportation equipment, and mining sectors are expected to be among the leading contributors to trade growth over the next 24 years, in spite of near-term challenges.

ONTARIO

After posting strong growth in 2010, Ontario's economy delivered an uneven performance in 2011. The next few years will be challenging for Ontario. The province faces fiscal tightening and more modest potential growth going forward. Although the public sector's contribution to bottom-line growth will be minimal until Ontario balances its budget, business investment and consumer spending will grow at a good pace thanks to low financing rates. Exports will also improve over the medium term as U.S. demand recovers. Over the longer term, as economic growth in Ontario converges to its potential, real GDP growth will stabilize and will average 2.2 per cent a year from 2011 to 2035.

Over the next few years, Ontario will benefit from strong export demand—particularly for autos and parts, which typically account for about 30 per cent of the province's total international exports. U.S. demand for new motor vehicles rebounded in 2011 and is expected to advance further over the medium term as a result of pent-up demand that built up south of the border over the last few years. The stock of vehicles in the U.S. has been shrinking, but with new vehicle sales on the rise once again, the decline is expected to come to an end by 2013. Nonetheless, auto sales south of the border will remain below their pre-2008 levels until then. However, given that the average U.S. car is now 10.8 years old, strong replacement demand, along with improving labour market conditions, will fuel vehicle and parts sales in the medium term, helping to boost exports beyond 2012.

Looking beyond the medium term, real economic growth will average slightly above 2 per cent a year. Energy-related projects, the development of the mining sector in the northern part of the province, and high commodity prices will continue to encourage non-residential investment. Furthermore, public spending commitments to upgrade transportation and energy infrastructure will also support investment. In the long term, residential construction will increase at a steady pace as the number of new households rises in step with increasing net international migration and an aging population demanding more multiple-unit housing.

Potential output is expected to expand by 1.8 per cent per year on average from 2011 to 2020, and will accelerate to 2 per cent from 2021 to 2035. Stronger growth in total factor productivity will improve the economy's capacity to expand despite the fact that the rising proportion of retirees in the population will constrain long-term potential labour force growth.

MANITOBA

Manitoba's economy continues to show resilience. Despite a tepid recovery in the United States (Manitoba's biggest export market) and the global economic malaise, the economy remains on solid ground. Growth in 2011

was weighed down by the agriculture sector (which suffered from severe spring flooding) and slower growth in public service spending. But real GDP is forecast to recover nicely over the medium term thanks to strength in manufacturing, construction, and mining. All in all, real GDP will rise steadily, growing at an average annual compound rate of 2.1 per cent over 2011–35.

Manitoba's economy will continue to fare well over the long term, as the outlook is bright for many of its key sectors. Solid demand will result in continued strength in transportation equipment manufacturing. Growing global demand for commodities bodes well for future development in the province's mining sector, and the agriculture sector will benefit from rising food prices and demand. Moreover, Canada's first major inland port has been established in Winnipeg, consolidating the province's geographic advantage. Investments made to develop the transportation sector and the province's infrastructure over the past few years will help the province's competitiveness over the next decade.

Manitoba's sound long-term economic prospects will continue to attract international immigrants, thanks in part to the Manitoba Provincial Nominee Program (which allows the province to sponsor would-be immigrants whose skills and abilities meet its economic needs). The population is expected to increase at an average annual compound rate of 1.4 per cent over the next 24 years—stronger than the 1 per cent rate expected for the country as a whole over that period. However, a fertility rate that remains below the replacement rate will hinder population growth over the next two decades. The aging of the population will further strain an already overburdened health care sector, forcing the government to devote a greater share of its spending to this area.

SASKATCHEWAN

The Saskatchewan economy is poised for strong growth over the coming years. High commodity prices are driving rapid expansion of the all-important goods-producing sector. The mining sector will get a boost from increased potash and oil production (but only over the next few years) and from a jump in exploration activities across the province. In the longer term, the agricultural sector is expected to make steady gains thanks to the increased world demand for food. Foreign markets for Canadian agricultural products should continue to expand as Canada signs more free trade agreements. The mining sector is facing a bright future as new uranium, oil, and potash deposits and mines are set to be developed over the next decade. Overall, the province's real GDP is forecast to grow at an average annual compound rate of 2.4 per cent over the 2011–35 forecast period.

Saskatchewan will face a number of fundamental changes over the next two decades. Population growth will be moderate over the long term, and the average age of the population will gradually increase. That will put an enormous strain on the province's health care sector and push government spending higher in order to maintain health care service standards. Moreover, the aging of the population will result in a structural change in consumption, as an older population is expected to spend less on durable goods and more on services, especially in the later years of the outlook.

ALBERTA

The Alberta economy will advance solidly over 2011 to 2035, expanding at a compound average annual rate of 2.7 per cent. Not surprisingly, the province's energy sector will be a driving force. Despite the recent slowdown in the global economy, the West Texas Intermediate (WTI) benchmark price for oil has continued to hover above US$100 per barrel, more than enough to make the huge majority of oil sands projects profitable. The sheer size of Alberta's oil resource and the strong outlook for oil demand going forward ensure that development will proceed relatively unfettered over the long term. As such, another construction boom appears to be just around the corner.

Although in decline, the province's conventional oil and natural gas resources still represent a significant portion of the energy sector. However, future development faces several hurdles that must be overcome if the industry is to realize its potential. Conventional oil drilling is expected to rise moderately from current levels over the medium term, bolstered by elevated oil prices. However, production will ultimately fall over the next 24 years as weaker

well productivity (a consequence of the maturing of the Western Canadian Sedimentary Basin) counteracts these gains. Production of natural gas will decline precipitously over the forecast as producers move west into the shale and tight gas resources of British Columbia. One positive prospect for the energy sector is that coal-bed methane production in Alberta will rise over the next 24 years. Still, it will fall well short of offsetting the expected loss in conventional natural gas production. The current forecast calls for Alberta's natural gas production to fall to 6.2 bcf/d by 2035—a drop of 36 per cent from current levels.

While the long-term forecast for the province is favourable, the aging of Canada's population will take its toll on economic output across the country, including in Alberta. Total population growth in the province is projected to weaken, dampening demand for consumer goods and housing. However, long-term employment opportunities will continue to attract job seekers from across Canada and abroad, pushing population growth in Alberta to a rate higher than in any other province. Overall, the economy is projected to expand at an average annual compound rate of 3.6 per cent over 2011–16. Weaker demographic conditions will then slow the economy to average annual growth of 2.4 per cent from 2017 to 2035, roughly in line with underlying potential output growth.

BRITISH COLUMBIA

After contracting deeply during the 2008–09 recession, growth in British Columbia's economy rebounded above potential in 2010 and 2011, and economic gains are forecast to remain strong over the next few years. However, a slowdown in labour force growth will quickly reduce British Columbia's potential output growth—and by 2016, annual growth in real GDP will be just 2.1 per cent. The slowdown in labour force growth will temper economic growth over the long term, resulting in real GDP in the province expanding at an average annual compound rate of 2 per cent over 2011–35. Although its fiscal situation was strong heading into the recession, the provincial government was unable to weather the economic downturn without going into the red. The decision to eliminate the harmonized sales tax (HST) will challenge the government's ability to balance its budget.

The demographic changes expected to occur will moderate economic growth in British Columbia over the long term. Population growth will slow over the forecast period, even with positive net interprovincial migration, as the aging of the baby boomers dramatically changes the province's age profile. This shift will also slow growth in domestic demand, with consumer spending patterns and housing activity undergoing the most pronounced changes. Despite the slowdown in population growth, B.C. will still have one of the fastest-growing populations in Canada over the forecast period. From 2011 to 2035, the province's population will grow at an average compound pace of 1.2 per cent a year.

The outlook for the province's key resource sector over the medium term is moderately favourable. The forestry industry was hit hard by the collapse in the U.S. housing market, but surging demand from China resulted in strong growth in lumber exports in 2010 and 2011. While growth in demand from Asia is expected to soften, a gradual bounce-back in the U.S. housing market will allow the forestry sector to post moderate growth over the medium term. Unfortunately, the mountain pine beetle infestation will place a chokehold on the interior forestry industry over much of the forecast. In the outer years of the projection, the forestry industry is expected to slowly recover by harvesting different species of trees.

During the first part of the long-term forecast period, manufacturing will benefit from a boost in shipbuilding as work begins on the $8-billion contract awarded to Seaspan Marine to build non-combat vessels. One of the highlights of the outlook is the bright prospects for mining in the province. The development of B.C.'s unconventional natural gas resources will benefit the province for years to come. The metal and non-metal mining sectors are also expected to fare well over the long term, with high commodity prices providing an incentive for exploration and development. Furthermore, the construction of the Northwest Transmission electricity line will facilitate resource development in an area well-known for its extensive potential.

CHAPTER 1

Justin Cooke

Newfoundland and Labrador

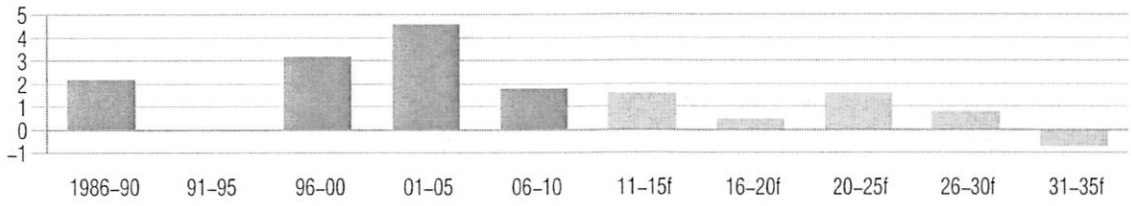
OVERVIEW

Newfoundland and Labrador is expected to post modest growth in real gross domestic product over the long term, advancing at an average annual compound rate of 0.8 per cent from 2011 to 2035—the lowest in Canada. (See Chart 1.) A shrinking labour force is a major contributor to this weak outlook. Persistent out-migration, especially after the development of major energy infrastructure projects has been completed combined with a low and falling natural rate of population growth, will lead to the population declining starting late this decade. Moreover, labour force participation rates will fall as the population ages, a national trend that will be magnified in Newfoundland and Labrador. The picture is slightly skewed, however, by the projected decline in offshore oil production, an industry that accounts for a very large share of GDP. Excluding mineral fuels, GDP in Newfoundland and Labrador is forecast to grow at an annual compound rate of 1.2 per cent over 2011–35, second fastest in the Atlantic region.

Over much of the past decade, the province's economy has been boosted by major investments in natural resources, production start-ups, stimulatory fiscal measures, high commodity prices, and strong global demand. Most of these factors will continue to play a driving role in the province's economy over the medium term. New investments in commodities and energy will be particularly vital. The upswing, however, will not last forever, and a significant slowdown in non-oil GDP growth is anticipated beyond 2014.

Fortunately, a decade of escalating offshore royalties has allowed the government to substantially reduce the level of debt per capita in the province. That said,

Chart 1
Real GDP Growth
(average annual compound growth at basic prices, per cent)



f = forecast
Sources: The Conference Board of Canada; Statistics Canada.

Newfoundland and Labrador still has a debt-to-GDP ratio that is well above the national average. Reducing the per person debt load will remain a fiscal priority over the near term. The swings in the budget balance over the past two fiscal years demonstrate the sensitivity of the province's finances to changes in offshore petroleum royalties. In the long run, a smaller workforce and a comparatively large cohort of retirees will put pressure on the provincial budget from both sides.

DEMOGRAPHIC PATTERNS

Because population trends are a key determinant of consumer spending and potential output growth, demographic projections play an important role in long-term economic forecasting. The province faces a difficult demographic scenario, though it won't be as apparent in the near term. Total population is projected to rise from 510,628 in 2011 to a peak of 514,616 in 2016. But the demographic outlook beyond that is decidedly less positive. A falling natural rate of increase, persistent out-migration in later years, and a rising average age will cause the population to fall at an average annual compound rate of 0.4 per cent between 2017 and 2035. Total population is expected to fall to 473,478 by the end of the forecast period. (See Table 1.)

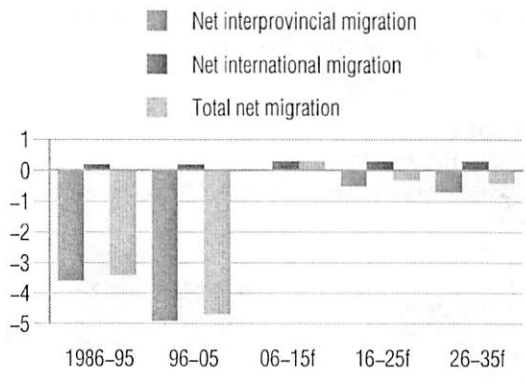
From 1994 to 1998, the province lost a net total of 37,200 people to other provinces—an annual average of more than 7,000. The exodus eased over 1999–2007, with the province losing an average of 3,400 net interprovincial migrants each year. This slowdown in the losses is attributed to various large resource projects that boosted employment in rural areas of the province as well as in St. John's. Then, as jobs in Western Canada dried up during the recent downturn, the migration tide was reversed. The province actually gained an estimated 2,500 net interprovincial arrivals over 2008–09. Thanks to a surge of investment spending, positive net interprovincial migration is expected to prevail over most of the medium term. But the trend will reverse itself once again over the long run. And for the 2011–35 period as a whole, Newfoundland and Labrador is forecast to lose on average close to 300 residents to other provinces annually. This projected outflow level is lower than in the past due to several large major projects planned in the energy sector. Still, a steady stream of international immigrants (an average of 290 are expected annually over 2011–35) will help to offset the losses in interprovincial migration. (See Chart 2.)

Table 1
Newfoundland and Labrador's Key Demographic Assumptions

Components	Assumptions
Population declines	Newfoundland and Labrador's population is forecast to decline by an average of 0.3 per cent annually from 2011 to 2035.
Provincial out-migration	Newfoundland and Labrador will continue to lose people to other provinces. Net interprovincial migration will remain negative, averaging a decline of almost 300 people per year over the forecast period.
International migration	Net international migration will remain relatively constant over the forecast period—an average of 290 per year from 2011 to 2035.
Fertility rate	The fertility rate in Newfoundland and Labrador is 1.52, well below the replacement rate of 2.1.
Natural rate of increase	The natural rate of population increase will fall over the forecast period as births drop and deaths rise.

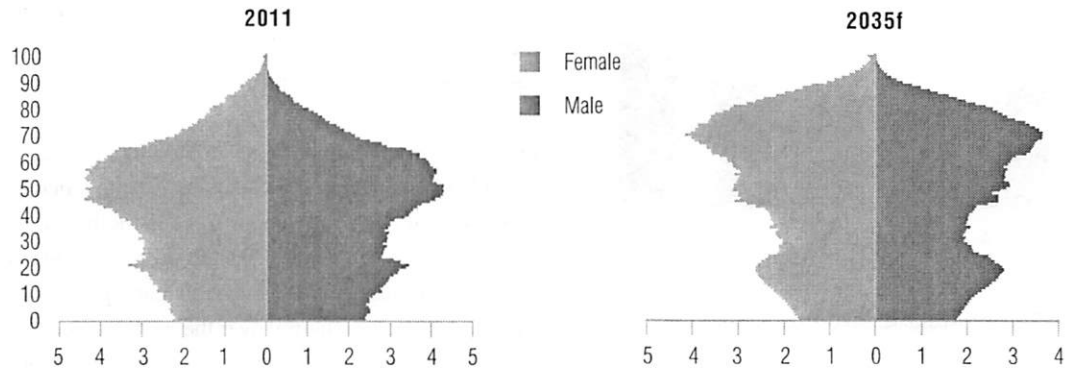
Sources: The Conference Board of Canada; Statistics Canada.

Chart 2
Net Migration
(five-year annual average, 000s)



f = forecast
Sources: The Conference Board of Canada; Statistics Canada.

Chart 3
Newfoundland and Labrador's Population Dynamics
(population by single-age cohort, 000s)



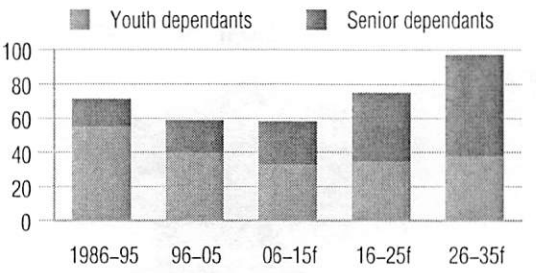
f = forecast
Sources: The Conference Board of Canada; Statistics Canada.

The steady out-migration is especially troubling, as it is primarily young, well-educated residents who leave in search of better employment opportunities. This tendency will lead to an unfavourable shift in the province's age distribution. The 25-to-34 age group, which made up 11.5 per cent of the population in 2011, will account for only 8.7 per cent of the population by 2035. Moreover, those who remain are choosing to have smaller families. Newfoundland and Labrador's fertility rate (the average number of live births per woman during her lifetime) is 1.52—among the lowest in the country, and well below the 2.1 replacement rate. Thus, the decline in the key 25-to-34 age cohort will put even more downward pressure on the natural rate of population increase. The number of deaths in the province already exceeds the number of births—and the gap will only widen over the forecast period.

Another important factor affecting Newfoundland and Labrador's long-term demographic outlook is the impending retirement of the baby-boom generation. This is a problem facing all of Canada, but the falling birth rate and high rate of out-migration among young people in Newfoundland and Labrador will exacerbate the situation for the province over the long term. The change in the age distribution of the population between 2011 and 2035 will be remarkable as the bulge representing baby boomers moves toward the upper end of the population pyramid. (See Chart 3.) The baby boomers will begin retiring *en masse* over the next few years. By the end of the forecast period, almost all the members of this cohort will have exited the labour force. Consequently, Newfoundland and Labrador's working-age population will be much smaller. Whereas today the number of people aged 20 to 64 represents 63.6 per cent of the population, this number will shrink to 49 per cent by 2035. At the same time, the proportion of the population 65 years of age and older will nearly double, going from 15.9 per cent in 2011 to 32.4 per cent in 2035—well above the projected 23.4 per cent at the national level. As a result, the dependency ratio will climb from 0.57 today to 1.02 by 2035. This means that there will be about 102 children and seniors for every 100 adults aged 20 to 64 by the end of the forecast. (See Chart 4.)

Strong natural resource development over the last 10 years has lifted the province's labour force participation rate substantially—from 52.5 per cent in 1997 to 60.2 per cent in 2011. The participation rate is expected to hover above the 60 per cent mark until 2015 and then gradually decline over the remainder of the forecast, dropping to 52.8 per cent by 2035. Falling participation and unfavourable demographics will combine to produce a sharp deterioration in the labour force. After peaking at 259,500 in 2014, the labour force is expected to shrink at an annual compound rate of 0.9 per cent until 2035.

Chart 4
Newfoundland and Labrador's Dependency Ratios
(dependants per 100 population of working age)



f = forecast
Sources: The Conference Board of Canada; Statistics Canada.

PRODUCTIVITY AND POTENTIAL OUTPUT

This long-term economic forecast is guided by the concept of potential output, which is the highest level of economic activity an economy can attain without surpassing its capacity limits and igniting inflation. Potential output is not directly measured and, as such, the Conference Board uses a structural production function to obtain an estimate of potential. We assume that the production function takes a Cobb-Douglas form, in which the mix of labour, capital, and technical efficiency are modelled to produce potential output. Given this assumption, our estimate of potential output depends on potential employment, capital, and trend total factor productivity (TFP).

Potential employment measures the contribution of labour to potential output by estimating the available workforce when the economy is operating at capacity. Under these conditions, the labour force participation rate is at its structural peak and unemployment is at its "natural" rate. Therefore, movements in the structural participation rate and the natural rate of unemployment are the two main factors driving changes in labour's contribution to output over the long term.

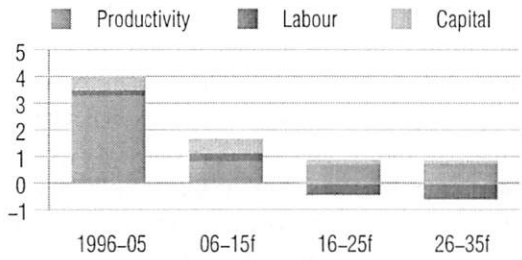
The natural rate of unemployment defines a minimum level of unemployment that would remain because there are always some people in transition between jobs and others who prefer not to work at the current wage. Unemployment resulting from workers in transition is expected to decline over the forecast. This will occur because the average age of the labour force will increase, and older workers are less likely to quit their jobs to look for other work. Thus, the natural rate of unemployment is expected to trend slowly downward over the forecast period, positively contributing to labour potential.

On the other hand, population aging will adversely affect labour potential. As workers move into older age cohorts, their aggregate labour force participation generally declines as a result of health problems and early retirement. Consequently, the overall participation rate is expected to decline sharply over the next two decades as a significant share of baby boomers move into retirement. On balance, the negative impact of declining participation rates will outweigh the benefit derived from a lower natural rate of unemployment. Therefore, labour's contribution to potential output will decline over the long term. On average, the shrinking labour supply will depress potential output growth by 0.4 percentage points each year from now until the end of the forecast.

On balance, the negative impact of declining participation rates will outweigh the benefit derived from a lower natural rate of unemployment.

The value of productive capital is the second factor of production required to calculate potential output. Instead of relying on a measure of potential or optimal capital stock, the Conference Board assumes that productive capital is accurately measured and that the level of capital in the economy at any time is all that is available. Total public and private capital, excluding residential assets, contributes to the level of productive capital. Over the forecast period, the net capital stock is assumed to increase each year by the amount of new investment, net of depreciation and discarded capital. Thanks to strong investment over the medium term, the contribution of capital to potential output growth will average roughly 1 percentage point per year from 2011 to 2016. However, capital's contribution will be essentially zero over the remainder of the forecast. (See Chart 5.)

Chart 5
Components of Potential Output Growth
(average contribution to annual growth, percentage points)



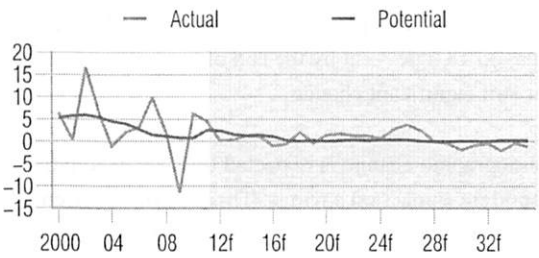
f = forecast
Sources: The Conference Board of Canada; Statistics Canada.

The technical efficiency with which capital and labour are utilized to produce output is measured by total factor productivity. Over history, TFP is calculated residually, using the logarithmic form of the Cobb-Douglas production function so that changes in output not explained by labour or capital are attributed to changes in technical efficiency. It should be noted that, for purposes of this calculation, total output is defined as real output at basic prices for all industries, excluding paid and imputed rent. Paid and imputed rents are excluded because the Conference Board's estimates of the capital stock do not take into account residential assets, since these do not contribute to the productive capacity of the economy.

TFP fluctuates considerably over the business cycle. The reasons for this are wide-ranging but include changes in the mix between capital and labour, relative shifts in the types of capital purchased, shifts in labour productivity as skills evolve, and tax changes. In order to remove the effects of volatile short-term movements, potential output is calculated with trend TFP, which is our residual measure smoothed with a Hodrick-Prescott filter. Over the long term, trend TFP growth is expected to be robust. With the growth in the number of workers dwindling, to maintain growth in TFP, firms will need to continually invest in productivity-enhancing technology and the skills development of their workforce. The contribution of TFP to potential output growth will retain its recent momentum, adding about 0.7 percentage points to potential growth annually over the forecast horizon.

When actual real GDP diverges from potential output, an economy is said to have an output gap. Thanks in large part to developments in the offshore sector, Newfoundland and Labrador's economy reversed a historical and undesirable trend by growing much faster on average between 1998 and 2003 than potential output would suggest. Despite some weak performances in the following years, the province still managed to close the output gap in 2007. This would not last long, however, as the recession of 2008–09 opened up a new negative output gap. (See Chart 6.) While the economy will continue to fluctuate as the resource sector develops and matures, real growth will remain generally in line with potential estimates over the long term. With inflationary concerns at bay, the consumer price index is projected to grow at an average annual rate of 2.1 per cent from 2011 to 2035.

Chart 6
Newfoundland and Labrador's Actual vs. Potential GDP Growth
(percentage change)



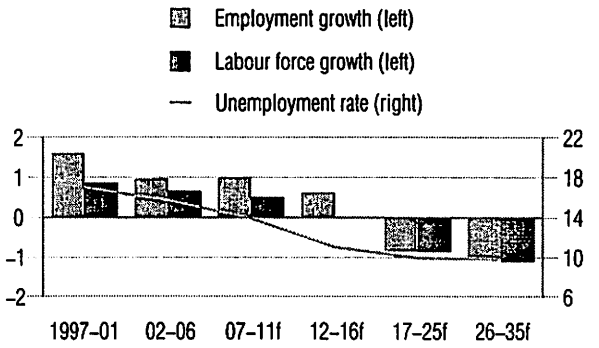
f = forecast
Sources: The Conference Board of Canada; Statistics Canada.

AGGREGATE DEMAND

CONSUMPTION

The demographic shifts expected over the long term will spill over into the province's household sector. This process will change not only the pace of growth of consumption expenditures, but also the type of spending that occurs. A declining population, combined with a rapidly growing elderly segment, will reduce the pace of expansion in consumption spending, mainly after 2020. As such, the average annual compound rate of nominal consumption growth is forecast to ease from

Chart 7
Employment
(employment and labour force, average annual compound growth, per cent; unemployment rate, per cent)



f = forecast
Sources: The Conference Board of Canada; Statistics Canada.

3.8 per cent over 2011–15 to 2 per cent over 2016–35. Household budgets are expected to tilt somewhat more heavily toward services in the long run. The share of consumer dollars spent on goods (durables, semi-durables, and non-durables) is expected to dip from 51.8 per cent today to 48.6 per cent by the end of the forecast, a small but still significant change.

Demographic change is expected to have an equally important impact on savings. Theories of "intertemporal consumption" seek to explain how people change their spending and savings habits over their life cycle. According to these theories, households save less, or actually draw down their savings, during retirement. Population aging, then, should cause a marked decline in the savings rate. Such will be the case with Newfoundland and Labrador. Personal savings are forecast to remain positive in the medium term, before declining in line with the population shift. The savings rate will average 0.5 per cent from 2011 to 2015, and then fall considerably, averaging a negative 1.2 per cent over 2016–35.

EMPLOYMENT AND INCOME

Newfoundland and Labrador will lead the Atlantic region in terms of employment growth over the medium term. Thanks to various large projects (including the Long Harbour nickel processing facility and development of the Hebron oil field and the Lower Churchill River's hydroelectric capacity), employment will manage to grow at an average annual compound rate of 1.2 per cent from 2011 to 2015. The construction industry will generate a substantial share of these job gains. By 2015, 24,600 construction workers are expected to be employed in the province. In 2010, that number was just 15,300. Large projects will also stimulate hiring in the commercial services sector. Positive job growth will not last indefinitely, however, as total employment is expected to fall over the second half of the forecast period. In 2011, 12.6 per cent of Newfoundland and Labrador's workforce was unemployed, the highest rate among all the provinces. Over the long term, the jobless rate should decline fairly steadily, even dipping below 10 per cent from 2018 to 2035. However, employment growth will be negative in the long run, so the decrease in the unemployment rate will result largely from labour force contraction. (See Chart 7.)

Fuelled by employment gains over the medium term, nominal personal disposable income will advance at an annual compound rate of 3.2 per cent until 2015. In the long run, however, disposable income gains will lose momentum as a result of falling employment. Increased transfer payments and pension income will provide a small boost, but the nominal compounded growth rate from 2016 to 2035 will be just 1.9 per cent, indicating essentially zero growth in total real income. Growth in labour income will be particularly poor during the later part of the forecast. While these are aggregate variables that largely reflect the shrinking workforce, it should be noted that the outlook for wage growth is not overly bright either. Wages and salaries per employee have grown exceptionally fast in the province of late, but they are projected to increase by an average of only 2.2 per cent a year between 2011 and 2035, the slowest pace in the country.

INVESTMENT

Near-term investment in Newfoundland and Labrador will be dominated by manufacturing projects, led by Vale Inco's multibillion-dollar nickel processing facility in Long Harbour. The plant will use state-of-the art technology to process nickel-cobalt sulphide concentrate from the Voisey's Bay deposit and is scheduled for completion in 2013. Expenditures are expected to reach over $700 million in 2012 as the construction workforce

peaks at 2,500. Meanwhile, Iron Ore Company of Canada is in the midst of an expansion, the first of a three-phase project that will cost $500 million and employ over 250 people.

But oil and gas projects are still essential contributors to the province's investment portfolio. Over the last decade and a half, offshore oil projects such as Hibernia, Terra Nova, and White Rose have been the main investment targets in Newfoundland and Labrador. From 1995 to 2009, the offshore oil and gas industry accounted for 30 per cent of all investment in the province—some $17 billion of capital spending. The potential for further investment in oil and gas is solid over the medium term, if not quite as strong as before. Most capital projects will involve expanding production to satellite fields. These fields are typically too small for stand-alone developments but can be connected to existing sites by way of subsea tiebacks. This type of procedure was used to bring the North Amethyst field into production in 2010. The White Rose expansion has two other satellite fields in addition to North Amethyst. Husky began production at the West White Rose extension last November. In addition, the $1.7 billion Hibernia South Extension Unit began production last fall. Drilling for Hibernia South is scheduled over 2013–15.

From 1995 to 2009, the offshore oil and gas industry accounted for 30 per cent of all investment in the province.

The only stand-alone offshore project in the long-term profile is the Hebron oil field. The project participants submitted a development plan last April and they intend to begin construction of the $5-billion gravity base structure (GBS) in mid-2012. Design contracts for the GBS and the topsides modules were signed last fall, with most of the work to be completed at the Bull Arm fabrication yard and the Marystown shipyard. A $100-million contract for one of the modules may be moved outside the province, with bidders from Newfoundland and other provinces expressing interest. If the project remains on schedule, commercial production could begin by the end of 2017.

The development of the Lower Churchill River's hydroelectric capacity has passed through multiple incarnations. A $12-billion proposal in the late 1990s came to naught, but the provincial government revived the project in 2006. The project initially included the development of the Gull Island and Muskrat Falls hydroelectric facilities, and the construction of new transmission lines in Labrador and Quebec. Nearly 3100 megawatts of capacity would be generated at an estimated cost of $10 billion. This proposal, however, ultimately gave way to a smaller deal.

The project participants now intend to develop Muskrat Falls only and build subsea cables to transmit power to Nova Scotia. The cost is pegged at $6.2 billion, with $1.2 billion of that budgeted for the subsea power link. Provincial officials are currently seeking financial support under the federal government's green infrastructure initiative. Construction is anticipated to begin in 2012 and run until 2017. Muskrat Falls has a capacity of 824 megawatts, or enough power to supply 390,000 homes. At this point, the province has announced no official schedule for developing the larger Gull Island site. However, with subsea transmission lines in place, there will be access to markets in Nova Scotia, New Brunswick, and the Northeastern United States, making the project a potentially attractive option.

Thanks to the substantial investments in mining, oil and gas, and manufacturing, nominal non-residential business investment spending is forecast to explode, growing at an average compound annual rate of 14.1 per cent from 2011 to 2015. With few large projects on the horizon beyond that point, the annual compound rate will fall to 1.3 per cent over the remainder of the forecast. Purchases of machinery and equipment will be similar to non-residential expenditures, growing at an annual compound rate of 2.7 per cent from 2011 to 2035.

Large resource projects and rising home prices have given the housing industry a shot in the arm. Newfoundland and Labrador builders started over 10,000 new housing units over the past three years, the highest level of activity in two decades. However, the current pace cannot be sustained in the long run given the province's declining demographic requirements and the easing of rural–urban

migration trends. In fact, housing starts are expected to decline from a peak of 3,700 in 2011 to just 490 in 2035, a drop of nearly 87 per cent. (See Chart 8.) The collapse won't become acute until the next decade, as housing starts should remain above 2,000 units through 2019. But when demand finally eases, the drop-off will be quick and steep. Nominal residential spending is forecast to decrease at a compound annual rate of 2.1 per cent between 2021 and 2035.

GOVERNMENT

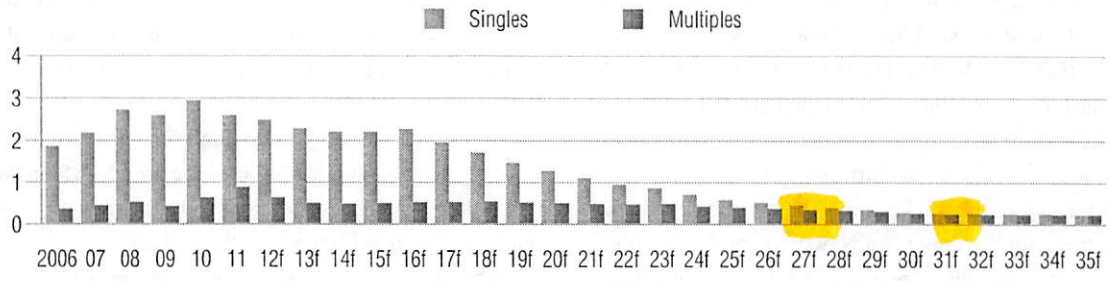
After decades of "have not" status, Newfoundland and Labrador now finds itself among the country's "have" provinces. The province has not received equalization payments from the federal government since the 2008–09 fiscal year. Pursuant to the terms of the Atlantic Accord, the province continues to receive offsetting payments to compensate it for equalization payments that are lost due to the rise in resource royalties. The current arrangement ends this year, as one of the conditions for extending the program was not met—namely, Newfoundland and Labrador did not qualify for equalization in 2011–12.

The provincial government's coffers expanded nicely prior to the recession thanks to four consecutive surpluses. Soaring oil prices allowed the province to collect revenues far in excess of what was anticipated. From 2006 to 2009, the government posted a cumulative surplus of $4.1 billion—a surfeit of cash that was used, in part, to pay down outstanding debt. Unfortunately, the global economic crisis put an end to the string of massive budget surpluses. The province posted a deficit of $33 million in fiscal 2009–10 but then bounced back with a surplus of $597.9 million in 2010–11, and an estimated $756 million in 2011–12. These results were much better than initially projected due to higher-than-expected oil prices and production levels.

The province has not received equalization payments from the federal government since the 2008–09 fiscal year.

The province's financial situation is much improved compared with five years ago. According to the Department of Finance, net debt is projected to fall to $7.7 billion in 2011–12. At one point, the province was carrying a net debt load of $11.9 billion. That said, net debt is still elevated, standing at $15,948 per person—about 18 per cent higher than the national average. The province's ability to sustain steady debt reduction will be a key factor in its long-run fiscal health. New offshore developments are expected to bolster revenues substantially. Indeed, the provincial government anticipates combined revenues of $39 billion in royalties, profits, and taxes from the White Rose expansion, Hibernia South, and Hebron. On the expenditure front, an aging population means a greater share of spending will go to cover health care costs. Nominal government spending on all goods and services is forecast to expand at an annual compound rate of 3.6 per cent from 2011 to 2035. Infrastructure investments will also place demands on the provincial treas-

Chart 8
Total Housing Starts
(units, 000s)



f = forecast
Sources: The Conference Board of Canada; CMHC Housing Time Series Database.

ury. Newfoundland and Labrador's share of the capital costs for the Lower Churchill development totals $4.4 billion.

INDUSTRY ANALYSIS

Offshore oil fields are estimated to have produced 97.3 million barrels in 2011, directly accounting for one-fifth of the province's real GDP. But this level of production is 25 per cent below peak levels, and a return to those previous lofty highs is not expected as the majority of the original reserves at the main fields have been depleted. The Hebron oilfield, which is expected to produce 400 million to 700 million barrels over its lifetime, will provide a substantial boost in 2017, but will not offset declining output elsewhere. Real mineral fuels output is projected to shrink at a compound annual rate of 2.1 per cent from 2011 to 2035. Because offshore oil accounts for such a large portion of economic activity in the province, the impact on bottom-line growth will be considerable. In fact, weakness in mineral fuels is the primary reason why the goods-producing sector (which includes other mining, as well as manufacturing, construction, fishing and trapping, forestry, and agriculture) is expected to make no contribution to growth in the second half of the forecast. Some upside risk does exist, thanks to ongoing exploration activity. According to provincial statistics, 6 billion barrels of oil remain undiscovered offshore Newfoundland and Labrador, providing great impetus to explorers. New work commitments for exploration licences were $350 million in 2011, and a rig-sharing arrangement between three major players will further facilitate extensive exploratory drilling. Thus, it is not unreasonable to expect other offshore oil projects to surface over the next two decades.

The future is much brighter for metal mining than for mineral fuels. Rapid growth in China, India, and other emerging economies will spur demand for raw materials, even though markets are already tight in many cases. Labrador, with its rich natural resources, is well-positioned to gain from higher commodity prices. The outlook is particularly bright for iron ore. The Iron Ore Company of Canada is currently expanding annual concentrate capacity from 18 million tonnes to over 23 million tonnes. An additional phase that has yet to be approved could see capacity reach 26 million tonnes. Meanwhile, operations at a series of Schefferville-area deposits are set to expand again this spring. The province will soon welcome another major player in the global iron ore market. New Millennium and its equity partner Tata Steel are moving ahead with their direct-shipping ore project, with start-up expected near the end of this year. The project's feasibility study indicated annual production of 4 million tonnes (similar to Wabush) and an initial mine life of 10 years. The company is also assessing the viability of one of the world's largest undeveloped deposits, a project that would rival the IOC's operations in size. That project, however, is not included in the long-term forecast. And iron ore is not the province's only significant metal resource. The Voisey's Bay mine, for example, is producing nickel and copper at full capacity, now that an 18-month labour dispute there has ended with the signing of a new collective bargaining agreement last year. Total metal mining output is forecast to grow at an annual compound rate of 13.5 per cent from 2011 to 2015 before declining by an average of 1.2 per cent a year from 2016 to 2035, due to the eventual closure of the Voisey's Bay mine.

Vale Inco's nickel processing facility at Long Harbour will provide a boost to manufacturing once operations begin there in 2013. The plant, which will employ 450 workers, is expected to process 50,000 tonnes of finished nickel every year. Fabrication activities related to the Hebron development and hydro projects will also contribute to strong manufacturing growth in the medium term, as will ongoing work to expand refining capacity. Output is expected to advance by a moderate1.5 per cent compound rate between 2011 and 2015. The long-term outlook is similar—annual manufacturing growth will decelerate to 1 per cent over 2016–35. The construction industry faces a different trend. Real construction output will

advance at an annual compound rate of 5.3 per cent from 2011 to 20156, before shrinking at an average rate of 1.5 per cent over the rest of the forecast.

Over the long term, falling population will constrain expansion in the services sector to an average annual compound rate of 1.2 per cent—a modest rate of growth, but sufficient to outpace the goods sector. Public spending will reflect strong demand for health care and social services as the baby boomers move into retirement, despite the tempering effects of a shrinking population. The commercial sector will also perform steadily thanks to resource development. Overall, output of community, business, and personal services will grow at an annual compound rate of 1.1 per cent from 2011 to 2035. The wholesale and retail sector will experience a less steady growth path. Annual output growth is expected to average 2.7 per cent from 2011 to 2015—a period of strong job creation—before flattening out over the remainder of the forecast.