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Ontario since the Great Recession



Ontario's Panel on Economic Growth & Prosperity

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BMO Financial Group

Andrea Stairs

eBay Canada

Daniel Trefler

Rotman School of Management

Annette Verschuren

NRStor Inc.

Ontario's Panel on Economic Growth & Prosperity is an arms-length, independent body that reports directly to the public. Its purpose is to measure and monitor Ontario's productivity, competitiveness and economic progress, reporting its findings on a regular basis.

The Panel is the advisory body to the Institute for Competitiveness & Prosperity. The Institute is an independent not-for-profit organization that deepens public understanding of macro and microeconomic factors behind Ontario's economic progress. Research by the Institute is intended to raise public awareness and stimulate debate on a range of issues related to competitiveness and prosperity. It is the aspiration of the Institute to have a significant influence in increasing Ontario and Canada's competitiveness, productivity, and capacity for innovation. We believe this will help ensure continued success in creating good jobs, increasing prosperity, and building a higher quality of life. We seek breakthrough findings from our research and propose significant innovations in public policy to stimulate businesses, governments, and educational institutions to take action.

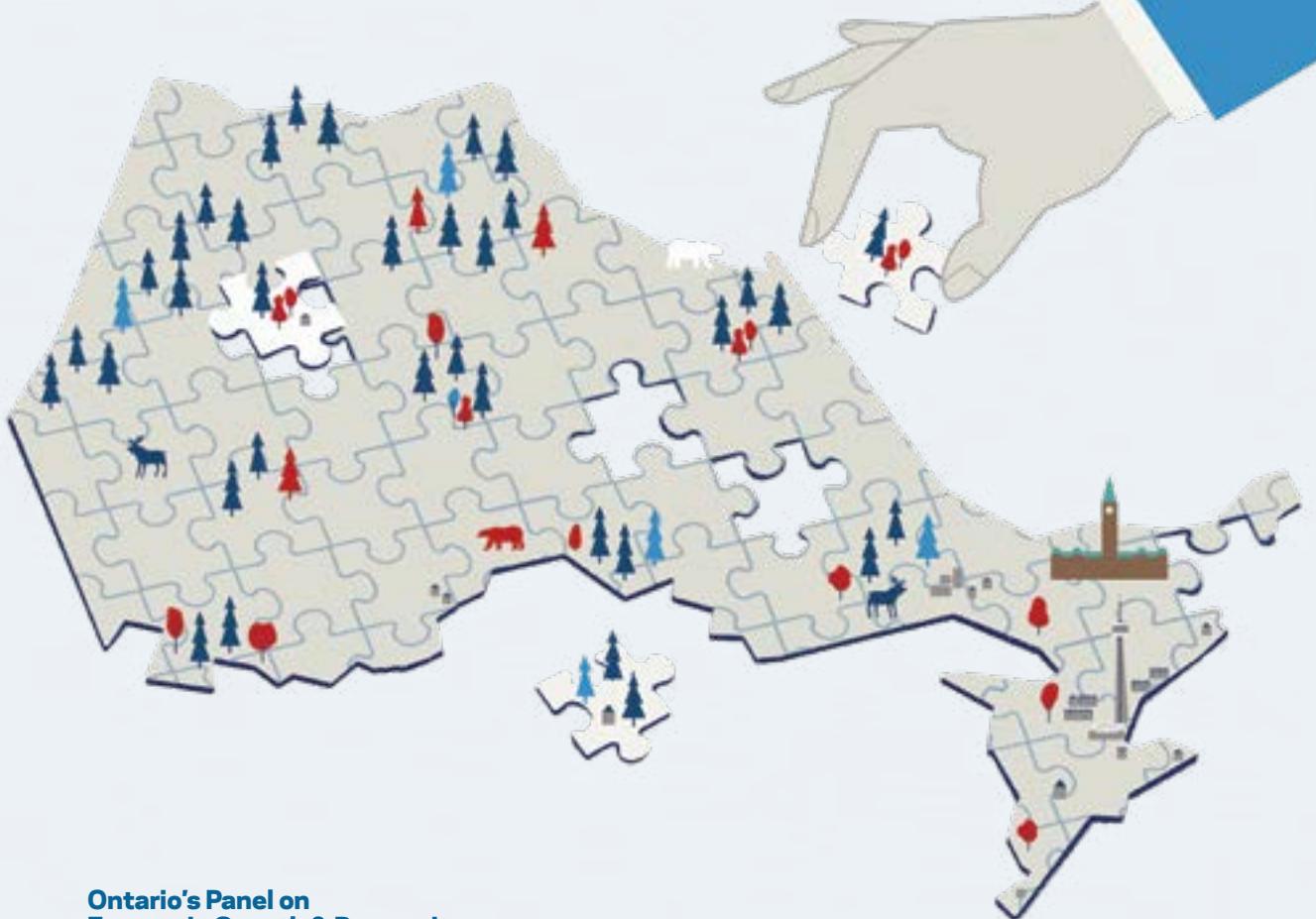
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Institute for
COMPETITIVENESS & PROSPERITY

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Ontario's Panel on
Economic Growth & Prosperity

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LOOKING BACK TO MOVE FORWARD



Tiff Macklem

Chair, Ontario's Panel on
Economic Growth & Prosperity

Dean, Joseph L. Rotman School
of Management



Jamison Steeve

Executive Director, Institute for
Competitiveness & Prosperity

ON BEHALF OF Ontario's Panel on Economic Growth and Prosperity and the Institute for Competitiveness and Prosperity, we are pleased to present the Seventeenth Annual Report on Ontario to the public.

Over the past year, under the direction of the Panel, and through the research of the Institute, our work focused on the necessary components of a truly innovative economy. As is often the case, we tried to lend fact, data, and policy analysis to the rhetoric we hear from both the public and private sectors. If Ontario is to build an “innovative economy,” what choices does that force and what policies must be pursued? In 2018, we penned reports on innovation policy, artificial intelligence, and skills development, and hosted the 21st Network Global Conference (TCI 2018), a global clusters conference. In doing so, we believe we have added to the policy conversation here in Ontario.

For the Annual Report this year, we decided to review the progress Ontario has made since 2000 and how the Great Recession in 2008-2009 impacted the province’s economic growth. Conducting an analysis over 18 years captures the highs and lows of the changes, and allows us to be intellectually honest about the gains and losses experienced across the province. Furthermore, we chose this theme as the past six months have brought about great change to Canada and Ontario’s possible economic fortunes. We had our national “near death experience” during the re-negotiation of the new United States-Canada-Mexico free trade agreement (USMCA). We are also starting to feel the impact of the tax changes made south of the border, and a new government has been elected in Ontario.

As a result, we felt that a summary of the past 18 years, with a look ahead to the policies required to maintain or improve on our economic competitiveness and prosperity, would be timely. This Annual Report will examine how Ontario has fared across a wide spectrum of economic and social indicators, with a focus on how the Great Recession impacted the province’s prosperity, and how it has since recovered.

“

While we can celebrate the fact that Ontario did not suffer the same level of economic misfortune as our peer jurisdictions during the recession, we should also be justifiably proud that our social cohesion remained relatively strong over that time as well.

”

This Annual Report highlights that many of the problems we have faced since our first Annual Report in 2001 persist. In particular, Ontario continues to have a productivity challenge. In fact, our prosperity gap (GDP per capita versus our peer median) is now greater than pre-recession levels.

The lack of diversity in our trading partners, tightening foreign direct investment, and a lack of private sector R&D in Ontario continue to be areas of concern. While the definition of insanity is doing the same thing over and over expecting a different result, our hope is that our renewed call for reform in these areas, combined with a change in macroeconomic conditions, will provide a new sense of momentum and urgency behind these sound recommendations.

Finally, this Annual Report also looks at issues around housing, widening gaps in regional economies, and income inequality. While we can celebrate the fact that Ontario did not suffer the same level of economic misfortune as our peer jurisdictions during the recession, we should also be justifiably proud that our social cohesion remained relatively strong over that time as well. However, there are indicators that show we need to guard against economic and social fissures that could threaten the relative stability we have experienced. We offer up some recommendations to build on our strengths, address our weaknesses, and build the type of society and economy that Ontarians deserve.

The Panel and the Institute thank all of the experts within and outside of the Ontario government consulted for this Annual Report. We gratefully acknowledge the continued funding support from the Ministry of Economic Development, Job Creation and Trade. We look forward to sharing and discussing our work and welcome your comments and suggestions.

Ramana

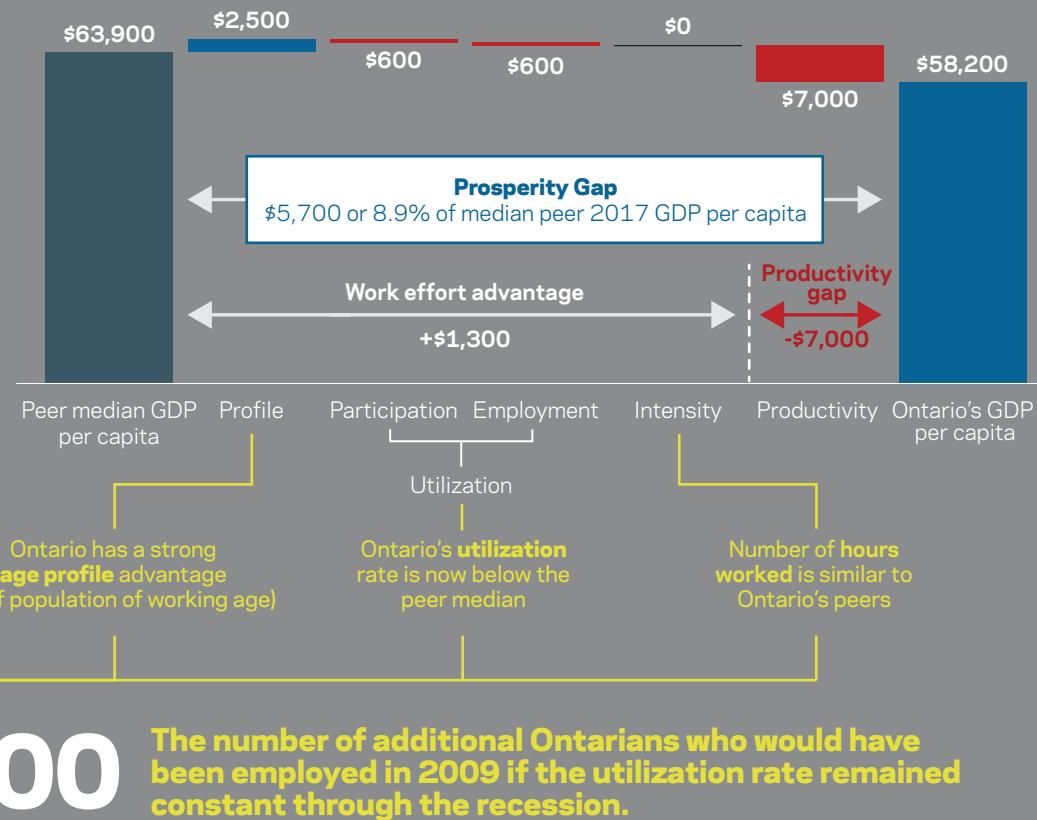
Jamison Steepe

ONTARIO'S RECOVERY FROM THE GREAT RECESSION

This year, Ontario's Panel on Economic Growth & Prosperity examines Ontario's economic progress since 2000 and the impact of the 2008-2009 Great Recession.

IMPACT OF GREAT RECESSION ON THE PROSPERITY GAP

During the recession the prosperity gap shrank to just \$1,800. It is now greater than pre-recession levels.



IMPACT ON GOVERNMENT DEBT

\$476.1B

(2000, C\$2017)

Ontario's combined federal/provincial debt load

\$617.2B

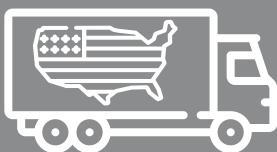
(2017, C\$2017)

It has been ten years since the Great Recession and Ontario has yet to regain the economic footing to support the province's competitiveness and prosperity to its full potential.

IMPACT ON COMPETITIVENESS

Exports primarily to the US

MAJORITY:
MANUFACTURED
GOODS



72%

Nearly twice as many census divisions had less foreign direct investment (FDI) after the recession than gained FDI



Policy recommendations



Increase international exports from the service sector



Facilitate greater interprovincial trade



The federal government can reduce the requirements of the net benefits test to encourage FDI

IMPACT ON HOUSING AND PROSPERITY



-1.4%

Home ownership rates between 2006 and 2016

WHY?

Toronto housing prices by salary

2001 2016
6x **15x**
annual average salary annual average salary

Therefore

70,000 Missing home owning households

Not owning real estate assets seriously affects the net worth of Ontarians:

Median net worth of households

	With real estate	Without real estate
1999	\$371,000	\$17,000
2016	\$728,000	\$15,000

Policy recommendations



Simplify regulations on construction of new residential units



Introduce tax on vacant residential units



Build medium-density housing in the yellow belt

Social recommendations



Support cluster development to mitigate future economic shocks and improve social mobility



Promote work-integrated learning opportunities for youth not in employment, education or training (NEET)





ONTARIO'S PERSISTENT PROSPERITY GAP

While Ontario fared better than many other jurisdictions during the 2008-09 recession, the Great Recession interrupted the province's economic growth and had a significant and continued economic impact on the province. Ontario's economic expansion has since followed a lower trend line, and its extended recovery has widened the prosperity gap between the province and its peer jurisdictions.

THIS YEAR MARKS the ten year anniversary of the beginning of the 2008-09 Great Recession that shocked the economies of many countries around the world, including Canada. The Ontario Panel on Economic Growth and Prosperity (hereafter known as “the Panel”), mandated by the Ontario Government to analyze and report on the province’s competitiveness and prosperity annually, will use this Annual Report to take a look back on how Ontario has fared since 2000. This report will emphasize how the 2008-09 Great Recession impacted the province, and how it has since recovered.

Ontario, unlike many jurisdictions, fared relatively well after the Great Recession. This can largely be attributed to stringent financial regulations and a strong banking sector, as well as the robust health care and education systems that support a healthy and knowledgeable working-age population.¹ These foundations contribute both to greater productivity of workers and the development of globally competitive and innovative businesses.

The Institute defines competitiveness as the set of institutions, regulations, and technical efficiencies that determine a country’s productivity in creating value from capital, labour, and intermediate inputs. This definition includes factors such as capital availability and productivity, while also encompassing changing political

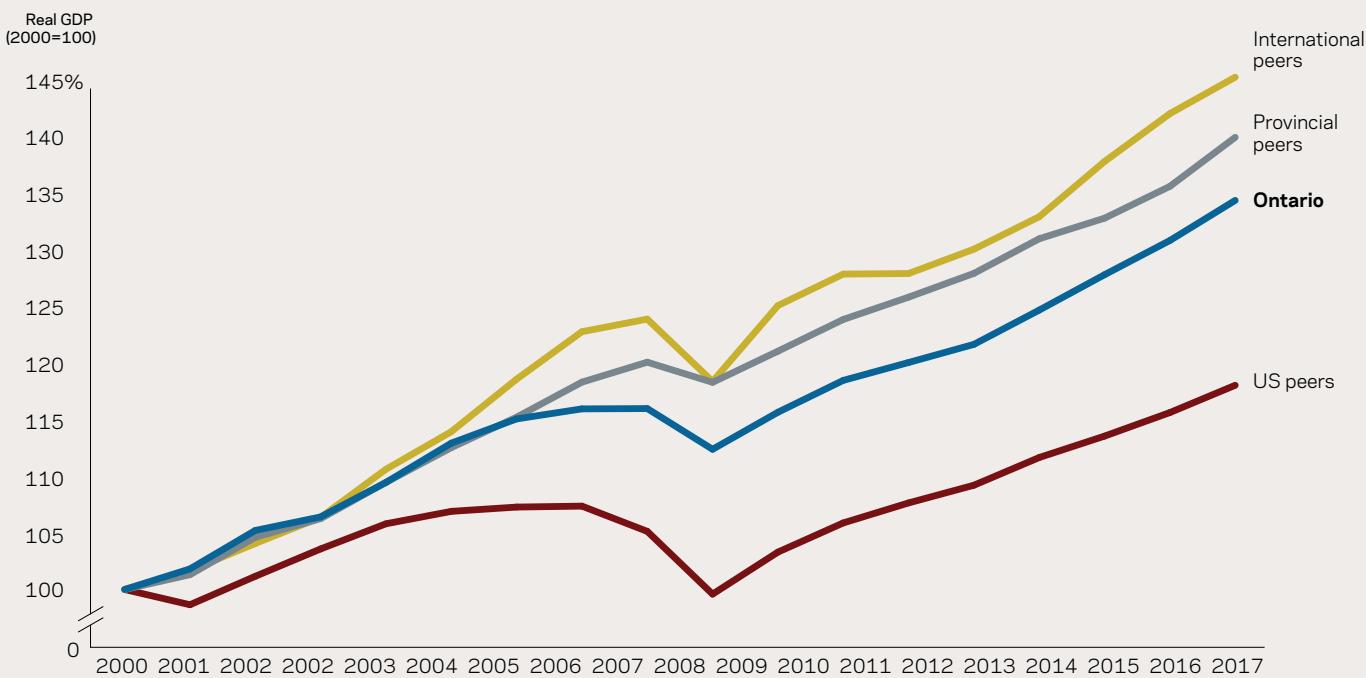
and business environments. In this Annual Report, the Panel examines how Ontario has fared since the recession from two perspectives: economically, using the prosperity gap to measure the competitiveness of Ontario's workers and businesses, and also by looking at issues of well-being in order to consider the overall welfare of Ontarians.

Ontario's economic performance, as measured by its Gross Domestic Product (GDP), was impacted by the Great Recession similarly to that of its peer jurisdictions (Exhibit 1). The onset of the Great Recession caused provincial GDP to contract by 3.1 percent from its peak in 2008 to its trough in 2009. It quickly began to recover, and surpassed its pre-recession level by 2011. Yet this fall in GDP during the 2008-09 recessionary period set Ontario's GDP growth trajectory along a separate, lower trend line than before 2008.

The impact of lower GDP is significant. Lower gross domestic product per capita means less income for household consumption, less tax revenue for government services, and less revenue to spend on productivity-enhancing investments.

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If economic output was the sole measure of economic well-being, Ontario would have recovered from the Great Recession years ago.
”

EXHIBIT 1 Real gross domestic product, Ontario and peers, 2000-2017



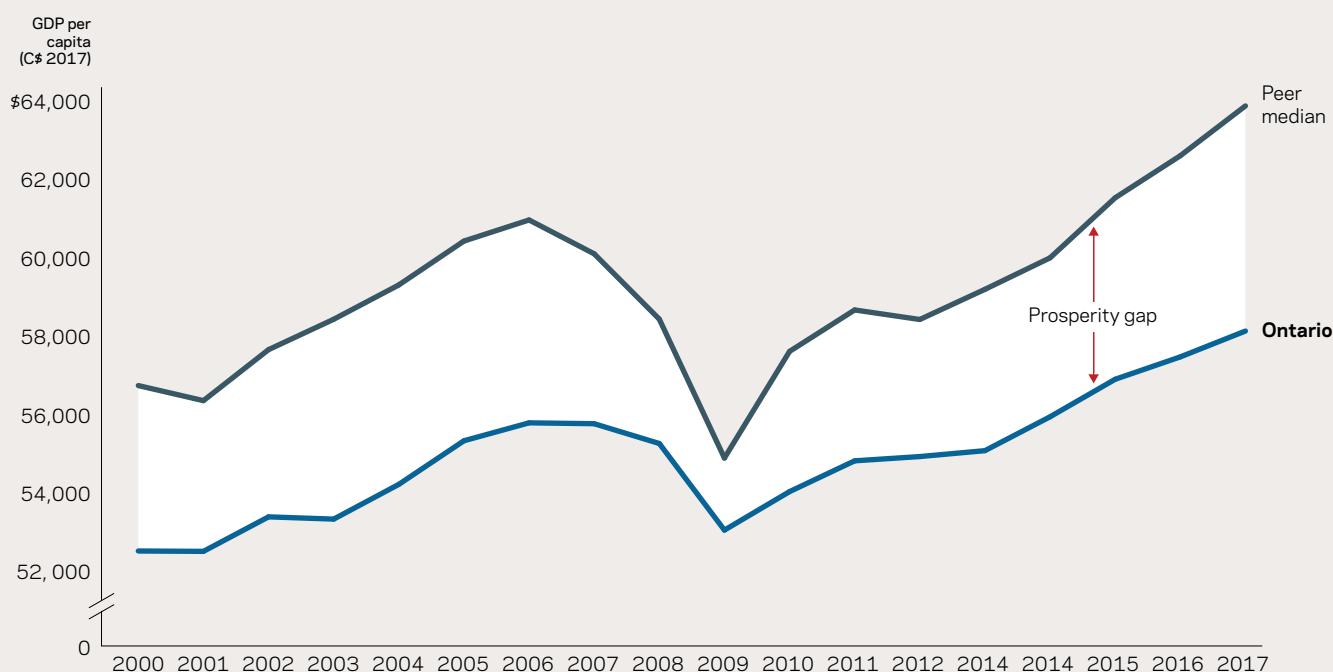
Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada, OECD, US Bureau of Economic Analysis, and Australian Bureau of Statistics.

The prosperity gap, defined as the difference between the Gross Domestic Product per capita of Ontario and the median of its peer jurisdictions, is a useful measure of Ontario's economic performance, but it is not an all-encompassing metric. Many of the ways in which the 2008-09 Great Recession impacted Ontarians – especially varying regional ramifications – are not captured within this metric. As the Institute argued in Working Paper 27, *Looking Beyond GDP: Measuring Prosperity In Ontario*, accurately assessing Ontario's prosperity requires the use of a broader set of metrics than just GDP.² If economic output was the sole measure of economic well-being, Ontario would have recovered from the Great Recession years ago. However, the measures of well-being that affect every Ontarian tell a mixed story of where the province thrives and where more improvements can be made to bring the level of prosperity back to pre-recession levels.

Ontario through the 2008-09 Great Recession

The 2008-09 recession was less severe in Ontario than in most of the province's peer jurisdictions (Indiana, Michigan, Ohio, Tennessee, Wisconsin, Québec, British Columbia, Australia, the Netherlands, and Sweden). As a result, Ontario's prosperity gap against its peers shrank to just \$1,800 per capita in 2009 (Exhibit 2). However, during the eight years since then, the gap has grown again and is now greater than pre-recession levels, reaching \$5,700 in 2017.

EXHIBIT 2 Ontario's prosperity gap over time, 2001-2017



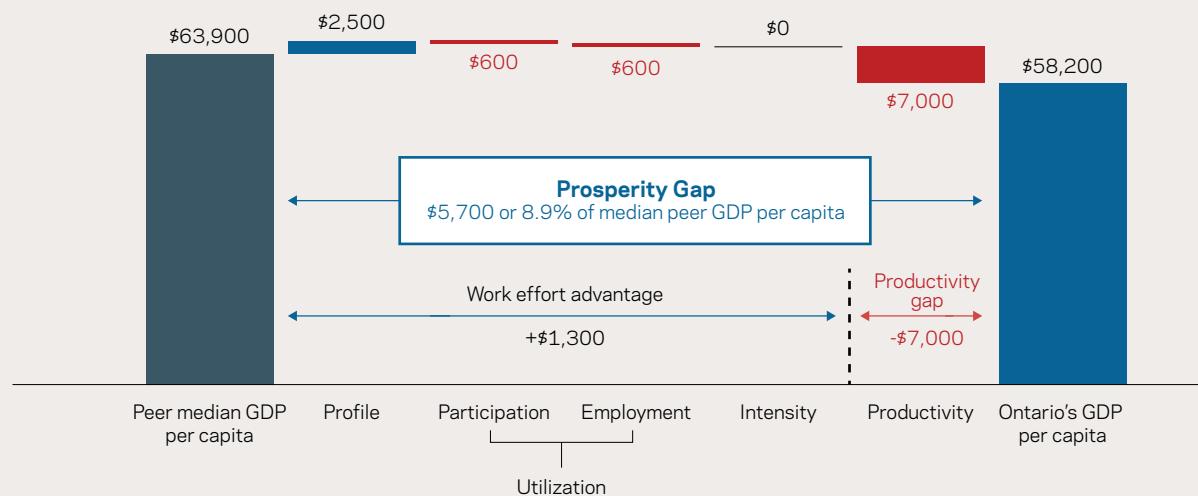
Note: Ontario's peers are Indiana, Michigan, Ohio, Tennessee, Wisconsin, Québec, British Columbia, Australia, the Netherlands, and Sweden.

Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada, OECD, US Bureau of Economic Analysis, US Bureau of Labor Statistics, and Australian Bureau of Statistics.

The primary driver of Ontario's prosperity gap remains lagging productivity, which reduces GDP per capita by \$7,000 (Exhibit 3). Productivity is an important measure used to gauge economic competitiveness. Low productivity means each worker in Ontario is producing less value added per hour worked compared to peer jurisdictions. Therefore, improving the competitiveness of Ontario's business and economic environment by boosting productivity is crucial to creating lasting prosperity for the province.

Improving the competitiveness of Ontario's business and economic environment by boosting productivity is crucial to creating lasting prosperity.

EXHIBIT 3 Ontario's prosperity gap, 2017



Note: Values are in 2017 Canadian dollars. PPP exchange rates are used to convert GDP into 2017 Canadian dollars
Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada, OECD, US Bureau of Economic Analysis, US Bureau of Labor Statistics, and Australian Bureau of Statistics.

The Panel calculates Ontario's prosperity gap by weighting four elements – age profile, utilization, intensity, and productivity – in order to determine where the province stands relative to peer jurisdictions that share similar demographic, industrial, and educational profiles (Exhibit 4).

This Annual Report begins by examining how various aspects of Ontario's prosperity gap were impacted by the Great Recession (Chapter 2). Chapter 3 paints a more comprehensive picture of economic life in Ontario by analyzing additional indicators affected by the recession, such as household debt, net worth, homeownership rates, and inter-regional mobility, the measures that can indicate well-being in the province. Finally, in Chapter 4, the Panel offers policy recommendations that will improve the prosperity and welfare of Ontarians, and fortify the provincial economy against future recessions.

The prosperity gap between Ontario and its peers was at its lowest in 2009 during the Great Recession. However, this was due to the more severe economic downturn of its peers, rather than an improvement in the province's performance. Since the Great Recession, Ontario's GDP has followed a new, lower trend line. To close the prosperity gap, the province must build on its existing strengths, and take the necessary steps to reverse the low productivity of its workers.

EXHIBIT 4 Elements of GDP per capita

		Work effort			
Prosperity	GDP per capita	Age profile % of population that is of working age (15-64 years)	Utilization % of working age population that is employed	Intensity Average number of hours worked per employee in a year	Productivity Gross Domestic Product (GDP) or value added per hour worked
Ontario in 2017	\$58,200	Potential labour force $\frac{\text{Population}}{1}$	X	Employed persons $\frac{\text{Potential labour force}}{1}$	X
		9.6 million $\frac{14.2 \text{ million}}{1}$	X	7.1 million $\frac{9.6 \text{ million}}{1}$	X
				Total hours worked $\frac{\text{Employed persons}}{1}$	
				12.3 billion $\frac{7.1 \text{ million}}{1}$	
					X
					12.3 billion $\frac{\$825.8 \text{ billion}}{1}$

Note: Values may not add up due to rounding.

Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada. Adapted from J. Baldwin, J.P. Maynard, and S. Wells. "Productivity Growth in Canada and the United States." *Isuma*, Vol. 1, No. 1, Spring 2000, Ottawa Policy Research Institute.





BREAKING DOWN ONTARIO'S PROSPERITY GAP

Since 2002, the Annual Reports on Ontario have examined the factors contributing to Ontario's low productivity and the prosperity gap, and provided solutions to remedy this disparity. This year, the focus is on how the Great Recession has had an enduring impact on innovation and trade among the firms in Ontario. These two aspects, so intimately linked, could boost the productivity of the province if improved, and help close the prosperity gap.

THE PROSPERITY GAP has been an enduring challenge facing Ontario, and closing this gap has been a difficult task. Previous Annual Reports have offered recommendations to close the productivity gap that drives the prosperity gap. Last year, the Panel examined four groups (youth, Indigenous Peoples, older adults, and women) who traditionally have had lower employment rates and a higher incidence of part-time work. If they were able to work full time instead, then all of Ontario would benefit economically. Ultimately, closing the prosperity gap requires that the province be able to expand its markets to drive growth in profits and innovation, and also leverage the economic potential of its residents. If low productivity remains the main driver of the prosperity gap between Ontario and its peer jurisdictions, then innovation and trade are ways that can move the needle, and help Ontario recover from the downturn in some of the aspects of the prosperity gap.

Prior to the 2008 recession, Ontario's economy benefited from a utilization rate and work intensity greater than its median peer. The recession, and the recovery that followed, erased much of these previously-held advantages, exposing the consequences of Ontario's lagging productivity.

Age profile

A region's core working-age profile is the portion of the population between the ages of 15 to 64 that has the potential to be part of the workforce. A region with a strong age profile has a larger supply of labour.

Ontario's age profile continues to be an advantage since the province has a younger population than most of its peers (Exhibit 5). However, Ontario's age profile is worsening over time as an increasing number of Ontarians reach retirement age, leaving a smaller portion of the population in the core working-age group. This trend is in line with peer jurisdictions. Ontario can counter this decline through immigration, which can immediately boost the number of working-age Ontarians. In any case, the province must find ways to maintain its age profile advantage, since it remains key to limiting the prosperity gap.

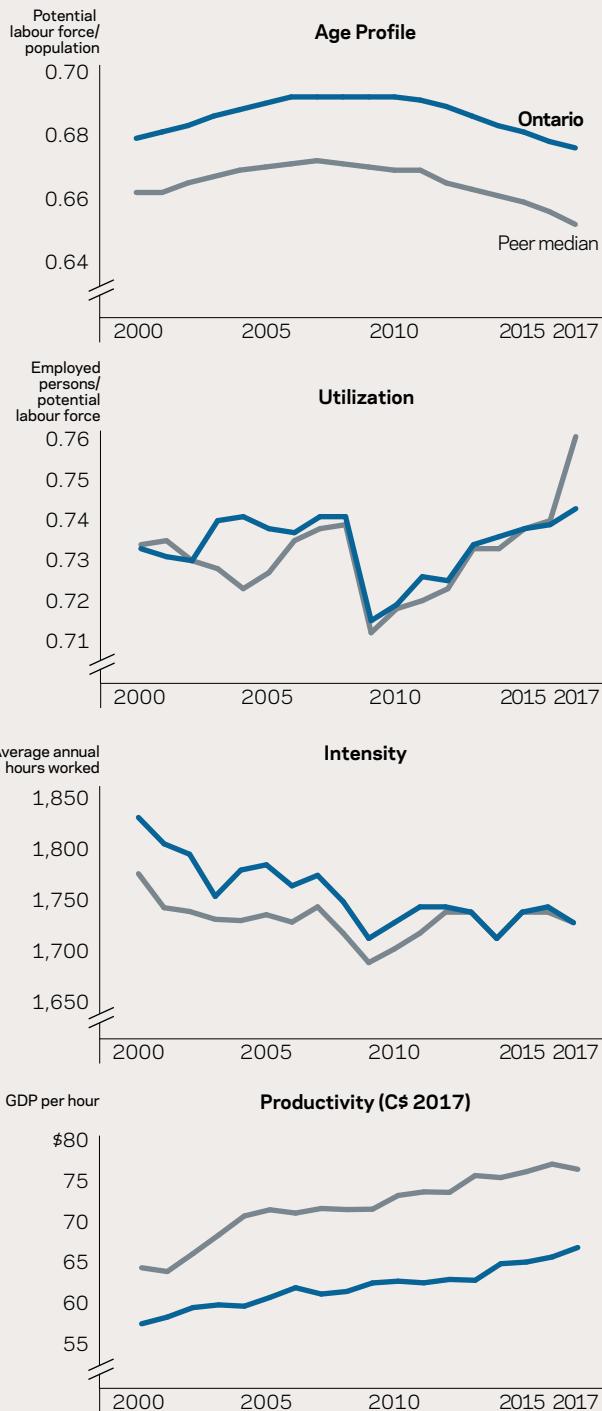
Utilization

Utilization represents how strongly a region's working-age population is attached to the labour force. It comprises two elements: participation and employment.³

- **Participation** encompasses those who are employed in the labour force and those who are actively looking for work.
- **Employment** only includes those in the labour force who are currently employed.

Utilization rates were significantly impacted by the Great Recession. Before the recession, Ontario and the peer median utilization rates sat at 74.1 and 73.9 percent respectively. In other words, for every one hundred people aged 15 to 64 in Ontario, approximately 74 people over age 15 were employed. With the onset of the recession in 2008, Ontario's rate dropped 2.6 percentage points in one year. While at first glance this may not seem significant, it is equivalent to 234,000 fewer Ontarians in the workforce than if the 2008 utilization rate had remained fixed for 2009 (given population changes). For perspective, this loss of workers at the height of the recession, many of whom remained out of the labour force for years after, is greater than the entire population of Barrie.⁴

EXHIBIT 5 Elements of GDP per capita, Ontario and peers, 2001-2017



Note: PPP exchange rates are used to convert GDP into 2017 Canadian dollars.
Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada, OECD, US Bureau of Economic Analysis, US Bureau of Labor Statistics, and Australian Bureau of Statistics.

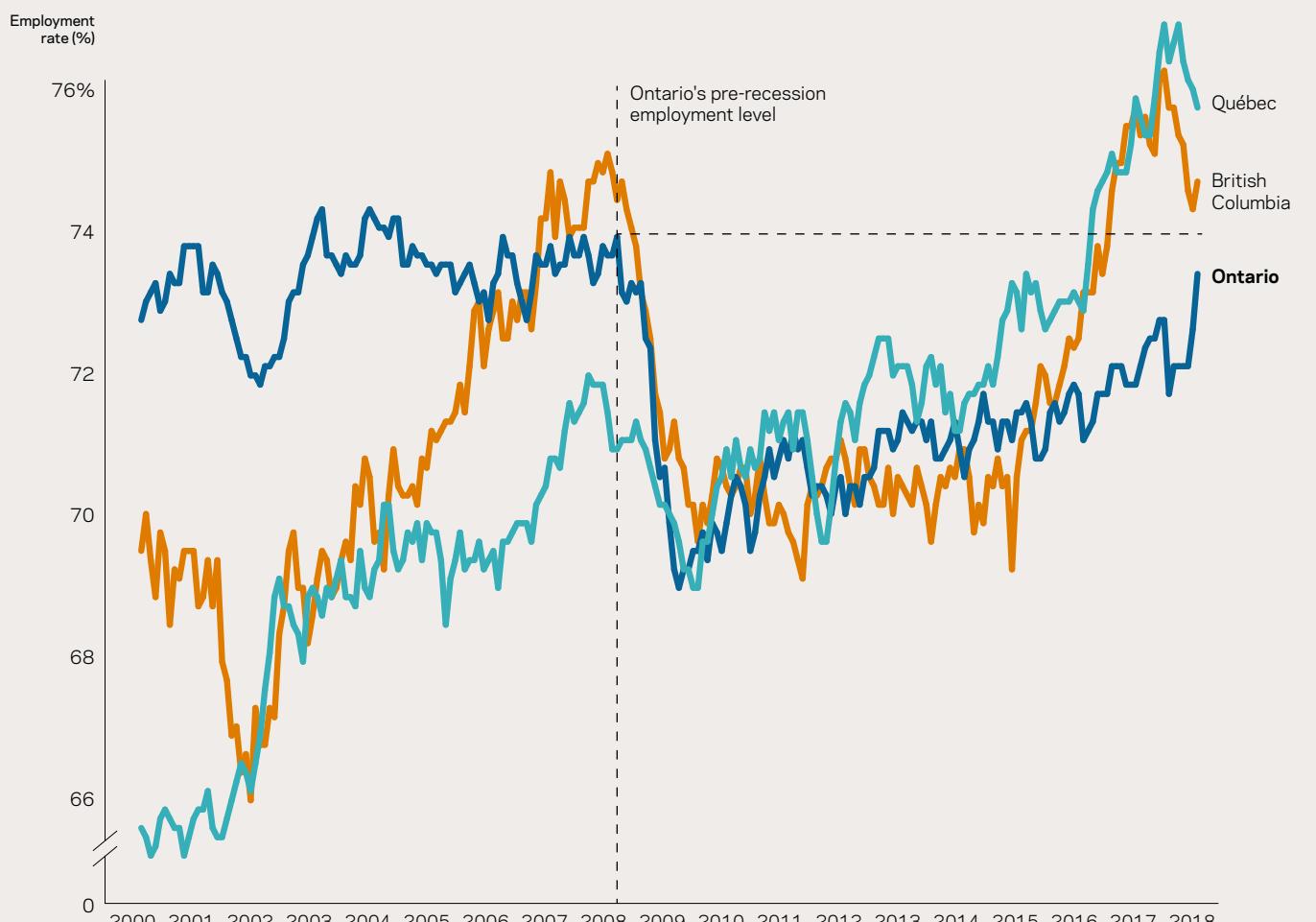
Prior to the recession, Ontario had a moderate unemployment rate of just above six percent, which jumped to 9.7 percent in June 2009. The unemployment rate recovered far more slowly than GDP, only returning to pre-recession levels in April 2017. Compared to its provincial peers, Ontario's recovery was slower than in Québec and quicker than in British Columbia, although the latter has consistently had the lowest unemployment rate among Ontario's provincial peers.

The recovery of the unemployment rate masks an even greater issue facing the provincial economy: Ontarians in the core working-age group who have elected to drop out of the labour force entirely. Having a large portion of the potential workforce not engaged in productive activity reduces total economic output, increases the strain on government

programs through increased demand, reduces tax revenues that fund government programs, and may have a long-term social and economic impact on the province.

Examining the employment rate in conjunction with the unemployment rate reveals a more comprehensive picture. The employment rate measures how many working-age people are employed, while the unemployment rate measures how many people without jobs are looking for work.⁵ Those who are not searching for a job are not counted in the unemployment numbers. Ontario's employment rate for its core working-age population remains below pre-recession levels (Exhibit 6). Therefore, even while the unemployment rate has recovered from the Great Recession, the employment rate has not, indicating a large number of Ontarians who are no longer

EXHIBIT 6 Employment rate (15-64), Ontario and provincial peers, 2000-July 2018 (monthly)



Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada Table 14-10-0287-01.

looking for work or are now ‘retired’ (often because after a lengthy work search they stopped seeking employment). If these individuals decide to return to the workforce, their prolonged absence would create barriers to re-entry, such as gaps in employment history, outdated qualifications, and loss of professional connections.⁶ Extended detachment from the labour force can also result in lower earnings at a new job.⁷ This permanent displacement is a drag on the economy. Ensuring that Ontario’s working-age population returns to the workforce should continue to be a top priority for policy makers.

In 2017, Ontario’s peers significantly improved their utilization rates by 2.1 percentage points from 2016. Ontario’s inability to bring more working-age individuals back to the workforce at the same rate as its peers during this period cost each Ontarian an estimated \$900 of GDP.

Intensity

Intensity captures how many hours the average employee in an economy works per year. Ontario’s work intensity declined between 2000 and 2017, with a pronounced dip during the recession. This can be partially explained by a reduction of available hours and a shift to part-time work for some.⁸ The downward trend since 2000, however, is more concerning for the economy. Fewer hours worked by each individual means less value created, and subsequently, less prosperity. While additional hours worked is not the goal of society – fewer hours worked leaves more time for leisure – there has not been enough growth in productivity to sustain the loss in work intensity. Following the Great Recession, the average number of hours worked per year between 2010 and 2017 was 1,738 hours, significantly lower than the 2000 to 2007 average of 1,790 hours. A decline of 52 hours per worker may not appear significant but, when applied across seven million workers, removes substantial value from the economy.

Productivity

Productivity is the final component of prosperity, capturing how much economic output can be attributed to one hour of human labour. Output increases as workers become more efficient through experience, improved technology, and increased capital investments. Greater output with the same or fewer inputs translates over time into increased economic competitiveness and greater prosperity for Ontario.

Output per hour worked has grown consistently since 2000. In 2000, the average Ontarian produced \$57.60 for each hour worked, which grew to \$66.91 per hour in 2017 – a real increase of 16.2 percent – but still behind all peer jurisdictions

other than Québec. Productivity growth has outpaced growth in prosperity, which only increased by 10 percent over the same period.⁶

Low productivity demonstrates a lack of competitiveness, and conveys that institutions, regulations, and technologies may be holding Ontario back from creating more value. It can also be a symptom of many failures within the economy, or an issue with a trickle-down impact affecting multiple areas. An economy’s failure to capitalize on innovation can result in a loss of competitive advantage in trade, the inability to scale-up small firms, and a reduction in the likelihood of foreign interest in investment.

Diagnosing Ontario’s continued productivity gap

While age profile, utilization, and intensity have all followed the peer median or given Ontario an advantage, Ontario’s productivity gap persists. This is due in part to a shortfall in innovation. Productivity can improve in a number of ways, but in today’s knowledge economy, innovation is what sets firms and regions apart. Innovation is also intimately linked to trade. When a firm becomes more innovative by producing more value-added products and services, or efficiently offering goods and services at a lower price, the firm is also more likely to export. Accessing more global markets introduces the firm to more sophisticated customers who demand more innovative products and services, which creates a virtuous cycle of innovation, leading to more trade. Access to global markets also exposes Canadian companies to increased competition, which can lead to greater productivity among high quality firms, but losses in lower quality firms.

Therefore, the Panel sought to understand the reasons for Ontario’s poor productivity performance by looking at innovation, trade, and foreign direct investment, with an eye towards spurring productivity and growth.

Ontario needs to increase innovation to close the prosperity gap

Innovation is a key aspect of productivity growth, and is considered by some as the only way to advance productivity.⁹ Innovation encompasses invention as well as iterative advancements in processes, operations, and services. If Ontario can utilize its talent to out-innovate other jurisdictions, it has the potential to increase its share in global markets, increasing overall output and, in turn, prosperity. The Institute’s Working Paper 31, *The Final Leg: How Ontario Can Win the Innovation Race*, outlines the ways in which innovation is more than coming up with a good idea.

Innovation also requires later-stage research, the development of new products or new production processes, followed by commercialized roll-out to market.¹⁰ When all three stages of the innovation process are successfully executed, Ontario-created ideas will have maximum economic impact.

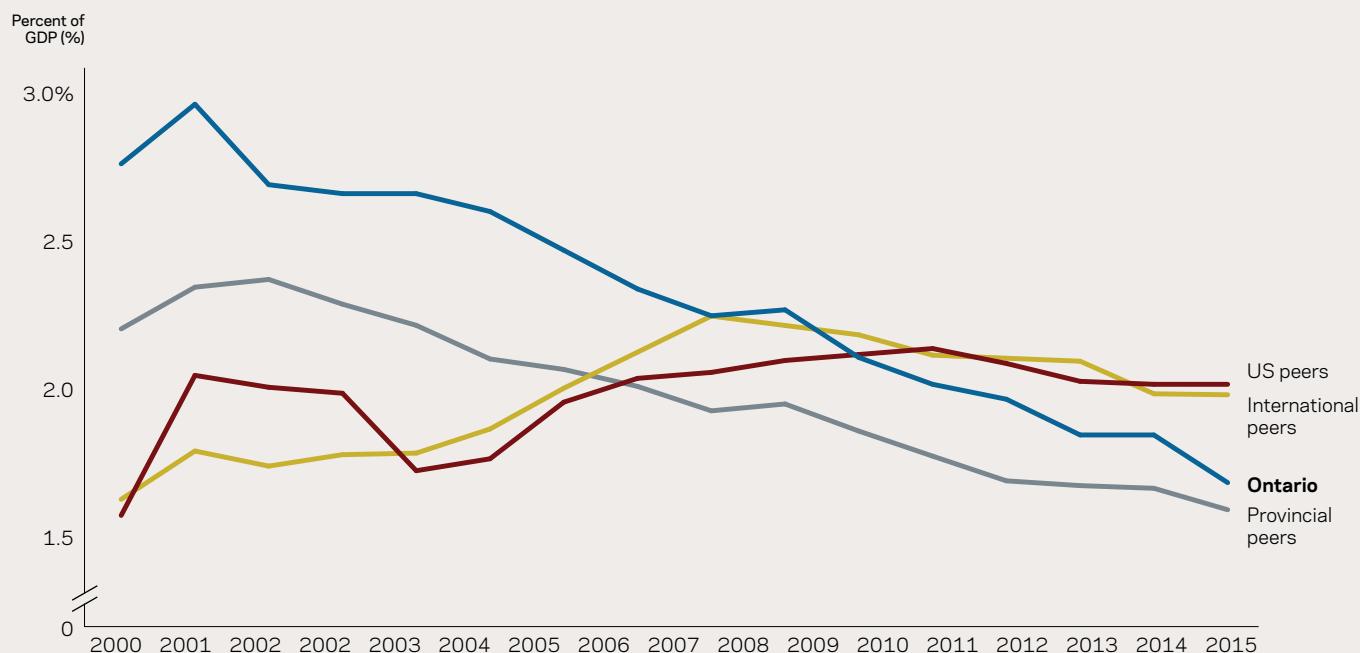
Ontario suffers mainly from a commercialization gap: funding flows to discovery and basic research, and businesses invest in large-scale production, but in between there is a lack of funding at the applied research and proof of concept development stages.¹¹ This funding is required so that the private sector can actualize technologies into production processes, and bring new products to market.¹² Until there is funding for the middle of this technological development cycle, too many of Ontario's innovations will remain stuck in the "innovation valley of death."¹³

The level of innovative activity in an economy is difficult to measure, given its abstract nature. Two proxy variables attempt to measure the level of innovation in Ontario against its peers: Research and development (R&D) expenditures are a proxy for inputs, while patent filings attempt to measure the output of the innovation process.

Research and development expenditures. Economic growth driven by innovative advancements in product, service, process, or business models is closely tied to expenditures in R&D. While R&D expenditures do not fully encapsulate all aspects of innovative advancements, they still provide valuable insight.

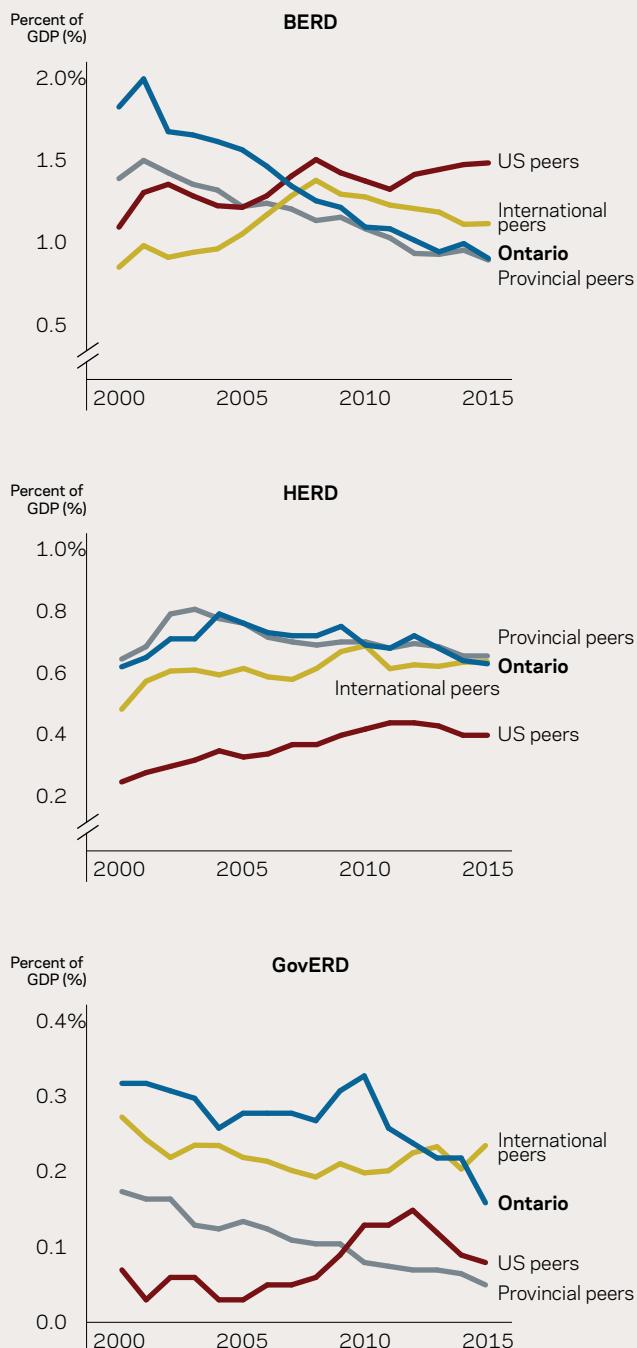
The resources that businesses dedicate to innovation can be approximated by the portion of a region's GDP spent on R&D activities: regions that dedicate a greater portion of available resources toward R&D prioritize innovation. In Ontario, the portion of GDP spent on R&D has been steadily declining since 2001, while in the US and internationally, Ontario's peers have increased their GDP-weighted expenditures over the same period (Exhibit 7). This worrying trend suggests Ontario is not investing in fully developing its innovation potential.

EXHIBIT 7 Gross expenditures on research & development (GERD) as a percentage of GDP, Ontario and peers, 2000-2015



Note: GERD includes business (BERD), government (GovERD), and higher education (HERD) expenditures on R&D.
Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada Table 27-10-0273-01 and National Science Foundation National Patterns of R&D Resources 2000-2015.

EXHIBIT 8 R&D expenditures by performing sector: business (BERD), higher education (HERD), and government (GovERD) as a percentage of GDP, Ontario and peers, 2000-2015



Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada Table 27-10-0273-01, and National Science Foundation National Patterns of R&D Resources 2000-2015.

Gross expenditures on research and development (GERD) is primarily performed by three types of actors: businesses (BERD), higher educational institutions (HERD), and government organizations (GovERD). Of these three performers, Ontario's ranking compared to its peers in private sector or business R&D continues to lag the other two (Exhibit 8).

The share of GDP spent on higher education R&D has remained relatively constant, hovering between 0.6 and 0.8 percent of GDP between 2000 and 2015. Ontario ranks highly amongst its peers in this regard, trailing only Québec and Sweden during most years.

Government expenditures on R&D also rank favourably, although the trajectory turned downwards after a positive bump during the recession. The uptick in 2009 and 2010 is due to increased GovERD as well as a decline in GDP. Governments have the ability to continue spending even during a time of contraction, and are expected to inject cash into a faltering economy to fuel a recovery. Of note, Tennessee has seen substantial growth in its GovERD, which grew from 0.22 percent of GDP in 2000 to a peak of 0.66 percent in 2010, double the next highest peer.

The private sector, which should be the driving force behind R&D activity, appears instead to be the root of Ontario's R&D problem. Ontario's BERD as a share of GDP was halved between 2000 and 2015, placing it fourth-last among all peers. Only British Columbia, Ohio, and Tennessee conduct a smaller share of R&D at the firm level.¹⁴

Without significant private sector contributions to R&D and other innovative activities, Ontario's economy will continue to fall behind global competitors making the investments necessary to advance their industries. Three factors are often cited for Ontario's low level of BERD: the province's status as a branch plant economy; complacent industry leaders and a risk averse population; and crowding out by other conductors of R&D.

In 2016, eight of the 25 biggest R&D conductors in Canada were foreign subsidiaries.¹⁵ Outside of banking and automotive parts manufacturing, there are relatively few multinational enterprises headquartered in Ontario. Instead, the province's economy comprises primarily small- and medium-sized firms, and subsidiaries of large foreign-owned and foreign-controlled enterprises. These large companies access Ontario's talent pool for production at branch plants, but mostly opt out of conducting R&D activities, or making important business decisions in Canada. Instead, both are often done at the company's foreign headquarters.

The second part of the problem lies in business decisions made by the leaders of Ontario's firms. Leaders often do not see the business case for allocating a greater portion of their revenue to innovation activities. It has been hypothesized that Canadian firms underinvest in capital and R&D due to lower levels of domestic competition, especially when compared to US or international jurisdictions.¹⁶ This is substantiated by the World Economic Forum ranking Canada 34th out of 137 countries in intensity of local competition, substantially behind its peers including the United States (6th), the Netherlands (7th), Australia (8th), and Sweden (25th).¹⁷

Finally, it is unlikely that business R&D is being crowded out by higher education institutions or the government for a variety of reasons. First, R&D activity has been in decline and is currently at its lowest level in 15 years. It is less likely for crowding out to occur during a period of low R&D activity, as the economy has previously demonstrated a capacity for higher levels. Second, higher education and government funding have both remained stable throughout this decline rather than growing and displacing BERD. Additionally, firms are not offloading a significant portion of their R&D activities to other sectors such as higher education, as they still conduct 92 percent of their R&D themselves.¹⁸ Finally, the growth in BERD in other jurisdictions suggests that profitable innovative activities that cannot be crowded out domestically exist in global markets.¹⁹

Patents. Patent filings represent the output of innovative activity culminating in a useful product or idea that requires protection from competitors. Alone, patent filings are an incomplete measure, as there are many innovative products, processes, and techniques which do not require patenting. Patenting also fails to recognize innovative efforts which do not culminate in a singular invention, but advance the pool of knowledge. Yet given the absence of more complete measures of the number and value of these innovative efforts, patents are a useful and common proxy for innovation.

Ontario performs well in patents filed with the United States Patent and Trademark Office (USPTO), after controlling for population size by observing the number of patents per million people. In 2015, Ontario filed 353 patents per million residents with the USPTO, approximately the same amount as the 351 filed by the median of its US peers, and more than filed by either British Columbia or Québec. Despite low levels of the input of innovation (R&D), Ontario produces a substantial amount of patents, the output measure of innovation. If Ontario can align its entire innovation pipeline, it will be well situated in the ever more innovative global economy.

Ontario's narrow trade portfolio impacts its competitiveness

Accessing the global economy not only requires innovation, but trade. Ontario is the economic engine of Canada, contributing 38.6 percent of national GDP and 40.2 percent of international exports in 2017.²⁰ This status can be attributed to strong specialization in the domestically-focused services sector and the export-oriented manufacturing sector. From 2000 to 2017, 98.2 percent of Ontario's increase in GDP was derived from the services sector, which in 2017 represented 76.7 percent of the provincial economy.²¹ However, the goods-producing sector, which has not grown since 2000, produces 80.1 percent of the province's total exports.²² Thus, while comparative advantages are capitalized upon domestically through services, the smaller goods-producing sector makes up the bulk of exports.

Ontario has the potential to continue to strengthen its goods-producing sector through advanced manufacturing. Taking advantage of the growing importance of services to the provincial economy by increasing service exports is also a necessary step to increase GDP and remain internationally competitive.

Interprovincial trade opportunities. Ontario can enhance its prosperity by increasing exports to other provinces. In 2017, Ontario underperformed compared to the rest of the provinces in interprovincial exports to GDP; that is, the ratio of the value of goods exported from one province to the rest of Canada in relation to the size of the exporter's economy. For Ontario, interprovincial trade is just 4.9 percent of the province's GDP – the lowest of any province, and less than half the Canadian average of 11.3 percent. Saskatchewan, in comparison, has interprovincial and international trade representing 13.9 and 37.6 percent of its economy respectively. There is great potential for export-oriented policies to increase the goods and services traded with other provinces, which can in turn bolster prosperity.

Diversification of markets and traded goods and services.

The scope of Ontario's trading partners is shallow. The United States exports less than 20 percent of its goods to Canada, its largest export market. Ontario has well-established trade networks that are nonetheless too concentrated on exporting goods to a select few jurisdictions. Eighty-two percent of all internationally exported goods in 2017 went to the US, with half of these going to only three states (Exhibit 9).²³ The province's most important trading partners are those geographically close to the Great Lakes basin, as well as Texas and California. Ontario needs to diversify its trading partners to better weather averse global and regional trends and events.²⁴

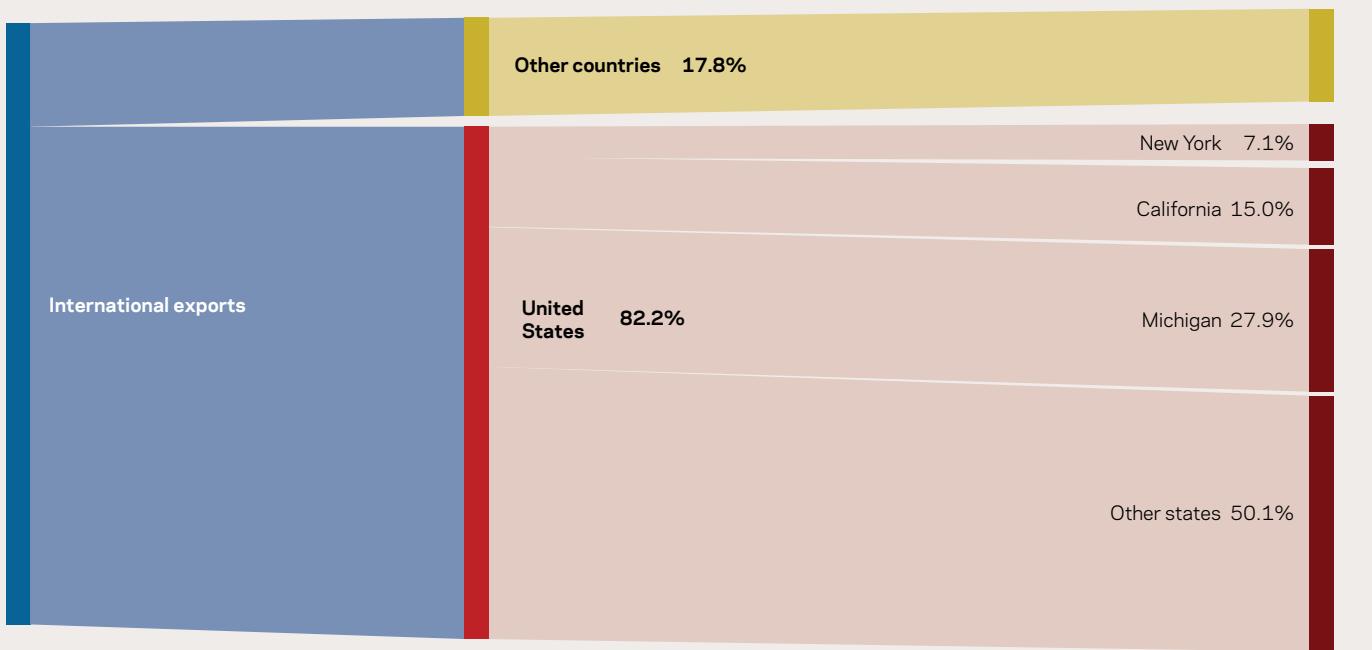
Global economic growth trends also justify the need to diversify exports amongst new trading partners. Emerging markets in Asia have been gaining momentum in driving global economic growth since the 1990s, increasing global growth share from 31.8 percent to 50.6 percent this decade. The US's global growth share, on the other hand, has been in decline from a height of 31.5 to 16.6 percent during the same time frame.²⁵ Exacerbating the issue, Canada has been losing share in the US market to other countries. Trade policy needs



When a firm becomes more innovative by producing more value-added products and services, or efficiently offering goods and services at a lower price, the firm is also more likely to export. Accessing more global markets introduces the firm to more sophisticated customers who demand more innovative products and services, which creates a virtuous cycle of innovation, leading to more trade.



EXHIBIT 9 Destination of international goods exported by largest markets, Ontario, 2017



Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada Trade Data Online.

to emphasize growing Ontario's economy in line with global trends, capturing growing shares in growing market economies rather than losing shares in economies that are also losing shares globally.

In terms of product diversification and eventual geographic destination, Ontario ranks below the Canadian average: its exports are too concentrated and too few in scope. According to the Herfindahl-Hirschman index (HHI), which indicates the concentration of a jurisdiction's exports in terms of product types and geographic destination, Canadian scores for product diversification have consistently been below 0.15. Concentration in terms of export destination has performed less well, scoring between 0.57 and 0.75 over the last 15 years. The province's exports have recently improved, scoring 0.17 in diversification in 2016, and a geographic destination score of 0.69, but still show an overconcentration (Exhibit 10).

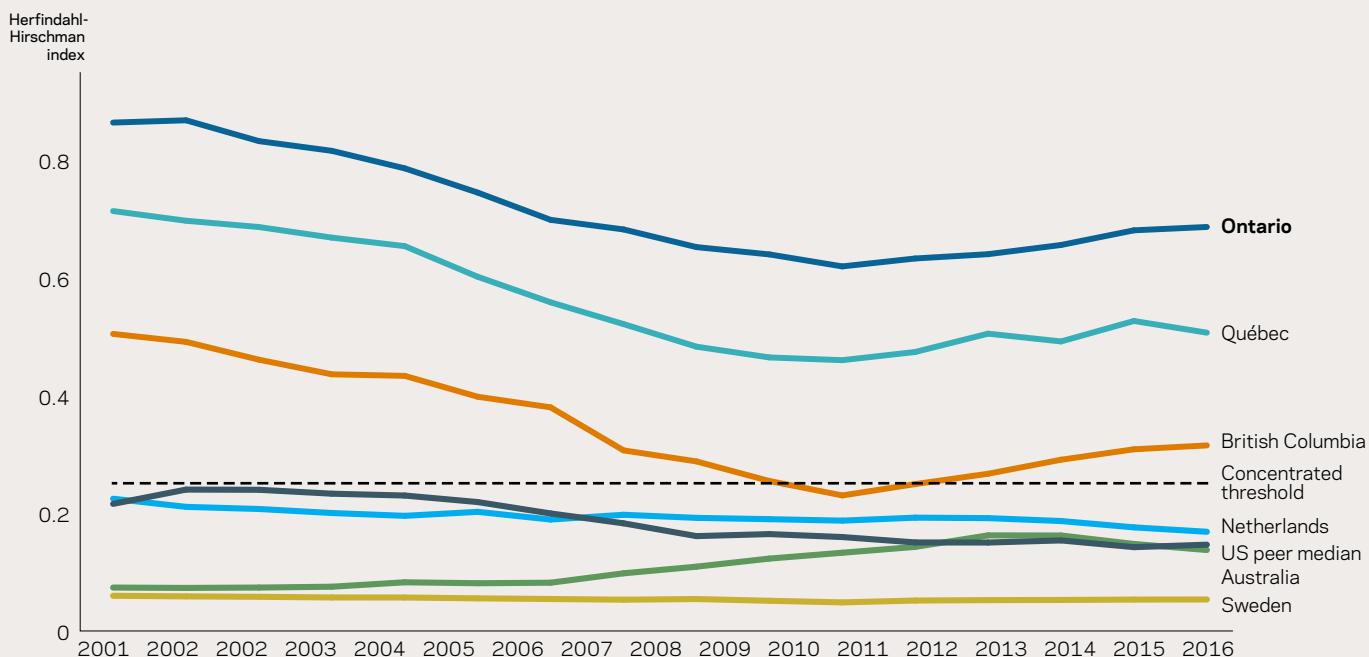
European peers have a geographic proximity advantage of being economically and physically close to the European Union. Likewise, Australia's main export markets are a diversified set of large and developing economies in the Pacific.²⁶ US peer states most closely resemble Ontario's

export portfolio, with Canada, Mexico, and China its largest trading partners. A significant difference, however, is that these peers have a more balanced export market than Ontario, and are thus less reliant on a single country.

A lack of diversified markets is cause for concern for several reasons. Low export levels are, in part, a consequence of firms' inability to export due to size. As indicated in the Institute's Working Paper 23, *A Place to Grow: Scaling Up Ontario's Firms*, there is a certain timidity in growing businesses: 97.7 percent of businesses in the province are considered "small."²⁷ Since larger firms export more than smaller ones, emphasis should be placed on scaling small and medium-sized enterprises (SMEs) into large, value-adding firms able to actively compete in domestic and international markets.²⁸

In addition to too few export markets, Ontario is hampered by having too few exported goods. A single four-digit Harmonized Commodity Description and Coding System (HS) code within the manufacturing sector, indicating motor vehicles for passenger transport, accounted for 24.2 percent of Ontario's goods exports in 2017.²⁹ British Columbia and Québec also have dominant industries; however, these

EXHIBIT 10 Herfindahl-Hirschman index, destination market of exported goods, Ontario and peers, 2001-2016



Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada Trade Data Online, the US Department of Commerce Trade Policy Information System, and the World Bank World Integrated Trade Solution database.

provinces are not concentrated to the same degree as in Ontario. By comparison, Michigan's top export by HS code, motor vehicle parts, is 19.0 percent of its total exports, and its largest trading partner, Canada, is 41.6 percent of its export market.³⁰

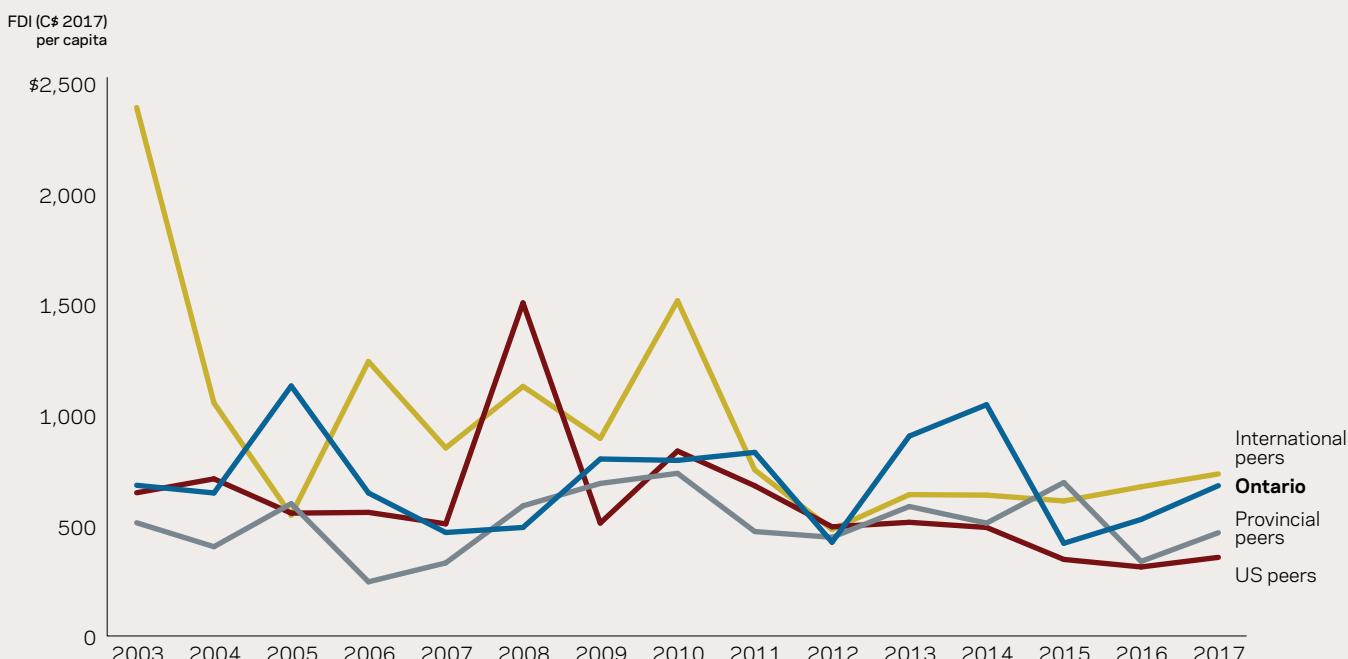
Foreign Direct Investment

Similar to trade, foreign entities provide funds that expand available capital (and often expertise) to drive productivity growth. This is done through foreign direct investment (FDI), defined as capital inflows from a foreign individual or entity into a new or existing company, establishing a significant degree of control over the investee.³¹ This can be accomplished by either investing in an existing company (brown field investment) or by building a new operation (green field investment). Inward FDI is important for Ontario's economy because it helps optimize capital allocation to firms that can benefit the most, and provides exposure to international ideas

and markets. It can also foster specialization within Canadian suppliers that work with the company that receives FDI, thereby increasing productivity, employment, wages, and taxes paid by the company.

Foreign entities that make investments in Ontario have likely conducted substantial research on investment opportunities around the world. They direct capital to projects they believe have the greatest return on investment. For these reasons, jurisdictions around the world vie for international investments to bolster their domestic economies. Ontario performs well on FDI attraction when controlling for population size (Exhibit 11).³² Of note, US peer states are not particularly strong attractors of FDI when controlling for population size. Ontario had double the level of FDI per capita compared to both its US peers, and to the US more broadly, in 2017. Ontario should work to continue attracting FDI in order to maintain this advantage, and further reap the benefits.

EXHIBIT 11 Foreign direct investment (FDI) inflows per capita, Ontario and peers, 2003-2017



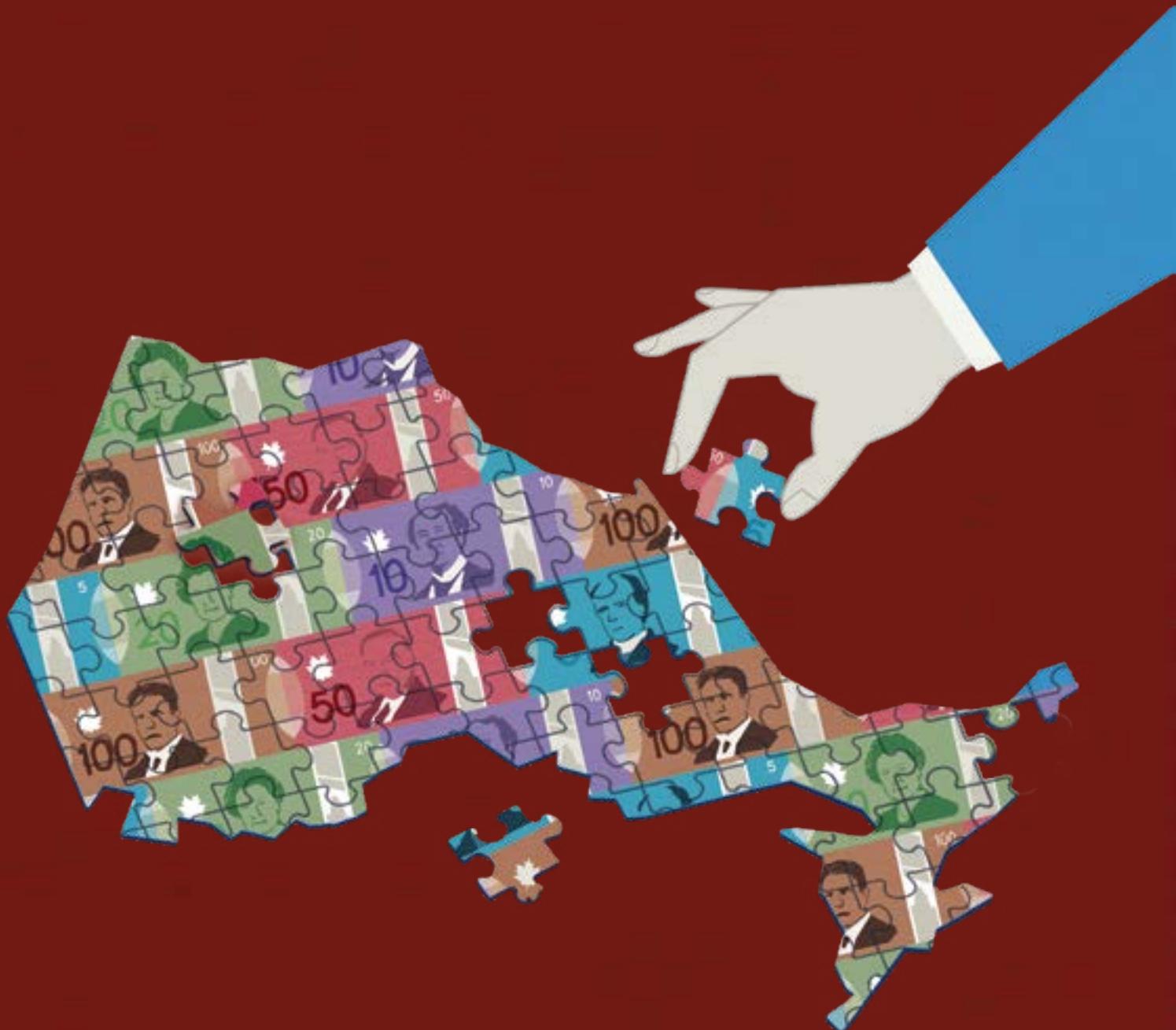
Note: PPP exchange rates are used to convert FDI into 2017 Canadian dollars.
Source: Institute for Competitiveness & Prosperity analysis based on data from FDI Intelligence.

Conversely, Canada's openness to FDI ranked 32nd of 35 among OECD countries in 2017.³³ This means that despite inflows of FDI, Canada needs to remove the barriers that keep foreign investment away. One of these hurdles is the net benefit test – which each FDI deal must pass – that holds foreign investments to a higher standard than domestic ones. To pass the net benefit test, a project is evaluated on six criteria that include the impact on economic activity (employment, resource processing, and exports), participation of Canadians, existing industry and technology, competitive landscape, and global competitiveness.³⁴

Domestic firms, on the other hand, are not held to any of these criteria for either their own operations or for their investments in other firms. In regard to the net benefit test, a reduction in regulatory burden is necessary.³⁵ A screening process that defaults to accepting FDI, rejecting it only in specific cases, would reduce uncertainty and improve Canada's openness to FDI. Otherwise, this net benefit requirement may prove overly burdensome to foreign investors, who may opt to take their money elsewhere rather than navigate regulatory red tape.

Ontario's utilization rate is slightly behind its peers, and poor productivity remains the biggest driver of the province's prosperity gap. Ontario should take the opportunity to build upon its relative strengths to boost productivity growth. Government can accelerate this through targeted policy actions to capitalize on innovation, promote trade across provincial and international borders, and make the economic case for foreign investment. This will help close the prosperity gap, and further improve the well-being and welfare of Ontarians.

Inward FDI is important for Ontario's economy because it helps optimize capital allocation to firms that can benefit the most, and provides exposure to international ideas and markets. It can also foster specialization within Canadian suppliers that work with the company that receives FDI, thereby increasing productivity, employment, wages, and taxes paid by the company.





HOW THE RECESSION IMPACTED THE WELL-BEING OF ONTARIANS

There are several other factors beyond GDP that influence Ontarians' welfare, and these must be taken into account to comprehensively understand the province's post-recession circumstances. Many of these indicators are positive: the median households' net worth has doubled, cities have much more even job growth distribution than in peer jurisdictions, and Ontario's income mobility is among the best in the world. Yet high levels of debt held by government and households is cause for concern, as is expensive housing that is out of reach for many, and may be an insecure foundation for household net worth gains.

THE GREAT RECESSION and the subsequent economic recovery had a significant impact on the well-being of Ontarians. By examining changes in regional economic performance, government and household debt, societal living arrangements, household net worth, and migration patterns, it is possible to assess this impact on Ontarians' everyday lives. By some measures many Ontarians weathered the storm, and even thrived, but other indicators are concerning.

Uneven gains across census divisions

As a whole, Ontario's economic growth has recovered to healthy levels since the recession. Yet, economic gains are increasingly found only in well-populated areas of the province, as capital, labour, and productivity growth favour certain regions over others. Cities are Ontario's engines of growth, and any efforts made to close the prosperity gap must rely on cities, and their strong economic clusters. Policy makers should therefore focus on connecting rural regions to urban centres lest "two Ontarios" emerge – one where the majority of investment, opportunity, and prosperity is in major population centres, including the Greater Toronto Area, while the rest of the province does not reap the full benefits of economic progress.

For instance, 62.4 percent of new employment from 2001 to 2017 was found in Toronto, primarily due to strong gains in sales and service occupations.³⁶ Ottawa is a distant second, capturing 9.7 percent of employment gains, with the strongest gains also from sales and services, followed by education, law and social, and community and government services occupations. The rest of the province – 6.5 million people – share the remaining 25.8 percent, with employment growth mainly in sales and services, followed by health care occupations.

Comparing a city's share of jurisdictional population to its share of employment growth demonstrates how evenly distributed economic gains are. Toronto captured 62.4 percent of Ontario's employment growth, and in 2017 its share of the provincial population was 44.7 percent, meaning that employment growth was in excess of its size by a multiple of 1.4. Among peers, this is the second most evenly distributed employment growth to population ratio, behind only Sydney, Australia (1.1), and well ahead of Madison, Wisconsin (4.0).³⁷ Therefore, while Toronto may be getting a larger share of employment gains with respect to its share of population, job growth remains far more evenly distributed across Ontario than in similar jurisdictions.

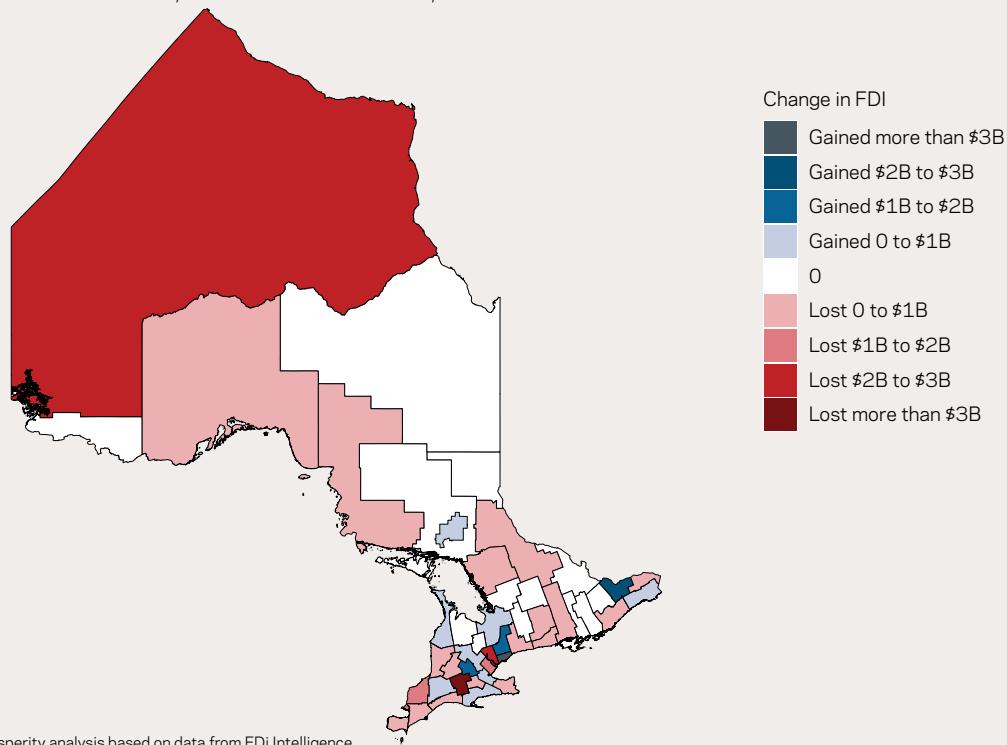
Few regions demonstrate their value to foreign investors post-recession

The mechanisms driving intraprovincial regional disparities are a consequence of competitiveness. Ultimately, Ontario's competitiveness depends on that of the regions that make up the province. Analyzing FDI data across each of Ontario's 49 census division reveals competitiveness issues across many regions.

Total investment inflows have largely remained flat across Ontario due to increasing investments in Toronto, Ottawa, and Kitchener-Waterloo. As investors began withholding their capital during the Great Recession, some regions experienced sharp declines in FDI flows. Fifteen census divisions attracted no investment at all between 2001 and 2017, while 22 had less investment post recession. Only 12 census divisions attracted more FDI in the years following the Great Recession than before. For many Ontarians, this lack of or decrease in FDI across the province suggests competitiveness issues that will stifle future prosperity (Exhibit 12).

The success of some regions over others in attracting FDI can be based on their ability to transform their economic profile to stay in line with economic trends. Since 2000, manufacturing

EXHIBIT 12 Green field FDI before and after 2009, Ontario census divisions, 2003-2009 and 2010-2017



Source: Institute for Competitiveness & Prosperity analysis based on data from FDI Intelligence.

has declined from 21.7 to 11.7 percent of Ontario's economy. Once the largest contributor to the provincial economy, and a main source of foreign investment and economic output in southern Ontario, manufacturing has been supplanted in recent years by real estate, finance, wholesale trade, and professional services. These have all risen dramatically in economic importance, and regions specializing in these industries were able to attract FDI, and better mitigate the effects of the Great Recession. Foresight into provincial, national, and global trends and decisive action can increase the competitiveness of the less well-positioned regions.

Debt

Ontarians have maintained a high standard of living through the Great Recession despite tempered economic growth. This has been accomplished, in part, through debt-fueled spending. Enabled by low interest rates both with households and, government have borrowed extensively to continue enjoying a high quality of life. The bank rate – the rate set by the Bank of Canada at which large banks can borrow – bottomed out in April 2009 at 0.5 percent and remained at or below 1.25 percent until January 2018. With such low interest rates, borrowing money is not necessarily a bad option. However,

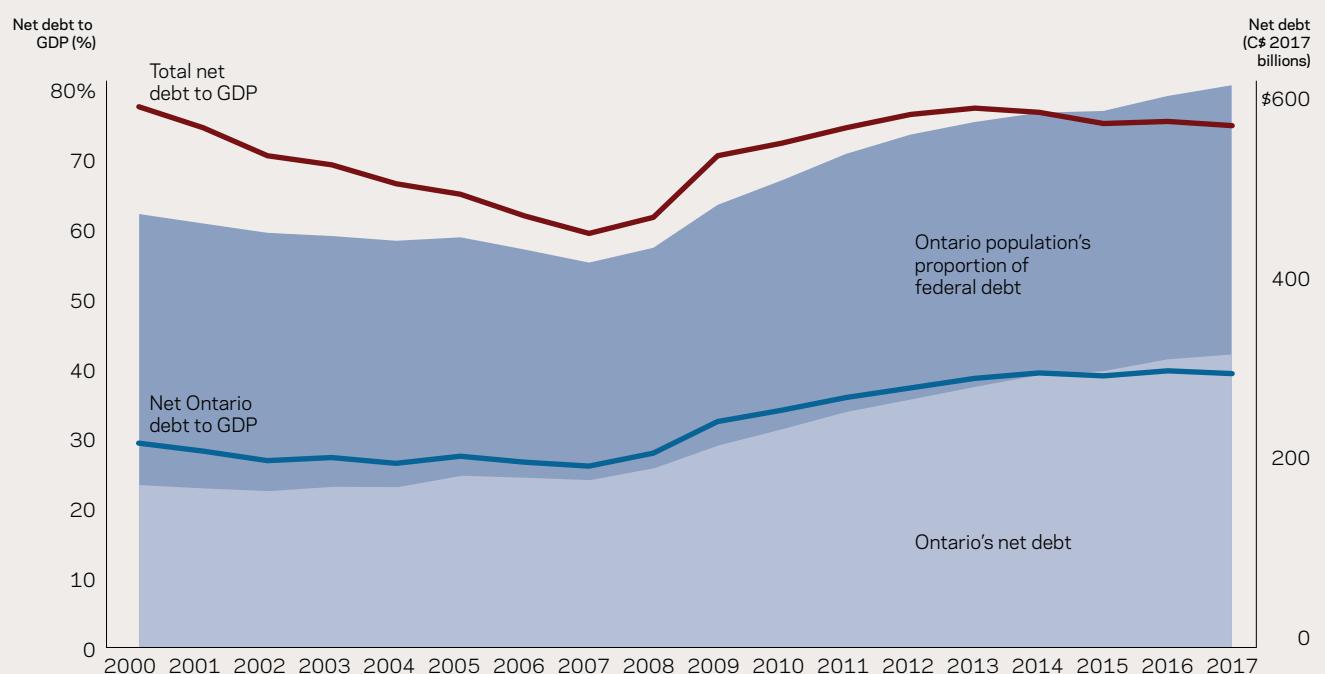
as interest rates rise, outstanding debt will negatively affect both households and Ontario's economy, and interest costs will reduce the services governments can afford to offer.

Government debt

Even after adjusting for inflation, Ontario's government debt has grown by 79.8 percent in the past 17 years. In 2000, provincial debt was \$180 billion (C\$ 2017) (Exhibit 13). The outstanding debt remained relatively level until the recession, when repeated deficit budgets ballooned the debt to \$323 billion as of 2017. This comes during a period where federal debt slightly declined, implying that all the growth in Ontarians' government debt burden stems from provincial borrowing following the Great Recession.

Government debt is a useful tool for stimulating economic growth – especially during a recession – as long as it can be repaid. The ability to service debt and the impact of productive spending can be evaluated by measuring a jurisdiction's debt relative to its economic output: GDP. Ontario's net debt-to-GDP ratio climbed from 29.3 percent in 2000 to 39.2 percent in 2017. Given its rising share of debt to GDP, Ontario's government is now less capable of paying down debt given the province's economic output.

EXHIBIT 13 Federal and provincial contributions to debt, Ontario, 2000-2017



Source: Institute for Competitiveness & Prosperity analysis based on data from Department of Finance Canada Fiscal Reference Tables 2018, and Statistics Canada Tables 36-10-0222-01 and 36-10-0223-01.

In addition to provincial debt, Ontarians are indebted by federal borrowing. The combined provincial and proportional federal debt faced by residents of Ontario grew from \$476 billion in 2000 to \$617 billion in 2017.³⁸ The 2017 outstanding debt amount corresponds to 74.7 percent of Ontario's GDP. While the segment of federal debt that Ontario is responsible for is significant, it actually declined slightly between 2000 and 2017, meaning that all debt growth in Ontario has been driven by provincial spending. Ontario's new government will need to thoughtfully move Ontario back to a more sustainable fiscal stance, balance the budget, and repay outstanding loans. Rising interest rates will make this process increasingly challenging, but will also create motivation to pay off debt sooner, since servicing each dollar of debt will only become more expensive.

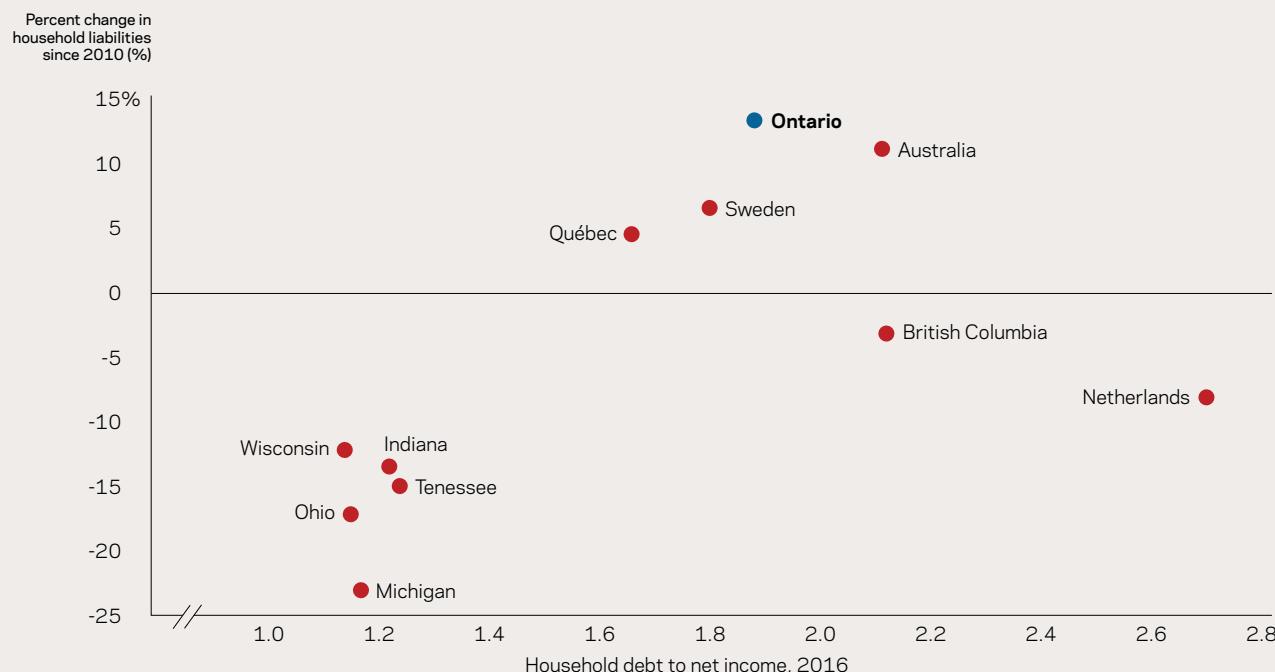
Household debt

Throughout and since the Great Recession, many Ontario households have taken on an ever-increasing debt burden in order to maintain living standards. While this has enabled economic growth, heavily indebted Ontario households are in a precarious position. Ontario's household debt-to-net-income

ratio may be in the middle of the pack compared to its peers, but this debt is the fastest-growing. The ratio of total household liabilities to net income rose by 13.2 percent from 2010 to 2016, causing alarm both nationally and internationally (Exhibit 14).

The rapid growth of household debt in Ontario has been spurred by a combination of swiftly rising real estate prices and prolonged access to cheap credit. Real estate demand has increased as a result of low interest rates, strong population growth, and an increase in speculative real estate investments. In an attempt to restrain demand and reinforce financial stability by increasing the stringency of mortgage borrowing, the federal government implemented three policies post-recession: reducing the maximum mortgage amortization period from 35 to 30 years; decreasing the percentage of their home that borrowers can refinance from 90 to 85 percent; and rescinding government insurance backing on lines of credit secured by homes.

EXHIBIT 14 Household liabilities to net income ratio and percent change since 2010, Ontario and peer jurisdictions, 2010-2016



Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada Tables 36-10-0588-01 and 36-10-0586-01; Bureau of Labour Statistics, Consumer Credit Panel/Equifax, and OECD National Accounts at a Glance.

Despite these efforts, housing demand has continued to increase, pushing up the amount of total outstanding debt in the province. In Q4 2011, there was \$400 billion (C\$ 2017) in outstanding residential mortgage debt issued in Ontario, which rose to \$540 billion by the end of 2017 (Exhibit 15).³⁹ This represents a compounded annual growth rate of 16 percent over six years. By 2017, mortgages made up more than two-thirds of total household debt.

Housing and homeownership

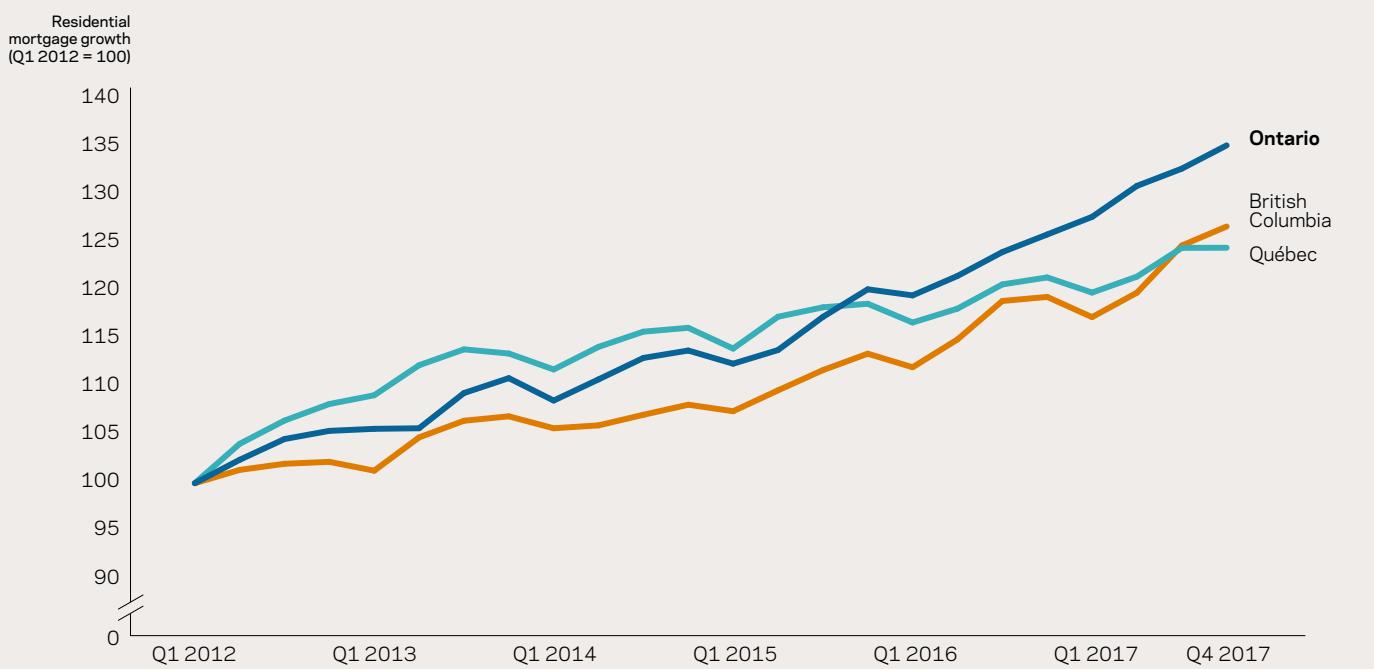
Owning property continues to be an important contributor to a high quality of life and financial well-being. While rising real estate prices greatly benefited those who were able to afford purchasing a home prior to the recession, those left out find it increasingly difficult to enter the market, as housing prices dipped only minimally during the Great Recession. In 2001, the average Toronto house (\$329,000) cost only six times the average annual salary (\$53,200). By 2016, average house prices in Toronto had risen by 122 percent to \$730,000, while average wages fell by 9.5 percent, to \$48,600.⁴⁰ The average home now costs fifteen times the average annual salary.

Social implications of high homeownership costs

As a consequence of the relatively higher cost of purchasing real estate, a growing segment of the population are forgoing homeownership. In 2016, homeownership rates declined for the first time since data collection began in 1971. This rate declined 1.4 percent from 2006 to 2016; based on the number of homeowners and renters that represents 70,000 missing homeownership households. Nearly 23,000 of these “missing” homeownership households are in Toronto. Young adults under the age of 35 are particularly affected by this phenomenon, comprising half of this number. Since 2006, their homeownership rates in Ontario have dropped by 4.7 percentage points, compared to 1.4 percent for the general population.⁴¹

Stagnant or declining youth wages and increasing rental and homeownership costs are forcing many millennials to reconsider their priorities and living arrangements. In 2016, nearly 42.2 percent of Ontarians aged 20 to 34 – some 2.4 million young adults – were living with their parents, up from 35.4 percent in 2001. The issue is even more pronounced in costlier census metropolitan areas (CMAs), such as Toronto and Oshawa, where nearly half (47.4 and 47.2 percent respectively) of all young adults still live with their parents.⁴²

EXHIBIT 15 Growth in outstanding residential mortgages issued by chartered banks, Ontario and provincial peers, 2012-2017 (quarterly)



Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada Tables 10-10-0158-01 and 36-10-0223-01.

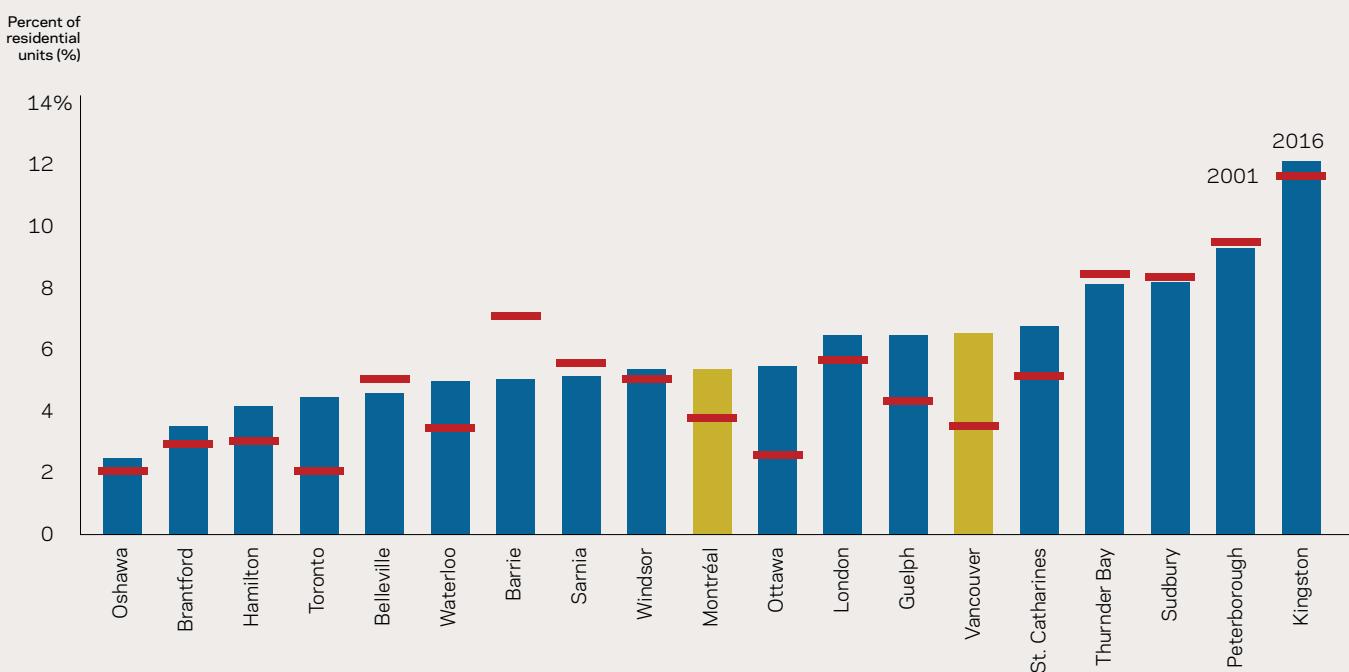
Compared to 2001, this age group is less likely to be living with a spouse or partner, and more likely to be living alone or with roommates, or (as mentioned above) with parents. If the rate of 20- to 34-year-olds living at home had remained constant at 2001 levels over this period, there would be 170,000 more young adults in independent living situations traditionally associated with adulthood. Toronto alone has over 83,000 such adults, and with the exception of Kingston and Sudbury, every CMA has seen an increase in the incidence of youth living with parents.

Although it has become more common for adult children to live with parents, there remain strong aspirations for homeownership that fuel pent-up demand for housing. Realistically, adults cannot live indefinitely with their parents. As the largest of this group, the millennials, begin transitioning into their thirties and forties and develop their personal and professional lives, they will begin establishing their own households. It is estimated that millennial homeownership rates could climb to as high as 60 percent by 2026, creating almost 500,000 new households in the GTHA alone.⁴³

Falling homeownership rates may not necessarily be negative in and of themselves – it is possible that previous rates were too high to sustain. A lower rate of homeownership may ease average household debt. Measures should be taken to mitigate the effects of lower homeownership rates on millennials, who are over-represented in its decline. As mentioned in the Panel's Sixteenth Annual Report, *Strength In Numbers: Targeting Labour Force Participation in Ontario*, an inability or unwillingness to move from home could limit potential career prospects for youth (especially NEETs) who cannot find employment nearby.⁴⁴

It is also possible that this trend will depress youth wages since large pools of young job-seekers will be left to compete for the few jobs in the area where their parents live, rather than moving to areas of the province where they will be most productive. As a result, the labour market will become less efficient, since human capital will not be allocated where it will be used optimally.⁴⁵ As people work toward financial security, typical adult milestones such as marriage and starting a family may also be delayed.

EXHIBIT 16 Residential unit unoccupancy rate, Ontario and select peer CMAs, 2001 and 2016



Note: Waterloo is the Kitchener-Waterloo-Cambridge CMA. St. Catharines is the St. Catharines-Niagara CMA. Ottawa is the Ontario part of the CMA (excludes Gatineau). A residential unit is considered vacant if it remains unoccupied for more than six months per year.

Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada, 2001 and 2016 Censuses.

Adults living in the Greater Toronto Area are able to use multiple public transit services to access high-skilled, high-paying work across the region. Such a luxury does not exist for 900,000 youth across the rest of the province who do not have the option of using public transit to reach employment outside – or even in some cases within – their local labour market.⁴⁶

Unoccupied housing a growing issue in Ontario

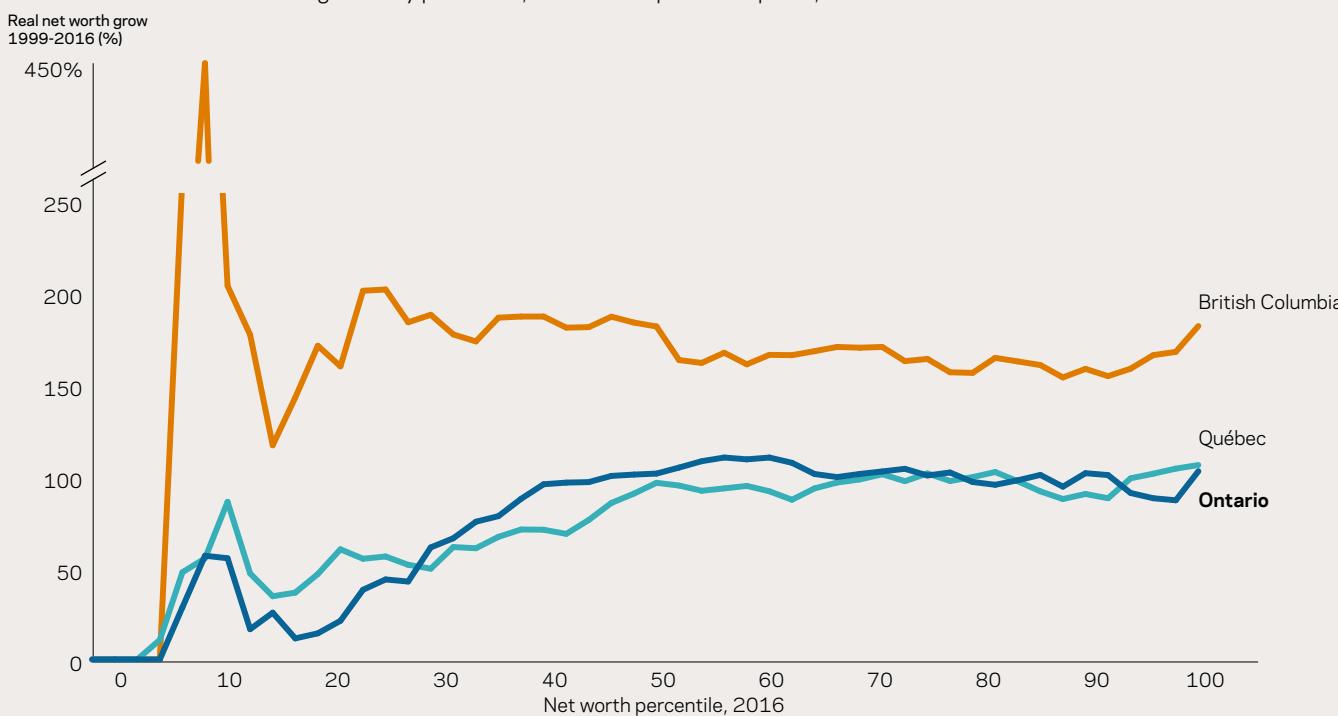
Further exacerbating the issue of housing supply, many jurisdictions in Ontario are grappling with unoccupied housing (units that remain vacant for at least six months a year). Among census metropolitan areas within Ontario, five percent – or 224,000 units – were unoccupied during 2016. Interestingly, while the Toronto CMA had the most vacant homes (99,000) in 2016, this is only 4.4 percent of all homes in the area well below Montréal (5.3 percent) and Vancouver (6.5 percent). The problem is much more pronounced in smaller municipalities, such as Thunder Bay with 8.1 percent of homes unoccupied, Peterborough with 9.2 percent, and Kingston with 12.0 percent (Exhibit 16).

Impact on net worth

Despite lagging productivity, the net worth of Ontario's households has increased between 1999 and 2016, even after accounting for inflation. Median household net worth grew from \$156,000 to \$301,000. This doubling of value at the 50th percentile means that wealth is growing not only for the upper class, but also for households at the median. Interestingly, the wealth of all Ontario households above the 40th percentile in net worth has increased, on average, at a similar rate across this period (Exhibit 17).

British Columbia experienced the largest positive change in net worth across all percentiles. In 1999, households in Ontario were uniformly wealthier when compared to their same percentile peers in British Columbia. As of 2016 this has reversed, and households at the 16th percentile and above now have a higher net worth in British Columbia. Real estate valuations appear to be a major factor in this rapid accumulation of wealth.

EXHIBIT 17 Household net worth growth by percentile, Ontario and provincial peers, 1999-2016



Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada, Survey of Financial Security, 1999 and 2016.

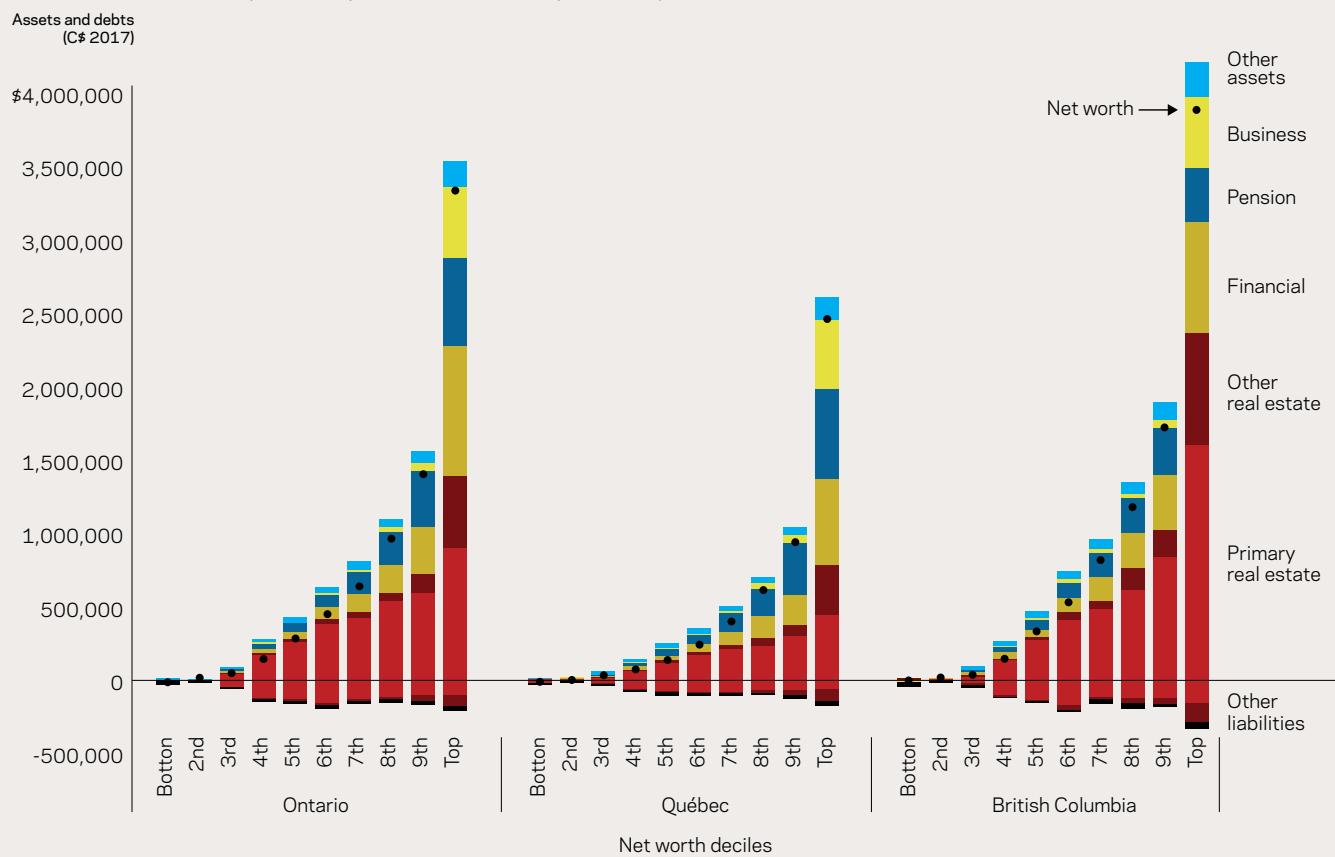
There is also a strong association between net worth and owning a house in Ontario. By 2016, the median net worth of a household in Ontario that owned real estate was \$728,000, up from \$371,000 in 1999. By contrast, the median non-home-owning household saw their net worth decline from \$17,000 to \$15,000 over the same period. While there is likely a strong relationship between owning real estate and net worth, other factors such as household income are likely also at play.

Net worth can be decomposed into its primary asset and debt components. For the majority of Ontario's net worth deciles, the value of the principal residence dwarfs other household assets. This is somewhat offset by the mortgage on the property, the largest source of debt for all decile groups except the bottom tenth, where homeownership is less common. The first and second net worth deciles average a 1.9 and 1.6 percent homeownership rate, respectively. The principal residence is the largest asset for all net worth deciles except for the first, second, and tenth, where it is the second largest.

For the wealthiest decile, financial assets (which include savings and investment accounts) make up the largest asset class, followed by the primary residence. Here, the diminishing marginal utility of more expensive homes becomes clear as families turn to other investment assets to store value and earn higher returns (Exhibit 18). British Columbia's wealthiest decile has substantially more net worth stored in their primary and secondary real estate holding than either Ontario or Québec.

Secondary properties are relatively uncommon and, as expected, are only observed at significant levels for those in the highest net worth deciles. On average, it is primarily the wealthiest families who have the means to invest in a secondary property such as a cottage, vacation home, or rental unit. Interestingly, the majority of secondary real estate holdings are funded by a mortgage before the primary residence mortgage has been paid off, likely explained by the fact that mortgages are usually issued for a fixed length. As incomes

EXHIBIT 18 Net worth composition by decile, Ontario and provincial peers, 2016



Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada, Survey of Financial Security, 2016.

grow and families move into higher net worth brackets, they can more easily finance a secondary property.

The ability to purchase a primary residence increased in virtually every net worth bracket after 1999. Households between the 32nd and 56th percentiles have shown significant gains, with the average rate of homeownership up by nearly 11 percent. Homeownership at higher net worth brackets, where it was already common to own at least one property, saw only marginal gains during this period. Most of these gains occurred prior to the Great Recession, with a levelling-off occurring between 2006 and 2011. Recently, homeownership rates have declined as concerns begin to mount around the ability of Ontarians to afford the associated costs, especially those with lower net worth.

Ontario's strong economy has kept the homeownership rate consistently above both British Columbia and Québec, even after changes during the Great Recession. Québec is the only province of the three where the homeownership rate has increased since 2001, rising from 60.1 to 61.3 percent. Ontario's decline was less than British Columbia's, falling 1.3 percentage points to 69.7 percent, compared to a drop of 1.7 percentage points to 68.0 percent in 2016 respectively.

Despite the Great Recession, the overall net worth of Ontario households has increased since 1999, driven largely by homeownership. Government can help address some of the challenges faced by those who cannot afford a home but generally, as long as mortgage payments continue to be paid, the situation for property-owning Ontarians is positive. Those in search of more affordable housing options may need to search in markets outside of Toronto, leading to greater economic growth in those areas, and significantly greater strain on current transit and transportation infrastructure.

By 2016, the median net worth of a household in Ontario that owned real estate was \$728,000, up from \$371,000 in 1999. By contrast, the median non-homeownning household saw their net worth decline from \$17,000 to \$15,000 over the same period.

Migration and mobility

One of Ontario's defining strengths is strong intergenerational income mobility. On average, a child raised by parents at the poorest percentile in Ontario will be in the 41st percentile as an adult compared to the 40th percentile in British Columbia or the 37th in Québec.⁴⁷ With the exception of some census divisions, this trend is consistent across the province. Children born between 1963 and 1970, growing up in Ontario (especially southern Ontario), had a high likelihood of being better off financially by their 40s than their parents did.

Ontario's success as a place of high income mobility, despite economic challenges, can be attributed to several factors.

Southern Ontario is home to several municipalities, especially in the Greater Toronto Area, that have access to robust economies and therefore well-paying jobs. Northern Ontarians, in comparison, face higher costs involved in relocating to prosperous areas, and consequently have lower income mobility. In addition, the majority of universities and colleges are located in southern Ontario, allowing easier access to higher education. Access to areas of growth and higher education have mitigated the effects of the declining manufacturing industry, and are improving economic outcomes with each generation.

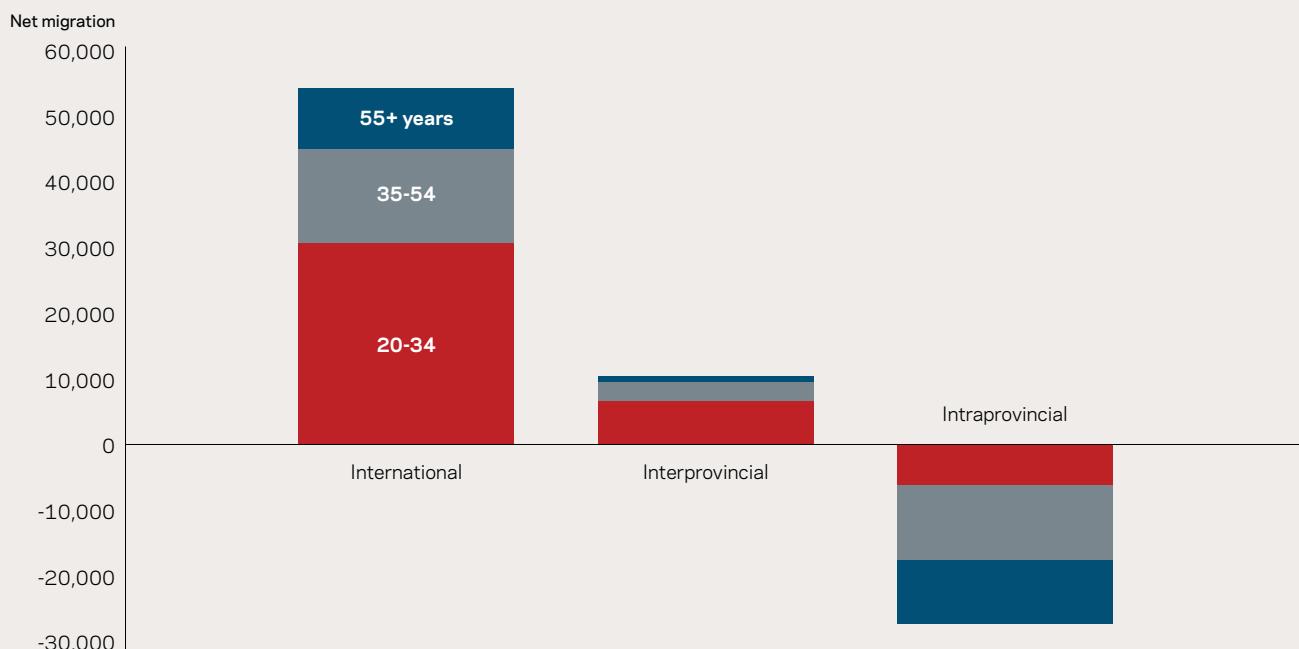
Migration in Ontario

Analyzing the movement of Ontarians across cities gives an indication of their well-being, as they would typically not opt to relocate without expecting an increase in their quality of life. From 2016 to 2017, a total of 64,000 non-Ontarians made the Toronto CMA their new home, 54,000 of whom came from abroad. Thanks in part to Canadian immigration standards, many foreign immigrants possess the skills and talents needed to support Toronto's, and by extension Ontario's, economic growth (Exhibit 19). This is certainly positive as Ontario needs the additional workers, but with rising housing prices, many are choosing to move elsewhere to ensure home ownership and a lower cost of living.

Intraprovincially, most migration is out of large census metropolitan areas and into smaller cities and non-CMAs. Between 2015 and 2016, 32.9 percent of outbound migration, or 79,000 people, was from Toronto alone, compared to 17.4 percent of inbound migration (Exhibit 20). Unfortunately there is little data collected exploring why intraprovincial migrants leave big cities, although a high cost of living is likely a key reason.

The movement of people across Ontario, especially to and from the Greater Toronto Area, is a rational decision motivated by the province's socioeconomic situation. For

EXHIBIT 19 Toronto net migration by region and select age groups, 2016-2017



Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada Table 17-10-0079-01.

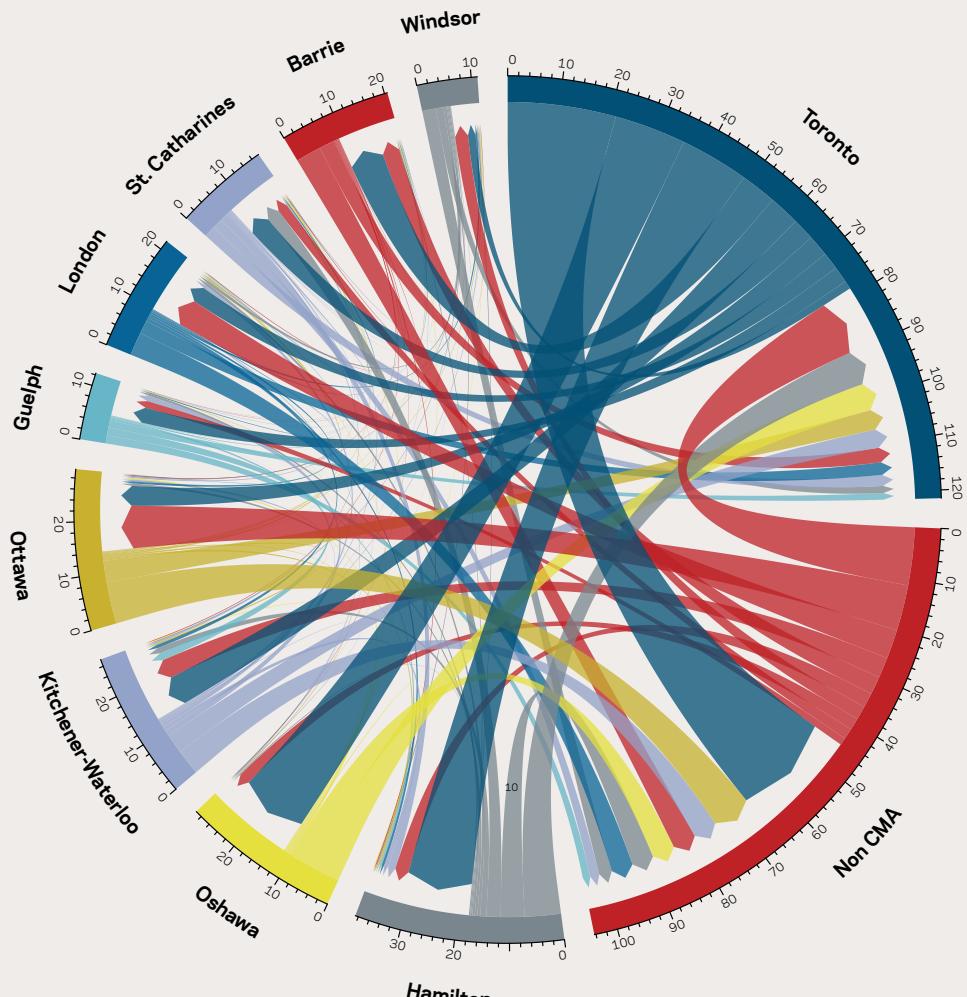
non-Ontarians, the age group most likely to immigrate into the Toronto CMA are youth between the ages of 20 and 34 – the same group whose local counterparts are disadvantaged in the housing and labour markets.

Locals behave differently in this respect than non-Ontarians, despite having the same or better access to services. Before the Great Recession, 20- to 34-year-olds had net positive immigration into Toronto, averaging over 100 people each year. But between 2009 and 2010 that situation reversed, and the Toronto CMA has lost 3,500 youth each year since. Also important to note is that the demographic group most consistently likely to leave the GTA are not youth but those between the ages of 35 to 54, as they tend to settle down and

form families in more affordable communities. This trend has remained consistent over the past 18 years, despite slowing down at the onset of the recession, and in recent years has returned back to early-2000s levels.

Toronto is crucial to Ontario's ongoing and future economic prosperity. It is fast becoming a global city, with increased foreign direct investment and growth. While it is an attractive place to live with an excellent quality of life, there are swaths of people who are moving out of the city in order to buy a home as they begin growing their families. Public policy options that broaden the economic growth beyond Toronto's borders, and make life in and around the province's urban centres more affordable and livable, will need to be explored.

EXHIBIT 20 Intraprovincial migration, Ontario, select CMAs, 2015-2016



Note: Migration numbers represent thousands of individuals.

Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada Table 17-10-0087-01.





RECOMMENDATIONS

It has been ten years since the Great Recession, and Ontario has not yet fully regained its footing to close the prosperity gap. Many Ontarians have fared relatively well from a net worth perspective, likely due to increased real estate prices. However, the economic health of the province may limit their social mobility and ability to pay their mortgages. A strong and thriving economy is critical to continued quality of life of those who live within the province. To ensure the competitiveness of the province and the prosperity of its people, Ontario must take tangible steps now to ensure its trade portfolio remains stable, innovation is encouraged, and social mobility continues to be possible.

FREQUENT READERS OF THE INSTITUTE'S REPORTS will note that some of these recommendations have been put forward in the past. That was a deliberate choice. Our mandate is to recommend sound, impactful, and implementable policy proposals, not merely new ones. Our hope is that three factors – a new government at Queen's Park, a new trade deal with the US and Mexico, and a new protectionist stance from our neighbours to the south – will inspire public and private sector leaders to receive these recommendations with a renewed sense of urgency.

Recommendations to improve Ontario's productivity and prosperity

Sluggish productivity is the cause of the majority of Ontario's prosperity gap as compared to peer jurisdictions. Taking full advantage of trade strengths and opportunities, boosting private sector innovation, and encouraging more FDI are all policies with the potential to improve Ontario's economy.

Increase international exports from the service sector

While services were long regarded as essentially non-tradable across international borders, technological advancements have changed this view.⁴⁸ The Task Force's 14th Annual Report, *Disruptions Ahead: The Making of a Dynamic and Resilient Ontario Economy*, recommended that the province encourage an increase in the export of services in order to be more resilient to technological disruption.⁴⁹

From 2007 to 2014, some service industries have experienced much faster export growth than goods-producing industries: transportation and related services; education services; and health and social assistance services.⁵⁰ However, these industries only represent a fraction of overall exports. The aforementioned industries are prime candidates to diversify exports.

Additionally, focus should be placed on policies that further increase Ontario's goods-producing strength by specializing in advanced manufacturing to differentiate from low-cost competitors. Diversifying the basket of goods and services Ontario can trade has never been more relevant than in the current political climate. Programs from the Ontario Chamber of Commerce and Export Development Canada offer Ontario businesses export assistance for both sectors. Efforts by these institutions should be focused on increasing the breadth of goods and services exported as well as entering markets where Canadian firms can have an absolute advantage.

Finally, Ontario should press for trade agreements that remove barriers and open foreign markets to services that Ontarians can offer.

Facilitate greater interprovincial trade

As the Institute argued in Working Paper 14, *Trade, Innovation, and Prosperity*, export markets and products can be diversified by expanding into other provincial markets within Canada.⁵¹ Provincially-imposed trade barriers and regulations have been an issue for decades; now is the time to begin a new initiative to standardize regulations between provinces. It is estimated that reducing external interprovincial trade costs by 10 percent could increase Ontario's real GDP by 1.8 percent.⁵² The Canadian Free Trade Agreement signed in 2017 is a step in the right direction in liberalizing interprovincial trade, but these efforts must be sustained and expanded for progress to continue.

Additionally, there are gains to be made by better aligning regulations with the reality of the service economy, including implementing policies that reduce trade barriers between provinces, and achieve mutual recognition of product and service standards.⁵³ Within Canada, Ontario has a comparative advantage in communications, finance, business services, and wholesale and retail trade industries that can be leveraged in interprovincial trade.⁵⁴ As other Canadian provinces have demonstrated, Ontario has room for growth in increasing its share of the economy in interprovincial exports.

Increase support for private sector innovation

As discussed in Working Paper 31, *The Final Leg: How Ontario Can Win The Innovation Race*, even when governments fund research, and businesses invest in later stages of product development and large-scale production, there often remains an under-funded “innovation valley of death” that impedes commercialization of early-stage research.⁵⁵ One of the key recommendations the Institute has put forward is the creation of a network of technology and innovation centres (TICs) across Ontario. TICs would allow firms to more easily develop products, earn a place in global supply chains, and make research commercialization processes more cost and time effective. By publicly supporting these organizations with minimal, but stable government funding, TICs would be encouraged to generate revenue through public and private sector contracts. In addition, the Institute has recommended a set of complementary policies to boost innovation, including improving the management of university-produced intellectual property, and increasing the deployment of demand-pull innovation policies (such as “grand challenges” for innovation, where the government holds public contests for SMEs to submit innovative ideas addressing specific issues with which government is grappling).

Reduce regulatory barriers to foreign investors

International investors face significant barriers when making investments in Canada, as it is one of the least open developed countries with respect to FDI, ranking 32nd of 35 OECD countries.⁵⁶ One component of Canada’s low openness to FDI is the net benefit test faced by international investors.⁵⁷ The widely recognized positive impact that FDI has on the receiving economy suggests that a jurisdiction’s position should be to permit FDI, and only reject it based upon a specific set of criteria, rather than defaulting to rejection until it passes a test.

To correct the deficiency in attracting FDI, the federal government should reduce the regulatory barriers and requirements faced by international investors to standards similar to those experienced by domestic firms. In this scenario, control would still remain with Canada’s regulators, who would continue to evaluate investments for antitrust and national security concerns while opening the economy to outside investment.

Data Management

To further understand and provide solutions to the issues facing Ontarians, a much greater amount of high quality data is required. Efforts should be directed toward collecting socioeconomic data not only for census metropolitan areas, but also for smaller census subdivisions and rural communities. This will allow deeper analysis into FDI trends, income disparities, migration patterns, and social mobility. Policies can then be developed to address these issues through, for instance, cluster development, especially in remote regions.

Recommendations to improve the welfare and equity of Ontario

Ontario's biggest cities are the engines of the province's economic growth. However, without intervention, they will move further out of reach for much of the province's talent, due to high costs of living and limited housing. Without adequate transportation to connect our cities, and training to connect people to the labour market, the province's economic progress will stagnate.

Ensure our most economically prosperous regions are affordable

Rising housing prices in Toronto are indicative of the housing situation in many global cities in the world and represent the desire to live in Toronto. High real estate values benefit some while greatly burdening others. Cities across the province and in Toronto especially are dealing with record low vacancy rates, as population increases and demand for housing continues to rise, possibly exacerbated by the phenomenon of unoccupied housing. Speculative buying has also contributed to rising prices. To ensure affordability for Ontarians, action must be taken at the provincial and municipal levels.

Consider policies to boost housing supply

According to census data in 2016, there were over 224,000 homes unoccupied for more than six months of the year, up from 125,000 in 2001, representing five percent of all homes within Ontario's CMAs. Unoccupied residences are an issue in other hot Canadian real estate markets as well. To increase supply in its overheated market, Vancouver in 2016 introduced a one percent tax on homes that remained vacant for more than six months of the year, reinvesting the proceeds in affordable housing initiatives. By following a similar path in taxing vacant homes, Ontario could increase its supply of residential units. Ontario should closely observe and analyze policy responses in other jurisdictions and adapt them to the province's context.

Simplify regulations restricting the construction of new residential units

Toronto and its surrounding areas are over-regulated when it comes to approving new residential projects. Currently, the average approval time is 18 months for a single-family development – seven months longer than Vancouver and surrounding areas, and eight months longer than the Calgary-Edmonton corridor.⁵⁸ Inefficiencies have begun to manifest in the housing market: zoning regulations, development charges, and housing limits in and around southern Ontario's Greenbelt added an estimated \$168,000 to the price buyers pay for a detached single-family home in the Greater Toronto Area between 2007 and 2016.⁵⁹

Fill the “missing middle” in multi-unit residential construction

Municipalities across the province are undergoing urban sprawl as the demand for housing grows.⁶⁰ The Greater Toronto Area no longer has that option due to the Greenbelt preventing further outward expansion. Tall residential buildings are now more prevalent since they make it easier for developers to recoup their investments, but not enough have

been built to address the lack of housing supply. Building more low-rises, townhouses, and other medium-density housing in the yellow belt (residential areas of primarily single family housing,) will help alleviate the housing shortage.

Ensuring Ontarians remain socially mobile

Ontario's high degree of social mobility is created, in part, by poles of growth in southern Ontario, and access to strong higher educational institutions. As described in Working Paper 33, *Teaching for Tomorrow: Building the Necessary Skills Today*, Ontario is the most educated province in Canada, with 59 percent of the working-age population possessing college or university credentials.⁶¹ The combination of easy access to educational institutions and economically-strong regions supports intergenerational income mobility. Ontario's more remote central and northern regions, where intergenerational mobility could be improved, would benefit from infrastructure linking them to nearby regions of higher mobility or tertiary educational institutions.

Clusters can increase economic output while mitigating economic shocks in regions that are economically depressed.⁶² The provincial government should catalyze industry-led cluster organizations, based on regions' location quotients and dominant industries, in order to take advantage of local strengths and labour force skills. For many northern regions, this means supporting various types of mining industries as well as heavy machinery and metal manufacturing. Developing training programs specific to regions' economies can keep the labour market fluid and strengthen clusters through better access to human capital.

Without access to regions of high income mobility, cycles of poverty will prevent families from becoming wealthier across generations. For a child in Ontario born in the bottom income quintile, there is a 28 percent chance that they will remain in the bottom fifth of income earners as an adult. Policies to improve income mobility in economically depressed regions should focus on providing a baseline level of support to the bottom quintile. Other factors that limit intergenerational mobility are, to a lesser extent, low education rates, the prevalence of lone parenthood, and the ability to speak either English or French.⁶³

Increase youth attachment to the labour market by expanding access to work-integrated learning opportunities

The number of not in education, employment, or training (NEET) youth in Ontario grew nearly twice as fast as the total youth population between 2001 and 2016. Rates are

highest for those who have a high school diploma or less, however those with post-secondary credentials were also heavily impacted.⁶⁴ In *Teaching For Tomorrow*, the Institute discussed the importance of ensuring youth are adequately prepared by Ontario's education system to succeed in future labour markets. One way to prepare youth for the future of work, as well as promote attachment to the labour market, is to increase access to work-integrated learning (WIL) opportunities.

At the high school level, WIL can be promoted by encouraging students to explore the trades through the Ontario Youth Apprenticeship Program (OYAP), a school-to-work program that allows youth to work in paid apprenticeship positions beginning in grade 11 or 12. Despite the forecast growth in skilled trades jobs, apprenticeship completions remain significantly lower than registrations, and participation in OYAP enrolment dropped by approximately 4,500 between 2015-16 and 2016-17.

Only 56 percent of university students participated in WIL in 2018, even though employers view it as among the most important sources of relevant experience, and graduates who participate earn more than their peers and have higher full-time employment rates.⁶⁵ By expanding co-ops and placements in social science fields and incentivizing post-secondary institutions to form partnerships that create new accelerated WIL programs (such as Carleton University and Shopify's Dev Degree), more students could have the opportunity to participate in these practical programs that prepare them with transferable skills.⁶⁶

Invest heavily in transit infrastructure

As seen through this report, two things are happening simultaneously: economic growth is concentrated in urban centres, namely Toronto; and there is a migration of working-age people outward from these economically prosperous centres to seek more reasonably priced housing. In order to allow for growth to continue and this migration to make sense, public transit options must be expanded. The government should conduct cost-benefit analyses to determine the most cost-effective solutions to bring public transit connectivity to underserved regions, and increase the capacity of already overburdened transit infrastructure. Failure to do so will have social and economic implications for the province and further hinder Ontario's prosperity.

RECOMMENDATIONS FROM PREVIOUS WORKING PAPERS

Each year, recommendations are made for increasing economic prosperity in Ontario. The following remain outstanding since our last Annual Report. In 2018, the Institute wrote about closing the innovation gap in Ontario, the province's AI potential, and the changes to the educational system that will prepare the labour force of tomorrow.

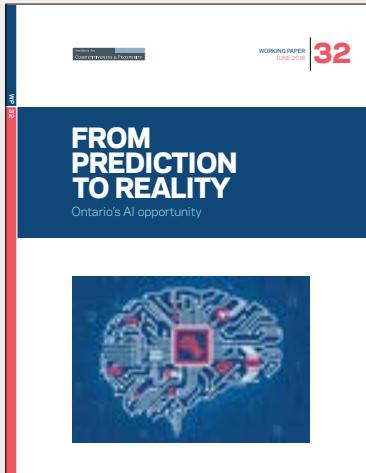


RECOMMENDATION

DEVELOP AN INNOVATION NETWORK THAT CAN CAPITALIZE ON ONTARIO'S STRONG RESEARCH INNOVATION AND CLOSE THE COMMERCIALIZATION GAP.

Ontario needs to bridge the commercialization gap to address the issues faced in lagging innovation. A network of technology and innovation centres modeled after Germany's Fraunhofer Society provides Ontario an opportunity to do just that. Realizing this goal has the potential to transform Ontarian society through higher-paying jobs and better living standards.

*In Working Paper 31, **The Final Leg: How Ontario Can Win the Innovation Race**, the Institute explores how Ontario's innovation performance could be boosted by improving commercialization of research and inventions in the province. The Institute examines best practices in commercialization support from the German Fraunhofer Society, which has successfully bridged the gap between early research and large-scale production known as the 'innovation valley of death.'*



RECOMMENDATION

ESTABLISH AN ENVIRONMENT THAT WILL PROVIDE BUSINESSES THE RESOURCES NEEDED TO BECOME AI LEADERS.

Ontario and Canada are poised to become global leaders in Artificial Intelligence through proper policy initiatives. To achieve this goal, a flexible but sound regulatory framework will need to be created to reduce uncertainty in the private sector. Investments in education, skills, training, research entities, accelerators, and cluster organizations will spur the growth and development of domestic AI firms.

*In Working Paper 32, **From Prediction to Reality: Ontario's AI Opportunity**, the Institute for Competitiveness and Prosperity examines how the benefits of the coming AI revolution can be maximized and what can be done to minimize the disruptions caused by it. Canada and Ontario must make the necessary public investments now, so that Canadian companies can compete in the global AI market, create jobs domestically, and provide opportunities for those who are displaced to find a place in the new economic landscape.*



RECOMMENDATION

REFORM THE EDUCATIONAL SYSTEM AT ALL LEVELS TO ENSURE THAT STUDENTS WILL HAVE THE SKILLS WHICH EMPLOYERS DEMAND IN THE 21ST CENTURY.

Ontario's post-secondary education institutions graduate tens of thousands of workers into the economy each year. However, as the labour market changes, so do employers' expectations of new graduates. Interventions must begin early, starting at elementary school and continuing on through university. By implementing change to the educational systems today, Ontario will ensure its youth have the most sought-after skills needed to succeed in the labour market of tomorrow, fortifying the province's competitiveness and prosperity in a new economic era.

*In Working Paper 33, **Teaching for Tomorrow: Building the Necessary Skills Today**, the Institute examines whether Ontario's education system is able to impart youth with 21st century skills. While talent development is one of Ontario's key strengths, the Institute finds that youth do not have the skills required to thrive in future labour markets.*

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The Institute for Competitiveness & Prosperity

105 St. George Street
Suite 9000
Toronto, Ontario M5S 3E6
Telephone 416 946 7300
Fax 416 946 7606

EXECUTIVE DIRECTOR

Jamison Steeve
416 946 7585
j.steve@compete-prosper.ca

RESEARCH DIRECTOR

Dorinda So
416 946 5325
d.so@compete-prosper.ca

RESEARCH SUPERVISOR

Christopher Mack
416 978 7859
c.mack@compete-prosper.ca

POLICY ANALYSTS

Weseem Ahmed
416 978 7839
w.ahmed@compete-prosper.ca

Margaret Campbell

416 978 7843
m.campbell@compete-prosper.ca

Jacob Greenspon

416 946 5595
j.greenspon@compete-prosper.ca

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