

# COURSE CORRECTION

Charting a new road map  
for Ontario



Task Force on Competitiveness, Productivity  
and Economic Progress

## Task Force on Competitiveness, Productivity and Economic Progress

### CHAIRMAN

#### **Roger L. Martin**

Martin Prosperity Institute,  
Rotman School of Management

### MEMBERS

#### **John Armstrong**

The Capital Markets Company  
Company (CAPCO)

#### **Timothy D. Dattels**

TPG Capital

#### **Lisa de Wilde**

TVOntario

#### **David Folk**

Jefferson Partners

#### **Suzanne Fortier**

McGill University

#### **Gordon J. Homer**

Gordon J. Homer Advisory Services

#### **P. Thomas Jenkins**

OpenText

#### **David Keddie**

National Compressed Air

#### **L. Jacques Ménard, O.C.**

BMO Nesbitt Burns

#### **Mark Mullins**

Veras Inc.

#### **Timothy H. Penner**

#### **Daniel Trefler**

University of Toronto

The Task Force on Competitiveness, Productivity and Economic Progress was announced in the April 2001 Speech from the Throne. Its mandate is to measure and monitor Ontario's competitiveness, productivity, and economic progress compared to other provinces and US states. In the 2004 Budget, the Government asked the Task Force to incorporate innovation and commercialization issues into its mandate. The Task Force reports directly to the public.

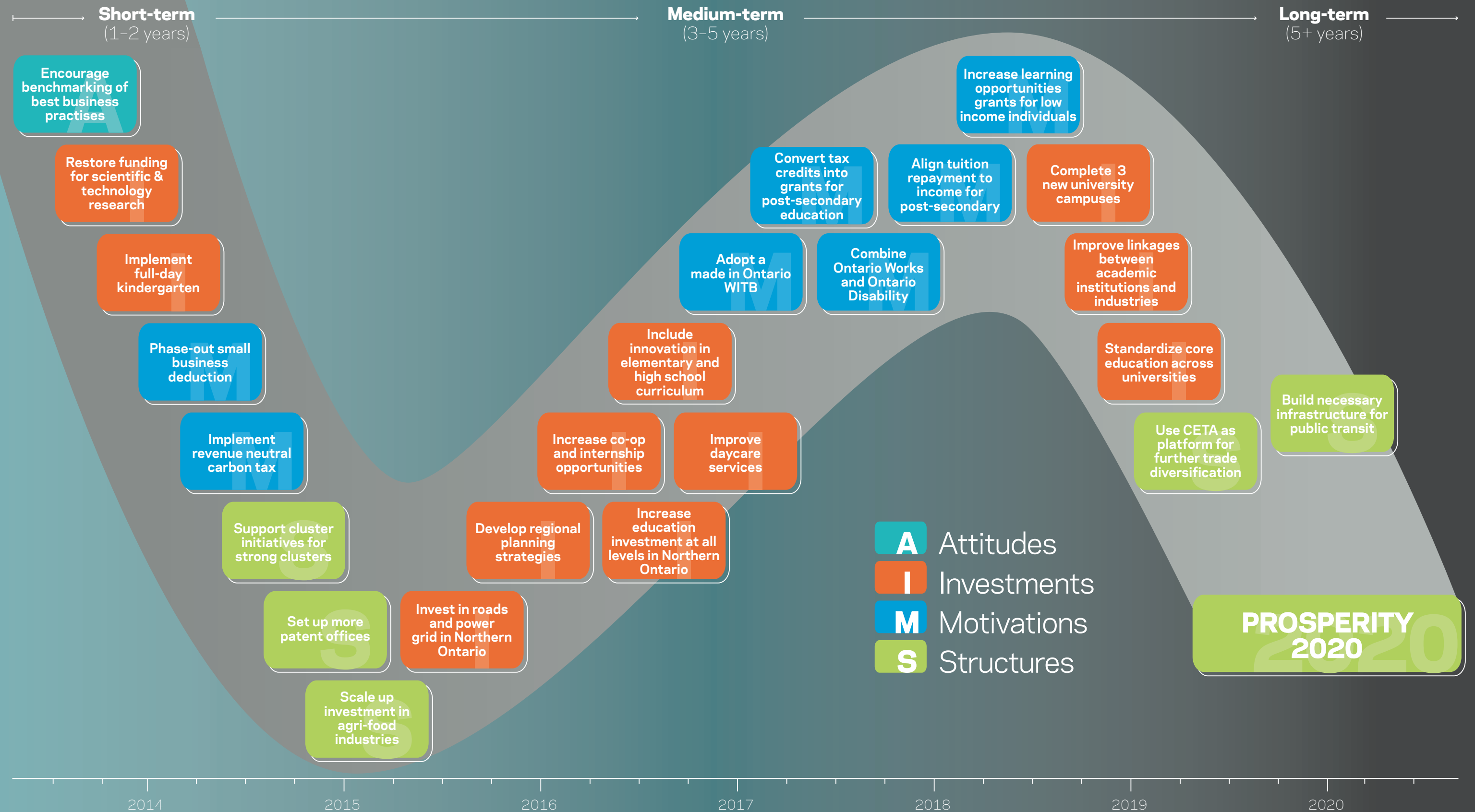
It is the aspiration of the Task Force to have a significant influence in increasing Ontario's competitiveness, productivity, and capacity for innovation. This, we believe, will help ensure continued success in the creation of good jobs, increased prosperity, and a high quality of life for all Ontarians.

The Institute for Competitiveness & Prosperity is an independent not-for-profit organization established in 2001 to serve as the research arm of the Task Force. The Working Papers published by the Institute are primarily intended to inform the work of the Task Force. In addition, they are designed to deepen public understanding of macro and microeconomic factors behind Ontario's economic progress and stimulate debate on a range of issues related to competitiveness and prosperity. Ideas are shifted from concept to action by using a method that demonstrates value along the way.

Comments on this Twelfth Annual Report are encouraged and should be directed to the Institute for Competitiveness & Prosperity. The Task Force and the Institute are funded by the Government of Ontario through the Ministry of Economic Development, Trade and Employment.

Copyright © November 2013  
The Institute for Competitiveness & Prosperity  
ISBN: 978-1-927065-08-2

# ROAD TO PROSPERITY 2020





---

## Exhibits

---

<b>EXHIBIT 1</b>	Ontario's GDP per capita is above the international peer median	13
<b>EXHIBIT 2</b>	Ontario's GDP per capita ranks lower than the North American peers	13
<b>EXHIBIT 3</b>	Ontario's prosperity gap widened slightly in 2012	14
<b>EXHIBIT 4</b>	The Task Force measures four components of prosperity	14
<b>EXHIBIT 5</b>	Lagging productivity and intensity account for most of Ontario's prosperity gap	15
<b>EXHIBIT 6</b>	Ontario continues to have a profile advantage over the North American peer median	16
<b>EXHIBIT 7</b>	The intensity gap between Ontario and the North American peer median persists	16
<b>EXHIBIT 8</b>	Productivity growth derived from enhancing efficiency and value added in products and services	17
<b>EXHIBIT 9</b>	Ontario's poor productivity performance persists	18
<b>EXHIBIT 10</b>	Ontario should still pursue the Prosperity Agenda	19
<b>EXHIBIT 11</b>	Skilled trades face lower unemployment than all other occupations	30
<b>EXHIBIT 12</b>	Less than half of apprentices complete their programs for most trades	31
<b>EXHIBIT 13</b>	Northwestern Ontario is the site of major mining development	35
<b>EXHIBIT 14</b>	Northwestern Ontario faces greater economic challenges than the rest of the province	36
<b>EXHIBIT 15</b>	Labour productivity growth in Canada's manufacturing sector is far behind that of the US	40
<b>EXHIBIT 16</b>	Labour productivity growth in Canada is low in the non-manufacturing sector	40
<b>EXHIBIT 17</b>	The ICT investment gap increased sharply after 1995	41
<b>EXHIBIT 18</b>	High growth in labour productivity matches high growth in US ICT stock	42
<b>EXHIBIT 19</b>	Ontario's communication equipment cluster generates the most patents	43
<b>EXHIBIT 20</b>	Ontario's business enterprises are the most active in patent output in Canada	44
<b>EXHIBIT 21</b>	Canada has reduced the METR on investment dramatically compared to other OECD countries	49
<b>EXHIBIT 22</b>	Support and pressure drive innovation	55
<b>EXHIBIT 23</b>	Manufacturing employment and output growth have decreased more in Ontario than in peer states	56
<b>EXHIBIT 24</b>	Ontario has many strong clusters in its CMAs	58
<b>EXHIBIT 25</b>	Agriculture value added in Ontario has grown more than in most of its peers	60
<b>EXHIBIT 26</b>	Manufacturing value added in food and beverage processing was lower in Ontario than the US peer median	61
<b>EXHIBIT 27</b>	Ontario has a widening trade deficit in agri-food	62
<b>EXHIBIT 28</b>	Ontario's agri-food exports have declined for the US, but grown for developing regions	62
<b>SIDEBAR EXHIBITS</b>		
<b>EXHIBIT A</b>	Immigration to Ontario has declined, especially among economic class	70
<b>EXHIBIT B</b>	Ontario's proportion of immigrants from economic categories is below the Canadian average	71

FOREWORD & ACKNOWLEDGEMENTS	4
<b><u>6</u></b> <b><u>COURSE CORRECTION: CHARTING A NEW ROAD MAP FOR ONTARIO</u></b>	
<b><u>12</u></b> <b><u>ONTARIO'S INNOVATION AND PRODUCTIVITY CONUNDRUM</u></b>	
Ontario's prosperity gap persists	13
Raising productivity continues to be the key to closing Ontario's prosperity gap	15
Achieving the 2020 Prosperity Agenda will be challenging	18
<b><u>20</u></b> <b><u>ATTITUDES: ENCOURAGE AMBITIOUS ACTIONS FROM ONTARIO'S BUSINESS LEADERS</u></b>	
Ontario's business attitudes reflect growing optimism, but hesitant plans	21
<b><u>24</u></b> <b><u>INVESTMENTS: FOCUS ON INVESTMENTS THAT IMPROVE FUTURE PROSPERITY</u></b>	
All levels of education require investment	25
Promoting skilled trades is a pressing public policy issue	29
Ontario's North holds great economic potential	33
Investment in ICT is an important component of economic growth	39
Patents are necessary to close the innovation gap	42
<b><u>46</u></b> <b><u>MOTIVATIONS: INTRODUCE SMART TAX POLICIES TO BOOST ONTARIO'S COMPETITIVENESS</u></b>	
Tax reductions have dramatically increased Ontario's competitiveness	47
Ontario should introduce a revenue-neutral carbon tax	50
Ontario and Canada have taken important steps to reduce poverty in recent years	51
<b><u>54</u></b> <b><u>STRUCTURES: REBALANCE MARKET STRUCTURES TO ASPIRE TO GLOBAL LEADERSHIP</u></b>	
Manufacturers in Ontario face challenges	55
Strong clusters in Ontario drive prosperity	57
Agricultural and agri-food industries should invest in the tools for growth	60
Canada-EU free trade agreement will benefit Ontario	64
Public transportation is a key component of infrastructure investment	64
<b><u>72</u></b> <b><u>HOW CAN ONTARIO CHART A BETTER COURSE FOR ECONOMIC GROWTH?</u></b>	
PREVIOUS PUBLICATIONS	76



**ON BEHALF OF ONTARIO'S TASK FORCE ON COMPETITIVENESS, PRODUCTIVITY AND ECONOMIC PROGRESS**, I am pleased to present our Twelfth Annual Report to the Ontario public. The mandate for the Task Force, and this Report, is to provide government, firms, organizations, and individuals in Ontario with recommendations for increasing competitiveness and prosperity.

This year's Annual Report takes a look back at how Ontario has progressed in achieving the goals set by the Task Force since its creation in 2001. In evaluating progress, the Task Force has come to terms with a highly disconcerting finding: Ontario has not moved in the prosperity ranking of sixteen North American peers. In the latest GDP per capita figures, Ontario surpasses only Québec and Florida and has grown by just 6 percent in real terms since 2002. This has increased the prosperity gap by more than 13 percent from what it was a decade ago. Clearly, Ontario is falling behind its competitors, and it will be a challenge to reach the Task Force's target of being at the North American peer median by 2020. This story is a result of more than a decade of missed opportunities, wasted potential, and complacency on the part of business leaders and policymakers to implement the actions needed to make Ontario more competitive.

The global economy has changed substantially over the last decade ago, yet many of the Task Force's key recommendations have persisted throughout these years. Ontario is simply not doing enough to become more productive and innovative, as reflected by the province's low investment levels in research and development, machinery and equipment, and information and communications technology, despite tax incentives and government support.

These are core shortcomings the Task Force has highlighted in nearly every Annual Report, but other emerging opportunities for growth are not being seized either. Ontario has a strong agriculture and agri-food sector but it needs to scale up operations and increase exports to the European Union, Asian, and South American markets to boost its economic contribution. Northwestern Ontario is on the cusp of one of the biggest Canadian natural resource developments in a century, but needs significant infrastructure and education improvements to be better equipped for economic development.

Ontario also needs to enhance its human capital to fulfill its prosperity potential. Our education system is one of the best in the world, but needs to get better at creating school-to-work pathways for students and instilling the skills graduates require to become innovative and entrepreneurial economic agents. The Task Force recommends some fundamental improvements to the education system. Ontario needs to create a vocational pedagogy that emphasizes career-oriented education, alongside core skills in critical thinking,

---

## The Task Force urges the province to follow our road map to close the prosperity gap.

communication, and problem solving. Educators cannot simply ensure the top students or students of certain disciplines excel; they need to create a system where all students have the tools they need to become well-rounded, forward-thinking, and innovative members of society.

The Ontario government's 2013 Fall Economic Statement is commendable for its focus on infrastructure, possible tax reforms, and investments in human capital. However, rising debt could impact the province's credit rating and interest rates. Furthermore, the fractious nature of the political debate in the province, and the constant threat of an election, lower optimism that a clear economic mission can be pursued. There is always a challenge bringing about positive legislative change in a minority government context, but the Task Force hopes that the parties can work together to build a brighter future for Ontario.

The Task Force, too, must revisit our recommendations and how we communicate them. That is why, in this Report, the Task Force has begun to outline a new road map to close the prosperity gap. Many recommendations will take years to implement, and the benefits may not be seen for several years or even decades. Over the coming year, the Task Force will establish a new target and a new plan for Ontario.

In the interim, the Task Force encourages the province to follow the road map that we have laid out. Too much time has been lost, and many expensive and challenging actions must be taken. The sooner these initiatives are underway, the sooner Ontario can look forward to a more prosperous future. Throughout this Report, the Task Force has highlighted examples of innovation from public and private sector actors that are already working toward attaining the goals set out. Paired with our road map visual, this Annual Report provides the most dynamic and, we hope, influential document yet for how to build a more competitive Ontario economy.

We gratefully acknowledge the research support from the Institute for Competitiveness & Prosperity and the funding support from the Ministry of Economic Development, Trade and Employment. We look forward to sharing and discussing our work and findings with all Ontarians. We welcome your comments and suggestions.



**Roger L. Martin, Chairman**

Task Force on Competitiveness, Productivity and Economic Progress







# COURSE CORRECTION: CHARTING A NEW ROAD MAP FOR ONTARIO

**ONTARIO HAS NOT MADE HEADWAY IN CLOSING ITS PROSPERITY GAP** with its North American peers. In 2012, Ontario's GDP per capita ranked fourteenth among the sixteen North American peers. Ontario added only \$150 to its GDP per capita from its 2011 level, which increased the prosperity gap - the difference in GDP per capita between the North American peer median and Ontario - by more than \$750.

**THIS FINDING REFLECTS A STORY OF COMPLACENCY AND MISSED OPPORTUNITY** for Ontario business leaders and policymakers. Ontario is a long way off from reaching the goal set out by the Task Force of having its GDP per capita at the median of its North American peers by 2020. This Report sets out a number of major shortcomings Ontario must address to close its prosperity gap, but meeting the 2020 target will be challenging.

Ontario has not yet achieved what is needed to drive competition and business growth. As a result, the province continues to lag most of its North American peers in terms of economic output. Productivity growth, especially in manufacturing, pales in comparison with that of the United States. Lower levels of investment persist in productivity-enhancing tools, such as machinery and equipment (M&E) and information and communications technology (ICT). Innovation, as reflected by spending in R&D and patent output, is low.

---

While these problems are longstanding, a number of other issues affecting Ontario's prosperity have emerged. Ontario's scant and deteriorating infrastructure, both in its capital city and in other areas, is hampering economic growth. Public transportation, roads, and railways are not moving goods and people effectively after decades of underinvestment. Amid stubbornly high youth unemployment (16.9 percent in 2012), it is also becoming increasingly apparent that Ontario's education and training systems are insufficiently preparing young people to enter the modern labour market. As a result, many youth are unemployed or underemployed and lack the skills needed to excel in the workforce and jumpstart Ontario's economy.

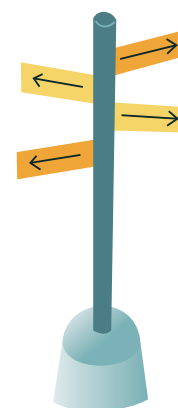
In short, government and business leaders alike have contributed to Ontario's lacklustre economic performance. Now, Ontario must find ways to elevate its economic ambitions.

Last year, the Task Force advocated for a "push for growth" and suggested various key investments and public policy reforms to spur Ontario's economic growth. Yet there has been much more progress on the public policy front than the business front. The Ontario government has taken great steps to foster a competitive business climate and invest in future prosperity. But businesses have not fully taken advantage of the many incentives that have been created to promote growth. This must change.

This year, the Task Force maps out what is needed for Ontario to close the prosperity gap. This Report returns to the Task Force's AIMS framework, which categorizes the factors involved in closing Ontario's prosperity gap into:

- **Attitudes** toward competitiveness, growth, creativity, and global excellence
- **Investments** in human and physical capital
- **Motivations** for hiring, working, and upgrading as a result of tax policies and government fiscal policies and programs
- **Structures** of markets and institutions that encourage and assist upgrading and innovation.

The Task Force has created a comprehensive road map for Ontario to realize its growth potential. Throughout the Report, the Task Force has also identified a number of commendable innovators in various fields that Ontario policymakers and business leaders can learn from to help implement the recommendations. It will likely take many years to reap the benefits of these actions, yet it is crucial the province chart a course for a brighter future now.



---

## ATTITUDES

### **Businesses need to match their ambitious attitudes with real actions**

Ontario business leaders are exhibiting growing optimism in the aftermath of the recession, but are continuing to falter in translating their ideas for growth into substantial investments. Better benchmarking practices may be a solution to this problem. New research shows that a large number of companies believe they are investing more than their competitors, but are actually investing below the median for their size and sector. Generating more comprehensive data on business investment would allow businesses to set better investment goals.

Ontario must also do more to encourage entrepreneurship. The number of self-employed workers with employees stands below the Canadian average. The Task Force views the education system as a means of raising this position. Ryerson University currently aims to have 10 percent of all students involved in the development of a company, product, or service by the time they graduate. This is an admirable program and should be disseminated across Ontario universities to promote entrepreneurship as a core skill for entering the workforce.

Ontario business leaders have the right approach to growth and innovation, but they need to set their sights higher. Big investments and more risk-taking are needed to succeed.

## INVESTMENTS

### **Prioritize investments in education, skills development, and Northern Ontario**

Ontario's well-educated and active labour force is one of its best assets, and also one of its primary sources of economic potential. Re-tooling the workforce, through investments in education and skills development, is essential to build more productive human capital. The Ontario government has made a tremendous commitment in this regard by introducing full-day kindergarten. Studies of the program show it has had a significant positive effect on children's development. The Task Force supports this policy, but highlights other areas where education investments are needed.

Ontario educators need to develop a new, comprehensive *vocational pedagogy* that teaches students the skills, practices, processes, and mindsets for particular kinds of work. Students at the secondary and post-secondary levels need to learn the tools of innovation and how to apply knowledge in specific fields, such as science, technology, and math, toward the creation of new products and services. This would make use of both hard skills acquired in technical disciplines and the soft skills of critical thinking and communications in the humanities. In addition, post-secondary institutions need to form better school-to-work pathways to curb the rising trend of youth unemployment and underemployment. More extensive internship and co-op opportunities and core competency education will help students move into gainful employment and contribute to Ontario's economy.

Ontario also needs to reform its system of training skilled trades workers to boost the quantity and quality of people entering the trades. Apprenticeship registrations have greatly increased in Ontario, yet only half of apprentices go on to obtain a trade certificate. This is due to poorly

---

designed regulations for training and recruiting apprentices on the part of the Ontario College of Trades. Ontario needs to examine many of these issues and reduce the red tape that both restricts and discourages employment in the trades.

Northern Ontario is also long overdue for investments, as new mining activity promises to bring tremendous job growth to the region. To capture this economic potential, new roads must be built, schools improved, and the power grid expanded. More important, more training programs are needed to ensure local youth can participate and contribute to this economic expansion. This is especially relevant for the region's First Nations communities, which have long struggled with impoverished living conditions and a lack of engagement on natural resource development in their traditional territories. The cost of these investments is likely to amount to billions of dollars; however, the Task Force sees this as a valuable use of public funds and a core component of building Ontario's future prosperity.

Prioritizing investments in future prosperity through education and infrastructure continues to be the Task Force's guiding principle for allocating public funds. The Task Force recognizes that the recommended investments in this Report will come at great expense and likely take many years to implement fully, but policymakers must consider the bold commitments they require and the long-term dividends.

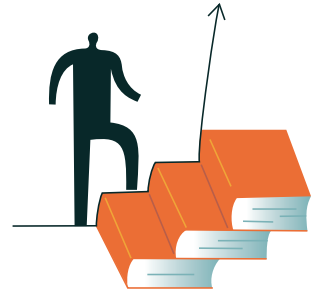
## MOTIVATIONS

### **Ontario has developed a highly competitive tax system, but further enhancements can be made**

Ontario's tax system is now one of the most business-friendly in the OECD. Thanks to the adoption of the harmonized sales tax, the elimination of the capital tax, and reductions in the marginal effective tax rate, Ontario businesses are well-positioned to thrive in a competitive environment. The Task Force applauds the Ontario government for implementing the necessary changes to make Ontario's tax system smarter.

However, further changes to tax policy can still be made to motivate Ontarians to make decisions that will enhance the province's prosperity. The Task Force recommends expanding the federal government's Working Income Tax Benefit (WITB) to encourage low-income individuals to enter or stay in the labour force. The refundable tax credit has been a highly successful component of the government's poverty reduction strategy and should be expanded to extend its positive effects and move more Ontarians out of poverty and into the workforce.

The Task Force also continues to push for a revenue-neutral carbon tax that would help reduce the province's carbon footprint. Presently, thirty-five countries and thirteen sub-national jurisdictions around the world have some form of carbon pricing scheme in place to reduce emissions. This policy would be transparent, effective, and would be used to lower taxes elsewhere. It is time Ontario join the ranks of economic leaders around the world who are addressing the market failure caused by omitting the cost of carbon in energy pricing.



With these policy changes, Ontarians will be more motivated to allocate their spending toward the most efficient and productive uses. Ontario has worked hard to create the system it has today, but to close the prosperity gap, it must continue these efforts. In turn, businesses must take advantage of these incentives and invest in the tools needed to reach the province's economic potential.

## STRUCTURES

### **Ontario has solid economic foundations, but needs to build on its strong industries**

Ontario has a good industrial base from which to create a prosperous and competitive economy. Ontario has many strong clusters throughout its metropolitan areas and a higher share of employment in traded clusters than its US peers. These advantages should set the province on a path to closing its prosperity gap. But specific sectors with growth potential demand attention.

This year's Annual Report highlights Ontario's agriculture and agri-food sector as an area of significant opportunity for the province. Ontario performs remarkably well compared with its peers in terms of growth and the production value of its agriculture and food and beverage manufacturing industries, but it needs to invest in machinery and equipment and expand operations to remain competitive. Ontario should also reach out to emerging markets to accelerate growth.

Manufacturing is another area where substantial changes must be made to curtail the sector's downward trajectory. Ontario's losses in both employment and output in manufacturing have exceeded those in all of its North American peers. Labour productivity has stagnated over the past decade and is too low for the province to compete. For this reason, Ontario must meaningfully shift the orientation of its manufacturing output toward high value-added industries. To achieve this, it needs to increase its investment in machinery and equipment, enhance productivity growth, and develop a pool of highly-skilled labour. Without these changes, Ontario's manufacturing sector is bound to struggle.

Finally, Ontario needs better infrastructure to secure a prosperous economic future. This is abundantly clear in the province's transportation network. Congestion throughout the Toronto region has reached staggering levels. Ontario must commit significant funding toward public transportation to stop the gridlock taking place across the province's most prosperous and productive regions. The rapid and efficient movement of people in goods is crucial for the province's economic success.

**Ontario needs to make up for lost time to achieve its prosperity potential. Acting on the Task Force's recommendations will involve tremendous efforts and financial commitments on the part of both government and businesses. Even if all these actions are pursued, it may take many years for the province to see substantial results. This creates even more of an imperative for Ontario to act now. Ontarians must accept the task of investing and building what the province needs to become more competitive and productive.**



# ONTARIO'S INNOVATION AND PRODUCTIVITY CONUNDRUM

**IN THIS TWELFTH ANNUAL REPORT**, the Task Force on Competitiveness, Prosperity and Economic Progress releases its road map for achieving Ontario's prosperity potential. Ontario has made progress in recent years in closing the prosperity gap, but there is more work to be done. In this Annual Report the Task Force highlights innovation leaders that have distinguished themselves within their respective industries. Ontarians can learn from these leaders to be more innovative and this will lead to productivity gains and subsequent prosperity.

## Ontario's prosperity gap persists

Few comparable regions outside of North America have an economy that is as competitive and prosperous as Ontario's (Exhibit 1). *Prosperity* is defined as Gross Domestic Product (GDP) per capita, which captures a

region's ability to produce goods and services. Ontario's GDP per capita is higher than the median of the twelve international peer regions identified by the Task Force, thanks in part to a highly skilled work force, stable economy, and diverse mix of productive industries.

Yet Ontario is not living up to its full economic potential. The province's economic performance matches or surpasses that of some leading global economies, but there is still a significant gap between Ontario and the peer leader, Hessen, and this gap has widened since the Task Force first began this comparison (Exhibit 2).

Exhibit 1 Ontario's GDP per capita is above the international peer median

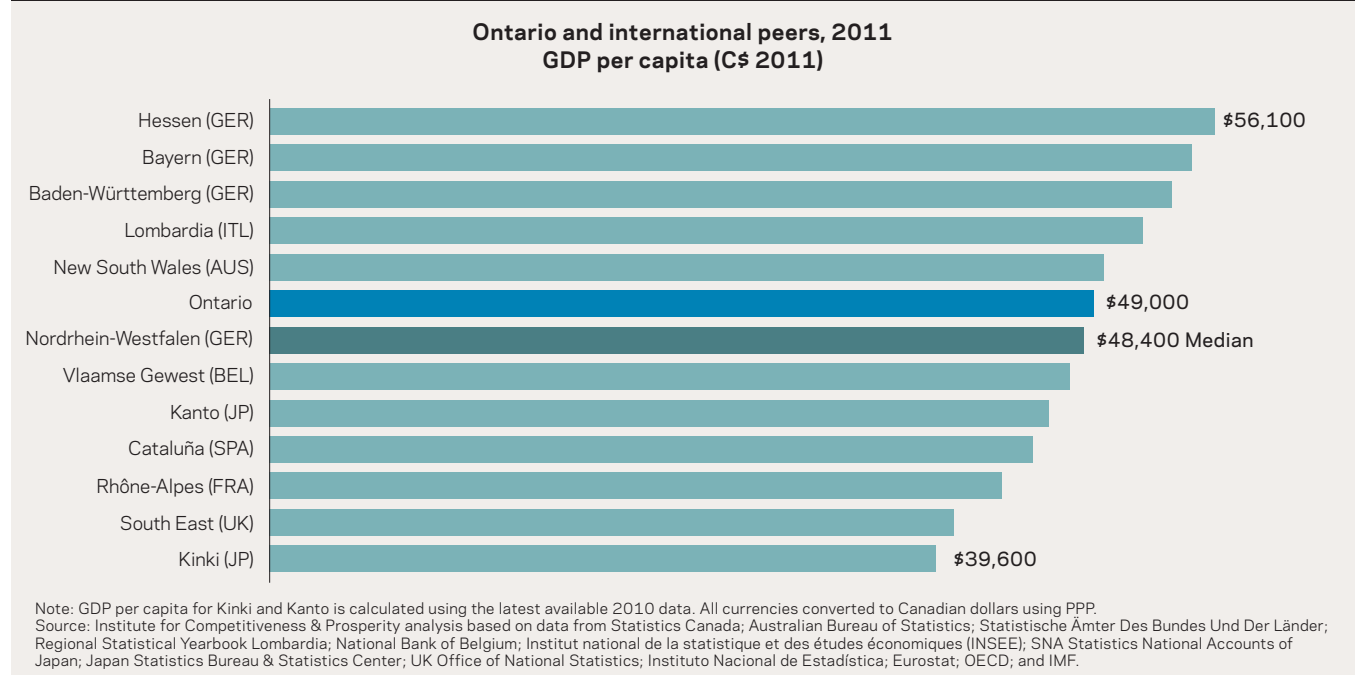
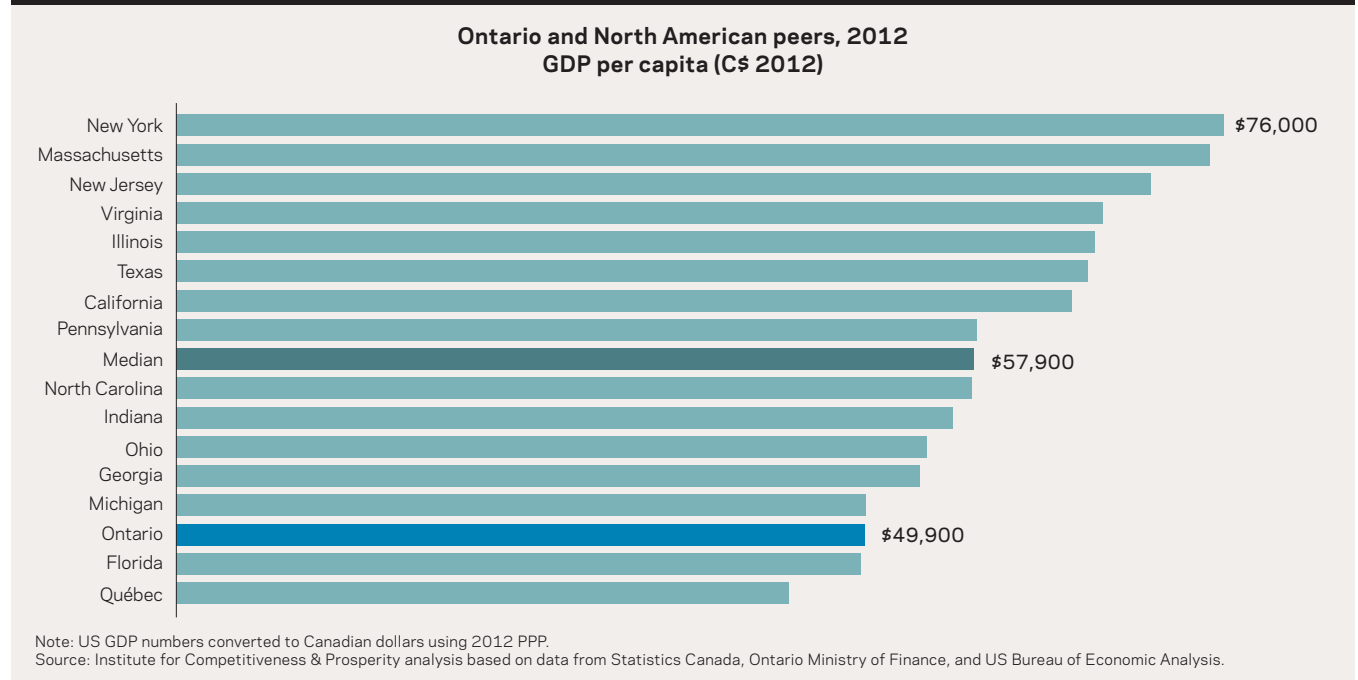


Exhibit 2 Ontario's GDP per capita ranks lower than the North American peers





Furthermore, an ongoing prosperity gap with the North American peer regions remains. These are the sixteen largest states and provinces in North America that have a population equal to half of Ontario's or greater, with economies that most closely resemble Ontario's economy. Within this peer group, Ontario trails the median performance notably. In

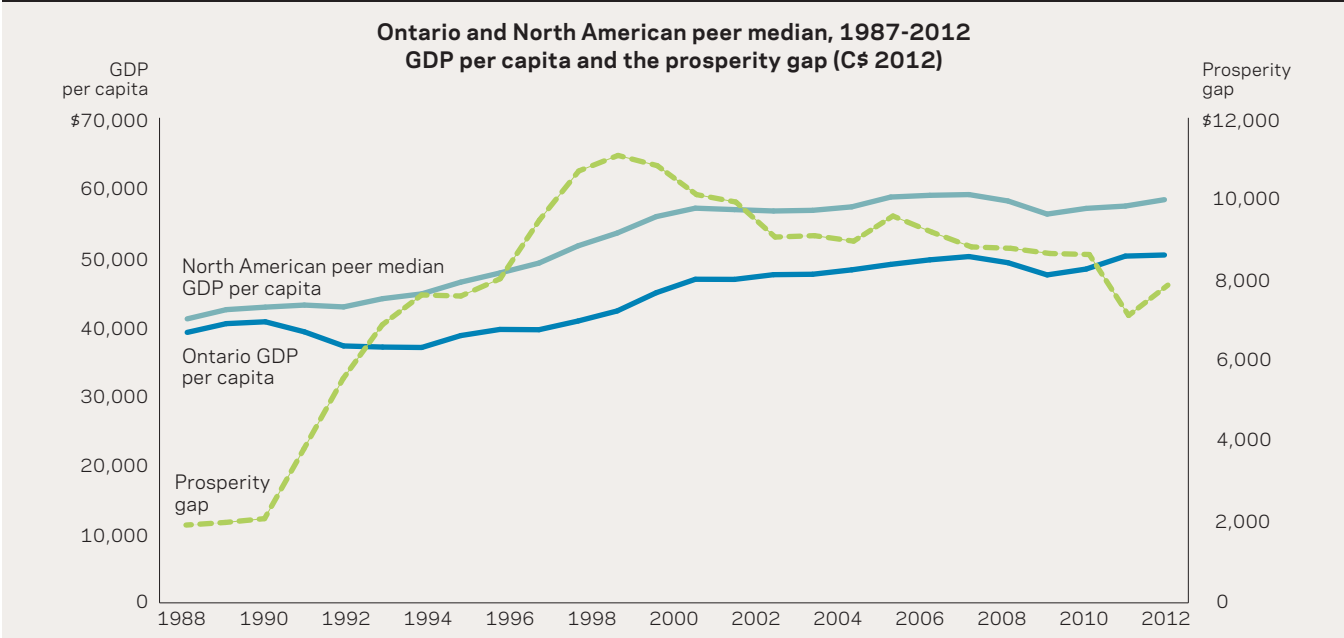
2012, Ontario's GDP was \$8,000 per capita lower than the median and this is an increase from \$7,500 in 2011.

Ontario currently ranks fourteenth among sixteen peer regions and it is only ahead of Québec and Florida. Beating Florida is not that impressive as the state has had virtually zero GDP per capita growth in the last four

years. What is more troubling is that Michigan surpassed Ontario in 2012 in the peer rankings.

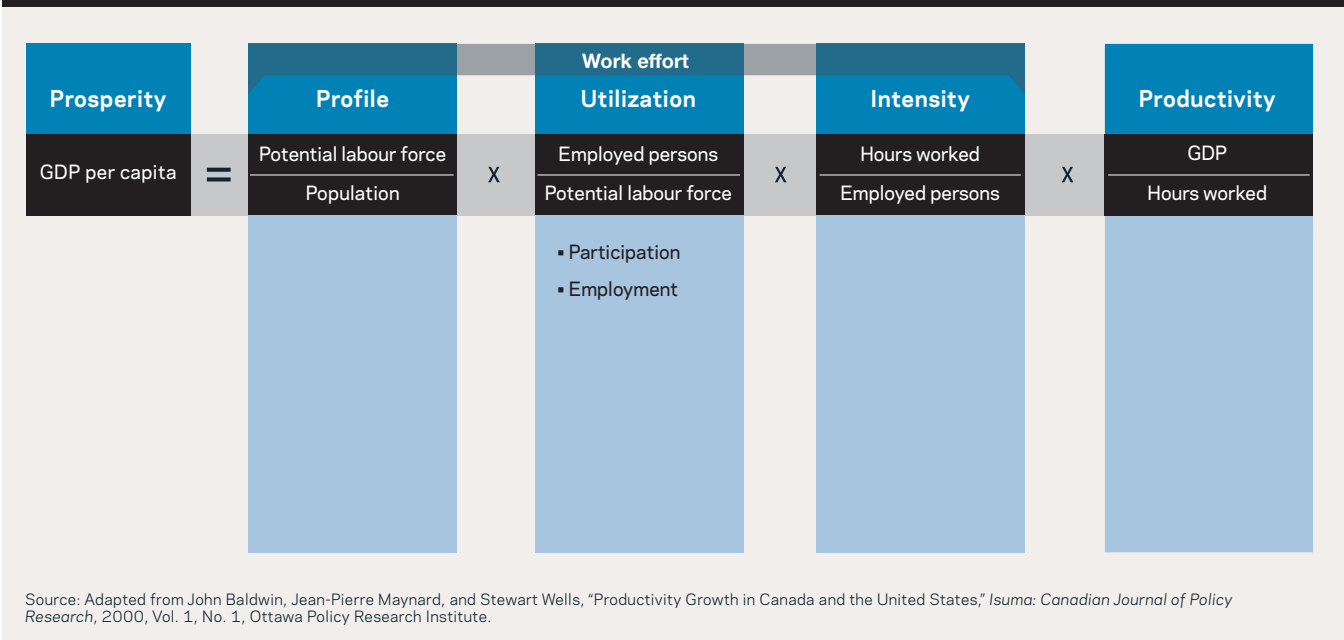
However, the prosperity gap between Ontario and the North American peer median has narrowed from its peak of \$11,100 in 1998 (Exhibit 3).

**Exhibit 3 Ontario's prosperity gap widened slightly in 2012**



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

**Exhibit 4 The Task Force measures four components of prosperity**



Source: Adapted from John Baldwin, Jean-Pierre Maynard, and Stewart Wells, "Productivity Growth in Canada and the United States," *Isuma: Canadian Journal of Policy Research*, 2000, Vol. 1, No. 1, Ottawa Policy Research Institute.

## Raising productivity continues to be the key to closing Ontario's prosperity gap

To understand the reasons for the prosperity gap with the peer states, the Task Force draws on the framework used in previous reports. This work disaggregates GDP per capita into four measureable elements (Exhibit 4).

- **Profile.** Out of all the people in a jurisdiction, what percentage are of working age and therefore able to contribute to the creation of products and services that add economic value and prosperity?
- **Utilization.** For all those of working age, what percentage are actually working to add to economic value and prosperity?
- **Intensity.** For all those who are employed, how many hours do they spend on the job in a year?
- **Productivity.** For each hour worked in a jurisdiction, how much economic

output is created by a jurisdiction's workers?

The first three factors – profile, utilization, and intensity – add up to work effort, or the hours worked per capita, which captures the effort Ontarians are spending to create economic value. The fourth factor – productivity – measures how effectively work effort turns resources into economic value and prosperity.

### Work effort has improved

Ontario's prosperity performance divergence from the North American peer state median occurred during the recession of the early 1990s. During that time a key driver of the poor economic growth was poor work effort and, in particular, utilization, which measures the percentage employed of the total labour force.

Work effort, as a whole, has improved in Ontario. The utilization gap, which existed in the 1990s has closed, and Ontario continues to lead the North American peers in profile, a benefit that has existed since the data became available in 1987. However, there

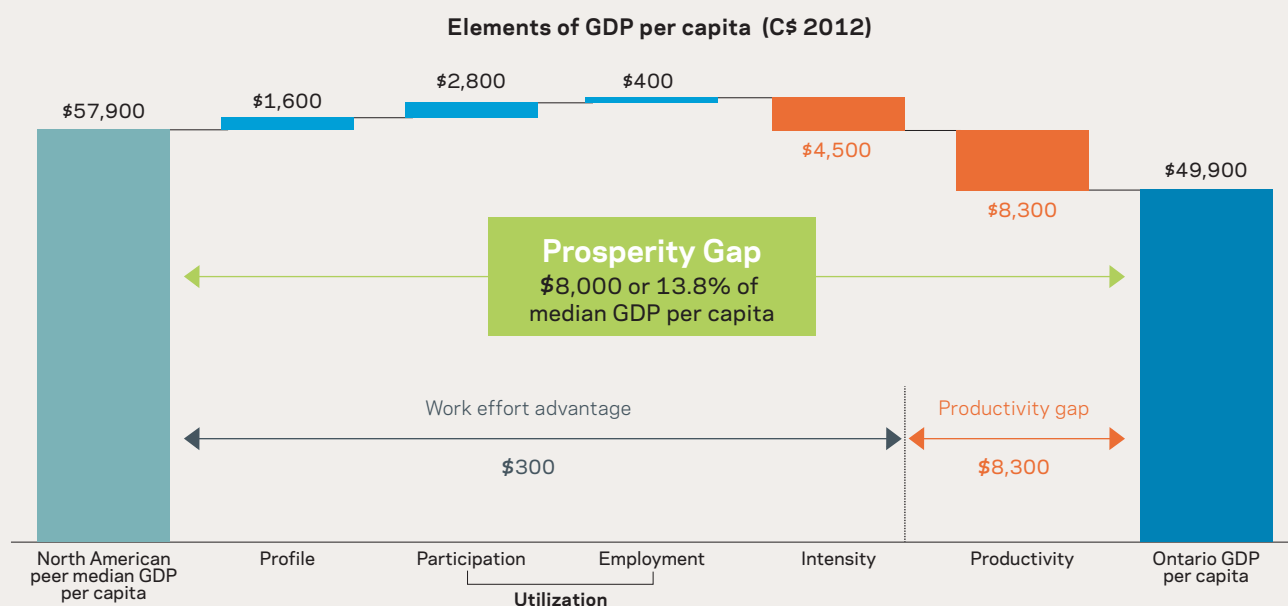
remains a persistent gap in intensity between Ontario and the peer regions that needs to be addressed.

### Profile remains an advantage for Ontario.

Profile refers to the percentage of the population that is of working age – aged 15 to 64 – and is the measure of prosperity that refers to differences in labour demographics. With more people in that age range, a higher share of the population is able to work and create economic value. Ontario's profile ratio has steadily increased over the last fifteen years and has remained roughly 2 percentage points higher than the profile ratio of the North American peer group median. In 2012, 69.1 percent of Ontarians were aged 15 to 64, 1.9 percentage points higher than the North American peer group median. Ontario is currently the peer group leader in this measure. In 2012, Ontario's profile advantage represented \$1,600 in per capita GDP (Exhibit 5).

The growth rate of the profile ratio is disaggregated into five equal time periods from 1988 to 2012, which

Exhibit 5 Lagging productivity and intensity account for most of Ontario's prosperity gap



Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada; Ontario Ministry of Finance; Banque de données des statistiques officielles sur le Québec; US Department of Commerce, Bureau of Economic Analysis; US Bureau of Labor Statistics; and US Census Bureau.

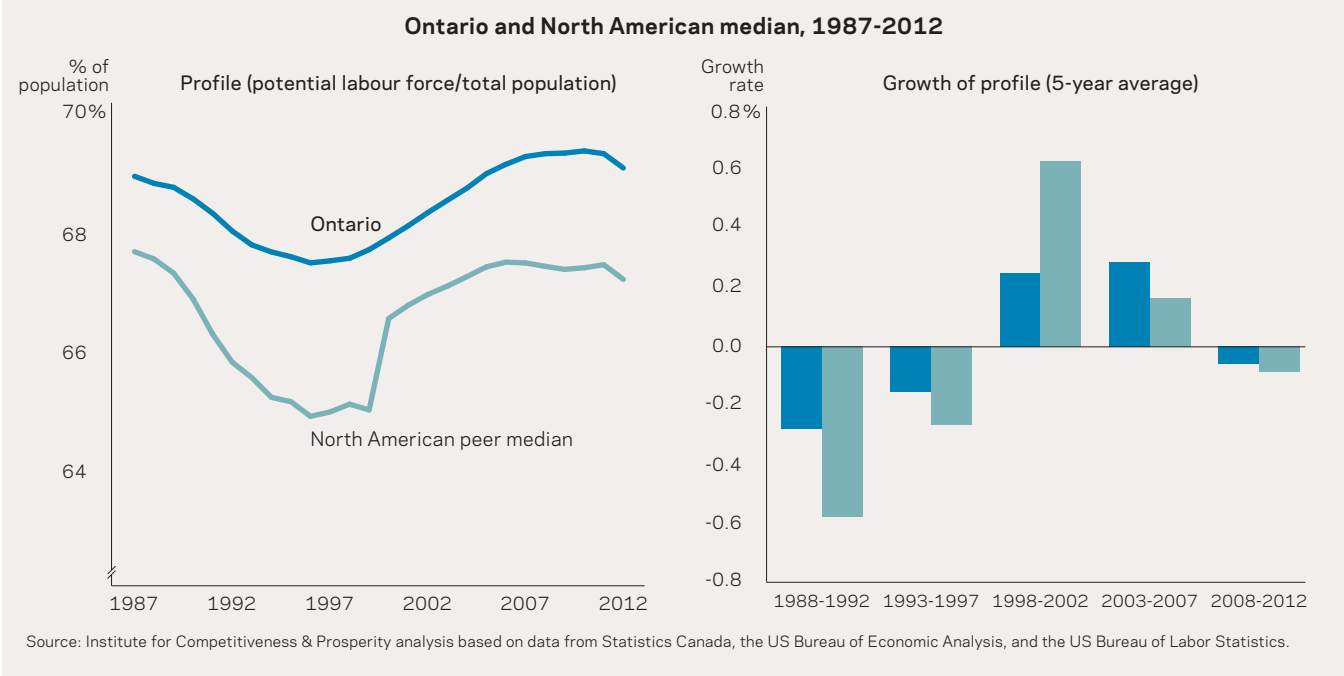
allows a deeper look into how Ontario's profile advantage has changed over time. The picture that emerges is that Ontario's profile growth has been more consistent than the North American peer median, which declined more from 1988 to 1997 than Ontario's (Exhibit 6).

Demographic projections indicate that the proportion of Ontarians of working age will decline over the coming decades to 66 percent in 2030, a 3.1 percentage point reduction from 2012.<sup>1</sup> These projections are driven by retirements of baby boomers, who will not be replaced in subsequent generations. According to

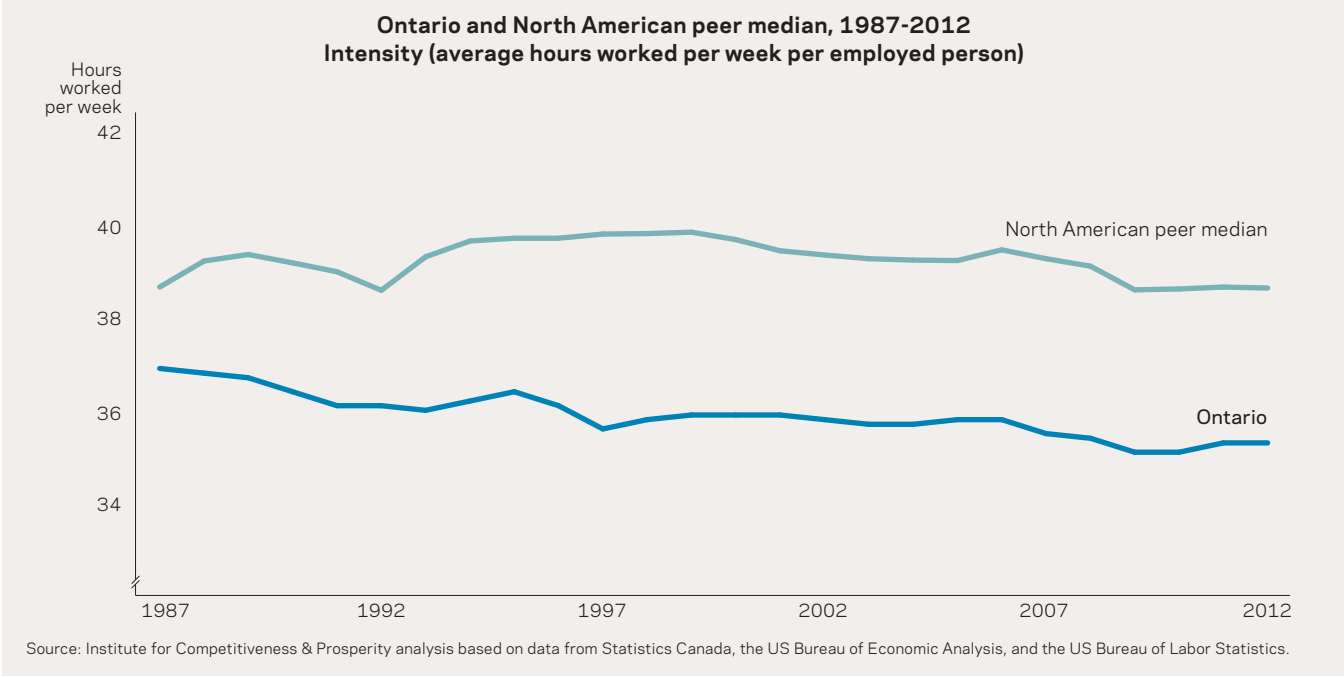
US census projections, there is a similar working age population reduction in each of the US peers.<sup>2</sup>

- 1 Ontario Ministry of Finance, *Ontario Population Projections Update, 2012-2036*, 2013, pp. 35-7.
- 2 "2005 Interim State Population Projections," US Census Bureau, US Department of Commerce, accessed August 31, 2013, <http://www.census.gov/population/projections/data/state/projectionsagesex.html>.

**Exhibit 6 Ontario continues to have a profile advantage over the North American peer median**



**Exhibit 7 The intensity gap between Ontario and the North American peer median persists**



The trend in Ontario highlights the need to improve factors like intensity and productivity to maintain economic growth.

**Ontario’s intensity gap persists with its North American peers.**

Ontario’s significant intensity gap indicates that Ontarians work fewer hours compared to the North American peer median. In 2012, the average Ontario worker was on the job 35.3 hours per week compared to the North American peer state median of 38.6 hours (Exhibit 7). This 3.3 hour gap per week has dropped slightly from 2007, when Ontario trailed by 3.8 hours per week. In 2012, Ontario’s intensity gap contributed \$4,500 to the prosperity gap in GDP per capita.

The Task Force’s previous research has pointed to Ontarian’s higher propensity to take more weeks of vacation, especially among higher earning individuals, and higher propensity to engage in part-time work as a driver of the intensity gap.<sup>3</sup> These facts indicate that Ontarians place a higher preference for non-work activities than peers and

this, on its own, is not an area of concern. What is a concern is that the ratio of part-time workers who would prefer to be employed in a full-time capacity has grown significantly since 2008. In 2008, 8.1 percent of part-time workers who wanted to work full-time could not find full-time work; in 2012, that jumped to 12.4 percent.<sup>4</sup>

In Working Paper 17, the Institute for Competitiveness & Prosperity, the research arm of the Task Force on Competitiveness, Productivity and Economic Progress, found that, outside of going to school, the number one reason workers held part-time jobs was because they were unable to find full-time work.<sup>5</sup> In the same paper, the Institute showed that the share of involuntarily part-time employed youth is increasing. The Ontario government’s youth employment strategy should be given a priority to help improve this aspect of the intensity gap.

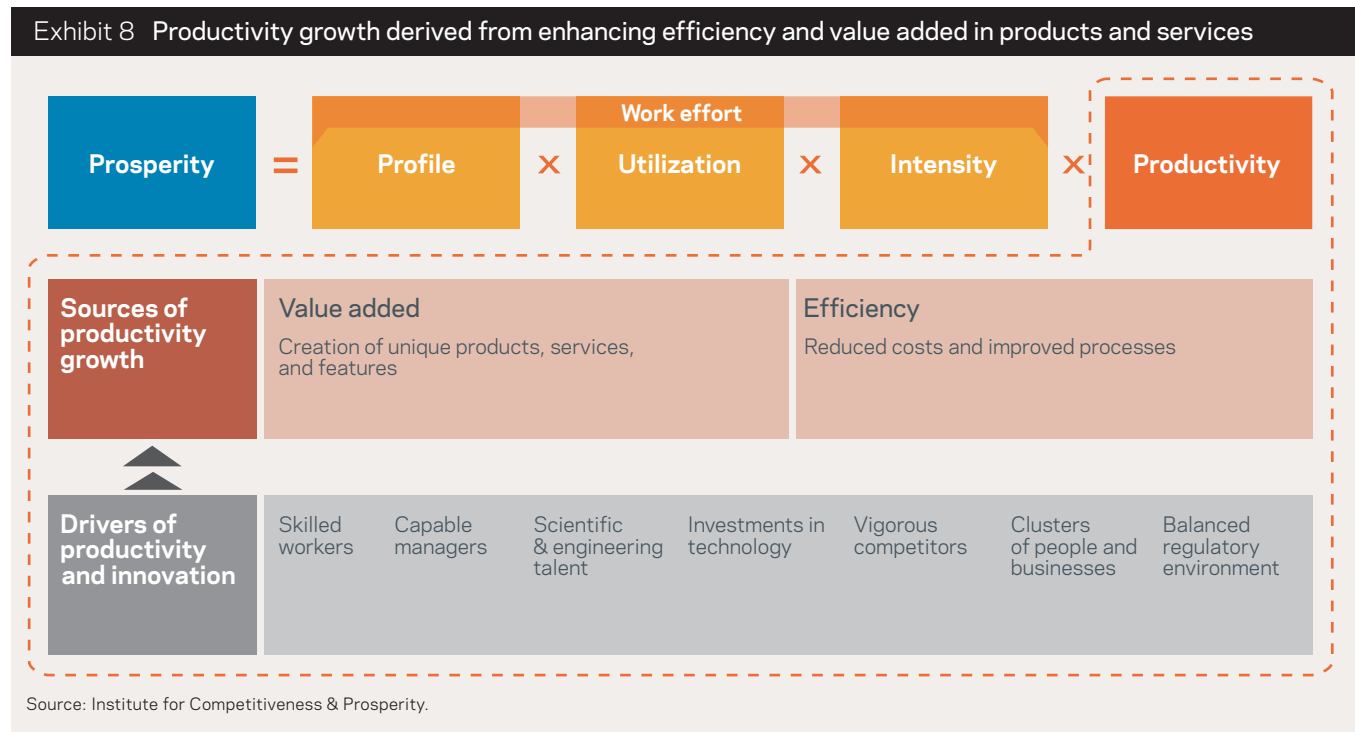
**Ontario’s productivity gap continues to be important**  
Ontario’s productivity shortcomings

account for the greatest share of the prosperity gap with its peers. In 2012, Ontario’s productivity gap contributed \$8,300 to the prosperity gap in GDP per capita.

Simply stated, productivity measures the amount of real value added per unit of resources used. These resources may be labour, capital, land, or other resources. Higher productivity levels are associated with higher wages and, in turn, higher levels of prosperity.

Improving efficiency is one way to achieve higher productivity (Exhibit 8). Productivity breakthroughs are also achieved through innovation and upgrading to deliver higher value products and services.

3 Institute for Competitiveness & Prosperity, Working Paper 9, *Time on the job: Intensity and Ontario’s prosperity gap*, September 2006, pp. 22-4.  
4 Statistics Canada, *Labour force survey estimates (LFS), part-time employment by reason for part-time work, sex and age group*, CANSIM Table 282-0014.  
5 Institute for Competitiveness & Prosperity, Working Paper 17, *Untapped potential: Creating a better future for service workers*, October 2013.



Source: Institute for Competitiveness & Prosperity.

The Task Force identifies seven contributors to productivity growth and innovation:

- *Skilled workers* who can adjust to the rapidly growing demands of the new global economy
- *Capable managers* adept at discerning consumer desires, competitive weaknesses, and innovative ways of organizing operations – and at implementing change
- *Scientific and engineering talent* that can achieve major breakthroughs and continuous improvements in products and processes
- *Investments in technology* that improve workers efficiency and precision
- *Competitive pressure* that spurs continuous innovation
- *Clusters of people and businesses* that enable collaboration to promote new ideas, foster knowledge dissemination, and support business formation

- *A balanced regulatory environment* that meets the need for worker and consumer protection and for flexibility and responsiveness in resource allocation to the best opportunities for wealth creation

Ontario's productivity growth has been poor. While there has been a productivity gap since 1987 between Ontario and the North American peer median, this has widened in the last decade (Exhibit 9). The US peers experienced vastly higher productivity growth from 2003 to 2012, averaging 1.5 percent per year in contrast to the 0.5 percent per year in Ontario.

### Achieving the 2020 Prosperity Agenda will be challenging

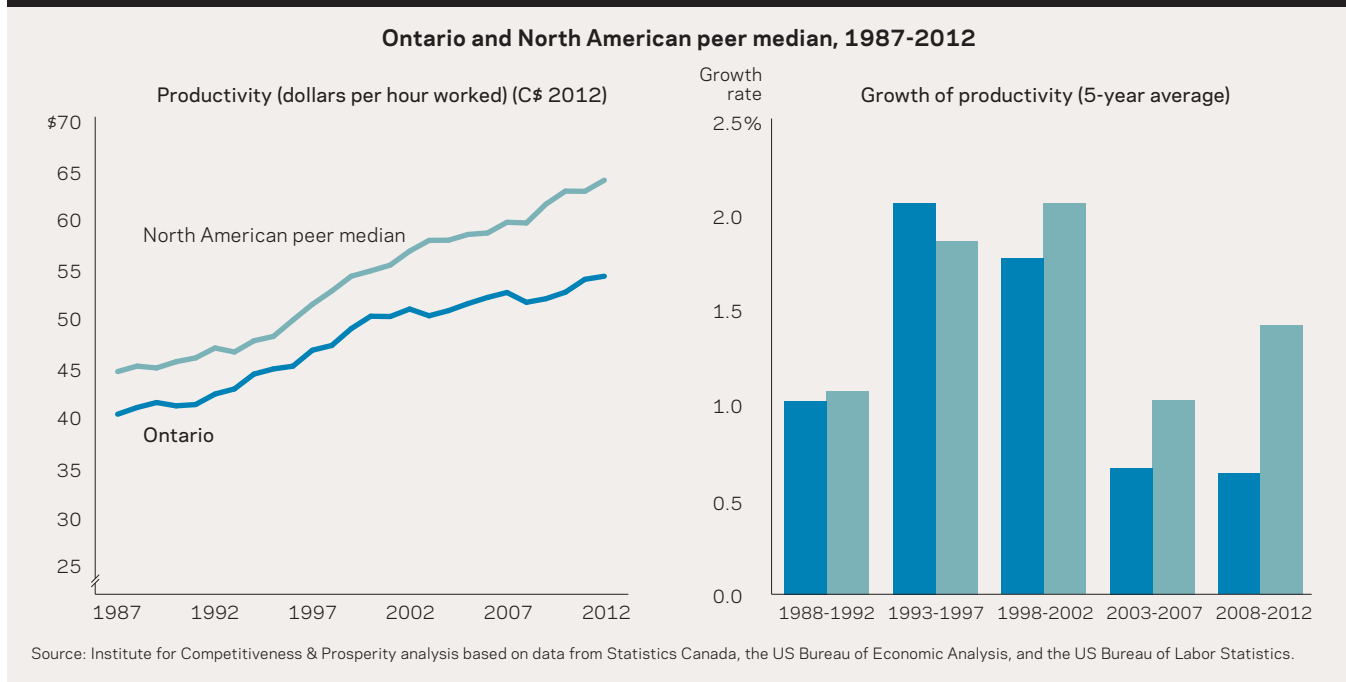
The Task Force's Agenda for Prosperity builds from the AIMS framework that has been used to outline its past work (Exhibit 10). The AIMS framework is built on an integrated set of four factors – the foundation for a prosperity eco-system:

- **Attitudes** toward innovation, growth

and global competitiveness. Ontario's attitudes tend to be complacent, lacking the shared determination to be the very best. The more government and business leaders believe in the importance of continuous upgrading and entrepreneurship, the more likely they are to take the actions that will drive prosperity.

- **Investments** in education, machinery, equipment, and research and development. As businesses, individuals, and governments invest for future prosperity they will enhance productivity and prosperity.
- **Motivations** for hiring, working, and upgrading as a result of tax policies and government policies. A smarter taxation system will encourage higher productivity and improve the motivations for business investment and labour market participation.
- **Structures** of markets and institutions that encourage and assist creativity and growth. Changing market and governance structures drive the capacity for innovation to increase Ontario's future prosperity.

Exhibit 9 Ontario's poor productivity performance persists



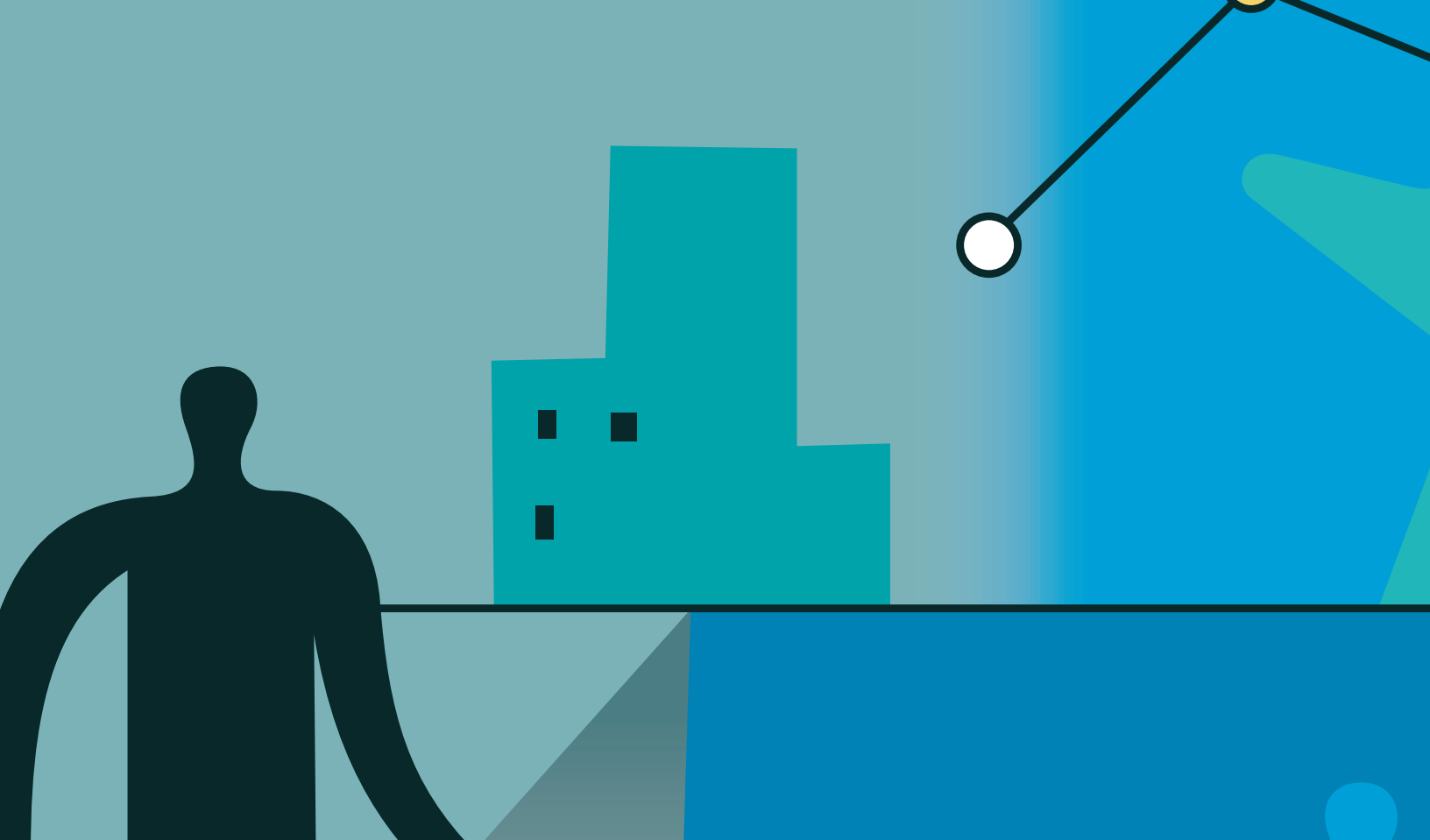
Ontario remains in fourteenth place out of sixteen peer jurisdictions, even after years of improvements and recommendations from the Task Force. Worse yet, this standing is not due to significant efforts to close the prosperity gap but to the declining economic conditions in some of the US peer states. At this pace, achieving the Prosperity Agenda by 2020 will be challenging.

Government and the private sector must work together to tackle this problem. Failure to do so will mean lost revenues for the public purse and the pockets of Ontarians. This Report focuses on key recommendations for the short and medium term that the province can pursue to get back on track. It will also “catch people doing things right,” showing that the province can

innovate, grow, and succeed. Over the coming year, the Task Force will work on establishing new targets for the province and developing a plan to reach them.

Exhibit 10 Ontario should still pursue the Prosperity Agenda

Goal	Current	Target 2020
<b>Close the prosperity gap</b>	14th in peer group in 2012	At the median - 8th by 2020
<b>Attitudes</b>	Business leaders are more confident in their business than the overall economy	Business leaders will drive spending in prosperity-enhancing investments
<b>Investment</b>	Recent investments in education have not been sufficiently focused on workplace preparation  Northwestern Ontario is under prepared to capture the benefits of planned mining activities  Business investment in innovative technologies and R&D lags US peers	Target education spending toward better preparing students to enter the labour market through systematic innovation and vocational education  Invest in tools needed to enhance skills development and economic growth in northern Ontario  Implement more ambitious plans for investment in innovation
<b>Motivations</b>	Improvements have been made to business taxation making Ontario more competitive  Several tax credits disproportionately benefit high and middle income earners at the expense of low income earners  Negative externalities of pollution are not captured	Continue to address issues with the tax system to encourage business investment and make it smarter  Fund WITB reform by eliminating unwise tax credits to increase labour force participation  Introduce revenue-neutral carbon tax
<b>Structures</b>	Global factors have greatly challenged manufacturing in Ontario  Clusters receive little policy support  Ontario is net importer of agri-foods, and lacks scale and M&E investment in the agri-food sector  Free trade agreement with Europe negotiated  Transportation is severely underfunded	Direct policy toward supporting high value-added manufacturing  Develop cluster policy to increase collaborative economic policy  Develop the food and beverage processing sector and reach out to global markets to expand economy  Use CETA as a platform for further trade diversification  Dedicated funding for infrastructure



# ATTITUDES: ENCOURAGE AMBITIOUS ACTIONS FROM ONTARIO'S BUSINESS LEADERS

**IT HAS BEEN FOUR YEARS SINCE THE ONSET OF THE MOST RECENT RECESSION** and, while Ontarians are turning their gaze away from recovery and toward long-term growth, the growing optimism continues to be clouded by economic uncertainty. To drive productivity and innovation, Ontario must pair a culture of business leadership with ambitious levels of investment and strong business growth.

## Ontario's business attitudes reflect growing optimism, but hesitant plans

Polling conducted for the Mowat Centre's 2013 *Emerging Stronger* report indicated that less than half of Ontario businesses believe the economy is heading in the right direction.<sup>6</sup> However, Ontario business leaders show high levels of confidence in their own organizations, with the majority of responders across all sectors claiming they have plans to expand in the future. While this is a promising trend, the cautious attitudes toward the overall economy and the pessimism toward Ontario's advances in productivity do not bode well for business expansion.

Ontario's business leaders have mismatched attitudes toward innovation and investment. Business leaders recognize the importance of investment and innovation in improving their productivity and gaining a competitive edge, but they fail to follow through on these activities. Business leaders identify product/service developments and highly skilled workers as core attributes of their profitability, but they overlook the importance of research and development and investments in employee training as means of realizing these benefits.<sup>7</sup> Ontarians understand what is needed to fulfill their economic potential, but lack the follow-through in the key determinants of competitiveness and growth. This is evidenced by Ontario's poor level of business investment compared to that of US firms. For example, machinery and equipment (M&E) investment per worker was 32 percent lower in Ontario than in US competitors in 2011.

Information and communications technology (ICT) investment in particular suffers from this inaction problem.<sup>8</sup> A Business Development Bank survey found that 61 percent of Canadian businesses plan on

investing in software and hardware over the next two years, and 58 percent plan on investing in their website. However, the level of investment in these items is low for most companies. For both software and hardware, over 40 percent of respondents planned on investing less than \$5,000 and less than 30 percent planned on investing more than \$10,000 in the next two years. This is relatively low, given how much ICT investment is needed for Canadian businesses to catch up to their US counterparts. In 2010, total ICT investment in Canada was approximately \$2,750 per worker versus \$5,340 per worker in the United States. There is clearly a lack of commitment on the part of business leaders to match their ambitions with real actions.

There may be another reason why business attitudes contribute to Ontario's lagging productivity. New research by Deloitte shows that 72 percent of Canadian companies investing below the median for their size and sector believe they are investing more than their peers.<sup>9</sup> Labeling these firms "overconfident," the study shows that overconfident firms have similar attitudes toward risk-taking and innovation as the top 50 percent of firms ranked by total investment. Where they differ is in their level of investment. Firms investing below the median for their size and sector contribute only 16 percent of the total investment accounted for in the study's sample of 884 firms, while the top 50 percent contribute 84 percent of total investment. Overconfident firms believe they are investing more than their peers, but are actually in the bottom 50 percent of companies.

This suggests that one of the ways Ontario can boost the investments needed to drive productivity is by enhancing business benchmarking practices. Companies routinely rate their performance on an internal

basis by comparing metrics such as revenue, profit, and customer satisfaction over time. What may be missing, however, is a concerted effort on the part of businesses to compare themselves to their peers through indicators such as investment in R&D, M&E, and ICT. Since overconfident firms are willing to take risks and recognize the importance of innovation, simply knowing their competitors' level of investment may spur many of them to match these firms. If gaining a competitive edge is important to overconfident firms, then perhaps clearer targets are what they need.

This is a relatively easy problem for Ontario to fix. Statistics Canada provides a wealth of business performance data, including assets, liabilities, equity, investment, and other financial indicators by industry sector through their quarterly survey of financial statements. Most of data on business performance, however, are only available at the national level. Enhancing the data to include provincial or even international comparisons may make them more relevant and useful to companies. This would require an expansion of data collection and reporting on the part of Statistics Canada, or the establishment of third party data agencies, which Deloitte has already explored as a service for businesses. The Task Force encourages Statistics Canada to increase their capacity so all businesses can have access to reliable, comparable data. Businesses, too, should recognize the importance

6 Mowat Centre and Ontario Chamber of Commerce, *Emerging Stronger: A Transformative Agenda for Ontario*, 2013.

7 Task Force on Competitiveness, Productivity and Economic Progress, *Eleventh Annual Report, A push for growth: The time is now*, November 2012, pp. 37-8.

8 Business Development Bank of Canada, *Technology*, BDC Viewpoints Study, April 2013.

9 Bill Currie and Lawrence W. Scott, *The future of productivity: A wake-up call for Canadian companies*, Deloitte LLP, 2013.



---

of keeping abreast of their competitors on metrics such as investments in innovation and productivity enhancement.

As the Institute for Competitiveness & Prosperity proposed in *Bringing “dead cash” back to life*, another way Ontario can boost its business investment is by incorporating innovation and productivity growth into shareholders’ expectations.<sup>10</sup> Corporate goals currently focus on evaluating companies’ profitability and earnings. Shareholders can encourage firms to set goals for investments in productivity-enhancing tools to achieve better market performance. This will help shift firms’ management goals toward long-term growth rather than simply current profits.

Ontarians have the right approach when it comes to improving business performance and competitiveness. What is needed is better execution. Despite the current economic uncertainty, businesses are implementing higher levels of investment and plans for growth. With better targets for these investments and more comprehensive self-evaluation through the use of benchmarking, businesses may be able to exceed the potential they set out for themselves. This will have a substantial impact on boosting Ontario’s competitive edge.

Ontario also needs to look for ways to drive competition through new business players. Entrepreneurial activity in the province experienced a significant decrease during the mid-2000s, but there are some signs of new businesses. The number of new self-employed workers with employees increased from 0.17 percent of the labour force in 2008 to 0.22 percent in 2011. This is slightly below the Canadian average in 2011 of 0.23 percent.<sup>11</sup> (See *Ryerson University’s “Entrepreneurial Zones” are fostering competitive leaders.*)

A central problem with attitudes in the Ontario business community is that there continues to be hesitance on the part of business leaders to make substantial investments or start up new companies. Cautiousness is to be expected while still in recovery mode, but Ontario must find ways to disseminate the ambitious, risk-taking attitudes of the top innovators and competitors.

Government attitudes also need to align with what is needed to steer Ontario’s economy in the right direction. The current minority government scenario may delay the policy choices necessary to move forward, especially given the expensive and complex initiatives required to tackle problems such as poor infrastructure, lagging business investment, and inadequate education spending. The Task Force calls on all parties to work together to focus on the policies needed to create a more prosperous future for Ontario.

**Through better use of benchmarking and further encouragement of entrepreneurship, Ontario can enhance its culture of competition and ensure greater prosperity for the future. Ontario should be at least at the Canadian average for new entrepreneurs as a proportion of the labour force, which will require a shift in attitudes toward encouraging new businesses and increasing competition.**

---

<sup>10</sup> Institute for Competitiveness & Prosperity, White Paper, *Bringing “dead cash” back to life*, March 2013, p. 15.

<sup>11</sup> Business Development Bank of Canada, *2012 BDC Index of New Entrepreneurial Activity*, 2012.

---

INNOVATOR:

## Ryerson University's “Entrepreneurial Zones” are fostering competitive leaders

Canada has consistently lacked the ability to translate innovations within academic research into commercial success stories.<sup>a</sup>



**TO ADDRESS THIS SHORTCOMING**, and to build a culture of partnership in innovation between Ontario's universities and the business community, Ryerson University has created “Entrepreneurial Zones.” This model helps students develop a company, product, or service in their field through experiential learning, mentoring, workspaces, and business and market plan advice. The first zone was developed in 2010 with the creation of Ryerson's Digital Media Zone, which to date has incubated 84 companies, launched 134 projects, and created more than 750 new jobs.<sup>b</sup> Ryerson plans to incorporate entrepreneurial zones within its aerospace, design, health, and social entrepreneurship programs within the next two years and aims to have 10 percent of all students involved in the development of a company, product, or service by the time they graduate.<sup>c</sup>

Ryerson's “Entrepreneurial Zone” model should be applauded by both business leaders and the academic community. The education system is the starting point for changing social attitudes, and Ryerson has taken great steps to make innovation and entrepreneurship core attributes of its graduates. Moreover, Ontario youths, with an unemployment rate of 16.9 percent in 2012, according to the *Labour Force Survey*, can benefit from having the tools and support to forge their own paths to economic success by becoming entrepreneurs. Ontario's education system has historically lacked in fostering a sense of business acumen and entrepreneurial spirit among its students. The Canadian Federation of Independent Business reports that 56 percent of Ontario entrepreneurs believe there is not enough emphasis on starting a business as a career option in schools today.<sup>d</sup> Creating entrepreneurial incubators in universities is a good starting point to improve Ontario's business leadership and innovation.

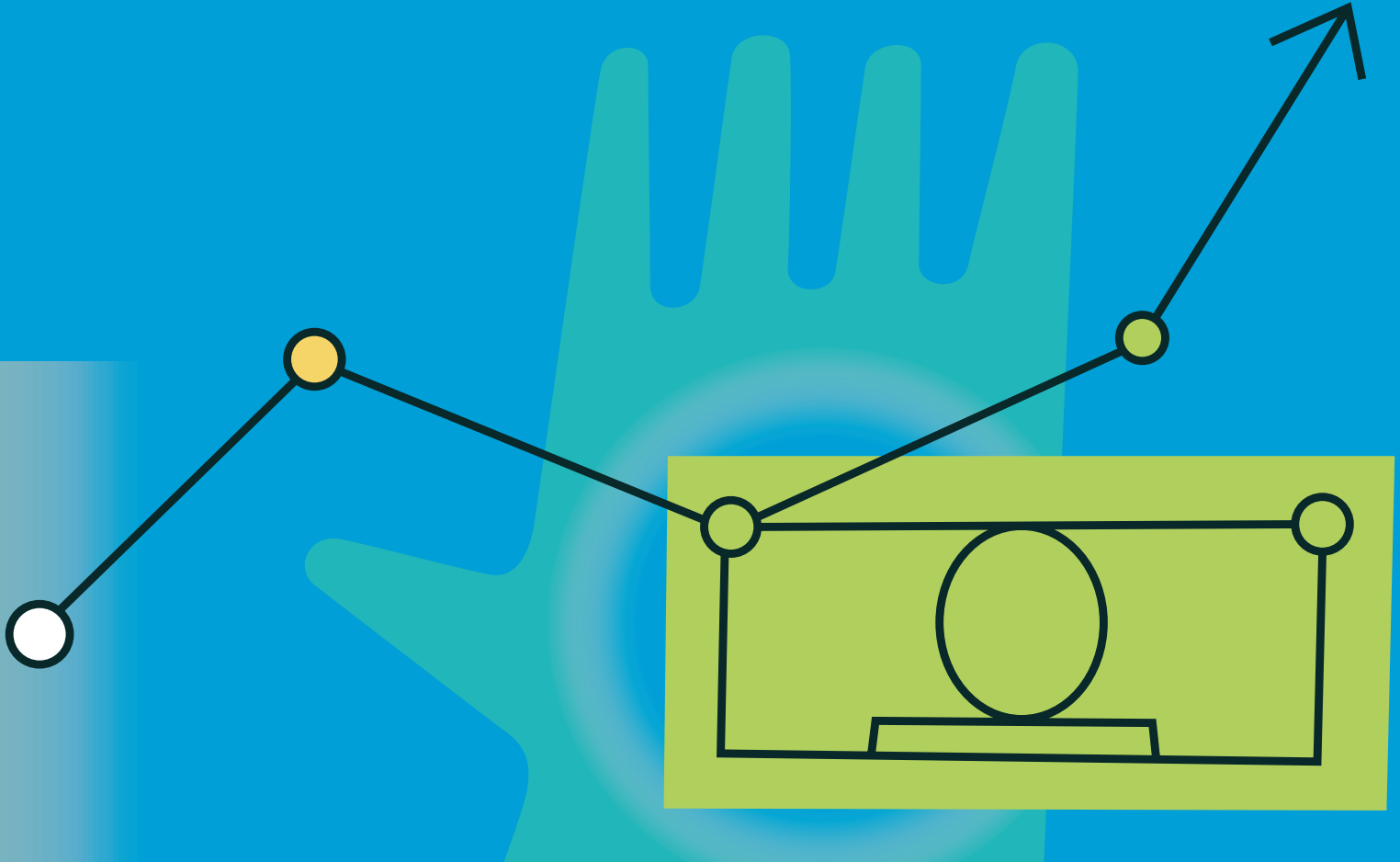
---

a OECD, *OECD Economic Surveys: Canada*, June 2012.

b Digital Media Zone, “Digital Media Zone at Ryerson University Celebrates its Third Anniversary,” News Release, May 1, 2013.

c Mowat Centre and Ontario Chamber of Commerce, *Emerging Stronger: A Transformative Agenda for Ontario*, 2013.

d Nicole Troster, “Entrepreneurs have no regrets,” *Insight on Entrepreneurship*, No. 2, Canadian Federation of Independent Business, May 2011.



# INVESTMENTS: FOCUS ON INVESTMENTS THAT IMPROVE FUTURE PROSPERITY

**CLOSING THE PROSPERITY GAP CANNOT BE DONE** without making meaningful and targeted investments in productivity-enhancing resources and tools. This must be done while maintaining the balance between current consumption and future investments. Ontario boasts many excellent education programs, world-class universities, and an extensive research network. But efforts must now be made to lay the foundation for raising productivity and prosperity across the province.

---

## All levels of education require investment

Education is an investment in future prosperity. Quality education provides students with the skills, knowledge, and competencies to become productive contributors to the Ontario economy and to society more generally. When Ontarians are well-prepared to enter the labour market, they are less likely to experience occupational mismatch, underemployment, and unemployment. More important, education is one of the most effective mechanisms that enable social mobility, especially for low-income families. But this must start early, beginning with the quality of parenting and early childhood education.

The Task Force has tracked the Ontario government's efforts to raise the high school graduation rate. Across the province's 900 high schools, only 68 percent of all students received their secondary school diplomas by the end of the 2003-4 school year. By 2012, this rate increased to 82 percent, which is higher than the US peer state median rate of 78.6 percent.<sup>12</sup> The Task Force also compared education spending of the province to that in its US peers. More recently, the Task Force introduced the idea of teaching innovation to high school students, with the intention of standardizing this curriculum so that all students can bring innovation skills and knowledge into higher studies and eventually the workplace. In this way, the investment in public education will generate returns as graduates enter the labour market with the tools and knowledge to be productive.

### Full-day kindergarten benefits Ontario

Investments in education must start early. One educational investment that will generate high impact social and economic benefits for both individual learners and society at

large is Ontario's full day learning program for four- and five-year olds. The Ontario government appointed Charles Pascal in late 2007 to offer recommendations on how best to implement full-day learning. As a result, the government implemented full-day kindergarten for four- and five-year olds beginning in September 2010 in almost 600 schools, with full implementation across the province to be completed by September 2015. By 2015, approximately 265,000 children will be able to attend full-day kindergarten.<sup>13</sup> Extended day opportunities for the children—before and after the official school day—are available to parents for a modest fee or subsidies for low-income families. The best examples of the original seamless vision of the full-day extended day plan are taking place in the Waterloo and Ottawa-Carleton Districts Boards of Education.

Although full-day kindergarten was strongly welcomed by parents, it is not without its critics. In particular, while the Drummond Commission recognized the economic benefits of the program, it nonetheless recommended that the provincial government phase out the program and postpone its introduction until the government can balance the budget. The Task Force believes, however, that full-day kindergarten, which will cost \$1.5 billion per year upon full implementation in 2015, is a necessary and beneficial investment in the future prosperity of young children and their families.<sup>14</sup>

### Full-day kindergarten brings social and economic benefits.

With less than two years left until implementation completion, the sunk costs are high and to eliminate full-day kindergarten now would be a waste of public funds. Furthermore, reports show that students are already reaping the social benefits of early learning. Educating children early in life, especially those from

lower income families, generates significantly higher returns per dollar invested than any schooling for children over the age of five.<sup>15</sup>

Before full-day kindergarten was implemented, 27 percent of children entering grade 1 were considered to be vulnerable, at risk of failing the grade and most of these children never catch up. Interestingly, 60 percent of these students were not from low-income families. Research sponsored by the Business Council of British Columbia has noted that for every 1 percent drop in this vulnerability rate, a 1 percent addition to the GDP will be achieved over the working life of each 1 percent cohort.

Preliminary results on full-day kindergarten have also been promising. Dr. Janette Pelletier, Director of the Dr. Eric Jackman Institute of Child Study, reported on the key learning from the first year of full-day kindergarten in the Peel Region.<sup>16</sup> Senior kindergarten children included in the study who were enrolled in full-day kindergarten were ahead of the control group in vocabulary and reading, and junior kindergarten students were ahead in early reading. Both junior and senior students showed greater achievement in phonological awareness.

---

12 Ontario Ministry of Education, *Great to Excellent: Launching the Next Stage of Ontario's Education Agenda*, 2013, p. 3-5; Robert Stillwell and Jennifer Sable, *Public School Graduates and Dropouts from the Common Core of Data: School Year 2009-2010*, US Department of Education, January 2013.

13 Ontario Ministry of Finance, "A Prosperous & Fair Ontario: 2013 Ontario Budget," 2013, p. 76.

14 Commission on the Reform of Ontario's Public Services, *Public Services to Ontarians: A Path to Sustainability and Excellence*, 2012, p. 29.

15 The return on each dollar invested is based on the assumption that one dollar is invested at each age of the student. James J. Heckman, "The Case for Investing in Disadvantaged Young Children," in *Big Ideas for Children: Investing in our Nation's Future*, First Focus, 2008, pp. 49-58.

16 Janette Pelletier, "Key findings from Year 1 of Full-Day Early Learning Kindergarten in Peel," Ontario Institute for Studies in Education, University of Toronto, 2012. Results presented are statistically significant.

In addition to academic accomplishments, parents also felt that senior kindergarten children who already went through a year of kindergarten at the age of four were more advanced in physical and social development, phonics, speaking, and numeracy. Even those parents with junior kindergarteners saw improvements in social development, phonics, and numeracy after just one year. These preliminary results reveal that not only is full-day kindergarten demonstrating strong academic successes, but the children appear more well-rounded and socially developed, which better prepares them for elementary school and integration into society.

A report by researchers at Queen's and McMaster Universities shows that despite challenges with incorporating play-based learning into the kindergarten curriculum and the role of early childhood educators, children with two-year full-day kindergarten education were less likely to experience the risks associated with the development of social competence, language and cognitive skills, communication skills, and general knowledge, confirming Dr. Pelletier's findings.<sup>17</sup>

**Full-day kindergarten decreases the cost of childcare for lower income families.** By using public dollars to expand full-day kindergarten, families, especially those with low incomes, will be able to reduce their out-of-pocket expenses for childcare. Full-day learning will replace existing childcare programming for the four- and five-year old children with the extended day option.

The Ontario government has committed an additional \$68 million in 2013-14 and \$85 million in 2014-15 to support the transition and expansion of childcare facilities and programs for those outside of the four- and five-year old range.<sup>18</sup> In the end, the

shifting of costs from private households to the government could help families save between \$2,100 and \$6,000 per child, per school year before subsidies.<sup>19</sup> This money that would otherwise be spent on daycare could be redirected to other household expenses. The decreased cost of childcare will alleviate the heavy financial burden that many low-income families bear, especially if they do not have access to the current childcare fee subsidy.

**Public funding per child is still lower than the US peer average.** Ontario is the first province to have "state provided" full-day kindergarten program for four and five year olds. In the 2011-12 school year, the Ontario government spent \$5,500 per kindergarten child.<sup>20</sup> This is lower than the US peer states' average investment of \$5,700, which covers spending on most four- and some three-year olds, although the type and breadth of the programs vary significantly from state to state. Many of these programs are designed to provide public education for low-income families. All US peer states, except for Indiana, have some form of pre-kindergarten program, but the annual funding per student varies between \$3,000 in Florida and \$14,400 in New Jersey.<sup>21</sup> Even if the amount of funding per kindergarten child in Ontario increases in 2015 upon full implementation to \$5,660, it will still be much lower than that in most US peer states and will certainly be a more comprehensive program that will generate higher returns than the cost. It should also be noted that US comparisons are challenging as there is no control for the quality of the programming. In this regard, how much is spent, while a good initial indicator, is not nearly as important as how the resources are spent.

## Ontario educational pedagogy must prepare students for the modern workforce

What students learn is integral to the development of the skills and knowledge that will be useful in the workplace. The current curriculum is paying off, as Ontario continues to match or outperform its peers in terms of education quality, as measured by the Programme for International Student Assessment (PISA), a standardized test administered by the Organisation for Economic Cooperation and Development (OECD). This puts Ontario in good stead in primary and secondary education, but there is room for improvement in the role that secondary schools, in particular, play in preparing students for entering the labour market and pursuing higher education.

In last year's Annual Report, the Task Force supported the notion that innovation should be taught in schools.<sup>22</sup> In doing so, students learn the skills required for innovation, which is a leading driver of economic growth. The creation of new processes and ideas that are commercialized to meet specific societal demands and needs is exactly what the entrepreneurs of today and tomorrow must do in order to create successful companies.

17 Mary-Louise Vanderlee, Sandy Youmans, Ray Peters, and Jennifer Eastbrook, *Final Report: Evaluation of the Implementation of the Ontario Full-Day Early Learning-Kindergarten Program*, 2012.

18 Ontario Ministry of Finance, "A Prosperous & Fair Ontario: 2013 Ontario Budget," 2013, p. 77.

19 The \$2,100 estimate is based the Task Force's calculation and assumes that children will be enrolled in before- and after-school care, while the \$6,000 is calculated by the Ministry of Education.

20 This number is based on calculations by Hon. Margaret Norrie McCain, J. Fraser Mustard, and Kery McCuaig, Ontario Early Childhood Education Profile, *Early Years Study 3*, 2011.

21 W. Steven Barnett, Megan E. Carolan, Jen Fitzgerald, and James H. Squires, *The State of Preschool 2011*, National Institute for Early Education Research, 2011. US dollars converted to Canadian dollars using PPP.

22 Task Force on Competitiveness, Productivity and Economic Progress, *A push for growth*, 2012, p. 68-9.

The recent Rotman DesignWorks pilot program proved successful in teaching innovation to high school students.<sup>23</sup> The Task Force is pleased to report that an expanded pilot project is underway. The Creativity, Design and Innovation Program was developed by the Institute in partnership with the University of Toronto's Rotman School of Management and delivered by a third-party vendor. The program teaches grade 5 to 8 students how to combine science, technology, engineering, and math knowledge with entrepreneurial skills to develop products and services. The program is delivered in two formats: a week-long camp and a three-hour in-school workshop module.

Currently, 450 students have participated in the pilot The Big Ideas: Creativity, Design and Innovation Camp at the Rotman School of Management, McMaster University, the University of Ottawa, and York University in summer 2013. The three-hour, in-school workshop format is currently being developed. The Task Force hopes this program will become a permanent fixture of the Ontario curriculum to instill an innovative mindset and skills in Ontario's children, which help steer them towards potential productive career paths.

Even though the Institute's work is innovative in incorporating entrepreneurial skills into the Ontario education, much more needs to be done. The Ontario government must develop a comprehensive *vocational pedagogy* that teaches students the skills, practices, processes and mindsets for particular kinds of work.<sup>24</sup> Specifically, students of vocational education must have a balanced theoretical and practical knowledge base, complex skills (creativity, critical thinking, communication, and collaboration), performance and moral character traits integral to the workplace, and

meta-layer skills such as learning to learn, generating creativity, and making connections between ideas.<sup>25</sup> These skills will enable students to take advantage of the pathways that link school and work. However, the entrenchment of these skills take time to develop and therefore should begin in elementary schools and extend into high school and post-secondary education. (See *California Partnership Academies exemplify vocational pedagogy*.)

**Post-secondary institutions must create school-to-work pathways.**

The Ontario government should also take steps to improve quality across the post-secondary education sector, and focus it towards a vocational pedagogy, and create links between learning and the workplace. Specifically, it should:

- **Standardize core competency education** – College and undergraduate university programs should create a curricula that include mandatory courses on developing competencies in critical thinking, analytical and persuasive writing, public speaking, and quantitative reasoning. Post-secondary institutions should expect different levels of achievement in these competencies depending on a student's area of focus, but all should be prepared to meet a minimum standard, which could eventually be evaluated on a standardized basis across the province, as is done through the standardized tests administered by EQAO at the primary and secondary level.
- **Create new internship and co-op opportunities** – Internships help ensure that more students can develop practical skills and gain employment experience during university and are crucial for reducing occupational mismatch. This follows the school-to-work model that combines work and

studying, such as job shadowing, mentoring, summer jobs, and internships. In doing so, students experience greater labour market attachment, and see a rise in skills acquired and wages.<sup>26</sup> Universities should work with employers to expand internship and co-op programs to allow businesses to take advantage of the Co-operative Education Tax Credit.

**Ontario must increase access to education**

Access to higher education must be strengthened. Education that can lead to better labour outcomes is meaningless if students have no access to it. This is especially important for students from low-income families and neighbourhoods. Many of the schools that perform lowest on the standardized tests administered by the EQAO often have students who are at a socio-economic disadvantage. The Ontario government did much for these schools by equalizing per student base funding starting in 1997, and has introduced several targeted "special purpose grants" since then that aim to ensure that Ontario's students not only receive equal funding to support the schools that they attend, but also benefit from as equal educational opportunities as possible.<sup>27</sup> Among the special purpose grants are the Learning Opportunities Grant (LOP), which provides additional funding to schools based on the demographics of their

<sup>23</sup> *Ibid.*

<sup>24</sup> For a comprehensive vocational pedagogy curriculum, see: Bill Lucas, Ellen Spencer, and Guy Claxton, "How to teach vocational education: A theory of vocational pedagogy," City & Guilds Centre for Skills Development, 2012.

<sup>25</sup> Charles Fadel, "Redesigning the curriculum," Center for Curriculum Redesign, 2011.

<sup>26</sup> David Neumark, "Alternative labour market policies to increase economic self-sufficiency: Mandating higher wages, subsidizing employment, and increasing productivity," National Bureau of Economic Research Working Paper No. 14807, March 2009.

<sup>27</sup> Government of Ontario, Ministry of Education, *Education Funding Technical Paper, 2013-14*, 2013, p. 25.

---

INNOVATOR:

## California Partnership Academies exemplify vocational pedagogy

California Partnership Academies (CPAs) began in 1984, based on the career academy model that prepares students in grades 10 to 12 for post-secondary education and the workplace.

---



**THEY WERE DESIGNED TO HELP** “at risk” high school students graduate and enter college or the workforce. CPAs exist as a school within a high school, and a team of teachers works with the same students throughout their high school careers. Students can participate in internships with local employers. As of May 2013, there were 473 CPAs in 22 percent of high schools across California, most of them in schools with results that fall under the Academic Performance Index. As CPAs were created to promote vocational education, each one focuses its curriculum on one of fifteen industries, such as Health Science and Medical Technology, Finance and Business, and Arts, Media and Entertainment.<sup>a</sup>

The results are promising. According to the 2009-10 report, the latest available:

- 96 percent of students attended school 80 percent of the time.
- 83 percent of CPA students earned more than 90 percent of the required credits.
- 95 percent of academy students graduated, compared to 85 percent across California.
- 57 percent of CPA students completed “a-g” course requirements, which are necessary for admissions to state universities. This is higher than the 36 percent of students who completed the requirements statewide.<sup>b</sup>

Funding for CPAs is a combination of state grants, local school district support, and contributions from employers. On average, state funding provides \$547 per student per school year, but this amount subsequently increases to nearly \$2,200 once school district and employer support are added.<sup>c</sup> The success of this program prompted the California State Legislature to develop a \$250 million California Career Pathway Trust that will offer grants for a two-year period, with priority given to programs that have funding formulas similar to the CPAs.<sup>d</sup>

CPAs were created in part because of the low high school graduation rate. The Ontario government has worked to raise this rate. However, CPAs are designed to ensure not only that students graduate but also that they become positive contributors in post-secondary institutions or workplaces. The latest CPA report does not indicate the percentage of students who successfully go onto post-secondary education or the workplace. However, 65 percent of graduating CPA seniors plan on combining college and work; 48 percent plan to work while they attend community college, and the remaining 17 percent plan to work and complete four-year college studies.<sup>e</sup>

The relatively low per student funding generates an overwhelmingly positive return on investment, because employers and school districts have a stake in helping students. Ontario can benefit from similar public-private educational endeavours that match government funding to private dollars to create pathways to the workplace for at-risk students.

---

a Charles Dayton, Candace Hamilton Hester, and David Stern, “Profile of the California Partnership Academies, 2009-2010,” California Department of Education, 2011.

b *Ibid.*, pp. 5-6.

c *Ibid.*, p. 7.

d California State Legislature, Assembly, *Education finance: education omnibus trailer bill*, Bill No. 86, Ch. 48, Legislative Counsel's Digest, July 1, 2013.

e Dayton, Hamilton Hester, Stern, “Profile of the California Partnership Academies, 2009-2010,” 2011, p. 35.

student body, including the proportion of students from low income, recent immigrant, single parent families as well as families with low parental educational attainment. The LOP funds the Student Success program, which was introduced in 2005 to reduce high school dropout rates. The LOP should be expanded, both at the elementary level and secondary levels.<sup>28</sup>

Some key avenues allow the Ontario government to assist students during their post-secondary studies and post-graduation. The Task Force recommends a number of approaches that the Ontario government might take to improve access to post-secondary education:

- **Align tuition repayment to income**  
- The Ontario government should work with the federal government to refine repayment options for federal and provincial student loans that are geared toward income, as was also recommended by the Rae Commission and is done in Australia through its Higher Education Contribution Scheme. Loan repayments should also be increasingly made through payroll deductions administered by the Canada Revenue Agency.<sup>29</sup> The Ontario Repayment Assistance Plan was introduced in 2009 for borrowers experiencing difficulties repaying their loans. Borrowers must apply for the Plan, and repayments will be recalculated based on income. However, this is different from the program in the United Kingdom, because all former students only start repaying their loans to the Student Loans Company when their incomes reach a certain level, and payments amounts are always 9 percent of the amount of the student's income that exceeds the threshold.<sup>30</sup>
- **Convert tax credits into grants**  
- As recommended in Working Paper 18, *Taxing for growth*, the Ontario

government should convert its education, textbook, and tuition amounts, which are non-refundable tax credits that most students do not have a high enough income to benefit from while they are enrolled in college or university. Provincially, these tax credits were worth \$9,300 and \$9,600 federally in 2012 for the average students. As grants, they would provide \$1,905 for every university student, which would lower tuition and mandatory fees.

- **Build three new university campuses** - The Ontario government pledged in 2011 to establish three new university campuses with a combined capacity of 60,000 students. The Task Force recommends that the Scarborough and Mississauga campuses of the University of Toronto be expanded and become two of these universities, similar to the approach taken by Ryerson University. These two new standalone institutions should incorporate innovation and vocational pedagogies into their curriculum.<sup>31</sup> Doing so would build on the model for career- and science and technology-focused university education of the University of Ontario Institute of Technology (UOIT), the Oshawa-based university, which opened in 2003. This is a more fiscally responsible way to meet the policy goal set out by the Ontario government than to build three brand new campuses.

Investing in education contributes to the future prosperity of the province. It is an area of investment that pays long-term dividends, but requires continuous contributions to ensure the quality of and access to career-oriented education are maintained. The Ontario government should build on the successes of the past decade by continuing to invest in education with a view to closing the prosperity gap.

## Promoting skilled trades is a pressing public policy issue

Canada's shortage in skilled trades workers has garnered considerable media attention in recent years.<sup>32</sup> The aging baby boomer generation, the rise in construction and industrial activity in many parts of the country, and the lack of interest amongst youth to pursue trades careers have highlighted the growing shortage in many skilled trades workers, including electricians, mechanics, carpenters, and many others.<sup>33</sup>

While Ontario is not experiencing the brunt of the shortages, there are signs of labour pressures. Analysis by the Certified General Accountants Association shows Ontario has experienced shortages in a number of trades over the past decade, including machinery and transportation equipment mechanics, motor vehicle mechanics, and electrical trades.<sup>34</sup> By their measurement, these shortages have been mostly sporadic and have not persisted for multiple years, yet an aggregated analysis of the group they define as "skilled trades" yields some interesting trends. Skilled trades have faced lower unemployment and lower annual employment growth than all

28 *Ibid*, pp. 57-62.

29 Bob Rae, *Ontario: A Leader in Learning*, 2005 Report to the Premier and the Minister of Training, Colleges and Universities, p. 80-81.

30 "Income contingent loans," Student Loans Company, accessed October 18, 2013, [http://www.studentloanrepayment.co.uk/portal/page?\\_pageid=93,6678408&\\_dad=portal&\\_schema=PORTAL](http://www.studentloanrepayment.co.uk/portal/page?_pageid=93,6678408&_dad=portal&_schema=PORTAL).

31 David Trick, "New universities for Ontario: Students at teaching-oriented schools would benefit from smaller classes and more direct contact with faculty," *Toronto Star*, 14 October 2011.

32 Skilled trades is defined as "a type of occupation that typically includes complex activities and requires skills and account knowledge of the subject," according to the Canadian Council of Directors of Apprenticeship. Wendy Pyper, "Skilled trades employment," *Statistics Canada Perspectives on Labour and Income*, 2009, Vol. 9, No. 10.

33 Pyper, "Skilled Trades Employment," *Statistics Canada*, 2009.

34 Rock Lefebvre, Elena Simonova, and Liang Wang, *Labour Shortages in Skilled Trades - The Best Guestimate?* Certified General Accountants, 2012.



other occupations in Ontario (Exhibit 11). As expected, given the highly cyclical nature of the industry, the unemployment rate for skilled trades rose sharply during the 2009 recession to 9.6 percent, and employment shrank by 7.1 percent. However, the skilled trades have recovered to a much greater extent than all other occupations since then. While unemployment for all other occupations has remained above 8 percent in Ontario, for skilled trades it dropped to 5.3 percent in 2012.

It is important to advise a word of caution when interpreting these results. The lack of current labour market information makes it extremely difficult to assess labour shortages, and metrics such as unemployment, employment, and wage growth do not provide a complete enough picture. As well, the Task Force recognizes that the definition of skilled trades used here refers particularly to highly skilled trades and thus they are likely to experience lower unemployment than other trades.

Overall, Ontario is not expected to experience severe labour shortages in

the skilled trades, but several factors prompt the need to examine how well prepared the province is for a spike in demand for these occupations. First, Ontario had the second highest construction GDP per capita in 2012 among its US peers. This is likely to increase as infrastructure projects across the province, especially across the Toronto region, proceed, and major mining development takes place across northern Ontario. Second, the large number of expected retirees and the high levels of demand for skilled trades in other parts of the country are likely to draw many skilled trades workers out of the Ontario workforce.<sup>35</sup> The Task Force is wary of overstating the potential for labour shortages, but affirms that labour pressures are likely to persist given current trends.

Ontario must improve its system of education and training for the skilled trades to ensure a steady supply of qualified workers in these important industries. The province benefits from a relatively young workforce in the trades compared with other occupations. In 2012, 56.9 percent of trades

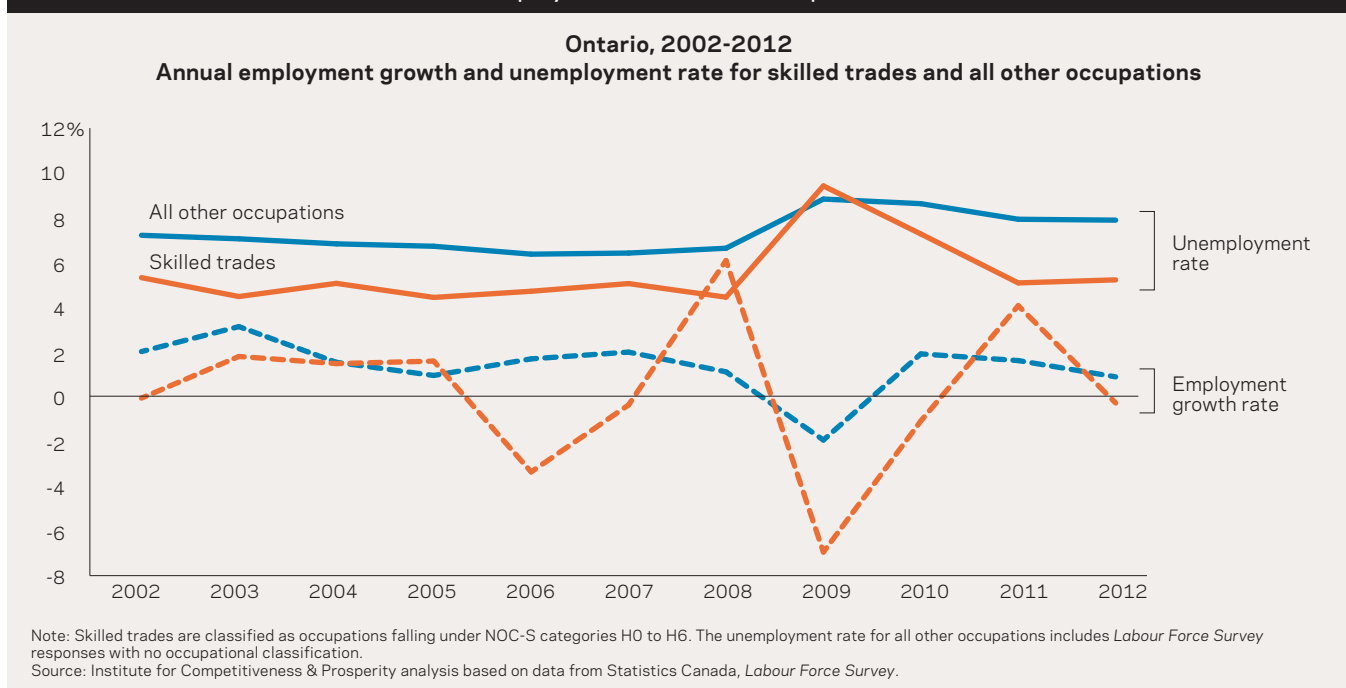
workers in Ontario were under the age of 45, versus 48.7 percent for all other occupations. But there are many issues with the apprenticeship system that prevent young people from becoming qualified trades people and do not adequately equip them with the right skills for many jobs. Unless the current system is reformed, the province will lack the numbers and quality of skilled trades workers needed to remain competitive.

### Ontario should enhance its training policy in skilled trades

Ontario's regulations and incentives for employing skilled trades have been ineffective and often counter-productive in creating more and better-trained skilled tradespeople. The traditional route to becoming a tradesperson is by completing an apprenticeship program. Apprenticeships are a training arrangement between employers and apprentices in which the apprentice learns under the guidance of an experienced

<sup>35</sup> Construction Sector Council, "Construction Looking Forward: 2013-2021 Key Highlights - Ontario," 2013.

Exhibit 11 Skilled trades face lower unemployment than other occupations



tradesperson, known as a journey-person. Apprentices are paid during their apprenticeship, which usually lasts two to five years, and attend classes between their hours of practical experience. To qualify as a formal journey-person, a worker must either complete an apprenticeship program and obtain a certificate or pass a trade-qualifying exam if they have equivalent experience. In 2011, Ontario had over 153,000 registered apprentices and issued 10,200 apprenticeship certificates and 4,332 trade qualifying certificates, according to Statistics Canada's Registered Apprenticeship Information System.

Apprentices in the province can either find an employer willing to hire them as an apprentice or be matched with an employer through the Ontario Youth Apprenticeship Program (OYAP). Some apprenticeships are also found through trade unions or through college diploma programs. The Ontario government has recently introduced Coop Diploma Apprenticeship Programs, in which a student can complete an apprenticeship and a diploma at the same time. Ontario

also introduced the Apprenticeship Training Tax Credit that covers between 35 and 45 percent of the cost of training an apprentice, up to a maximum of \$10,000, to encourage firms to hire apprentices.

Clearly, there is substantial policy momentum to promote apprenticeships in the province. Unfortunately, many of these efforts are stifled by low completion rates in apprenticeship programs and poorly-designed incentives to hire and keep apprentices. The number of apprenticeship certificates issued between 2004 and 2011 was less than half the number of new apprenticeship registrations for most trades (Exhibit 12). This contrasts sharply with university completions in the province. According to the Higher Education Quality Council of Ontario, 81 percent of undergraduate students who enrolled in university in 2003 graduated by 2010.<sup>36</sup>

The reasons for the low completion rate in apprenticeships are numerous. Completion rates are generally higher for trades where certification is compulsory rather than voluntary and

for apprentices who have already completed high school or some other form of preparatory education.<sup>37</sup> In Ontario, only 17 percent of trades have compulsory certification versus 28 percent in Alberta and 50 percent in Québec. Not surprisingly, these provinces have much higher apprenticeship completion rates as a result. The rate of workers with apprenticeship certificates is 45 per 1,000 full-time workers in Ontario versus 79 in Alberta and 85 in Québec.<sup>38</sup> The higher success rate among those who have completed high school also shows that individuals with higher literacy levels are more likely to succeed in training programs.<sup>39</sup> In addition, apprenticeship completion rates are negatively related to the

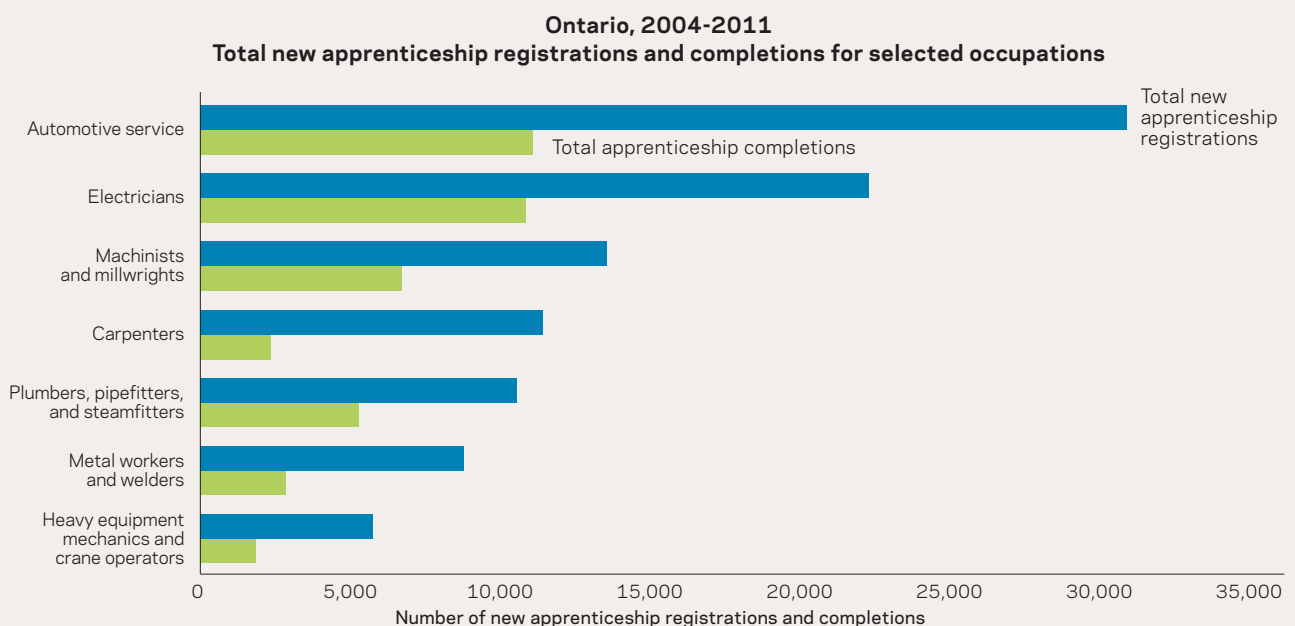
36 Higher Education Quality Council of Ontario, *Graduation Rate for Ontario Universities*, Ministry of Training, Colleges and Universities, 2010.

37 Christine Laporte, and Richard E. Mueller, *The Completion Behaviour of Registered Apprentices: Who Continues, Who Quits, and Who Completes Programs?* Statistics Canada Analytical Studies Branch Research Paper Series, March 2011.

38 CD Howe Institute, *Access Denied: The Effect of Apprenticeship Restrictions in Skilled Trades*, May 2013.

39 Task Force on Competitiveness, Productivity and Economic Progress, *A push for growth*, 2012.

Exhibit 12 Less than half of apprentices complete their programs for most trades



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

amount of technical training involved and the length of time needed to complete the apprenticeship.<sup>40</sup> The median minimum apprenticeship term in Ontario is 6,600 hours versus 4,800 hours in Alberta. Evidence also suggests there is a relationship between apprenticeship completions and overall labour market trends. In times of boom or bust, apprenticeship completion rates may be lower as workers either choose not to pursue a career in the trades or find well-paid work without needing to complete their apprenticeship.<sup>41</sup>

Arguably the most flawed aspect of Ontario's apprenticeship system, however, are the restrictions placed on the number of apprentices employers can hire. The Ontario College of Trades sets the minimum number of journeypersons that must oversee each apprentice in a company. This is to ensure apprentices get enough experience and tutelage during their apprenticeship. This policy has worked to restrict many students from being taken on as apprentices in Ontario. The average journeyman-to-apprentice ratio across trades in Ontario is 1:1 versus 1:2 in Alberta, Saskatchewan, and Newfoundland. This means Ontario employers can take on half as many apprentices as these other provinces.

Support for having higher journeyman-to-apprentice ratios is largely justified on the grounds that they increase workplace health and safety by ensuring more supervision of inexperienced workers. The number of work-related injuries in 2010 was 9.1 per 1,000 employees in Ontario versus 11.1 per 1,000 employees for Alberta, 18.3 per 1,000 employees for Newfoundland, and 23.5 per 1,000 employees for Saskatchewan, according to the latest data from the Human Resources and Skills Development Canada. However, academic research shows little connection between safety and journeyman ratios,

despite the seeming correlation.<sup>42</sup> Québec's workplace injury rate is double that of Ontario's, despite having even stricter journeyman-to-apprentice ratios in most trades. A better policy might see regulation requiring that at least one journeyman is accountable for each apprentice, rather than mandating the number of journeypersons on site.

Ontario's apprenticeship training tax credit policy may also discourage some companies from hiring and keeping apprentices until they become certified. Companies are only eligible to claim the costs of training apprentices within the first forty-eight months of registration with the Ministry of Training, Colleges and Universities. This may discourage apprenticeship completion, if the apprenticeship is longer than four years or if the apprentice waited a significant amount of time before beginning employment.

The patchwork of programs designed to promote skilled trades in Ontario has been relatively ineffective at best. The pathway to apprenticeships is still unclear for many students, and employers are often barred from hiring apprentices because of the strict journeyman ratios set by the Ontario College of Trades. The province's complex and bureaucratic system should be simplified to improve industries' labour outcomes.

**Ontario needs a combination of better skills development and less red tape.** To fix the apprenticeship system, Ontario must link its apprenticeship requirements better with industry demands and focus more on improving the skill level of trades workers. Focusing regulation on outputs in trades qualification rather than inputs will serve to improve the productivity of the industry rather than restrict entry into the trades.<sup>43</sup> A shift toward regulations on trades quality would see better safety rules and more rigorous certification

procedures. This will increase employment in the trades and also improve the level of training offered to trades workers as formal apprenticeship programs will be more widely encouraged. The current policy of setting limits on the number of workers firms can hire hampers Ontario's goal of increasing trades employment. These restrictions should be substantially reduced or eliminated.

Ontario also needs to better link students to apprenticeship opportunities in the secondary school system. Despite some public awareness campaigns to encourage young people to pursue trades, there continues to be a negative perception of trades amongst educators and parents in Ontario and a lack of proper guidance within secondary schools.<sup>44</sup> The Ontario Youth Apprenticeship Program was created to better promote skilled trades in high schools and provide an additional school-to-work pathway for students who otherwise may drop out of high school, but the majority of OYAP participants fail to register as apprentices.<sup>45</sup> This is mainly due to the difficulty of finding an employer.

40 Patrick J. Coe, *Apprenticeship Program Requirements and Apprenticeship Completion Rates in Canada*, Canadian Labour Market and Skills Researcher Network Working Paper No. 71, January 2011.

41 Laporte and Mueller, *The Completion Behaviour of Registered Apprentices: Who Continues, Who Quits, and Who Completes Programs?* 2012.

42 William R. Lorimer, *Relevance of Apprenticeship Ratios in the Plumber Trade in Ontario*, Canadian Centre for Policy Studies, January 2013; Gavan J. Howe, *Why Apprenticeship Ratios Matter*, Written Submission to the OCOT Panel for Apprentice Ratio Reviews, January 2013.

43 CD Howe Institute, *Access Denied: The Effect of Apprenticeship Restrictions in Skilled Trades*, 2013.

44 Conference Board of Canada, *Solving the Skilled Trades Shortage, 2002*; Marc Molgat, Frédéric Deschenaux and Patrice LeBlanc, "Vocational education in Canada: Do policy directions and youth trajectories always meet?" *Journal of Vocational Education & Training*, 2011, Vol. 63, No. 4, pp. 505-24.

45 A.J.C. King, W.K. Warren, M.A. King, J.E. Brook, et al., *Who Doesn't Go to Post-Secondary Education? Final Report of Findings*, Colleges Ontario Collaborative Research Project, October 2009.

To resolve this, better coordination is needed between educators, employers, training delivery agents and prospective apprentices. While 85 percent of apprenticeship classroom training is done through the college network in Ontario, apprentices must find an employer who is willing to hire them as an apprentice before they begin the apprenticeship program. This aspect of the program appears to be highly misunderstood by many parents and students and poorly communicated by high school guidance counsellors. While university and college are seen as clear pathways for students, the challenge of having to find an employer is a major disincentive for many students to enroll in apprenticeships.<sup>46</sup> Ontario's Coop Diploma Apprenticeship Program is an excellent initiative to simplify the process for students to enhance training and education in the trades, as it assigns employers to apprentices and better incorporates classroom education. This program should be expanded or used as a model to better link apprentices and employers. The Canadian Apprenticeship Forum also recommends better dissemination of best practices across industries to improve mentoring and curriculum in apprenticeship programs.<sup>47</sup>

There are many reasons why improving apprenticeship programs will boost skilled trades employment and productivity. Over time, standardized training in more trades will improve the skill level of new workers, which may result in higher wages as they become more productive and can offer better 'signals' to potential employers through their qualifications. Currently, 37 percent of discontinuers of apprenticeship programs in Canada earn between \$25 to \$50 per hour versus 50 percent of completers. The median hourly wage for apprenticeship completers is 35 percent higher than for non-completers.<sup>48</sup>

More important, as many trades become more technology intensive, particularly in many manufacturing, drilling, and automotive trades, the skill level required is highly demanding. Apprentices not only need to learn the basic practical knowledge of their trade; increasingly, they must be skilled in critical thinking, numeracy, computer skills, and many basic science and engineering principles. This comprehensive kind of training is much more effective through formal apprenticeship programs using a combination of classroom learning and on-the-job experience. It also fosters the tools required for innovation in the industry, rather than simply traditional company practices.<sup>49</sup>

The Institute recommends the following changes to boost employment in skilled trades in Ontario:

- Work with the Ontario College of Trades to expand the number of compulsory trades in the province. This will boost apprenticeship completion rates and in turn, trades training.
- Reduce or eliminate journey person to apprentice ratios.
- Amend the structure of the Apprenticeship Training Tax Credit to commence from the time of employment rather than registration and adjust the period of eligibility according to the length of apprenticeship.
- Work with secondary schools to provide better information to students and parents on how to find prospective employers for an apprenticeship.

The task of reforming Ontario's broken apprenticeship system will require effort from educators and policymakers. It is clear that skills development in trades has been

overlooked for too long in Canada and Ontario can no longer rely on immigrants to build the province's future. It is time Ontarians apply their fervour for higher education toward creating a competitive system for developing talented and productive tradespeople. (See *Alberta is creating a new model for Canadian apprenticeships.*)

## Ontario's North holds great economic potential

Northern Ontario – the vast expanse of land stretching from the province's Parry Sound district to Hudson Bay – is at the cusp of substantial economic expansion as the discovery of new mineral deposits promises to generate many investments and new businesses across the region. This could be the beginning of a new era for the region and a bold new development for Ontario's economy. Education, infrastructure, and business investments are key elements of the Task Force's AIMS structure for Ontario to achieve heightened prosperity. All of these will play a key role in Ontario's mining development.

There are many challenges associated with pursuing the development of this region, which has struggled with declining industry and impoverished conditions. Major new infrastructure will be needed, along with significant improvements to education and skills development across the region. Environmental assessments should be introduced to establish what areas can be mined and what areas should be protected, and the government will need to work with Aboriginal

<sup>46</sup> *Ibid.*

<sup>47</sup> Canadian Apprenticeship Forum, *Investigating Apprenticeship Completion in Canada: Reasons for Non-Completion and Suggested Initiatives for Improving Completion*, April 2011.

<sup>48</sup> *Ibid.*

<sup>49</sup> John E. Lyons, Bikkar S. Randhawa, and Neil A. Paulson, "The Development of Vocational Education in Canada," *Canadian Journal of Education*, 1991, Vol. 16, No. 2, pp. 137-50.

---

INNOVATOR:

## Alberta is creating a new model for Canadian apprenticeships

The skilled trades shortage is much more pronounced in Canada's western provinces than in Ontario, because of the extensive natural resource development in Alberta and Saskatchewan, but Alberta has responded to this need with aplomb.



**IN ADDITION TO REQUIRING CERTIFICATION** for more trades, which has contributed to higher rates of apprenticeship training and certification, in 2011 the province changed the journeyman-to-apprentice ratio, so that all trades now have a ratio of 1:2 or more. This has allowed more people to enter into the trades and given businesses more ability to expand.

Alberta also developed a more advanced system of examinations and college training. Colleges, such as the Northern Alberta Institute of Technology and the Southern Alberta Institute of Technology (SAIT), have worked closely with employers across the province along with Alberta's Apprenticeship and Industry Training Board to expand their range of apprenticeship programs available. More employer participation in apprenticeship programs has resulted in a more dynamic system of regulations and better content in apprenticeship curricula.<sup>a</sup>

Alberta's model of engaging stakeholders and employers can be used to create better safety standards that can be enforced without the indirect policy of higher journeyman ratios. This can also be applied to improve the effectiveness of apprenticeship training by standardizing how and by whom apprentices are overseen.

Alberta has devoted tremendous attention to improving both the quality and the number of its skilled tradespeople. It has recognized the need to emulate the broader higher education system in how it trains workers in the skilled trades. Ontario can learn from this example by scaling back its restrictions on journeymen to apprentices and focusing on qualitative outputs by boosting certification and working more closely with employers and training providers to expand apprenticeship programs.

---

<sup>a</sup> Andrew Sharpe and James Gibson, *The Apprenticeship System in Canada: Trends and Issues*, Centre for the Study of Living Standards, September 2005.

communities to ensure development upholds their best interests and respects their treaty rights.

Northwestern Ontario is the site of most of this development, as much of the mining exploration centres around the area dubbed the “Ring of Fire,” located approximately 500 kilometres north of Thunder Bay (Exhibit 13). Currently, 20 exploration companies hold approximately 12,850 claims in this region.<sup>50</sup> The major deposits include chromium (used in manufacturing stainless steel and other key commodities), copper, iron, nickel, vanadium, platinum, palladium, and gold.<sup>51</sup> Northwestern Ontario as a whole currently has six active mines, including four of the

largest gold mines in Canada, which could increase up to 88 should all exploration projects come to fruition.<sup>52</sup>

The economic value of these mines is projected to be one of the most significant Canadian resource developments of the past half-century. Estimates of the value of un-mined metals and minerals vary, but preliminary studies indicate the development could generate between \$20 and \$30 billion in GDP for the province over the next thirty years and employment growth of more than 13,000 jobs – an increase of nearly 13 percent from its 2012 level – across northwestern Ontario.<sup>53</sup> Of the projected value of the mines, 56 percent will be derived from chromite, 23 percent from gold,

16 percent from iron, and 5 percent from other metals and minerals.

These are promising numbers, especially considering the current economic conditions of northwestern Ontario. Mining development would bring a much needed boost to employment and household incomes in the area. Northwestern Ontario has faced

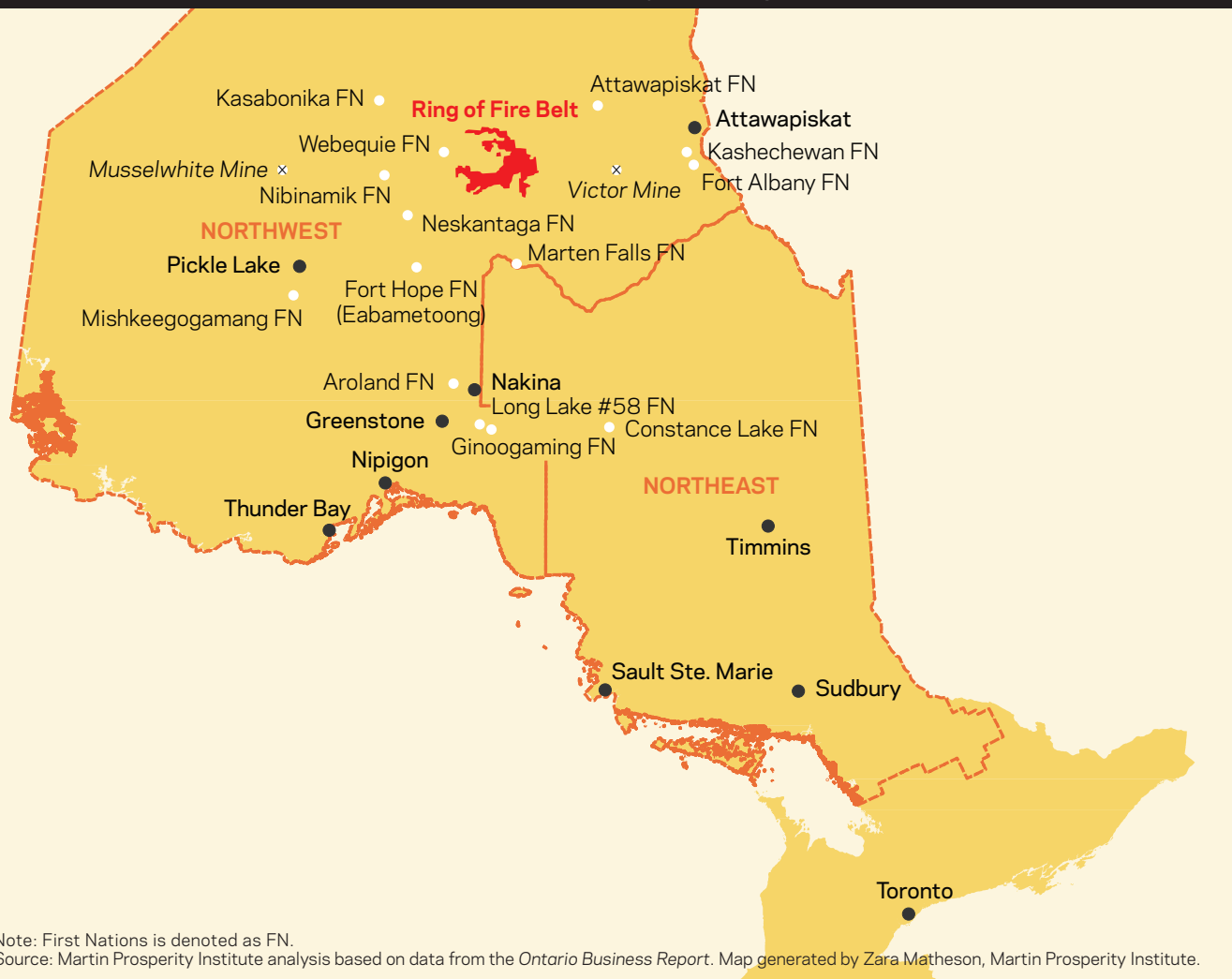
50 Claims are defined as property rights that give the holder the right to exploit, mine, and produce any new minerals found within the area specified.

51 Ontario Business Report, “Ring of Fire lights up Northern Ontario’s mining industry,” Government of Ontario, 2012.

52 Dadgostar Bahram, Sam Garofalo, Nikola Gradojevic, Camillo Lento et al., *Mining in Northwestern Ontario: Opportunities and Challenges*, September 2012.

53 Ontario Chamber of Commerce, *Ring of Fire, 2013*; Bahram et al., *Mining in Northwestern Ontario: Opportunities and Challenges*, 2012.

**Exhibit 13 Northwestern Ontario is the site of major mining development**



a decline in employment while employment province-wide has grown by 12.5 percent (Exhibit 14). In 2012, the unemployment rate in northwestern Ontario was 6.7 percent – lower than the overall provincial unemployment rate of 7.8 percent – but the participation rate was 62.7 percent, nearly 4 percentage points lower than the overall Ontario rate. Similarly, median household income was more than 10 percent lower in northwestern Ontario than in the province overall, and the proportion of post-secondary graduates was substantially lower: 55.3 percent in northwestern Ontario versus 63.5 percent in Ontario overall.

Mining development in northwestern Ontario may raise the natural resource component of the provincial economy. Ontario is not a natural resource-focused province. The proportion of provincial GDP from mining and extraction industries is less than 1 percent. This is less than that in Ontario’s peer states and much less than the weighted average of all other Canadian provinces and territories. Alberta derived 22.1 percent of its GDP in 2012 from mining and other natural resource extraction, while Newfoundland derived 33.2 percent.

Mining development poses challenges for Ontario. For starters, wealth generation typically stops once a

mine’s deposits are exhausted. This may create significant hardship for mining communities if there is little economic base beyond the mining activity. In addition, there may be a “resource curse” in which mining and other extraction industries slow economic growth, cause lower income levels, and crowd out capital formation in other sectors of the economy.<sup>54</sup>

This is not cause for Ontario to not pursue mining development; instead, it emphasizes the importance of thoughtful and forward-thinking development rather than profit-driven extraction. Ontario has an excellent opportunity to set the agenda for how mining development will unfold so that it benefits local communities along with the rest of the province for many years to come. Ensuring mining development reaches its maximum potential will require involvement from policymakers, business leaders, and all northern communities. The federal and provincial governments must work decisively and quickly, as many mines are slated to enter production within the next five years.

#### **Better educational resources are necessary for economic development in the North**

The proportion of individuals with either a high school education or post-secondary education is significantly lower in northwestern Ontario than in the rest of the province. The

reasons for this are complex and numerous. Many students in remote areas of the province must travel long distances to get to the closest high school. Those fortunate enough to have a school nearby often have poor educational resources and low educational attainment among the local population.<sup>55</sup> This is particularly prevalent in Aboriginal communities, which account for 20 percent of the population of northwestern Ontario and almost the entire population surrounding the Ring of Fire area.

A key challenge for mining development will be filling the recruitment needs. Using projections from the Mining Industry Human Resources Council, it is estimated that there will be over 650 new positions created in northwestern Ontario in 2014 and well over 3,000 by 2017.<sup>56</sup> Many of these new positions are in the skilled trades, including electricians, millwrights, and heavy equipment operators, along with development miners, truck drivers, and other labourers in vast numbers. This hiring requirement will prove difficult to meet given the general educational

54 John R. Boyce and J.C. Herbert Emery, “Is a negative correlation between resource abundance and growth sufficient evidence that there is a ‘resource curse?’” *Resources Policy*, 2011, Vol. 36, No. 1, pp. 1-13.

55 Ontario Ministry of Infrastructure, *Growth Plan for Northern Ontario*, 2011.

56 Bahram et al., *Mining in Northwestern Ontario: Opportunities and Challenges*, 2012.

**Exhibit 14 Northwestern Ontario faces greater economic challenges than the rest of the province**

	Northwestern Ontario	Ontario
Median household income (C\$ 2012)	\$60,576	\$67,678
Employment growth (2002-2012)	-10.7%	12.5%
Unemployment rate (2012)	6.7%	7.8%
Participation rate (2012)	62.7%	66.5%
Percent aged 25-29 with high school diploma	79.1%	89.7%
Percent aged 25-54 with post-secondary education	55.3%	63.5%
Percent of population identifying as Aboriginal	19.8%	2.0%

Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada, 2006 Census and Labour Force Survey.

attainment of the region. Many companies are likely to hire temporary foreign labour, since under federal regulations employers are permitted to pay them up to 15 percent less than they would a domestic hire. Without incentives to hire locally, or a sufficient number of local workers, mining companies are likely to recruit in great numbers from abroad. (See *Noront Resources is a leader in responsible, sustainable mining development.*)

Aboriginal peoples are prime candidates for many of these mining positions, as they have a long history of living and working in the remote regions of northwestern Ontario. However, major investments are needed to increase educational resources in Aboriginal communities and tailor them to local cultural needs. While 22.2 percent of Ontarians aged 15 and over have no certificate, diploma, or degree, 37.6 percent of Aboriginal peoples over the age of 15 have no certificate, diploma, or degree, according to the 2006 Census.<sup>57</sup>

Industry leaders and policymakers must work with local high schools and colleges to develop mining programs and encourage young people to enroll in them. The Ontario Ministry of Training, Colleges and Universities is currently undergoing a number of initiatives to address this. To increase access to post-secondary education, the government has created Distance Grants through the Ontario Student Assistance Program and a program entitled Contact North, which provides space and equipment for students pursuing distance education. Special programs have also been created to enhance education and training development in Aboriginal communities. These are laudable initiatives and will likely figure more prominently in public policy discussions as mining development proceeds.

Yet the province may also need to build more schools at all education

levels to increase the skill level of these communities. This is crucial for the development's success, as there is a great opportunity to extend this economic growth to many of the province's most disadvantaged communities. Without skills development, these projects will simply not enter the development stage or will have to rely on labour sourced outside the communities.

Increasing the educational attainment of northwestern Ontario is a long-term process and will not be completed in time to fulfill many of the immediate labour requirements for planned mining projects. Agreements are currently being established between First Nations communities, government, and mining companies to ensure that a proportion of jobs are filled by local workers. However, experience from other Canadian mining developments shows that companies are often unable to fill these requirements because of the poor skill level and lack of interest from local workers.<sup>58</sup> Governments must resolve this by rolling out educational programs as quickly as possible and introducing other incentives for companies to hire locally. One way is to promote and extend current apprenticeship tax credits for mining employment training. Companies that hire apprentices would be eligible for tax breaks that alleviate the cost of hiring and training workers. This will speed up the process of getting workers trained and employed.

### **Major infrastructure investments are needed for mining development**

In addition to training and educational investments, Ontario will need to make major investments in infrastructure to accommodate mining development. This includes new roads, rail lines, and especially expansions to the power grid. Many regions in northwestern Ontario currently run on diesel generators and

have no access to power generating stations. Many roads can only be accessed during the winter when ice forms and vehicles can drive across bodies of water. As a result, over 671 km of all-weather gravel will need to be constructed to allow transporters and workers to access the mining areas currently in development.

It is estimated that capital costs for infrastructure improvements and construction will amount to approximately \$1.7 billion.<sup>59</sup> This is a substantial government expense, but a fraction of the estimated government revenue to be reaped from the mining development. Infrastructure improvements are a valuable use of public dollars and should be developed in consultation with industry stakeholders. Mining companies should also expect to pay their fair share of the cost of infrastructure improvements.

But infrastructure should not extend to mining development sites alone. Many Aboriginal communities are long overdue for infrastructure improvements. With little to no access to a power grid, improvements to schools, arenas, health care centres, nursing stations, and housing have been hindered for years.<sup>60</sup> As these services are all linked to community health and engagement, it is pivotal that infrastructure improvements are made in these communities.

To facilitate this, the federal government is in the process of establishing agreements with local communities as part of its infrastructure plans.<sup>61</sup> These agreements will allow residents to take part in the decision making

<sup>57</sup> Ontario Trillium Foundation, *Aboriginal Communities in Profile: Ontario*, 2006.

<sup>58</sup> David McKie, "Ring of Fire mining may not benefit First Nations as hoped," *CBC News*, 27 June, 2013.

<sup>59</sup> Bahram et al., *Mining in Northwestern Ontario: Opportunities and Challenges*, 2012.

<sup>60</sup> *Ibid.*

<sup>61</sup> Government of Canada, *Action Plan for Supporting Community Participation in the Ring of Fire*, Briefing Note Annex C, February 2013.



INNOVATOR:

## Noront Resources is a leader in responsible, sustainable mining development

Toronto-based Noront Resources is one of the most active mining prospecting companies in the Ring of Fire region, having been one of the first to discover the area's potential in 2007.



**NORONT HAS INVESTED OVER \$150 million** in exploration and plans to proceed to development with its Eagle's Nest project within the next five years.<sup>a</sup>

Noront is a commendable industry player for many reasons. It aims to fill a third of its workforce requirements from local Aboriginal communities and has created a scholarship program to help Aboriginal youth pursue post-secondary education. The company is also working with Confederation College in Thunder Bay to develop a drilling program for future recruits and is exploring ways to bring training programs to more remote communities so students will not have to travel far from home.<sup>b</sup> Noront is also proposing an entirely underground nickel mine, with a mill and tailings storage facility, to keep land disturbance to a minimum.<sup>c</sup>

Noront is taking its corporate social responsibility seriously and is devoting substantial capital and time to investing in local talent and preserving the natural habitat. The company is innovating the way mining companies engage with local communities and work with them to support development. With its forward-thinking and collaborative approach, Noront is a business that should be emulated across northwestern Ontario.

a "Noront Resources," Noront Resources, accessed 30 August, 2013, <http://www.norontresources.com/?projects>.

b Heather Scofield, "Timely job training sought for first nations in Northern Ontario," *The Globe and Mail*, 26 December 2012.

c "Ring of Fire lights up Northern Ontario's mining industry," *Ontario Business Report*, Government of Ontario, 2012.

process of what gets built where and how it will affect their communities. This will ensure that all infrastructure spending achieves the maximum social benefit possible. For example, when deciding on where to build roads or how to connect sites to a power grid, community members can work with planners and industry representatives to create plans that will benefit all stakeholders. This will prevent any one-sided infrastructure planning and maximize the use of public dollars.

The Institute applauds this initiative, but emphasizes that agreements must be reached promptly, as mining development is already underway. With careful planning and consultation, the government can set northwestern Ontario on a path to widespread economic development. These projects will be expensive, but will act as a key investment into the province's future prosperity.

### Ontario should work with environmental groups to establish best mining practices

Mining development in northwestern Ontario raises several environmental concerns. The Ring of Fire region has never experienced industrial development before and represents one of the largest continuous wetland areas on the planet and a key carbon sink for Canada through its vast expanse of peat. Many of Canada's largest rivers drain out of the area and much of the land is composed of muskeg (a sponge-like ground cover) that is notoriously difficult to build on.<sup>62</sup> Environmental groups have claimed that development is occurring faster than scientists and First Nations communities can study sensitive areas and their residing wildlife.<sup>63</sup>

62 Heather Scofield, "Timely job training sought for first nations in Northern Ontario," *Globe and Mail*, 26 December 2012.

63 Rike Burkhardt, Peter Rosenbluth, and Julee Boan, *Mining in Ontario: A Deeper Look*, Ontario Nature, 2012.

To proceed with development and ensure all parties are satisfied with the result, Ontario must provide clear and mandatory environmental regulations for mining companies. This should include environmental assessments in consultation with environmental groups and First Nations communities. The latter is especially important, as Aboriginal peoples have constitutional rights to protect the maintenance of their traditional lifestyle. This includes the preservation of waterways and forests for hunting, trapping, fishing and gathering. Already, the Kitchenuhmaykoosib Inninuwug (a remote Aboriginal community in northern Ontario) have been granted a ruling from the Ontario Superior Court banning development on 24,000 square kilometres of land, stating that no award of damages could compensate the community for losses of cultural practices if mining development were to proceed.<sup>64</sup> Similar legal battles are expected to continue as more mining claims are staked.

By working with environmental groups and Aboriginal communities, Ontario can provide a clear path for representatives to voice their concerns and take part in consultations. This can help mitigate intense legal battles further along the development process. In addition, ongoing monitoring and planning will help reduce environmental impacts by identifying and addressing problems early.

### **Investment in ICT is an important component of economic growth**

Firms' investments contribute to continuous improvements in production processes and increases in prosperity levels. In recent years, the debate regarding capital investment took a slightly different turn. An important branch of economic analysis evolved around explaining how

increasing investments in information and communications technology (ICT) have affected economic growth and labour productivity.<sup>65</sup>

Investments in ICT can be defined broadly as those in three main categories of capital: computers, software, and communication equipment. Using these variables in aggregate, most authors identify the effect of ICT investment on productivity. Initial contradictory results on this topic led to the concept of "productivity paradox," which refers to the rapidly increasing levels of investment in computers and ICT with no real productivity gains. The most famous reference to this odd finding came from Robert J. Solow, who stated that, "you can see the computer age everywhere but in the productivity statistics."<sup>66</sup> Why did firms invest heavily in ICT if no greater returns were to be expected from it? Puzzled by this question, analysts used up-to-date data and different techniques to find out the true effects of ICT investment.

During the periods 1979-85 and 1985-92 in the United States, some authors found that the share of capital investment in computers contributed to 0.52 and 0.38 percentage points of the total economic growth of 2.89 and 2.49 percent, respectively.<sup>67</sup> Others found similar numbers for different OECD countries. In Canada, from 1980 to 1985 and between 1985 and 1990, total ICT investment accounted for roughly 0.30 and 0.33 percentage points of the total output growth of 2.66 and 2.90 percent, respectively.<sup>68</sup> Most important, the contribution of ICT investment on total economic growth increased through most of the 1980s and 1990s. Coupled with similar findings for labour productivity, the new wave of studies of this topic provided the final piece of evidence to solve the productivity paradox.

### **Differences in labour productivity in Canada and the United States are connected to differences in ICT investment**

Despite the similarities in overall economic growth between Canada and United States, labour productivity growth in the two countries differs substantially. In the manufacturing sector, during the period from 1990 to 1994, the productivity growth rate in the two countries matched (Exhibit 15). While the US manufacturing sector productivity continued the upward trend, Canada's experienced a decrease in the growth rates starting in 1995. Using five-year averages, the Task Force found that, between 1990 and 1994, labour productivity growth in Canada and the United States was around 3 percent. From 1995 to 1999, productivity growth was 2.4 and 4.8 percent in Canada and the United States, respectively. The discrepancy increased in the period from 2000 to 2005. Then, the United States experienced a growth rate of labour productivity of 4.4 percent, while Canada's growth rate on this dimension was 0.7 percent.

Comparison of the non-manufacturing sectors reveal similar findings. Growth rates of labour productivity for US non-manufacturing industries

64 "Ontario bans mining on huge stretch of land," *CBC News*, 5 March 2012.

65 Erik Brynjolfsson and Shinkyu Yang, "Information Technology and Productivity: A Review of the Literature," *Advances in Computers*, 1996, Vol. 43, pp. 179-214.

66 Robert M. Solow, "We'd Better Watch Out," *New York Times Book Review*, 1987, p. 36.

67 Dale W. Jorgenson and Kevin Stiroh, "Computers and Economic Growth," *Economics of Innovation and New Technology*, 1995, Vol. 3, No. 3-4, pp. 295-316.

68 Alessandra Colecchia and Paul Schreyer, "ICT Investment and Economic Growth in the 1990s: Is the United States a Unique Case? A Comparative Study of Nine OECD Countries," *Review of Economic Dynamics*, 2002, Vol. 5, No. 2, pp. 408-42.

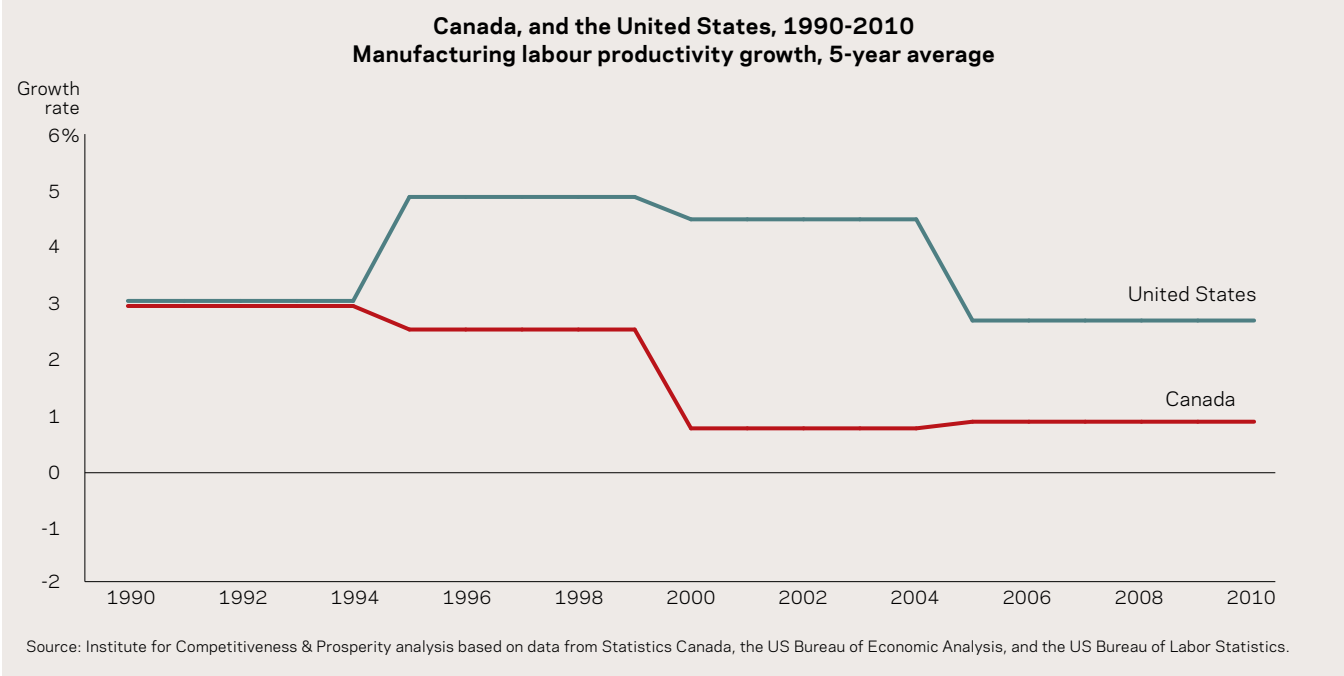
have been consistently higher than growth rates in Canada (Exhibit 16). In the United States, the five-year average growth rates remained constant from 1990 to 1998 at 1.7 percent. In Canada, these rates showed improvement from the period of 1990-94 and 1995-99, going from zero growth to 1 percent.

This improvement was mainly driven by four industries: construction, financial services, retail trade, and wholesale trade.<sup>69</sup> Combined, these four industries account on average for 35 percent of Canada's GDP. As in the manufacturing case, US labour productivity growth in the non-manufacturing sector increased

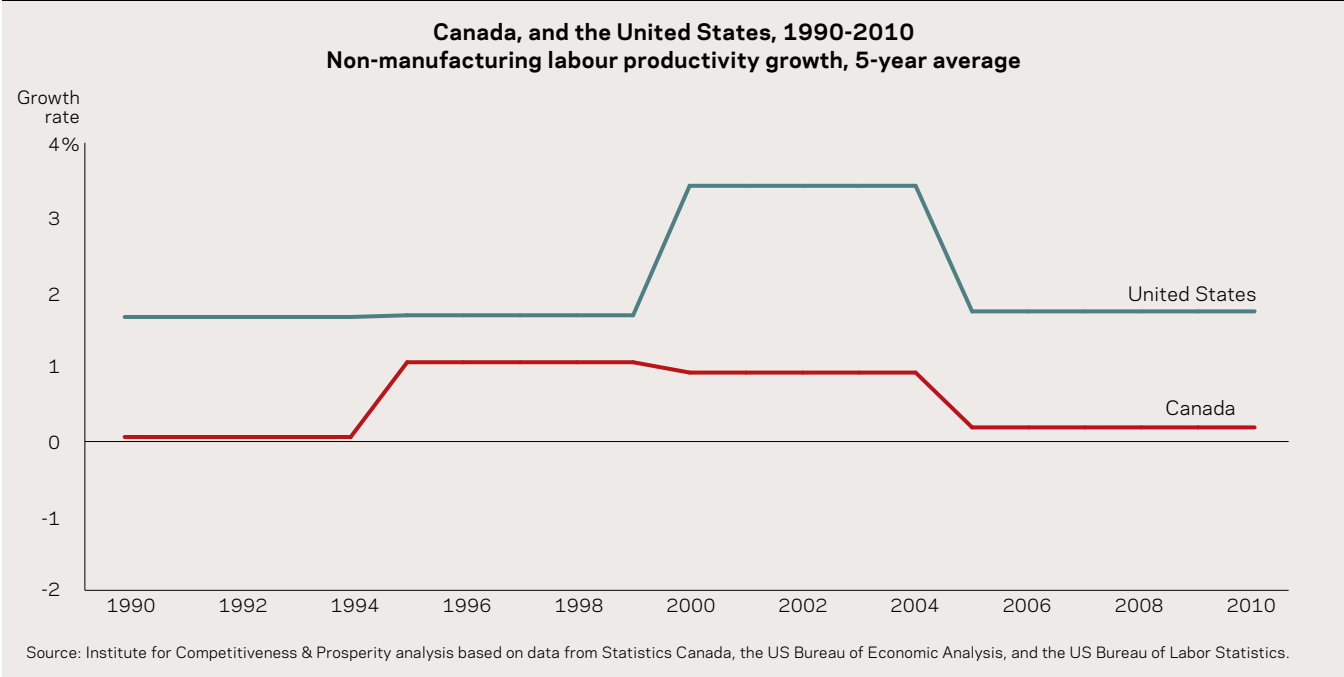
sharply starting in the end of 1990s, increasing the discrepancy with the Canadian economy. For both manufacturing and non-manufacturing sectors, the trends for Ontario are similar to those for Canada.

<sup>69</sup> Financial services include finance, insurance, real estate and renting and leasing.

**Exhibit 15 Labour productivity growth in Canada's manufacturing sector is far behind that of the US**



**Exhibit 16 Labour productivity growth in Canada is low in the non-manufacturing sector**



**Software underinvestment accounts for most of the ICT gap.**

Data for Canada and the United States showed that in the late 1980s and mid-way through the 1990s, Canada was roughly on par with the United States in business sector investment in ICT.<sup>70</sup> But the following years saw a large increase in the gap of ICT investment between the two countries (Exhibit 17). Unfortunately, data on

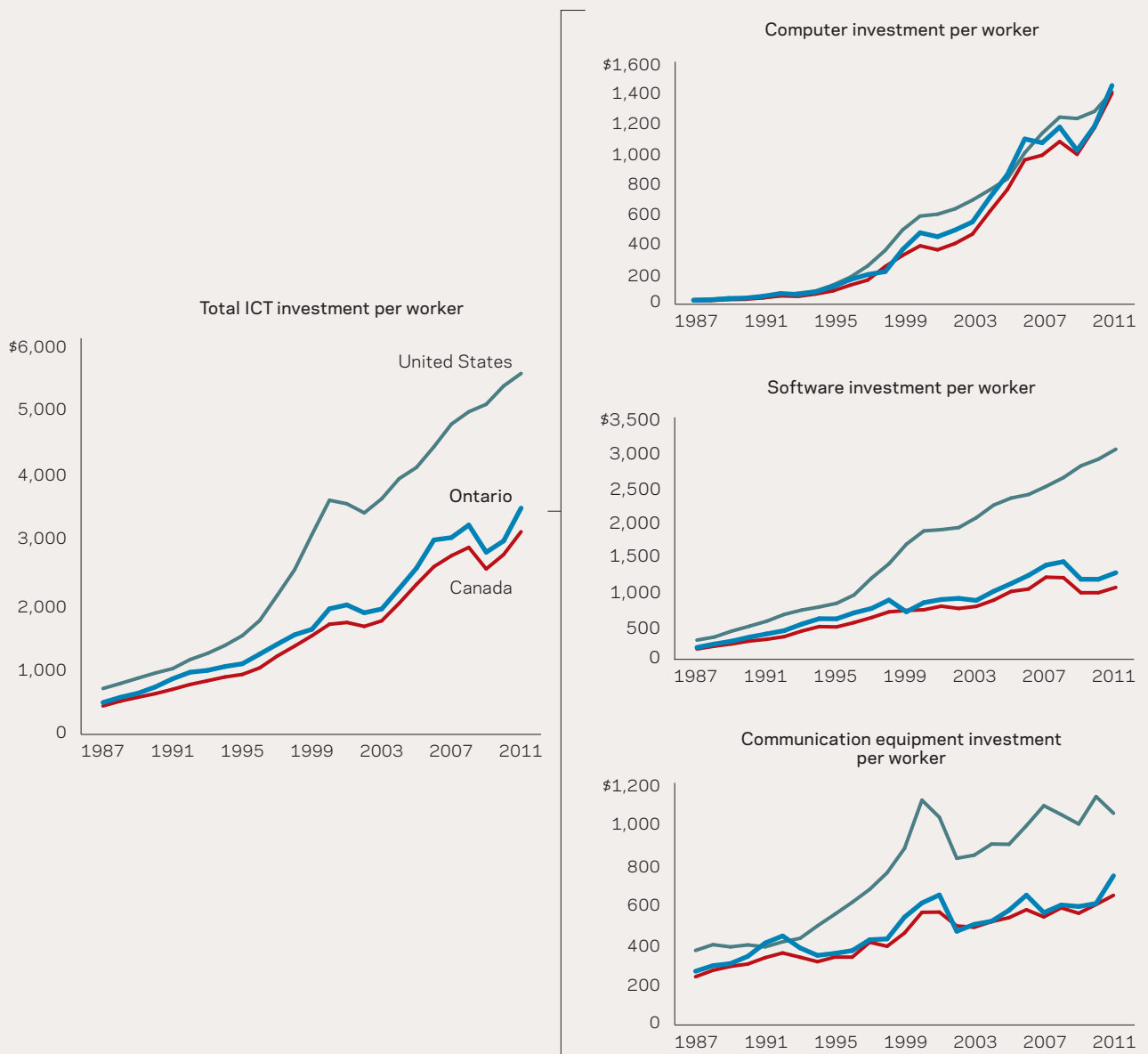
business sector investment in ICT are not available at the state or provincial level. To provide a comparison with Ontario, the Task Force adjusted the overall ICT investment for the province – which includes private and public sectors – to estimate the business sector investment in ICT. At both national and provincial levels, the comparison shows that the lack of software investment was the largest

contributor to the overall gap, followed by communication equipment. Computer investment is fairly matched in the two jurisdictions, with Ontario on par with the United States throughout the period from 1987 to 2011.

<sup>70</sup> Business sector ICT investment excludes government spending in this type of investment.

**Exhibit 17 The ICT investment gap increased sharply after 1995**

**Canada, Ontario, and the United States, 1987-2011**  
**Business sector information and communications technology (ICT) investment per worker (C\$ 2005)**



Note: Data for Ontario was adjusted to reflect only business sector investment in ICT.  
 Source: Institute for Competitiveness & Prosperity analysis based on data from Statistics Canada and the US Bureau of Economic Analysis.

The widening of the ICT investment gap coincided with the increases in labour productivity growth in the United States, starting midway through the 1990s. Until 1994, the ICT investment gap was not severe. In 1994, the United States invested \$1,355 per worker, while Canada invested \$870. By 2003, the gap was roughly \$1,875, increasing to \$2,590 in 2010. Most of the ICT investment gap came from the software investment gap: 69 percent of the gap in 2003 can be attributed to software. In 2010, the software gap represented 75 percent of the overall ICT gap.

Another way of seeing this difference is to analyze the growth rate of ICT stock. Using this indicator, the period of greatest growth in labour productivity matched the period of greatest growth in ICT investment in the United States (Exhibit 18). This ten-year period saw the growth in US ICT stock reach an average of 9.5 percent, while in Canada the average growth rate for the same period was 5.7 percent.

The Task Force continues to investigate the causes of the lower ICT investment in Canada. To provide specific policy recommendations, it is necessary to understand what is causing Canadian businesses to neglect ICT investments. In its most recent efforts, three main reasons emerged for the lower ICT investment. First, the difference in industry mix between Canada and the United States played an important role. Because a larger proportion of US GDP came from ICT-intensive industries compared to Canada, it is natural to find more investment in ICT on a per worker basis. However, as other studies have shown, the ICT gap was present in most industries, which means that the industry mix argument is weakened.<sup>71</sup> Second, ICT capital showed a lower return than non-ICT capital, which studies have shown to be the opposite in the United States.<sup>72</sup> This can explain the lack of investment, but it begs the question why the returns were lower in Canada. Third, workers' education appears to be a factor, and the overall lower levels in Canada partially explain the results found.

Nevertheless, these results are not final; more research and conclusive results are necessary to characterize the problem fully. These preliminary findings are simply good indications of the direction of research.

### Patents are necessary to close the innovation gap

One of the reasons for the prosperity gap in Ontario is the lack of innovation. A key indicator of innovation is the development of patents following marketable R&D initiatives and results. Patent output by firms is particularly high in traded patent clusters. To secure a potential patent

71 Andrew Sharpe, "What Explains the Canada-US ICT Investment Gap?" *International Productivity Monitor*, 2005, Vol. 11, pp. 21-38.

72 Kevin J. Stiroh, "Information technology and the US productivity revival: What do the industry data say?" *The American Economic Review*, 2002, Vol. 92, No. 5, pp. 1559-76; Dale W. Jorgenson and Kevin Stiroh, "Computers and growth," *Economics of Innovation and New Technology*, 1995, Vol. 3, No. 3-4, pp. 295-316; Bill Lehr, and Frank Lichtenberg, "Information technology and its impact on productivity: Firm-level evidence from government and private data sources, 1977-1993," *The Canadian Journal of Economics*, 1999, Vol. 32, No. 2, pp. 335-62.

Exhibit 18 High growth in labour productivity matches high growth in US ICT stock



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

advantage that can be used in a traded cluster, a substantial amount must be invested in R&D.

Patent data analysis in conjunction with R&D statistics enables a more robust representation of the innovation gap with US peers than just investigations of R&D statistics. This dual analysis shows where businesses are placing their efforts in generating patents and the weight they carry in that traded cluster. Policy opportunities emerge through this analysis for targeting specific traded clusters and efficiently allocating public and private resources to encourage innovative growth. These resources can then be efficiently distributed to traded clusters, in which Ontario establishments excel, to improve R&D expenditure and to close the innovation gap.

**Ontario has an innovation gap in patent output relative to US peers**

In its Eleventh Annual Report, the Task Force recommended increasing R&D investment to spur innovation within an industry.<sup>73</sup> Gross domestic expenditures on R&D (GERD) are

typically assessed for three main performers: business, higher education, and government. Business enterprise expenditure on R&D (BERD) is the largest component of GERD followed by higher education expenditure on R&D (HERD) and government expenditure on R&D (GOVERD). In particular, the Task Force recommended a greater emphasis on BERD investment to close Ontario's R&D gap relative to North American peers.

An alternative way to measure patent output is through effective patent count. Effective patent count measures the proportion of Canadians participating in the process of patenting an innovation. For example, if a team of four produces a patent and three of them are Canadian, then the effective patent count is 0.75 (or 3/4 of a patent).

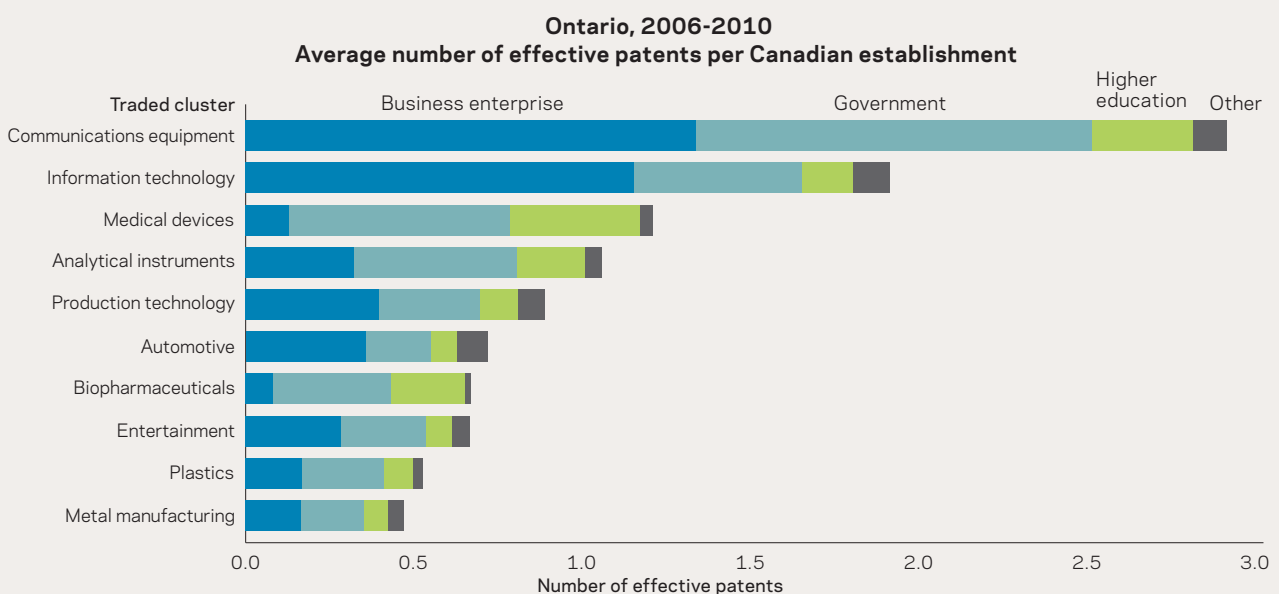
Effective patent counts are categorized into business enterprise, higher education, government, and other (includes non-profit organizations and individual patents). Each performing sector generated more

patents in specific traded clusters (Exhibit 19). In Ontario, business enterprises are more pronounced in communications equipment patent output, producing 1.3 effective patents per Canadian establishment. Conversely, government establishments produce approximately 1.2 effective patents per establishment, while higher education establishments yield 0.3 in the communication equipment cluster.

Ontario produces more communication equipment and information technology patents per establishment than all the other provinces combined. Moreover, in the traded clusters of analytical instruments, entertainment, information technology, and communications equipment,

<sup>73</sup> Task Force on Competitiveness, Productivity and Economic Progress, *A push for growth*, 2012, p. 66.

**Exhibit 19 Ontario's communication equipment cluster generates the most patents**



Note: "Other" includes patent count from individuals and non-profit organizations. Source: Institute for Competitiveness & Prosperity analysis based on data from the United States Patent and Trademark Office and the research of Michael E. Porter and the Cluster Mapping Project.

Ontario accounts for over 50 percent of the overall effective patent output in Canada (Exhibit 20).

Ontario is taking the right steps to closing the innovation gap with a high patent output. To further close the gap, the Ontario government could improve R&D incentive programs to the high-performing traded clusters of biotechnology, pharmaceutical, specialty chemicals, and medical devices, as these traded clusters are known to have a greater influence on increasing innovation.<sup>74</sup> The Scientific Research & Experimental Development (SR&ED), a federal tax incentive program, should be restructured to focus primarily on increasing R&D expenditure by providing enhanced direct support of these specific traded clusters. SR&ED should also have simpler compliance, administration, and more predictable qualifications to encourage R&D expenditure in biopharmaceutical, ICT, and medical devices.

Lastly, higher education institutions are the lowest performers in patent output in Canada, even though these

institutions accounted for the second highest R&D expenditure in 2009.<sup>75</sup> Ontario institutions are less efficient than their US peers in commercializing their research.<sup>76</sup> To increase the prevalence of higher education patents, the Ontario government can strengthen the commercialization culture in institutions through their respective Technology Transfer Offices (TTO) by adopting similar best practices to US University TTOs.<sup>77</sup> US TTOs are effective at facilitating the process of transferring skills, information, and technologies, because they foster a culture of collaboration among researchers and businesses to commercialize an innovation. TTOs at Ontario post-secondary institutions are known to be more bureaucratic, resulting in slower commercialization and at times even abandonment of patent projects.<sup>78</sup> (See *Massachusetts: An innovative state driven by centralized technology offices.*)

**Governments and firms must make the investments now to ensure the future prosperity of the province. Many innovative**

**companies, organizations, and governments have already successfully the made the right investments and profited from the efforts. The Ontario government must focus on funding high quality education that will create the resilient and creative workforce of the future, along with productivity-enhancing infrastructure. Companies must turn their attention to ICT investments, particularly software, and be given the tools to build on their relative success in patent creation.**

74 Bronwyn H. Hall and Dietmar Harhoff, "Recent Research on the Economics of Patents," National Bureau of Economic Research Working Paper Series No. 17773, January 2012.

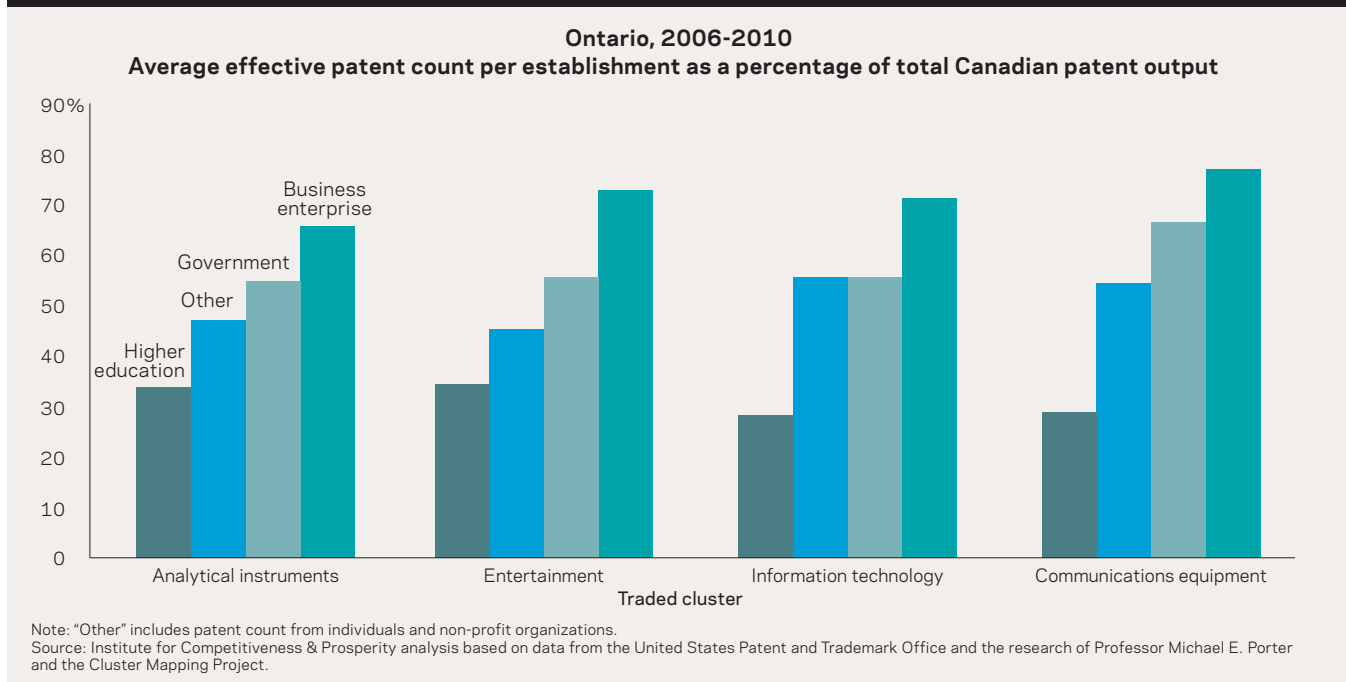
75 Task Force on Competitiveness, Productivity and Economic Progress, *A push for growth*, 2012, p.68.

76 Ajay Agrawal, "Commercializing University Inventions: Are Canadians less Productive than Americans?" Industry Canada Working Paper Series No. 2008-01, 2008.

77 Peter Howitt, "From Curiosity to Wealth Creation: How University Research Can Boost Economic Growth," CD Howe Commentary No. 383, June 2013.

78 Agrawal, "Commercializing University Inventions: Are Canadians less Productive than Americans?" 2008.

Exhibit 20 Ontario's business enterprises are the most active in patent output in Canada



---

INNOVATOR:

## Massachusetts: An innovative state is driven by centralized technology offices

The Ontario government should look to the peer state of Massachusetts for strategies to strengthen commercialization in the province.



**MASSACHUSETTS IS A PEER LEADER** in the creation of patents. From 1998 to 2008, academic institutions in Massachusetts generated an average of 15.1 patents each – the highest of any state – followed by Maryland at 10.7. Moreover, 50 percent of the patents awarded were in chemicals, biotechnology, pharmaceuticals, and medical electronics.

Technology offices in Massachusetts are more productive than those in Ontario, for a number of key reasons. First, Massachusetts has significantly more post-secondary institutions than Ontario, including Harvard University and the Massachusetts Institute of Technology (MIT). Together, these two institutions produce far more patents than

Ontario's post-secondary institutions combined because of their longer history and larger innovation capacity and resources. Second, they focus more on facilitating faculty interactions with businesses in an increasingly competitive environment. Massachusetts' institutions and academe are not solely bound by their respective technology offices for commercialization support. They can access a large network of resources in the state. The Massachusetts Association of Technology Transfer Offices (MATTO) and the Massachusetts Technology Transfer Center (MTTC) are examples of centralized organizations that use competition as a platform for providing tailored resources for academe to commercialize. They have been successful in facilitating and accelerating technology transfer between institutions and business enterprises that result in positive spillovers for the state.

While the Task Force encourages Ontario to emulate Massachusetts in fostering a competitive and innovative environment, it recognizes that matching the peer leader's patent output may not be a realistic goal.

The opportunity to increase Ontario academic institutions' presence in the push for innovation lies in the creation of a centralized technology transfer office that helps build stronger universities. This would begin by consolidating all Ontario institutions together to bridge the communication gap between institutions and businesses, thus enabling easier access to resources and innovations that are driven by market factors.

A centralized, coordinated, and consolidated strategy enables technology offices to discover the most promising new ideas and bring them to market as efficiently as possible.<sup>a</sup> Massachusetts' technology offices are an innovator in this area and the structure has paid dividends.

---

<sup>a</sup> Laura Stoppe, "Best Practices in Centralization, Coordination, and Consolidation in University Technology Offices," Fuentek White Paper, March 2011.





# MOTIVATIONS: INTRODUCE SMART TAX POLICIES TO BOOST ONTARIO'S COMPETITIVENESS

**TAXES AFFECT THE MOTIVATIONS FOR INDIVIDUALS TO WORK**, for businesses to invest, and for consumers to spend. In Ontario, tax reforms have had a positive effect on these motivations. The harmonization of the provincial sales tax with the federal goods and services tax along with cuts in the corporate income tax rate have reduced the cost of business investment and made Ontario a more attractive jurisdiction for businesses.

## Tax reductions have dramatically increased Ontario's competitiveness

One reason for the productivity gap between Ontario and its North American peers is the comparably lower rate of investment by businesses in Ontario. On a per worker basis, businesses in Ontario invest less than their US peers in both machinery and equipment (M&E) and in information and communications technology (ICT). In 2011, businesses in Ontario invested \$6,530 per worker in M&E – or 32 percent less than their competitors in the United States – and \$2,536 per worker in ICT – or 35 percent less than US businesses.<sup>79</sup> Such investments are important because they enable workers in Ontario to use advanced equipment and software to add value to their firms. Workers are generally paid in proportion to their value added, so to increase wages in Ontario more focus should be placed on increasing labour productivity. Investments in ICT and M&E matter, because they have historically had a positive relationship with labour productivity.<sup>80</sup>

Do taxes discourage business investments? In the past, the Task Force has cited research that demonstrates business investments subsequently increase when the taxes on them are reduced.<sup>81</sup>

In 2009, the Ontario government laid out a plan to cut personal income tax rates, reduce corporate income tax rates for businesses, and replace the retail sales tax with a value added tax harmonized with the federal goods and services tax. Jack Mintz examined the impact of these budget measures and concluded that they would have a “profound impact on Ontario’s competitiveness by lowering the tax burden on new business investment.”<sup>82</sup> He estimated that within ten years, capital investment within Ontario would increase by

\$47 billion, incomes of Ontarians would rise between 4.4 and 8.8 percent, and an estimated 591,000 net new jobs would be created.

Reductions in the corporate rate spur additional business investment if they influence firms to invest in projects that otherwise would not be carried out. A business in Ontario in 2008 would face a combined federal and provincial corporate tax rate of 33.5 percent on business investment returns. If the firm required an after tax return of at least 15 percent, then for an investment project to be carried out, it would have to yield at least 22.6 percent.<sup>83</sup> When the combined federal and provincial rate fell to 28 percent in 2011, this minimum yield decreased to 20.8 percent. Investment projects with rates of return between 20.8 and 22.6 percent would be carried out as a result of the rate reduction and this would increase overall business investment in the economy. This relationship is less than straightforward, because there is uncertainty involved in investment decisions, and other factors also influence investment decisions made by firms.

### Business investment in Canada has been poor

Despite reductions in corporate tax rates at the provincial and federal levels and a reduction in the taxation of business inputs, business investment in the last decade in Canada has been low. Investment in M&E declined on a per worker basis from \$6,755 in 2006 to \$6,505 in 2012 in constant 2007 dollars. ICT investment per worker grew by 6.3 percent annually on average over this time period, but by 2010 was still roughly half of the amount invested in the United States. Meanwhile, Canadian firms increased the amount of cash and other equivalents on their balance sheets – in 2002 the cash to net asset ratio for Canadian firms was roughly 7 percent, compared to

11.7 percent in 2010. The excess cash held by Canadian firms was \$45 billion in 2011.<sup>84</sup>

Opponents of corporate rate reductions in Ontario cite the ineffectiveness of past reductions in stimulating business investment as evidence of their futility. While the amount of business investment has been disappointing in recent years, it is difficult to estimate what it would be in the absence of these reductions. Furthermore, there were other global factors at play, such as the financial crisis, that almost certainly influenced investment decisions beyond tax considerations. This makes it difficult to isolate and gauge the effectiveness of corporate rate reductions on stimulating investment.

Another critique of the corporate rate reductions is that they will simply result in a transfer of tax revenues from Canada to the United States.<sup>85</sup> US firms are taxed on a worldwide basis, so that profits generated in a jurisdiction with a corporate rate less than the 35 percent US federal rate are subject to US tax on the difference. Under this arrangement, a lower corporate rate in Ontario would not be helpful in attracting additional US investment, because any difference in tax receipts would simply be transferred from the Ontario government

79 Andrew Sharpe and Vikram Rai, “Can the Canada-US ICT Investment Gap be a Measurement Issue?” Centre for the Study of Living Standards, 2013.

80 J. Bradford De Long and Lawrence H. Summers, “Equipment Investment and Economic Growth,” *Quarterly Journal of Economics*, 1991, Vol. 106, No. 2, pp. 445-502.

81 Task Force on Competitiveness, Productivity and Economic Progress, Seventh Annual Report, *Leaning into the wind*, November 2008, pp. 39-41.

82 Jack Mintz, “Ontario’s Bold Move to Create Jobs and Growth,” *University of Calgary School of Public Policy Communiqué*, 2009, Vol. 1, No. 4.

83 The yield is  $22.6 = 15 / (1 - 0.335)$ .

84 Institute for Competitiveness & Prosperity, White Paper, *Bringing “dead cash” back to life*, March 2013.

85 Erin Weir, “The Treasury Transfer Effect,” Canadian Centre for Policy Alternatives, *Behind the Numbers*, 2009, Vol. 10, No. 7.

to the US treasury. One reason this might not hold in reality is because of tax loopholes that enable US firms to avoid or defer their US tax liability.

Economists have produced a variety of estimates of the degree to which businesses shift their income across jurisdictions in response to tax rate changes. Mintz and Smart found that a 1 percentage point reduction in the provincial corporate rate increased corporate taxable income for firms that did not allocate income according to the provincial formulary apportionment formula by 4.9 percent in comparison to 2.3 percent for firms that did allocate income based on the formula.<sup>86</sup> Klassen and Shackelford also found evidence of inter-jurisdictional tax avoidance in their examination of corporate tax revenues from 1983 to 1991.<sup>87</sup> Dahlby and Ferde concluded that corporate tax rate reductions in Ontario would actually increase subsequent tax revenues, because they estimated that the provincial rate is higher than the rate that would maximize total corporate tax revenues in Ontario.<sup>88</sup>

A sceptic might argue that by reducing the corporate rate, Ontario would receive a lower percentage of corporate income by way of taxation. Taxable income, however, is far from static, and firms respond to corporate rate reductions by increasing their level of business activity and by shifting profits from one jurisdiction to another. Despite corporate rate reductions in Canada in the last decade, the ratio of corporate tax revenues to GDP has remained roughly constant. In 2001, this ratio was 3.3 percent, and in 2010 it remained at roughly the same level – 3.4 percent.<sup>89</sup>

Ontario used to be a high-cost jurisdiction when it came to taxing new business investment. As a result of a comparably high statutory corporate rate, a capital tax that applied regardless of whether a firm was profitable, and a retail sales tax that was levied on each stage of the production process driving up the cost of business inputs, Ontario's marginal effective tax rate (METR) on business investment was 43.4 percent in 2005. Taxation reform in 2009 changed this dramatically by cutting the costs of new business investments in half, and the METR in 2012 fell to 19.8 percent. Mintz estimates that the reductions in Canada's METR over this time period will boost the capital stock by \$467 billion over the long run.<sup>90</sup> This will in turn stimulate economic growth in Canada.

### **HST implementation in Ontario has benefited businesses**

One reason for the reduction in the METR in Ontario is that the provincial retail sales tax in 2010 was replaced with a value added tax harmonized with the federal goods and services tax (HST). Under the former retail sales tax, taxes on inputs cascaded through the production process as they were levied on each stage and tax accumulated on top of tax. This encouraged vertical integration, by rewarding businesses that owned multiple supply chain components, and distorted production decisions. The HST has removed these economic distortions.

While the rate of tax remained constant after the shift, the HST applied to a broader base of goods and services than the PST, and these form a larger percentage of disposable income for low-income Ontarians. The regressive nature of the HST is mitigated by cash transfers from the Ontario government to low-income households.

Smart found that while prices initially rose by 0.9 percent following HST implementation, this impact has since fallen. In theory, the reduction in taxes on business inputs should reduce production costs for businesses and be passed on to consumers through lower prices. However, the extent to which this occurs in reality is determined by market competition. When Smart examined the distributional impact of the implementation of the HST, he found that it had a minimal impact on incomes for the average family.<sup>91</sup>

### **Canada leads the OECD in reducing taxes on business investment**

Taxation reform from 2005 to 2012 slashed the METR in Ontario and in Canada by over one half. This is particularly significant when comparing the changes to those in other countries over this time frame. Ontario has led the way in reducing the cost of business investment and serves as a role model for other OECD states and provinces (Exhibit 21).

86 Jack Mintz and Michael Smart, "Income Shifting, Investment, and Tax Competition: Theory and Evidence from Provincial Taxation in Canada," *Journal of Public Economics*, 2004, Vol. 88, No. 6, pp. 1149-68.

87 Kenneth Klassen and Douglas Shackelford, "State and Provincial Corporate Tax Planning: Income Shifting and Sales Apportionment Factor Management," *Journal of Accounting and Economics*, 1998, Vol. 25, No. 3, pp. 385-406.

88 Bev Dahlby and Ergete Ferde, *What does it Cost Society to Raise a Dollar of Tax Revenue?* CD Howe Institute Commentary No. 324, March 2011.

89 Duanjie Chen and Jack Mintz, "2012 Annual Global Tax Competitiveness Ranking - A Canadian Good News Story," *University of Calgary School of Public Policy Research Papers*, 2012, Vol. 5, No. 28, p. 18.

90 *Ibid.*, p. 10.

91 Michael Smart, "The Impact of Sales Tax Reform on Ontario Consumers: First Look at the Evidence," *University of Calgary School of Public Policy Research Papers*, 2011, Vol. 4, No. 3.

## Taxing for growth: A close look at tax policy in Ontario

While Ontario has improved its tax system markedly in recent years by introducing the harmonized sales tax, phasing out the capital tax, and lowering corporate tax rates, many changes can still be made that would benefit individuals, businesses, and government. In *Taxing for growth: A close look at tax policy in Ontario*, the Institute picked up on its previous recommendations for tax reform in Ontario and examined current policy to identify ways Ontario can create a tax system that spurs growth, investment, and competitiveness.

There has been an expansion in the availability of different tax credits for both individuals and businesses within Ontario. While many of these credits target socially desirable activities, they collectively reduce the total tax base and necessitate higher tax rates to raise a given level of revenues. Recent years have seen an expansion in the availability of tax

credits for individuals and businesses in Ontario. But many of them are inequitable, inefficient, and ineffective. Moreover, they often fail to accomplish their intended benefits and cost the government billions of dollars in lost revenue every year. The Institute suggested other ways government can motivate Ontarians without the use of distortionary tax policies.

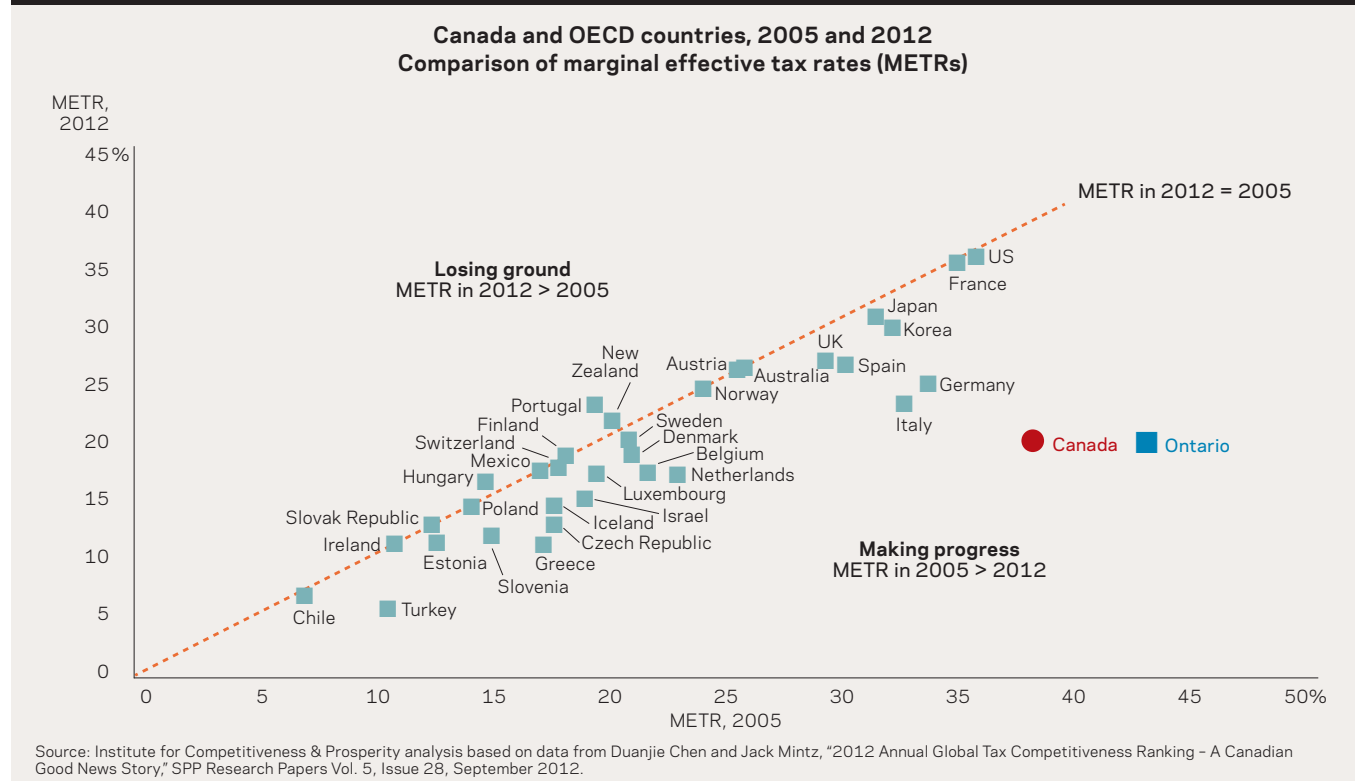
On the personal income tax side, government should review the Basic Personal Allowance and consider an alternative way of providing income support for the poor. Tax credits for post-secondary education should be converted into grants, which would be more effective in encouraging enrollment. The Ontario Clean Energy benefit should also be eliminated immediately.

On the corporate side, the Institute recommended a re-evaluation of existing business supports to reduce the preferential tax treatment for

small businesses and certain industries. Business supports in Ontario increased substantially in the last six years, despite overall corporate tax reductions that have made businesses more competitive. These supports put other companies that do not receive the same support at a disadvantage. In addition, current tax breaks for small businesses encourage companies to stay small, even though significant economic gains can be made from expansion.

Tax policy is one of the most powerful tools in the public policy arsenal. With greater consideration of the broader effects of current tax measures, Ontario can ensure it rewards the right actions and puts more money back into the pockets of people who need it. By following the Institute's recommended changes to tax policy, the federal and provincial government can save billions of dollars a year, which can be re-allocated toward more productive uses.

Exhibit 21 Canada has reduced the METR on investment dramatically compared to other OECD countries



## Ontario should introduce a revenue-neutral carbon tax

It is time for Ontario to join other advanced economies in tackling climate change by introducing a carbon tax. Presently, thirty-five countries and thirteen sub-national jurisdictions around the world have a carbon pricing scheme in place to reduce emissions.<sup>92</sup> Economists have long contended that a carbon tax is an effective mechanism to discourage carbon consumption. Now, the case of British Columbia's carbon tax provides further evidence that a carbon tax is a cost-effective tool for reducing carbon emissions without adversely affecting economic performance. Since its introduction in 2008, per capita consumption of fuels subject to the tax has declined significantly – a 19 percent greater reduction than in the rest of Canada. Concurrently, the province's economy has kept pace with the economy in the rest of Canada. The effects of the BC carbon tax are consistent with those seen in European countries that have had a carbon tax in place for more than two decades.<sup>93</sup>

### A carbon tax puts a price on pollution

According to the latest report by the Intergovernmental Panel on Climate Change, human influence is unequivocally the dominant cause of global warming.<sup>94</sup> Carbon consumption has a profound impact on society, not only for us, but for generations to come. A carbon tax is a way of imposing a price on carbon consumption and ultimately to reduce consumption levels.

Currently, pollution through carbon emissions is not incorporated into production costs or the end-user price of goods. For instance, a driver of a car does not account for the costs of air pollution the car generates; rather, society is paying for the costs through a decrease in well-being and without receiving the benefits of

transportation. Pollution is an example of a negative externality: a personal decision has a large negative impact on society, but the cost of this externality is not accounted for. Government can play a key role in addressing negative externalities.

A simple approach to tackle pollution externalities is to put a price on carbon emissions. A tax naturally encourages people to consider the choices they make and start shifting behaviour; for example, buying more energy-efficient home appliances or a smaller car. In economic terms, a price on carbon would induce people to internalize the pollution externality, reducing the global impact.

### Every dollar raised is returned to taxpayers

Legitimate concerns arise with a proposal of a carbon tax. With the economy still recovering, is it wise to introduce new taxation? And what about the competitiveness of Ontario's industries, higher gas prices, and vulnerable households? A key fact here is that the proposed carbon tax for Ontario is not a tax increase, but a tax shift, because it is designed to be revenue-neutral. That means that every dollar raised in revenues by the carbon tax is returned to individuals and businesses through either tax reductions or tax credits. None of the carbon tax revenue should be used to fund government spending. In British Columbia, for example, the government is legally responsible for outlining how carbon tax revenues are returned to tax payers. For the 2012-13 fiscal year, tax cuts funded by the carbon tax are expected to amount to \$1.4 billion dollars, of which business tax cuts make up 59 percent and personal income tax cuts 41 percent.<sup>95</sup>

### BC's carbon tax has not negatively affected the economy

A recent study of BC's carbon tax found that the carbon tax has not had

a negative impact on GDP or the economy as a whole in its four-year life span.<sup>96</sup> However, this does not mean that a carbon tax will not disadvantage particular sectors that are highly carbon-intensive. Yet, the entire purpose of a carbon tax is to encourage these industries to reduce their carbon consumption by increasing efficiency, changing energy sources, or adopting new technologies.

To minimize negative effects on Ontario's industries, the optimal carbon tax rate should be introduced at a low rate that rises over time. When the BC carbon tax was introduced in 2008, the rate was at \$10 per tonne of carbon dioxide emission. It then increased \$5 per tonne per year, until it reached \$30 per tonne in 2012. By allowing for a slow tax phase-in, companies have time to adjust and improve energy efficiency. Exemptions to certain industries could be considered, but a low, universal tax is considered more efficient than a high tax with a narrow base.<sup>97</sup> Starting in 2013-14, the BC carbon tax offers relief grants and a carbon tax exemption for its agri-food and agricultural sector as a way to lessen adverse economic impacts. Opponents of a carbon tax often stress that it would put Ontario at a competitive disadvantage. To be sure, a carbon tax should be set at a low enough level that ensures that

92 Tim Flannery, Rogers Beale, and Gerry Hueston, *The Critical Decade: Global Action Building on Climate Change*, The Climate Commission Secretariat, Commonwealth of Australia, 2013.

93 Stewart Elgie and Jessica McClay, "BC's Carbon Tax Shift is Working Well after Four Years (Attention Ottawa)," *Canadian Public Policy*, 2013, Vol. 39, Supp. 2.

94 Intergovernmental Panel on Climate Change, *Working Group 1. Contribution to the IPCC Fifth Assessment Report Climate Change 2013: The Physical Science Basis*, 2013.

95 Ministry of Finance, *June Update Budget and Fiscal Plan 2013/2014-2015/16*, Government of British Columbia, 2013.

96 Elgie and McClay, "BC's Carbon Tax Shift is Working Well after Four Years (Attention Ottawa)," 2013.

97 William D. Nordhaus, "Carbon Taxes to Move Toward Fiscal Sustainability," *The Economists' Voice*, 2010, Vol. 7, No. 3, pp. 1-5.

Ontario is not diverging in a substantial way from the rest of Canada and from other jurisdictions, in particular within North America. With much of the world heading for a carbon tax, including a number of US jurisdictions, the competitiveness objection is, however, subsiding.

### **New gasoline prices may have influenced car purchase decisions**

The main source of carbon emissions for Ontario households is transportation.<sup>98</sup> People are often surprised to learn that the effect of a carbon tax on gasoline prices is relatively small. BC's carbon tax applies to the consumption of fuels, including gasoline, diesel, gas, and coal. For example, the \$30 carbon tax raises gasoline prices 6.67 cents per litre and diesel prices 7.67 cents per litre. Yet, even if the price increase is relatively small, it has potentially led to a shift in car purchase decisions in British Columbia. The market share of subcompact and compact passenger car sales has increased, while the market share of larger cars, including SUVs, pickups, and minivans has declined.<sup>99</sup> The change in the market share could, however, also be affected by other variables than the carbon tax.

### **The regressive nature of a carbon tax can be neutralized**

A carbon tax can be a regressive tax, in that it affects low-income individuals disproportionately, unless measures are taken to mitigate this effect. For instance, low-income households spend a relatively larger share of their household budget on gasoline, compared to high-income households. Even though the price for gasoline is the same for all individuals, low-income individuals are less able to afford gasoline compared to individuals with relatively higher income. The regressive nature of a carbon tax can be neutralized, just as it is the case with the HST, also a regressive tax. A BC tax credit is paid

out to low-income households quarterly along with the HST credit to offset the carbon tax paid. Of BC carbon tax revenues in 2012-13, 14 percent were used to pay for low-income tax credits.<sup>100</sup>

### **A carbon tax makes economic sense**

Economists agree that a carbon tax is by far the most effective and transparent way of directing business and consumer behaviour toward lower carbon consumption.<sup>101</sup> BC's carbon pricing scheme provides evidence that a carbon tax can successfully reduce fuel use without having disadvantageous effects on the economy. In the long term, a carbon tax could stimulate economic growth. A carbon tax provides clear incentives for developing new clean technologies, as consumers will increasingly demand low-carbon alternatives in response to a tax introduction. An innovative clean technology sector is one of the few sustainable sources of long-term competitiveness. A carbon tax is also the government instrument deemed most effective in reducing pollution.<sup>102</sup> A carbon tax makes economic sense. It is time now for Ontario to take action and spur Canadian efforts to combat climate change.

### **Ontario and Canada have taken important steps to reduce poverty in recent years**

While the prosperity gap between Ontario and its peer states negatively affects all Ontarians, the poorest suffer most as the result of the gap. The prosperity gap makes it difficult for these Ontarians to find gainful employment and limits their ability to increase their income, as well as constraining the opportunities their children and grandchildren will enjoy. Alongside poverty, rising income inequality is also a growing concern, not only because of worries surrounding fairness, but also

because of the negative health and social consequences of inequality highlighted in recent studies.<sup>103</sup> The Task Force urges the Ontario government to expand its poverty reduction commitments, centred on making a major push to improve access to post-secondary education for low-income Ontarians. The result can only be a fairer and more competitive Ontario.

The Ontario government has taken several important steps to reduce poverty in recent years, most notably *Breaking the Cycle: Ontario's Poverty Reduction Strategy* introduced in late 2008 that aims to reduce child poverty by 25 percent by the end of 2013, lifting some 90,000 children out of poverty.<sup>104</sup> The Strategy centres on an increase to the Ontario Child Benefit, which provides a monthly payment to support one million children in 530,000 families. The Strategy incorporates significant new investments in health care for children in low-income families, primary and secondary education (including the introduction of full-day kindergarten), and access to post-secondary education.

The Strategy also included a commitment to conduct a comprehensive review of Ontario's social assistance programs.<sup>105</sup> The Lankin-Sheikh

98 Environment Canada, *Canada's Emissions Trends 2012*, Report, 2012.

99 "Myths and Facts about the Carbon Tax," British Columbia Ministry of Finance, accessed October 2, 2013, <http://www.fin.gov.bc.ca/tbs/tp/climate/A6.htm>.

100 Ministry of Finance, *June Update Budget and Fiscal Plan 2013/2014-2015/16*, 2013.

101 "Carbon Tax," The Initiative on Global Markets, last modified December 20, 2011, accessed October 2, 2013, [http://www.igmchicago.org/igm-economic-experts-panel/poll-results?SurveyID=SV\\_9Rezb430SESUA4Y](http://www.igmchicago.org/igm-economic-experts-panel/poll-results?SurveyID=SV_9Rezb430SESUA4Y).

102 Organisation for Economic Co-operation and Development, *Toward Green Growth*, 2011.

103 Richard G. Wilkinson and Kate Pickett, *The Spirit Level: Why More Equal Societies Almost Always Do Better*, London: Allen Lane, 2009.

104 Ministry of Children and Youth Services, *Breaking the Cycle: Ontario's Poverty Reduction Strategy*, Government of Ontario, 2008.

105 *Ibid.*, pp. 29-30.

Commission's report recommended major changes to the province's social assistance programs, including combining the Ontario Disability Support Program (ODSP) and Ontario Works into a single program in which "[t]he level of employment services and supports people receive would be proportional to their level of need."<sup>106</sup> Employment services would be increasingly tailored to employers' needs, and income supports would be greatly simplified.

The Commission's recommendations were endorsed by Ontario's new government in February 2013.<sup>107</sup> The Ontario government began implementing the recommendations through changes to social assistance programs in its budget introduced in May 2013 by reducing the clawback on assistance recipients' earnings, raising asset limits for determining eligibility for assistance, and increasing income supports.<sup>108</sup> According to the 2013 Budget, the Ontario government is considering further changes to social assistance programs, but it is unclear whether it will go so far as to implement fully the Commission's core proposal of merging the ODSP and Ontario Works, the two largest social assistance programs.<sup>109</sup> The Task Force looks forward to the latest annual report on the successes of the Strategy and encourages a clearly defined plan to merge the two programs.

### **Expand WITB to increase labour force participation**

Although both the Ontario government and the Lankin-Sheikh Commission criticized the federal government for doing too little to fight poverty, the Working Income Tax Benefit (WITB), which was introduced in the 2007 Federal Budget, represents a significant step in the right direction. The WITB is a refundable tax credit of up to \$1,762 per year offered to Canadians earning between \$3,000 and \$17,827 if they are single and less

than \$27,489 for couples or single parents. The WITB is designed to supplement the earnings of low-income Canadians and encourages them to enter or stay in the labour force or increase the number of hours they work. The Task Force applauded the introduction of the WITB and continues to do so.<sup>110</sup>

While it is too soon to evaluate the full effects of the WITB in Canada, the impact of the US Earned Income Tax Credit (EITC) on which the WITB was based, are much better understood.<sup>111</sup> The EITC, which was originally established in 1975 and has been regularly expanded since then, is more generous than the WITB, offering a maximum of \$5,236 to families with two children, and is widely considered the single most effective anti-poverty program at the federal level in the United States.<sup>112</sup> Several of Ontario's peer states have implemented their own EITC programs.

The Ontario government should lobby the federal government to pursue further increases to the WITB, as was proposed in the most recent progress report on Ontario's Poverty Reduction Strategy.<sup>113</sup> This expansion should be funded by phasing out the Canada Employment Tax Credit (CETC), a non-refundable tax credit for work-related expenses such as uniforms and home computers used for work purposes. The CETC disproportionately benefits high- and middle-income earners and provides little encouragement for Canadians to enter the labour force or increase the number of hours they work.<sup>114</sup>

**Ontario has improved its tax system markedly in recent years by introducing the harmonized sales tax, phasing out the capital tax, and lowering corporate tax rates. Many changes can still be made that would benefit individuals and**

**businesses within Ontario. The Task Force recommends that the government phase out the Canadian Employment Tax Credit and direct the resulting revenues toward expanding the Working Income Tax Benefit program. It is also time that the Ontario government implement a revenue-neutral carbon tax to set a price on carbon emissions to encourage greater conservation.**

**Tax policy is one of the most powerful tools in the public policy arsenal. With greater consideration of the broader effects of current tax measures, Ontario can ensure it rewards the right actions and puts money into the pockets of people who need it. By following recommended changes to tax policy, the federal and provincial governments will reallocate expenditures on some of the current measures toward more productive uses.**

106 Commission for the Review of Social Assistance in Ontario, *Brighter Prospects: Transforming Social Assistance in Ontario*, 2012, pp. 16-7.

107 Office of the Premier, "Jobs, Economy, a Fair Society: Priorities for New Ontario Government," News Release, February 11, 2013.

108 Ministry of Finance, "A Prosperous & Fair Ontario: 2013 Ontario Budget," 2013, pp. 86-94.

109 *Ibid.*, p. 86.

110 Institute for Competitiveness & Prosperity, Working Paper 10, *Prosperity, inequality, and poverty*, September 2007, p. 41.

111 To date, only one limited evaluation of the WITB has been published: William Scarth and Lei Tang, "An Evaluation of the Working Income Tax Benefit," *Canadian Public Policy*, 2007, Vol. 34, No. 1, p. 25.

112 Chuck Marr, Jimmy Charite, and Chye-Ching Huang, *Earned Income Tax Credit Promotes Work, Encourages Children's Success at School, Research Finds*, Center on Budget and Policy Priorities, April 2013.

113 Ministry of Children and Youth Services, *Breaking the Cycle: The Fourth Progress Report*, 2013, p. 31.

114 Institute for Competitiveness & Prosperity, Working Paper 18, *Taxing for Growth: A close look at tax policy in Ontario*, October 2013.







# STRUCTURES: REBALANCE MARKET STRUCTURES TO ASPIRE TO GLOBAL LEADERSHIP

**MARKET AND GOVERNANCE STRUCTURES ARE IMPORTANT ELEMENTS** of the AIMS framework that drive the capacity for innovation and upgrading to increase Ontario's competitiveness. If Ontarians are to thrive in the era of globalization, they need to have structures that encourage competition at home. They need inspired public policies that reduce barriers to competition, and focus on Ontario's strengths.

Strong structures enable competitive pressures and specialized supports that form the basis for innovation (Exhibit 22). The prosperity gap is driven in part by the lack of innovation in the province, and supports and pressures can create the right conditions for businesses to innovate and become more productive.

### Manufacturers in Ontario face challenges

Manufacturing plays a central role in Ontario's economy, contributing \$76 billion to real provincial output, while employing roughly 800,000 people.<sup>115</sup> Ontario is home to 40 percent of all Canadian manufacturing firms, substantially more than any other province.<sup>116</sup> The sector's prominence has made the global trends affecting manufacturing output all the more relevant to Ontario's economy.

Specifically, manufacturing in Ontario has been affected by international trade liberalization, output fluctuations in key export markets, and an appreciating Canadian dollar:

- Trade liberalization has subjected manufacturing industries to increased competition by reducing trade barriers such as tariffs and

import quotas. Following the introduction of the North American Free Trade Agreement (NAFTA) in 1998, Canadian manufacturing employment fell 5 percent overall and 12 percent for the industries most affected by import competition.<sup>117</sup> At the same time, labour productivity rose 15 percent for these affected industries and 6 percent in manufacturing overall, as less productive factories shut down and more productive ones reached larger export markets. There has been an increase in manufacturing exports to the United States post-NAFTA, but it is difficult to identify the exact amount because of the agreement because of concurrent output fluctuations. Trade liberalization has also increased the availability of foreign, cheaply produced imports from countries like China with their low input costs. These goods often compete directly with comparable goods produced in Canada.

- Manufacturing has been weakened by output fluctuations in the United States that affect import demand from Ontario. The United States receives roughly 79 percent of Ontario's exports, of which manufactured goods represent 89 percent.<sup>118</sup>

- Manufacturing has been affected by an appreciating Canadian dollar, making the relative price of Canadian exports higher and less attractive to foreign buyers. Whether manufacturing in Canada has been affected by "Dutch disease" is the subject of intense policy debate. The theory would apply to Canada if the revenues flowing into western provinces for natural resources drove up the value of the Canadian dollar, making manufacturing less competitive. While a stronger Canadian dollar places competitive pressures on Canadian exporters, it also reduces the cost of productivity-enhancing capital investments imported from abroad.

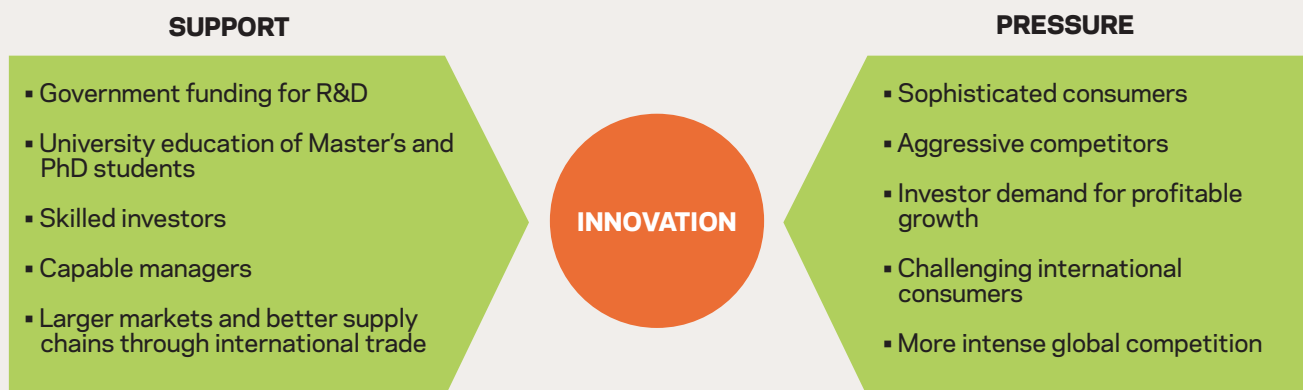
115 Manufacturing output is roughly 12 percent of total provincial output. Manufacturing employment is roughly 12 percent of total employment. Ontario Ministry of Finance, *Ontario Economic Accounts: Second Quarter of 2013*, November 2013; Statistics Canada, *Labour force survey (LFS), by North American Industry Classification System (NAICS), sex and age group*, CANSIM Table 282-0008.

116 Industry Canada, "Canadian Industry Statistics - Establishments Manufacturing," last modified March 7, 2013, accessed September 4, 2013, <http://www.ic.gc.ca/cis-sic/cis-sic.nsf/IDE/cis-sic31-33etbe.html>.

117 Daniel Treffer, "The Long and Short of the Canada-US Free Trade Agreement," *American Economic Review*, 2004, Vol. 94, No. 4, pp. 870-95.

118 Parliament of Canada, "Ontario's Merchandise Trade with the World," last modified June 7, 2013, accessed November 14, 2013, <http://www.parl.gc.ca/Content/COP/ResearchPublications/2013-35-e.html>.

Exhibit 22 Support and pressure drive innovation



Source: Institute for Competitiveness & Prosperity.

## Stagnant Ontario labour productivity in manufacturing must be addressed

Manufacturing employment declined in Ontario from 18.2 percent of total employment in 2002 to 11.8 percent in 2012 (Exhibit 23). This 6.4 percentage point reduction was greater than that in Ontario's peer regions and in absolute terms amounted to a loss of roughly 295,000 jobs. Similarly, the manufacturing sector represented 21.7 percent of total output in Ontario in 2002, but decreased to only 12.9 percent in 2012. This 8.8 percentage point decline is also greater than the loss in Ontario's peer regions.

From 1997 to 2000, labour productivity grew by an average of 3.9 percent per year and 6.2 percent in the manufacturing sector in Ontario. The positive growth in manufacturing was in part due to robust demand from the United States and an inexpensive Canadian dollar (in US dollar terms). However, the story changed from 2000 to 2010. Overall labour productivity grew at 0.5 percent per year on average, while there was no labour productivity

growth within the manufacturing sector. Taking into account the contribution of each sector to total productivity, manufacturing was responsible for roughly 46 percent of the productivity gains in Ontario from 1997 to 2000, yet none of the gains between 2000 and 2010. The lack of productivity growth in manufacturing in Ontario over the ten-year period is of significant concern.<sup>119</sup>

It is easier to identify the factors responsible for the slowdown in manufacturing than to identify policies to reverse this trend. Obvious solutions have already been implemented, including reductions in the corporate income tax rate, the elimination of tax on business inputs attributed to the implementation of the HST in 2010, increased depreciation allowances for capital investments, and financial support from the government for the automotive industry during the recent recession. These measures have supported the sector and made it more competitive on an international level.

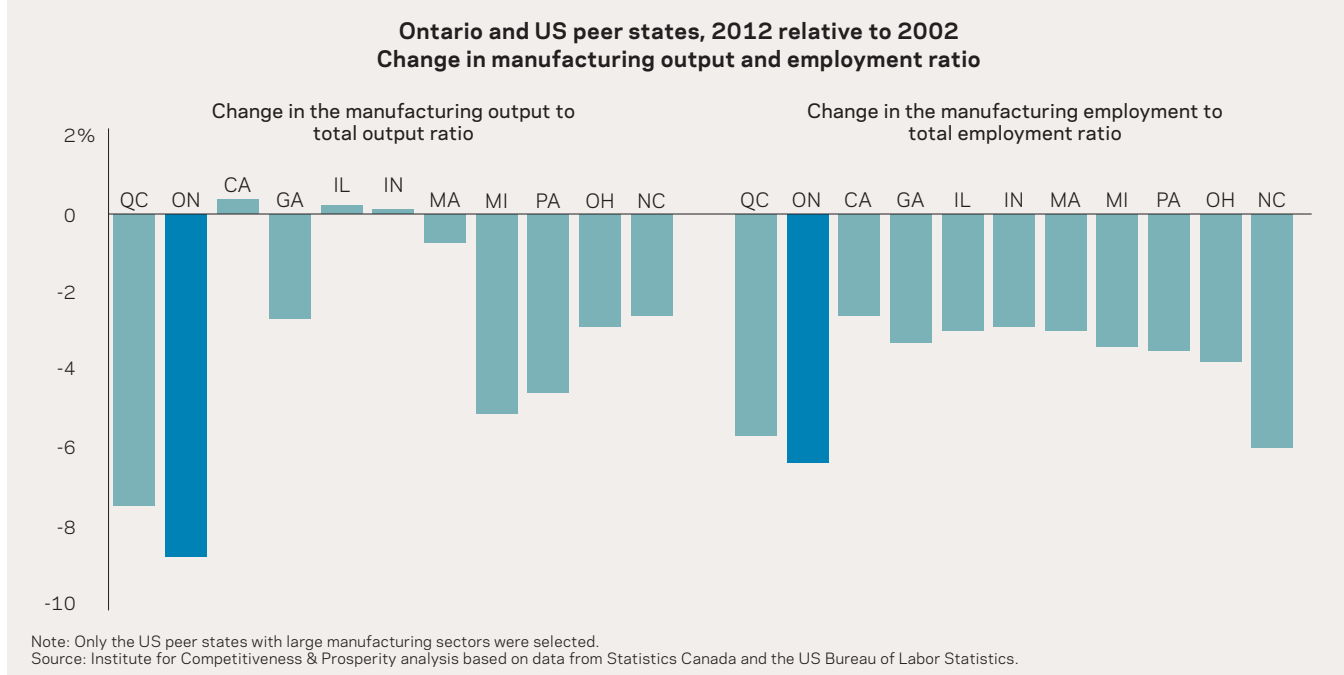
The absence of productivity growth within manufacturing needs to be addressed. Ontario cannot compete with foreign countries in low-value added industries where output is easily exported and labour input costs are low. Employment and output levels in these industries simply will not recover to their previous levels. The future for manufacturing in Ontario is in high-valued added industries that require specialized skillsets.

To revive labour productivity in Ontario's manufacturing sector, the provincial and federal governments should:

- **Take measures to close the gap in machinery and equipment investment between Ontario and the peer states.** Investment in machinery and equipment was \$6,530 per employee in Ontario versus \$9,600 per employee in the

<sup>119</sup> John Baldwin and Wulong Gu, "Productivity and Economic Growth in the Canadian Provinces, 1997 to 2010," Statistics Canada, Canadian Productivity Review, 2013.

Exhibit 23 Manufacturing employment and output growth have decreased more in Ontario than in peer states



United States in 2011.<sup>120</sup> The federal and provincial governments recently extended a temporary 50 percent accelerated Capital Cost Allowance for manufacturing and processing capital investments to 2014 and 2015. Higher depreciation allowances reduce the cost of new capital investments and are important to ensure that manufacturing firms in Ontario are competing on an equal footing as their peers. If this increased allowance is successful in reducing the machinery and equipment investment gap that exists between Canada and the United States, then it should be extended indefinitely.

- **Support manufacturing innovation to enhance value creation and productivity growth.** A variety of tax credits and other incentives help make Ontario a competitive jurisdiction for research and development (R&D), notably the Scientific Research and Experimental Development (SR&ED) tax credit program that provides a refundable investment tax credit of 35 percent up to \$3 million of eligible expenditures and 15 percent beyond this level. Under the SR&ED program, smaller firms receive a larger tax credit for R&D investment than large firms. The government should critically examine whether this kind of support should be provided for small businesses. Public spending on scientific and technological research is also important in the first stage of the innovation process. To that end, the Ontario government should restore research funding that has been cut in recent years.

- **Improve linkages between post-secondary institutions and industries within the manufacturing sector.** The federal government should examine whether the German model of apprenticeship training, which provides on the job training for secondary school graduates and is funded in part by government supplements, is applicable in Canada. This type of model is useful, because it helps create a better match for students and the labour force, since applicants only receive an apprenticeship if there is an employer willing to take them on. Students of this program receive both in-demand and on-the-job training, which is supplemented by publicly funded vocational training.

### Strong clusters in Ontario drive prosperity

Proximity matters in innovation: to talent, customers, trends, markets, and technology providers. Clusters capture and depict the ecosystem of innovation partners, the related groups, and supporting industries within a region's activity.

A higher proportion of traded clusters in a region raises its capacity for innovation, competitiveness, and the creation of well-paid jobs.<sup>121</sup> The performance of a regional economy is influenced by the strength of its traded clusters; the particular mix of clusters is secondary. That is, specific clusters are not more desirable than others for regional prosperity; the key to regional prosperity is creating conditions that drive clustering and knowledge spillovers that increase wages in clusters that already have a significant presence in a region.

Ontario has a higher share of employment in traded clusters than the US peer states. But within traded clusters, which ones do Ontario regions excel in? Previous Institute reports have used the cluster

definitions developed by the US Cluster Mapping Project from the Institute for Strategy and Competitiveness (ISC), which has recently updated its definitions. Using a new clustering methodology, the ISC measured the relatedness between industries to group industries into clusters that capture meaningful interindustry linkages, resulting in the definition of forty-four new traded clusters.<sup>122</sup> These new definitions are used in this Report.

The Task Force looked at Ontario regions using census metropolitan areas (CMAs). These are large urban areas that include one or more neighbouring municipalities situated around a core with a population of at least 100,000, of which 50,000 or more live in the core. There are thirty-three CMAs across Canada, and fifteen of those CMAs are in Ontario.

Strong clusters have a high cluster specialization compared to the Canadian CMA average and a high share of employment within a CMA. A high cluster specialization indicates that the proportion of a cluster's employment in the region is higher than the national average employment in that cluster.<sup>123</sup> A high share of employment indicates that employment in the cluster is within the top ten in that region. Consequently, only those industries that are reasonably represented in terms of employment in the region can be considered a strong cluster. Using this definition, there is no definitive number of strong clusters in a particular region, and the

<sup>120</sup> Statistics Canada, *Labour force survey estimates (LFS), employment by class of worker, North American Industry Classification System (NAICS) and sex*, CANSIM Table 282-0012; Sharpe and Rai, "Can the Canada-US ICT Investment Gap be a Measurement Issue?" 2013.

<sup>121</sup> Michael E. Porter, "The Economic Performance of Regions," *Regional Studies*, 2003, Vol. 37, Nos. 6&7, pp. 549-78.

<sup>122</sup> Mercedes Delgado, Michael E. Porter, and Scott Stern, *Defining Clusters of Related Industries: A Methodological Note*, February 2013.

<sup>123</sup> Determined by a Canadian CMA location quotient greater than 1.3.

strength of a particular cluster cannot be determined by the total number of strong clusters in a region (Exhibit 24).

Many of the industries that an average person might associate with a given region are identified: financial services in Toronto, automotive in Oshawa, and communications equipment in Kitchener-Cambridge-Waterloo. In addition to the well-known clusters, other industries emerge as being strong contenders, such as agricultural services in Thunder Bay, textile manufacturing in Kingston, and ICT and analytical instruments in Ottawa.

Prosperity increases along with employment in traded clusters, but it

must be noted that natural endowment clusters also have high wages, though they represent a small proportion of the population. For this reason, the Task Force limited its analysis to traded clusters, which would explain why some of the more well-known resource-based clusters are not captured.

### Cluster initiatives help drive innovation in cluster management

Growing strong clusters is important for the prosperity of a region. New partnerships that link industry clusters, government, and academe are being created in countries around the world to help plan, manage, and

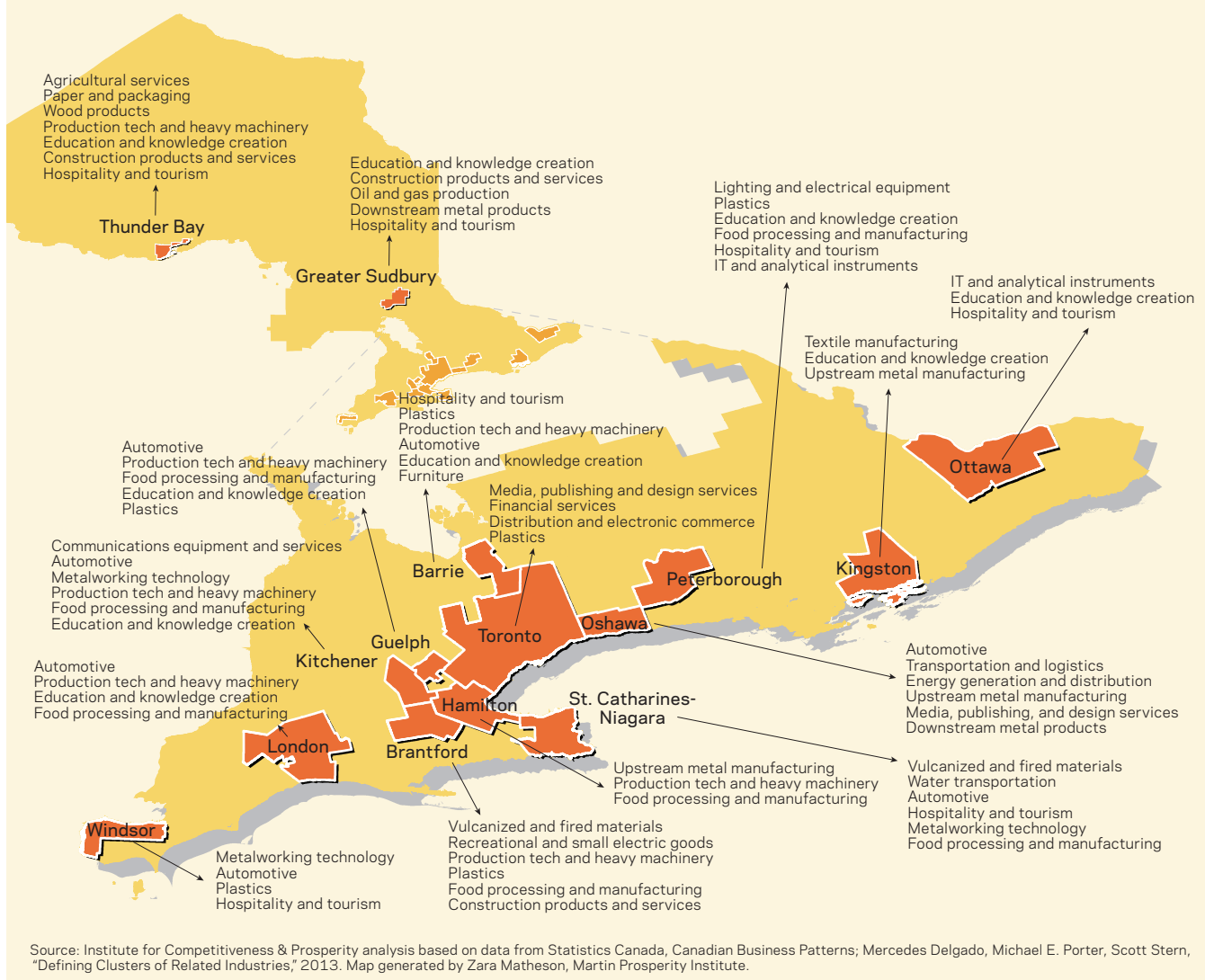
measure the growth of their clusters. These cluster initiatives are organized associations that aim to increase the growth and competitiveness of clusters within a region.<sup>124</sup> Cluster initiatives can help to:

- establish networks among firms
- create a brand for a region
- assemble market intelligence
- lobby government for cluster-specific infrastructure
- improve regulatory policy
- establish technical standards.<sup>125</sup>

124 Örjan Sölvell, Göran Lindqvist, and Christian Ketels, *The Cluster Initiative Greenbook*, August 2003, p. 15.

125 *Ibid.*, p. 10.

Exhibit 24 Ontario has many strong clusters in its CMAs



At the regional level, groups such as the Toronto Financial Services Alliance, the Stratford Tourism Alliance, and the Ottawa Construction Association are good examples of cluster initiatives within Ontario. More cluster initiatives are found at the provincial level, with examples such as the Wine Council of Ontario, the Ontario Brain Innovation Council, and the Ontario Trucking Association. (See *The Ontario Brain Innovation Council (OBIC): Ontario cluster initiatives in action.*)

The Task Force encourages the formation of regional associations by industry firms to address the specific needs and concerns of particular regional clusters. The Task Force also recommends that governments at all levels be active participants in identifying how public policy can support each cluster at a regional level, and to listen to those recommendations highlighted by cluster initiatives.

Another area that has been recognized by the Institute previously as an area for improvement is in university/industry research collaboration and the local availability of specialized research and training services. More industry and academic connections are necessary to support Ontario's individuals firms adequately and continuously to upgrade their skills and technologies.

INNOVATOR:

## The Ontario Brain Innovation Council (OBIC): Ontario cluster initiatives in action



**THE OBIC WAS DEVELOPED** to advance and support the growing neurotechnology cluster in southern Ontario. This cluster initiative has participants from industry, research, government, finance, and patient advocacy groups to foster collaborative partnerships between the private sector and not-for-profit firms. Their goal is to accelerate the commercialization of brain-related technology. Using cluster initiative best practices, they commissioned a study to assess the strengths and weaknesses of an Ontario neuroscience cluster, identifying key areas for improvement. Working together, the OBIC supports the recruitment and development of new talent, shares best practices, and identifies new market opportunities for groups to work together. Ontario is becoming a world leader in brain research, aided by the OBIC.

## Agricultural and agri-food industries should invest in the tools for growth

Ontario's agriculture and agri-food sectors have garnered significant attention over the past year. The Jobs & Prosperity Council in their 2012 report *Advantage Ontario* named agri-food as a key area of potential economic growth.<sup>126</sup> Similarly, the Ontario Chamber of Commerce calls the agri-food sector "one of Ontario's competitive advantages."<sup>127</sup>

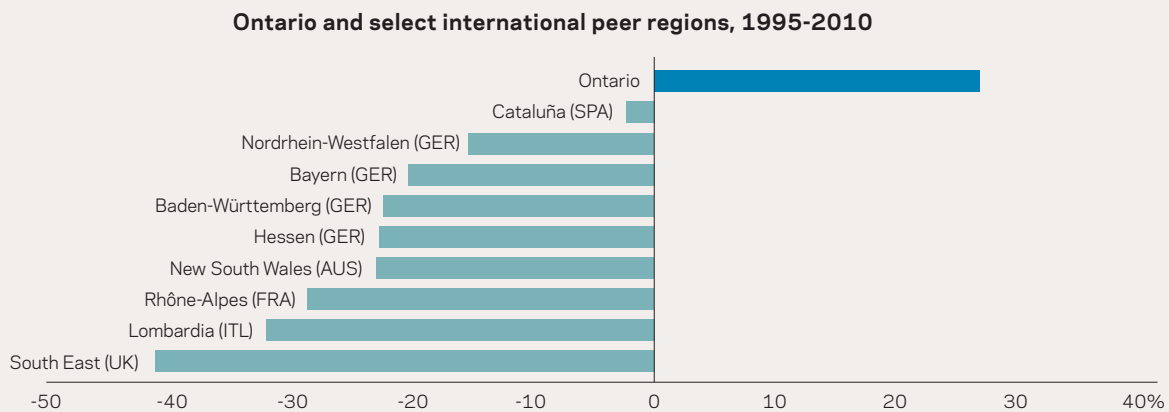
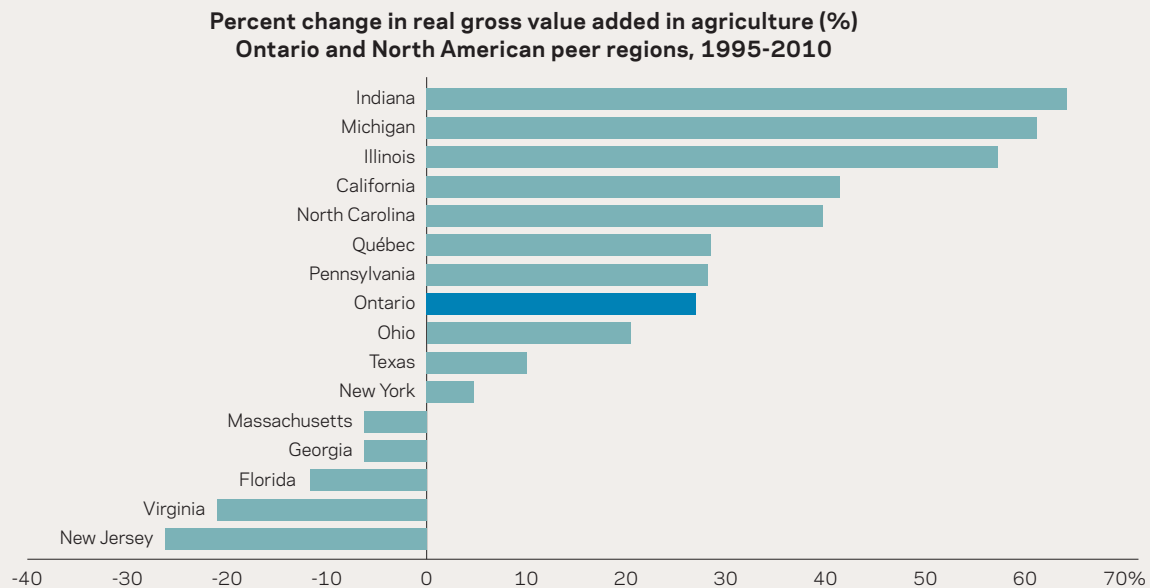
Despite agriculture's seemingly small contribution to the economy – taken together with forestry and fishing, it accounts for less than 1 percent of Ontario's GDP – agri-food industries employed 739,735 people in 2012, or 10.9 percent of the overall employment in Ontario. More important, Ontario's agricultural growth relative to its peer jurisdictions is encouraging. Between 1995 and 2010, gross value added from agriculture grew by 27.8 percent in real terms, which is far more than the growth in Ontario's international peers and seventh highest of North American peers (Exhibit 25).

The growth in real gross value added in North American agriculture is largely due to major productivity gains in farming methods. According to Statistics Canada, agricultural multifactor productivity (a measure of the efficiency with which all inputs are used in production) in Ontario grew by 34.9 percent between 1997 and 2010. Similarly, multifactor productivity grew by at least 20 percent between the years 1997 and

126 Jobs & Prosperity Council, *Advantage Ontario*, 2012, p. 27.

127 Ontario Chamber of Commerce, "Media Release: Ontario's agri-food sector primed for growth," Blog Post, March 26, 2013.

Exhibit 25 Agriculture value added in Ontario has grown more than in most of its peers



Note: Data were unavailable for Japan and Belgium and for the year 2010 for the UK South East. Percent change in real gross value added for the UK South East was calculated between the years 1995 and 2009. Values were deflated using GDP deflators.  
Source: Institute for Competitiveness & Prosperity analysis based on data from US Department of Agriculture, Eurostat, OECD, and Statistics Canada.

2004 (the latest available from the US Department of Agriculture) for most of the peer states with higher gross value added growth than Ontario.

Farms in North America have changed dramatically over the past thirty years. Small family farms are quickly being replaced by large, corporate-owned farms that are highly capital-intensive. In Ontario, the number of farms recorded by the Census of Agriculture declined from over 88,000 in 1976 to approximately 52,000 in 2011. Moreover, the number of farms less than 129 acres has been roughly cut in half since 1976, while the number of farms over 2,880 acres has increased more than ten times since 1976. This has resulted in higher net worth and higher farm sales for Ontario farmers. Average farm net worth and farm sales increased in real terms by 49.1 percent and 21.2 percent respectively, between 2001 and 2011, according to Statistics Canada.

Agriculture is a valuable economic contributor, but it is important to recognize that Ontario is unlikely to

increase substantially the agrarian component of its economy. However, there is tremendous potential for Ontario to capitalize on its strengths in agriculture, which can help diversify its economy, increase food security, and boost its exports for the future. Agriculture and agri-food producers need to continue to scale up and invest in new technology and capital to expand their output.

**Developing the food and beverage processing sector can help expand Ontario’s economy**

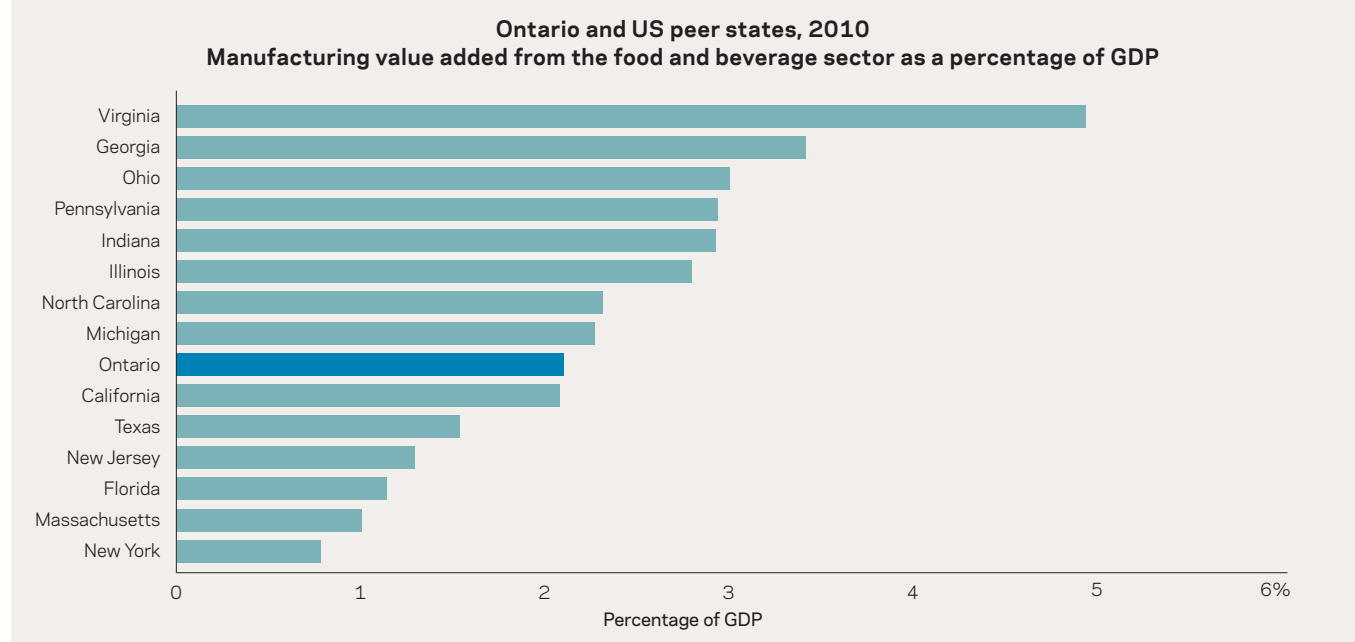
Ontario’s agriculture producers owe a great deal of their strength to the province’s food and beverage processing sector, which has outperformed other manufacturing industries in recent years. According to the Ministry of Agriculture and Food, employment in Ontario food and beverage processing industries was over 95,000 in 2012, or 1.4 per cent of total employment. This figure is impressive when compared to Ontario’s North American peers. Only California – with a population more than double that of Ontario’s – recorded a higher employment level

in food and beverage manufacturing (183,920 in 2011 according to the latest US Census Bureau statistics). However, Ontario performed below the median of US peer states for food and beverage manufacturing value added (Exhibit 26).

Ontario’s food and beverage sector has the potential to jumpstart the province’s agricultural industry, as well as drive exports with high value-added products. Approximately 65 percent of food-related farm production in the province is purchased by Ontario-based food processors.<sup>128</sup> If Ontario can increase its presence in the food and beverage manufacturing sector to match some of its peers, this could have a significant impact on the rural Ontario economy and the province as a whole.

<sup>128</sup> MNP LLP, *Economic Impact Analysis: Ontario Food and Beverage Processing Sector*, Alliance of Ontario Food Processors, September 2012.

**Exhibit 26 Manufacturing value added in food and beverage processing was lower in Ontario than the US peer median**



Source: Institute for Competitiveness & Prosperity analysis based on data from US Census Bureau and Alliance of Ontario Food Processors.



**Ontario should increase its agriculture and agri-food exports**

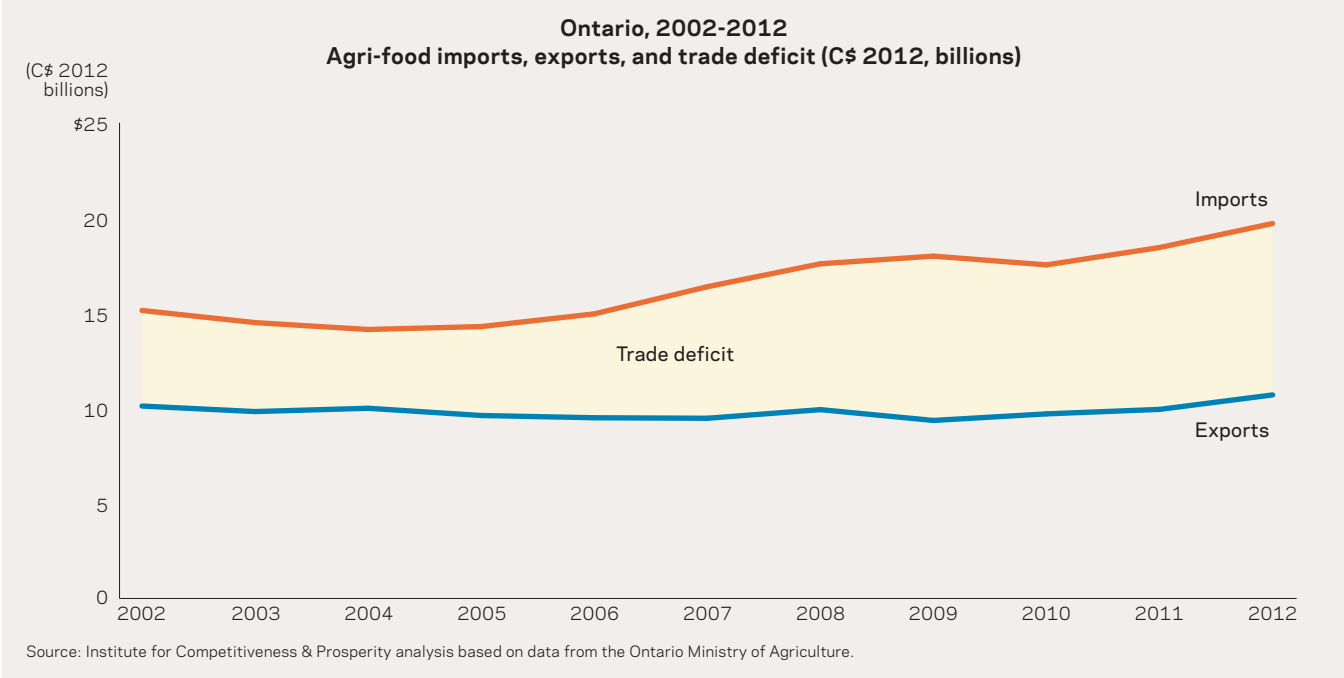
In 2011, Canada was the sixth-largest exporter of agriculture and agri-food goods, after the European Union, the United States, Brazil, China, and Argentina.<sup>129</sup> The main destination for these exports is the United States, increasing 252.6 percent between

1988 and 2011 in real terms to reach \$19.5 billion. However, exports to non-US destinations have also grown significantly over that period, increasing 68.7 percent in real terms to reach \$20.8 billion in 2011.<sup>130</sup> As Ontario accounts for the largest proportion of Canada's agriculture and food processing GDP (32 percent versus

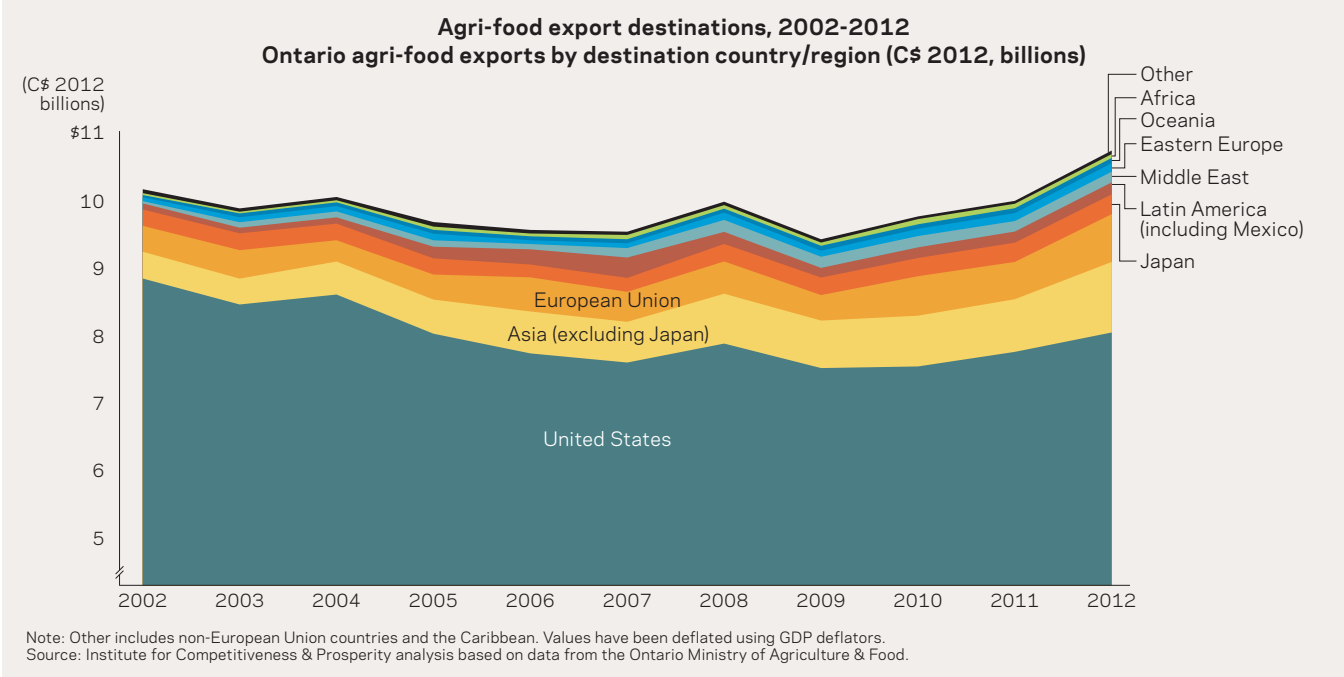
129 As defined by Agriculture Canada, includes agricultural equipment, supplies, farming, processing, wholesaling, retailing, restaurants and all associated support industries, such as transportation, finance, packaging and construction.

130 Agriculture and Agri-Food Canada, *An Overview of the Canadian Agriculture and Agri-Food System 2013*, Government of Canada, May 2013.

**Exhibit 27 Ontario has a widening trade deficit in agri-food**



**Exhibit 28 Ontario's agri-food exports have declined for the US, but grown for developing regions**



18.8 percent for Québec, the second highest province), this presents an important opportunity for the province.

Despite the widespread acclaim for Ontario's agri-food industry, the province has been a net importer of agri-food for the past decade (Exhibit 27). Exports grew in real terms from \$10.2 billion in 2002 to \$10.8 billion in 2012, but import growth has far surpassed this as a result of population growth and higher demand for imported goods, resulting in a widening trade deficit. Agri-food imports to Ontario rose from \$15.2 billion in 2002 to \$19.8 billion in 2012.

While Ontario's main agri-food destination is the United States, accounting for 75 percent of Ontario's total agri-food exports in 2012, this share is a decline from a high of 86.9 percent in 2002 (Exhibit 28). As agri-food exports to the United States have shrunk, exports to Asia (especially China), the European Union, Latin America, and Mexico have roughly doubled in real terms since 2002. This was mainly led by exports of grains and oilseeds, with soya beans being the number one agri-food export from the province. Other growing sectors are seeds, vegetables, poultry, and eggs.

Ontario needs to increase its exports to regions other than the United States to boost the competitiveness of its agri-food industries. The demand for food, particularly in emerging economies like China and Brazil, is bound to grow exponentially in future years. Ontario can work to fulfill this demand by expanding its already large agri-food presence. This can be achieved by investing in productivity-enhancing machinery and expanding plant capacity. Ontario machinery in agri-food is older than that in other sectors, and the scale of food processing lags US food producers.<sup>131</sup> Moreover, past research from the Institute shows larger facilities in food and beverage manufacturing to be more productive; value added per employee for establishments at the 75th percentile of production capacity is twice the level of those at the median.<sup>132</sup> To increase Ontario's agri-food exports, investments must be made to reach out to new markets and expand operations. The Task Force in the past has recommended Ontario and Canada develop free trade agreements with emerging economies.<sup>133</sup> This would give agri-food producers greater market access. (See *Pillitteri is boldly reaching out to export markets*.)

131 MNP LLP, *Economic Impact Study Report: Ontario Food and Beverage Processing Sector*, 2012.

132 George Morris Centre and Institute for Competitiveness & Prosperity, *Improving Productivity in Canada's Food Processing Sector through Greater Scale*, February 2012.

133 Task Force on Competitiveness, Productivity and Economic Progress, *A push for growth*, 2012.

INNOVATOR:

## Pillitteri is boldly reaching out to export markets



**PILLITTERI ESTATES WINERY** boasts over 600 domestic and international wine awards and is one of the largest producers in Ontario's Niagara region. It has enhanced its competitive strategy by marketing one of its best-selling products abroad: icewine. In 2011, the company established Canbest Inc. to promote and distribute its icewine and other Canadian products and now has twenty-five wine retail stores throughout China selling its product. Pillitteri currently exports to over thirty countries worldwide, including Japan, Russia, Mexico, Germany, and South Korea, and is continually expanding. In 2013, it won the Ontario Ministry of Agriculture and Food Exporter Award.

Pillitteri's emphasis on exports and leadership in approaching new and growing markets is an admirable industry innovation. Promoting Ontario wines abroad will help the wine industry grow exponentially and generate tourism and global interest in the province's agri-food sector. Ontario has proven success in its wine industry and Pillitteri is striving to expand this success to international markets – a feat all Ontario business leaders would do well to follow.

The Task Force applauds the federal government for recently forming a free trade agreement with the EU.<sup>134</sup> This will give Ontario the opportunity to expand its agri-food exports in a major way. Similar agreements should be explored across emerging markets in Asia and South America. However, it is important to be mindful that to benefit from the free trade agreement, Ontario producers will need to scale up and innovate to compete with foreign producers. The European Union is already the source of 12.4 percent of Canadian agri-food imports, and a free trade agreement is likely to increase this figure.<sup>135</sup> To prevent a widening trade deficit and capitalize on this opportunity, Ontario agri-food producers need to build on their current strengths and invest in the tools needed for further growth.

### Canada-EU free trade agreement will benefit Ontario

The European Union is Ontario's second most important trading partner after the United States. With the signing of the Canada-EU Comprehensive Economic and Trade Agreement (CETA), Ontario stands to gain tremendous economic benefits, both in the immediate and long term. The EU is the single largest market in the world with a population of 500 million consumers, 14 times the size of the Canadian population, and an annual gross domestic output of almost \$17 trillion.<sup>136</sup> Strengthening trade links with Europe is an important opportunity for Ontario to balance its export economy geographically.

Across Ontario, a wide range of business sectors will gain expanded access to European markets, as tariffs on almost all of Ontario's key exports will be removed. With more sales of Ontario goods and services, the government estimates that 30,000 new jobs will be created in the

province. Under CETA, Ontario's exporting businesses could save \$100 million per year as a result of tariff reductions.<sup>137</sup> Currently, Ontario's export businesses face tariff rates up to 18 percent. Ontario's industrial machinery exports, the largest category of advanced manufacturing exports worth an annual average of \$2.1 billion between 2010 and 2012, face tariffs up to 8 percent. Exports of information and communications technology (ICT) goods to the EU face tariffs rising as high as 14 percent.<sup>138</sup>

With increased competition, a number of business sectors will experience disadvantages in the short term. Concerns about the trade deal's effect on the province's pharmaceutical, dairy, wine and spirits industries remain. A properly thought out short-term compensation scheme and a slow phase in of import quota changes will lessen immediate negative effects. In the long run, trade has the potential to spur Ontario's international competitiveness and stimulate business to upgrade their offerings and become more productive.

The provincial and federal governments should be congratulated on reaching this important milestone. Their combined efforts and coordination resulted in the most ambitious trade initiative since the North America Free Trade Agreement (NAFTA). Yet, at home, there remain parts of the structure of federalism that also require coordination and improvement to ensure that the benefits of the free trade agreement with Europe can be fully reaped. (See *Federal policies influence Ontario's competitiveness and prosperity*.) Globally, a successfully completed trade agreement sends out a strong signal to other emerging trade markets that it is an ambitious and well-prepared trading partner. Deepening Ontario and Canada's relationship with international emerging markets will be a critical element of Ontario's future prosperity.

### Public transportation is a key component of infrastructure investment

An effective transportation system is vital to increasing the productivity of workers. Spending minimal times commuting for work purposes increases the time and energy allotted to work activities, which can contribute to closing the intensity gap, a large contributor to the prosperity disparity between Ontario and its North American peers. Nowhere in the province is this more evident than in Toronto. The state of public transit in the Greater Toronto Area is costing the region \$6 billion in lost productivity annually, and this will rise to \$15 billion by 2031, based on current population growth and infrastructure projections.<sup>139</sup>

134 Laura Payton, "CETA: Canada-EU free trade deal lauded by Harper, Barroso," *CBC News*, 18 October 2013.

135 Agriculture and Agri-Food Canada, *An Overview of the Canadian Agriculture and Agri-Food System 2013*, 2013.

136 European Commission, "EU position in World Trade," accessed November 15, 2013, <http://www.ec.europa.eu/trade/policy/eu-position-in-the-world>.

137 Ministry of Economic Development, Trade and Employment, "Ontario to Support European Trade Deal," News Release, October 18, 2013.

138 Government of Canada, "How CETA will benefit Ontario," accessed November 15, 2013, [http://www.actionplan.gc.ca/en/sites/default/files/pdfs/provincial\\_ON\\_en](http://www.actionplan.gc.ca/en/sites/default/files/pdfs/provincial_ON_en).

139 Toronto Region Board of Trade, *A Green Light to Moving the Toronto Region: Paying for Public Transportation Expansion*, Discussion Paper, March 2013.

Traditionally, the Task Force has focused on the investment needs of the province as a whole, but Toronto's contribution to Ontario's prosperity and competitiveness is significant. The Toronto Census Metropolitan Area generates over \$300 billion in GDP, which is nearly 45 percent of Ontario's GDP in 2012.<sup>140</sup> Funding the city's public transportation will not only increase productivity and prosperity in the Toronto region, but will also benefit all Ontarians.

### Transit expansion requires dedicated funding

There has long been political gridlock surrounding public transit, particularly its funding. In spite of the efforts of many organizations, such as Civic Action and the Toronto Region Board of Trade, to increase public awareness regarding the challenges facing public transit in Toronto, there has been little headway in developing dedicated revenue sources for transit expansion. The debate about funding has varied between developing new revenue tools, which the Institute analyzed and supported in Working Paper 16, and finding funding within the existing budgets of governments at all levels.<sup>141</sup>

Funding transit using either method (or both) is not without problems. Negotiating and campaigning for federal and provincial government support are often long and arduous efforts and leave transit authorities vulnerable to the political and budget cycles that can make any promised funding disappear overnight. But dedicated revenue tools are difficult to implement because of municipal governments' limited powers in this area. Even if the provincial or federal government raised taxes (such as the HST) and ensured the difference would go toward transit expansion, this would place undue hardship on low-income individuals who already pay into transit via ticket fees and are now taxed through an additional HST hike. This is not optimal. Instead, the City should work with the other levels of government to find the right mix of funding sources to decrease the regressive and inequitable nature of double taxation and ensure that dedicated yet sustained funding is available so that transit can be built now rather than later. (See *Linking business and transit users can increase transit revenue.*)

INNOVATOR:

## Linking business and transit users can increase transit revenue



**AN IPHONE APP, STM MERCI**, developed by SAP was introduced to Société de transport de Montréal (STM) transit users earlier this year, providing discounts to over 30 businesses and attractions. While the offers are similar to those for TTC Metropass holders, the app, which is currently in its early stages of adoption, can be personalized to the user's needs. More important, it is designed to drive traffic to businesses that are close to metro stations. The app could be expanded to divert transit traffic away from busy stations by offering discounts that must be claimed during rush hours.<sup>a</sup> The TTC and other transit systems in Ontario can also adopt this type of app, expand it across all types of mobile devices, and take advantage of this public-private partnership. Businesses can pay a fee to put the offers in the app or direct a portion of the revenues to the transportation authority.

140 Toronto Economic Development & Culture, *Economic Indicators, May 2013*, City of Toronto, 2013.

141 Institute for Competitiveness & Prosperity, Working Paper 16, *Making sense of public dollars*, 2013, pp. 40-3.

a "Discounts and offers with Merci," Société de transport de Montréal, accessed October 1, 2013, <http://www.stm.info/en/offers-and-outings/Merci-program/discounts-and-offers-merci>.

It appears that a variation of the two is being employed, at least for the Scarborough subway. All three levels of government promised funding for a two-station extension of the Bloor-Danforth line, connecting Kennedy Station to a new Sheppard East Station, adding 7.6 km of track.<sup>142</sup> The Ontario government promised \$1.4 billion for the project but prefers the three-station extension. The federal government is committing \$660 million in funding.<sup>143</sup> Although this is a welcomed advancement of the subway debate, whether this \$2 billion in funding is sufficient for the project is yet to be determined, as the Toronto Transit Commission (TTC) estimates that this project will cost \$2.8 billion. Toronto City Council has approved a property tax increase of 1.1 percent over three years, which is hoped will cover the shortfall. Property tax is the only revenue tool available to the municipal government, and it is easier to use this than to create new revenue tools, which require additional layers of approval and prolong the funding problem. Revising the Master Agreement between the City and Metrolinx for a subway would also require additional approval.<sup>144</sup>

While the Task Force supports the replacement of the current Scarborough RT, subways may not be an economically feasible option. Subways are typically the ideal form of public transit, because of their large capacity and the fact that they exist underground, evading the traffic congestion in the streets above. Yet numerous stakeholders, including City staff, have remarked that subways are expensive both in capital and operating expenditures and take a long time to build, especially since they must go through settled residential areas. In addition, the location of the proposed Lawrence Avenue subway station is in an area that does not meet the ridership demands of even 2031 forecasts.<sup>145</sup>

The additional cost of building the Scarborough subway instead of the LRT should be used for more pressing transit demands, most notably the Downtown Relief Line.

These are a few of the arguments advanced by the Transit Investment Strategy Advisory Panel, established by Premier Kathleen Wynne on September 18, 2013. The Panel consists of thirteen citizens who will respond to the Metrolinx Investment Strategy and increase public awareness of transit investment through public consultations. The Panel will report to the provincial government in December 2013.

The first of three short discussion papers, *Hard Truths about Transit in the Toronto Region*, was released by the Panel in October 2013, and provides five “hard truths” that should be added to the current transit debate. These include:

- the type of transit (subway, light rail, bus lines) should match the proposed route that will be most cost-effective
- transit routes must be located close to current and anticipated employment
- cost of maintaining and operating transit must be factored into decisions
- new transit infrastructure brings about environmental, economic, and social benefits
- new dedicated revenue sources are required, not simply from government efficiency cost savings.

The Task Force hopes that the Panel’s goal can be achieved, and that it will generate the necessary factual evidence for funding transit in the Toronto region.

The Scarborough subway is just one part of the “The Big Move,” a twenty-five year, \$50 billion regional transportation plan developed by

Metrolinx for the Greater Toronto and Hamilton Area, which is intended to resolve the growing gap in the supply of public transit.<sup>146</sup> Expanding public transit in Toronto is a costly proposition, but even with rising fare prices and subsidies from the federal and provincial governments, there is still not enough capital at the TTC’s disposal for it to consider building much in the way of new rapid transit lines.

In Metrolinx’s Investment Strategy, which was released in June 2013, Metrolinx endorsed a one percent HST increase (\$1.3 billion), a 5 cent per litre increase to the Fuel and Gasoline Tax in the region (\$330 million), and the introduction of a business parking space levy (\$350 million), as well as the allocation of shares of increased development charges in the region to transportation (\$100 million).<sup>147</sup> These proposed revenue tools differ from the Institute’s preferred revenue tools, but the Task Force nevertheless sees them as a balanced and reasonable way forward to transportation funding in the region.

142 Toronto Transit Commission, *Response to the Commission Enquiry: Service/Technology Choices for Sheppard East and Scarborough RT Corridors*, January 21, 2013.

143 Oliver Moore, Adrian Morrow, and Steven Chase, “Feds offer funds for Toronto subway as Ontario warns it won’t be enough,” *Globe and Mail*, 23 September 2013.

144 Toronto City Council, *Scarborough Rapid Transit Options*, Agenda Item CC37.17, July 16, 2013.

145 *Ibid.*

146 Metrolinx, *The Big Move: Transforming transportation in the Greater Toronto and Hamilton Area*, 2008.

147 In Working Paper 16, the Institute expressed concern about the regressive nature of an increase in the Harmonized Sales Tax. Metrolinx acknowledged this concern in its Investment Strategy and proposed a “Mobility Tax Credit” in addition to the existing HST credit to alleviate the burden of the tax increase for low-income Ontarians. Metrolinx’s estimate for the revenues resulting from 1 percent increase in the HST is net of this credit, which accounts for the difference between its estimate and the Institute’s; Metrolinx, *Investing in our region, Investing in our future*, May 2013.

---

In addition, Premier Wynne wants to introduce ‘green bonds’ for funding environmentally-friendly infrastructure projects, which would include the expansion of public transit in the province. This plan would be the first of its kind in Canada and is already used in the United States, including by the state of Massachusetts, and revenue estimates are in the hundreds of billions, based on the global green bond market. Yet doubts remain whether the revenue generated would actually fund transit expansion, how much the setup costs are, and how likely investors would purchase these bonds.<sup>148</sup> Until the provincial government can determine the economic benefit of these bonds and guarantee them toward transit expansion in the Toronto region (and beyond), the Task Force is hesitant to support the use of green bonds as a revenue tool.

However, even if the Strategy, including the full set of revenue tools proposed by Metrolinx, were implemented, this would not be enough to secure the future of public transportation in Toronto. If the history of US transit systems is any indication of how to guarantee that public transit is built, it will require the leadership of the federal government to earmark funds through legislation for the Toronto region. Additionally, state and local dedicated revenue sources are pivotal in taking the place of federal funding, which decreased in the US from the 1980s onward.<sup>149</sup> Metrolinx rightly recommended in its Investment Strategy that the federal government put in place a National Transit Strategy, which would be “long-term, predictable and [provide] clear guidelines for the kinds of projects that would be eligible for federal money” with a goal of seeing the federal government contribute one-third of the capital costs.<sup>150</sup> Such a federal contribution would allow the money raised through the provincially-administered revenue

tools to go further and would also contribute more public dollars toward investment instead of consumption spending.

Regardless of which tools are adopted or whether the federal government steps up to the funding challenge, this is by no means a new problem. The lack of sustained investment in transportation infrastructure is responsible for this situation. But the Task Force also urges that as the three levels of government continue to find revenue tools and ways to cooperate, they should strive to build economically productive transit. Such a system should be expansive, enable the efficient movement of goods and users, and decrease congestion on roads and highways. In this way, transit systems can actually create an economic return. Otherwise, the province will continue to pay for the current transit system’s drag on productivity and competitiveness in the Toronto region.

**Strong structures allow Ontarians to be competitive and innovative at home and abroad. Free trade agreements and expanded transit increase the productivity and prosperity of workers and businesses, because they form the specialized supports and competitive pressures that are integral to innovation activities. Ontario must take the lead and improve on its structures or face a larger prosperity gap with its US peers.**

---

148 Oliver Moore and Adrian Morrow, “Ontario unveils plan to sell ‘green bonds’ to fund transit, infrastructure,” *Globe and Mail*, 30 October 2013.

149 Daniel Baldwin Hess and Peter A. Lombardi, “Governmental Subsidies for Public Transit: History, Current Issues, and Recent Evidence,” *Public Works Management & Policy*, 2005, Vol. 10, No. 2, pp. 138-56.

150 Metrolinx, *Investing in our region, Investing in our future*, 2013, pp. 45-6.

# Federal policies influence Ontario's competitiveness and prosperity

Ontario is no longer Canada's unchallenged economic engine



**IN 2009-10, ONTARIO BEGAN RECEIVING** payments under the Equalization Program for the first time, as its capacity to fund public services fell below the national average. Despite this lower-than-average fiscal capacity, Ontarians continue to contribute far more in federal tax revenues than they receive back in transfer payments and federal spending. In conjunction with the Mowat Centre, the Task Force examined the role that some major federal-provincial interactions play in influencing Ontario's competitiveness and how they might be used to help close the prosperity gap.

## Ontario's fiscal federalism gap needs to be reexamined

In its recent Working Paper, *Making sense of public dollars: Ontario government revenue, spending, and debt*, the Institute examined what it has dubbed the "fiscal federalism gap" that exists between the revenues raised by the federal government in Ontario and the expenditures made by the federal government in the province. The Institute found that, despite Ontario's below-average economic performance, the federal government collected \$12.3 billion more in revenue from Ontario than it spent in the province in 2009, the most recent year for which data was available.<sup>a</sup> After transfers, Ontario moves from being fifth to last among the provinces in terms of its fiscal capacity to provide public services.<sup>b</sup>

## Decisions on major federal transfers are leaving the provinces squeezed

The health system and social safety net delivered by provincial governments in Canada today have their origins in 50-50 funding partnerships between the federal and

provincial governments. Over time, the federal contribution to these programs has shifted to limited block transfers (paying for a far lower share of these programs) while the provinces' costs —notwithstanding recent evidence that health cost growth can be contained—are open ended.

Nonetheless, the federal contributions to support these programs are an essential source of revenue for provincial governments. The two largest federal transfers to Ontario are the Canada Health Transfer (CHT), which will amount to \$12.1 billion in the 2013-4 fiscal year, and the Canada Social Transfer (CST), which will be worth \$4.7 billion.<sup>c</sup> These represent 75 percent of federal transfers to Ontario, and 14.4 percent of the province's revenues.

Over time, the cost pressures of these core programs are placing significant pressures on provincial finances, while the federal government has unilaterally limited its exposure. Until this fiscal year, the CHT increased at a fixed 6 percent per year under the terms of the Health Accord reached between the federal government and provinces in September 2004. The federal government has since committed to continuing 6 per cent annual increases until the end of the 2016-7 fiscal year at which point the minimum annual CHT increase will be set at the rate of nominal GDP growth (projected by the Parliamentary Budget Office to average 3.7 percent through 2035), with a guaranteed minimum of a 3 percent increase each year.<sup>d</sup> Similarly, the CST is set to continue increases at a fixed 3 percent annually.<sup>e</sup>

While the federal government has done much to provide predictable and increasing funding, these transfers are not

a Institute for Competitiveness & Prosperity, Working Paper 16, *Making sense of public dollars: Ontario government revenue, spending, and debt*, May 2013, pp. 25-6. The Mowat Centre, using similar methodologies, found the gap to be \$11.1 billion in Noah Zon, *Filling the gap*, Mowat Note, March 2013.

b It is worth repeating that the Task Force and the Mowat Centre both urge the provincial and federal governments to provide the capacity for Statistics Canada to resume the Provincial and Territorial Economic Accounts data series so that updated information can be analyzed.

c Ontario Ministry of Finance, "A Prosperous & Fair Ontario: 2013 Ontario Budget," Chapter 2, 2013.

d Mostafa Askari, Randall Bartlett, Scott Cameron, and Helen Lao, *Fiscal Sustainability Report 2013*, Office of the Parliamentary Budget Officer, September 2013, p. 33; *Federal-Provincial Fiscal Arrangements Act*, R.S.C. 1985, c. F-8, s. 24 (as amended by *Jobs, Growth and Long-term Prosperity Act*, SC 2012, c. 19, s. 395).

e *Ibid.*, s. 24.3-24.51.

---

adequate to address the long-term cost pressures faced by provinces. There is a fundamental imbalance in the distribution of the taxes paid by Canadians to their federal governments and their provincial governments. Canadians pay more taxes to the federal government than is needed to cover its direct responsibilities, and less to their provincial governments than needed to cover their responsibilities—leaving provinces to rely on federal transfers. As a result, the Parliamentary Budget Office has found that if current trends hold, federal fiscal sustainability will come at the cost of a further burden transfer to provinces and territories, creating a significant fiscal imbalance.<sup>f</sup> These pressures would likely require the Ontario government to reallocate funding from other parts of the budget to maintain health spending, which might further exacerbate the significant imbalance between spending that the Institute classifies as consumption and investment.<sup>g</sup>

### **The Equalization formula must be made fairer**

The third largest federal transfer to Ontario is the payment made as part of the Equalization program. In the 2013-14 fiscal year, Ontario will receive \$3.1 billion in Equalization, about \$100 million less than it received last year, but nearly ten times as much as it received in 2009-10, when it began receiving Equalization. Equalization payments are determined according to a complex formula that aims to ensure that every province has the ability to provide reasonably comparable levels of public services at reasonably comparable levels of taxation.

While this is a well-accepted principle, the design of the Equalization program undermines its fairness and leads to the perverse situation in which Ontario is the largest net contributor to the program despite being its second-largest recipient. The main reason for this strange situation is that, while the formula *takes into account* natural resource wealth, it is not *funded* by natural resource wealth, since these revenues are outside of federal jurisdiction. This leaves a disproportionate burden on Ontario taxpayers.

Other design elements of the program also make it less fair. The below-market prices charged by provincially-owned

hydro utilities undervalue these resource revenue sources compared to non-renewable oil and gas revenues, and act as general subsidies.<sup>h</sup> The formula also does not take into account the costs of delivering public services, which are much higher in populous provinces, including Ontario, than in less populous ones.<sup>i</sup>

As a result of the skewed program, Ontarians face a lose-lose scenario. Elements of the program that keep it smaller, such as the “GDP cap” introduced in 2009, limit the amount that the Ontario government receives. However, as it stands, any increased revenue to the Ontario government through the program will be funded (and then some) by taxes collected. Ontarians should press to have the formula changed to improve the fairness of the Equalization program.

To put the fiscal federalism gap of \$12.3 billion in 2009 into perspective, it is equivalent to more than 10 percent of the provincial government's total expenditures of around \$118 billion during that fiscal year. The net effect is that Ontarians do not receive the most effective programs for their needs, compared to sending those tax dollars instead to the provincial government for programs that are designed for Ontario's context and priorities.

---

f Askari, Bartlett, Cameron, and Lao, *Fiscal Sustainability Report 2013*, 2013, p. 3. See also: Council of the Federation Working Group on Fiscal Arrangements, *Assessment of the Fiscal Impact of Current Federal Proposals*, 2012.

g Institute for Competitiveness & Prosperity, *Making sense of public dollars*, 2013, p. 62.

h This issue has been raised by a number of observers, including Peter Holle, “Artificially cheap hydro power: Your equalization dollars at work,” *National Post*, 29 April 2012.

i Peter Gusen, *Expenditure need: Equalization's other half*, Mowat Centre Fiscal Transfer Series, February 2012, p. 27.



## Ontario's human capital potential depends on federal policies

A healthy labour force is essential to Ontario's competitiveness. As a relatively small jurisdiction competing in global markets, Ontario depends on a policy environment that encourages a highly-skilled and productive labour force with high rates of utilization. The federal government controls a number of policy levers that influence the competitiveness of Ontario's labour force. Most important among these are: immigration, workforce skills training, and Employment Insurance.

### Immigration reforms have negatively impacted Ontario's access to skilled immigrants

While in principle, immigration selection is a shared area of federal and provincial responsibility, in practice, the federal government is the gate keeper. Historically, this has worked well for Ontario – the province received as many as 60 percent of the country's immigrants. Over the last decade, the situation has changed, so that immigration to the province declined by one-third in absolute terms between 2001 and 2011 (Exhibit A).

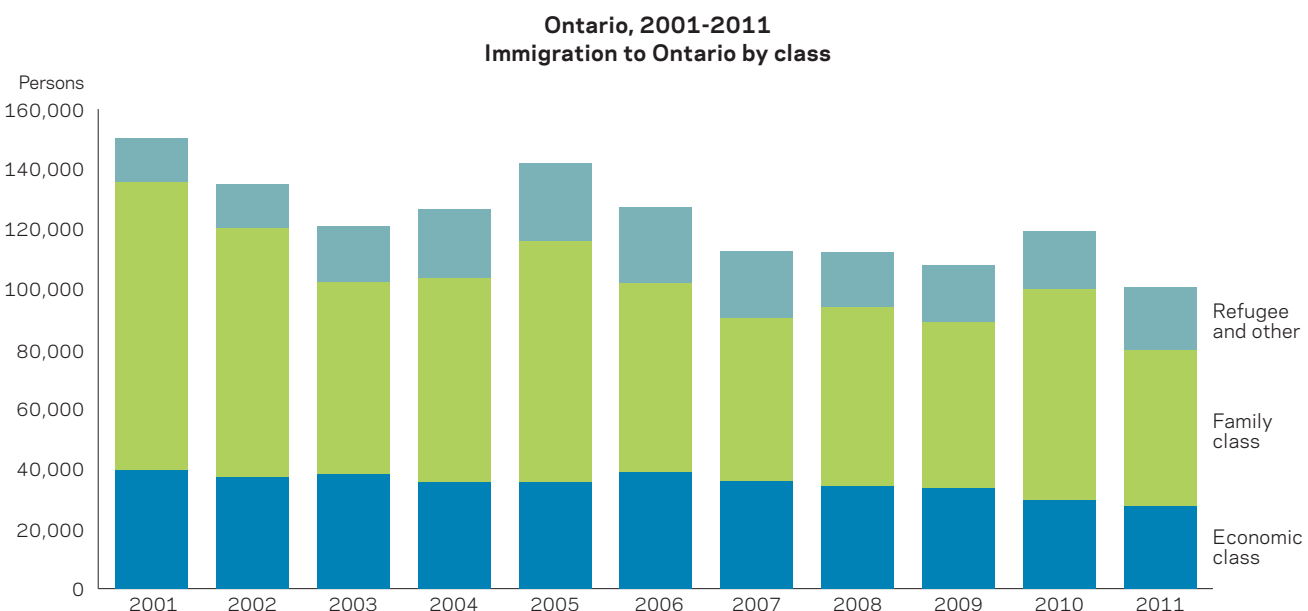
The decline in immigration to Ontario is largely a result of a federal policy shift to decrease the share of immigrants coming from the points-based Federal Skilled Worker Program, which has been at the core of Canadian immigration selection for decades (and which Ontario has depended on), in favour primarily of a growth in Provincial Nominee Programs (PNPs), where provinces select workers. The

particular challenge of this PNP growth has been its uneven and ad hoc nature. Between 2005 and 2009, 39 percent of the principal applicant places under the growing program were allocated to Manitoba, compared to 14 percent to fast-growing Alberta or 3.7 percent to Ontario – less than any province save for Newfoundland and Labrador.<sup>j</sup> As a result of its very small share of this now significant category of economic immigration, Ontario now receives a far lower proportion than other provinces of immigrants selected through economic categories – a prime concern of Ontario's recent Immigration Strategy (Exhibit B).<sup>k</sup>

With the demographic transition looming over the province, immigration is essential to stem a decline in the province's working age population. By 2014, immigration is expected to account for the entirety of Ontario's labour force growth.<sup>l</sup> While the Expression of Interest model offers some opportunity to rebalance Canada's immigration programs, many questions remain about how it would be applied amid the transformation of other programs.<sup>m</sup> As this transition in Canada's immigration selection model is completed, the Ontario government should work with the federal government to remove barriers to Ontario getting the skilled immigrants it needs to ensure economic growth.

- <sup>j</sup> Based on Citizenship and Immigration Canada data from *Evaluation of the Provincial Nominee Program*, September 2011. Note that Québec has control over all skilled immigration selection to the province.
- <sup>k</sup> Ontario Ministry of Citizenship and Immigration, *A New Direction: Ontario's Immigration Strategy*, 2012.
- <sup>l</sup> Ontario Expert Roundtable on Immigration, *Expanding our Routes to Success: The Final Report by Ontario's Expert Roundtable on Immigration*, 2012.
- <sup>m</sup> For a fuller explanation, see Naomi Alboim and Karen Cohl, *Shaping the Future: Canada's Rapidly Changing Immigration Policies*, Maytree Foundation, 2012.

Exhibit A Immigration to Ontario has declined, especially among economic class



Note: Other includes humanitarian.  
Source: Mowat Centre analysis based on data from Citizenship and Immigration Canada.

## The Canada Job Grant brings great uncertainty to Ontario's skills training

Despite provincial responsibility for education, the federal government has used its spending power for many years to sponsor workforce training and employment support programs. These federal interventions, typically delivered by provincial governments, have recognized the increasing importance of updating skills in today's labour market and the underinvestment in skills by Canadian employers.<sup>n</sup> These supports have typically been geared to transitioning people into more steady employment, targeted to unemployed workers collecting EI (Labour Market Development Agreements) or those with weaker labour force attachment (Labour Market Agreements, Labour Market Agreements for Persons with Disabilities, Targeted Initiative for Older Workers).

That the federal government has been prepared to make investments in enhancing the skills of Ontario's workforce is welcome for the province's competitiveness. However, the fact that the federal government controls this lever has raised issues of misalignment with provincial needs and insecurity of funding.

In the 2013 Budget, the federal government announced the reorientation of funding for skills training toward a new model: an employer-driven subsidy program called the Canada Job Grant. While details have yet to be released, the program is unlikely to assist as many Ontario workers as the existing programs it will replace, because it redirects funding from literacy and essential skills training needed to serve Ontario's long-term unemployed.<sup>o</sup> The current uncertainty

now leaves programs in limbo. In upcoming negotiations for the federal-provincial Labour Market Agreements, the federal and provincial governments should ensure proven programs are placed on solid footing, and invest in better data to understand labour market needs.

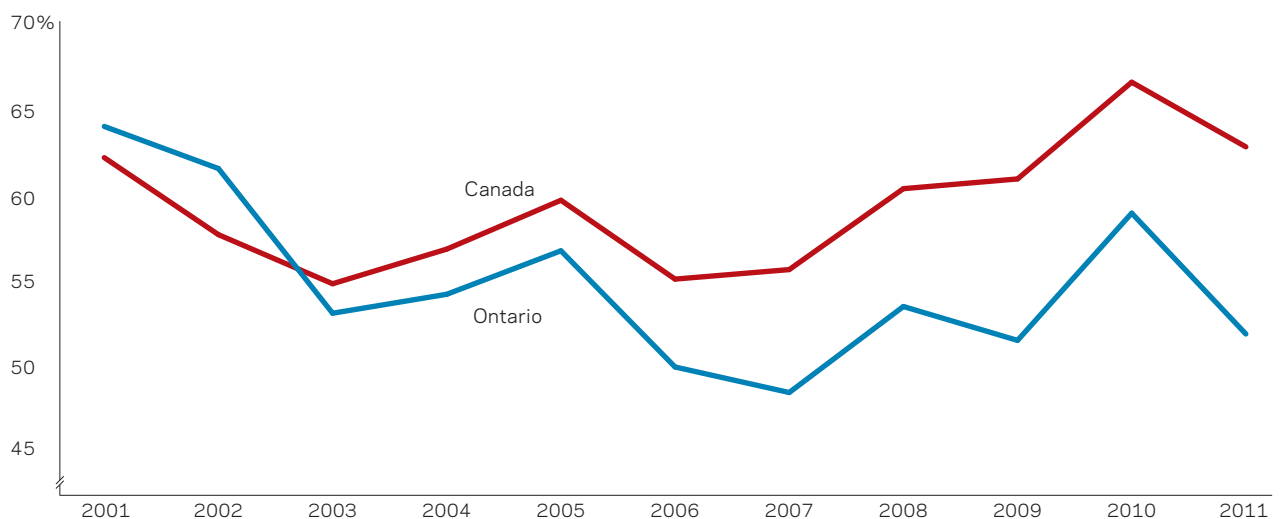
**While there are many benefits to Canada's federal structure and policies that enhance Ontario's prosperity, there are clearly some issues that need to be reviewed to maximize the prosperity potential of Ontario: federal transfers and the current Equalization formula limit the revenue that can be used to fund services for the Ontario people; and federal policies that affect Ontario's human capital potential need to be reviewed. The Task Force encourages the Ontario government to lobby for federal policies that support Ontario's competitiveness.**

Written with Noah Zon, Mowat Centre, School of Public Policy & Governance, University of Toronto  
[www.mowatcentre.ca](http://www.mowatcentre.ca)

- n Allison Bramwell, *Training Policy for the 21st Century: Decentralization and Workforce Development Programs for Unemployed Working Age Adults in Canada*, Mowat Centre EI Task Force Background Paper, 2011; Canada Council on Learning, *Canada's Biggest Economic Challenge: Improving Workplace Learning in Canada*, 2007.
- o Michael Mendelson and Noah Zon, *The Training Wheels are off: A Closer Look at the Canada Job Grant*, Mowat Centre, 2013.

### Exhibit B Ontario's proportion of immigrants from economic categories is below the Canadian average

Ontario and Canada, 2001-2011  
Percentage of immigrants from economic class



Source: Mowat Centre analysis based on data from Citizenship and Immigration Canada.



# HOW CAN ONTARIO CHART A BETTER COURSE FOR ECONOMIC GROWTH?



**ONTARIO HAS TREMENDOUS WORK TO DO** to achieve its economic performance potential and reach the median GDP per capita among its North American peers. The challenges Ontario faces are in part a result of global market shifts and the recent economic downturn, yet many issues have plagued the province for more than a decade. That these problems have persisted signals the immense structural changes needed to resolve them and the lack of commitment and action from policymakers and business leaders to implement these changes. The task of closing the prosperity gap is even more daunting and pressing than ever before.

For this reason, the Task Force urges Ontario to correct its economic course. Each of the recommended actions will act as tools for building a more prosperous future for the province, and most of them cannot be fully implemented immediately. But by following the Task Force's road map for closing the prosperity gap, Ontario is bound to make significant headway in realizing its economic potential. The imperative is to act now and to undertake the bold actions required – and, in many cases, long overdue – to chart a more prosperous future for the province.

---

## ATTITUDES

Encourage ambitious actions from Ontario's business leaders

## INVESTMENTS

Focus on investments that improve future prosperity

### **Create better targets for investment goals to boost innovation.**

Many businesses do not know they are investing less than what they should be in productivity enhancers, such as research and development and information and communications technology. To address this, Ontario businesses need to benchmark their investment and productivity goals using more robust and widely available data and pressure from shareholders and competitors.

### **Promote entrepreneurship in the education system.**

Ontario faces two stubborn problems that can both be addressed by boosting entrepreneurship in universities: poor commercialization of ideas and products borne in universities, and high youth unemployment. Giving young people the tools and wisdom they need to start their own businesses will yield enormous benefits for the province by creating job opportunities for young people, bringing new, innovative business players to the market, and bridging the gap between our education centres and the business world.

### **Increase access to post-secondary education.**

Ontario needs as many skilled and qualified workers as possible to succeed in the modern economy. To accomplish this, Ontario should to expand opportunities to attend post-secondary education by adding at least three new university campuses and make tuition more affordable for low-income Ontarians. This can be achieved by aligning tuition repayment to income, so students only have to repay their loans once they reach a certain income level, and converting education tax credits into grants.

### **Improve school-to-work pathways and emphasize core skills for today's students.**

The Task Force is highly in favour of programs designed to provide students with job-ready skills, such as co-ops and internships. Expanding these programs will help young people achieve better success in today's tight labour market and give students both a combination of job experience and core knowledge. In the classroom, Ontario needs to emphasize both technical skills and soft skills in critical analysis, problem solving, and communications. This will maximize human capital potential and ensure today's students are well-equipped to become tomorrow's innovators.

### **Introduce better regulations for skilled trades employment.**

Ontario should work to boost skilled trades employment by following Alberta's example in reducing journey-person-to-apprentice ratios and increasing the number of compulsory trades. This would encourage more people to complete apprenticeship programs, giving them the advanced skills they need to succeed in the trades.

### **Invest in infrastructure and schools to capture northwestern Ontario's economic potential.**

Ontario needs to work quickly to establish agreements between government, First Nations communities, and mining companies that will create a comprehensive plan for infrastructure improvements, local employment relations, and environmental protection to support mining development. The Task Force encourages the government to implement much-needed investments in schools and the power grid throughout the region to allow those in nearby communities to participate in the ongoing economic development that mining activity is bound to bring.

## MOTIVATIONS

Introduce smart tax policies to boost Ontario's competitiveness

## STRUCTURES

Rebalance market structures to aspire to global leadership

### **Phase out the Canada Employment Tax Credit (CETC) and use the savings to increase the Working Income Tax Benefit (WITB).**

The federal WITB has proven to be a highly successful tool in reducing poverty and encouraging more people to enter the workforce. The CETC endeavours to also accomplish this, yet because of its design, it mainly benefits those with higher incomes. The Task Force recommends replacing the CETC with an expanded WITB to encourage more low income Ontarians to enter the workforce.

### **Implement a carbon tax.**

The Task Force continues to support the implementation of a revenue-neutral carbon tax, which would offer a transparent carbon pricing scheme to reduce Ontario's carbon footprint. Its neutrality would be used to reduce taxes in other areas of the economy.

### **Re-orient Ontario's manufacturing sector toward high value-added industries and higher labour productivity.**

Ontario manufacturers simply cannot compete in low value-added industries because of their poor labour productivity and the high-value Canadian dollar. If manufacturing is to survive in Ontario, it needs to generate more high value-added goods, which rely on a more highly-skilled, productive labour force. Manufacturing is a critical sector for the province, but must adapt to compete in the global economy.

### **Establish more cluster initiatives.**

Ontario's presence in traded clusters is one of its best assets for economic growth. To facilitate their benefits, policymakers and industry leaders should work together to establish cluster initiatives to form partnerships between businesses and public policy.

### **Expand operations and invest in machinery and equipment to help grow Ontario's agriculture and agri-food industries.**

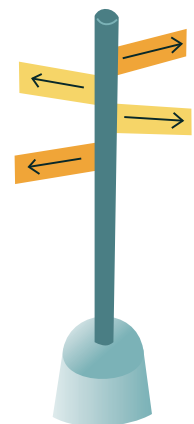
The Task Force is encouraged by Ontario's agri-food sector's economic prospects, yet investments in machinery and equipment are needed to capitalize on this opportunity. To become globally competitive, Ontario agriculture and agri-food producers need to invest in the tools for growth and to scale up their operations.

### **Reach out to export markets other than the United States.**

Canada's new free trade agreement with the European Union will provide significant export opportunities for Ontario. The Task Force recommends exploring similar free trade agreements with other regions to expand export opportunities further. This would be particularly beneficial for Ontario's agri-food sector, which has more than doubled its international export presence over the past decade.

### **Increase public transportation investment through dedicated funding in government budgets.**

After decades of underinvestment, Ontario is finally realizing the need for better funding for its transportation infrastructure. The Task Force recommends that the Ontario government implement dedicated revenue tools for transit and the federal government earmark funding toward transportation infrastructure. This will ensure the continued investment into Ontario's much-needed public transit.



---

## Previous Publications

---

### **Task Force on Competitiveness, Productivity and Economic Progress**

- FIRST ANNUAL REPORT – *Closing the prosperity gap*, November 2002
- SECOND ANNUAL REPORT – *Investing for prosperity*, November 2003
- THIRD ANNUAL REPORT – *Realizing our prosperity potential*, November 2004
- FOURTH ANNUAL REPORT – *Rebalancing priorities for prosperity*, November 2005
- FIFTH ANNUAL REPORT – *Agenda for our prosperity*, November 2006
- SIXTH ANNUAL REPORT – *Path to the 2020 prosperity agenda*, November 2007
- SEVENTH ANNUAL REPORT – *Leaning into the wind*, November 2008
- EIGHTH ANNUAL REPORT – *Navigating through the recovery*, November 2009
- NINTH ANNUAL REPORT – *Today's innovation, tomorrow's prosperity*, November 2010
- TENTH ANNUAL REPORT – *Prospects for Ontario's prosperity*, November 2011
- ELEVENTH ANNUAL REPORT – *A push for growth: The time is now*, November 2012

### **Institute for Competitiveness & Prosperity**

#### **Working Papers**

- WORKING PAPER 1 – *A View of Ontario: Ontario's Clusters of Innovation*, April 2002
- WORKING PAPER 2 – *Measuring Ontario's Prosperity: Developing an Economic Indicator System*, August 2002
- WORKING PAPER 3 – *Missing opportunities: Ontario's urban prosperity gap*, June 2003
- WORKING PAPER 4 – *Striking similarities: Attitudes and Ontario's prosperity gap*, September 2003
- WORKING PAPER 5 – *Strengthening Structures: Upgrading specialized support and competitive pressure*, July 2004
- WORKING PAPER 6 – *Reinventing innovation and commercialization policy in Ontario*, October 2004
- WORKING PAPER 7 – *Taxing smarter for prosperity*, March 2005
- WORKING PAPER 8 – *Fixing fiscal federalism*, October 2005
- WORKING PAPER 9 – *Time on the job: Intensity and Ontario's prosperity gap*, September 2006
- WORKING PAPER 10 – *Prosperity, inequality and poverty*, September 2007
- WORKING PAPER 11 – *Flourishing in the global competitiveness game*, September 2008
- WORKING PAPER 12 – *Management matters*, March 2009
- WORKING PAPER 13 – *Management matters in retail*, March 2010
- WORKING PAPER 14 – *Trade, innovation, and prosperity*, September 2010
- WORKING PAPER 15 – *Small business, entrepreneurship, and innovation*, February 2012
- WORKING PAPER 16 – *Making sense of public dollars: Ontario government revenue, spending, and debt*, May 2013
- WORKING PAPER 17 – *Untapped potential: Creating a better future for service workers*, October 2013
- WORKING PAPER 18 – *Taxing for growth: A close look at tax policy in Ontario*, October 2013

#### **White Papers**

- Strengthening management for prosperity*, May 2007
- Assessing Toronto's financial services cluster*, June 2007
- Time for a "Made in Ontario" Working Income Tax Benefit*, September 2009
- The poor still pay more: Challenges low income families face in consuming a nutritious diet*, December 2010
- Bringing "dead cash" back to life*, March 2013

#### **Books**

- Roger Martin and James Milway, *Canada: What it is, what it can be*. Institute for Competitiveness & Prosperity. Toronto: Rotman-UTP Publishing, 2012.

---

## How to Contact Us

---

### The Institute for Competitiveness & Prosperity

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

Should you have any questions or comments,  
or to learn more about the Institute and the  
Task Force, please visit us at:

**[www.competeprosper.ca](http://www.competeprosper.ca)**

Institute for  
**COMPETITIVENESS & PROSPERITY**

#### EXECUTIVE DIRECTOR

##### **Jamison Steeve**

416 946 7585  
[j.steeve@competeprosper.ca](mailto:j.steeve@competeprosper.ca)

#### POLICY ANALYSTS

##### **Marco Andrade**

416 978 7841  
[m.andrade@competeprosper.ca](mailto:m.andrade@competeprosper.ca)

##### **Matthew Johnson**

416 978 7843  
[m.johnson@competeprosper.ca](mailto:m.johnson@competeprosper.ca)

##### **Linda Petersen**

416 978 7843  
[l.petersen@competeprosper.ca](mailto:l.petersen@competeprosper.ca)

##### **Ashleigh Ryan**

416 946 3503  
[a.ryan@competeprosper.ca](mailto:a.ryan@competeprosper.ca)

##### **Weiru Shi**

416 978 7839  
[w.shi@competeprosper.ca](mailto:w.shi@competeprosper.ca)

##### **Dorinda So**

416 978 7859  
[d.so@competeprosper.ca](mailto:d.so@competeprosper.ca)

#### SUMMER RESEARCHERS

##### **Patrick Baud**

**Ani Boyo**

#### SPECIAL CONTRIBUTOR

##### **Melissa Pogue**

Martin Prosperity Institute  
Research Associate  
[melissa.pogue@rotman.utoronto.ca](mailto:melissa.pogue@rotman.utoronto.ca)

*Should you wish to obtain a copy  
of one of the previous publications,  
please visit [www.competeprosper.ca](http://www.competeprosper.ca)*

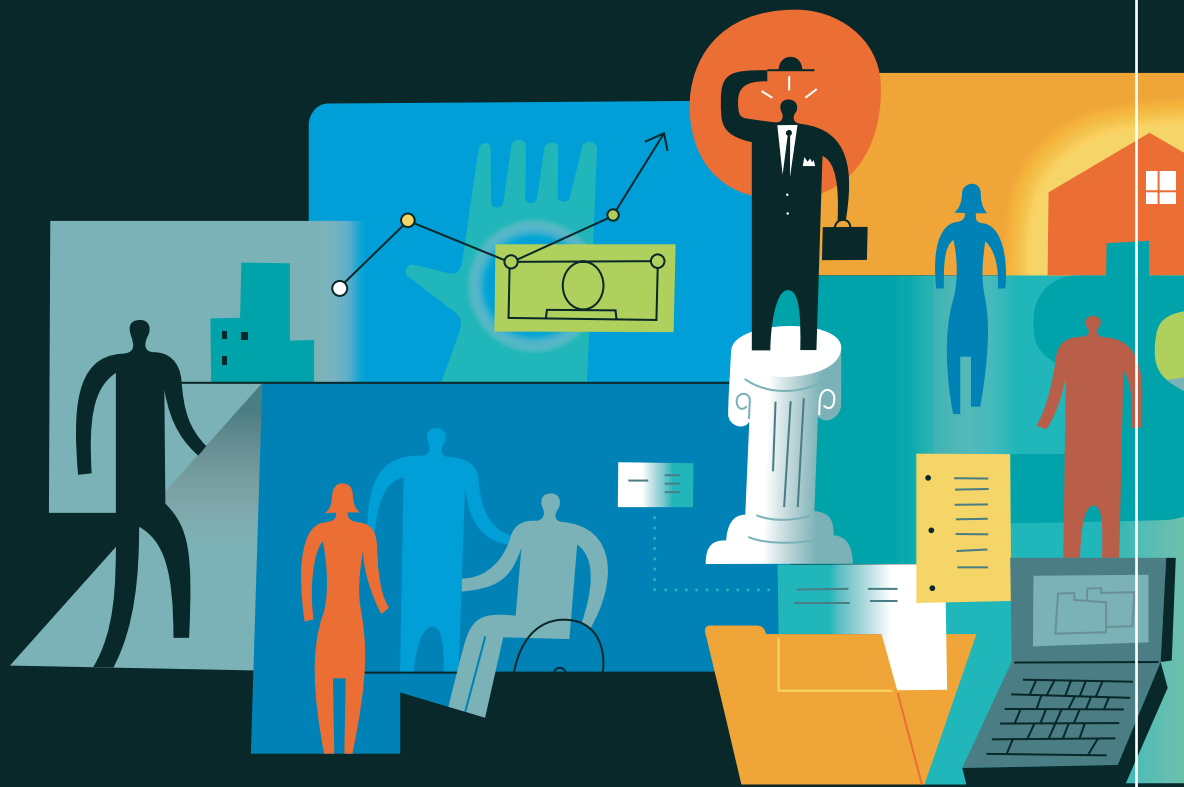
DESIGN

**Hambly & Woolley Inc.**

[www.hamblywoolley.com](http://www.hamblywoolley.com)

Illustration: Copyright © Doug Ross / ImageZoo





**Task Force on Competitiveness, Productivity  
and Economic Progress**

ISBN: 978-1-927065-08-2