TORONTO REGION BOARD OF TRADE

TORONTO AS A GLOBAL CITY:

Scorecard on Prosperity – 2015

CPA CHARTERED PROFESSIONAL ACCOUNTANTS ONTARIO

Sponsored by the
Chartered Professional Accountants of Ontario

Created with the research support of
The Conference Board of Canada

Founded in 1845, the Toronto Region Board of Trade is the chamber of commerce for Canada's largest urban centre, connecting more than 12,000 Members and 250,000 business professionals and influencers throughout the Toronto region.

The Board fuels the economic, social and cultural vitality of the entire Toronto region by fostering powerful collaborations among business, government, thought leaders, and community builders. Toronto Region Board of Trade plays a vital role in elevating the quality of life and global competitiveness of North America's 4th largest city.

Membership with the Board offers the opportunity to be part of a network of our region's most influential business leaders, who are working together to help shape the future of the Toronto region.

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FOREWORD & ACKNOWLEDGEMENTS

On behalf of our 12,000 members, the Toronto Region Board of Trade is pleased to present our annual global benchmarking report: *Toronto as a Global City: Scorecard on Prosperity 2015*.

Since the release of our 2014 report, the global economy has shifted enormously, creating huge implications for Canada and the Toronto region. Oil and commodity prices have plummeted dramatically in only a year, sending a strong message about the importance of diversifying our economy.

Now, more than ever, is the time to develop new sources of future growth for our leading urban city-regions. Targeted action can create tremendous benefit for the Toronto region which accounts for nearly 50 percent of Ontario's and 20 percent of Canada's economies. And, proof of concept in the Toronto region can be readily transferred to other markets across the province and the country.

Success, as we explained in last year's *Toward a Toronto Region Economic Strategy* report, depends on a new "go global" economic plan that effectively aligns our private and public resources.

Scorecard on Prosperity 2015 identifies the Toronto region's enormous economic potential for growth at home and abroad if businesses target the global economy's high growth markets. By selling more products and services to more people, the region's businesses can attract further global investment here, expand their firms and create more Canadian jobs.

As in previous editions of *Scorecard*, driving productivity growth is a central focus. This year's lens, on the globalization of our firms, provides another perspective on how to improve productivity within our region. Firms engaged in global markets have a remarkable economic effect. They are more innovative and productive, generating more jobs and higher wages. In fact, research by The Conference Board of Canada reveals that every $100 million increase in exports generates approximately 1,000 new jobs at home.

Our analysis also focuses on our region's digital infrastructure and its importance to facilitating trade. At the turn of the 20th century, railways drove the economy. Today, in the second decade of the 21st century, it is high quality digital infrastructure that is crucial to establishing and maintaining our competitive advantage globally.

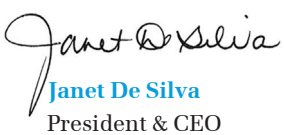
Finally, economic success depends upon how well we develop and leverage our people, our human capital assets. As we identified in the 2013 edition of *Scorecard* we are human capital leaders, but we also know that we are not fully taking advantage of our enormous international talent base. With this year's report we highlight the opportunities these talented individuals present to the growth and success of our region's businesses. There is so much more we can do together.

Again, as we have done previously, we rank the liveability and economic performance of the Toronto region — and four other Canadian city-regions — against 24 global city-regions. Our report uses 33 analytic indicators from economic and labour attractiveness domains to comprehensively discover how we measure up against them.

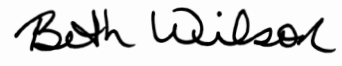
Toronto's results are consistent with our past reports, revealing middling economic and productivity-related performance, but high achievement in sustaining our region's enviable quality of life. As past analysis has shown — and this report continues to highlight — underinvestment in transportation infrastructure and weak venture capital markets continue to drag down our region's productivity.

The information contained in the *Scorecard* would not have been possible without The Conference Board of Canada and Certified Professional Accountants of Ontario's substantial contribution. As with all six of our previous *Scorecard* reports, their research and funding support have been invaluable.

We also thank the members of our Board of Directors, Policy and Advocacy Committee, and Economic Development Committee. They are business people who contribute their time and expertise to the Toronto Region Board of Trade with a shared view of creating a better and more prosperous Toronto region for all — goals which form the core mission of the *Scorecard on Prosperity*.



Janet De Silva
President & CEO
Toronto Region Board of Trade



Beth Wilson, FCPA, FCA
Chair
Toronto Region Board of Trade

PREFACE

CHARTERED PROFESSIONAL ACCOUNTANTS ONTARIO

For the past seven years, the Toronto Region Board of Trade's *Toronto as a Global City: Scorecard on Prosperity* has provided a comprehensive overview of how the Toronto region performs among 24 international areas on key measures of economic performance and liveability. It is a testament to Toronto's status as a truly global city-region that it has consistently placed in the top ten ranking overall, year after year. The past seven years have proven that Torontonians should be proud of their metropolitan region, for its strong business community, vibrant research centres and cultural institutions, diversity and quality of life, have placed it among the world's best.

Yet there is a sense of unfulfilled promise about Toronto. Despite a highly educated, diverse labour force, Toronto's economic performance is undistinguished, particularly in comparison to its U.S. counterparts. Indeed, the numbers suggest that Toronto has been treading water; some European cities, such as Oslo and Stockholm, have swum ahead while U.S. finance and technology clusters, having recovered from the Great Recession, are quickly catching up. Insulated from the 2007-2008 global financial crisis by the sound policies of its banking sector, Toronto missed an opportunity to capitalize on its good fortune. Toronto failed to reach its full potential.

There is good news, however. In 2014, Toronto turned a page and entered a new chapter in its history. Voters faced a clear choice among mayoral candidates and placed their aspirations for a prosperous city in a leader who has pledged to address the city's shortfall in regional transportation and infrastructure. His election heralds a new era in cooperation between the Mayor, Toronto City Council, municipal councils across the region, and the business community as a whole.

The accounting profession has also entered a new era. Where there were once three recognized Canadian accounting designations, today there is one: Chartered Professional Accountant (CPA). With more than 81,000 members, CPA Ontario is the voice of the accounting profession in our province. And we are pleased to add our voice to the Toronto Region Board of Trade's call for strategies that will enhance Toronto's global export opportunities and increase investment in the region's digital infrastructure.

Approximately 45,000 Chartered Professional Accountants reside in the Toronto region. They have a personal stake in ensuring that Toronto remains a vibrant and prosperous city, and a professional stake in supporting Toronto in its rise to the top of the international elite. Indeed, given its status as the economic engine of our province, all CPAs across Ontario are invested in the future of Toronto. As proud supporters of our members' aspirations, CPA Ontario is a proud supporter of the Toronto Region Board of Trade and the *2015 Scorecard on Prosperity*.

Carol Wilding, FCPA, FCA
President & Chief Executive Officer
Chartered Professional Accountants of Ontario

1 | EXECUTIVE SUMMARY

Introduction

In this seventh edition of the *Scorecard on Prosperity*, the Toronto Region Board of Trade (the Board) measures and assesses the economy and labour attractiveness of the Toronto Census Metropolitan Area (CMA) against 23 other metropolitan areas around the globe.

Toronto has ranked consistently among world leaders in labour attractiveness since its first edition in 2009. As noted in the *Toward a Toronto Region Economic Strategy* (*TTRES*) report, Toronto remains one of the most successful city regions in the world and consistently earns high rankings for its quality of life.[1] Annually, these distinctions attract close to 100,000 newcomers who choose the Toronto region as their new home. Numerous global businesses also choose to locate within Toronto's borders.

However, it has also consistently been a middle-of-the road performer economically. Toronto has yet to achieve its full potential. A principal reason is that labour productivity growth, defined as the change in output per worker, continues to fall. It declined by 6 percent between 2000 and 2010, following a significant drop in the manufacturing sector. Declining exports is a cause as reduction in the output of some higher-productivity sectors, in turn, has had a negative impact on the overall economy. As a rule, manufacturing companies that export tend to be more productive than those only serving the domestic market.

Toronto's lagging productivity growth has created a widening gap between it and many of its comparator regions. In particular, Toronto falls behind innovative and high-performing metros such as San Francisco, Boston and Seattle. Closing the gap will be difficult as it requires not only speeding up, but also sustaining it for an extended period of time.

Improving the Toronto region's performance is imperative because productivity growth is essential to maintaining and raising living standards. Essentially, productivity is the lifeblood of a robust economy. Increased income distributed as higher wages for workers and/or higher profits for firms is a major benefit. Governments then receive higher tax revenues enabling them to increase spending, cut taxes and reduce public debt. Prices may also be lowered and customers' dollars may go further as they can afford to buy more goods and services with the same amount of money.

Toronto is Canada's largest urban region. It is the home of nearly 6 million residents and almost half of the province's labour force. Significantly, businesses and industry here account for nearly 50 percent of Ontario's Gross Domestic Product (GDP) and 20 percent of Canada's GDP. The Toronto region's economic importance to Canada surpasses that of New York City's to the United States. New York produces only about nine percent of American GDP.

1 Toronto Region Board of Trade, *Toward a Toronto Region Economic Strategy.*

The Toronto region is potentially the dynamic economic heart of the country, fuelling growth and prosperity throughout Ontario and beyond. It has many assets including a well-educated population; critical mass of firms with a unique mix of products and services; a well-diversified economy with a solid base of economic clusters; an international hub airport; sophisticated and renowned universities and colleges. As we report in this *Scorecard*, the Toronto region also is well-positioned to benefit from our highly-educated and globally-connected newcomers. In this year's report, we identify international trade opportunities available to Toronto region businesses and industries. With the emerging middle class consumer markets of Asia offering some of the highest growth trade opportunities in the world, Toronto region businesses are presented with a strong growth and economic diversification opportunity which, if acted upon, will reverse our decade of declining export levels.

For example, India presents a dramatic opportunity in education for Toronto schools and institutions. By the year 2025, its population will account for 25 percent of the world's workforce. This represents the world's largest working population. Never before in our history has demand ever been this great for university and diploma degree education as well as job-ready skills training.

Attracting foreign direct investment to some of the world class industry clusters in the Toronto region, beyond the renowned financial services sector is equally important. For instance, the Food & Beverage Cluster is the third largest in North America. It employs more than 59,000 people and had sales of about $17 billion in 2010.[2] Likewise, the Toronto region is home to the largest Canadian cluster of human health-related companies and other organizations. Nearly 700 companies comprise the Human Health Sciences Cluster, employing more than 87,000 people.[3]

Pursuing opportunities for success in these areas is essential to drive the economy forward, to reduce and ultimately eliminate trade stagnation, and to ignite productivity thereby achieving the vision outlined in *Scorecard 2014* and *TTRES*.

The *TTRES* report is confident in businesses' proactive initiative to reverse the region's productivity 6 percent decline during the past decade and help grow it by 10 percent between 2010 and 2025. This prediction is dependent upon key initiatives that must be taken including expanding our regional transportation infrastructure; fixing our ageing and crumbling municipal infrastructure; strengthening our region's economic clusters; and improving the matching of workers' skills sets with available jobs.

With only 5 percent of export ready companies in Canada trading globally, our economic priority should be expanding our international trade in goods and services beyond only our traditional markets of the U.S. and Western Europe. Expanding Sino-Canadian trade is a must. China is an undisputed giant. Its economic growth is exemplary. During the past five years, it has amassed a nearly $3 trillion gain in GDP. Meanwhile, over the past nine years, Ontario's share of total Chinese merchandise imports declined from 0.18 percent in 2004 to 0.12 percent in 2013. While imports from Ontario grew by 9.3 percent annually during this period, other countries did better, as total Chinese imports increased by nearly 15 percent annually. This is a clear example of the export challenges and opportunities Ontario faces. Of course, we must also target other fast-growth markets. For instance, like China, India is expected to be one of the strongest growing economies over the next three years.

Sino-Canadian exporting is synonymous with opportunity and, ultimately, success. During the next three years, China, together with Central & Southern Asia and South East Asia, are expected once again to post the strongest economic gains. Together, these regions account for nearly one third of the world GDP.

In particular, East China offers Toronto companies lucrative opportunities in selling unique, high-quality specialty foods because they have experience developing products to meet demand from Canada's multicultural market. Other opportunities include selling advanced technologies for food producing companies and supplying lean meat and swine as well as high performance dairy genetics.

2 Toronto Region Board of Trade, *Toronto as a Global City: Scorecard on Prosperity 2014*, p 69.
3 Ibid., p 70.

As shown in *Scorecard 2015*, Information Technology, Processed Food and Education & Knowledge Creation economic clusters provide just a few exporting opportunities available to our region's businesses. The Toronto region has the skill, knowledge, talent, determination and persistence needed to satisfy the insatiable appetite for goods and services not only in China, but also in India and Indonesia.

Report Contents

As we have highlighted in previous reports, we measure and monitor the Toronto CMA's performance and its potential for success by using a scorecard based on 33 indicators grouped into two domains: Economy (18) and Labour Attractiveness (15).

The results help us understand why some cities are prosperous and attractive, and why others struggle. We rank cities from the most successful to the least; based on combined results of the economic and labour attractiveness indicators.

Since 2010 we have examined consistently the same 24 metropolitan areas using the same indicators. The "Big Picture" section of this report compares 24 global metropolises. Along with urban regions throughout the world, they are increasingly competing with one another to attract skilled labour and capital investment — key ingredients for a prosperous future.

As we have previously highlighted, the Toronto region's poor productivity performance. This year's *Scorecard* shows, lagging productivity continues to constrain Toronto fundamentally and ultimately limits gains in the region's standard of living.

The region's productivity performance can be improved in many ways, including investing more heavily in physical and human capital, restoring and improving infrastructure, and promoting competition, all topics that have been explored in great depth in previous *Scorecard* reports.

Another method of improving productivity performance, and the focus of this year's special lens, is by increasing Ontario's exports. Ideally, this report would focus on the Toronto region's trade performance itself, but metropolitan area trade statistics do not readily exist.

As the Toronto region accounts for approximately half of Ontario's economic activity, it likely accounts for a similar share of the province's trade activity. Thus, it is safe to assume Ontario's statistics and lessons can also be applied to the Toronto region.

Shining a spotlight on Ontario's trade performance is timely for several reasons. First, the potential economic growth of Canada in general and Ontario in particular, is slowing. Potential output can be described as what an economy can produce when all its resources, including labour, are fully employed. But Baby Boomers, the massive wave of people born after World War II between 1946 and 1964, are beginning to retire. This trend will continue for years to come, meaning future labour force growth will be constrained. Ontario's businesses must be compelled now more than ever to seek out higher growth markets in all corners of the world.

Second, while the province's exporters have struggled in recent years, export opportunities have never been better. The combination of a weaker Canadian dollar and stronger U.S. economy, a potent one-two punch, boosts demand for Ontario exports.

Third, the world economy is expected to experience stronger growth during the next three years, following mediocre growth in the previous three. Therefore, international trade activity is set to ramp up. Ontario's businesses must be ready to catch this wave by establishing greater competitive advantages.

The Big Picture: Paris, the City of Lights Shines On

Rank 2015	Rank 2014	Metro Area
1	1	Paris
2	6	Stockholm
3	2	Calgary
4	4	Oslo
5	**3**	**Toronto**
6	10	Boston
7	9	San Francisco
8	7	Seattle
9	5	London
10	8	Sydney
11	18	Berlin
12	11	Vancouver
13	15	New York
14	14	Tokyo
15	23	Madrid
16	13	Dallas
17	12	Montréal
18	17	Hong Kong
19	24	Barcelona
20	22	Shanghai
21	16	Halifax
22	19	Chicago
23	20	Los Angeles
24	21	Milan

Toronto's overall ranking has dropped to fifth place in *Scorecard 2015*, declining by two from its highest placing of third overall last year. In the Labour Attractiveness domain, Toronto maintained its third-place ranking. However in the Economy ranking, Toronto slipped two spots to 14th. Despite this, overall results re-affirm Toronto's status because of its high quality of life.

Paris not only tops the overall rankings for the fifth consecutive year, it also widens the distance by far between itself and its peers.

The leaders in the top-five consist of two Scandinavian cities, **Stockholm** (#2) and **Oslo** (#4), as well as two Canadian CMAs, **Calgary** (#3) and, of course, **Toronto** (#5). Calgary, Oslo and Toronto have consistently placed within the top five in recent years. Stockholm's movement, by contrast, was dramatic, soaring from sixth to second place within just two years.

Focus on the Economy

Economy Overall

Rank	Metro Area	Grade
1	San Francisco	A
2	Boston	A
3	Seattle	A
4	Dallas	B
5	Stockholm	B
6	Paris	B
7	Calgary	B
8	Oslo	B
9	Tokyo	B
10	New York	B
11	Berlin	B
12	Sydney	B
13	Shanghai	B
14	**Toronto**	**C**
15	Los Angeles	C
16	Hong Kong	C
17	Chicago	C
18	Vancouver	C
19	Montréal	C
20	Madrid	C
21	London	C
22	Halifax	C
23	Milan	D
24	Barcelona	D

Since the inaugural *Scorecard on Prosperity* in 2009, U.S. metros have earned high grades in the Economy rankings, despite the recession and prolonged recovery. This year is no exception, as **San Francisco**, **Boston**, **Seattle** and **Dallas** rank first through fourth. U.S. cities place highly in real Gross Domestic Product (GDP) per capita and disposable income per capita. They also thoroughly dominate indicators relating to innovation: productivity, productivity growth, employment in high-technology, patents and venture capital investment. Employment growth remains weak in the U.S. metros, but is beginning to improve in most cities.

Nine of the top 10 cities in the overall Economy rankings in this year's report are the same compared to last year. All five Canadian Census Metropolitan Areas (CMAs) Economy rankings have lost ground, including Calgary, which drops out of the top five. Toronto falls from the top half of the 24 metros to 14th place, while Vancouver also loses two places and ranks 18th. Montréal and Halifax also have fallen to 19th and 22nd place respectively.

Although Toronto has dropped two spots in the Economy rankings, this should not be a disappointment. The Toronto region is resilient and it possesses high economic potential rather than sustained economic growth and momentum in absolute terms.

Among its strengths are its macro-economic environment and its excellent business conditions. The regional workforce is professional and highly-skilled, and the labour market has been anchored sufficiently thus generating more jobs despite relatively modest economic growth.

Among the 18 Economy indicators, Toronto gets five "A" grades, one less than last year. They were earned in areas related to labour market indicators and to the cost of doing business, such as total tax burden and office rents.

Toronto gets "B" and "C" grades on economic and income growth indicators, as well as productivity. The "D" grades are concentrated in innovation related areas including patents, venture capital and size of initial public offerings.

Toronto's productivity performance does not present any sign of an imminent turnaround, so it is no surprise disposable income growth in the region has been only moderate. Productivity growth is the only sustainable way to improve living standards. Furthermore, prospects for future wealth generation through innovation are modest because of poor results on key indicators such as patents, venture capital investment and Initial Public Offerings (IPOs).

Focus on Labour Attractiveness

Labour Attractiveness

Rank	Metro Area	Grade
1	Paris	A
2	London	A
3	**Toronto**	**B**
4	Barcelona	B
5	Calgary	B
6	Madrid	B
7	Oslo	B
8	Stockholm	B
9	Vancouver	B
10	Sydney	C
11	Montréal	C
12	Berlin	C
13	Hong Kong	C
14	New York	C
15	Tokyo	C
16	Halifax	C
17	Seattle	D
18	Boston	D
19	Chicago	D
20	Milan	D
21	Dallas	D
22	San Francisco	D
23	Los Angeles	D
24	Shanghai	D

For the fifth consecutive year, Paris and London place first and second, while Toronto ranks third for the second year in succession. Remaining Canadian cities lost ground. Significantly, for the first time in four years, a Canadian city ranks behind a U.S. city as Halifax falls behind New York.

One year after earning an "A" grade for the first time since 2010, Toronto once again falls back to a "B" grade in Labour Attractiveness, because Paris' stellar results have raised the standards for an "A" even higher than in previous editions. Toronto improved its own performance on many labour attractiveness indicators and it is now closing in on London for second place.

Toronto gets six "A" grades and six "B" grades on the 15 indicators, including two first-place rankings. In population diversity, the region is peerless with 47.9 percent of its population foreign-born. Only Vancouver and Sydney are close to Toronto's distinction. Toronto earns its other first place ranking on the student-teacher ratio, as it has more than 91 teachers for 1,000 students. Data was unavailable for European cities, but Toronto has about twice the teachers per student compared to North American peers such as San Francisco and Seattle.

Toronto's environmental results are also "A" calibre as it edges up one place to seventh in air pollution, and actually sees a reduction in particulate matter, or particle, pollution. The city also has the third-most efficient use of water, trailing behind only Berlin and Madrid.

Toronto still earns an "A" grade on homicide rates, but the results cause potential concern because they are rising. Toronto retains its "A" grade because of its rates are compared to the much higher homicide rates in U.S. cities. Nevertheless, Toronto's homicide rate rose from 1.8 per 100,000 population to 2.1 for every 100,000 people. Using this measure, Toronto still drops two places on this indicator.

Transportation, including travel and infrastructure, continues to be one of Toronto's major challenges as it is lagging behind the world's leaders. Toronto's performance is poor as it gets a "B" grade (with a low ranking of 17th) on commute times, and a "C" grade on the low proportion of workers who walk, bicycle or use transit. Most of Toronto's peers tend to fare relatively well in one of these two indicators — either they have short commute times, car pool, or a large share of their population travels by means other than automobile.

Toronto's only "D" grade on labour attractiveness continues to come from its low number of international visitors. While this disappointing grade is in part, due to the massive number of visitors that are drawn to London annually, the number of visitors to Toronto actually declined from 3.7 million last year to 3.5 million. But local tourism should get a boost this year when the region hosts the Pan Am/Parapan Am Games this summer.

This July, the Toronto region — and Southern Ontario — will host the XVII Pan Am/Parapan American Games, the largest multi-sport event in Canada's history. It will be three times larger than Vancouver's 2010 Winter Olympics. From July 10th to July 26th, they are expected to attract more than 10,000 athletes, coaches and officials from 41 nations.

The Ontario Chamber of Commerce (OCC) projects the Games will have a huge economic impact, attracting 250,000 visitors and generating $3.7 billion in new economic activity in the Greater Toronto/Hamilton Area (GTHA). The event is expected to create 26,000 new jobs.

The Games likely will provide a short-term economic boon, the OCC reports. But "if successfully executed, they will bring about long-term and sustainable benefits for Ontario's economy and businesses," the OCC reports. "The province has so far made excellent progress on a number of fronts: it has invested in major infrastructure projects across the GTHA; trade shows are being organized; businesses, including SMEs, (are) engaged in the business opportunities presented by the Games."

Special Lens — International Trade
Recovering Our Lost Decade

We have added a special feature to each *Scorecard* edition to improve readers' understanding of the benchmarking results. They contribute to our understanding of the factors underlying Toronto's middle-of-the-pack grades on the economy and potential threats to Toronto's high quality of life. Our findings lead us to this year's focus: international trade.

The Board is keenly interested in it as it is an important avenue to boost the Toronto region's competitiveness and prosperity. Trade can boost productivity growth in various ways: by increasing competition, by opening access to global knowledge and best practices, and by encouraging foreign direct investment (both inward and outward).

This year, we highlight Ontario's poor export performance since the early 2000s. Although a stronger Canadian dollar and sluggish economic growth in the U.S., (the province's dominant trade partner) are factors, they are not the only reasons for a weak export performance. Failure to expand trade to other fast-growing export markets is also a crucial factor.

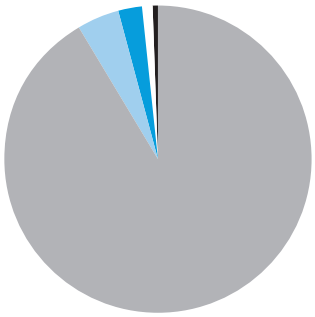
This trade analysis is done at the provincial level because trade data are not readily available for the Toronto region or, for that matter, for any metro area.

To identify solutions to Ontario's export woes, we compare Ontario's export destination profile with recent and future trends in global economic growth. This identifies which regions could potentially offer the province the best opportunities to diversify its trade base and thereby become less trade dependent on the U.S.

Figure 1: Ontario's Exports Rebalancing but Not Growing[4]

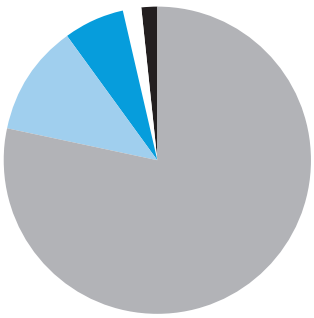
2003 Exports: $168B

United States	$153,421,842,910
Europe	$7,420,295,654
Asia	$4,251,172,081
Latin America	$1,670,356,948
Africa/ME	$912,510,627



2013 Exports: $165B

United States	$128,711,353,982
Europe	$19,090,704,803
Asia	$10,465,901,079
Latin America	$3,432,169,511
Africa/ME	$2,416,196,539



Sources: Asia-Pacific Foundation of Canada; Industry Canada.

"The shift from a leader in the 1990s to an underperformer since 2003 can be traced to weaker international exports and the shrinking manufacturing industry."

Source: Central 1 Economic Analysis of Ontario, Nov 2014

2013 exports to Asia

- Metals and minerals
- Chemicals, plastics and rubber
- Agri-food
- Electronic machinery
- Textiles, clothing, leather

4 This data is reported in $CAD.

Upgrading digital infrastructure and taking increasing advantage of Toronto's population diversity are two levers Ontario, and especially Toronto, can use to greater diversify the export market. Thus, we study whether the region is taking full advantage of their large immigrant population to do so. We also rank Toronto's performance in information and communication technology (ICT) penetration.

Ontario Exports Have Rebalanced but Growth Has Been Stagnant

The U.S. remains, by far, Ontario's biggest trade partner, even though exports south of the border have been falling. Exports to the U.S. declined from $153.42 billion in 2003 to $128.71 billion in 2013. (See Figure 1). Thus, the share of total Ontario merchandise exports to the U.S. fell from 91.5 percent to a still-dominant 78.4 percent. Sales to other regions more than doubled between 2003 and 2013, but this growth was not enough to offset the drops in U.S.-destined merchandise exports. Thus, although some rebalancing of Ontario's export destinations has occurred, there has been no growth in absolute terms.

For example, compare Ontario with Illinois. Both jurisdictions share similar-sized economies, major metro regions (Toronto and Chicago, respectively), and are equidistant from China. In 2004, Ontario's exports (US$1 billion) to China were slightly higher than the Illinois total (US$900 million). By 2013, in less than a decade, Illinois' exports to China rose to US$5.7 billion, outpacing Ontario's total of only US$2.2 billion by two-and-a-half times.

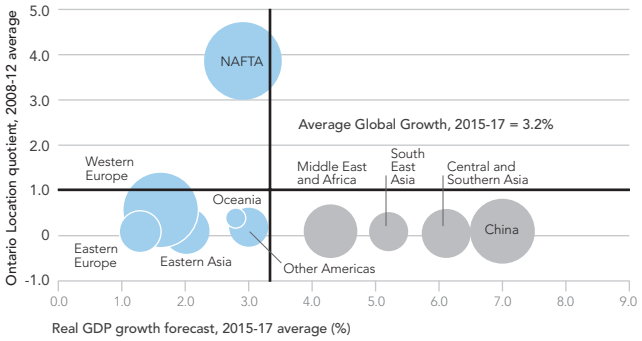
Fast-Growth Markets, Especially in Asia, Potential Focus of Trade Diversification Efforts

The economies of three Asian regions — China, Central and Southern Asia, and South East Asia — and to a lesser extent the Middle East and Africa, are expected to grow the most during the next three years. (See below for these three Asian Region definitions, based on United Nations' macro geographical regions. For the definitions for all ten regions used throughout this report, see Appendix C). As shown in Figure 2, they offer Ontario exporters a great opportunity to capitalize on their remarkably fast expansion while diversifying their trade beyond the U.S. Ontario exporters' current export volumes to these regions are low; therefore this growth presents considerable untapped potential providing exporters' goods and services are competitively priced.

Definitions of Fast-Growth Asian Regions

South East Asia	Central and Southern Asia
Brunei Darussalam	Afghanistan
Cambodia	Bangladesh
Indonesia	Bhutan
Lao	India
Malaysia	Iran
Myanmar	Kazakhstan
Philippines	Kyrgyzstan
Singapore	Maldives
Thailand	Nepal
Timor-Leste	Pakistan
Viet Nam	Sri Lanka
	Tajikistan
China	Turkmenistan
China	Uzbekistan
Hong Kong SAR	
Macao SAR	

Figure 2: Asia is Expected to Continue to Lead the World in Growth



Sources: The World Bank; Industry Canada; OECD; The Conference Board of Canada

Opportunities Abound for Key Toronto Clusters in Asia

The *TTRES* report highlighted five representative clusters consisting of Financial Services, Information Technology, Processed Food, Education & Knowledge Creation and Life Sciences that could contribute to regional efforts to increase productivity. Stronger growth in these clusters, spark a stronger trade performance, leading to a multiplier effect on the Toronto region's economy, stimulating greater spending.

Scorecard 2015 builds upon the *Global Markets Action Plan: The Blueprint for Creating Jobs and Opportunities for Canadians through Trade* by identifying where existing capabilities and expertise can give Canada a strong competitive advantage to increase exports to other countries. This report identifies great opportunities in Asian markets for at least three Toronto region's clusters including Information Technology (Indonesia), Processed Food (China) and Education & Knowledge Creation (India).

Policy Implications

This analysis aligns well with the current strategy of the federal and provincial governments across Canada. Many of the countries encompassing the four regions we have identified as leaders of growth over the next three years are a trade promotion targets of the Canadian Government in its Global Markets Action Plan (GMAP), released in 2013.[5]

The federal government used economic modeling to identify emerging markets with high-growth potential. The list included many in the Asia Pacific region.

The government is also negotiating free trade agreements and other trade-related pacts. Indeed, the federal government should be lauded for its efforts to expand the number of free trade agreements ratified by our country. Canada now has free trade agreements in force with 10 countries and is in discussions with 60 additional ones, including those involved in the Trans-Pacific Partnership talks. Additionally, Canada has concluded negotiations with the European Union on the Comprehensive Economic and Trade Agreement (CETA), Canada's most ambitious trade initiative yet.

Also through this plan, the government will assist Canadian SMEs in successfully making the leap into exporting. It will also help SMEs to expand into new markets by developing comprehensive market access reports identify opportunities and challenges.

Likewise, the Ontario government also released its trade strategy in 2013. Similar to the federal government, the province's "Going Global" trade strategy is intended to improve Ontario's export performance by helping Ontario's Small-Medium Enterprises (SMEs), the vast majority of which are not exporting currently. The provincial government also has identified priority markets and sectors where Ontario companies have a competitive advantage. The ultimate objective of the "Going Global" trade strategy is to enable Ontario companies capture a larger share of world exports.

The Board is doing its part as well to help SMEs expand to international markets. The Board is launching a new multi-year initiative called T.A.P. GTA, a Trade Accelerator Program for the region's SMEs.

5 Government of Canada, *Global Markets Action Plan*.

Toronto's Large Immigrant Population and Improvements in Information and Communication Technology Infrastructure Could Be Better Harnessed to Boost the Region's Trade

Additional general policies can be implemented to boost Ontario's trade performance and promote export market diversification. First, Ontario's export performance with Asia — and other emerging markets — could be aided by policies improving immigrant engagement in the province's economy.

Immigrants are central to help Ontario boost exports to fast-growing emerging markets. Both Toronto and Ontario have a very large foreign-born population. Yet, the analysis in this report cannot show a significant correlation between Ontario's foreign-born population and the province's exports to their native countries.

Previous research has demonstrated immigrant-led businesses in Canada are more likely to trade beyond the U.S. Previous studies have also revealed immigrants are associated with increased trade flows to their home countries. Immigrants know and have contacts in their native country, and speak languages that will help increase both imports and exports.

Second, improvements in infrastructure, such as transportation, could also bolster the province's trade performance. But other forms of infrastructure also play vital roles such as information and communication technology (ICT) infrastructure. In today's increasingly globalized and connected world, ICT is essential for smooth trade operations, helping to determine the ease with which exporters can access global logistics networks.

Toronto ranks 10th overall in terms of international ICT penetration when measured against the same 24 comparator regions. Toronto tops all Canadian cities.

Not surprisingly, San Francisco dominates the rankings. Home to Silicon Valley, its high ICT penetration is to be expected. London and Hong Kong rank second and third, respectively.

Toronto's overall 10th place finish and "C" grade suggest the region's rate of ICT penetration, though not in the same league as San Francisco's, is still relatively strong. Toronto's strongest result is a fourth place finish in Twitter usage density, suggesting that the population uses the internet frequently. The city also ranks highly in the number of fixed broadband users per capita and boasts a relatively high number of IP addresses per capita. Toronto enjoys one of the fastest maximum advertised speeds, ranking second only to Hong Kong in this category.

Conversely, Toronto ranks among the bottom ten regions in two indicators: the number of mobile broadband users per capita; and the number of business grade Wi-Fi hotspots per 100,000 population. Policies and investments to enhance mobile broadband usage may make a difference. Today, Toronto compares favourably against many of its global peers in terms of ICT penetration. Perhaps this strength could be utilized to boost the region's export performance.

Conclusion

The results of this year's special lens asks whether Ontario and the Toronto region are taking full advantage of globalization's benefits. Most of Ontario's trade will continue to be with the U.S. because of our proximity. A small, open economy such as Toronto that relies on foreign demand for growth, needs to exploit opportunities elsewhere as well.

Toronto is a good place to do business, but it can improve. As previously reported, weak productivity and the failure to attract significant investment are barriers to a major uplift in Toronto's economy. The Board's economic vision sees the Toronto region as a place of potential high growth and high wages, where workers can attain maximum productivity in their jobs, while at the same time maintaining a high quality of life for all residents through economic inclusion. Thus, the Board has set the ambitious, but highly feasible, target of achieving growth in GDP per worker of at least 10 percent between 2010 and 2025. This would reverse the region's previous decade of decline and put the region on a path to greater prosperity.

2 | INTRODUCTION

In this seventh edition of the *Scorecard on Prosperity*, Toronto Region Board of Trade (the Board) assesses the economy and labour attractiveness of the Toronto Census Metropolitan Area (CMA) against 23 other metropolitan areas around the globe.

Toronto has consistently been one of the world leaders in Labour Attractiveness since the first *Scorecard* in 2009. As noted in *Toward a Toronto Region Economic Strategy* (*TTRES*), each year Toronto proves itself to be one of the most successful city regions in the world.[6] Close to 100,000 people choose the Toronto region as their new home annually and numerous global businesses choose to locate within its borders. Toronto consistently obtains high rankings on quality of life.

However, it has also consistently been a middle-of-the-road performer in the Economy, demonstrating Toronto is not yet maximizing its economic potential. One of the key reasons is that labour productivity growth, defined as the change in output per worker, has been falling. Indeed, it declined by 6 percent between 2000 and 2010, led by a significant fall in the manufacturing sector. One reason for this poor productivity performance is declining exports. Manufacturing companies that export tend to be more highly-productive than those that just serve the domestic market. The decline in exports has reduced the output of some of the higher-productivity sectors in the Ontario economy. This development in manufacturing has had a negative impact on the overall economy.

Toronto's productivity growth has lagged behind that of many of its peers. As a result, a productivity gap between Toronto and many of its comparator regions continues to widen. In particular, Toronto drags behind innovative and high-performing metros such as San Francisco, Boston and Seattle. It will be difficult to close this gap fully. Regions with lower levels of productivity have to not only achieve faster growth to catch up, but also need to maintain that faster growth for an extended period of time.

Nevertheless, improving the region's productivity performance is imperative because productivity growth is vital to raising living standards. Producing more output per unit of input creates additional income that may be distributed in the form of higher wages for workers and/or higher profits for firms. This leads to higher tax revenues for governments, allowing them to increase spending, cut taxes, reduce public debt, or some combination of the three. Increases in productivity also can mean an increase in value by lowering prices for consumers allow the average consumer to buy more goods and services with the same amount of money.

Productivity is the lifeblood of a robust economy. Toronto is the largest urban area in the country. It is the home of nearly 6 million residents and almost half of the province's labour force. Significantly, businesses and industry here account for nearly 50 percent of Ontario's Gross Domestic Product (GDP) and 20 percent of Canada's GDP. The Toronto region's economic importance to Canada surpasses that of New York City's to the United States. New York produces only about nine percent of American GDP.

6 Toronto Region Board of Trade, *Toward a Toronto Region Economic Strategy.*

The Toronto region possesses all of the building blocks necessary to become the economic heart of the country, pumping growth and prosperity to Ontario and beyond. Toronto boasts a well-educated population, critical mass of firms with a unique mix of products and services, a well-diversified economy with a solid base of economic clusters, an international hub airport, world-class universities and colleges to name just a few. As we show in *Scorecard 2015*, Toronto region can also take better advantage of our highly-educated and globally-connected foreign newcomers.

Scorecard 2015 reports Toronto is also not reaching its full potential regarding international trade, as exports of goods and services have stagnated in the past decade. Neither has it taken advantage of strong economic growth in Asia. The Board's previous research also showed the same was true for attracting foreign direct investment to the Toronto region.

Success in both of these areas is highly critical to improving stagnating productivity and achieving the vision outlined in *Scorecard 2014* and *TTRES*. Both reports point to a path leading to a better economic future for the Toronto region as a place of high growth and high wages, where workers can maximize productivity in their jobs. In these reports, the Board proposed an ambitious, four point "go global" economic game plan to move the Toronto region from simply "good enough" to "great." One of these four goals is to increase productivity growth by 10 percent by 2025, reversing the decade of decline between 2000 and 2010. This game plan envisions Toronto in 2025 as a place of high growth and high wages. This goal is within reach if, following the advice in *Scorecard 2014*, the following strategic initiatives are implemented:

1. Improving transportation infrastructure through implementation of the next wave of The Big Move;
2. Closing 70 percent of the municipal infrastructure gap in roads, water, and wastewater systems; investing $500 million per year in the region's electricity distribution system;
3. Enhancing the competitiveness of key industry clusters, thereby boosting their productivity to one-half the level of the leading North American metro for each cluster; and
4. Improving human capital through better matching of skills with jobs.

With only 5 percent of Canadian firms currently exporting internationally, our economic game plan should be to expand international trade in goods and services beyond just our traditional markets of the U.S. and Western Europe. Consider China for example. China has been an undisputed driver of economic gains during the past five years with nearly $3 trillion gain in GDP. However, Ontario's share of China's total merchandise imports declined from 0.18 percent in 2004 to 0.12 percent in 2013. While Ontario's exports to China grew by 9.3 percent annually during this period, other countries did better as total Chinese imports grew at a nearly 15 percent annual clip.

Looking ahead, once again China together with Central & Southern Asia and South East Asia are expected to post the strongest economic gains over the next three years. The opportunities look even brighter when one considers that altogether these regions account for nearly one third of the world GDP. As we show in *Scorecard 2015*, the Toronto region has the ability and talent to satisfy the insatiable appetite for goods and services emanating from these regions. This includes opportunities for the Toronto region's firms in the Information Technology, Processed Food and Education & Knowledge Creation economic clusters in Indonesia, China and India.

About the *Scorecard*

As we have done for the previous six reports, we use a scorecard to measure and monitor the Toronto Census Metropolitan Areas' (CMAs) performance and its potential for success. We base our assessments on 33 indicators grouped into two domains: Economy (18) and Labour Attractiveness (15). The results contribute to our understanding of what makes some cities prosperous and attractive, while others struggle. The rankings are based on the combined results of the economic and labour attractiveness indicators.

All *Scorecards* since 2010 have examined the same 24 metropolitan areas using the same indicators, with two minor exceptions: 1) the indicator for market size was redefined in *Scorecard 2011* to measure the purchasing power of the population within 500 miles, not simply the total population; and 2) the cost-of-living indicator was eliminated as a stand-alone indicator in *Scorecard 2011* and instead was used to deflate after-tax per capita income.

The "Big Picture" section of this report provides an overall comparison of 24 global metropolises. Competition between these metro areas, along with urban regions throughout the world, is growing as they vie with one another for skilled labour and capital investment — key ingredients for a prosperous future.

Stretching from Australia and the Asia-Pacific region to Europe and North America, these 24 cities range in size from less than half a million to Tokyo's population of more than 35 million, making it an urban region with more people than all of Canada. The Toronto CMA includes 5.96 million people, positioning Toronto in the middle of the group, as the 12th largest. (See Table 1).

Table 1: Population of Metro Areas in 2013*

Metropolis	Population
Tokyo	35,682,460
Shanghai	20,210,000
New York	19,276,990
London	15,701,901
Los Angeles	13,131,430
Paris	11,972,998
Chicago	9,537,289
Milan	8,208,601
Hong Kong	7,221,800
Dallas	6,754,588
Madrid	6,352,707
Toronto	**5,959,505**
Barcelona	5,313,426
Berlin	5,112,104
Sydney	4,757,083
Boston	4,684,299
San Francisco	4,516,276
Montréal	3,981,802
Seattle	3,610,105
Vancouver	2,443,277
Stockholm	2,126,907
Calgary	1,364,827
Oslo	1,189,067
Halifax	408,702

*2011 for: Shanghai; 2012 for: Tokyo

About the Special Lens

In order to better understand the benchmarking results, we have added a special feature to each edition of the *Scorecard*. Each of these featured analyses contributed to our understanding of the factors underpinning Toronto's middle-of-the-pack grades on the economy and the potential threats to Toronto's high quality of life. By emphasizing evidenced-based research, these sections have allowed the Board to propose specific policy initiatives for both governments and the private sector.

Previous *Scorecards* have focused on the following key issues and topics:

- **2009: Regional Governance:** Need for common public and private sector platform and strategy to coordinate and drive economic growth across all parts of the (Greater Toronto and Hamilton Area) GTHA.
- **2010: Access to Capital:** The GTHA falls short of high-performing regions in the U.S. in the availability and access to Venture Capital and start-up funding.
- **2011: Transportation Infrastructure:** Major regional transportation challenges negatively impacting productivity and economic growth; need for major infrastructure investments.
- **2012: Cluster Lens:** In depth benchmarking of the GTHA's leading industry clusters including, Aerospace, Auto & Parts Creative & Entertainment Energy and how they compete against their counterparts in 11 other North American Regions.
- **2013: The Human Capital Lens:** In light of Toronto's persistent weak productivity levels, it is important to assess the quality of human capital. The lens examines 13 indicators including labour force characteristics; workforce health; and workforce skill sets in the context of 11 other North American Regions.
- **2014: 15-year Economic Forecast for the Toronto Region:** This forecast includes two scenarios: a base case one, which includes all the currently known investment projects, and a demographic outlook based on current trends; and an optimistic scenario that will incorporate plans of transportation improvements, cluster development, human capital improvement, and other strategic investments.

This past work, along with the main outcomes of the *TTRES* report, leads us to this year's focus: international trade. International trade is an area of key interest for the Board and is an important avenue to boost the Toronto region's competitiveness and prosperity. Engaging in more trade can boost productivity growth in several ways: by increasing competition, by opening access to global knowledge and best practices, and by encouraging foreign direct investment (both inward and outward).

This year, we highlight Ontario's poor export performance since the early 2000s.[7] It has several causes including a stronger Canadian dollar, sluggish economic growth in the U.S. (the province's dominant trade partner), and the failure to expand to other fast-growing export markets.

To look for solutions to Ontario's export woes, we compared Ontario's export destination profile with recent and future trends in global economic growth to see which regions could potentially offer the province the best opportunities to diversify its trade base thereby becoming less trade dependent on the U.S. We also study whether Ontario is taking full advantage of its large immigrant population in Toronto and in the province as a whole to help achieve the goal of export market diversification. Finally, we rank Toronto's performance in information and communication technology (ICT) penetration, another area that could be possibly holding the region back from achieving its full trade potential. Put simply, two levers to improve the region's export performance include digital infrastructure upgrades and taking better advantage of Toronto's population diversity.

7 The trade analysis in *Scorecard on Prosperity 2014* is done at the provincial level because trade data are not readily available for the Toronto region or, for that matter, for any metro area.

Map of the Toronto CMA

Source: Statistics Canada

3 | THE BIG PICTURE

Overall Ranking

Rank 2015	Rank 2014	Metro Area
1	1	Paris
2	6	Stockholm
3	2	Calgary
4	4	Oslo
5	**3**	**Toronto**
6	10	Boston
7	9	San Francisco
8	7	Seattle
9	5	London
10	8	Sydney
11	18	Berlin
12	11	Vancouver
13	15	New York
14	14	Tokyo
15	23	Madrid
16	13	Dallas
17	12	Montréal
18	17	Hong Kong
19	24	Barcelona
20	22	Shanghai
21	16	Halifax
22	19	Chicago
23	20	Los Angeles
24	21	Milan

Paris, the City of Lights Shines On

Paris tops the overall rankings for the fifth consecutive year. The rest of the top five cities consist of two Scandinavian cities, Stockholm (second) and Oslo (#4), as well as two Canadian CMAs, Calgary (#2) and Toronto (#5). Although Toronto slips two spots compared to last year's *Scorecard*, the overall results in this year's report re-affirm Toronto's status as a major city offering its residents a high quality of life.

Paris not only retains the number one overall ranking in *Scorecard 2015*, it also widens the distance between itself and its peers. At first glance, this result defies the conventional wisdom regarding France, whose economic woes are well-known. In fact, The Conference Board of Canada's (TCBoC) *How Canada Performs: Economy* analysis, published in 2014, ranked France 15th among 16 countries in economic performance.[8] On eight indicators, France received four "C" grades and three "D" grades. France has also seen numerous social problems in recent years that have led to unrest and discord.

Yet, Paris continues to shine brightly. Much of France's wealth and talent is concentrated in Paris (according to the Organization for Economic and Cooperation Development (OECD), real Gross Domestic Product (GDP) per capita was about US$61,000 in Paris in 2013, compared to US$37,600 for France as a whole). Therefore, Paris ranks sixth in the Economy rankings in *Scorecard 2015* with an overall "B" grade, a modest gain compared to the previous year.

8 The Conference Board of Canada, *How Canada Performs*.

It has the greatest access to a massive and wealthy (albeit troubled) market and has the highest share of its total employment in the high tech sector. In addition, the five-year average for economic growth in Paris returned to positive territory this year.

Paris' attractiveness is unchallenged; moreover, it is actually improving its performance on many of the indicators that make it a dynamic place to live and work. Although population growth has been slower than in other metros, Paris is home to a high share of people who are youthful, well-educated, cosmopolitan and diverse. In all, Paris ranks in the top five in seven of the 13 Labour Attractiveness indicators for which data for the city are available.

Just two years ago, **Stockholm** ranked 12th in *Scorecard 2013*. After rising to sixth last year, Stockholm leaps to second overall in *Scorecard 2015*. In terms of average real GDP growth during the past five years, Stockholm is second only to Berlin. It has also gained ground on its peers in average annual labour productivity growth during the past five years, a key indicator of long-term economic prosperity. Among Labour Attractiveness indicators, Stockholm has the most equal distribution of income of all cities, as measured by the Gini coefficient. Stockholm also is a top-five city in terms of workers in cultural industries, population aged 25-34 years, average annual population growth over the past five years, and air quality.

Calgary drops from "A" grades to "B" grades in both the Economy and Labour Attractiveness domains. Combine those results and Calgary slips from second to third place in the overall ranking. Calgary is substantially ahead of the other four Canadian cities in economic results, but it loses two places in the Economy ranking — and those spots were to Paris and to Stockholm. On Labour Attractiveness, Calgary falls behind Barcelona into fifth place. Calgary has the shortest commuting times — just 52 minutes on average — and has the most affordable housing among North American cities in the analysis. Calgary's population indicators are its clear strength: the pace of population growth has picked up, and the proportion of the population aged 25-34 is highest in North America. As well, Calgary has the lowest homicide rate among North American cities.

Oslo remains in fourth place for the third consecutive year. It gains four places in the Labour Attractiveness indicators, but like Calgary, loses two positions in the Economy domain. Despite its sluggish economy, the metro area's annual disposable income growth over the past five years averaged 7.4 percent, second only to Shanghai. Oslo has a young population, as more than one-in-five residents is 25-34 years of age. Oslo's population has grown by an average of two percent per year over the past five years, third behind Shanghai and Calgary. And the city's population is well-educated — more than 40 percent of the overall population has at least a bachelor's degree.

Following fifth-place Toronto, there is also some movement among cities in the next group of five. Specifically, the leading American cities are on the rebound. After falling out of the top ten two years ago, **Boston** has regained its momentum. Boston gains three places in the Labour Attractiveness ranking, and continues to be a top performer in the Economy domain, ranking second only to San Francisco.

Based on its economic prowess, **San Francisco** moves up two places in the overall *Scorecard* rankings, but was unable to advance any higher due an overall ranking of 22nd on Labour Attractiveness. Both Boston and San Francisco slip ahead of Seattle, which ranks eighth — third in Economy and 17th in Labour Attractiveness.

Among the top ranked cities, the sharpest decline is happening in **London**. The capital of the United Kingdom was third in 2013 and fifth last year; in *Scorecard 2015*, it falls four places to ninth overall. London ranks 20th out of 24 in the Economy ranking. However, it remains a massive draw for youthful migrants and visitors from around the world, which enable London to hold off Toronto and retain second place in Labour Attractiveness.

While London slips, another European capital is reviving. **Berlin** improves seven spots in the overall ranking to 11th, thanks to a gain of eight places in Economy and two places in Labour Attractiveness. Berlin's average annual real GDP growth is first overall, and it is a top-three performer in both average annual productivity growth and employment growth.

The top-ranked Asian metro is **Tokyo**, which ranks 14th once again. Tokyo's economy ranks ninth and the city ranks 15th in labour attractiveness. **Hong Kong** loses one place in Economy (due to gains made by other cities) and its Labour Attractiveness rank is unchanged. Overall, Hong Kong ranks 18th, one spot lower than in *Scorecard 2014*. **Shanghai** is the overall leader in several individual categories — population growth (even with Calgary), real GDP growth, productivity growth, after-tax income growth and employment growth. Its population is booming — with average five-year population growth of 2.9 percent per year. However, Shanghai also has numerous low grades on indicators such as real GDP per capita, productivity, high-tech employment and population with at least a bachelor's degree.

4 | ECONOMY

Economy Overall

Rank	Metro Area	Grade (normalization score)	
1	San Francisco	A	0.67
2	Boston	A	0.64
3	Seattle	A	0.60
4	Dallas	B	0.56
5	Stockholm	B	0.55
6	Paris	B	0.55
7	Calgary	B	0.54
8	Oslo	B	0.53
9	Tokyo	B	0.51
10	New York	B	0.50
11	Berlin	B	0.49
12	Sydney	B	0.48
13	Shanghai	B	0.48
14	**Toronto**	**C**	**0.47**
15	Los Angeles	C	0.46
16	Hong Kong	C	0.45
17	Chicago	C	0.44
18	Vancouver	C	0.44
19	Montréal	C	0.43
20	Madrid	C	0.41
21	London	C	0.41
22	Halifax	C	0.40
23	Milan	D	0.36
24	Barcelona	D	0.28

Introduction

The 18 indicators in the Economy domain are intended to provide a broad cross-section of economic performance. Most indicators measure the current economic and wealth performance of a metro: market size, output Gross Domestic Product (GDP), disposable income, residential building permits, the labour market and the cost of doing business in the region. In addition, the *Scorecard* includes indicators that measure how a metro is building future wealth — productivity, and components of innovation such as patents, venture capital and initial public offerings. Data for the key economic indicators are, for the most part, drawn from a base year of 2012 to allow for comparability among all metro regions. Where dollar values are used, they are reported in $US PPP (purchasing power parity) unless otherwise specified.

Ever since the first *Scorecard on Prosperity 2009*, U.S. metros have earned high grades in Economy rankings, despite the recession and long, slow recovery. This year is no exception, as San Francisco, Boston, Seattle and Dallas rank first through fourth. U.S. cities rank highly in real GDP per capita and disposable income per capita, and they thoroughly dominate the indicators related to innovation: productivity, productivity growth, employment in high-technology, patents and venture capital investment. Employment growth remains weak in the U.S. metros, but it has turned positive in most cities.

Nine of the top ten cities in overall Economy rankings in *Scorecard 2015* are the same as last year. New York returns to the top ten after a one-year absence; Sydney was the only city to fall out of the top 10. *Scorecard 2015* provides evidence that many European cities are regaining their economic momentum, as Stockholm, Paris, Berlin, Madrid and Barcelona improve their rankings.

Calgary, Oslo and Sydney are among the cities that declined due to the ebb and flow of resources. Los Angeles moved up four places to 15th, just behind Toronto.

Compared to a year ago, all five Canadian Census Metropolitan Areas (CMAs) in this year's Economy rankings lose ground. Calgary drops out of the top five, Toronto falls from the top half of the 24 cities, and Vancouver loses two places for a ranking of 18th. Montréal and Halifax, however, incur the steepest declines. Montréal loses six places and now ranks 19th; Halifax also drops six places to 22nd.

Who's Best? Star-spangled Banners

San Francisco earns five first-place rankings, three of which are real GDP per capita, disposable income per capita, and productivity. More impressively, San Francisco's exceptional success in technology and innovation is summed up in two indicators: venture capital per $1 million of GDP and patents. With nearly 246 patents per 100,000 population, San Francisco is the only metro with an "A" grade. It produces nearly twice the number of patents as second-place Seattle, and more than twice that of third-ranked Boston. In venture capital investment, San Francisco's level of more than $15,000 (per $1 million GDP) actually went down. However, it is almost twice that of Boston, and is so far ahead of the rest of the pack that all cities aside from Boston get "D" grades in comparison. The only "D" grade that San Francisco receives is in the size of initial public offerings (IPOs). After two years of declining employment levels, San Francisco recovered on the positive side, albeit with a meagre 0.4 percent average annual gain.

Boston loses some ground against its west-coast counterpart. Nevertheless, Boston excels on innovation and wealth indicators: first in residential building permit growth; second in both real GDP per capita and venture capital investment per $1 million in GDP; third in after-tax per capita income and patents; and fourth in the share of its workforce in high-technology. Boston's five-year average employment growth (0.4 percent) between 2008 and 2013 is a modest improvement.

Seattle remains third, despite losing first place to San Francisco in disposable income per capita. Seattle moves up to second behind Dallas in average investment per venture capital firm and maintains second place in patents per 100,000 population. Seattle ranks third in productivity, and third overall in share of the workforce in high-tech employment. Seattle also moves up one place to fourth in real per capita GDP.

Dallas' fourth place overall ranking on the economy is built on seven "A" grades and very few low marks. It ranks first overall on average investment per venture capital firm, earning the only "A" grade on this indicator. Dallas also gets "A" grades on after tax income per capita, productivity growth and affordable office rents. Dallas' labour market performs the best of all U.S. cities in the analysis, earning "A" grades on both its employment growth and unemployment rate.

Stockholm jumps two positions in the Economy domain, thanks to a third-place ranking on real GDP growth and a fourth-place finish in after-tax income growth. Stockholm also benefits from a strong performance on high-tech employment (second only to Paris). Stockholm gets "B" grades on after-tax income growth and productivity growth. Its labour market is relatively solid, especially compared to other European cities.

Paris regains two of the three positions it had lost last year to move up to sixth place overall in this year's Economy domain. Paris is an expensive place to do business, ranking last on the total tax index (TTI) and 20th on office rents. The labour market in Paris is still suffering; employment fell by an average annual rate of 0.1 percent between 2007 and 2012, and the 8.7 percent unemployment rate in 2012 put Paris in 18th position.

Calgary not only loses two places in the overall ranking; it also falls to a "B" grade this year, from an "A" grade in 2014. Nevertheless, Calgary gets four "A" grades: employment growth, unemployment rate, cost of office rent, and building permits. Calgary's weak areas are related to overall innovation performance. Like other Canadian cities, it gets "D" grades on venture capital investment, average investment by venture capital firms, and patents.

Oslo, which jumped two spots in the Economy ranking last year, loses those two places in *Scorecard 2015*. Oslo slipped from first to third place in real GDP per capita, and real GDP growth has been minimal for the past five years. In addition, Oslo also experienced declines in productivity and in employment growth. On the positive side, Oslo ranks second in average annual disposable income growth over the past five years, behind only Shanghai. It also boasts a pair of "A" grades on employment growth and unemployment rate.

Tokyo's economy scores actually decline this year, but it is able to move from 10th in Economy last year to ninth this year because Sydney falls right out of the top 10. Tokyo's strongest result is in the average size of IPO, where it ranks second to Madrid. Tokyo's labour markets remain at the top of the class, with "A" grades in both employment growth and the unemployment rate. Tokyo does not get any "D" grades, but its results in total tax burden and office rents point to a high cost of doing business,

New York's drop in *Scorecard 2014* can be attributed to a number of factors, like relatively weak results in GDP and productivity growth, and a higher unemployment rate. This year, New York climbs to fifth in real GDP per capita, and second in productivity levels, while the unemployment rate also improves.

Berlin leaps eight places in the Economy domain on the strength of major gains in three indicators: from seventh to second in average annual GDP growth over five years; from 11th to second in average annual employment growth over five years; and, from seventh to fourth in average annual productivity growth over five years.

Sydney jumped all the way to ninth last year but falls back to 12th in this year's ranking. It gets its three "A" grades in labour market indicators: professional employment as a share of the workforce (where it ranks second), the unemployment rate, and average annual employment growth. Sydney also improves its performance on after-tax income growth.

Hong Kong loses positions to Los Angles and Berlin, but it moves ahead of Montréal in the Economy results. Hong Kong has the lowest unemployment rate among all 24 cities (3.4 percent) and ranks first in professional employment (more than 26 percent of the workforce hold professional jobs). Hong Kong also gets an "A" grade and ranks third behind only Shanghai and Oslo in after-tax income growth. However, Hong Kong is low on after tax income per capita (21st), high-tech employment (23rd), office rents (highest among the cities with data), as well as patents per 100,000 population and size of IPOs (both "D" grades).

Shanghai leads all cities in four indicators: real GDP growth (5.2 percent per year over the past five years), productivity growth (3 percent per year over the past five years), after-tax income growth (9 percent annually over the past five years) and employment growth (1.7 percent annually over the past five years). It is also second to Hong Kong for the lowest unemployment rate. On the downside, Shanghai has the lowest GDP per capita and after-tax income per capita among the 24 cities; has the lowest share of high-tech employment, and the second lowest patents per 100,000. However, it is interesting to note that Shanghai ranks eighth in size of IPO, which is higher than Paris, London, and Calgary (as well as Montréal, Toronto and Vancouver).

Economic Indicators	Definition	Significance	What About Toronto?	The Grade
Real gross domestic product (GDP) per capita # cities ranked: 24	Overall value of goods and services produced within the metro region. Real GDP is divided by total population to get real GDP per capita. Data is from 2013, based on 2007 dollars. Shanghai data is from 2012.	Real GDP per capita is commonly used to compare relative wealth among regions.	**Toronto** moves up one place to 16th out of 24 in this year's *Scorecard*, surpassing Milan. However, Toronto's grade of "C" is unchanged from last year. Among Canadian cities, Toronto ranks second to Calgary, which is the only Canadian city to get an "A" grade. Calgary's real GDP is $25,000 per person higher than that of Toronto. Moreover, Toronto ranks behind all seven comparator U.S. cities in per capita GDP.	1. San Francisco A ($78,539) 2. Boston A ($72,410) 3. Oslo A ($72,079) 4. Seattle A ($71,946) 5. New York A ($69,329) 6. Calgary B ($65,918) 7. Paris B ($60,972) 8. Dallas B ($60,909) 9. Sydney B ($60,334) 10. Los Angeles B ($57,530) 11. Chicago B ($55,750) 12. Stockholm C ($53,459) 13. London C ($47,602) 14. Hong Kong C ($45,422) 15. Tokyo D ($41,403) **16. Toronto D ($40,155)** 17. Milan D ($39,485) 18. Madrid D ($37,728) 19. Vancouver D ($37,400) 20. Halifax D ($36,261) 21. Berlin D ($36,097) 22. Barcelona D ($33,247) 23. Montréal D ($33,074) 24. Shanghai D ($30,463)
Real GDP growth # cities ranked: 24	The average annual increase in real GDP over a five-year period, from 2008 to 2013. Shanghai data is 2007-2012.	Stronger growth generates, among other things, more employment opportunities.	**Toronto** ranks 11th among the 24 comparator cities and gets a "B" grade. With an average annual five-year growth rate of 1.5% Toronto surpasses Montréal and Tokyo and moves up from 12th place in *Scoreboard 2014*. With the exception of Calgary (3rd), all Canadian cities earn "B" grades for their five-year performances. However, Toronto's growth rate over this period is less than half that of the leader, Berlin.	1. Shanghai A (5.2%) 2. Berlin B (3.3%) 3. Stockholm B (2.6%) 4. Calgary B (2.5%) 5. Dallas B (2.5%) 6. Vancouver B (1.9%) 7. Hong Kong B (1.8%) 8. Seattle B (1.7%) 9. Halifax B (1.7%) 10. Boston B (1.7%) **11. Toronto C (1.5%)** 12. Tokyo C (1.3%) 13. New York C (1.2%) 14. Montréal C (1.1%) 15. Paris C (1.0%) 16. San Francisco C (1.0%) 17. Sydney C (0.6%) 18. Chicago C (0.5%) 19. Oslo C (0.1%) 20. Madrid C (-0.1%) 21. Los Angeles D (-0.3%) 22. Barcelona D (-0.7%) 23. London D (-1.5%) 24. Milan D (-2.0%)
Productivity # cities ranked: 24	Productivity is the level of real GDP divided by employment, measuring total output per worker. Data for all metros is 2013, based on 2007 dollars. Shanghai data is from 2012.	High productivity levels generate wealth, allowing businesses to pay higher salaries and wages.	**Toronto** actually loses ground in *Scorecard 2015* compared with last year's results. Toronto falls one spot to 18th, while holding onto a "C" grade. This indicator is dominated by U.S. cities which hold the top six places and seven of the top eight. San Francisco ranks first for the fourth time in five years, with a productivity level more than twice that of Toronto. The only Canadian city to perform relatively well is Calgary (10th). Big one-year jumps were recorded by Madrid and Barcelona; Paris and Oslo fell back sharply after holding the top spots last year.	1. San Francisco A ($168,594) 2. New York A ($153,757) 3. Seattle A ($145,540) 4. Los Angeles B ($135,708) 5. Dallas B ($133,153) 6. Boston B ($132,807) 7. Paris B ($119,974) 8. Chicago B ($119,778) 9. Sydney B ($118,732) 10. Calgary B ($116,197) 11. Oslo B ($115,429) 12. Stockholm C ($95,073) 13. London C ($94,493) 14. Hong Kong C ($88,897) 15. Madrid C ($82,773) 16. Barcelona C ($79,997) 17. Tokyo C ($79,357) **18. Toronto C ($76,688)** 19. Berlin C ($72,706) 20. Vancouver C ($71,762) 21. Milan C ($71,496) 22. Halifax D ($65,231) 23. Montréal D ($64,832) 24. Shanghai D ($38,967)

Economic Indicators	Definition	Significance	What About Toronto?	The Grade					
Productivity growth # cities ranked: 24	Productivity growth shows how quickly a CMA is gaining in wealth, measured over the 2008-2013 period. Shanghai data is 2007-2012.	Strong productivity growth allows for economic growth without inflationary pressures, fostering greater purchasing power for households.	For the second consecutive year, **Toronto's** average annual five-year productivity growth is in negative territory. Moreover, Toronto has fallen four spots to 19th and dropped a grade to a "C". Madrid and Barcelona surged to the top of the rankings with average growth rates of 2.9% and 2.8%, respectively. Among Canadian cities, only Vancouver and Calgary achieved more-than-negligible average annual productivity growth over the past five years.	1. Shanghai	A	(3.0%)	13. Vancouver	B	(0.8%)
				2. Madrid	A	(2.9%)	14. Hong Kong	B	(0.7%)
				3. Barcelona	A	(2.8%)	15. Tokyo	B	(0.6%)
				4. Berlin	A	(1.7%)	16. San Francisco	B	(0.5%)
				5. Dallas	A	(1.7%)	17. Halifax	B	(0.3%)
				6. Seattle	A	(1.6%)	18. Los Angeles	B	(0.1%)
				7. Boston	B	(1.3%)	**19. Toronto**	**C**	**(-0.1%)**
				8. Stockholm	B	(1.3%)	20. Montréal	C	(-0.1%)
				9. New York	B	(1.0%)	21. Sydney	C	(-0.6%)
				10. Calgary	B	(1.0%)	22. Oslo	C	(-0.7%)
				11. Paris	B	(0.9%)	23. Milan	D	(-1.8%)
				12. Chicago	B	(0.9%)	24. London	D	(-2.8%)
Employment growth # cities ranked: 24	Five-year average annual percentage growth in total employment is measured for 2008-2013. Shanghai data is 2007-2012.	Strong employment growth means better opportunities for securing work. A high growth CMA is more attractive.	Compared to its global peers, **Toronto** has been one of the top job-creating metros over the past five years. With average annual employment growth of 1.5%, Toronto gets an "A" grade and ranks 3rd only to Shanghai and Berlin. Other Canadian cities also perform well in employment growth. Calgary and Halifax rank 4th and 5th, respectively, while Vancouver and Montréal also earn "A" grades. In contrast, U.S. cities continue to struggle with job growth – all are below 1% annual growth on average. Meanwhile, Madrid and Barcelona earn the only two "D" grades for the second consecutive year.	1. Shanghai	A	(1.7%)	13. Dallas	A	(0.8%)
				2. Berlin	A	(1.6%)	14. Tokyo	A	(0.7%)
				3. Toronto	**A**	**(1.5%)**	15. San Francisco	A	(0.4%)
				4. Calgary	A	(1.5%)	16. Boston	B	(0.4%)
				5. Halifax	A	(1.4%)	17. New York	B	(0.2%)
				6. Stockholm	A	(1.3%)	18. Seattle	B	(0.1%)
				7. London	A	(1.3%)	19. Paris	B	(0.1%)
				8. Sydney	A	(1.2%)	20. Milan	B	(-0.2%)
				9. Montréal	A	(1.2%)	21. Los Angeles	B	(-0.4%)
				10. Hong Kong	A	(1.2%)	22. Chicago	B	(-0.4%)
				11. Vancouver	A	(1.1%)	23. Madrid	D	(-2.9%)
				12. Oslo	A	(0.8%)	24. Barcelona	D	(-3.4$)

Economic Indicators	Definition	Significance	What About Toronto?	The Grade								
Unemployment rate # cities ranked: 24	The percentage of the labour force not working, based on 2013 data. Shanghai data is 2012.	A metropolitan area with a lower unemployment rate indicates a more engaged work force. In turn, such places are more likely to attract people.	**Toronto's** unemployment rate declined slightly from 8.5% in *Scorecard 2014* to 8.2% in *Scorecard 2015*. Nevertheless, Toronto fell one place in the ranking to 18th, as New York jumped up from 19th to 15th. Five cities have unemployment rates below 5%: Hong Kong, Shanghai, Oslo, Tokyo and the top Canadian performer, Calgary. Two American cities, Seattle and San Francisco jumped several places in the ranking. Three European cities, Berlin, Madrid and Barcelona, had double-digit unemployment rates, with the latter two posting unemployment rates of more than 20%.	1. Hong Kong	A	(3.4%)	13. Stockholm	A	(6.8%)		
				2. Shanghai	A	(4.2%)	14. London	A	(7.6%)		
				3. Oslo	A	(4.2%)	15. New York	A	(7.8%)		
				4. Tokyo	A	(4.2%)	16. Milan	A	(7.9%)		
				5. Calgary	A	(4.9%)	17. Montréal	A	(8.1%)		
				6. Sydney	A	(5.4%)	**18. Toronto**	**A**	**(8.2%)**		
				7. Seattle	A	(5.9%)	19. Paris	B	(8.7%)		
				8. Dallas	A	(6.2%)	20. Los Angeles	B	(9.0%)		
				9. Boston	A	(6.4%)	21. Chicago	B	(9.1%)		
				10. Halifax	A	(6.5%)	22. Berlin	B	(10.6%)		
				11. San Francisco	A	(6.6%)	23. Madrid	D	(20.2%)		
				12. Vancouver	A	(6.7%)	24. Barcelona	D	(23.3%)		
Disposable income per capita # cities ranked: 24	Average after-tax income of the metro area* is divided by total population, adjusted for cost-of-living. Data is based on average after-tax income in US$ in 2011.	Metro regions with high average incomes are likely to draw in more people.	Disposable income per person in **Toronto** rose by less than $350 compared to a year earlier. As a result, Toronto fell two places to 15th. Toronto was surpassed by two Canadian CMAs, Halifax and Vancouver and remains well behind seventh ranked Calgary. U.S. cities occupy the top six positions, with San Francisco, Seattle, Boston, and Dallas all achieving per capita disposable income of more than $40,000.	1. San Francisco	A	($47,464)	13. Tokyo	C	($25,299)		
				2. Seattle	A	($46,570)	14. Vancouver	C	($25,102)		
				3. Boston	A	($46,558)	**15. Toronto**	**C**	**($24,574)**		
				4. Dallas	A	($40,463)	16. Paris	C	($23,496)		
				5. Chicago	B	($36,164)	17. Montréal	C	($22,444)		
				6. New York	B	($35,122)	18. London	C	($22,274)		
				7. Calgary	B	($33,158)	19. Berlin	C	($19,720)		
				8. Sydney	B	($32,954)	20. Madrid	C	($19,360)		
				9. Oslo	B	($32,328)	21. Hong Kong	C	($19,279)		
				10. Los Angeles	B	($32,111)	22. Milan	C	($19,168)		
				11. Stockholm	B	($30,645)	23. Barcelona	C	($18,489)		
				12. Halifax	C	($25,300)	24. Shanghai	D	($6,838)		

Economic Indicators	Definition	Significance	What About Toronto?	The Grade					
Disposable income growth # cities ranked: 24	Percentage changes in disposable income are measured over a five-year period. A higher ranking shows how quickly a CMA is improving its standard of living. This covers the period from 2006 to 2011.	Strong income growth boosts a metro region's attractiveness.	Compared to *Scorecard 2014*, this year's results are disappointing for **Toronto**. After a 5th place ranking last year, Toronto fell to 12th in *Scorecard 2015* and dropped from a "B" to a "C" grade. Average disposable income growth over five years was just 3.5%. Other Canadian CMAs also lost ground to global peers. Calgary dropped from 3rd to 7th, Vancouver from 4th to 9th, and Montréal from 14th to 16th. The top global performers are in China (Shanghai and Hong Kong) or Scandinavia (Oslo and Stockholm). Oslo improved 17 places to rank 2nd this year. All U.S. metros, with the exception of Dallas, earned "C" grades. London's after-tax income growth has actually fallen on average over the five-year period.	1. Shanghai	A	(9.0%)	13. Seattle	C	(3.4%)
				2. Oslo	A	(7.4%)	14. New York	C	(3.3%)
				3. Hong Kong	A	(7.1%)	15. Boston	C	(3.2%)
				4. Stockholm	B	(6.0%)	16. Montréal	C	(3.2%)
				5. Sydney	B	(4.7%)	17. Barcelona	C	(3.2%)
				6. Dallas	B	(4.2%)	18. Madrid	C	(2.8%)
				7. Calgary	B	(4.2%)	19. San Francisco	C	(2.5%)
				8. Halifax	C	(3.7%)	20. Los Angeles	C	(2.0%)
				9. Vancouver	C	(3.7%)	21. Tokyo	C	(2.0%)
				10. Paris	C	(3.7%)	22. Chicago	C	(2.0%)
				11. Berlin	C	(3.6%)	23. Milan	D	(1.7%)
				12. Toronto	**C**	**(3.5%)**	24. London	D	(-0.7%)
High-Tech employment # cities ranked: 24	This indicator measures the share of total employment in the information and communications technology sector, expressed as a five-year average. Data: Canada, U.S., Tokyo: 2008-2013 Europe, Shanghai, Hong Kong: 2007-2012, Sydney: 2006-2011.	In line with the "creative cities" theory, high levels of employment in this sector signal an attractive metro region.	**Toronto's** performance on this indicator is virtually unchanged from previous years. About 5.7% of Toronto's total employment is in the information and communications technology sector, giving Toronto a "B" grade and an 8th place ranking. Toronto also tops all comparator Canadian cities in the analysis. The top four performers retained their ranking, while San Francisco moved ahead of Tokyo for 5th place. London had the biggest decline, falling from 9th to 12th and dropping to a "C" grade.	1. Paris	A	(9.3%)	13. Vancouver	C	(4.4%)
				2. Stockholm	A	(8.0%)	14. Calgary	C	(4.2%)
				3. Seattle	A	(7.5%)	15. Halifax	C	(3.9%)
				4. Boston	B	(7.0%)	16. Los Angeles	C	(3.9%)
				5. San Francisco	B	(6.9%)	17. New York	C	(3.5%)
				6. Tokyo	B	(6.4%)	18. Milan	C	(3.5%)
				7. Dallas	B	(5.8%)	19. Chicago	D	(3.3%)
				8. Toronto	**B**	**(5.7%)**	20. Sydney	D	(3.0%)
				9. Madrid	B	(5.5%)	21. Berlin	D	(3.0%)
				10. Montréal	B	(5.4%)	22. Barcelona	D	(2.0%)
				11. Oslo	C	(5.2%)	23. Hong Kong	D	(1.8%)
				12. London	C	(4.9%)	24. Shanghai	D	(1.3%)

Economic Indicators	Definition	Significance	What About Toronto?	The Grade
Residential building permit growth # cities ranked: 13	The percentage increase in the number of residential building permits was calculated for the five year period. Data is from 2008 to 2013 for all metros except Sydney (2006-2011).	Residential building permits growth indicates the rate of investment activity in the residential sector. As an important sector of the economy, housing is a proxy for confidence in the growth of the metro region.	After several years of improved rankings on this indicator, **Toronto** fell back significantly in *Scorecard 2015* compared to its international peers. Toronto's five year increase in residential building permits averaged 5.4% between 2008 and 2013. However Toronto fell from 3rd place to 9th and dropped to a "C" grade. Boston, Los Angeles, San Francisco and Seattle saw significant improvement compared to last year's rankings, as their numbers started to shake off the effects of the severe U.S. housing downturn. Calgary and Vancouver also improved significantly in the rankings. Note that only 13 cities had data for this indicator.	1. Boston A (18.2%) 2. Calgary A (16.8%) 3. Los Angeles A (13.9%) 4. San Francisco B (12.3%) 5. Seattle B (7.8%) 6. Vancouver C (7.3%) 7. Dallas C (6.4%) 8. Sydney C (5.8%) **9. Toronto C (5.4%)** 10. Halifax D (0.9%) 11. Montréal D (-0.4%) 12. Chicago D (-2.5%) 13. New York D (-3.2%) Data unavailable for Barcelona, Berlin, Hong Kong, London, Madrid, Milan, Oslo, Paris, Shanghai, Stockholm, Tokyo.
Professional employment** # cities ranked: 23	Based on the Statistics Canada definition, the share of total employment in 40 occupations, including but not limited to: engineers, physicians, judges, and professors. Comparable data are from: Canada, U.S.: 2013 Europe: 2012 Sydney, Hong Kong: 2011 Tokyo: 2010	Again, this is included as part of the "creative cities" agenda. High levels of employment in knowledge-driven professional occupations are correlated positively with an attractive metro region.	As it has been for several years, **Toronto** is a top performer in the share of total employment in professional occupations. With just under 22% of the local workforce employed in professional occupations, Toronto gets an "A" grade and ranks 4th, behind only Hong Kong, Sydney and London. Montréal and Calgary also have more than 20% of their workforces in professional employment. The top American city is San Francisco (18.7%).	1. Hong Kong A (26.1%) 2. Sydney A (25.5%) 3. London A (23.5%) **4. Toronto A (21.9%)** 5. Paris A (21.8%) 6. Montréal B (20.2%) 7. Calgary B (20.1%) 8. Stockholm B (19.5%) 9. San Francisco B (18.7%) 10. Tokyo B (18.7%) 11. Boston B (18.6%) 12. Vancouver B (18.2%) 13. New York B (18.0%) 14. Halifax B (17.7%) 15. Seattle C (16.9%) 16. Los Angeles C (15.8%) 17. Oslo C (15.7%) 18. Madrid C (15.5%) 19. Chicago C (14.7%) 20. Dallas C (13.1%) 21. Berlin D (10.9%) 22. Milan D (9.9%) 23. Barcelona D (8.8%) Data unavailable for Shanghai.

Economic Indicators	Definition	Significance	What About Toronto?	The Grade
Total Tax Index (TTI) # cities ranked: 17	The total taxes paid by similar corporations in a particular location and industry, calculated as a percentage of total taxes paid by similar corporations across the U.S. Data is from 2013.	The index is designed to compare the total tax burden faced by companies in each city, including: income taxes, capital taxes, sales taxes, property taxes, miscellaneous local business taxes, and statutory labour costs. Metro regions with lower tax burdens are more attractive to new business and investment.	**Toronto** ranks second only to Halifax for having the lowest overall corporate tax burden. Compared to last year, Toronto improved its score on this indicator (from 56 to 51.6) and leaped ahead of Vancouver in the rankings. This means that companies in Toronto have about half the tax burden of the U.S. cities included in this analysis. Canadian cities dominate this category, claiming the top four places (data was not available for Calgary). London earned only other "A" grade, while Paris got the only "D".	1. Halifax A (47.9) **2. Toronto A (51.6)** 3. Vancouver A (54.5) 4. Montréal A (55.6) 5. London A (75.0) 6. Boston B (90.0) 7. Chicago B (93.9) 8. Dallas B (94.1) 9. Seattle B (95.4) 10. Los Angeles B (100.1) 11. San Francisco B (102.1) 12. New York C (111.8) 13. Sydney C (114.9) 14. Berlin C (116.6) 15. Tokyo C (127.3) 16. Milan C (133.2) 17. Paris D (166.9) Data unavailable for Barcelona, Calgary, Hong Kong, Madrid, Oslo, Shanghai and Stockholm.
Average office rents # cities ranked: 23	This is a measure of the total rental cost of downtown Class A office space, based on U.S. dollars per square foot. Data is for 2013.	This indicator is a measure of the cost of doing business. Metro regions with lower office rents are more attractive to new business and investment.	**Toronto's** office rents became more affordable (from US$68 per square foot (2012 to US$62.47). Toronto retained an "A" grade and an 11th place ranking in *Scorecard 2015*, losing a spot to Calgary, but gaining a place on Oslo. Toronto made gains on Dallas, which fell to second place behind Barcelona. In all, 16 cities get "A" grades, because "D" grade recipients London and Hong Kong have office rents ($222.58 and $235.23, respectively) that are extremely high.	1. Barcelona A ($34.92) 2. Dallas A ($36.90) 3. Berlin A ($37.15) 4. Montréal A ($40.89) 5. Los Angeles A ($43.05) 6. Seattle A ($43.07) 7. Chicago A ($48.17) 8. Madrid A ($50.43) 9. Vancouver A ($57.58) 10. Calgary A ($60.95) **11. Toronto A ($62.47)** 12. Oslo A ($67.07) 13. Milan A ($71.31) 14. New York A ($74.93) 15. Stockholm A ($76.65) 16. Boston B ($93.75) 17. San Francisco B ($96.00) 18. Shanghai B ($117.68) 19. Sydney B ($119.23) 20. Paris B ($119.32) 21. Tokyo C ($161.16) 22. London D ($222.58) 23. Hong Kong D ($235.23) Data unavailable for Halifax.

Economic Indicators	Definition	Significance	What About Toronto?	The Grade					
Number of patents per 100,000 population # cities ranked: 24	Using utility patents from the U.S. Patents and Trademark Office, total patents are divided by population to measure the degree of new product development or product improvement. Data is for 2012.	This is a proxy for the amount of creativity taking place in a metro area.	This indicator is dominated by San Francisco, which gets the only "A" grade. Seattle is the only "B" grade performer, and Boston is the third standout among global cities. **Toronto** is the Canadian leader on this indicator. It increased its number of patents from 21 to 24 in this year's *Scorecard*, and moved up one place to 9th (surpassing Sydney). Despite the improvement, Toronto still generates just one-tenth the number of patents per 100,000 people as San Francisco.	1. San Francisco 2. Seattle 3. Boston 4. Tokyo 5. Los Angeles 6. New York 7. Dallas 8. Chicago **9. Toronto** 10. Vancouver 11. Sydney 12. Calgary	A B C C D D D D **D** D D D	(246.2) (133.4) (122.7) (66.7) (48.2) (39.8) (38.5) (36.4) **(24.0)** (23.1) (21.4) (20.1)	13. Stockholm 14. Montréal 15. Oslo 16. Paris 17. Berlin 18. Halifax 19. Hong Kong 20. Milan 21. London 22. Barcelona 23. Shanghai 24. Madrid	D D D D D D D D D D D D	(19.2) (16.8) (14.2) (10.1) (9.1) (9.0) (7.2) (5.6) (4.2) (4.0) (2.4) (2.2)
Venture Capital Investment per million $ of GDP # cities ranked: 12	This measures the average investment in new start-ups per $1 million GDP (U.S. dollars). Data is for 2013.	In line with the "creative cities" theory, high levels of venture capital investment signal an attractive metro region.	Only Canadian and American cities are included in this indicator. As with patents, San Francisco is the runaway leader. The two top Canadian performers were Vancouver and Montréal, both of which doubled their venture capital investment over the previous year and moved up to third and fifth, respectively. **Toronto's** performance is disappointing, as it fell in total investment and in the rankings from 9th to 10th.	1. San Francisco 2. Boston 3. Vancouver 4. Seattle 5. Montréal 6. New York	A B D D D D	($15,412.4) ($8,744.8) ($3,684.1) ($3,643.7) ($3,090.3) ($2,426.9)	7. Dallas 8. Los Angeles 9. Calgary **10. Toronto** 11. Halifax 12. Chicago	D D D **D** D D	($1,730.2) ($1,546.7) ($1,220.4) **($1,022.7)** ($921.3) ($833.1)
							Data unavailable for Barcelona, Berlin, Hong Kong, London, Madrid, Milan, Oslo, Paris, Shanghai, Stockholm, Sydney, Tokyo.		

Economic Indicators	Definition	Significance	What About Toronto?	The Grade
Average investment per Venture Capital Firm # cities ranked: 12	This indicator is a measure of the average investment of companies involved in venture capital financing. The unit of measure is thousands of U.S. dollars. Data is for 2013.	In line with the "creative cities" theory, high levels of venture capital investment signal an attractive metro region.	Only Canadian and American cities are included in this indicator. The results are not good for Canadian cities – they occupy the bottom five positions in the ranking and all get "D" grades. **Toronto** ranks 9th behind the seven U.S. cities and Vancouver. Toronto lost ground to Vancouver and was nearly surpassed by Calgary in this year's *Scorecard*. Toronto's average investment fell compared to a year earlier, from almost $4.2 million per venture capital firm to about $4 million. In comparison, Dallas-based firms get more than $17 million on average.	1. Dallas A ($17,485) 2. Seattle B ($10,682) 3. Chicago B ($10,624) 4. San Francisco B ($10,326) 5. Boston C ($9,504) 6. New York C ($9,147) 7. Los Angeles C ($8,593) 8. Vancouver D ($4,688) **9. Toronto D ($4,002)** 10. Calgary D ($3,928) 11. Montréal D ($3,223) 12. Halifax D ($2,211) Data unavailable for Barcelona, Berlin, Hong Kong, London, Madrid, Milan, Oslo, Paris, Shanghai, Stockholm, Sydney, Tokyo.
Average size of IPOs # cities ranked: 24	This is a measure of the monetary value of initial public offerings (IPOs). Generally, IPOs are issued by smaller companies seeking capital to expand. But large companies can also issue an IPO. Data is an average from 2005-2006 and 2009-2013.	Though it can be seen as a risky investment, the size of an IPO typically appraises the net worth of smaller companies.	**Toronto** is consistently at the bottom of the IPO rankings, and this year is no exception. Toronto ranks 22nd for the second consecutive year, ahead of only Vancouver and Stockholm. Only two cities earned "A" grades. Previous leader Tokyo fell back to second behind Madrid. The one bright spot among Canadian cities is Halifax which moved into fourth place ahead of New York. London enjoyed the biggest jump from 16th place last year to 10th.	1. Madrid A ($600) 2. Tokyo A ($550) 3. Milan B ($370) 4. Halifax B ($321) 5. New York C ($303) 6. Chicago C ($299) 7. Berlin C ($263) 8. Shanghai C ($235) 9. Paris C ($220) 10. London C ($214) 11. Calgary C ($212) 12. Barcelona C ($199) 13. Oslo D ($157) 14. Seattle D ($149) 15. Sydney D ($124) 16. Boston D ($107) 17. Dallas D ($81) 18. San Francisco D ($81) 19. Los Angeles D ($61) 20. Hong Kong D ($52) 21. Montréal D ($46) **22. Toronto D ($46)** 23. Vancouver D ($23) 24. Stockholm D ($11)

Economic Indicators	Definition	Significance	What About Toronto?	The Grade					
Market size # cities ranked: 24	This is a measure of the total income of the population within a 500-mile radius of the metro area (measured in trillions of U.S. dollars). Data is for 2012.	The greater the purchasing power of the broad regional market, the more attractive the metro region is as a place for new business and investment.	With a market value of $5.52 trillion, **Toronto** has the wealthiest market in North America, ahead of New York and Montréal. Ever since this indicator was introduced several years ago, Toronto has ranked 5th. The top four cities – Paris, Milan, London and Berlin – are located in Europe and have access to densely-populated, relatively wealthy populations, Compared to their peers, Sydney, Calgary, Seattle, Vancouver and Halifax are relatively isolated from larger populated areas.	1. Paris	A	($8,385)	13. Hong Kong	D	($2,269)
				2. Milan	A	($6,620)	14. Los Angeles	D	($2,024)
				3. London	A	($6,405)	15. Dallas	D	($1,818)
				4. Berlin	B	($5,809)	16. San Francisco	D	($1,791)
				5. Toronto	**B**	**($5,522)**	17. Madrid	D	($1,589)
				6. New York	B	($4,733)	18. Stockholm	D	($1,519)
				7. Montréal	B	($4,340)	19. Oslo	D	($1,228)
				8. Boston	C	($3,880)	20. Halifax	D	($991)
				9. Chicago	C	($3,617)	21. Vancouver	D	($710)
				10. Tokyo	C	($3,363)	22. Seattle	D	($694)
				11. Shanghai	C	($2,911)	23. Calgary	D	($508)
				12. Barcelona	C	($2,843)	24. Sydney	D	($280)

Sources: Conference Board of Canada; Statistics Canada; Bureau of Labor Statistics; Moody's Economy.com; Organisation for Economic Co-operation and Development; Eurostat; International Monetary Fund; KPMG; Science-Metrix; CB Richard Ellis; Australian Bureau of Statistics; Shanghai Statistical Yearbook; Government of Hong Kong; Thomson Reuters; Euromonitor International.

*Disposable income from Eurostat is only available at the regional level. The boundaries of these "regions" are not strictly defined and vary greatly across European metro areas.

**Occupational data from the Bureau of Labor Statistics was partially secure for some metro areas. Data was either missing or not available for various occupational categories. Therefore, the ranking for U.S. Metropolitan Statistical Areas is under-estimated.

Focus on Toronto's Economy

Toronto's drop, from 12th to 14th, in this year's Economy rankings should not be considered a disappointing result. Toronto region's story is very much one of resilience and high economic potential rather than sustained economic growth and momentum in absolute terms. Bright spots can be summed up by the macro-economic environment and business conditions Toronto offers. The regional workforce is both professional and highly-skilled, and the labour market is sufficiently anchored to generate more jobs despite relatively modest economic growth.

However, the region's poor marks on productivity, a key ingredient to raising living standards, remains a barrier to future prosperity. Given such poor productivity performance, it is not surprising disposable income growth has been only moderate. With poor results on key indicators such as productivity, patents, venture capital investment and initial public offerings (IPOs), prospects for future wealth generation through innovation are modest.

Toronto has fallen further behind Calgary, the most consistently successful Canadian metro in the Economy domain, but remains ahead of Montréal, Vancouver, and Halifax. In the North American context, Toronto loses ground against the four top U.S. metros, but it has nearly drawn even with New York in the Economy ranking overall.

It is important to reiterate cities can improve their scores on individual indicators and still lose ground if other cities are performing better. In fact, Toronto improved its score on 11 of the 18 Economy indicators and worsened on only four (three were unchanged). Toronto weathered the economic recession and its aftermath better than many other cities. But other economies, particularly those who suffered significant declines during the 2008-2009 recession, are gaining or regaining ground on many indicators faster than Toronto.

In *Scorecard 2014*, Toronto had its best suite of results ever on the Economy, earning six "A" grades, compared to an average of only three in previous *Scorecards*. In *Scorecard 2015*, Toronto gets "A" grades in five categories — total tax burden, employment growth, professional employment, unemployment rate (albeit the lowest ranked "A" performer), and average office rents. Toronto also improved its ranking on five indicators — total tax burden, employment growth, both GDP indicators, and patents.

Compared to last year, Toronto's most improved rankings appear in:

- **Employment growth (from #9 to #3):** Employment growth has been relatively sluggish among the world's major cities in the 2008 to 2013 period, but Toronto has been one of the top job-creating metros. Toronto moved ahead of Calgary as the North American metro with the strongest rate of employment growth over five years. Employment grew by an average of 1.5 percent annually over between 2008 and 2013, which is a slight improvement over the 1.2 percent annual average growth from 2007 to 2012. However, this pace of job growth was only a little more than enough to absorb new entrants into the labour force supplied by the region's continuing strong population growth.

  Therefore, Toronto's unemployment rate is higher than other Canadian and most global cities in this benchmarking study.

- **Total Tax Index (TTI) (from #4 to #2 of 17 cities with data):** Toronto again improved in the competitiveness of its overall business tax regime. Only Halifax has a lower tax burden than Toronto this year. The indicator measures total taxes (on income, capital, sales, property, and other) paid by similar corporations in a particular location and industry, using the U.S. as the benchmark. Toronto's score improved from 56 to 51.6; companies based in Toronto have about half the tax burden of a company in an average U.S. city. The tax burden for a company in Paris, by comparison, is more than three times that of Toronto.

Some of Toronto's economic strengths do not vary much from year-to-year. These indicators, several of which can be associated with market conditions and the labour market, have remained consistent throughout all *Scorecards*. These include:

- **Professional employment (#4):** Making up almost 22 percent of all employment, the professional sector is a mainstay of the economy. Toronto has a higher share of professional employment than all other North American metro areas in the *Scorecard*, and trails only Hong Kong, Sydney and London globally.
- **High-tech employment (#8):** About 5.7 percent of Toronto's total employment is in the highly-visible and coveted information and communications technology sector, giving Toronto a "B" grade. Paris, Stockholm, four American cities (Seattle, Boston, San Francisco, and Dallas) and Tokyo have a greater share of high-tech workers in their labour forces, on average, during a five year period.
- **Market Size (#5):** This indicator measures the total income of the population within a 500-mile radius of the metro area, so as to assess the purchasing power of the broad regional market. Toronto's fifth place ranking is the best of all North American metro regions. The Toronto CMA benefits greatly from a location with access to large and wealthy markets in the U.S. northeast and mid-west.
- **Office rents (#11):** This indicator is a measure of the cost of doing business in a given metro area. Rents for office space in downtown Toronto were $62.47 per square foot in 2013, a decline of almost $9 per square foot from two years earlier when they were $71.13 per square foot. Toronto office rents are only slightly higher than those of Vancouver and Calgary, but are less expensive than cities such as New York and Boston.

Toronto's challenges are not unique to the region. In most cases, Toronto's lowest scores and rankings are similar to those of other Canadian cities and the country as a whole. Both productivity levels and productivity growth are poor in Toronto thus limiting the output organizations can generate. Toronto has a tiny sliver of funding for innovative ideas and firms, which constrains entrepreneurship. As a result of these factors, Toronto's capacity to generate significant new wealth has been limited. This has a ripple effect throughout the economy on GDP and income growth.

- **Real GDP growth (from #12 to #11):** Toronto's five-year average annual GDP growth actually rose from 0.7 percent (2007-2012) to 1.5 percent (2008-2013) and a gain of two places gives Toronto its highest ever ranking in the *Scorecard*. However, Toronto actually drops to a "C" grade because Shanghai jumps into the top spot with average annual GDP growth of 5.2 percent, which raises the growth rate needed to be an "A" grade city. As a result, Toronto is at the top of a group of 10 cities with "C" grades.
- **Real GDP per capita (from #17 to #16):** Toronto has progressed slowly on this indicator in recent years. It has risen two places in two years, but still earns a "D" grade in *Scorecard 2015*. Toronto's real GDP per capita rose just over $1,000 to $40,155, which makes it about half of that enjoyed by residents of San Francisco.
- **Unemployment (from #17 to #18):** Toronto's unemployment rate declined slightly from 8.5 percent in *Scorecard 2014* to 8.2 percent in *Scorecard 2015*, as job growth only slightly outpaced labour force growth. Nevertheless, Toronto dropped one spot in the rankings, because New York's unemployment rate declined by almost a full percentage point (8.8 percent to 7.9 percent). Toronto has the highest unemployment rate among the five Canadian cities, and ranks ahead of four European cities (Paris, Berlin, Madrid and Barcelona) and two U.S. metros (Los Angeles and Chicago). Three Asian cities — Hong Kong, Shanghai and Tokyo — rank in the top four.

- **Productivity (from #17 to #18):** High productivity levels signify wealth and allow businesses to pay higher salaries and wages. Yet, Toronto's productivity level, calculated as GDP divided by employment to measure the output per worker, actually fell (from $77,067 to $76,688). In contrast, San Francisco's productivity level in this year's *Scorecard* is $168,594. U.S. cities hold the top six places.
- **Productivity growth (from #15 to #19):** Productivity growth shows how quickly a CMA is gaining in wealth. Unfortunately, Toronto's average annual productivity is not growing. In fact, productivity fell by 0.1 per year from 2008 to 2013; this is actually an improvement from last year's *Scorecard* when the annual average change was a decline of 0.4 percent. Toronto also slips to a "C" grade, indicating that productivity growth is occurring in most cities throughout the world at a faster pace than in this region. Among Canadian cities, only Vancouver and Calgary achieved more-than-negligible average annual productivity growth over the past five years.
- **Disposable Income growth (from #5 to #12):** In addition to falling seven places, Toronto drops from a "B" to a "C" grade for disposable income growth. Average annual disposable or after-tax income growth from 2006 to 2011 was just 3.5 percent. Three other Canadian cities (Calgary, Vancouver and Halifax) rank in the top 10, although Calgary is the only Canadian metro to earn a "B" grade. Disposable income growth remained modest in most U.S. metros, and declined in London.
- **Disposable Income per capita (from #3 to #15):** Toronto's disposable income per capita (US$24,574) is slightly more than half of that of the leader, San Francisco (US$47,464). After-tax income per person in Toronto rose by less than US$350 in 2011 compared to 2010. As a result, Toronto fell behind Halifax and Vancouver, both of which saw their disposable incomes rise by more than US$1,000 per person. The leading cities saw their disposable income grow between US$2,000 and US$3,000 apiece between 2010 and 2011. U.S. cities occupy the top six positions, followed by three metros that benefited from strength in resources — Calgary, Sydney and Oslo.
- **Residential building permit growth (from #3 to #9 of 13 cities with data):** Residential building permit growth indicates the level of housing activity in a city. Toronto's five year annual growth in residential building permits actually improved from 3.6 percent in *Scorecard 2014* to 5.4 percent this year. Last year, Sydney, Halifax, Toronto and Montréal were the top four cities; this year, they rank eighth through 11th. The reason: U.S. cities appear to be finally shaking off the remnants of the housing market crash. Boston, Los Angeles and San Francisco have double-digit annual growth rates and Seattle and Dallas also surge ahead of Toronto. Only Chicago and New York have yet to come out of the housing meltdown — both posted declines in average residential building activity and get "D" grades.
- **Patents (from #10 to #9):** A "D" grade on this indicator disguises some of the progress Toronto is making in a key measure of innovation. Toronto is the Canadian leader and surpassed Sydney to move into ninth place. The number of patents has increased from 18.8 patents per 100,000 population two years ago, to 21.4 last year, and to 24 in this year's *Scorecard*. Nevertheless, Toronto is still generating about one-tenth of the number of patents of San Francisco.
- **Venture Capital Investment (from #9 to #10 of 12 cities with data):** This measures the average investment in new start-ups for every US$1 million GDP. Toronto gained two places in *Scorecard 2014*, but has given one of those places back in this year's ranking. In fact, venture capital investment in Toronto is only $1,022 for every $1 million in GDP in this year's *Scorecard*, compared to $1,420 last year. The gap between the leaders and the laggards on this indicator is massive — while the cities at the bottom of the pack have less than $1,000 in venture capital investment for every $1 million in GDP, San Francisco has more than $15,000.

- **Average Venture Capital Investment per Firm (#9 of 12 cities with data):** Very little has changed on this indicator, which measures the average investment of companies involved in venture capital (VC) financing. As in *Scorecard 2014*, all seven U.S. cities outrank all five Canadian metros (data was only available for North American cities). Toronto remains in ninth place and earns another "D" grade, but its performance has declined. Toronto VC firms invested an average of just over $4 million, down from $4.2 million in the previous *Scorecard*. Compared to its Canadian peers, Toronto lost ground against Vancouver (which went from $4.2 million to $4.6 million) and nearly fell behind Calgary (whose deals averaged $3.9 million). However, the results for Canadian cities pale in comparison to U.S. metros such as Dallas, whose firms make average investments of more than $17 million.
- **Size of IPOs (#22):** Toronto ranks 22nd for the second consecutive year, ahead of only Vancouver and Stockholm. The size of an IPO typically appraises the net worth of smaller companies. The monetary value of IPOs in Toronto is unchanged at $46 million. In contrast, the leading cities on this indicator — Madrid and Tokyo — have IPOs valued at $600 million and $550 million respectively.

5 | LABOUR ATTRACTIVENESS

Labour Attractiveness Overall

Rank	Metro Area	Grade	(normalization score)
1	Paris	A	0.74
2	London	A	0.66
3	**Toronto**	**B**	**0.66**
4	Barcelona	B	0.64
5	Calgary	B	0.62
6	Madrid	B	0.62
7	Oslo	B	0.61
8	Stockholm	B	0.60
9	Vancouver	B	0.59
10	Sydney	C	0.56
11	Montréal	C	0.56
12	Berlin	C	0.55
13	Hong Kong	C	0.53
14	New York	C	0.53
15	Tokyo	C	0.52
16	Halifax	C	0.52
17	Seattle	D	0.50
18	Boston	D	0.47
19	Chicago	D	0.46
20	Milan	D	0.45
21	Dallas	D	0.45
22	San Francisco	D	0.45
23	Los Angeles	D	0.44
24	Shanghai	D	0.43

Introduction

The Labour Attractiveness domain contributes to our understanding of how 24 metro areas are performing on 15 indicators of socio-economic, environmental, and quality of life measures. Population indicators show how well metros attract educated, creative and diverse people from around the world. Quality of life indicators include housing affordability, educational resources (represented by the teacher-student ratio), income distribution within a region, and homicides. Transportation issues are assessed by comparing commute times in each city, and the proportion of the employed labour force in the metro that does not drive an automobile to work. Environment factors are measured by air quality, domestic water usage and the level of moderation in the temperature in the region.

For the fifth consecutive year, Paris and London place first and second. Both cities get overall "A" grades in Labour Attractiveness. Toronto ranks third overall for the second year in succession. In terms of overall results, Toronto has made strides; it improved its results on most indicators, and its overall score (See Table 4) is now almost identical to that of London. However, Toronto's grade — which was an "A" in *Scorecard on Prosperity 2014* — is a "B" in *Scorecard 2015*. Paris' stellar results raise the threshold for an "A" grade even higher than in previous editions. London's overall results landed it as an "A" grade-performer; Toronto, although almost even with London in results, ended up just shy of an "A" grade.

Aside from Toronto, Canadian cities lost ground in this year's ranking. Calgary falls one spot to fifth (behind fourth-ranked Barcelona), Vancouver loses three places to rank ninth, and Montréal drops three places into 11th. Halifax declines from 12th to 16th. The loss of four places is the largest in this domain by any city in this year's *Scorecard*. Halifax loses ground due largely to weakness on indicators such as average annual population growth (where it drops from 10th to 18th), share of foreign-born population, international visitors, and share of the population with a university degree. With Halifax falling behind New York, a Canadian city ranks behind a U.S. city in the analysis for the first time in four years.

In fact, New York improves three spots to 14th overall. It shows relative improvement on a number of indicators, including the proportion of the population employed in cultural occupations, housing affordability, and the number of international visitors. Hong Kong is the most attractive city in Asia, remaining 13th in this year's *Scorecard*, while Tokyo places 15th and Shanghai ranks last among the 24 metros.

The remaining six American cities get "D" grades in Labour Attractiveness, even those who are standouts in the Economy domain, such as San Francisco, Boston, Seattle, and Dallas. The weaknesses of American cities in Labour Attractiveness are widespread — collectively, the seven U.S. metros get 15 "A" grades on 15 indicators (a total of 105 potential "A" grades), and have only 13 top-five places on the indicators (out of 75 potential top-five rankings). High homicide rates, low teacher-to-student ratios in elementary and secondary schools, poor housing affordability, relatively few commuters who travel to work by transit, bicycle or on foot and, not surprisingly, income inequality, are ongoing weaknesses for U.S. metros.

Who's Best?

Paris retains its top ranking for the fourth year in a row, earning six "A" grades and five "B" grades on 13 indicators (data were not available for two indicators). Paris ranks among the top five metros on seven measures. Remarkably, Paris improved its performance on a number of indicators in which it previously obtained weak results, including:

- proportion of the population 25 and over with at least a bachelor's degree — Paris has moved from 11th in 2010, to 6th last year, to first on this indicator
- proportion of the population 25-34 years of age — from a middle of the pack position last year, Paris is now third with almost 19 percent of its population in this age group.
- number of foreign-born residents has improved significantly to almost a quarter of the population from 10 percent in previous years

These results add to Paris' attractiveness, which includes a first-place ranking in the proportion of the population employed in cultural occupations; a second place in non-automobile commuting (82 percent taking transit, walking or cycling to their workplaces); third-best in air quality and homicide rate; and fourth in attractiveness to international visitors.

Paris struggles in just two areas:

- average population growth has been just 0.5 annually over the past five years, earning Paris a "D" grade.
- commute times (which increased from 67 minutes to 78 minutes) are second-longest, ahead of Shanghai — Paris gets a "C" only because commutes in Shanghai are so lengthy that the latter gets a "D" grade.

London has been the second-best metro on Labour Attractiveness since *Scorecard 2011*, but it loses ground to Paris this year and now is only slightly ahead of Toronto. In *Scorecard 2014*, London had only two grades lower than a "B"; this year, it has four "C" grades. For the fifth year in a row, London is the top metro for attracting international visitors. London's other strengths are a youthful population

(second in the share of population aged 25-34 years), a diverse population (ranked fourth behind Toronto, Vancouver and Sydney), a strong culture sector, and relatively clean air. On the downside, London's homicide rate is one of the highest outside the U.S.

Calgary slips one spot to fifth place in *Scorecard 2015* (it was fourth in 2014 and sixth in 2013). A high-level glance shows numerous reasons why Calgary is a leader in Labour Attractiveness. The city gets five "A" grades, and ranks in the top four on five of 15 categories. A vibrant population is one such strength. With average annual population growth of 2.9 percent over the past five years, Calgary's population is growing at virtually the same rate as Shanghai's. Calgary also ranks fourth for the highest proportion of its population between the ages of 25 and 34.

Calgary does well on quality of life indicators too — its average commute time of 52 minutes is the shortest among all the cities, and its housing is the most affordable among the 12 North American cities in the *Scorecard*. Homicide rates are also the lowest among North American metros. On the downside, Calgary still has a comparatively low share of employment in cultural industries, and the lowest teacher-student ratio among the five Canadian cities in the analysis. It also gets "D" grades in international visitors and for having a low percentage of workers who use transit, walk or cycle to their jobs.

Barcelona and **Madrid** have consistently placed in the top ten cities on Labour Attractiveness. Both enjoy "A" grades for favourable climate conditions, but, after losing ground last year, both Spanish cities showed they have more to offer. Barcelona moves ahead of Calgary into fourth place, and Madrid climbs to sixth place. Barcelona gets six "A" grades and Madrid five. Barcelona performs well in length of commute and non-automobile travel. Madrid is second for efficient water use. Madrid moved ahead of Toronto in number of international visitors, although both get "D" grades. Barcelona surpasses them both, with almost 5 million international visits last year, and a "C" grade. Both Spanish cities, however, are struggling to attract people to stay. They get "D" grades in population growth and Barcelona ranks last, due to a loss of population over the past five years.

The two Nordic metros, **Oslo** and **Stockholm**, advance in this year's ranking. Both cities enjoy growing, youthful, well-educated populations. Oslo is first in the share of the population aged 25 to 34 (more than one in five); Stockholm is fifth. Oslo is third in average annual population growth; Stockholm is again fifth. Stockholm has the third best share of the workforce in cultural occupations, while Oslo is fourth in the share of the population with a bachelor's degree. And both live up to Nordic traditions of equality — Stockholm has the lowest income inequality; Oslo is fifth.

The third Canadian city in the top ten overall is **Vancouver**, despite falling three places. Vancouver has very few poor results, but gets only four "A" grades. One of those "A's" is in air pollution, where Vancouver has less particulate matter than any other city. And Vancouver is second only to Toronto for residents who were born in other countries. However, Vancouver slips back this year due to results on several population indicators. Average annual population growth has slowed from 2 percent in *Scorecard 2014* to 1.6 percent this year, costing Vancouver two places. Vancouver also falls by six spots (from ninth to 15th) in population 25 to 34, which declined from 15.5 of the population to (2012) to 15.1 (2013). As well, the city drops three places in the rankings for population with a bachelor's degree; although Vancouver's score did not change, other cities improved their results and gained ground. Housing affordability, while slightly improved (a "C" grade from a "D" last year), remains a weakness. It is no surprise Vancouver ranks behind other Canadian cities on this indicator, but it also trails, among others, Boston, Seattle, and even New York.

Montréal is at the opposite end of the spectrum, on housing at least, ranking second among North American cities on affordability. Also, a high numbers of teachers per 1,000 school-aged children ratio and a relatively low level of air pollution are among the few areas where Montréal is a leader among its peers. Montréal not only loses three places in the ranking, it also drops from an overall "B" grade to a "C". Montréal is particularly low on proportion of the population 25 to 34 (down three places to 20th), proportion of the population with a bachelor's degree (down two places to 20th), domestic water use (18th), share of the population employed in cultural occupations (down four spots to 14th) and homicides (down two places to 12th).

Rounding out the top half of the overall ranking, **Sydney** places 10th and Berlin rises two places to 12th. Sydney is third only to Vancouver and Toronto for having the highest proportion of a foreign born population (40 percent). Berlin has improved on this indicator, with more than 18 percent of its population born outside the country. Berlin also tops all cities for low levels of water use.

Hong Kong ranks 13th, unchanged from last year's *Scorecard*. It is first in two indicators: its homicide rate is the lowest at 0.5 for every 100,000 people, and almost 90 percent of workers commute in something other than a vehicle. Hong Kong has also made strides in the number of its international visitors and is closing in on the long-term leader on this indicator, London. The number of international visitors rose from 12.7 million in 2011 to 14.3 million in 2012, a figure that does not include visits from Mainland China to Hong Kong which rose from 35 million in 2012 to an estimated 47 million in 2014.[9] On the downside, Hong Kong has the second-highest level of income inequality (only New York is higher) and air quality is among the poorest among the metros (only Shanghai is lower).

Shanghai's population is booming — with an average annual five-year population growth of 2.9 percent, Shanghai ranks first with Calgary on this indicator. Shanghai also gets an "A" grade for a low homicide rate (1.3 per 100,000 people). However, Shanghai ranks last overall due to numerous low grades. It is 23rd for share of the population with a bachelor's degree, last in foreign-born population, last in share of employment in cultural industries, and last on air quality. Although it ranks third overall on commuters who travel to work through means other than automobiles, commute times are by far the longest among the metros in the *Scorecard*.

9 Hong Kong Tourism Commission.

Labour Attractiveness Indicators	Definition	Significance	What About Toronto?	The Grade							
Population 25-34 years old # cities ranked: 23	The proportion of the population between the ages of 25-34, as per: Canada, U.S., Hong Kong: 2013 Sydney: 2012 Europe: 2011 Tokyo: 2010	This age group represents the mobile, educated, and creative core of the talented labour pool. A metro area able to attract workers in this age cohort will be better positioned to thrive in the future.	**Toronto** lost ground on this indicator, as the share of the population aged 25-34 fell to 14.7% from 15.1% in *Scorecard 2014*. As a result, Toronto ranked 17th of 23 cities and received a "C" grade. European cities got the only three "A" grades, while Calgary was the only North American city to get a "B" grade.	1. Oslo 2. London 3. Paris 4. Calgary 5. Stockholm 6. Barcelona 7. Sydney 8. Berlin 9. Seattle 10. Halifax 11. Madrid 12. San Francisco	A A A B B B B B C C C C	(20.7%) (19.9%) (18.8%) (17.8%) (16.2%) (16.1%) (16.1%) (16.0%) (15.7%) (15.5%) (15.5%) (15.4%)	13. Hong Kong 14. Tokyo 15. Vancouver 16. Los Angeles **17. Toronto** 18. Dallas 19. New York 20. Montréal 21. Boston 22. Chicago 23. Milan Data not available for Shanghai.	C C C C **C** C C C C C D	(15.2%) (15.1%) (15.1%) (15.1%) **(14.7%)** (14.7%) (14.6%) (14.5%) (14.5%) (14.4%) (10.8%)
Immigrant population # cities ranked: 24	The proportion of the population who were foreign-born. Data is from: U.S.: 2013 Europe, Shanghai, Tokyo: 2012 Canada, Hong Kong: 2011	With lower birth rates, immigration is critical to boost the future workforce. New immigrants seek open-minded and diverse places, which is why a metro area with a high proportion of foreign-born residents scores best.	Just under 48% of **Toronto's** population is foreign-born, making it the leader on this indicator. Vancouver ranks second at almost 43% and Sydney (40%) also obtained an "A" grade. Calgary also ranks in the top 10, behind London and three American cities. At the opposite end of the rankings, immigrants represent less than 10% of the population in four cities: Halifax, Hong Kong, Tokyo and Shanghai.	**1. Toronto** 2. Vancouver 3. Sydney 4. London 5. Los Angeles 6. San Francisco 7. New York 8. Calgary 9. Paris 10. Oslo 11. Montréal 12. Stockholm	**A** A A B B B B B B B C C	**(47.9%)** (42.7%) (40.1%) (35.8%) (33.4%) (29.7%) (29.5%) (28.5%) (24.9%) (24.7%) (24.3%) (22.6%)	13. Madrid 14. Barcelona 15. Berlin 16. Chicago 17. Dallas 18. Seattle 19. Boston 20. Milan 21. Halifax 22. Hong Kong 23. Tokyo 24. Shanghai	C C C C C C C C D D D D	(20.5%) (19.3%) (18.6%) (17.8%) (17.6%) (17.4%) (17.3%) (13.9%) (9.8%) (7.4%) (3.0%) (1.1%)
Population with at least a bachelor's degree # cities ranked: 24	The percentage of the population aged 25 and over with at least a bachelor's degree, based on: U.S., Hong Kong: 2013 Canada, Sydney: 2011 Tokyo: 2010 Europe: 2009 Shanghai: 2008	University-educated population figures are commonly used as an indicator of a professional labour force. The higher the percentage, the higher the score.	One-third of **Toronto's** population has at least a bachelor's degree. Toronto is the top-ranked Canadian CMA, but slipped back three places in *Scorecard 2015*. Perennial leaders San Francisco and Boston were joined at the top of the rankings by Paris, which had 46.7% of its population with a bachelor's degree.	1. Paris 2. San Francisco 3. Boston 4. Oslo 5. Barcelona 6. Madrid 7. Seattle 8. New York 9. Stockholm 10. Chicago **11. Toronto** 12. Calgary	A A A A A A A B B B **B** B	(46.7%) (45.2%) (44.8%) (42.5%) (42.1%) (41.5%) (39.4%) (37.4%) (37.1%) (35.1%) **(33.3%)** (32.6%)	13. Dallas 14. Los Angeles 15. Vancouver 16. Berlin 17. Halifax 18. London 19. Hong Kong 20. Montréal 21. Tokyo 22. Sydney 23. Shanghai 24. Milan	B B B B C C C C C C C D	(32.6%) (31.7%) (31.1%) (30.4%) (30.0%) (29.9%) (28.7%) (26.5%) (26.2%) (24.1%) (22.7%) (13.7%)

Labour Attractiveness Indicators	Definition	Significance	What About Toronto?	The Grade
Cultural occupations # cities ranked: 23	The proportion of the employed workforce employed in cultural occupations, based on: Canada, U.S.: 2013 Hong Kong, Shanghai: 2012 Sydney: 2011 Europe: 2009	The prevalence of artists, writers, performers, musicians, etc., indicates community that nourishes creativity and promotes culture. A metro area with a higher share of cultural workers will be more attractive.	**Toronto** gained three places to 12th place. While this result puts Toronto in the middle of the pack among globally peers, it allowed Toronto to surpass Montréal as the Canadian city with the highest share of workers in cultural occupations. Two cities – Paris and Los Angeles -- stand out among the 23 cities assessed – more than 7% of the employees in each of the two cities work in cultural occupations.	1. Paris A (7.1%) 2. Los Angeles A (7.1%) 3. Stockholm A (5.9%) 4. New York A (5.8%) 5. Seattle A (5.7%) 6. Chicago A (5.7%) 7. San Francisco A (5.7%) 8. London A (5.6%) 9. Oslo B (5.3%) 10. Sydney B (4.9%) 11. Dallas B (4.6%) **12. Toronto B (4.5%)** 13. Vancouver B (4.5%) 14. Montréal B (4.4%) 15. Madrid B (4.3%) 16. Boston B (4.3%) 17. Halifax B (4.1%) 18. Hong Kong B (4.1%) 19. Berlin C (3.7%) 20. Milan C (3.7%) 21. Barcelona C (3.5%) 22. Calgary C (3.3%) 23. Shanghai D (0.6%) Data unavailable for Tokyo.
Number of teachers per 1,000 school-aged children # cities ranked: 16	The number of elementary and secondary school teachers per 1,000 students aged 5-19 averaged, as per: Canada, U.S., Hong Kong: 2013 Tokyo, Shanghai: 2012 Sydney: 2011 Europe: n/a	This is used as proxy for the education system, and assumes the greater the number of teachers per student population, the better the education.	Just two years ago, **Toronto** ranked seventh. In *Scorecard 2015*, Toronto ranks 1st in this indicator, and improves its grade from "B" to "A". Canadian cities hold the top four places -- Montréal and Halifax rank second and third with "A" grades, and Vancouver has the highest "B" grade. Shanghai, Hong Kong and Sydney also get "B" grades. At the other end of the spectrum, all seven U.S. cities get "C" and "D" grades.	**1. Toronto A (91.2)** 2. Montréal A (85.8) 3. Halifax A (84.2) 4. Vancouver B (75.3) 5. Shanghai B (72.9) 6. Hong Kong B (69.2) 7. Sydney B (67.8) 8. Calgary C (65.2) 9. Tokyo C (62.7) 10. Dallas C (59.5) 11. Chicago C (58.9) 12. New York C (57.7) 13. Boston D (51.5) 14. San Francisco D (49.3) 15. Seattle D (43.3) 16. Los Angeles D (40.6) Data unavailable for Barcelona, Berlin, London, Madrid, Milan, Oslo, Paris, Stockholm.
Comfortable climate index # cities ranked: 24	The comfortable climate index is a measure of how far the average maximum temperature strays from 15°C in the winter months and from 25°C in the summer, adjusted for hours of sunshine. Data is averaged from 1971-2010.	This is meant to capture the notion of an "ideal climate". The lower the index, the better. Very hot or very cold places score poorly and have high index values.	**Toronto** ranks 18th among the 24 metro areas slightly behind Calgary, and just ahead of Vancouver and Halifax. Montréal is the lowest ranked Canadian CMA, but places ahead of Berlin and Scandinavian cities of Stockholm and Oslo. Since more recent data from 2000-2010 was added, Toronto has "warmed up". As a result, it moved from 20th to 18th place in recent years.	1. Barcelona A (3.4) 2. San Francisco A (4.6) 3. Los Angeles A (5.9) 4. Madrid A (6.3) 5. Tokyo A (7.3) 6. Dallas A (7.5) 7. Shanghai A (9.1) 8. New York A (9.9) 9. Boston A (11.5) 10. Sydney A (13.7) 11. Hong Kong A (14.6) 12. Seattle A (14.9) 13. Chicago B (15.3) 14. Paris B (18.1(15. London B (18.3) 16. Milan B (18.4) 17. Calgary B (21.9) **18. Toronto B (23.7)** 19. Vancouver B (24.2) 20. Halifax B (24.5) 21. Montréal C (29.2) 22. Berlin C (33.7) 23. Stockholm D (49.5) 24. Oslo D (49.8)

Labour Attractiveness Indicators	Definition	Significance	What About Toronto?	The Grade					
Crime: homicide rate # cities ranked: 24	The number of homicides per 100,000 people, based on a 5-year average, as per: Canada, U.S., Hong Kong, Sydney: 2008-2013 Tokyo: 2012 (single year only) Shanghai: 2007-2012 Europe: 2006-2011	The lower the homicide rate, the more attractive the city or metro area.	**Toronto's** homicide rate rose to 2.1 per 100,000 population over a five-year period. The city fell back to 10th place, from 8th, but kept an "A" grade. Among Canadian cities, Calgary and Vancouver have lower rates of homicide. Not surprisingly, American cities have the highest homicide rates, with Dallas, San Francisco, Chicago, and Los Angeles ranking as the bottom four cities.	1. Hong Kong 2. Tokyo 3. Paris 4. Madrid 5. Shanghai 6. Calgary 7. Vancouver 8. Milan 9. Barcelona **10. Toronto** 11. Oslo 12. Montréal	A A A A A A A A A **A** A B	(0.5) (0.9) (1.0) (1.3) (1.3) (1.4) (1.5) (1.6) (2.0) **(2.1)** (2.1) (2.4)	13. Stockholm 14. Seattle 15. Halifax 16. Boston 17. Sydney 18. Berlin 19. New York 20. London 21. Dallas 22. Los Angeles 23. Chicago 24. San Francisco	B B B B C C C C C D D D	(2.5) (2.5) (2.6) (2.8) (4.0) (4.1) (4.5) (5.0) (5.2) (6.1) (6.7) (7.2)
Travel to work: transit, walking and other non-auto # cities ranked: 24	The proportion of the employed labour force that does not drive to work, as per: U.S.: 2013 Europe: 2012 Canada, Hong Kong, Shanghai, Sydney: 2011 Tokyo: 2009	A metro area with a high proportion of non-car commuters is more sustainable. These cities tend to have better access to public transit, better bike paths, and/or better walking paths, making them more attractive.	**Toronto** lands in 14th place with a "C" grade, just behind Montréal and ahead of Vancouver. The basic story remains the same: except New York (41%), all North American metro areas lag behind Europe and Asia. Whereas 29% of Toronto's commuters choose transit, walking, or cycling, nearly 90% do so in the leading city, Hong Kong. All three Asian metros earn "A" grades, ranking first, third and fifth. Paris (#2) and Barcelona (#4) round out the top five.	1. Hong Kong 2. Paris 3. Shanghai 4. Barcelona 5. Tokyo 6. London 7. Stockholm 8. Berlin 9. Oslo 10. Madrid 11. New York 12. Milan	A A A A A B B B B B C C	(88.5%) (82.0%) (74.8%) (68.8%) (68.0%) (66.3%) (65.0%) (61.3%) (61.0%) (59.1%) (40.6%) (33.1%)	13. Montréal **14. Toronto** 15. Vancouver 16. Sydney 17. San Francisco 18. Halifax 19. Calgary 20. Boston 21. Chicago 22. Seattle 23. Los Angeles 24. Dallas	C **C** C C C D D D D D D D	(29.3%) **(29.0%)** (27.8%) (26.7%) (25.7%) (22.1%) (21.9%) (20.9%) (17.3%) (15.9%) (11.4%) (4.7%)
Commuting time # cities ranked: 22	Calculated as the average time (in minutes) of a trip to and from work, as per: U.S.: 2013 Sydney: 2012 Tokyo: 2011 Canada, Shanghai: 2010 Europe: 2009	Metro areas associated with low commute times are considered to be more attractive places to live.	**Toronto** ranking of 15th place is unchanged. Calgary remains first. Oslo, previously a leader in this indicator, had 10 minutes added to average commute and declined from second to 11th. New U.S. data showed that commuting times got longer in six of the seven cities – Chicago was the exception. San Francisco's average commute rose almost four minutes to more than 62 minutes. Nevertheless, Toronto has the longest commute time of any North American city other than New York. London, Paris and Shanghai had the longest average commutes.	1. Calgary 2. Oslo 3. Dallas 4. Milan 5. Seattle 6. Barcelona 7. Los Angeles 8. San Francisco 9. Boston 10. Vancouver 11. Berlin	A A A A A A A A A A A	(52.0) (52.0) (53.1) (53.4) (55.2) (56.0) (57.2) (58.3) (58.5) (60.0) (60.8)	12. Chicago 13. Montréal 14. Sydney **15. Toronto** 16. Paris 17. Tokyo 18. New York 19. Stockholm 20. London 21. Madrid 22. Shanghai Data unavailable for Hong Kong, Halifax.	A B B **B** B B B B B B D	(61.9) (62.0) (66.0) **(66.0)** (67.4) (69.6) (69.8) (70.0) (74.0) (80.0) (100.8)

Labour Attractiveness Indicators	Definition	Significance	What About Toronto?	The Grade
Housing affordability # cities ranked: 12	The relative spread of the ratio of housing prices to income to the national average in a specific metro area/city. Metro areas where house prices are higher can perform well if the level of income in that metro area is relatively high. Data for 2013.	Housing affordability is a key factor deciding where to locate. Although bigger, fast-growing cities may have expensive housing, higher incomes may compensate. Cities and metro areas with better housing affordability are more attractive.	Data was available only for North American cities. Compared to *Scorecard 2014*, **Toronto** again ranks 6th but moves up to an "A" grade. The top three cities are Calgary, Montréal and Halifax. Dallas and Chicago have the most affordability among the seven U.S. cities. Vancouver, Los Angeles and San Francisco get the lowest grades.	1. Calgary A (0.7) 2. Montréal A (0.7) 3. Halifax A (0.8) 4. Dallas A (0.8) 5. Chicago A (0.9) **6. Toronto A (1.0)** 7. Boston B (1.4) 8. Seattle B (1.4) 9. New York B (1.5) 10. Vancouver C (1.7) 11. Los Angeles C (1.8) 12. San Francisco D (2.4) Data unavailable for Barcelona, Berlin, Hong Kong, London, Madrid, Milan, Oslo, Paris, Shanghai, Stockholm, Sydney, Tokyo.
Gini coefficient # cities ranked: 24	The Gini coefficient measures income inequality by calculating the extent to which the distribution of income among individuals within a country deviates from a perfectly equal distribution. Data is based on 2013, except for Canada, U.S.: 2011	The Gini coefficient measures income distribution. A Gini index of 0 represents perfect income equality (that is, every person in the society has the same amount of income). A Gini coefficient of 1 represents perfect inequality (that is, one person has all the income and the rest of the society has none). Thus, the higher the index, the lower the ranking.	**Toronto's** 11th place ranking is unchanged from *Scorecard 2014*, staying ahead of Calgary and Vancouver. The top five cities, and six of the top seven, are located in Europe. Halifax is the only city from outside Europe to earn an "A" grade. Montréal, Toronto, Vancouver and Calgary get "B" grades. At the other end of the rankings, U.S. metros occupy seven of the bottom eight places.	1. Stockholm A (0.33) 2. Milan A (0.35) 3. Barcelona A (0.35) 4. Berlin A (0.35) 5. Oslo A (0.36) 6. Halifax A (0.38) 7. Paris A (0.38) 8. Tokyo B (0.38) 9. Montréal B (0.39) 10. Sydney B (0.39) **11. Toronto B (0.40)** 12. Vancouver B (0.42) 13. Calgary C (0.43) 14. Madrid C (0.44) 15. London C (0.44) 16. Shanghai C (0.45) 17. Seattle C (0.46) 18. Dallas D (0.48) 19. Boston D (0.48) 20. Chicago D (0.49) 21. San Francisco D (0.49) 22. Los Angeles D (0.50) 23. Hong Kong D (0.50) 24. New York D (0.51)
Average population growth # cities ranked: 24	Average population growth is measured as the annual growth rate, compounded over five years from 2008 to 2013.	Population growth is a proxy for labour attractiveness. The higher the growth rate, the more attractive and vibrant an urban area.	**Toronto's** average annual population growth fell from 1.8% in *Scorecard 2014* to 1.6% in this year's *Scorecard*. As a result, Toronto fell one spot to 7th place, with Stockholm surpassing both Vancouver and Toronto. Shanghai is the top-ranked city once again, followed closely by Calgary – both cities earn "A" grades.	1. Shanghai A (2.9%) 2. Calgary A (2.9%) 3. Oslo B (2.0%) 4. Dallas B (1.9%) 5. Stockholm B (1.8%) 6. Vancouver B (1.6%) **7. Toronto B (1.6%)** 8. Sydney B (1.6%) 9. Seattle B (1.5%) 10. London C (1.3%) 11. San Francisco C (1.3%) 12. Montréal C (1.2%) 13. Halifax C (0.9%) 14. Milan C (0.9%) 15. Boston C (0.9%) 16. Los Angeles C (0.7%) 17. Hong Kong C (0.7%) 18. New York C (0.6%) 19. Paris D (0.5%) 20. Madrid D (0.5%) 21. Tokyo D (0.5%) 22. Berlin D (0.4%) 23. Chicago D (0.3%) 24. Barcelona D (-0.1%)

Labour Attractiveness Indicators	Definition	Significance	What About Toronto?	The Grade					
International visitors # cities ranked: 24	This indicator measures the average number of international visitors to the metro area in millions. Data is for 2012.	Cities or metro areas with a high number of international visitors are considered to be more attractive.	**Toronto's** international visitors fell by about 200,000 and Toronto slipped behind Madrid into 9th place. Toronto remains the only Canadian city to rank in the top 10. However, Toronto remains relegated to a "D" grade because London and Hong Kong are far ahead of all other cities. Compared to Toronto, both have more than four times the international visitors.	1. London 2. Hong Kong 3. New York 4. Paris 5. Shanghai 6. Barcelona 7. Los Angeles 8. Madrid **9. Toronto** 10. Berlin 11. Tokyo 12. San Francisco	A (14,991 m) A (14,295 m) B (8,922 m) B (8,700 m) C (5,244 m) C (4,986 m) C (4,152 m) D (3,559 m) **D (3,548 m)** D (3,005 m) D (2,970 m) D (2,784 m)	13. Sydney 14. Vancouver 15. Milan 16. Stockholm 17. Montréal 18. Seattle 19. Chicago 20. Oslo 21. Boston 22. Calgary 23. Dallas 24. Halifax	D (2,273 m) D (2,234 m) D (2,132 m) D (1,790 m) D (1,424 m) D (1,303 m) D (1,245 m) D (1,180 m) D (1,036 m) D (621 m) D (358 m) D (206 m)
Air quality # cities ranked: 18	Air quality is measured as the average accumulation of particulate matter in mg per cubic metre (mg/m3), averaged for the years from 1999, 2002, 2004, 2006, 2008, 2009, 2010 and 2011.	The less the level of air pollution, the more attractive the metro area is as a place to live.	**Toronto** moved up one spot in the ranking to 7th place, surpassing Oslo. Air quality improved slightly over *Scorecard 2014*. Vancouver moved up to 1st place ahead of Stockholm and Paris. The top 11 cities receive "A" grades because of high levels of air pollution in Hong Kong and Shanghai, which get the only "D".	1. Vancouver 2. Stockholm 3. Paris 4. Montréal 5. Sydney 6. London **7. Toronto** 8. Oslo 9. New York 10. Berlin	A (12.0) A (12.6) A (12.9) A (17.4) A (18.5) A (19.8) **A (19.8)** A (19.9) A (21.5) A (21.8)	11. Chicago 12. Madrid 13. Milan 14. Los Angeles 15. Barcelona 16. Tokyo 17. Hong Kong 18. Shanghai	A (22.9) B (28.6) B (30.9) B (31.5) B (33.6) B (35.5) D (57.0) D (71.6)	Data unavailable for Boston, Dallas, San Francisco, Seattle, Calgary, and Halifax.	
Domestic water usage # cities ranked: 21	Domestic water usage only, based on the per capita average daily water flow in litres. Data is based on: Hong Kong: 2013 Tokyo: 2012 Canada, Europe: 2009 U.S.: 2005	Low water usage indicates more efficient and sustainable use of this natural resource. City/metro areas scored highest when domestic water usage was low.	**Torontonians** remain Canada's most efficient users of water. Madrid recorded the biggest improvement and moved into 2nd place behind Berlin, dropping Toronto to 3rd overall. Four of the five Canadian CMAs are in the top 10. Montréal consumes about twice the water as Toronto. The highest users are Oslo and Dallas, which get the only "D" grades.	1. Berlin 2. Madrid **3. Toronto** 4. Calgary 5. Paris 6. Barcelona 7. Halifax 8. Vancouver 9. Tokyo 10. Boston 11. San Francisco	A (153) A (185) **A (215)** A (229) B (267) B (273) B (290) B (321) B (325) B (338) B (341)	12. New York 13. Seattle 14. Chicago 15. Hong Kong 16. Stockholm 17. Los Angeles 18. Montréal 19. Milan 20. Oslo 21. Dallas	B (343) C (351) C (355) C (357) C (361) C (424) C (428) C (431) D (490) D (542)	Data unavailable for: London, Sydney, Shanghai.	

Sources: Statistics Canada; Census 2006; Environment Canada; Canadian Real Estate Association; Bureau of Labor Statistics; Moody's Economy.com; U.S. Geographical Survey; American Community Survey; Eurostat; United Nations; Euromonitor International; Organisation for Economic and Co-operation Development; UK Census; Transport for London; Statistics Australia; Australia Census 2006; Shanghai Statistical Yearbook; Government of Hong Kong; Hong Kong Census; Mercer Consulting; World Bank; Society for the Study of Economic Inequality; University of Canberra; Jonkoping University; Weather Network; Statistics Canada Census 2011, National Household Survey 2011, Bureau of Labour Statistics, Australia Census 2011.

*For the indicator Teachers per 1,000 School Aged Children, Shanghai's population below 18 was used as the school age, instead of the 5 to 19 age cohort.

**Occupational data from the Bureau of Labor Statistics was partially secure for some metro areas. Data was either missing or not available for various occupational categories. Therefore, the ranking for U.S. Metropolitan Statistical Areas is under-estimated.

Focus on Toronto's Labour Attractiveness

Toronto's labour attractiveness results in *Scorecard 2015* demonstrate that, once again, it is one of the most liveable big cities in the world. The region has solidified its position in the top three and gained ground on second-place London. Toronto earned "A" grades on six of the 15 indicators in the Labour Attractiveness domain (40 percent of all indicators); London had four "A" grades on the 12 indicators (33 percent) for which data was available for the UK capital. The most striking difference between the two cities was in international visitors, where London continues to lead the pack, and the number of visitors to Toronto has been in decline for more than five years.

Toronto further distanced itself from Calgary in the overall Labour Attractiveness domain. For several years, the two cities have competed for the position of most attractive city, not only in Canada, but in North America as a whole. This year's *Scorecard* shows Toronto has consolidated its advantages. In addition to the six "A" grades, Toronto has six "B"s. Calgary has five "A"s and four "B" grades. Compared with Toronto, Calgary has a comparatively low share of employment in cultural industries, a low ratio of teachers to school-age children, and relatively few international visitors. While Calgary has the shortest commute times, it also has the lowest share of non-automotive commuters of any city outside the U.S.

While Toronto improved against several of its competitors, it is still well short of being the overall leader. This year's *Scorecard* also shows that the best city in the world for Labour Attractiveness is becoming even more of a draw. Paris improved its results in several demographic categories: population with at least bachelor's degrees, population, population aged 25 to 34, and the share of the population born in other countries. Add these results to Paris' existing strengths of a strong cultural sector and a magnet for international visitors, and Paris remains a formidable competitor for the rest of the world's cities in attracting talent.

Toronto's key area for improvement continues to be in transportation. Toronto is rare among the top cities in having both long commute times and a low percentage of commuters who travel by means other than automobile. Most of its peers are strong in one or the other — Calgary has short commutes and relatively few users of alternatives to vehicles; Paris and London have longer commutes but high percentages of transit users, walkers or cyclists. Toronto has the longest commute time of any North American city other than New York, and less than 30 percent of Toronto's commuters use transit, cycle or walk to their jobs. Transportation infrastructure has been building as a pressing public concern for some time in Toronto. These international comparisons indicate that improvements in Toronto's scores and in the perception that Torontonians have about their transportation infrastructure would make the region even more attractive to workers and have a positive effect on the regional economy.

Population Indicators

With lower birth rates, immigration is critical to boost the future workforce. A metro area with a high proportion of foreign-born residents can be seen as more diverse and welcoming to newcomers. And Toronto has no peer when it comes to population diversity, with 47.9 percent of its population foreign-born.

Toronto lost some ground, however, on other population indicators. Annual population growth averaged 1.6 percent between 2008 and 2013, a slight decline from the growth rate in last year's *Scorecard* (1.8 percent). As a result, Toronto fell one spot to 7th place in *Scorecard 2015*. Vancouver, Toronto and Sydney get "B" grades for their similar rates of population growth, but rank well behind "A" performers Shanghai and Calgary.

The age group of 25-34 years is seen to represent the mobile, educated, and creative core of the talented labour pool. Toronto retains a "C" grade for the share of its population in this age group. However, its share of its population aged 25-34 years declines from 15.1 percent to 14.7 percent. As a result, Toronto loses three places in the rankings and ranks 17th in this year's *Scorecard* and is surpassed by Los Angeles, Stockholm, and Berlin.

Education and Workforce Indicators

Toronto has made strides in the past two years in the number of elementary and secondary school teachers for every 1,000 people of school age (defined as 6 to 19 years). This indicator can be used as proxy for the education system, on the assumption that more teachers offer a better quality of education. Two years ago, Toronto ranked seventh. Last year it was third, and now it moves up to first among the 16 cities (no data was available for European cities) — capturing an "A" grade along the way. Toronto has 91.2 teachers for every 1,000 school-aged children, an increase from 87.7 last year and 67.8 in *Scorecard 2013*. Canadian cities hold the top four places, followed by Asian cities (as well as Calgary, which has 65 teachers per 1,000 students), and the seven American metros. As a comparison, Toronto has about twice the teachers per student compared to North American peers such as San Francisco and Seattle.

Toronto's share of the population with at least a bachelor's degree — 33.3 percent — did not change in *Scorecard 2015*. After ranking eighth last year, Toronto fell back to 11th, where it was positioned two years ago. New data from Barcelona, Madrid, and Stockholm propelled those cities past Toronto. Among Canadian cities, Toronto ranks just ahead of Calgary and Vancouver with "B" grades. However, "A" calibre cities have more than 40 percent of their populations with university educations.

Another indication of skill and creativity in the workforce is the prevalence of artists, writers, performers, and musicians that work in the culture sector. Toronto's proportion of workers in the culture sector as a share of overall employment rose to 4.5 percent in this year's *Scorecard* from 4.1 percent. As a result, Toronto gains three places to rank 12th, surpassing Montréal as the top Canadian city on this indicator. Toronto also moved ahead of Boston and Madrid. At the top of the rankings, both Paris and Los Angeles have more than 7 percent of their workforce employed in cultural occupations.

Society Indicators

The gap in income between rich and poor is frequently seen as a defining issue in the 21st century. Toronto's 11th place ranking on the Gini coefficient measure of income distribution is unchanged from *Scorecard 2014*. Toronto is up from 14th in *Scorecard 2013* and 16th in *Scorecard 2012*. Globally, Canadian CMAs are in the middle of the pack, with European cities dominating the top ten, and all seven American cities in the bottom eight.

Housing affordability is a key factor for people in deciding where to locate. The housing affordability indicator measures the relative spread of the ratio of housing prices to income to the national average in a specific metro area/city. Toronto again ranks 6th with a score of 1.0 (meaning its ratio matches the Canadian average), but it moves up to an "A" grade because affordability in San Francisco has deteriorated. The top three cities for affordability are Calgary, Montréal and Halifax.

Toronto's only "D" grade continues to be in the number of international visitors. Here, Toronto has seen a steep decline in the last five years. In *Scorecard 2010*, Toronto ranked fifth with 6.6 million international visitors. In *Scorecard 2015*, it ranks ninth with only 3.5 million visitors in 2012. Toronto remains the only Canadian city to rank in the top 10, but the overall leader, London, gets more than four times the international visitors annually.

While Toronto is still an "A" grade performer on the indicator of homicide rate, the most recent results are cause for some concern. Toronto's homicide rate fell in *Scorecard 2014*, but rose this time to an average of 2.1 per 100,000 population over a five-year period (2008 to 2013). As a result, Toronto falls to 10th place in *Scorecard 2015* from eighth last year. Among Canadian cities, Calgary and Vancouver have lower rates of homicide. Not surprisingly, American cities have the highest homicide rates, with Dallas, San Francisco, Chicago, and Los Angeles ranking as the bottom four cities.

Environment Indicators

Toronto's performance on environmental indicators is worthy of "A" grades. Even in terms of climate, Toronto can actually boast of an improvement in recent years. The comfortable climate index, which measures how extreme temperatures can get in a region, indicates that Toronto has actually gotten "warmer" in recent decades. As a result, Toronto has improved from 20th to 18th place in the past couple of *Scorecards*. Toronto's climate rates in the same range as Calgary, Vancouver and Halifax. It is worth noting that the two cities that have the most extreme climate — Stockholm and Oslo — rank second and fourth overall, respectively. Clearly, the effects of a challenging climate can be overcome.

Air pollution is a significant concern in urban environments. Toronto actually sees a reduction in particulate matter in the *Scorecard 2015* data, and that helps it move ahead of Oslo into seventh place. The top 11 cities receive "A" grades because of high levels of air pollution in Hong Kong and Shanghai, which get the only "D" grades. Toronto gets an "A" grade in water usage and ranks third behind only Berlin and Madrid. Torontonians remain Canada's and North America's most efficient users of water.

6 | SPOTLIGHT ON EXPORTS: RECOVERING FROM OUR LOST DECADE

Past *Scorecard on Prosperity* editions have highlighted the Toronto region's poor productivity performance. As *Scorecard 2015* shows, lagging productivity continues to hold Toronto back by limiting gains in the region's standard of living. The region's productivity performance can be improved in many ways, including increasing investment in physical and human capital, restoring and improving infrastructure, and promoting competition by focusing on Economic Clusters. These topics have been explored in great depth in previous *Scorecard* reports.

Boosting Ontario's export performance is another avenue to improve productivity performance. This is the focus of this year's special lens. This is an ideal time to shine a spotlight on Ontario's trade performance. First, slowdowns are predicted for the potential economic growth of Canada in general and Ontario in particular. Potential output can be described as what an economy can produce when all its resources, including labour, are fully employed. With baby boomers beginning to enter their retirement years, a process that will continue for years to come, future labour force growth will be constrained. In other words, an ageing population will limit the economy's ability to grow. Thus, demand for locally-made products from Canadians will grow more slowly in the coming years. Thus, it is crucial for Ontario's businesses to seek out higher growth markets in all corners of the world.

Second, while the province's exporters have struggled in recent years, things are now turning in their favour. In particular, a weaker Canadian dollar and stronger U.S. economy provide a potent one-two punch for Ontario exports. Add to that lower oil prices (read lower input prices), and this represents the trade sector's best opportunity in years to boost export volumes.

Third, although risks to the global outlook are tilted to the downside, the world economy is still expected to post stronger growth over the next three years, following mediocre growth in the previous three. This suggests international trade activity is set to ramp up. It is imperative that Ontario's businesses are ready to catch this wave. But they can only do so if they enhance their competitive edge.

How Trade Boosts Productivity

Before analyzing Ontario's recent export performance, let us briefly describe how trading internationally boosts the economy's competitiveness. Simply, firms that export are significantly more productive than those producing solely for the domestic market.[10] This is because firms targeting export markets systematically make different decisions regarding investment, training, and technology that all raise their productivity.[11]

Firms operating in highly competitive environments tend to be more innovative, out of necessity, than firms operating in less competitive markets. Businesses selling their goods or services internationally operate in what is called a hyper-competitive space. To be profitable and increase their market share, they must adapt to market demand by introducing more productions and adopting new methods of operating.[12]

10 Bernard and Jensen, *Exporting and Productivity*.
11 Hallward-Driemeier, Iarossi, and Sokoloff, *Exports and Manufacturing Productivity in East Asia*.
12 Task Force on Competitiveness, Productivity, and Economic Progress, *Finding its Own Way*, p 45.

Small Economies, Big Exporters: The Swiss Example

With almost 6 million people in 2013, Toronto is Canada's largest city, but it ranks only 12th in population among the 24 cities in *Scorecard on Prosperity 2015*. As a small and open economy globally, Toronto needs to take advantage of opportunities elsewhere in the world. It can look to an economy such as Switzerland's for inspiration. With a population of 8 million, Switzerland itself is smaller than Ontario, but is widely-considered one of the world's most competitive economies.[1] Switzerland's high level of competitiveness is founded upon its strong corporate sector. Yet, 99.8 percent of Swiss businesses are small and medium-sized enterprises.

A Credit Suisse report in 2014, *Success Factors for Swiss SMEs: Prospects and Challenges for Exports*, identified some of the reasons why Switzerland's companies are so competitive. One of the biggest reasons is Swiss Small-Medium Enterprises (SMEs) have strong international ties. Credit Suisse reported 69 percent of SMEs are involved in cross-border activities, with export activity more pronounced among industrial SMEs than among service-sector SMEs.[2] In total, SMEs contributed an estimated one-fifth of total Swiss exports in 2012.

Moreover, the survey discovered that around ten percent of industrial SMEs indicated they are the global market leader for at least one core product.[3] An above-average number of these market leaders can be found among manufacturers of precision instruments in particular. In this sector, 60 percent of all SMEs stated that they are global market leaders for at least one core product.[4]

Switzerland's SMEs have also had success with moving beyond their traditional export market — the European Union. Emerging market countries are steadily gaining importance, in particular China and the Gulf states. Industries seeing their share of total export volumes climb in recent years — such as the pharmaceutical and watch industries — owe their success largely to geographical diversification.

Finally, infrastructure is a prominent reason for Swiss SMEs' international success. Other factors identified are the high quality of the country's transport, telecommunications and energy infrastructure. By contrast, Ontario's export performance since the advent of the new millennium has been very disappointing, largely because of failure to expand to fast-growth emerging markets. Also, very few Ontario SMEs are engaged in international trade. Finally, underinvestment in infrastructure, particularly in and around the Toronto region, is a chronic problem for Canada. Based on this survey's findings, Ontario and Toronto would do well to draw inspiration from the Swiss example.

1 See The Conference Board of Canada, *How Canada Performs* and The World Economic Forum, *The Global Competitiveness Report: 2014-15.*
2 Credit Suisse, *Success Factors for Swiss SMEs: Prospects and Challenges for Exports*, p 5.
3 Ibid, p 6.
4 Ibid.

Therefore, the more firms selling internationally, the more overall economic innovation and, in turn, the greater the advance in productivity and prosperity.

Canada's key problem (and Ontario's) is the vast majority of Small and Medium-sized Enterprises (SMEs) do not export. This is holding us back from achieving a full potential for success. In fact, of the more than 1.09 million SMEs operating in Canada, just 41,000 are exporting.[13] In contrast, 69 percent of SMEs in Switzerland export their products beyond their borders.

It's not surprising that SMEs in Ontario are much less likely to introduce any type of innovation than average businesses.[14] Since many aspects of innovation are scale-sensitive, large firms are more likely to innovate than SMEs. One potential solution would be to ensure correct incentives are in place to encourage firm growth. Many organizations have called upon Ontario to adopt smart policies intended to stimulate firm growth, including facilitating trade.[15] For instance, the small business tax credit discourages them by imposing a much higher marginal effective tax rate if they do so. Phasing out and removing this tax credit entirely would remove this roadblock holding them back.

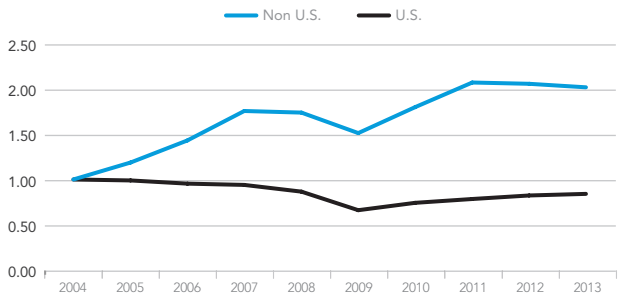
Another solution would be to force SMEs to become more innovative by exposing them to greater competitive pressure. Research has proven exporting boosts SME profits and sales, especially for companies selling to the BRIC economies: Brazil, Russia, India and China.[16]

Similarly, exporting to the Economic Union (EU) market boosted Canadian overall sales, although not necessarily profits.[17] The best strategy for SMEs was first to test the waters and learn in established markets before moving into emerging EU markets. The analysis also shows that product innovation is critical to succeeding in the EU market. This held true regardless of company size.

Ontario Export Growth Has Been Stagnant

Exports have in the past stimulated Ontario economy's growth. In the 18 years between 1982 and 2000, nominal exports of goods and services increased by 10.1 percent per year. But several events combined to stall Ontario's export engine over the last decade: the rapid rise of the Canadian dollar (that made Ontario's goods and services more expensive abroad), high oil and gas prices (an input to production), and a sluggish U.S. economy (the province's dominant trade partner). As a result, in the 12 years between 2001 and 2013, Ontario's international exports of goods and services fell at an average annual rate of 0.4 percent.

Figure 3: Ontario's Merchandise Exports (2004=1.0)



Sources: Industry Canada; The Conference Board of Canada.

Ontario's trade with partners other than the U.S. has taken off, doubling in value over the past decade. (See Figure 3).[18] But this was still not been enough to offset the decline in exports to our largest trading partner. Even though Ontario has diversified its export destination profile, it has not been enough to offset the decline in exports to America. Ontario exports have been rebalancing, but not growing.

13 Government of Canada, *Global Markets Action Plan*, p 15.
14 Ibid, p 46.
15 See Hodgson, *Accelerate Business Tax Reform to Boost Canadian Competitiveness* and Tax Force on Competitiveness, Productivity, and Economic Progress, *Finding its Own Way*.
16 Goldfarb and Sui, *Not for Beginners: Should SMEs Go to Fast-Growth Markets?*
17 Goldfarb and Sui, *For Innovator's Only: Canadian Companies' EU Experience.*
18 The data presented in this report are merchandise exports only and do not include services exports. This is because Industry Canada, the main source of country-level trade data, only reports merchandise exports.

Figure 4 illustrates Ontario's merchandise export destination profile in 2003 and in 2013. We see exports to the U.S. fell from $153.42 billion in 2003 to $128.71 billion in 2013. Thus, the share of total Ontario merchandise exports to the U.S. fell from 91.5 percent to a still-dominant 78.4 percent.

Sales to other regions more than doubled between 2003 and 2013, but this growth was not enough to offset the fall in U.S.-destined merchandise exports. For instance, exports bound for Europe, Ontario's second-largest export market, soared from $7.42 billion in 2003 to $19.09 billion in 2013, and its share grew from 4.4 percent to 11.6 percent.

Asia comprises the third largest regional export market for Ontario-produced goods and has become an increasingly important destination. The share of Ontario's exports going to Asia increased from 2.5 percent in 2003 to 6.4 percent in 2013. In volume terms, exports increased from $4.25 billion to $10.47 billion. Exports to the remaining two regions — Latin America and Africa and the Middle-East — have seen similar increases.

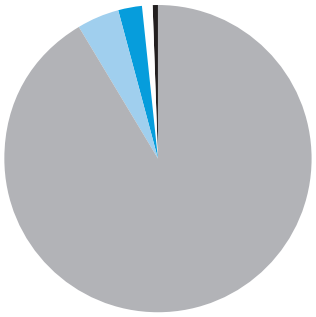
Fortunately, the U.S. economy has picked up steam recently to the benefit of Ontario exporters. Meanwhile, the Canadian dollar has weakened as oil prices have fallen. In these conditions, Ontario's exports grew strongly in 2014 and are expected to continue expanding as the U.S. economy continues to strengthen.

Nevertheless, the 2000s were essentially a lost decade for Ontario's exports. Poor export performance was caused in large part by the rapid rise in the Canadian dollar and weak U.S. demand. While Ontario diversified its export portfolio over this decade, export growth to the rest of the world was not strong enough to offset falling exports to the U.S. So moving forward, while the province cannot ignore its traditional export markets, such as the U.S., a key component of any export strategy for Ontario must be to seize opportunities in new markets, particularly high-growth emerging markets. Export diversification remains a work in progress.

Figure 4: Ontario's Exports Rebalancing but Not Growing

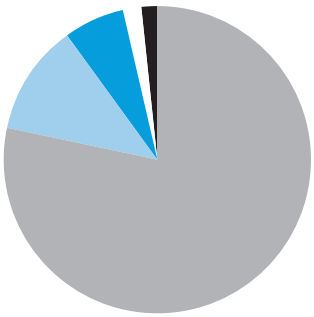
2003 Exports: $168B ($CAD)

United States	$153,421,842,910
Europe	$7,420,295,654
Asia	$4,251,172,081
Latin America	$1,670,356,948
Africa/ME	$912,510,627



2013 Exports: $165B ($CAD)

United States	$128,711,353,982
Europe	$19,090,704,803
Asia	$10,465,901,079
Latin America	$3,432,169,511
Africa/ME	$2,416,196,539



Sources: Asia-Pacific Foundation of Canada; Industry Canada.

"The shift from a leader in the 1990s to an underperformer since 2003 can be traced to weaker international exports and the shrinking manufacturing industry."

Source: Central 1 Economic Analysis of Ontario, Nov 2014

2013 exports to Asia

- Metals and minerals
- Chemicals, plastics and rubber
- Agri-food
- Electronic machinery
- Textiles, clothing, leather

Ontario's Export Dependence on the U.S. Should not be Surprising

Expanding the reach of Ontario's exporters to embrace fast-growing, emerging markets does not have to come at the expense of our trading relationship with the U.S. Increasing exports to the rest of the world while increasing exports to the United States are not mutually exclusive activities. However, many key determinants of bilateral trade volumes suggest Canada and the U.S. should continue to have a very strong trade relationship.

One key determinant of export volumes is the distance between countries. The shorter the distance between two countries, the cheaper it is to move goods and services, so the greater the size of export volumes. The market size of the destination country is a second key determinant. The bigger the market size of the destination country, everything else being equal, the greater the export volumes. A third key trade determinant is language and culture. People sharing the same language and culture are more likely to trade with one another than people who do not. Added translation costs make exporting more expensive.

Obviously, all three of the determinants listed above lead to the conclusion a great share of Canada's export volumes should go to the U.S. There are many advantages, not the least of which is proximity. Canada and the U.S. share a border, a common language and, generally speaking, common culture. Also, the U.S. is the world's largest and richest market. No wonder Ontario's export volumes to the U.S. are so large.

With the advantages trading with the U.S., it is not surprising many Ontario firms have found it difficult expanding to emerging markets. Many of them are far away and present significant language and cultural barriers. Also, many emerging markets present additional difficult hurdles that impede conducting business.[19] Tariff and non-tariff impediments, along with investment restrictions, pose serious obstacles in many emerging markets.

Nevertheless, trade diversification is still a worthy policy goal. The main reason to diversify is, in simple terms, reducing the risks of putting all of the province's "eggs in one basket." In theory, trade diversification should lead to lower volatility in export volumes while still providing the same or even greater rates of export growth.

China and Asia are Driving the Global Economy's Economic Engine

In order to examine the world's strongest growing regions, their economies have been grouped into 10 geographic areas. Canada is excluded from the North America Free Trade Agreement (NAFTA) area because we want to determine economic gains for Canada's trading partners other than Canada itself. We calculated the difference between Gross Domestic Product (GDP) in 2008 and GDP in 2012 to see which of these 10 regions have posted the largest economic gains during this five-year period. Notably, our calculation includes data from the 2008-2009 global recession. Thus, it should not come as a surprise that GDP declined in some regions during this period.

19 Goldfarb, *Canada's Next Top Markets*, p 7.

Table 2 displays gains and losses in GDP among 10 major global regions between 2008 and 2012. (Please see Appendix C – the definitions of these global regions). We use the total change in GDP levels instead of the growth rate because we not only want to account for growth in each region, but also for each region's level of activity. This way, a region that grows slowly but accounts for a large share of global GDP may see their GDP gain be higher than for a region that grows quickly but accounts for a relatively smaller share of global GDP. In other words, using levels provides a more accurate picture of a region's contribution to global economic activity than by using growth alone. The table also includes each region's per capita GDP, a meaningful indicator of wealth, as well as their share of total global GDP.

The table clearly shows China was the undisputed driver of economic gains between 2008 and 2012. China's $3 trillion gain in GDP, not only dwarfed changes in all other regions, but was larger than the sum total of gains accrued by the other five regions whose economies expanded between 2008 and 2012.

However, the gains should take into account that, despite China's vigorous economic growth in recent years, the country's per capita GDP remains relatively low. That is why private consumption accounts for less than 40 percent of China's economic activity in comparison to about two-thirds for most developed economies. Instead, Chinese growth has been driven by investment and exports.

Eastern Asia (excluding China) rated second best with a much smaller increase of $621 billion. Japan was by far the biggest contributor within this region, enjoying a $569 billion GDP gain. Although Japan's growth was modest, it was more than compensated by the sheer size of its economy, the world's third largest.

The NAFTA region (the U.S. and Mexico) posted the third largest economic gain at $504 billion. Although the U.S.'s economic growth was relatively disappointing between 2008 and 2012, its economic gains, just like Japan's, were still significant because it is the world's largest economy. NAFTA is also the world's wealthiest region.

Three other regions enjoyed GDP gains between 2008 and 2012, including Western Europe, the world's second largest region. The others were South East Asia and Oceania.

GDP fell in the remaining four regions between 2008 and 2012. The largest drop occurred in the Middle East and Africa, where output fell by $727 billion. The other regions to experience losses were Central and Southern Asia (the world's poorest region), Eastern Europe, and the Other Americas.

Table 2: China Has Been the World's Economic Engine (GDP, Billions $ 2007 at Purchasing Power Parity (PPP); 2008 to 2012)

	GDP Gains/Losses	GDP per capita	Share of Global GDP
China	3,016	8,086	14.6
Eastern Asia (excluding China)	621	32,694	7.9
NAFTA	504	37,527	21.5
Western Europe	252	35,914	19.8
South East Asia	88	6,991	5.1
Oceania	63	26,425	1.3
Other Americas	-465	9,808	5.6
Eastern Europe	-585	14,189	6.1
Central and Southern Asia	-598	3,642	8.5
Middle East and Africa	-727	5,900	9.6

Sources: The World Bank; Industry Canada; The Conference Board of Canada.

Comparing Regional GDP Trends with Ontario's Export Destinations

How do these economic gains and losses by region compare to Ontario's export destination profile? To answer this question, we will use location quotients. It is calculated by simply dividing one ratio by another. In this case, we compare a region's share of total Ontario exports by a region's share of global GDP. If the location quotient for a given region is above 1, it means Ontario's share of exports to this region is greater than the region's share of world GDP. If the location quotient is less than 1, then Ontario's share of exports to this region is less than the region's share of world GDP. If the location quotient equals 1 it means Ontario's share of exports to this region exactly matches the region's share of world GDP. Ontario would have a relatively strong trade relationship with any region with a location quotient above one, and a relatively weak relationship with any region with a location quotient below one. Location quotients for the 10 world regions are reported in Table 3.

Table 3: Location Quotients (LQ) for Ontario's Exports (2008-2012 Average)

	LQ
NAFTA	3.79
Western Europe	0.57
Oceania	0.38
Other Americas	0.17
Middle East and Africa	0.13
Eastern Asia (excluding China)	0.13
China	0.12
South East Asia	0.11
Eastern Europe	0.10
Central and Southern Asia	0.05

Source: The Conference Board of Canada.

Not surprisingly, we can see that between 2008 and 2012 there is only one region with location quotients greater than 1: the NAFTA region. Ontario's share of exports destined for the NAFTA region, which includes Ontario's largest trading partner — the U.S. — and the province's third largest export market — Mexico — is significantly higher than this region's share of world GDP. Specifically, NAFTA's location quotient is 3.79, much higher than anywhere else. Specifically, the NAFTA's share of Ontario exports is nearly four times as large as the NAFTA's share of total world GDP.

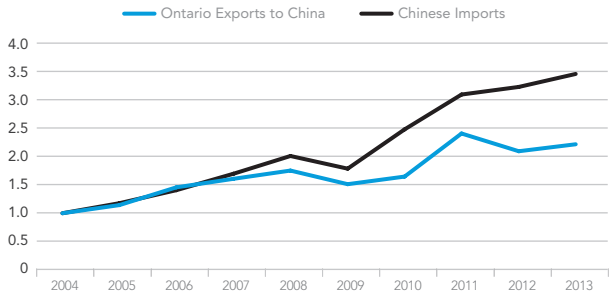
For the remaining nine regions, the location quotient is well below 1. Western Europe, which includes some of Ontario's major export markets, such as the United Kingdom, Norway, the Netherlands, and France, has the second highest location quotient. Still, this region's location quotient averaged only 0.57. In other words, Western Europe's share of Ontario's export volumes is only 60 percent of the region's share of world GDP. Ontario's location quotient with Oceania was third and averaged 0.38 between 2008 and 2012. This region includes Australia, another important export market for Ontario.

Ontario's location quotients with the remaining world regions are below 0.2. In fourth, with a location quotient of 0.17 is Other Americas. Although this is quite low, it may rise in the coming years, given that Canada has signed free trade agreements with three countries within this region: Costa Rica, Panama, and Honduras. In addition, FTA negotiations are ongoing with the Caribbean Community (CARICOM) and the Dominican Republic, while exploratory Free Trade Agreement (FTA) discussions are underway with Mercosur (Argentina, Brazil, Paraguay, Uruguay and Venezuela. Associated countries are Chile, Bolivia, Colombia, Ecuador and Peru.) A stronger trade relationship with this region could also potentially become a lasting legacy of the 2015 Pan Am/Parapan Am Games, which will be held this July in the Toronto region and Southern Ontario.

More worrisome, Ontario's location quotients with all four Asian regions are very low, ranging from 0.13 in Other Eastern Asia to 0.05 in Central and Southern Asia. Distance between exporters and their customers plays a key role in determining export volumes. While this helps explain Ontario's disproportionate trade relationship with the U.S., these location quotients suggest there is room for greater diversification in Ontario's export profile.[20]

Ontario's tiny location quotient with China, which averaged 0.12 between 2008 and 2012, is very concerning. As shown above, China was the main engine of global economic growth between 2008 and 2012, but the province's exporters did not appear to take advantage of this possible opportunity.

Figure 5: Ontario's Exports to China are not Keeping Pace (2004=1.0)



Sources: The World Trade Organization; Industry Canada; The Conference Board of Canada.

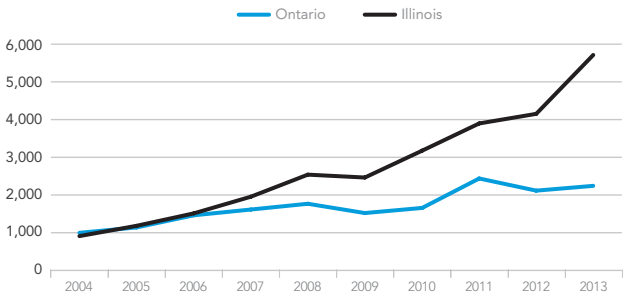
Ontario's Share of China's Imports on the Decline

One way to view Ontario's challenge of diversifying its export portfolio is to use as an example Ontario's exports to China over the past ten years. Unfortunately, Ontario has not been keeping pace. (See Figure 5). Total Chinese merchandise imports have been growing much more strongly than Ontario's exports to China. In 2004, Ontario's merchandise exports to China were US$1 billion, accounting for 0.18 percent of China's merchandise imports.

Over the next nine years, Ontario's exports to China increased at an average annual rate of 9.3 percent, with export volumes reaching US$2.2 billion in 2013. Despite this solid growth, Ontario's share of Chinese imports fell to 0.12 percent by 2013, as China's total imports grew at an even faster 14.8 percent annual clip over the same time frame. In other words, total Chinese merchandise imports were 3.5 times higher in 2013 compared to 2004, while over this time Ontario's merchandise exports to China only slightly more than doubled.

Comparing Ontario's performance to Illinois's, a nearby U.S. state that includes comparator city Chicago, provides additional cause for concern. Research shows the two most important indicators explaining trade volumes between two countries are economic size and distance. Illinois and Ontario are a similar distance from China, with Illinois being marginally closer. The Illinois economy is slightly larger than Ontario's, although Ontario has been catching up. In 2004, Illinois's economy was about 17 percent larger than Ontario's. But by 2013, the gap had shrunk to 10.6 percent. Thus, everything else being equal, Illinois's export volumes to China should be slightly larger than Ontario.

Figure 6: Merchandise Exports to China (Millions US$)



Sources: U.S. Census Bureau; Industry Canada; The Conference Board of Canada.

20 The important role that distance plays in determining the size of a trade relationship is examined in greater depth in Chapter 7.

But in 2004, Ontario's exports to China were slightly higher than those of Illinois — Ontario exported about US$1 billion of merchandise to China, while Illinois exported slightly more than US$900 million. (See Figure 6). Thus, Ontario's exports to China were about 10 percent higher than those of Illinois. This could be considered a good news story. But now the opposite is true. Illinois's exports to China increased by 22.4 percent per year from 2005 to 2013, much faster than the 9.3 percent annual average rate recorded by Ontario. So by 2013, exports from Illinois to China were US$5.7 billion, compared to only US$2.2 billion for Ontario. In other words, exports from Illinois to China are now two-and-a-half times higher than Ontario.

Table 4: Top Exporting Industries to China (2009-2013 Average)

Ontario	Illinois
Machinery Manufacturing	Crop Production
Chemical Manufacturing	Animal Production
Computer and Electronic Product Manufacturing	Forestry and Logging
Primary Metal Manufacturing	Fishing; Hunting and Trapping
Animal Production	Food Manufacturing
Electrical Equip, Appliance & Component Man.	Beverage and Tobacco Product Manufacturing
Transportation Equipment Manufacturing	Textile Mills
Fabricated Metal Product Manufacturing	Textile Product Mills
Food Manufacturing	Apparel Manufacturing
Crop Production	Leather and Allied Product Manufacturing

Sources: U.S. Census Bureau; Industry Canada; The Conference Board of Canada.

This raises questions about what goods Ontario and Illinois are selling to China. Between 2009 and 2013, Ontario's top exporting industries to China were manufacturing-based; machinery manufacturing, chemical manufacturing, and computer and electronic product manufacturing were the top three exporting industries. (See Table 4). In contrast, the top exporting industries in Illinois were focused in agriculture: crop production, animal production, and forestry and logging were the three largest. Moreover, the fourth and fifth largest exporting industries to China in Illinois were food manufacturing and beverage manufacturing, two industries indirectly related to agriculture. Crop production, animal production, and food manufacturing were also part of the top 10 industries for Ontario, but they are lower down on the list.

Admittedly, this is only a high-level analysis of industries in Ontario and Illinois that have had success exporting their goods to China. It would be worthwhile to investigate the reasons for Illinois's greater success than Ontario's. One obvious reason for Ontario's poor export performance in recent years was the rapid appreciation of the Canadian dollar. It eroded the competitiveness of the province's exporters. But the dollar cannot tell the full story. Another key reason is the failure of the province's exporters to penetrate fast growth markets, particularly China and other parts of Asia.

This section has focused on the past. China has been the world's growth engine, while other Asian regions have also enjoyed relatively large economic gains. We have also seen that Ontario's trade with emerging markets is small relative to trade with more traditional partners, and that its growth in exports to China is falling behind other places like Illinois. But what about the future? Is China's impressive economic expansion expected to continue? How will other emerging markets fare?

Growth Expected to Slow in Asia, but Remain Strong Relative to Other Regions

The world economy recorded subpar growth in 2014 for the third straight year, as real GDP expanded by a tepid 2.6 percent. But global economic growth is expected to improve this year and next, reaching 3 percent in 2015 and 3.3 percent in 2016, before cooling slightly to 3.2 percent in 2017.[21] However, there are numerous downside risks that could easily lead to another year of limited growth. The greatest risk is in the Eurozone and the possibility of Greece leaving the currency union.

That said, oil prices' dramatic decline, if sustained throughout 2015, could significantly boost global economic prospects as households gain purchasing power. Also, firms in many countries will see their profits rise thanks to lower energy costs for their operations. The lower oil prices will, of course, shift the fortunes of various countries, with oil exporting nations suffering weaker growth and oil importing nations enjoying stronger gains. As most Asian countries are oil importers, the outlook for this region has been upgraded in the wake of the oil prices' swoon.

China

China has been an economic juggernaut in recent years, with its economy expanding at a 6 percent average annual clip from 2008 to 2012, a period marked by a deep global recession. In 2013 and 2014, China grew by 7.7 percent and by an estimated 7.4 percent, respectively.

China's strongest growing industry between 2008 and 2012 was, of course, manufacturing, as China remained many companies' first location choice for offshore production. Manufacturing GDP grew by nearly US$800 billion between 2008 and 2012. But growth was also vigorous in many other industries. In particular, construction was another growth leader, as billions of dollars have been poured into investment as part of the country's economic transformation. GDP in this sector grew by more than US$200 billion from 2008 to 2012. The services sector has also been expanding at a vigorous rate, climbing by well over US$1 trillion over 2008-2012.

China will benefit significantly from lower oil prices this year. Also, the fact that the drop in world oil prices due to soaring production as opposed to lower global demand means China's exports should continue to grow at a solid pace. On a negative note, the government faces the challenge of unwinding the country's property and credit bubbles while avoiding a sharp slowdown in investment spending. Risks of a hard landing remain, which would have serious ramifications for the entire region. Although China's economy is expected to slow somewhat from the vigorous pace of recent years, growth is still expected to average a strong 7 percent per year between 2015 and 2017. China is expected to remain one of the world's main drivers of growth.

Central and Southern Asia

Central and Southern Asia is also expected to enjoy very strong growth in the coming years. The good news starts with the region's largest economy — India. India subsidizes energy costs for households, so lower oil prices will lower government spending on subsidies and free up funds to be diverted to other areas of the economy. The implementation of reforms and deregulation should also lift foreign investment, and, in turn, fuel economic growth of 6.8 percent per year over 2015-2017.[22] Meanwhile, strengthening import demand from the U.S. should boost economic growth in both Pakistan and Bangladesh.

However, economic growth in many Central Asian countries is expected to remain moderate, due to spillovers from the weakness in Russia, which is suffering from economic sanctions and low oil prices. Still, economic growth in Central and Southern Asia is expected to average 6.1 percent per year between 2015 and 2017, an improvement over the 5.2 percent increase seen last year. This will make Central and Southern Asia the second fastest growing region in the world, behind China.

21 Beckman, *World Outlook: Winter 2015*.
22 The World Bank, *Global Economic Prospects*, p 92.

South East Asia

South-Eastern Asia's economy is also expected to benefit from higher global growth, given its deep integration into global supply chains, resulting in higher exports. The region can also expect a pick-up in foreign direct investment flows due to favourable growth prospects and the resolution of domestic political uncertainty. Finally, lower oil prices will boost growth in the region.

Thailand, which endured a military coup in 2014, will benefit from the easing of political tensions, posting real GDP growth of 4 percent per year from 2015 to 2017, following modest growth last year. This will also benefit neighbouring Cambodia by reviving tourism. Indeed, Cambodia is expected to be the growth leader over the next three years, with real GDP advancing by an average annual rate of 7 percent.

Meanwhile, investment should strengthen in Vietnam and Myanmar, as macroeconomic stabilization programs boost confidence.[23] Myanmar also should receive an additional boost from continued policy and institutional reforms.[24] The Philippines will be lifted by post-typhoon construction efforts. In Indonesia, competing policy changes will offset each other: an increase in subsidized fuel prices and policy rate hikes late last year will hurt private consumption; higher targeted social transfers will help.

Additionally, continued fuel subsidy reform and the introduction of a goods and services tax are expected to slow growth in Malaysia in 2015.[25] From 2015 to 2017, economic growth in Malaysia is still forecast to average a robust 5 percent per year. Likewise, economic growth in Lao People's Democratic Republic is expected to be held back this year by fiscal and monetary tightening, both policies designed to keep credit growth and inflation in check. Despite this, real GDP is forecast to expand by 6.8 percent annually over the next three years.

Altogether, real GDP growth in South-Eastern Asia is expected to average 5.2 percent per year from 2015 to 2017, up from 4.4 percent in 2014. This will make the South-Eastern region the third fastest among the ten regions in the analysis.

Eastern Asia (excluding China)

Eastern Asia has experienced more moderate growth in recent years, as Japan's economy remained lethargic. Indeed, Japan slipped into recession in the second and third quarters of last year following a sales tax hike at the beginning of 2014. Positive news is Japan's government has implemented corporate tax reforms and established Special Economic Zones providing less regulation for businesses than other regions of the country. Despite these reforms, it will be difficult to boost Japan's potential growth rate much above the 1 percent mark.

Economic prospects are brighter in the region's other major economy: South Korea. Real GDP in South Korea grew by an estimated 3.5 percent in 2014. Economic growth is expected to be even stronger over the next three years, averaging 3.9 percent per year over 2015-2017, as the export-dependent country benefits from higher global growth. Altogether, real GDP growth in Eastern Asia is expected to average 2 percent per year over 2015-2017, up from 1 percent in 2014, but still the slowest growth among the four Asian regions in this analysis.

23 The World Bank, *Global Economic Prospects*, p 52.
24 Ibid.
25 Ibid.

Middle East and Africa

The fourth fastest growing region, and the only one outside of Asia, is expected to be the Middle East and Africa. Of course, many of the oil-exporting countries in the Middle East will be hurt by the recent plunge in oil prices. Despite this, oil production is still expected to increase, particularly if sanctions on Iran are partially eased as assumed.[26] Other countries, including Egypt, Jordan, Lebanon and Tunisia, are expected to enter a steady recovery from a period of heightened uncertainty.[27] However, other countries will continue to be adversely affected by security challenges, namely Iraq, Libya, Syria, and Yemen.

In many African countries, economic growth will strengthen due to sustained infrastructure investment, increased agriculture production, and expanding services sectors.[28] The forecast also assumes that the negative economic impact of the Ebola outbreak will be limited to Guinea, Liberia and Sierra Leone.[29] All in all, real GDP growth in the Middle East and Africa is expected to average 4.3 percent per year from 2015 to 2017, well above the 3.2 percent annual average rate projected for the overall world economy.

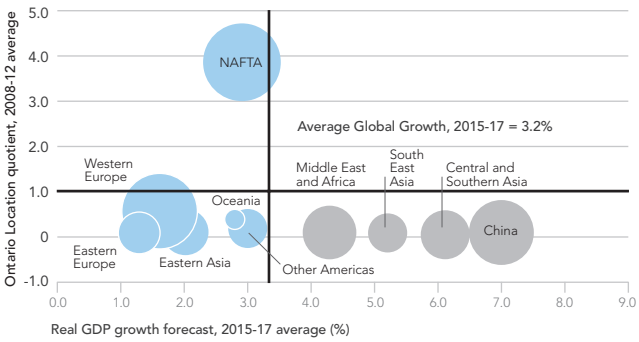
As the Fastest Growth Market, Asia is a Potential Trade Target

Three of the four Asian regions among the ten world groupings — China, Central and Southern Asia, and South East Asia — are expected to post the strongest economic growth over the next three years. This is highlighted in Figure 7, which is a bubble chart featuring the 2008-2012 average location quotients on the vertical axis, projected economic growth over 2015-2017 on the horizontal axis, with the bubbles representing the size of each region's economies. The black horizontal line across the figure represents a location quotient of 1 — regions above this line have been traditional strong export destinations for Ontario exporters, while regions below this line have been traditionally weak export destinations. As we have already noted, NAFTA is the only region to have a location quotient above 1.

The black vertical line running up and down the figure represents projected world real GDP growth of 3.2 percent per year between 2015 and 2017. Regions to the left of this line are projected to post growth below the global average, while regions to the right of this line are forecast to post growth above the global average.

Four regions are expected to post faster than average economic growth over 2015-2017 — China, Central and Southern Asia, South East Asia, and the Middle East and Africa. Not only is China expected to post the strongest growth, it also has the third largest economy among the ten regions, behind only NAFTA and Western Europe. The Middle East and Africa is the fourth largest economy, Central and Southern Asia is the fifth largest, while South East Asia is the ninth largest.

Figure 7: Asia is Expected to Continue to Lead the World in Growth



Sources: The World Bank; Industry Canada; OECD; The Conference Board of Canada.

This chart confirms what the analysis above has already shown: Asia, and to a lesser extent the Middle East and Africa, offers Ontario exporters access to large, fast growth markets. Current export volumes to these regions are low, thus they might hold considerable untapped potential for Ontario exporters. These regions could provide Ontario with a great opportunity to diversify exports beyond the U.S., assuming that Ontario's goods and services are competitive in these markets.

26 The World Bank, *Global Economic Prospects,* p 103.
27 Ibid.
28 Ibid.
29 Ibid.

Opportunities Abound for Key Toronto Clusters in Asia

In the *Toward a Toronto Region Economic Strategy* (*TTRES*) report, the Board highlighted five representative clusters including Financial Services, Information Technology, Processed Food, Education & Knowledge Creation and Life Sciences that could form part of regional efforts to increase productivity. The report highlighted these clusters having the potential to produce a multiplier effect on the Toronto region's economy as these clusters are key drivers of productivity for all businesses.

Building on the federal report *Global Markets Action Plan (GMAP): The Blueprint for Creating Jobs and Opportunities for Canadians Through Trade, Scorecard 2015* identifies great opportunities in Asian markets for at least three clusters including Information Technology (Indonesia), Processed Food (China) and Education & Knowledge Creation (India). Information below is based on market intelligence insights gathered by the Canadian Trade Commissioner Service and Export Development Canada.

Information Technology (Indonesia):
Among G20 members, Indonesia is the second fastest growing economy after China and is South East Asia's largest economy with GDP of approximately US$1 trillion.

More than 60 percent of its 240 million plus people are employed, creating a competitive workforce with earning power that, in turn, forms a large, domestic market. Fifty percent of them belong to a rapidly expanding, increasingly affluent, middle class, urbanite market. Their purchasing power accounts for nearly 60 percent of GDP, a figure that continues to grow.

Indonesians' eagerness to embrace new information and communication technologies and services presents a major market opportunity for Canada's ICT companies. It is made easier by our strong, existing trade relationship with them.

Significantly, Facebook and Twitter are very popular with Indonesians. Globally, they are number three user of the former and number one of the latter. As for mobiles and internet access, the market is projected to grow by the end of this year to more than 320 million subscribers due to affordably priced gadgets and inexpensive service plans.

Serendipitously, the Toronto region has emerged during this time as a mobile apps leader with nearly 200 mobile apps development companies and 750 businesses that offer mobile content. So Indonesia, with skyrocketing demand for apps and services such as mobile media, e-commerce/m-payment and e-health, presents a robust market for Canadian companies with goods and services that can fulfill their needs and demands.

ICT companies could distinguish themselves from their competitors by creating and selling customized products that target the unique needs of Indonesian culture. An example is praying time reminder applications because Indonesia is predominantly Muslim. Other universal apps could include providing news updates and social applications enabling users to rate local venues, restaurants and shops.

Another opportunity would be servicing the needs of Indonesians living in rural areas, a demographic representing 50 percent of the population. An example is using websites of health facility partners and practitioners to provide mobile and interactive web health consultations.

Processed Food (China):
The East China region is an important agri-food export market. Comprised of the City of Shanghai and the provinces of Jiangsu, Zhejiang, Anhui and the Hubei province, its combined population is 295 million. Its GDP growth in 2013 was a respectable 8 percent approximately.

Shanghai is important for Canada as it is the port of entry for nearly one-third of our exports to China. They include grain and oilseeds, edible oils, fish/seafood, meats, Icewine and other processed food. Yet Canadian and Toronto region processed food exporters have yet to capitalize fully on this market's potential that is demand created by its rapidly expanding middle class.

In 2013, the value of agricultural products entering China through Shanghai was $US5 billion. France and New Zealand exporters alone earned nearly half of this amount. While the U.S. ranked a distant third with more than $US400 million in exports, Canada trailed behind dismally in 24th position.

Chinese food consumption is trending toward organic and health foods as well as packaged, processed, ready-to-eat and takeaway products, according to Agriculture and Agri-Food Canada. Food supply and food safety are consumers' priorities. They are willing to pay a premium for healthier foods.

Eastern China offers lucrative opportunities for Toronto region firms that have gained expertise and experience in selling unique, high-quality, specialty foods to satisfy our multicultural country's various communities' demands and requests.

Other chances include selling advanced technologies for food processing, providing lean-meat swine and supplying high-performance dairy genetics. Another is selling pork, a staple of Chinese diets. The Chinese pork industry in East China cannot keep pace and supplies only 30 percent of demand. The remaining 70 percent comes from other Chinese provinces or is imported from overseas suppliers including those here in the Toronto region.

Education & Knowledge Creation (India)

India boasts the second largest education system in the world, serving more than 1.2 billion people, many of them English speaking. More than 30 percent are school age. By 2025, it is predicted India will account for 25 percent of the world's workforce. This represents the largest working-age population in the world. Never before in our history has demand ever been this great for university and diploma degree education as well as job-ready skills training.

Canada has a unique advantage. It shares with India similar education systems due to the western world's influence on the latter's private and public schools and universities as well as technical training institutions.

Canada's schools present many advantages to Indian students including competitive fees, the ready availability of housing, a safe environment, a stable economy, reputable institutions and opportunities for post-study work and permanent residency, all conditions to which India's educational institutions aspire. They compete to attract international students including the approximately 200,000 from India who spend more than $US14 billion annually to study abroad. Only 12 percent of them choose Canada. It ranks fourth behind the U.S., the UK and Australia.

Aggressively marketing Toronto as a quality destination for Indian students is a way to boost Toronto's presence in the Education & Knowledge cluster. It is relatively less concentrated within the region compared with its North American peers, as the *TTRES* report observed.

Importantly, only 2 percent of India's total workforce has received any skills training at all. Toronto region's colleges and universities can leverage combined diploma and degree programs to offer Indian students both academic core skills and hands-on, job-specific training that colleges provide.

To achieve its goal of a gross enrolment ratio of 30 percent by 2020, India requires 80 new universities and 40,000 new colleges. So, the Indian government has allocated substantial funding for education during the next few years. It also is pursuing and encouraging greater private sector involvement thereby opening a door for Toronto region's universities and colleges to participate in this dramatic growth opportunity.

Nevertheless, India, despite its more than 1.4 million schools and more than 3,500 colleges and universities, still lacks the educational infrastructure necessary to keep pace with the exploding needs of its growing population. Distance and e-learning programs are obvious potential solutions to this problem. Key opportunities also include fulfilling demands of content development, teacher training, pedagogy, new technology, corporate training and certification.

Policy Implications

Fortunately, this analysis aligns well with the current strategy of the federal and provincial governments. First, many countries that encompass the four high-growth regions identified above are already trade promotion targets of the Canadian Government. In its *GMAP*, released in 2013, the government used economic modeling to identify markets with high-growth potential given Canadian industrial capabilities and competitive advantages.[30] The list of emerging markets with broad Canadian interests included many in the Asia Pacific region (China, India, Indonesia, Malaysia, Singapore, South Korea, Thailand, and Vietnam) and in the Middle East and Africa (Israel, Saudi Arabia, South Africa, and United Arab Emirates).

A key feature of the Government of Canada's GMAP is the use of economic diplomacy to promote greater trade with emerging markets. As the plan states: "all diplomatic assets of the Government of Canada will be marshalled on behalf of the private sector in order to achieve the stated objectives within key foreign markets."[31] Through this plan, the government is also pursuing free trade agreements and other trade-related agreements, including foreign investment promotion and protection agreements (FIPA).

In this regard, the federal government should be praised for its efforts to expand the number of free trade agreements ratified by the country. Canada now has free trade agreements in force with 10 countries and is in discussions with 60 others, including those involved in the Trans-Pacific Partnership talks. Additionally, Canada has concluded negotiations with the European Union on the Comprehensive Economic and Trade Agreement (CETA), Canada's most ambitious trade initiative yet. This agreement will come into force in 2016 if it is approved by the European Council and European Parliament. With each trade agreement Canada signs, Canada's export potential expands and the competitive pressure on the country's firms is increased.

Also through this plan, the government will assist Canadian SMEs in successfully making the leap into exporting. It will also help them expand into new markets by developing comprehensive market access reports identifying opportunities and challenges. This is important because, as we have seen, the vast majority of Canadian SMEs are not currently exporting.

Likewise, Ontario also released its trade strategy in 2013, part of the government's plan to promote jobs and growth. Specifically, the objective of the government's strategy is to get more of the province's firms to "go global".[32] The government recognizes Ontario's traditional trade partners are experiencing slower growth, while emerging markets are expanding at much faster rates. The Ministry of Economic Development Employment and Infrastructure and other ministries have programs and services to help companies at every stage of the export process.

Again, similar to the federal government, the goal of the province's "Going Global" strategy is to improve Ontario's export performance by helping Ontario's SMEs. The provincial government has also identified priority markets and sectors where Ontario companies have a competitive advantage. The ultimate objective of the "Going Global" trade strategy is for Ontario companies to capture a larger share of world exports.

The Toronto Region Board of Trade (the Board) is doing its part to help SMEs to expand to international markets. The Board is embarking on a multi-year initiative called the Trade Accelerator Program (T.A.P. GTA) during the next three years.

This analysis agrees with the government's current strategy of pursuing greater trade with emerging markets, particularly with Asia. But Canadian companies (and by extension Ontario businesses) do not appear to be tightly linked into Asian supply chains; we import predominately final goods and export mostly raw materials.[33] Therefore, policymakers should pursue domestic policies that optimize Canadian firms' chances of taking advantage of global supply chain opportunities.[34]

30 Government of Canada, *Global Markets Action Plan*.
31 Ibid., p 11.
32 Government of Ontario, *Going Global: Trade Strategy*.
33 Goldfarb and Theriault, *Canada's Missing Trade with Asia*, p 18.
34 Ibid, p 28.

The government could help businesses maximize opportunities by ensuring appropriate trade facilitating infrastructures — both physical and technological — are in place.[35] The government could also boost trade by promoting two-way foreign direct investment, since foreign affiliate sales are an important component of bilateral trade.[36]

That said, business leaders can also do their part to boost exports, particularly to fast-growth markets like Asia. For instance, Ontario's companies need to have a well-informed and flexible "Asia strategy."[37] For a large business, this could mean having a physical presence in the region; for a smaller company, it could mean linking with an established provincial player that's already doing business there.

There are also more general policies that can be implemented to boost Ontario's trade performance and promote export market diversification. First, Ontario's export performance with Asia — and other emerging markets — could be aided by policies improving immigrant engagement in the province's economy. Toronto and Ontario are home to a very large foreign-born population. They should be a key asset, but the quantitative analysis cannot show a significant connection between the foreign-born population and exports to their native countries. This is in contrast to studies done for other jurisdictions. (See Chapter 7).

Second, improvements in infrastructure could also bolster the province's trade performance. It is well known improvements in transportation infrastructure can help boost trade. But other forms of infrastructure also play vital roles. This includes ICT infrastructure. In today's increasingly globalized and connected world, ICT is essential for smooth trade operations, helping to determine the ease with which exporters can access global logistics networks.

Analysis conducted in this report shows that, when ranked among the same 24 comparator regions as in the rest of this report, Toronto sneaks into the top ten and is the highest-ranked Canadian city. (See Chapter 8). Despite this relatively high ranking, the analysis suggests that Toronto's ICT penetration could be improved by policies that enhance mobile broadband usage.

The results of this year's special lens calls into question whether Ontario and the Toronto region are taking full advantage of the benefits of globalization. Although proximity will continue to dictate that most of Ontario's trade will be with the U.S., a small, open economy such as Toronto that relies on external demand for growth needs to take advantage of opportunities elsewhere as well.

35 Ibid.
36 Ibid.
37 Ibid.

In Focus 1:
The Canadian Pension Plan Investment Board (CPPIB): Investing Internationally with Canada's Global Roots

Did You Know?

- More than 70 percent of Canadian Pension Plan assets are invested internationally
- CPPIB has five offices outside of Canada
- Via the CPPIB, Canadians have large shares in firms headquartered in India, Chile, Brazil, Germany, Hong Kong, etc.

These facts reflect the CPPIB strategy of seeking new sources for returns through portfolio diversification. The Canadian market is not large enough to generate returns that satisfy the institution's mandate, and therefore global investments are imperative rather than optional. The CPPIB stresses the importance of international knowledge as a key to success. It views workforce multilingualism and multiculturalism as a strength, as nearly 75 percent of its senior employees have international experience. The case of the CPPIB illustrates that firms located in Toronto can profit from seeking employees with expertise in global markets. Luckily, they do not need to search abroad. Toronto has a highly diverse population which is growing — approximately 50 percent of Torontonians were born abroad — and roughly 100,000 immigrants arrive in Toronto every year. The city's cosmopolitan labour force is highly skilled and well connected globally.

Reference:

Mark Wiseman's speech from the 127th Annual Toronto Region Board of Trade Dinner

In Focus 2:
Return Migration from Canada to Hong Kong Presents Great Opportunities

According to the 2011 National Household Survey released by Statistics Canada, the number of Hong Kong-born Canadian residents has changed significantly. Largely attributable to return migration, the population has declined from 241,000 in 1996 to 209,000 in 2011. This fact is not necessarily disconcerting. Some return migrants have solid ties to the Canadian firms, which can stimulate trade flows across the Pacific and contribute to the development of Canadian businesses. Consider the example of Christian Yan, the COO and co-founder NanoLeaf Ltd., a Toronto-based green technology start-up that developed the world's most energy-efficient lightbulb (Nanoleaf One), and a dimmable lightbulb that does not require a dimmer switch (Nanoleaf Bloom) (Nanoleaf, n.d.A,B). He relocated from Toronto to Hong Kong, and along with his partners was able to expand their business in the Asia-Pacific region. They established a production line in Dongguan, where they also and stationed their engineers and quality production managers. Yan states that the advantage of residing in Hong Kong is that it is near to Dongguan, so that production could be closely monitored and issues could be resolved quickly. NanoLeaf has distribution partners in the Canada, Germany, Scandinavia, the United States, and Dubai, and it will enter the Australian and Chinese markets this year. It currently has 50,000 units of product under development for international sale (Leung, 2015). Moreover, NanoLeaf sparked the attention of Hong Kong billionaire Li Ka-shing, who invested in the start-up in 2014 through his Horizon Ventures private equity investment fund (LeahRae, 2014).

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In Focus 3:
Canada Goose – Canadian Roots and Global Branches

Founded in a small Toronto warehouse in 1957, Canada Goose has grown into a prestigious international brand with estimated annual sales of $CAD 200 million. The firm's products are already sold in more than 50 countries, and the company's CEO is seeking opportunities to expand to markets in the United States and Asia. Canada Goose has an international workforce, employing in excess of 1,000 people. Despite the industrial trend of outsourcing manufacturing operations to locations with relatively low labour costs, Canada Goose's merchandise is almost exclusively produced in Toronto and Winnipeg or contracted out within Canada. Expecting 40 percent growth increases in its chief markets, the company obtained a 45,000 square foot manufacturing facility in Toronto in January 2015. Moreover, the CEO anticipates adding approximately 50,000 square feet to its other manufacturing facility later this year.

Fun Fact: In December 2013, the formerly family-owned company sold a majority stake to American investment firm Bain Capital, LLC. in order to acquire the finances necessary for growth.

Fun Fact: The Canada Goose Brand has been donned by celebrities such as Hip-Hop and R&B artist Drake and model and actress Kate Upton.

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7 | DO ONTARIO'S IMMIGRANTS INFLUENCE THE PROVINCE'S EXPORT VOLUMES?

Ontario has a very diverse population, thanks to the thousands of immigrants that move to Ontario (predominately to Toronto region) every year. Immigrants tend to have very close ties to their native countries, which should give Ontario companies an edge in opening export markets. Does Ontario's (and by extension Toronto's) diverse population help it to diversify its export destination portfolio? This can be tested empirically.

Toronto is one of the most ethnically and culturally diverse cities in the world. Toronto is the main gateway to Canada, as a majority of Canadian immigrants choose to land in Toronto. Now nearly half of the region's population is foreign born. As we saw in the benchmarking analysis, 47.9 percent of Toronto residents identify themselves as foreign born, the largest share among the 24 comparator regions. Canada's population is ageing, so net migration will continue to rise and so too will the share of the population that is foreign born.

The latest picture of Toronto's population mix was provided to us by the 2011 National Household Survey (NHS). As mentioned above, nearly 48 percent of Toronto's population identified as foreign-born. Not surprisingly, Toronto is more diverse than Ontario as a whole (30 percent) and Canada as a whole (22 percent).

India is Toronto's largest source of immigrants. (See Table 5). In 2011, nearly 280,000 native Indians called Toronto home. When coming to Canada, Toronto is the preferred destination for Indians; more than one-third of Indian Canadians call Toronto home. They now account for 5.1 percent of Toronto's population.

China is Toronto's second largest source of immigrants. Some 237,000 native Chinese live in Toronto, accounting for 4.3 percent of the region's total population. The Philippines is the third largest source.

According to the 2011 NHS, there were some 185,000 Filipinos living in Toronto that year, 3.4 percent of the region's total population. The United Kingdom and Italy rank fourth and fifth, respectively, each accounting for 2.1 percent of Toronto's total population.

The mix of Ontario and Canada's foreign-population follows a similar pattern, with a few exceptions. Although India is the largest source of immigrants for Ontario, China wins those honours for Canada as a whole. Residents from the U.S. account for about 1 percent of Toronto, Ontario, and Canada's population. That's enough to place it in the top 5 for Canada as a whole, but only 15th for Toronto.

Now that we have firmly established that Toronto and Ontario have diverse populations, we turn to Ontario's trade patterns. Specifically, we want to answer the following question: has Ontario fully harnessed its diverse population by diversifying its trade away from the U.S.?

Table 5: Major Places of Birth (2011)

	Toronto	Ontario	Canada
Total population	**5,521,235**	**12,651,790**	**32,852,325**
Foreign-born	**2,642,910**	**3,779,630**	**7,217,295**
India	279,425	323,665	572,435
China	237,025	284,840	585,555
Philippines	185,085	218,660	502,295
United Kingdom	116,655	301,120	559,455
Italy	116,240	172,475	260,250
Sri Lanka	105,565	112,905	135,400
Pakistan	99,295	117,345	161,380
Hong Kong	99,285	107,810	209,775
Jamaica	97,660	113,495	129,125
Portugal	73,740	105,035	140,310
Guyana	72,090	80,910	88,920
Poland	64,095	103,130	154,395
Iran	60,785	72,140	125,825
Viet Nam	60,555	81,075	168,420
U.S.	55,630	135,435	316,165
South Korea	48,785	62,060	132,940
Trinidad and Tobago	46,915	55,880	68,790
Russian Federation	35,200	43,000	75,350
Ukraine	31,795	39,745	67,335
Greece	31,185	39,725	67,245
Germany	27,635	75,255	171,870
Bangladesh	25,560	31,025	47,180
Romania	24,515	41,065	83,860
Iraq	22,145	37,405	50,980

Source: 2011 National Household Survey, Statistics Canada.

Do Immigrants Help with Export Diversification?

Culture and language play important roles in determining bilateral trade volumes. Everything else being equal, sharing a common culture and language should lead to higher volumes of exports and imports. This begs the question: do immigrants to Ontario help knock down the language and culture barriers that exist between the province and their native countries, and thus boost export volumes to countries other than the U.S.? This report will focus on Ontario immigrants and exports, leaving aside the notion that immigrants may also boost imports.

Previous studies have found that immigrants are associated with increased trade flows to their home countries.[38] They are thought to increase trade flows through two mechanisms.[39] First, immigrants bring with them a preference for native country products, which increases the demand for imports. Second, immigrants have contacts in and knowledge of their native country, including language abilities that can be used to increase both imports and exports.

Research conducted by The Conference Board of Canada (TCBoC) has confirmed these findings. A 2014 briefing found Small-Medium Enterprises (SMEs) begun by immigrants who have arrived in Canada within the past five years are more likely to trade with countries other than the U.S. Specifically, the study found 12 percent of immigrant-owned businesses export goods and services to markets beyond the U.S. versus 7 percent of businesses owned by non-immigrants. At the same time, about 19 percent of immigrant-owned businesses exported compared to 14 percent of other SMEs. The study found that these non-U.S. immigrant exporters are predominately located in Ontario and Quebec.

Similarly, a 2013 briefing showed that immigrants to Saskatchewan influenced provincial trade patterns.[40] The number of immigrants living there was positively associated with increased exports to their native countries; the results implied that a 1 percent increase in the number of immigrants living in Saskatchewan would be associated with a 0.36 percent increase in the value of exported goods.

Do immigrants in Ontario influence trade the same way as immigrants do in Saskatchewan? Using a gravity model, this *Scorecard* will estimate whether Ontario's immigrants have a statistically significant effect on the province's export volumes.

The gravity equation, a standard feature of trade research, is referred to as such because it draws its inspiration from the law of gravity in physics. The law of gravity states that the force of gravity between two objects is proportional to the product of the masses of the two objects and inversely proportional to the square of the distance between them.

Interestingly, the gravity equation works well when we replace the force of gravity with the value of exports and imports between two countries and the masses with the trade partners' Gross Domestic Product (GDP). Distance is the distance in kilometres (km) between the two countries. Thus, gravity equations in the trade realm model export and import volumes on both size and distance.

It has become common practice to include other indicators besides size and distance in the gravity equation, in the form of dummy variables, which are also suspected of influencing trade. A dummy variable is a variable that takes the value 0 or 1 to indicate the absence or presence of a particular attribute (like male or female) that may be expected to shift the outcome of the gravity equation results. We include several dummy variables in our analysis:

1. **Spoken language**: 1 if at least 20 percent of the population speaks English; 0 otherwise
2. **The presence of Canadian trade offices**: 1 if a Canadian trade office is present; 0 otherwise
3. **Bilateral free trade agreement**: 1 if Canada and the country have a bilateral free trade agreement; 0 otherwise
4. **World Trade Organization (WTO) membership:** 1 if the country is a member of the WTO; 0 otherwise
5. **Former colonial relationship:** 1 if the country has a former colonial relationship with Canada; 0 otherwise
6. **Landlocked status:** 1 if the country is landlocked; 0 otherwise.

38 See, for example, Akbari and Hyder, *Trade and Emigration From a Developing Country*; Head and Ries, *Immigration and Trade Creation*; and Peri and Requena-Silvente, *The Trade Creation Effect of Immigrants*.
39 Gould, *Immigrant Links to the Home Country*, p 303.
40 Parkouda, *The Influence of Immigrants on Trade Diversification in Saskatchewan*.

Our first step is to estimate a gravity equation with eight dependent variables: GDP, distance, and the six dummy variables described above. We have data on 173 countries. Table 6 features the summary results for our gravity equation.

Table 6: Summary of Gravity Equation Results for 173 Countries, 2011

Significant Variables	Insignificant Variables
GDP	WTO membership
Distance	Colony
Spoken language	Landlocked
Trade office	**All Immigrants**
Free trade agreement	

Source: The Conference Board of Canada.

We can see four series are statistically highly significant at the 1 percent level (have less than a 1 percent chance of being wrongly considered significant) — GDP, distance, spoken language, and trade office. One series — free trade agreement — is significant at the 5 percent level (has less than a 5 percent chance of being wrongly considered significant). According to this equation, these five series influenced Ontario's export volumes in 2011. Three variables were insignificant: WTO membership, colonial relationship, and land-locked status.

Our next step is to remove the three variables that are statistically insignificant and then add total immigrants in Ontario to the equation. Total immigrants are sourced from Statistics Canada's 2011 National Household Survey. In essence, this gravity equation estimates whether Ontario immigrants significantly influenced Ontario's export volumes to 173 countries in 2011, controlling for other factors that also may influence export volumes. See Appendix B for more detail.

Given the high p-value on the all immigrants is variable, the results of this gravity equation suggest that, unlike in Saskatchewan, all immigrants in Ontario do not have an important influence on exports. Although previous TCBoC research showed recent immigrant-run businesses are more likely to trade with countries other than the U.S. than Canadian-born run businesses, this is still not enough of a difference to statistically influence Ontario's total export volumes.

Policy Implications

What are the policy implications behind the fact Ontario's immigrants (and by extension Toronto's) do not significantly influence the province's export volumes? As mentioned in previous *Scorecards*, the Toronto Region Board of Trade (the Board) has called for a better match between the skills of Toronto's labour force and skills demanded by the market place. *Scorecard 2013* pointed to Toronto's failure to capitalize on the skills and talents of newcomers, noting that although more than 55 percent of new immigrants have a university degree, many are under-employed. Putting the skills of immigrants to work would also help Toronto and Ontario's immigrants have a bigger influence on the region's and province's export performance.

Immigrants have an important role to play in Ontario's export agenda. The fact immigrant-led business are more likely to trade beyond the U.S. shows there is potential for immigrants to play a key role in helping Ontario boost its export volumes. As recommended previously by TCBoC, the financing of innovative non-U.S. immigrant exporters warrants special attention when formulating export promotion policies in Ontario.[41]

41 Sui and Morgan, *Selling Beyond the U.S.: Do Recent Immigrants Advance Canada's Export Agenda?*, p 21.

8 | BENCHMARKING INFORMATION COMMUNICATION TECHNOLOGY PENETRATION

One area is clearly growing in importance and will play an expanding role in determining how successful cities will be at boosting trade — Information Communication Technology (ICT), that is ICT penetration — the pervasiveness of technology such as the internet, computers, and smart phones in society and the economy. ICT penetration is an important indicator because investment in, and smart use of ICT has the ability to increase trade and productivity, in turn, boosting living standards. Indeed, ICT penetration and innovation are closely linked — being strong in one usually means being strong in the other. Cities with economies driven by innovative technology have been very successful in recent years. This trend is expected to continue.

The growth of the knowledge economy is inextricably linked to the ICT revolution. Knowledge-based jobs — jobs that are directly based on the production, distribution and use of knowledge and information — are accounting for a rising share of total employment. Examples of knowledge workers include doctors, lawyers, engineers, senior managers, accountants, scientists, and academics. These are workers who "think for a living." Knowledge-based jobs are supported, complemented, and even amplified by information and communication technology. Indeed, work in general is becoming more cognitive in nature, thanks largely to the influence of ICT.

There is an increasing demand for more highly-skilled ICT workers. They will be attracted to cities that are strong economically and offer a high-quality of life, attributes that are measured in our Economy and Labour Attractiveness themes. In addition, knowledge workers will be attracted to, and thrive in cities with enhanced ICT infrastructure. Given these reasons, and the fact that ICT can also influence trade performance, it is important to know how Toronto fares against other major global cities in this regard.

It stands to reason that cities with high ICT penetration will enjoy brighter futures. That is why we benchmark Toronto on ICT penetration against the same set of global cities as in the economy and labour attractiveness rankings. The "ICT penetration lens" comprises the following seven indicators compiled by the innovation firm 2thinknow:

- Internet protocol (IP) addresses per capita
- Fixed broadband users per capita
- Mobile broadband users per capita
- Maximum advertised speed of a typical internet connection
- Wi-Fi users per 100,000 population
- Twitter usage density
- Government IT policy score (measures how supportive the policy environment is for the ICT sector)

Table 7: Information Communication Technology (ICT) Penetration (Overall Ranking)

Rank	Metro Area	Grade (normalization score)	
1	San Francisco	A	0.67
2	London	B	0.55
3	Hong Kong	B	0.44
4	Boston	C	0.41
5	New York	C	0.40
6	Seattle	C	0.40
7	Chicago	C	0.40
8	Oslo	C	0.39
9	Los Angeles	C	0.38
10	**Toronto**	**C**	**0.36**
11	Dallas	C	0.36
12	Stockholm	C	0.34
13	Tokyo	C	0.34
14	Halifax	C	0.34
15	Calgary	C	0.31
16	Vancouver	D	0.31
17	Paris	D	0.29
18	Montréal	D	0.27
19	Berlin	D	0.26
20	Barcelona	D	0.25
21	Sydney	D	0.23
22	Milan	D	0.19
23	Shanghai	D	0.19
24	Madrid	D	0.19

Source: The Conference Board of Canada.

Who's Best?

It is not surprising **San Francisco** dominates this list. (See Table 7). It ranks first and is so far ahead of every other region that it is the only one to earn an overall "A" grade. The San Francisco region includes Silicon Valley, home to some of the world's biggest high tech companies such as Apple, Facebook, Google, and Intel. Thus, its high ICT penetration is to be expected. San Francisco's dominance runs through most indicators; it ranks no lower than fifth in six of seven indicators, and finishes first in three of these.

San Francisco can boast 6.1 IP addresses per person, over 2.3 times more than second place Oslo. San Francisco also has the highest number of fixed and mobile broadband users per capita among the 24 comparator regions. In addition, the U.S. government is considered to have the most supportive policy environment for the information technology sector. Thus, San Francisco is tied for first with the other U.S. cities in this category. Not surprisingly, the region also has a strong social media presence, finishing second in Twitter usage density. Finally, San Francisco has the second highest number of business grade Wi-Fi hotspots per capita.

London has the second highest ICT penetration among the 24 comparator regions, receiving an overall "B" grade. It leads all cities with the highest number of business grade Wi-Fi hotspots, with 476 per 100,000 population. This is two-and-a-half times more than second place San Francisco. Like San Francisco, the city has a strong social media presence, boasting the highest Twitter usage density. In addition, London ranks in the top half in most other indicators. An exception is maximum advertised speed, where it finishes last.

Hong Kong is third and the only other region to earn a "B" grade. Its best result is a first place finish in maximum advertised speed. Indeed, at 300,000 kbit/second, Hong Kong's maximum average speed is three times faster than second place Berlin. Not surprisingly, it is the only metropolitan area to receive an "A" grade in this category. Hong Kong has the fourth highest number of IP addresses per capita among the 24 comparator regions, although it still rates as a "D" grade given San Francisco's world-beating performance. Its weakest performance is in Twitter usage density, where it finishes second last, outranking only Shanghai.

Boston, another major U.S. city, finishes fourth overall. It receives an "A" grade in government IT policy score, along with the other American cities, as the U.S. government is considered to have the most supportive policy environment for the information technology sector. Boston ranks third in the number of business grade Wi-Fi hotspots per 100,000 population, though it still earns a "C" grade on this indicator. At the same time, it finishes seventh and earns a "B" grade on the number of mobile broadband users per capita. Holding Boston back are relatively poorer outcomes in maximum advertised speed and in the number of IP addresses per capita.

Ranking fifth is **New York**, the third U.S. city among the top five. It receives an "A" grade in government IT policy score, like San Francisco and Boston. New York also earns two "B" grades in the number of fixed broadband users per capita and the number of mobile broadband users per capita. Its Twitter usage density is also relatively high, although it still earns a "D" grade here. The region's lowest ranking is in maximum advertised speed, where it shares its struggles with the other U.S. cities.

Canadian cities are middle-of-the-pack performers in the ICT penetration scorecard. **Toronto**, in 10th place, is the highest ranking Canadian city. **Halifax**, **Calgary**, and **Vancouver** rank 14th through 16th, respectively, while **Montréal**, the lowest ranking Canadian city, places 18th. Toronto, Halifax, and Calgary earn "C" grades, while Vancouver and Montréal receive "D" grades.

At the other end of the spectrum, nine comparator regions, including the two Canadian cities, receive overall "D" grades. **Milan**, **Shanghai**, and **Madrid** rank in the bottom three. Last place Madrid places in the bottom half in all seven indicators, receiving three "C" grades and four "D" grades.

Focus on Toronto

Overall, Toronto squeaks into the top ten and earns a "C" grade. This suggests the region's rate of ICT penetration, though not in the same league as San Francisco's, is still relatively strong. The region is home to a fairly large high tech sector; recall that Toronto finishes ninth in the high-tech employment indicator in the Economy domain. It does even better in terms of professional employment, a cohort which encompasses a large share of knowledge workers, ranking fifth with an "A" grade. More and more, workers in knowledge-based sectors (including high tech and professional services) require heavy investment in ICT to compete globally. Thus, Toronto's relatively high ICT penetration ranking is an asset.

Toronto's best result is a fourth place finish in Twitter usage density, suggesting that the population has strong engagement with the internet. It also ranks highly in the number of fixed broadband users per capita, finishing fifth overall. The city also boasts a relatively high number of IP addresses per capita, ranking sixth on this indicator. Finally, along with the other Canadian cities and Berlin, Toronto enjoys one of the fastest maximum advertised speeds, ranking behind only Hong Kong in this category.

On the other hand, Toronto ranks among the bottom ten regions in two indicators: the number of mobile broadband users per capita and the number of business grade Wi-Fi hotspots per 100,000 population. Toronto's positioning in these categories could be partly explained by high cellphone pricing plans, relative to other countries. In a 2013 comparison of cell phone service plans, the OECD found that Canada ranks among the ten most expensive countries within the OECD in most categories.[42] The report also showed that Canada ranks last in the Organization for Economic Co-operation and Development (OECD) in wireless subscriptions per 100 inhabitants, second last in households with a mobile telephone, and 23rd out of 34 in wireless broadband subscriptions per 100 inhabitants. Further investments in this area may vault Toronto from a middle-of-the-pack performer to somewhere closer to the top of the rankings. But even now, Toronto compares favourably against many of its global peers in terms of ICT penetration, and perhaps this strength could be utilized to boost the region's export performance.

42 Organization for Economic Co-operation and Development (OECD), *OECD Communications Outlook 2013*.

ICT Indicators	Definition	Significance	What About Toronto?	The Grade					
Internet Protocol (IP) addresses per capita # cities ranked: 24	An IP address is a numerical label assigned to devices that participate in a network. Thus, this indicator measures the number of networked devices per person.	A higher IP address per capita figure suggests greater ICT penetration.	**Toronto** ranks 6th out of 24, but earns a "D" grade. In fact, 21 of the regions get a "D" grade. San Francisco, the heart of Silicon Valley, is so far ahead of every other metro region, with 6.1 IP addresses per person, that it is the only one to receive an "A" grade. No regions get a "B" grade, while only Oslo and Calgary receive "C" grades.	1. San Francisco	A	(6.1)	13. Sydney	D	(1.0)
				2. Oslo	C	(2.6)	14. Vancouver	D	(1.0)
				3. Calgary	C	(1.8)	15. Chicago	D	(0.9)
				4. Hong Kong	D	(1.6)	16. Berlin	D	(0.8)
				5. Halifax	D	(1.5)	17. Boston	D	(0.7)
				6. Toronto	**D**	**(1.4)**	18. London	D	(0.6)
				7. Tokyo	D	(1.3)	19. Madrid	D	(0.6)
				8. Stockholm	D	(1.2)	20. Shanghai	D	(0.5)
				9. New York	D	(1.1)	21. Los Angeles	D	(0.5)
				10. Montréal	D	(1.1)	22. Barcelona	D	(0.4)
				11. Seattle	D	(1.1)	23. Paris	D	(0.4)
				12. Dallas	D	(1.0)	24. Milan	D	(0.3)
Fixed broadband users per capita # cities ranked: 24	A fixed broadband connection is a connection to the internet using a cable, T1 or DSL line, or a coaxial cable.	The higher fixed broadband connections per capita the greater public and business engagement with the internet.	**Toronto** ranks 5th among the 24 comparator regions, good enough for a "B" grade. San Francisco, Paris, Oslo and Calgary finish ahead of Toronto. Shanghai finishes last.	1. San Francisco	A	(0.43)	13. New York	B	(0.31)
				2. Paris	A	(0.42)	14. Dallas	B	(0.30)
				3. Oslo	A	(0.38)	15. Seattle	B	(0.30)
				4. Calgary	B	(0.36)	16. Boston	B	(0.30)
				5. Toronto	**B**	**(0.35)**	17. Los Angeles	B	(0.30)
				6. Vancouver	B	(0.35)	18. Chicago	C	(0.29)
				7. Montréal	B	(0.35)	19. Tokyo	C	(0.29)
				8. Berlin	B	(0.35)	20. Barcelona	C	(0.27)
				9. Halifax	B	0.35)	21. Madrid	C	(0.26)
				10. Stockholm	B	(0.34)	22. Sydney	C	(0.25)
				11. London	B	(0.32)	23. Milan	C	(0.23)
				12. Hong Kong	B	(0.31)	24. Shanghai	D	(0.17)
Mobile broadband users per capita # cities ranked: 24	A mobile broadband connection is a wireless connection through a mobile phone, tablet, or other mobile device.	The higher mobile broadband connections per capita the greater public and business engagement with the internet.	**Toronto** ranks 19th with a "C" grade, with 0.55 mobile broadband users per capita. In comparison, San Francisco ranks first with 1.47 mobile broadband users per person. This ratio is above 1 for all U.S. cities, as well as for Stockholm, Tokyo, and Sydney. Shanghai ranks last.	1. San Francisco	A	(1.47)	13. London	C	(0.69)
				2. Stockholm	B	(1.14)	14. Madrid	C	(0.69)
				3. Tokyo	B	(1.14)	15. Milan	C	(0.68)
				4. Sydney	B	(1.11)	16. Hong Kong	D	(0.62)
				5. New York	B	(1.06)	17. Paris	D	(0.61)
				6. Dallas	B	(1.04)	18. Calgary	D	(0.57)
				7. Seattle	B	(1.04)	**19. Toronto**	**D**	**(0.55)**
				8. Boston	B	(1.03)	20. Vancouver	D	(0.55)
				9. Los Angeles	B	(1.03)	21. Montréal	D	(0.55)
				10. Chicago	B	(1.02)	22. Halifax	D	(0.55)
				11. Oslo	B	(0.95)	23. Berlin	D	(0.45)
				12. Barcelona	C	(0.71)	24. Shanghai	D	(0.34)
Maximum advertised speed (Kbit/seconds) # cities ranked: 24	This measures the speed of the average internet connection. The unit of measure is kilobits per second, which is the average number of kilobits that pass in a data transmission system every second.	A faster internet connection comes with many benefits, including higher quality video transmission and greater productivity for a multitude of tasks.	**Toronto** is tied in 2nd with the other Canadian cities and Berlin, with an advertised speed of 100,000 kbit/seconds. This group receives "C" grades. Hong Kong is so far ahead, it is the only region to earn an "A" grade, and no regions can claim a "B".	1. Hong Kong	A	(300,000)	13. Barcelona	D	(42,000)
				2. Berlin	C	(100,000)	13. Boston	D	(42,000)
				2. Calgary	C	(100,000)	13. Chicago	D	(42,000)
				2. Halifax	C	(100,000)	13. Dallas	D	(42,000)
				2. Montréal	C	(100,000)	13. Los Angeles	D	(42,000)
				2. Toronto	**C**	**(100,000)**	13. Madrid	D	(42,000)
				2. Vancouver	C	(100,000)	13. New York	D	(42,000)
				8. Sydney	C	(87,000)	13. Paris	D	(42,000)
				9. Oslo	D	(80,000)	13. San Francisco	D	(42,000)
				9. Stockholm	D	(80,000)	13. Seattle	D	(42,000)
				11. Tokyo	D	(75,000)	23. Shanghai	D	(12,000)
				12. Milan	D	(43,200	24. London	D	(7,200)

ICT Indicators	Definition	Significance	What About Toronto?	The Grade					
Business grade Wi-Fi hotspots per 100,000 population # cities ranked: 24	A business grade Wi-Fi hotspot is a wireless internet connection likely to be used for business purposes.	The greater the number of business grade Wi-Fi hotspots, the greater the ICT penetration.	**Toronto** ranks 18th and earns a "D" grade, its lowest ranking among these eight indicators. The city has 34 business grade Wi-Fi hotspots per 100,000 population, well below the leader London's 476. London is also the only city to earn an "A" grade. San Francisco finishes second and gets a "C" grade. Barcelona finishes last.	1. London	A	(476)	13. Berlin	D	(77)
				2. San Francisco	C	(179)	14. Dallas	D	(71)
				3. Boston	C	(169)	15. Stockholm	D	(54)
				4. Shanghai	C	(146)	16. Calgary	D	(50)
				5. Tokyo	C	(144)	17. Paris	D	(43)
				6. Oslo	C	(130)	**18. Toronto**	**D**	**(34)**
				7. Chicago	D	(125)	19. Madrid	D	(17)
				8. Los Angeles	D	(93)	20. Vancouver	D	(16)
				9. Hong Kong	D	(84)	21. Milan	D	(15)
				10. Halifax	D	(81)	22. Sydney	D	(13)
				11. New York	D	(79)	23. Montréal	D	(11)
				12. Seattle	D	(79)	24. Barcelona	D	(11)
Twitter usage density (algorithm) # cities ranked: 24	Measures the intensity of Twitter usage among the population in each city.	Greater engagement on Twitter is a proxy for overall engagement in social media and greater internet engagement overall.	**Toronto** ranks 4th, but receives a "D" grade. London's Twitter usage density is so high that it is the only city to earn an "A" grade. The remaining 23 cities get "D" grades. The three Asian cities rank last.	1. London	A	(3,382)	13. Dallas	D	(328)
				2. San Francisco	D	(758)	14. Oslo	D	(305)
				3. Halifax	D	(743)	15. Montréal	D	(301)
				4. Toronto	**D**	**(634)**	16. Stockholm	D	(215)
				5. Calgary	D	(633)	17. Berlin	D	(202)
				6. Seattle	D	(587)	18. Madrid	D	(195)
				7. Sydney	D	(556)	19. Barcelona	D	(187)
				8. New York	D	(555)	20. Milan	D	(162)
				9. Vancouver	D	(547)	21. Paris	D	(161)
				10. Boston	D	(495)	22. Tokyo	D	(104)
				11. Los Angeles	D	(488)	23. Hong Kong	D	(48)
				12. Chicago	D	(438)	24. Shanghai	D	(9)
Government IT policy score # cities ranked: 24	This is an index calculated by 2thinknow that measures how supportive the policy environment is for the ICT sector.	A government highly supportive of IT innovation should boost ICT penetration.	**Toronto** finishes tied for 10th in this category, earning a "B" grade. American cities dominate the rankings, enjoying the strongest government support. Also ranking high are Shanghai, Hong Kong, Barcelona, and London. Sydney ranks last.	1. Boston	A	(2,260)	13. Vancouver	B	(1,710)
				1. Chicago	A	(2,260)	14. Halifax	C	(1,610)
				1. Los Angeles	A	(2,260)	14. Milan	C	(1,610)
				1. New York	A	(2,260)	14. Paris	C	(1,610)
				1. San Francisco	A	(2,260)	14. Stockholm	C	(1,610)
				1. Seattle	A	(2,260)	14. Tokyo	C	(1,610)
				1. Shanghai	A	(2,260)	19. Madrid	C	(1,460)
				8. Dallas	A	(2,060)	19. Montréal	C	(1,460)
				9. Hong Kong	B	(1,960)	19. Oslo	C	(1,460)
				10. Barcelona	B	(1,910)	22. Berlin	D	(1,410)
				10. London	B	(1,910)	22. Calgary	D	(1,410)
				10. Toronto	**B**	**(1,910)**	24. Sydney	D	(1,160)

Sources: 2thinknow; The Conference Board of Canada.

9 | CONCLUSION

The results of this seventh *Scorecard on Prosperity* confirm that Toronto remains one of the world's most attractive global metropolises. This overall ranking of fifth place, while down two spots from *Scorecard 2014*, puts Toronto in very strong company with the likes of Paris, Stockholm, Calgary and Oslo. Toronto is ahead of all seven U.S. metros in the overall benchmarking results, which puts it in a privileged position within North America.

However, Toronto region's initiatives must reach beyond North America. Ontario's heavy reliance on the U.S. as a trade partner and the failure to expand to other fast-growing export markets and exploit them, particularly those located in Asia, helps explain why the 2000s were largely a lost decade for provincial trade. The U.S. economic recovery appears to be picking up steam and, combined with a sliding Canadian dollar, should benefit Ontario exporters, whose headquarters and operations are concentrated in the Toronto region. While the province cannot afford to ignore its traditional export markets, like the U.S., a key component of any export strategy for Ontario is to seize opportunities in new markets, particularly high-growth markets.

For instance, China was the main engine of global economic growth between 2008 and 2012. Other parts of Asia also are posting strong gains. Unfortunately, the province's exporters did not take advantage of this opportunity. Indeed, Ontario's share of Chinese imports fell steadily during the past ten years. Thus, one area of strategic focus for Ontario policymakers and businesses alike would be to address the province's export shortfall with Asia in general and China in particular.

Fortunately, both the federal and Ontario's provincial governments have developed strategies to help them expand to fast-growth markets, thereby boosting the export performance of Canadian and Ontario businesses. Additionally, the Board is developing its own initiative — the Trade Accelerator Program (T.A.P. GTA) — to help Toronto region businesses sell their goods and services beyond the country's borders.

This analysis makes clear the fundamental need for these strategies. Canada, Ontario, and the Toronto region have been hampered by weak productivity growth for many years now. This situation must be reversed because productivity growth is the only sustainable way to improve living standards. Improving the country's trade performance is one way to spur stronger productivity gains. Expanding trade can boost businesses' productivity growth in several ways: by increasing competition, by opening access to global knowledge and best practices, and by encouraging foreign direct investment (both inward and outward).

Toronto is well positioned to take advantage of global markets. Nearly half of the region's population is foreign born. As we saw in the benchmarking analysis, 47.9 percent of Toronto residents identify themselves as such, the largest share among the 24 comparator regions. Previous research has shown a connection between immigrants and trade with their native countries. However, our analysis in *Scorecard 2015* shows immigrants in Ontario do not have an important influence on exports. *Scorecard 2013* pointed to Toronto's failure to capitalize on the skills and talents of newcomers. Policies enhancing the influence of immigrants on export performance would be one way to utilize their skills and talents.

For the second consecutive year, Toronto ranked third on Labour Attractiveness, two spots higher than in *Scorecards 2012* and *2013*. In addition to a diverse population, Toronto's success is attributable to a strong commitment to education (via a favourable teacher-to-student ratio), good results on environmental indicators, and relatively affordable housing. Toronto slips modestly in relative terms on a number of population indicators: average annual population growth; share of the population between 25 and 34, and share of the population with a bachelor's degree.

Toronto's key weakness in labour attractiveness continues to be its transportation. As described in the *Scorecard*, most of the leading cities have either long commutes or a low percentage of workers who travel via transit, bicycle or on foot. Toronto, however, gets poor results on both measures. *Scorecard on Prosperity 2011* examined transportation issues in depth. At the time, we learned Toronto performs poorly on indicators related to public transit, especially rail. In the succeeding years, Toronto's results have not changed markedly. The results of this *Scorecard* add to the case that improvement in transportation infrastructure should remain a priority for the Toronto region.

In the Economy domain, Toronto loses some ground in the overall ranking. Much of that is due to long-awaited turnarounds in recession-wracked economies rather than major declines in Toronto's performance. Toronto actually improved its scores on 11 of the 18 Economy indicators. In five of them — unemployment rate, disposable income per capita, disposable income growth, productivity growth and residential building permit growth — Toronto declined in the *Scorecard 2015* ranking despite posting better results in absolute terms.

In another instance, real GDP growth, Toronto improved its result and its ranking, but dropped from an "A" grade to a "C" grade. Nevertheless, the Economy results show Toronto is losing ground to top ranked cities, including Stockholm and Paris, as well American cities (San Francisco, Boston, Seattle, and Dallas).

Toronto's economic strengths lie in its relatively affordable cost of doing business (such as total tax burden and office rents), a healthy labour market, and the strong representation of workers in highly-valued high-technology and professional employment, (and to a lesser extent, employment in the culture sector).

All of these strengths point to a brighter economic future for the Toronto region, but they are not enough to propel Toronto to the top tier of the world's metropolitan economies. Toronto is a good place to do business, but can be better. As every *Scorecard* has noted, weak productivity and the failure to attract significant investment are barriers to a major uplift in Toronto's economy. As this year's report emphasizes, more work is needed. The vision put forward by the Board sees the Toronto region as a place of high growth and high wages, where workers can attain maximum productivity in their jobs, while at the same time maintaining a high quality of life for all residents through economic inclusion. Thus, the Board has set the ambitious but highly feasible target of achieving growth in Gross Domestic Product (GDP) per worker of at least 10 percent between 2010 and 2025. This would reverse the region's previous decade of decline and put the region on a path to greater prosperity.

APPENDIX

A | METHODOLOGY

The Toronto Region Board of Trade (the Board) seeks to ensure Toronto remains a competitive and vibrant city, contributing in a significant way to the prosperity of Ontario and the country as a whole. The Board commissioned The Conference Board of Canada (TCBoC) to develop a *Scorecard on Prosperity* for the Toronto Census Metropolitan Area (CMA) benchmarking the CMA against 23 metropolises around the world in order to assess Toronto's competitiveness.

Drawing on the success of the previous six editions of the *Scorecard on Prosperity*, TCBoC has replicated the methodology for the 2015 edition of the report. Thirty-three indicators were chosen to measure Toronto's success in:

1. the global economy; and
2. its ability to attract and retain workers from around the world.

Metropolitan Area Selection Process

The number of metro areas remained the same as the previous four *Scorecards*. The cities were determined using the following criteria:

- **Comparably-sized to Toronto:** Barcelona, Boston, Dallas, Madrid, Berlin, San Francisco, and Seattle;
- **Toronto's main Canadian competitors:** Montréal, Calgary, and Vancouver;
- **Global cities to which Toronto is sometimes compared:** Chicago, London, Los Angeles, New York, Paris, Tokyo, and Sydney;
- **Metro regions within North America to allow for a regional comparison:** Halifax and Dallas;
- **Metro regions with progressive social and environmental policies:** Oslo and Stockholm; and
- **Metro regions in rapidly emerging economies:** Hong Kong and Shanghai.

The possibility remains that cities currently excluded will be included in future years (if better data become available), and/or that some cities currently included will be removed in future years (if it becomes clear that their relative value as a comparator is not high).

Indicator Selection Process

The search for indicators began with a commitment to find measures that showed the degree of economic strength and the degree of labour attractiveness.

The indicators that were selected provide valuable information on the performance or status of a metropolitan area within a particular domain, either as a direct output (e.g., disposable income) or a proxy measure (e.g., number of teachers per 1,000 people of school age as a proxy for access to education) and were tested by TCBoC for availability and reliability. A total of 33 indicators were chosen for the Economy and Labour Attractiveness domains.

Unfortunately, it was impossible to collect data on all 33 indicators for every metropolitan area due mainly to data incomparability. But all 33 indicators were available for the Toronto CMA. We screened all data sources rigorously to ensure that each indicator for the international cities had the same definition as its Canadian counterpart. In other words, we wanted to avoid an "apples-to-oranges" comparison. But there were a couple of exceptions.

Some vital indicators, like housing affordability, were included despite slight differences in definitions across countries. In these cases, we standardized the data by dividing each city's indicator by its national average.

Benchmarking studies use annual historical data as a means of comparison.[47] Given that this study was launched in the fall of 2014, data beyond the year 2013 was unavailable for all indicators. This does not imply, however, that the results of this study are compromised. A benchmarking analysis, by definition, is a relative comparison. Therefore, it is reasonable to assume that if 2014 full-year data were included in this study, the overall rankings would remain fairly stable.

Ranking Method

This study uses a report card-style ranking of A–B–C–D to assess the performance of metropolitan areas for each indicator. We assigned a grade level to performance using the following method: for each indicator, we calculated the difference between the top and bottom performer and divided this figure by four. A metropolitan area received a scorecard ranking of "A" on a given indicator if its score was in the top quartile, a "B" if its score was in the second quartile, a "C" if its score was in the third quartile and a "D" if its score was in the bottom quartile. A metropolitan area was assigned an N/A if the data was unavailable for that indicator.

For example, on the labour attractiveness indicator "proportion of the population that is foreign-born," the top performer (Toronto) had 47.9 percent of its population foreign-born in 2011 and the bottom performer (Shanghai) had only 1.1 percent. Applying the method for scoring yields the following ranges for each grade:

"A": 47.9 – 36.2 percent

"B": 36.1 – 24.5 percent

"C": 24.4 – 12.8 percent

"D": 12.7 – 1.1 percent

(Note: In this example, a high score indicates a high level of performance. For indicators where a low score signifies a high level of performance — such as the homicide rate — the ranking levels are reversed, i.e., the highest result receives the lower grade.)

It must be emphasized that two cities getting an "A" grade do not necessarily perform equally according to this methodology. In the example above, a city scoring 38 percent would get an "A" grade in the same way that a city scoring 40 percent would. However, when we establish a ranking of cities, the city getting a result of 40 percent would be placed higher than the one scoring 38 percent even if they both get an "A" grade. Thus, in the tables below, when looking at cities with the same letter grade, the one with the higher score is listed first. It must also be emphasized that the rankings for each indicator are relative. A city receives an "A" grade because it outperforms all other cities in our sample, not because it is a global leader.

The overall domain rankings are based on a composite index (an average of the normalized scores for each indicator in the specific domain). In other words, the top-ranking metropolitan area for a given indicator will receive a 1, while the bottom-ranking metropolitan area will receive a zero.

Normalization Formula

Normalized value = (indicator value – minimum value) ÷ (maximum value – minimum value)

To use the example above, a score of 1 would be attributed to Toronto given that it leads with 47.9 percent of its population foreign-born — (47.9-1.1) ÷ (47.9 -1.1). Meanwhile, a zero would be attributed to Shanghai given that it ranks last with 1.1 percent of its population foreign-born — (1.1-1.1) ÷ (47.9-1.1). A metropolitan area with a 25 percent foreign-born population, for example, would get a score of 0.52 — (25.0-1.1) ÷ (47.9-1.1).

47 All international data was converted to U.S. dollars using OECD purchasing power parity exchange rate estimates for the given year.

To calculate a domain ranking, the metropolitan areas were then ranked according to their composite index scores. No attempt was made to give explicit differential weights to indicators according to importance: we are implicitly giving equal weight to each indicator. We assigned a grade level to the overall domain performance using the following method: we calculated the difference between the domain composite index of the top and bottom performer and divided this figure by four.

A metropolitan area received a scorecard rating of "A" for the domain if its score was in the top quartile, a "B" if its score was in the second quartile, a "C" if its score was in the third quartile and a "D" if its score was in the bottom quartile. The Overall ranking is determined using the scores from the Economy and Labour Attractiveness domains only. The rankings created from the long term economic forecast and the retrospective do not affect the Overall ranking. Even though we generate an Overall score that ranks each metro area based on the scores from the Economy and Labour Attractiveness domains, we do not create an "Overall" composite letter grade. The Economy and Labour Attractiveness domains cover entirely different sets of indicators, so assigning an overall grade would falsely assume that the two domains can be aggregated.

APPENDIX

B | DETAILED GRAVITY EQUATION RESULTS

Table B1: Statistical Results for 173-Country Gravity Equation

	Coefficient	Standard error	t-statistic	Probability
Constant	-19.49	2.73	-7.13	0.00
GDP	0.81	0.05	16.32	0.00
Distance	-0.71	0.16	-4.33	0.00
Spoken language	0.58	0.17	3.48	0.00
Trade office	0.66	0.21	3.10	0.00
Free trade agreement	0.73	0.37	1.97	0.05
WTO membership	0.25	0.21	1.19	0.24
Colony	1.03	0.75	1.38	0.17
Landlocked	-0.10	0.20	-0.50	0.62
Adjusted R-squared	0.82			

Source: The Conference Board of Canada.

Table B2: Statistical Results for 173-Country Gravity Equation (includes all immigrants)

	Coefficient	Standard error	t-statistic	Probability
Constant	-19.22	2.77	-6.94	0.00
GDP	0.80	0.05	14.56	0.00
Distance	-0.72	0.16	-4.37	0.00
Spoken language	0.64	0.16	3.90	0.00
Trade office	0.66	0.21	3.16	0.00
Free trade agreement	0.76	0.37	2.03	0.04
All immigrants	0.05	0.05	0.94	0.35
Adjusted R-squared	0.82			

Source: The Conference Board of Canada.

Coefficients with low p-values are statistically significant, while coefficients with high p-values are insignificant.

APPENDIX

C | WORLD REGION DEFINITIONS

Middle East and Africa
Algeria
Angola
Armenia
Azerbaijan
Bahrain
Benin
Botswana
Burkina Faso
Burundi
Cabo Verde
Cameroon
Central African Republic
Chad
Comoros
Congo
Cote d'Ivoire
Cyprus
Dem. Republic of the Congo
Djibouti
Egypt
Equatorial Guinea
Eritrea
Ethiopia
Gabon
Gambia
Georgia
Ghana
Guinea
Guinea-Bissau
Iraq
Israel
Jordan
Kenya
Kuwait
Lebanon
Lesotho
Liberia
Libya
Madagascar
Malawi
Mali
Mauritania
Mauritius
Morocco
Mozambique
Namibia
Niger
Nigeria
Oman
Qatar
Rwanda
Sao Tome and Principe
Saudi Arabia
Senegal
Seychelles
Sierra Leone
Somalia
South Africa
Sudan
Swaziland
Syrian Arab Republic
Togo
Tunisia
Turkey
Uganda
United Arab Emirates
United Republic of Tanzania
Yemen
Zambia
Zimbabwe

South East Asia
Brunei Darussalam
Cambodia
Indonesia
Lao
Malaysia
Myanmar
Philippines
Singapore
Thailand
Timor-Leste
Viet Nam

China
China
Hong Kong SAR
Macao SAR

Eastern Asia (excluding China)
Japan
Mongolia
Republic of Korea

Central and Southern Asia
Afghanistan
Bangladesh
Bhutan
India
Iran
Kazakhstan
Kyrgyzstan
Maldives
Nepal
Pakistan
Sri Lanka
Tajikistan
Turkmenistan
Uzbekistan

Western Europe
Austria
Belgium
Denmark
Finland
France
Germany
Greece
Iceland
Ireland
Italy
Liechtenstein
Luxembourg
Malta
Netherlands
Norway
Portugal
Spain
Sweden
Switzerland
United Kingdom

Eastern Europe
Albania
Belarus
Bosnia and Herzegovina
Bulgaria
Croatia
Czech Republic
Estonia
Hungary
Latvia
Lithuania
Montenegro
Poland
Republic of Moldova
Romania
Russian Federation
Serbia
Slovakia
Slovenia
Ukraine

NAFTA
Mexico
U.S.A.

Other Americas
Antigua and Barbuda
Argentina
Bahamas
Barbados
Belize
Bermuda
Bolivia
Brazil
Chile
Colombia
Costa Rica
Dominica
Dominican Republic
Ecuador
El Salvador
Grenada
Guatemala
Guyana
Haiti
Honduras
Jamaica
Nicaragua
Panama
Paraguay
Peru
Puerto Rico
Saint Kitts and Nevis
Saint Lucia
Saint Vincent and the Grenadines
Suriname
Trinidad and Tobago
Uruguay
Venezuela

Oceania
Australia
Fiji
Kiribati
Marshall Islands
Micronesia
Nauru
New Zealand
Palau
Papua New Guinea
Samoa
Solomon Islands
Tonga
Tuvalu
Vanuatu

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