



November 2011

Strategic Sectors Study

Phase I: Location Quotients

ABOUT US

The Toronto Region Research Alliance (TRRA) is a public-private partnership supported by the governments of Ontario and Canada, and a wide range of regional stakeholders from the private sector, universities, colleges, and research hospitals.

Mission

TRRA is a regional economic development organization promoting increased investment in research and innovation to further economic prosperity.

Goals

1. Increase awareness of the Toronto Region among global R&D decision-makers and influencers
2. Retain and grow foreign investment into regional organizations, and attract innovative foreign companies to locate here
3. Become the pre-eminent source of intelligence on regional research assets and associated international trends
4. Promote enhanced research intensity among regional businesses
5. Advance initiatives to strengthen research and innovation capacity

Vision

To transform the Toronto Region into a top 5 global center for research and research-intensive industry



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Executive Summary

As part of our mandate to provide in-depth analysis and understanding of local industry clusters, the Toronto Region Research Alliance (TRRA) carried out a study into the economic base and industrial make-up of the Toronto region. The purpose of this report is to present Phase 1 of our *Strategic Sectors Study*.

In this work, the 'Toronto region' refers to the Toronto Census Metropolitan Area (CMA), which is a smaller geography than the Greater Toronto Area (GTA) and includes all of Toronto, Peel and York Census Divisions, but only parts of Durham and Halton. The regional economy is a system in constant evolution and it becomes imperative to continuously monitor sector-level performance. Because the Toronto region is extremely diversified with many industries of international renown, there have been a number of excellent cluster studies that have honed in on key sectors, including financial services, information and communications technology (ICT), and creative industries. However, TRRA's current research is not intended to be an exhaustive analysis of any industry in particular, but rather an objective overview of all sectors. The intention was to use widely-accepted industry data to identify sectors that have experienced unusual or noteworthy trends in the region since the year 2000; for instance, large number of firms, high growth, high concentration or significant employment gains.

The analysis was based on labour force and business establishment data obtained from Statistics Canada's Labour Force Survey (LFS) and Business Register. The data are divided according to the North American Classification System (NAICS), which is a comprehensive, hierarchical system that splits all economic activities into 20 major sectors and more than 1,100 industries based on a numerical code between two and six digits long. The first two digits identify the sector, the third digit the subsector, and fourth, fifth and sixth digits are industry-specific definitions. We made use of employment and firm data broken down at the 2- and 3-digit level to calculate sector-level growth and concentrations. The analysis included the calculation of location quotients (LQs). These are some of the most commonly used tools in economic research, and are indicators that describe how well the Toronto region is performing in any given industry relative to a broader area – in this case Canada. Depending on the quotient value, the industry is then said to have a below-average or above-average concentration in the region.

The quantitative analysis revealed that, within Canada, the Toronto region has a remarkably high economic activity in motion picture and sound recording (NAICS 512), data processing and hosting (518), securities and commodities (NAICS 523), and funds and other financial vehicles (526). Toronto accounts for a very large percentage of such jobs across the country. A significant growth was observed for the professional, scientific and technical services (541) subsector which tops the regional rankings in absolute numbers of establishments and employment. The results also point to four distinctive industry groupings for subsectors that may be useful as discussion points for regional sector development strategies:

- (i) subsectors with high firm and job LQs, strong growth and good wages;
- (ii) large employment subsectors with high LQs and good wages;
- (iii) declining subsectors with significant losses in the number of jobs and firms; and
- (iv) public services, a large, stable and well-paying sector represented by the municipal and provincial governments, health care and education.



Purpose

The goal of the strategic sectors study was to identify Toronto region's industrial strengths and assets capable of fueling future job growth and prosperity. These would serve as the basis for a competitive advantage value proposition and as potential focus sectors for regional initiatives and strategic plans. The study describes the current state of the Toronto region economy in terms of employment and firm numbers by sector, and how they measure up against national averages.

Past and present economic development and investment attraction efforts at the city and provincial levels have focused on the following priority areas: financial and business services, life sciences, information and communications technology (ICT), creative industries, cleantech and green energy, manufacturing, materials, food and beverage, as well as film and television. This study aims to confirm whether these clusters are the 'true' core competencies or if there are additional industries, emerging or established, that could result in a competitive advantage for the region. In other words, the purpose was to not only reinforce what is already known about the Toronto region, but to also uncover sectors of strategic importance that could drive its overall economic performance. We must note that, although the current debt crisis unfolding in the Euro zone is poised to affect global and Canadian economic indicators, the discussion in this study will restrict itself to data between 2000 and 2010.

Study Approach

This study will be rolled out in three phases:

- Phase 1 - economic base analysis using location quotients (completed November 2011),
- Phase 2 - mapping of Toronto region's interrelated clusters (December 2011), and
- Phase 3 - international benchmarking (January 2012).

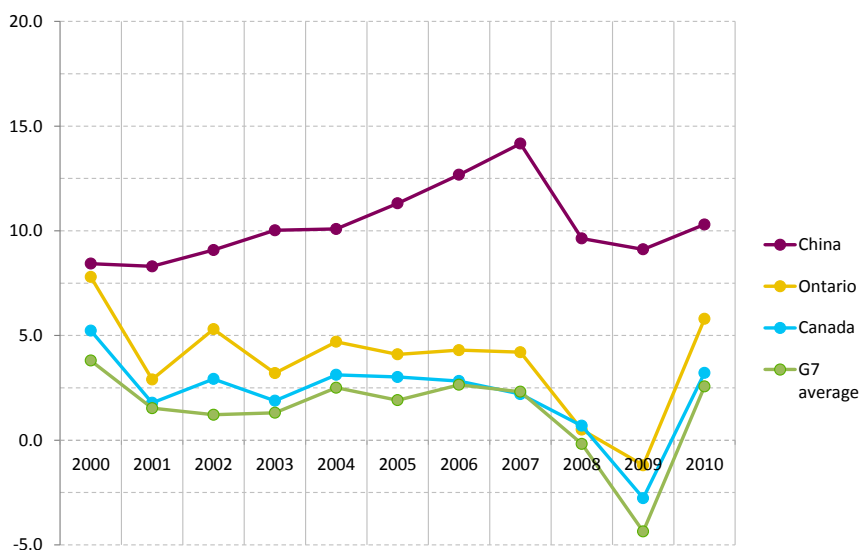
This document will present Phase 1 findings.

Setting the Context: Canada and Ontario at a Glance

The Toronto region economy is extremely diversified and boasts strengths in business services, health care, advanced manufacturing and ICT. Because Toronto is home to such a large percentage of Canada's population and jobs, it has become a node for most national industries. As this country's economic and financial center, it is impossible to undertake a structural analysis of the Toronto region without a brief reference to trends in the provincial and national economies.

For the better part of the last decade, the gross domestic product (GDP) growth in Canada and Ontario was slightly above the average rate for G7 nations, but still well below China (Figure 1). Canada's industry-based GDP increased from \$1.041 trillion in 2001 to \$1.234 trillion in 2010.¹ But many of the world's leading economies experienced a sharp

Fig. 1. Annual GDP growth (%) for select geographies

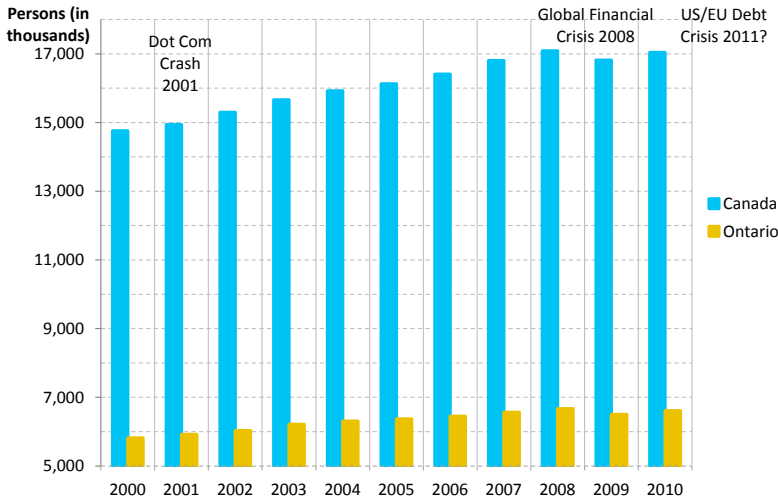


Source: OECD Statistics, 2011; Ontario Ministry of Finance, "Ontario Economic Accounts: First Quarter 2011".



decline in growth as a result of the 2008 Global Financial Crisis. The GDP for G7 nations declined on average 4.4% in 2009, while Canada (-2.8%) and Ontario (-1.2%) fared better – but only marginally. China’s ‘recession’ constituted a slowdown in growth from +14.2% in 2007 to +9.2% in 2009.^{2,3} Canadian employment numbers reflect a similar trend (Figure 2). Although the number of persons employed across the province and country has increased at a steady pace since 2000, employment growth dipped in 2009, while unemployment rates reached decade-long highs of 8.3% in Canada and 9.0% in Ontario.

Fig. 2a: Canada and Ontario employment trends



Source: TRRA analysis based on 2010 employment data from Statistics Canada, Labour Force Survey, Custom Tabulation.

Fig. 2b: Annual employment growth (% change)

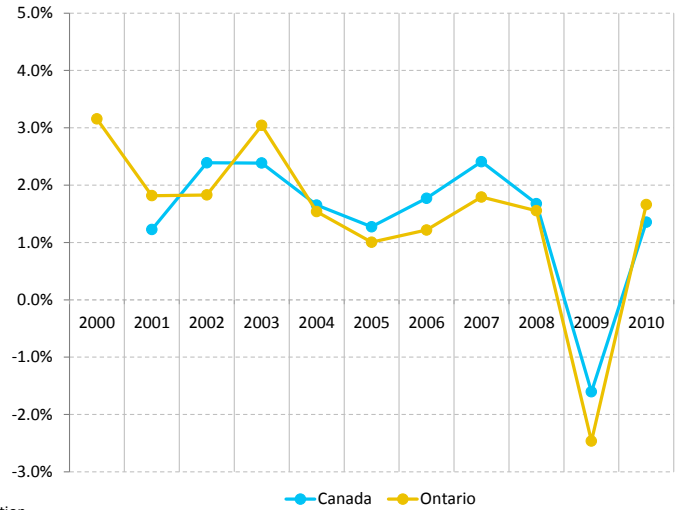
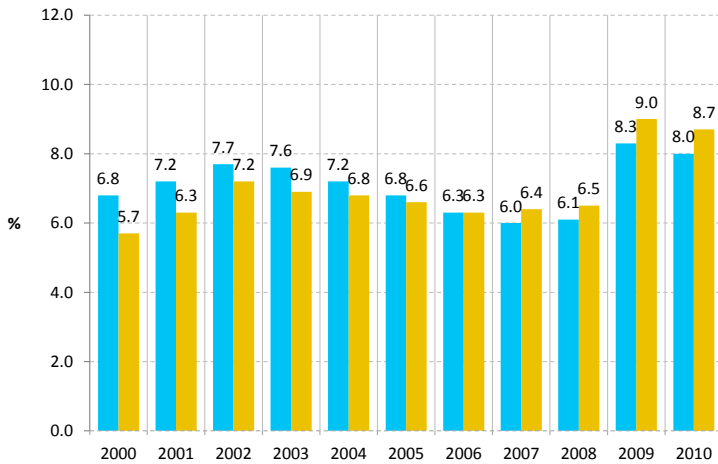


Fig. 2c. Unemployment rate (% of labour force)



Source: Obtained from Human Resources and Skills Development Canada, "Indicators of Well-being in Canada". Original source is Statistics Canada. Labour Force Survey (LFS) estimates, supplementary unemployment rates by sex and age group, annual (CANSIM Table 282-0086). Ottawa: Statistics Canada, 2011.

Canada’s industry classification is dictated by the North American Industry Classification System (NAICS), which is a hierarchical system that splits the economy into 20 major sectors and more than 1,100 industries based on a numerical code between two and six digits long. The first two digits identify the sector, the third digit designates the subsector, and fourth, fifth and sixth digits provide additional industry-specific definitions. Economic sectors are categorized into either goods or services. NAICS defines goods-producing industries as: agriculture, forestry, fishing, hunting, mining, oil and gas extraction, utilities, construction, and manufacturing. Therefore, the definition of goods is broad and includes such things as growing of crops, generation of electricity, and computer manufacturing.⁴



One persistent and well-known trend is the loss of the competitive edge of the Canadian goods-producing sector. Canada's trade figures reveal the steady erosion of national and provincial trade balances (Figure 3). Ontario recorded a net trade deficit of \$66.7 billion worth of goods in 2010. Although past economic growth was fueled by natural resources, a thriving manufacturing sector, and strategic location, currently, the country and province are facing tough competition from lower-cost jurisdictions, while dealing with the effects of a stronger dollar and weakened business productivity. Because 75% of Canadian exports are US-bound, economic growth is closely related to developments in the US, and any ripples in the neighbouring economy are felt deeply at home.

This is especially true for the province of Ontario, with nearly four-fifths of all exports destined for the US (Figure 4). While manufacturing accounted for 98% of all provincial goods exports in 2000, this figure dropped to 89% in 2010. During the same time period, exports derived from the mining, oil and gas extraction sector rose from 1.4% to 9.1% of total exports (refer to Exhibit 1 for details). This is driven by high commodity prices and increased demand for resources in Northern Ontario. Although goods-producing industries have experienced some growth as estimated in millions of dollars of total value, they have declined in their share of the GDP. The only exception to this is the construction segment which averaged an annual growth of 2.9% country-wide (Exhibits 2 and 3). Services have grown at the expense of manufacturing and made up approximately three-quarters of the

Fig. 3a. Canada imports, exports and trade balance of goods

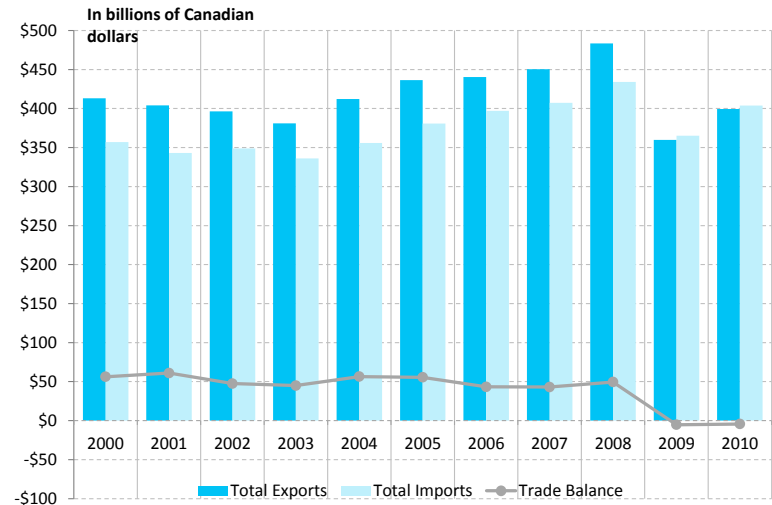
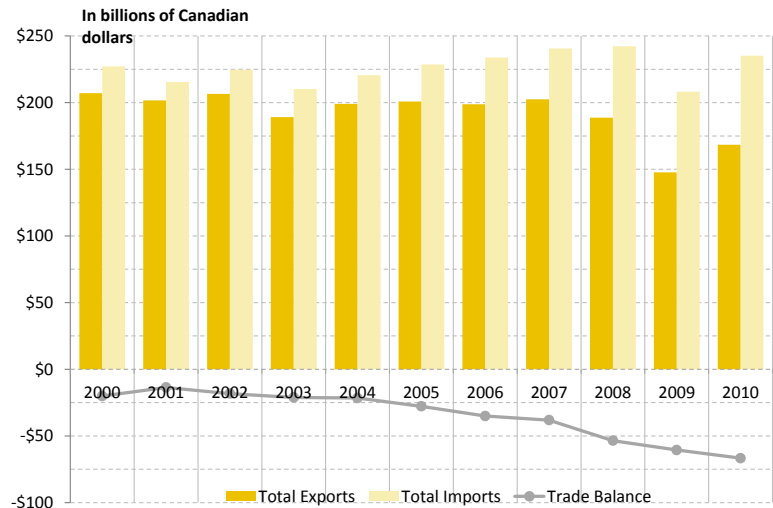
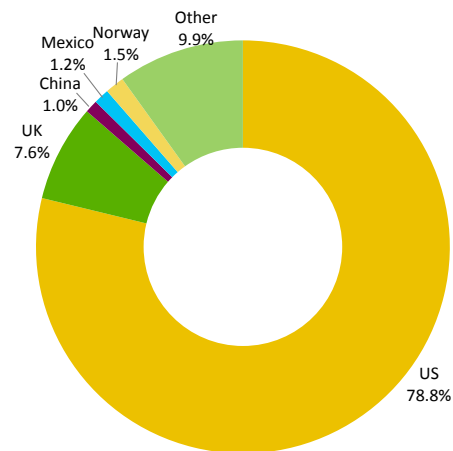


Fig. 3b. Ontario imports, exports and trade balance of goods



Source: Industry Canada, Trade Data Online, 2011.

Fig. 4. Top export destinations for Ontario goods



Source: Ontario Ministry of Finance "Ontario Fact Sheet" August 2011



industry-based GDP in 2010.

A similar trend is observed for employment. Service sectors made up nearly 80% of the total employment in Canada and Ontario in 2010 (Exhibit 4). While the number of persons employed across the province has grown at a rate of 1.3% per annum, employment in the goods-producing sectors has been declining at an annual rate of -1.2%, largely due to manufacturing (-3.1%) and agriculture, forestry, fishing and hunting (-1.3%). But despite these losses, the manufacturing sector remains a significant part of the provincial economy because it employed the largest number of persons in Ontario (781,100) in 2010, followed closely by retail trade (761,700) and health care (718,300). This year's prediction that manufacturing output will boast increases in 2011 is now uncertain given the volatility of the European and US economies.

In view of these overarching trends – increased foreign competition, issues with attractiveness of the domestic manufacturing sector, the steady shift of Canada's economy from manufacturing to services, and the grim outlook for the global economy – it is imperative to identify our competitive edge and industrial advantages to ensure future competitiveness and overall economic health. One of TRRA's recent reports delved into innovation strategies at the country level.⁵ The analysis examined the basic motivations that drive the broader technology and innovation policies of governments. The fundamental drivers for national plans are those that add to prosperity and industrial leadership in either core or emerging segments. Such priority frameworks are a response to the changing reality in which hard-hitting recessionary periods, job losses in traditional manufacturing sectors and fierce competition for investment and highly skilled labour are the norm.



TORONTO REGION

Analogous to national policies, smaller geographic regions around the world are looking beyond the traditional economic development paradigm and are setting aggressive agendas to attract foreign direct investment (FDI), retain and attract talent and build the capacity to remain competitive in the global knowledge economy. Individual regions or cities are the beneficiaries of government or private funding because it is at the city- or region-level where the implementation of broad national policies and programs takes place.

Recent history highlights classic examples of success stories in regional cluster development. For instance, the case of North Carolina's Research Triangle Park (RTP) shows how long-term priority-setting plans can transform a traditional regional economy based on furniture, textiles and tobacco industries on the decline to a modern world-leading high-tech center. Pittsburgh, Pennsylvania has successfully managed to re-center its economy around education and health care, two sectors that are considered more resilient in the face of foreign competition and economic downturns than its steel industry. The city is regarded highly for advancements in health research related to organ transplantation, medical equipment and pharmaceuticals. Dresden, the capital of the Saxony state located in former East Germany, had limited access to Western technology before German reunification. But 'Silicon Saxony' is viewed today as Europe's most successful microelectronics cluster, largely due to a series of state policies that began in the early 1990s and have continued to this day.

The emergence of such regional innovation clusters has been well documented.^{6,7,8} Innovative regions are characterized by clustering of firms, suppliers, and related institutions in specific industries or fields. All stakeholders benefit from existing resources and networks, knowledge spillovers, and a shared labour pool. The synergies that develop create lasting value for the communities involved. The challenge for the civic leadership is to pinpoint the core or emerging segments that will serve as fundamental drivers for the economy and, inevitably, add to prosperity and competitive advantage. Thus, the identification of *strategic sectors* is key.

An example of such priority setting can be seen at the provincial level. In 2006, the Ontario government appointed the Ontario Research and Innovation Council with members from business, academic and R&D communities to offer guidance on an innovation strategy.⁹ After a two-year consultation process, the government released the *Ontario Innovation Agenda* targeting investments in basic and applied research, as well as commercialization activities. It identified provincial priorities in areas of bioeconomy and clean technologies, advanced health technologies (regenerative medicine, bioinformatics, genomics, medical devices, infectious disease prevention and control), pharmaceutical research and manufacturing, digital media and ICT. Ontario simultaneously developed programs that drive at the factors of innovation with investments in jobs, skills and research.

The province's five-year economic plan, *Open Ontario*, includes a number of measures that continue to build on this.¹⁰ For instance, the rationale behind the Water Opportunities and Water Conservation Act, passed in November 2010, is to enhance the reputation of Ontario as a world-leading water technology cluster. With its substantial freshwater resources, Ontario has evolved naturally into a dynamic hub of related companies and research centers. The objective now is to formalize partnerships between researchers, water entrepreneurs and industry, and accelerate the diffusion of made-in-Ontario technologies and services, ideally into international markets. Enacted in 2009, the Green Energy Act (GEA) has been dubbed the most ambitious legislation in North America. The intention behind the Act was to attract FDI and build a domestic value chain in green technology manufacturing. By setting domestic requirements, which state that a certain percentage of service and labour must come from Ontario, the Act mandates that jobs be created in the province. The GEA has propelled Ontario onto the international scene and triggered a string of investments. The Act remains controversial,^{11,12} but over the course of just over a

year, the province had gone from a virtual unknown in the greentech space to having the largest solar farm in the world in Sarnia.¹³ The province has thus taken preemptive measures to remain competitive in what are seen as new industries.

As the region with Canada's largest population and highest concentration of jobs, businesses and post-secondary institutions, the Toronto region has been a major beneficiary of provincial and federal development policies. The region is recognized as one of the fastest growing economic regions within North America. It accounts for 17.2% of Canada's national GDP and labour force, as well as 16.8% of the population (Table 1). In this study, the 'Toronto region' refers to the Toronto Census Metropolitan Area (CMA). Although the Greater Toronto Area (GTA) includes the City of Toronto and the surrounding regions of Durham, York, Peel and Halton, the Toronto CMA is a smaller geography and includes all of Toronto, Peel and York Census Divisions, but only parts of Durham and Halton.

Table 1. Select economic indicators

<i>Economic Indicator</i>	<i>Canada</i>	<i>Ontario</i>	<i>Toronto region*</i>
Total land and freshwater area (sq. km)	9,984,670	1,076,395	-
Land	9,093,507	917,741	5,903
Freshwater	891,163	158 654	-
Population (2010)	34,108,752	13,210,667	5,741,419
Population density per sq. km (2006 Census)	3.5	13.4	866.1
Population growth rate** (2001–2010)	1.4%	1.6%	2.3%
Personal income per capita	\$37,525 (2010)	\$37,969 (2010)	\$38,100 (2009)
Nominal GDP (\$ millions in 2010)	\$1,623,722	\$613,767	\$280,000
Distribution of GDP (2010)			
Goods	-	24.3%	-
Services		75.7%	
Labour force (thousands in 2010)	18,614	7,237	3,210
Employment (thousands in 2010)	17,041	6,610	2,919
Unemployment rate (2010)	8.0%	8.7%	9.06%
Job creation (2010)	-	108,000	-

*Toronto Census Metropolitan Area (CMA)

**CAGR

Source: Ontario Ministry of Finance "Ontario Fact Sheet September 2011"; City of Toronto "Economic Indicators July 2011"; Natural Resources Canada, The Atlas of Canada, Canada Centre for Remote Sensing (2001); Foreign Affairs and International Trade Canada, Pocket Facts (June 2011); Human Resources and Skills Development Canada "Canadians in Context – Population Size and Growth".

Historical Perspective

The City of Toronto and the region have undergone tremendous changes since the 1950s. Post-war immigration fundamentally changed the size and make-up of the population, particularly as non-European immigrant groups settled in Toronto, adding to the ethnic and religious diversity seen today. By 1976, Toronto had become Canada's most populous city. Suburbanization is also a recent phenomenon that began to take shape in the 1940s and 1950s with the construction of affordable housing on the outskirts of the city and relocation of industrial operations to unused agricultural land. The rapid population growth drove University of Toronto to expand its programs, and led to flourishing of new institutions and vocational colleges in the 1960s including York University, Centennial, George Brown, Humber, Seneca, and Sheridan. The region also benefited from an influx of businesses and professionals from Québec in the 1970s and 1980s, in some cases driven by the uncertainty and instability perpetuated by the Separatist movement. By the end of the twentieth century, the region's manufacturing had been surpassed by the commercial and services sectors in terms of impact and significance.¹⁴

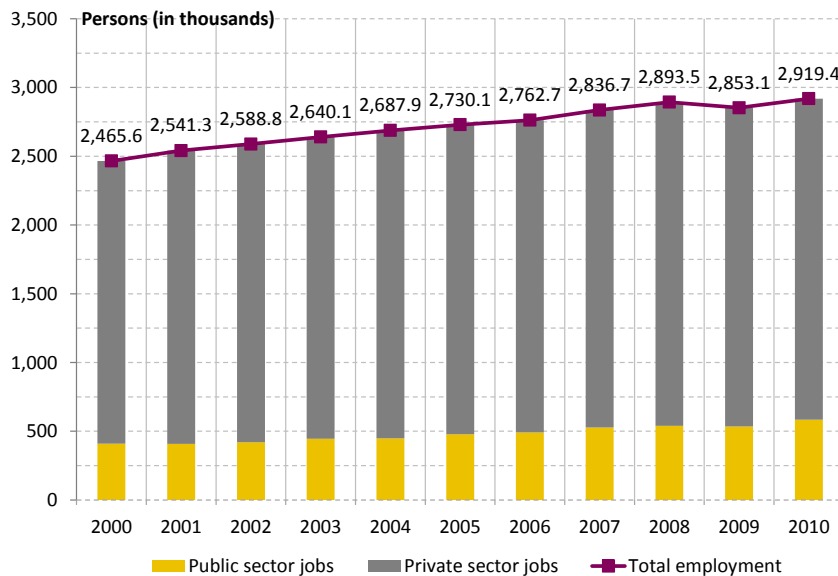


This theme has persisted over the past ten years; manufacturing has continued to incur losses. The Toronto region has become a knowledge- and information-based economy with finance, insurance, administration, health, business services, education, arts and culture at its core. The region now boasts the fourth-largest concentration of financial services in North America, after New York, Chicago and Los Angeles. The region has emerged as one of North America’s largest ICT, health care and life sciences hubs, supported by a recognized set of research universities and institutes. These institutions supply skilled labour and provide a deep knowledge base in basic and applied sciences, leaving the region well-equipped to remain competitive in the global battle for investment.¹⁵

Economic Overview: Employment, Earnings and Business Establishments

With the exception of 2009, Toronto has observed a steady increase in employment since the beginning of the last decade (Figure 5). Estimated employment for the Toronto CMA was 2,919,400 individuals in 2010 with an unemployment rate of 9.06%. Goods-producing sectors (NAICS 11-33) accounted for 18% and services (NAICS 41-91) for 82% of all jobs. Figure 5 also shows relative shares of public and private sector jobs. Employment in the public sector, including government administration, education, health care and social assistance, accounted for 17% of all Toronto jobs in 2000. The share rose slightly to 20% in 2010, with the public sector accounting for 38% of all jobs created in the Toronto CMA between 2000 and 2010.

Fig. 5. Toronto CMA employment trends



Source: TRRA analysis based on employment data from Statistics Canada, Labour Force Survey, Custom Tabulation.



The largest employers at the 2-digit NAICS level were manufacturing (336,200), followed by professional, scientific and technical services (324,700) and retail trade (316,600). Manufacturing has incurred staggering losses since the year 2000, shedding about 11,100 jobs per annum (Table 2). Professional, scientific and technical services have made the highest gains in employment at about 7,800 new jobs per year since 2000. Toronto's health care sector has also grown, averaging 7,100 new jobs per year.

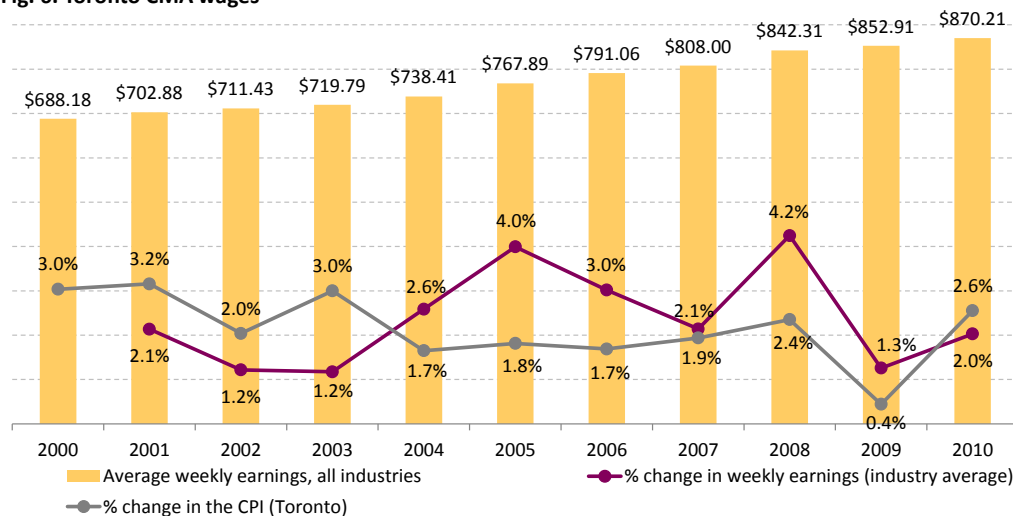
Average earnings have risen as well, although annual percent increases have not always been on a par with the rate of inflation (Figure 6). The top five sectors in terms of average weekly earnings in 2010 include: utilities (\$1,423), mining, quarrying, and oil and gas extraction (\$1,321), public administration, (\$1,227), professional, scientific and technical services (\$1,118) and finance and insurance (\$1,069). Persons employed in public administration and utilities have enjoyed highest income growth rates at 3.8% (CAGR), well above the industry average of 2.4% (refer to Exhibit 5 for details).

Table 2. Toronto CMA employment by sector (2-digit NAICS level). Arranged in descending order by 2010 employment.

Sectors	Annual averages in thousands		Average annual growth	
	2000	2010	Thousands per year	CAGR 2000-2010
31-33 Manufacturing	447.0	336.2	-11.1	-2.8%
54 - Professional, Scientific and Technical Services	246.9	324.7	7.8	2.8%
44-45 Retail Trade	273.2	316.6	4.3	1.5%
62 - Health Care and Social Assistance	187.8	258.4	7.1	3.2%
52 - Finance and Insurance	161.5	220.7	5.9	3.2%
61 - Educational Services	139.4	208.5	6.9	4.1%
23 - Construction	128.6	163.5	3.5	2.4%
72 - Accommodation and Food Services	129.3	157.4	2.8	2.0%
48-49 Transportation and Warehousing	124.2	147.2	2.3	1.7%
41 - Wholesale Trade	107.2	135.8	2.9	2.4%
56 - Administrative and Support, Waste Management and Remediation Services	121.2	134.2	1.3	1.0%
81 - Other Services (except Public Admin)	90.4	119.0	2.9	2.8%
91 - Public Administration	82.8	117.6	3.5	3.6%
51 - Information and Cultural Industries	96.7	99.2	0.3	0.3%
53 - Real Estate Rental and Leasing	52.6	76.9	2.4	3.9%
71 - Arts Entertainment and Recreation	48.8	73.8	2.5	4.2%
22 - Utilities	17.1	14.4	-0.3	-1.7%
11 - Agriculture Forestry Fishing and Hunting	8.9	9.4	0.1	0.5%
21 - Mining, Quarrying, and Oil and Gas extraction	2.3	5.7	0.3	9.5%
55 - Management of Companies and Enterprises	-	-	-	-
All Industries	2,465.6	2,919.4	45.4	1.7%

Source: TRRA analysis based on data from Statistics Canada, Labour Force Survey, Custom Tabulation.

Fig. 6. Toronto CMA wages



Source: TRRA analysis of earnings data based on Statistics Canada, Labour Force Survey, Custom Tabulation. Annual average consumer price indices for Toronto were obtained from the Ontario Public Service Employees Union (OPSEU), Member Services, Bargaining Research (original data from Statistics Canada).



The Toronto CMA had an estimated 449,340 business establishments in 2010 (Table 3). Statistics Canada defines a *statistical establishment* as “the production entity or the smallest grouping of production entities which: (i) produces a homogeneous set of goods or services; (ii) does not cross provincial boundaries; and (iii) provides data on the value of output together with the cost of principal intermediate inputs used along with the cost and quantity of labor resources used to produce the output.”¹⁶ While an estimated 12,552 establishments have been added to the economy every year since 2000, manufacturing has been shedding 277 establishments per year. Not only is the professional, scientific and technical services sector one of the biggest employers in the regions, it also registered the largest number of establishments (80,560) last year, followed by real estate, rental and leasing (48,455). Construction (46,789) was the top performer amongst the goods-producing sectors. The top six sectors accounted for 61% of all establishments in 2010.

Table 3. Toronto CMA establishments by sector (2-digit NAICS level). Arranged in descending order by 2010 establishment counts.

Sector	Number in		Average annual growth	
	2000	2010	Number per year	CAGR 2000-2010
54 - Professional, Scientific and Technical Services	55,320	80,560	2,524	3.8%
53 - Real Estate and Rental and Leasing	29,544	48,455	1,891	5.1%
23 - Construction	32,332	46,789	1,446	3.8%
81 - Other Services (except Public Administration)	20,418	38,929	1,851	6.7%
44-45 Retail Trade	28,948	33,211	426	1.4%
52 - Finance and Insurance	25,303	29,979	468	1.7%
48-49 Transportation and Warehousing	10,921	26,812	1,589	9.4%
41 - Wholesale Trade	24,423	23,850	-57	-0.2%
55 - Management of Companies and Enterprises	14,489	21,715	723	4.1%
56 - Administrative and Support, Waste Management and Remediation Services	16,924	21,001	408	2.2%
62 - Health Care and Social Assistance	12,542	20,093	755	4.8%
31-33 Manufacturing	19,708	16,938	-277	-1.5%
72 - Accommodation and Food Services	14,966	15,354	39	0.3%
51 - Information and Cultural Industries	6,577	9,834	326	4.1%
71 - Arts, Entertainment and Recreation	5,578	7,385	181	2.8%
61 - Educational Services	2,717	4,918	220	6.1%
11 - Agriculture, Forestry, Fishing and Hunting	2,246	2,323	8	0.3%
21 - Mining, Quarrying, and Oil and Gas Extraction	588	506	-8	-1.5%
91 - Public Administration	125	403	28	12.4%
22 - Utilities	148	285	14	6.8%
All Industries	323,817	449,340	12,552	3.3%

Note: The change in the number of establishments serves as an estimate only. “Establishment data is not intended for use as a time series because changes that affect the continuity of the data might result from changes in methodology. Some examples are: the change to another version of the Standard Geographical Classification (SGC) or the differences in the Classification systems” (Statistics Canada).

Source: TRRA analysis based on business data obtained from Statistics Canada, Business Register.

Analysis Results

Introduction to Location Quotients

Although overall job and firm numbers provide some insight into the current state of the local economy, they do not show how these industries fare against

a benchmark geography, such as the province or country. Therefore, our subsequent analysis involved the calculation of location quotients (LQs) for Toronto business establishments and employment. LQs are some of the most commonly used tools in economic research and study and measure the extent of the specialization of an industry. But what is particularly useful about LQs is that they are indicators that describe how well a city or region is performing in any given industry relative to a broader area such as the state, province, or country, thus providing insight into the region’s economic base.

The quotient is defined as the ratio of an industry’s share of the local economy in terms of a chosen economic measure (e.g. number of business establishments, jobs) to that industry’s share in the reference



area. Depending on the quotient value, the region is then said to have a below-average, above-average or average degree of specialization in that industry:

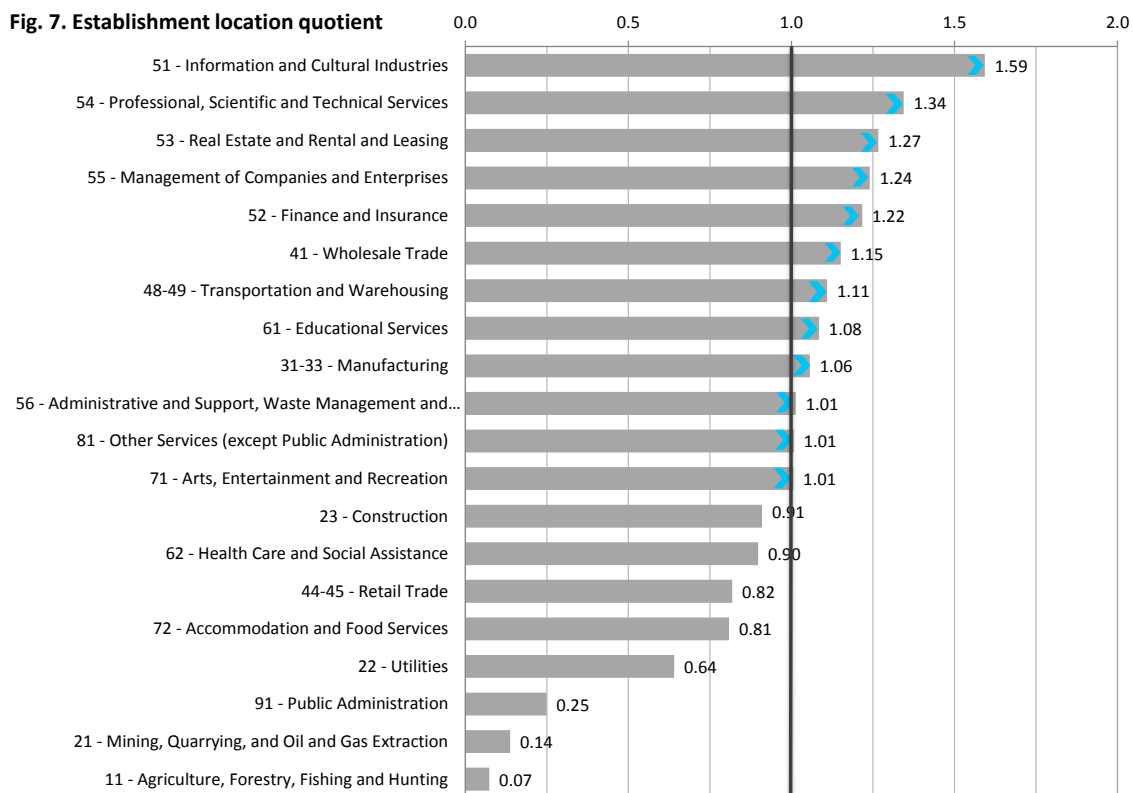
- LQ ~ 1.0 an average degree of specialization of the sector/subsector in the local economy
- LQ is > 1.0 subsector makes up a greater share of the region’s economy than the industry does for the whole province or country
- LQ >> 1.0 the region is said to be highly specialized in that activity (in many cases, industries with LQ > 1.25 are exporting industries)
- LQ < 1.0 a below-average share in the local economy and offers opportunities for economic growth and development (industries with LQs < 0.75 are importing industries)

Toronto region LQs were used in this study to identify candidate sectors for economic development opportunities. The LQ analysis was based on 2- and 3-digit NAICS codes. Although quotients at the 2-digit (or sector) level offer some insight into the region’s economic structure and degree of specialization, a 3-digit level analysis helps identify the specific subsectors that serve as a local strength. While a sector as a whole, such as transportation and warehousing, may have an LQ close to 1.0, a subset of transportation, such as couriers and messengers, may have LQs much greater than unity.

Location Quotients at the Sector (2-digit) Level

As mentioned previously, firm and employment numbers may be chosen as an economic measure for location quotients. **Firm LQs** measure Toronto region’s share in the number of business establishments **relative to the national average** (Figure 7). The calculation of these quotients for the Toronto CMA reveals a high industry concentration in the following service sectors:

- Information and cultural industries (LQ = 1.59),
- Professional, scientific and technical services (1.34),
- Real estate and rental and leasing (1.27),
- Management of companies and enterprises (1.24), and
- Finance and insurance (1.22).



Source: TRRA analysis at the 2-digit NAICS code level (codes 11-91). Business data obtained from Statistics Canada, Business Register.

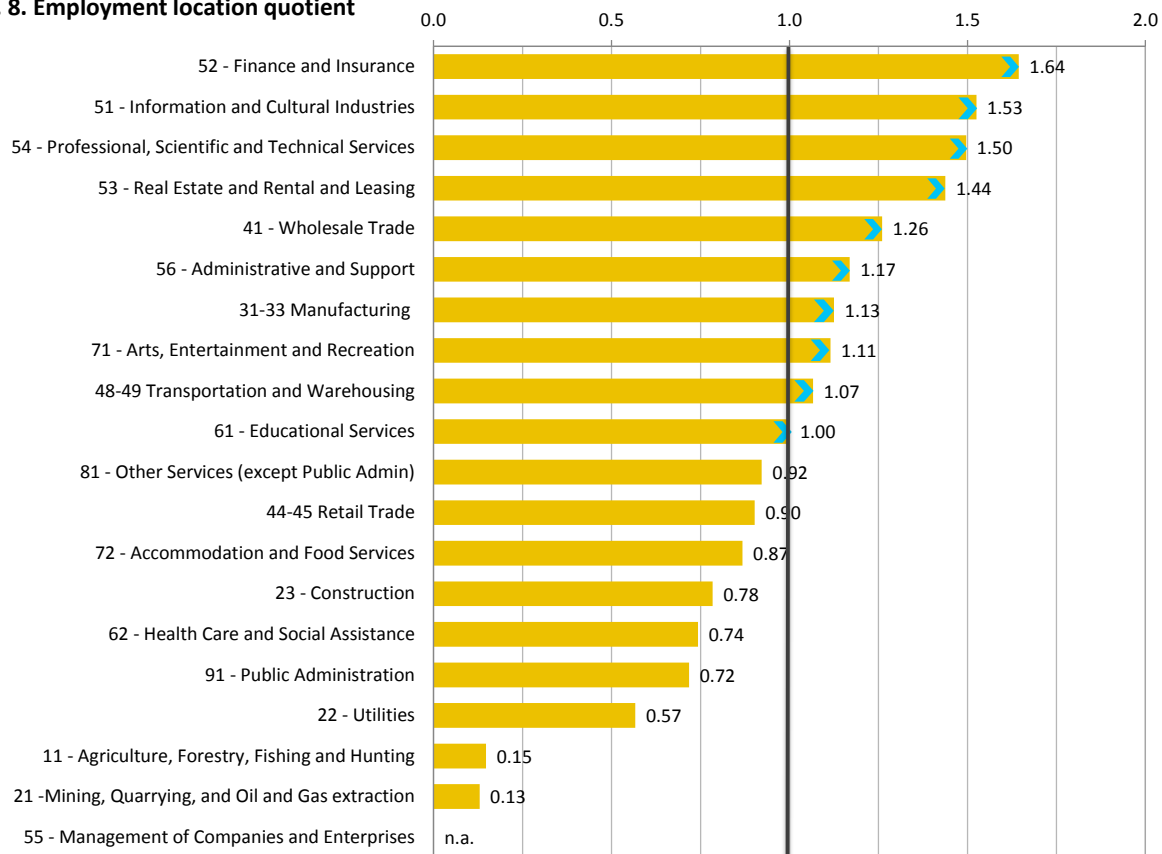


Similarly, **employment LQs** measure Toronto region’s share of jobs in any given sector **relative to the country as a whole**. The evaluation of employment LQs at the 2-digit level reveals a diversified regional economy with an above-average employment (LQ > 1) across many sectors (Figure 8). A notable exception is the natural resources and mining sector with LQs much less than 1. The employment in the Toronto region is highly concentrated in the following service sectors:

- Finance and insurance (LQ = 1.64),
- Information and cultural industries (1.53),
- Professional, scientific and technical services (1.50),
- Real estate and rental and leasing (1.44), and
- Wholesale trade (1.26).

A surprising aspect of the analysis is that the top sectors in terms of the employment and establishment LQs are nearly identical. The results validate the fact that services play a dominant role in shaping the regional economy.

Fig. 8. Employment location quotient



Source: TRRA analysis at the 2-digit NAICS code level (codes 11-91) based on employment data from Statistics Canada, Labour Force Survey, Custom Tabulation.

Location Quotients at the Subsector (3-digit) Level

The calculation of location quotients at the 3-digit NAICS code level adds another layer to the analysis. This helps highlight specific subsectors that would otherwise be overlooked when the analysis is done at the 2-digit level, which is too broad and includes companies that engage in very diverse activities. Tables 4 to 7 provide an in-depth look at the top and bottom subsectors by size, weekly earnings, growth, and location quotient, analyzed at the 3-digit level. (Refer to Exhibits 6 and 7 for subsector definitions and complete listing of LQs.)

The analysis supports the popular perception that services shape the Toronto region economy. Top ranks are dominated by professional and financial services. A surprising find is that, of all the services,



professional, scientific and technical services (541) top the lists in terms of establishment counts, employment, and growth.

“This subsector comprises establishments primarily engaged in activities in which human capital is the major input. These establishments make available the knowledge and skills of their employees, often on an assignment basis. The individual industries of this subsector are defined on the basis of the particular expertise and training of the service provider. The main components of this subsector are legal services industries, accounting and related services industries, architectural, engineering and related services industries, surveying and mapping services industries, design services industries, management, scientific and technical consulting services industries, scientific research and development services industries, and advertising services industries.

The distinguishing feature of this subsector is the fact that most of the industries grouped in it have production processes that are almost wholly dependent on worker skills. In most of these industries, equipment and materials are not of major importance. Thus, the establishments classified in this subsector sell expertise. Much of the expertise requires a university or college education, though not in every case.”¹⁷

Unlike manufacturing, which is labour-intensive with few companies employing many individuals, professional services are less materials- and equipment-intensive and rely instead on worker knowledge and skills. The professional services subsector employs on average 4 persons per establishment in the Toronto CMA.

Table 4. Top 5 by size (number of establishments and employment) in 2010

<i>Top 5 by establishment count</i>		<i>Establishment LQ</i>	<i>Employment LQ</i>	
1.	541 - Professional, Scientific and Technical Services	80,560	1.34	1.50
2.	531 - Real Estate	45,717	1.32	1.47
3.	238 - Specialty Trade Contractors	26,793	0.90	0.75
4.	523 - Securities, Commodity Contracts, and Other Financial Investment and Related Activities	22,400	1.30	1.84
5.	551 - Management of Companies and Enterprises	21,715	1.24	-
Number of establishments in the Toronto CMA		449,340		
<i>Top 5 by employment</i>		<i>Establishment LQ</i>	<i>Employment LQ</i>	
1.	541 - Professional, Scientific and Technical Services	324,700	1.34	1.50
2.	611 - Educational Services	208,500	1.08	1.00
3.	722 - Food Services and Drinking Places	135,800	0.93	0.92
4.	561 - Administrative and Support Services	130,900	1.03	1.20
5.	522 - Credit Intermediation and Related Activities	128,500	0.95	1.81
Total employment in the Toronto CMA		2,919,400		

Source: TRRA analysis based on Statistics Canada, Labour Force Survey, Custom Tabulation and Business Register.



Table 5. Top 5 and bottom 5 wage sectors in 2010

	<i>Subsector</i>	<i>Average weekly earnings</i>
1.	221 - Utilities	\$1,423.42
2.	912 - Provincial Administration	\$1,285.53
3.	913 - Municipal Administration	\$1,244.59
4.	523 - Securities, Commodity Contracts, and Other Financial Investment and Related Activities	\$1,231.85
5.	482 - Rail Transportation	\$1,216.68
	Industry Average in 2010	\$870.21
-5.	453 - Miscellaneous Stores Retailers	\$480.15
-4.	814 - Private Households	\$430.81
-3.	448 - Clothing and Clothing Accessories	\$426.51
-2.	722- Food Services and Drinking Places	\$381.83
-1.	451 - Sporting Goods, Hobby, Book & Music Stores	\$362.22

Source: Based on Statistics Canada, Labour Force Survey, Custom Tabulation.

Table 6. Top 5 and bottom 5 growth sectors in 2010

<i>Top 5 and bottom 5 Change in the number of establishments 2000 to 2010</i>			<i>Establishment LQ</i>	<i>Employment LQ</i>
1.	541 - Professional, Scientific and Technical Services	+25,240	1.34	1.50
2.	531 - Real Estate	+19,584	1.32	1.47
3.	814 - Private Households	+12,984	2.00	1.64
4.	484 - Truck Transportation	+10,131	1.09	0.84
5.	551 - Management of Companies and Enterprises	+7,226	1.24	-
-5.	417 - Machinery, Equipment and Supplies Wholesaler-Distributors	-524	1.09	1.28
-4.	522 - Credit Intermediation and Related Activities	-575	0.95	1.81
3.	453 - Miscellaneous Store Retailers	-610	0.75	1.12
-2.	532 - Rental and Leasing Services	-765	0.71	1.34
-1.	418 - Miscellaneous Wholesaler-Distributors	-846	1.24	1.20
Overall growth, all subsectors		+125,523		
<i>Top 5 and bottom 5 Change in employment 2000 to 2010</i>			<i>Establishment LQ</i>	<i>Employment LQ</i>
1.	541 - Professional, Scientific and Technical Services	+77,800	1.34	1.50
2.	611 - Educational Services	+69,100	1.08	1.00
3.	522 - Credit Intermediation and Related Activities	+43,900	0.95	1.81
4.	722 - Food Services and Drinking Places	+30,700	0.93	0.92
5.	621 - Ambulatory Health Care Services	+28,800	1.02	1.05
-5.	334 - Computer and Electronic Product Manufacturing	-8,600	1.44	1.88
-4.	332 - Fabricated Metal Product Manufacturing	-10,200	1.12	1.05
-3.	333 - Machinery Manufacturing	-10,400	1.17	0.65
-2.	315 - Clothing Manufacturing	-12,200	1.19	1.14
-1.	336 - Transportation Equipment Manufacturing	-28,000	0.80	1.10
Overall growth, all subsectors		+453,800		

Note: The change in the number of establishments serves as an estimate only. "Establishment data is not intended for use as a time series because changes that affect the continuity of the data might result from changes in methodology. Some examples are: the change to another version of the Standard Geographical Classification (SGC) or the differences in the Classification systems" (Statistics Canada).

Source: TRRA analysis based on Statistics Canada, Labour Force Survey, Custom Tabulation and Business Register.



Table 7. Top 10 location quotients in 2010

<i>By establishment LQ</i>		<i>By employment LQ</i>		
1.	814 - Private Households	2.00	526 - Funds and Other Financial Vehicles	3.84
2.	512 - Motion Picture and Sound Recording Industries	1.96	518 - Data Processing, Hosting, and Related Services	2.96
3.	526 - Funds and Other Financial Vehicles	1.84	334 - Computer and Electronic Product Manufacturing	1.88
4.	414 - Personal and Household Goods Wholesaler-Distributors	1.69	523 - Securities, Commodity Contracts, and Other Financial Investment and Related Activities	1.84
5.	322 - Paper Manufacturing	1.53	515 - Broadcasting (except Internet)	1.83
6.	323 - Printing and Related Support Activities	1.49	522 - Credit Intermediation and Related Activities	1.81
7.	518 - Data Processing, Hosting and Related Services	1.49	414 - Personal and Household Goods Wholesaler Distributors	1.79
8.	533 - Lessors of Non-Financial Intangible Assets (except Copyrighted Works)	1.44	323 - Printing and Related Support Activities	1.67
9.	334 - Computer and Electronic Product Manufacturing	1.44	814 - Private Households	1.64
10.	711 - Performing Arts, Spectator Sports and Related Industries	1.43	492 - Couriers and Messengers	1.63

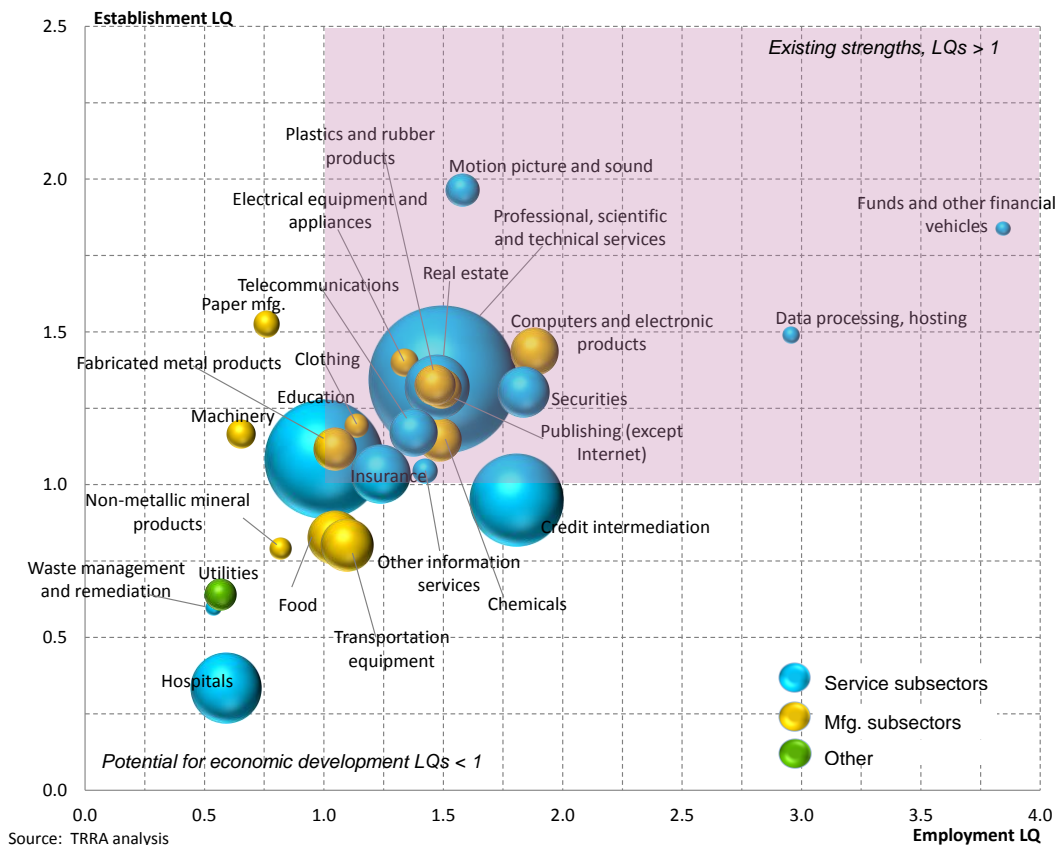
Source: TRRA analysis based on Statistics Canada, Labour Force Survey, Custom Tabulation and Business Register.



Firm and Job Location Quotients Combined

Another approach to identifying unique assets is to consider employment and establishment LQs simultaneously, as shown in Figure 9. Each bubble in the plot is representative of one subsector. The x-axis is the employment LQ and the y-axis is the establishment LQ. The size of the bubble is proportional to the number of employees in the subsector. The upper-right quadrant reveals Toronto region strengths within the country – i.e. those subsectors whose firms and jobs LQs are greater than unity. The lower-left quadrant, on the other hand, indicates industries that fall below the national average in both employment and business counts. Therefore, subsectors such as utilities (221), hospitals (622), waste management and remediation (562) provide opportunities for sector development.

Fig. 9. LQs for select subsectors (at the 3-digit level)
Bubble size is based on total employment numbers per subsector.



Tables 7a-c summarize those industries with an exceptionally high degree of specialization and economic activity (both LQs > 1.25) in the region. This is a mix of knowledge-intensive services and manufacturing industries. The main difference, however, is that services are strong and growing while manufacturing is established but declining; it has shed thousands of jobs between 2000 and 2010. Industries associated with the manufacture of plastics and rubber products (NAICS 326), computer and electronic products (334) and electrical equipment, appliances and components (335) are mature but have suffered from job losses over the past decade.

Although the results reinforce what is already known about Toronto’s industrial make-up, they also demonstrate that within the finance and insurance (52) sector, it is two subsectors, namely securities, commodities (523) and funds and other financial vehicles (526), that have a remarkable degree of concentration in the Toronto CMA. Moreover, activities within Toronto’s information and cultural industries (51) sector are driven by motion picture and sound recording (512) and data processing and



hosting (518). These are small, niche industries and Toronto accounts for a very large percentage of such jobs across the country.

Based on the results of Phase 1 of the sector-focused economic analysis, we have identified four distinctive categories of subsectors for consideration in future regional development and strategic planning. This is the proposed classification with examples:

- | | | |
|---|-----------|--|
| <ul style="list-style-type: none"> • High firm and employment LQs, good wages (Table 7a) | Growing | <ul style="list-style-type: none"> • Motion picture and sound • Data processing • Funds and other financial vehicles • Professional, scientific and technical services |
| <ul style="list-style-type: none"> • Large employment, good wages (Table 7b) | Growing | <ul style="list-style-type: none"> • Other finance and insurance subsectors • Real estate |
| <ul style="list-style-type: none"> • Declining sector, good wages (Table 7c) | Declining | <ul style="list-style-type: none"> • Manufacturing subsectors |
| <ul style="list-style-type: none"> • Public services sectors, good wages (Table 7d) | Stable | <ul style="list-style-type: none"> • Government services • Health care • Education |

The first category is made up of subsectors which have exceptionally high firm and employment LQs, show high growth potential and are candidates for focused policies. The objective here would be to create new business opportunities by positioning them as a unique value proposition for the region. This includes motion picture and sound, funds and other financial vehicles, as well as professional, scientific and technical services. The second group of subsectors covers real estate and segments of finance and insurance. These are large employers with good wages and positive growth. Manufacturing subsectors (third category) have a stronghold in the region; they are large employers with above-average wages. But the fact that competitive pressures in the global marketplace have caused significant job losses calls for policies to reverse the trend. As Canada's most populated city-region and the seat of the provincial government, the public services sector (fourth category) is embedded in the regional economy. Despite the anticipated deficit-cutting measures at the municipal and provincial level, there will always be demand for more government services, health and education – not less. The public sector is large, stable, and pays well but there will be renewed emphasis on 'leanness', and efficiency improvements in service delivery.



Table 7a. Subsectors with highest firm and employment LQs, strong growth, good wages

	Change (2000 to 2010) in					Description
	Employment (2010)	Establishment LQ	Employment LQ	Establishments	Employment	
512 - Motion Picture and Sound Recording	16,000	1.96	1.58	+2,026	+3,500	Businesses engaged in producing and distributing video and audio recordings or providing related services (post-production, exhibition, motion picture processing and developing, sound recording studios).
518 - Data Processing, Hosting and Related Activities	4,000	1.49	2.96	n.a.	+2,000	Establishments that provide the infrastructure for hosting and/or data processing services.
526 - Funds and Other Financial Vehicles	2,700	1.84	3.84	-234	n.a.	Funds, trusts and other financial vehicles organized to hold portfolio assets for the benefit of others, such as unit holders, beneficiaries of pension funds, and investors.
541 - Professional, Scientific and Technical Services	324,700	1.34	1.50	+25,240	+77,800	Firms with processes where human capital is the major input. They offer knowledge and skills to deliver services to the client (e.g. legal counsel, accounting, advertising, public relations, computer systems design, scientific R&D, management, scientific and technical consulting).

Table 7b. Subsectors with large employment, high firm and employment LQs, strong growth, good wages

523 - Securities, Commodity Contracts, and Other Financial Investment and Related Activities	38,000	1.30	1.84	+4,850	+3,400	Businesses engaged in services related to securities (underwriting and/or making markets for securities and commodities, acting as brokers between buyers and sellers), or providing other services, such as managing portfolios of assets, providing investment advice.
524 – Insurance Carriers and Related Activities	51,500	1.04	1.24	+635	+9,800	Firms engaged in underwriting annuities and insurance policies, reinsurance, and the retailing of insurance and the provision of related services to policy holders.
531 - Real Estate	61,400	1.32	1.47	+19,584	+21,900	Establishments engaged in renting and leasing real estate, managing real estate for others, acting as intermediaries in the sale and/or rental of real estate, and appraising real estate.
711 - Performing Arts, Spectator Sports and Related Activities	35,900	1.43	1.59	+1,764	+10,200	Firms involved in producing, or organizing and promoting live presentations including actors and actresses, singers, dancers, musical groups and artists, athletes, freelance entertainers, career managers.

Table 7c. Declining subsectors (good wages)

	Change (2000 to 2010) in					Description
	Employment (2010)	Establishment LQ	Employment LQ	Establishments	Employment	
323 - Printing Mfg.	24,700	1.49	1.67	-501	-4,400	Printing and providing related support activities (e.g. screen printing, digital printing, bindery work but not newspaper publishing).
326 - Plastics and Rubber Products Mfg.	24,000	1.33	1.47	-153	-6,800	Goods production through processing of raw rubber and plastics.
334 - Computer and Electronic Product Mfg.	32,900	1.44	1.88	-237	-8,600	Manufacture of computers, computer peripherals, communications equipment, and similar electronic products and components. Processes are fundamentally different from other machinery and equipment. The design and use of integrated circuits and the application of highly specialized miniaturization technologies are common elements here.
335 - Electrical Equipment, Appliance and Component Mfg.	10,700	1.40	1.34	-81	-2,200	Establishments engaged in manufacturing products that generate, distribute and use electrical power (e.g. electrical lighting, appliances, batteries, generators).
511 - Publishing Industries (except Internet)	22,700	1.31	1.49	+321	-400	Establishments involved in publishing newspapers, periodicals, books, databases, software and other works. These works are characterized by the intellectual creativity required in their development and are usually protected by copyright. Publishers distribute or arrange for the distribution of copies of these works.



Table 7d. Public services (stable, good wages)

	Change (2000 to 2010) in					Description
	Employment (2010)	Establishment LQ	Employment LQ	Establishments	Employment	
611 - Educational Services	208,500	1.08	1.00	+2,201	+69,100	Establishments providing instruction and training in a wide variety of subjects: schools, colleges, universities and training centres.
621 - Ambulatory Health Care Services	84,700	1.02	1.05	+6,220	+28,800	Providing health care services, directly or indirectly, to ambulatory patients (e.g. offices of physicians, dentists, health practitioners, out-patient care centres).
622 - Hospitals	72,600	0.33	0.59	-33	+14,600	Establishments, licensed as hospitals, engaged in providing medical, diagnostic and treatment services, and specialized accommodation services to in-patients.
623 - Nursing and Residential Care Facilities	38,500	0.54	0.65	+718	+15,100	Establishments providing residential care combined with either nursing, supervisory or other types of care. The facilities are a significant part of the production process and the care provided is a mix of health and social services, with the health component being largely nursing services.
912 - Provincial Administration	38,700	0.58	0.82	+219	+10,700	Establishments of provincial or territorial governments primarily engaged in activities of a governmental nature, such as legislative activities, judicial activities, taxation, public order and safety, and the administration of provincial or territorial government programs.
913 - Municipal Administration	48,700	0.09	1.02	+16	+12,600	This subsector comprises establishments of local governments primarily engaged in activities of a governmental nature, such as legislative activities, taxation, public order and safety, and the administration of local government programs.

Note: The change in the number of establishments serves as an estimate only. "Establishment data is not intended for use as a time series because changes that affect the continuity of the data might result from changes in methodology. Some examples are: the change to another version of the Standard Geographical Classification (SGC) or the differences in the Classification systems" (Statistics Canada).

Source: TRRA analysis based on Statistics Canada, Labour Force Survey, Custom Tabulation and Business Register. Subsector descriptions obtained from Statistics Canada, North American Industry Classification System 2007, <http://www.statcan.gc.ca/subjects-sujets/standard-norme/naics-scian/2007/list-liste-eng.htm>.



Phase 1 Conclusion

A scan of leading regions around the world shows that their success is attributed partly to the ability of local leaders to identify core competencies and industrial advantages and set policies to make associated industries and research more competitive and innovative. As Canada's largest urban center, the Toronto region is a major beneficiary of provincial and federal policies. Toronto's priority areas include: financial and business services, life sciences, ICT, creative industries, cleantech and green energy, manufacturing and materials, food and beverage, as well as film and television. This strategy takes advantage of Toronto CMA's recognized strengths that are supported by an ecosystem of businesses, research centers, universities and colleges.

However, what an in-depth structural study such as this shows is that, in reality, local strengths go beyond new and emerging industries that underpin current economic development and investment attraction activities. The Toronto region has a remarkably high economic activity in niche finance and services areas that should be exploited for investment and business opportunities. Phase 1 of this study also presents an industry classification as a potential tool for sector development strategies. Toronto region subsectors may be broken down into four main groups: (i) high firm and job location quotient subsectors; (ii) large employment subsectors; (iii) declining subsectors; and (iv) public services such as health care, education and government administration. What the research findings show is that there is no 'one-size-fits-all approach' or a set of policies that can accommodate all industries equally. There must be a right set of strategies related to the subsector-specific pressures and circumstances. Some Toronto region subsectors are small but show high growth potential, while others are large but on the decline.

Successful economic development initiatives begin with identifying segments of the industry that will serve as fundamental drivers for the economy and job creation. Therefore, the purpose of this study is to offer findings that will contribute to a meaningful discussion about sectors of strategic importance. Like many other regional economies, the challenge for the Toronto region is to strike a balance between developing new, emerging sectors and tackling the unique challenges faced by those that are large and established.



List of Acronyms and Abbreviations

CAGR	Compound Annual Growth Rate
CMA	Census Metropolitan Area
FDI	Foreign direct investment
G7	Group of seven industrialized nations: France, Germany, Italy, Japan, United Kingdom, United States, Canada
GDP	Gross domestic product
GEA	Green Energy Act (Ontario)
GTA	Greater Toronto Area
ICT	Information and communications technology
LFS	Labour Force Survey (Statistics Canada)
LQ	Location quotient
NAICS	North American Industry Classification System
OECD	Organisation for Economic Co-operation and Development
RTP	Research Triangle Park (North Carolina)
R&D	Research and development
TRRA	Toronto Region Research Alliance



Exhibits: Tables

Exhibit 1. Exports of goods by sector, Canada and Ontario

CANADA NAICS – Sector	Billions of dollars		% of national exports		CAGR* (2000-2010)
	2000	2010	2000	2010	
11 - Agriculture, Forestry, Fishing and Hunting	\$12.469	\$19.418	3.2%	5.1%	4.5%
21 - Mining, Quarrying, and Oil and Gas Extraction	\$50.715	\$102.059	13.1%	26.6%	7.2%
22 - Utilities	\$4.062	\$2.043	1.1%	0.5%	-6.6%
31-33 Manufacturing	\$319.267	\$260.063	82.6%	67.8%	-2.0%
11-33 Goods-producing Industries	\$386.513	\$383.583	100.0%	100.0%	-0.1%

ONTARIO NAICS – Sector	Billions of dollars		% of provincial exports		CAGR* (2000-2010)
	2000	2010	2000	2010	
11 - Agriculture, Forestry, Fishing and Hunting	\$1.670	\$2.869	0.9%	1.8%	5.6%
21 - Mining, Quarrying, and Oil and Gas Extraction	\$2.568	\$14.280	1.4%	9.1%	18.7%
22 - Utilities	\$0.290	\$0.459	0.2%	0.3%	4.7%
31-33 Manufacturing	\$181.102	\$139.347	97.6%	88.8%	-2.6%
11-33 Goods-producing Industries	\$185.630	\$156.954	100.0%	100.0%	-1.7%

*CAGR – Compound Annual Growth Rate

Source: Industry Canada, Trade Data Online, 2011.



Exhibit 2. Structure of the Canadian economy (share of GDP)

NAICS	Sector	2001	2010	Increase or decrease as % of national GDP	CAGR in \$ value of GDP (2001-2010)
11	Agriculture, Forestry, Fishing and Hunting	2.4%	2.1%	-	0.7%
21	Mining, Quarrying and Oil and Gas Extraction	4.9%	4.4%	-	0.5%
22	Utilities	2.6%	2.4%	-	0.9%
23	Construction	5.3%	6.0%	+	2.9%
31-33	Manufacturing	17.4%	12.9%	-	-1.2%
11-33	Goods-producing Industries	32.6%	28.2%	-	0.3%
41	Wholesale Trade	5.1%	5.6%	+	2.7%
44-45	Retail Trade	5.3%	6.2%	+	3.3%
48-49	Transportation and Warehousing	4.8%	4.7%	-	1.5%
51	Information and Cultural Industries	3.5%	3.7%	+	2.3%
52, 53, 55	Finance and Insurance, Real Estate and Leasing and Management of Companies and Enterprises	18.9%	20.9%	+	2.7%
54	Professional, Scientific, and Technical Services	4.6%	4.9%	+	2.5%
56	Administrative and Support, Waste Management and Remediation Services	2.2%	2.5%	+	3.0%
61	Educational Services	4.9%	5.1%	+	2.1%
62	Health Care and Social Assistance	6.5%	6.7%	+	2.1%
71	Arts, Entertainment and Recreation	1.0%	0.9%	-	1.1%
72	Accommodation and Food Services	2.4%	2.2%	-	0.9%
81	Other Services (except Public Administration)	2.5%	2.6%	+	2.2%
91	Public Administration	5.7%	6.1%	+	2.3%
41-91	Service Industries	67.4%	72.2%	+	2.7%
11-91	Canadian Economy	100.0%	100.0%		1.9%

Source: Table adapted from Industry Canada. Original data from Statistics Canada, Gross Domestic Product by Industry, 2001 to 2010. Percentages are estimates only. Industry Canada notes: "GDP is expressed in chained 2002 dollars in order to maintain accurate growth rates. Chained levels are non-additive, therefore sector values will not add up to the value for the Canadian economy."



Exhibit 3. Structure of the Ontario economy (share of GDP)

<i>NAICS</i>	<i>Sector</i>	2004	2010	Increase or decrease as % of provincial GDP
11-21	Primary	1.8%	1.5%	-
22	Utilities	2.1%	1.9%	-
23	Construction	5.1%	5.3%	+
31-33	Manufacturing	21.0%	15.4%	-
11-33	Goods-producing Industries	29.9%	24.1%	-
41	Wholesale Trade	5.9%	12.3%	+
44-45	Retail Trade	5.5%		
48-49	Transportation and Warehousing	3.8%	4.0%	+
51	Information and Cultural Industries	3.9%	4.1%	+
52, 53	Finance and Insurance, Real Estate, Rental and Leasing	21.4%	23.7%	+
61	Educational Services	4.5%	11.8%	+
62	Health Care and Social Assistance	6.0%		
54,56	Professional and Administrative Services	8.3%	20.0%	+
71	Arts, Entertainment and Recreation	1.0%		
72	Accommodation and Food Services	2.0%		
81	Other Services (except Public Administration)	2.5%		
91	Public Administration	5.2%		
41-91	Service Industries	70.1%	75.9%	+
11-91	Ontario Economy	100%	100%	

Source: Ontario Ministry of Finance, "2008 Ontario Economic Outlook and Fiscal Review" and "Ontario Economic Accounts, Fourth Quarter 2010" (April 2011); OMAFRA, Ontario Gross Domestic Product (GDP).



Exhibit 4. Employment by sector in Canada and Ontario

NAICS - Sector	Canada total (2010): 17,041,000			Ontario total (2010): 6,610,000		
	% of national employment in		CAGR* (2000-2010)	% of provincial employment in		CAGR* (2000-2010)
	2000	2010		2000	2010	
11 - Agriculture, Forestry, Fishing and Hunting	3.3%	2.2%	-2.6%	1.8%	1.4%	-1.3%
21 - Mining, Quarrying, and Oil and Gas Extraction	1.1%	1.5%	4.9%	0.4%	0.5%	2.6%
22 - Utilities	0.8%	0.9%	2.5%	0.8%	0.9%	2.5%
23 - Construction	5.5%	7.1%	4.2%	5.5%	6.5%	3.0%
31-33 Manufacturing	15.2%	10.2%	-2.5%	18.4%	11.8%	-3.1%
11-33 Goods-producing Industries	25.8%	21.9%	-0.2%	27.0%	21.1%	-1.2%
41 - Wholesale Trade	3.7%	3.7%	1.4%	3.6%	3.8%	1.7%
44-45 Retail Trade	11.9%	12.0%	1.6%	11.5%	11.5%	1.3%
48-49 Transportation and Warehousing	5.2%	4.7%	0.4%	4.7%	4.6%	1.1%
51 - Information and Cultural Industries	2.6%	2.2%	-0.1%	2.8%	2.4%	-0.2%
52 - Finance and Insurance	4.1%	4.6%	2.6%	4.7%	5.4%	2.8%
53 - Real Estate and Rental and Leasing	1.7%	1.8%	2.2%	1.8%	2.1%	2.8%
54 - Professional Scientific and Technical Services	6.3%	7.4%	3.1%	7.2%	8.2%	2.7%
55 - Management of Companies and Enterprises	0.02%	0.01%	-4.0%	-	-	-
56 - Administrative and Support Services	3.6%	3.9%	2.4%	4.1%	4.3%	1.7%
61 - Educational Services	6.6%	7.1%	2.3%	6.3%	7.4%	3.0%
62 - Health Care and Social Assistance	10.3%	11.9%	3.0%	9.3%	10.9%	2.9%
71 - Arts, Entertainment and Recreation	1.9%	2.3%	3.1%	2.1%	2.4%	2.9%
72 - Accommodation and Food Services	6.4%	6.2%	1.2%	5.8%	5.9%	1.3%
81 - Other Services (except Public Administration)	4.6%	4.4%	1.0%	4.2%	4.3%	1.5%
91 - Public Administration	5.2%	5.6%	2.1%	4.8%	5.6%	2.8%
41-91 Service Industries	74.2%	78.1%	2.0%	73.0%	78.9%	2.1%
All Industries	100.0%	100.0%	1.4%	100.0%	100.0%	1.3%

*Compound Annual Growth Rate

Source: TRRA analysis based on employment data from Statistics Canada, Labour Force Survey, Custom Tabulation.



Exhibit 5. Toronto CMA average weekly earnings by sector (at the 2-digit NAICS code level). Arranged in descending order by 2010 earnings.

	Average weekly earnings		Average annual growth	
	2000	2010	\$ per week/year	CAGR 2000-2010
22 - Utilities	\$984.36	\$1,423.42	\$43.91	3.8%
21 - Mining, Quarrying, and Oil and Gas	-	\$1,320.99	-	-
91 - Public Administration	\$841.59	\$1,226.62	\$38.50	3.8%
54 - Professional Scientific and Technical Services	\$933.26	\$1,118.30	\$18.50	1.8%
52 - Finance and Insurance	\$853.80	\$1,069.09	\$21.53	2.3%
51 - Information and Cultural Industries	\$801.68	\$1,042.13	\$24.05	2.7%
61 - Educational Services	\$798.39	\$1,020.12	\$22.17	2.5%
23 - Construction	\$815.56	\$992.11	\$17.66	2.0%
41 - Wholesale Trade	\$766.68	\$930.37	\$16.37	2.0%
48-49 Transportation and Warehousing	\$679.81	\$921.28	\$24.15	3.1%
31-33 Manufacturing	\$714.97	\$915.61	\$20.06	2.5%
Above average in 2010				
All Industries	\$688.18	\$870.21	\$18.20	2.4%
Below average in 2010				
62 - Health Care and Social Assistance	\$627.33	\$860.55	\$23.32	3.2%
53 - Real Estate and Rental and Leasing	\$629.73	\$772.94	\$14.32	2.1%
81 - Other Services	\$599.25	\$639.35	\$4.01	0.6%
56 - Administrative and Support, Waste Management and Remediation Services	\$483.24	\$621.55	\$13.83	2.5%
44-45 Retail Trade	\$459.25	\$543.54	\$8.43	1.7%
71 - Arts, Entertainment and Recreation	\$486.85	\$542.55	\$5.57	1.1%
11 - Agriculture, Forestry, Fishing and Hunting	\$415.48	\$493.43	\$7.80	1.7%
72 - Accommodation and Food Services	\$343.56	\$415.85	\$7.23	1.9%
55 - Management of Companies and Enterprises	Data not available			

Source: TRRA analysis based on data from Statistics Canada, Labour Force Survey, Custom Tabulation.



Exhibit 6. Definitions of select subsectors at the 3-digit level

Subsector	Description
221 - Utilities	Establishments engaged in operating electric, gas and water utilities. These establishments generate, transmit, control and distribute electric power; distribute natural gas; treat and distribute water; operate sewer systems and sewage treatment facilities; and provide related services, generally through a permanent infrastructure of lines, pipes and treatment and processing facilities.
238 - Specialty Trade Contractors	Trade activities generally needed in the construction of buildings and structures, such as masonry, painting, or electrical work. The work performed may include new work, additions, alterations, maintenance, and repairs. Usually most of the work is carried out at the construction site.
315 - Clothing Mfg.	This subsector comprises establishments primarily engaged in manufacturing clothing.
322 - Paper Mfg.	The manufacture of pulp, paper, and paper products.
323 - Printing and Related Support Activities	Printing and providing related support activities (e.g. screen printing, digital printing, bindery work but not newspaper publishing).
326 - Plastics and Rubber Products Mfg.	Goods production through processing of raw rubber and plastics.
332 - Fabricated Metal Product Mfg.	Businesses involved in forging, stamping, forming, turning and joining processes to produce ferrous and non-ferrous metal products, such as cutlery and hand tools, architectural and structural metal products, boilers, tanks and shipping containers, hardware, spring and wire products, turned products, and bolts, nuts and screws.
333 - Machinery Mfg.	Establishments engaged in manufacturing industrial and commercial machinery, both special- and general-purpose machinery. Examples include agricultural, construction and mining machinery, rubber and plastics production machinery, pumps and compressors, ventilation, heating, air-conditioning and commercial refrigeration equipment, and metalworking machinery.
334 - Computer and Electronic Product Mfg.	Manufacture of computers, computer peripherals, communications equipment, and similar electronic products, and components. Processes are fundamentally different from other machinery and equipment. The design and use of integrated circuits and the application of highly specialized miniaturization technologies are common elements used here.
335 - Electrical Equipment, Appliance and Component Mfg.	Establishments engaged in manufacturing products that generate, distribute and use electrical power (e.g. electrical lighting, appliances, batteries, generators).
336 - Transportation Equipment Mfg.	Establishments manufacturing equipment for transporting people and goods. The industry groups are based on the various modes of transport - road, rail, air and water.
414 - Personal and Household Goods Wholesaler-Distributors	Wholesaling textiles, clothing, footwear, home entertainment equipment, household appliances, home furnishings, personal articles, pharmaceuticals, toiletries, cosmetics and sundries.
417 - Machinery, Equipment and Supplies Wholesaler-Distributors	Wholesaling farm, lawn and garden machinery and equipment; construction, forestry, mining and industrial machinery equipment and supplies; computers and communication equipment and supplies; and other machinery, equipment and supplies.
418 - Miscellaneous Wholesaler-Distributors	Wholesaling merchandise, such as recyclable materials, paper, paper products and disposable plastic products, agricultural supplies, chemicals and allied products, logs and wood chips, minerals, ores and precious metals, and second-hand goods (except machinery and automotive).
448 - Clothing and Clothing Accessories Stores	Establishments primarily engaged in retailing clothing and clothing accessories.
451 - Sporting Goods, Hobby, Book & Music Stores	Establishments primarily engaged in retailing sporting goods, games and toys, sewing supplies, fabrics, patterns, yarns and other needlework accessories, musical instruments, books and other reading materials, and audio and video recordings
453 - Miscellaneous Stores Retailers	Establishments engaged in retailing a specialized line of merchandise in other types of specialty stores. Florists, office supplies stores, stationery stores, gift, novelty and souvenir stores, used merchandise stores, pet and pet supplies stores, art dealers and manufactured (mobile) home dealers are included.
482 - Rail Transportation	Establishments engaged in the operation of long-haul or mainline railways, short-haul railways and passenger railways.
484 -Truck Transportation	Establishments engaged in the truck transportation of goods.
492 - Couriers and Messengers	The provision of courier delivery services; or messenger and delivery services of small parcels in an urban area.
511 - Publishing Industries	Establishments involved in publishing newspapers, periodicals, books, databases, software and other works. These works are characterized by the intellectual creativity required in their development and are usually protected by copyright. Publishers distribute or arrange for the distribution of copies of these works.



Subsector	Description
512 - Motion Picture and Sound Recording	Businesses engaged in producing and distributing video and audio recordings or providing related services (post-production, exhibition services, motion picture processing and developing, sound recording studios).
515 - Broadcasting (except Internet)	Firms engaged in operating radio and television broadcasting studios and facilities. Exclusions: operating telecommunications networks (517, Telecommunications) and broadcasting exclusively on the Internet (519, Other Information Services)
518 - Data Processing, Hosting and Related Activities	Establishments that provide the infrastructure for hosting and/or data processing services.
522 - Credit Intermediation and Related Activities	Firms engaged in lending funds raised from depositors or by issuing debt, and establishments that facilitate the lending of funds or issuance of credit by engaging in such activities as mortgage and loan brokerage, clearinghouse and reserve services, and cheque-cashing services.
523 - Securities, Commodity Contracts, and Other Financial Investment and Related Activities	Businesses engaged in services related to securities (underwriting and/or making markets for securities and commodities, acting as brokers between buyers and sellers), or providing other services, such as managing portfolios of assets, providing investment advice.
524 - Insurance Carriers and Related Activities	Firms engaged in underwriting annuities and insurance policies, reinsurance, the retailing of insurance and the provision of related services to policy holders.
526 - Funds and Other Financial Vehicles	Funds, trusts and other financial vehicles organized to hold portfolio assets for the benefit of others, such as unit holders, beneficiaries of pension funds, and investors. These entities earn interest, dividends and other property income, but have little or no employment and no revenue from the sale of services.
531 - Real Estate	Establishments engaged in renting and leasing real estate, managing real estate for others, acting as intermediaries in the sale and/or rental of real estate, and appraising real estate.
532 - Rental and Leasing Services	Establishments renting or leasing tangible goods, such as automobiles, computers, consumer goods, and industrial machinery.
533 - Lessors of Non-financial Intangible Assets (except Copyrighted Works)	Establishments holding non-financial intangible assets such as patents, trademarks, brand names, and/or franchise agreements, and allowing others to use or reproduce those assets for a fee.
541 - Professional, Scientific and Technical Services	Firms with processes where human capital is the major input. They offer knowledge and skills to deliver services to the client (e.g. legal counsel, accounting, advertising, public relations, computer systems design, scientific R&D, management, scientific and technical consulting).
551 - Management of Companies and Enterprises	Businesses managing companies and enterprises and/or holding the securities or financial assets of companies and enterprises, for the purpose of owning a controlling interest in them and/or influencing their management decisions. They may undertake the function of management, or they may entrust the function of financial management to portfolio managers.
561 - Administrative and Support Services	Establishments engaged in activities that support the day-to-day operations of other organizations: administration, hiring and placing personnel, preparing documents, taking orders from clients, collecting payments for claims, arranging travel, providing security and surveillance, cleaning buildings, and packaging and labelling products.
611 - Educational Services	Establishments providing instruction and training in a wide variety of subjects: schools, colleges, universities and training centres.
621 - Ambulatory Health Care Services	Providing health care services, directly or indirectly, to ambulatory patients (e.g. offices of physicians, dentists, health practitioners, out-patient care centres).
622 - Hospitals	Establishments, licensed as hospitals, primarily engaged in providing medical, diagnostic and treatment services, and specialized accommodation services to in-patients.
623 – Nursing and Residential Care Facilities	Establishments providing residential care combined with either nursing, supervisory or other types of care as required by the residents. In this subsector, the facilities are a significant part of the production process and the care provided is a mix of health and social services, with the health component being largely nursing services.
711 - Performing Arts, Spectator Sports and Related Activities	Firms involved in producing, or organizing and promoting, live presentations including actors and actresses, singers, dancers, musical groups and artists, athletes. Also includes freelance entertainers, artists and career managers.
722 - Food Services and Drinking Places	Businesses in the preparation of meals, snacks and beverages, to customer order, for immediate consumption on and off the premises. This subsector does not include food service activities that occur within establishments such as hotels, civic and social associations, amusement and recreation parks, and theatres.



Subsector	Description
814 - Private Households	Private households employing workers, on or about the premises, in activities concerned with the operation of the household: individuals such as cooks, maids and butlers, and outside workers, such as gardeners, caretakers and other maintenance workers. The services of individuals providing baby-sitting or nanny services are included.
912 - Provincial and Territorial Public Administration	Establishments of provincial or territorial governments engaged in activities of a governmental nature, such as legislative activities, judicial activities, taxation, public order and safety, and the administration of provincial or territorial government programs.
913 - Local, Municipal and Regional Public Administration	Establishments of local governments engaged in activities of a governmental nature, such as legislative activities, taxation, public order and safety, and the administration of local government programs.



Exhibit 7. Location quotients and employment/job growth

Sector/subsector	Establishment LQ (2010)	Employment LQ (2010)	Change in the no. of establishments (2000-2010)	Change in employment in thousands (2000-2010)
11 - Agriculture, Forestry, Fishing and Hunting	0.07	0.15	77	0.5
111 - Crop Production	0.08	0.23	60	1.1
112 - Animal Production	0.06	0.11	-124	0.8
113 - Forestry and Logging	0.06	-	8	-
114 - Fishing, Hunting and Trapping	0.01	-	-6	-
115 - Support Activities for Agriculture and Forestry	0.25	-	139	-
21 - Mining, Quarrying, and Oil and Gas Extraction	0.14	0.13	-82	3.4
211 - Oil and Gas Extraction	0.09	-	-11	-
212 - Mining and Quarrying (except Oil and Gas)	0.23	-	-19	-
213 - Support Activities for Mining and Oil and Gas Extraction	0.14	0.20	-52	3.2
22 - Utilities	0.64	0.57	137	-2.7
221 - Utilities	0.64	0.57	137	-2.7
23 - Construction	0.91	0.78	14,457	34.9
236 - Construction of Buildings	0.94	0.98	-	27.9
237 - Heavy and Civil Engineering Construction	0.86	0.45	-	-1.0
238 - Specialty Trade Contractors	0.90	0.75	-	8.0
31-33 - Manufacturing	1.06	1.13	-2,770	3342
311 - Food Manufacturing	0.83	1.05	-264	6.5
312 - Beverage and Tobacco Product Manufacturing	0.75	1.07	-6	-1.4
313 - Textile Mills	1.13	-	-84	-
314 - Textile Product Mills	0.96	1.25	-107	-0.1
315 - Clothing Manufacturing	1.19	1.14	-426	-12.2
316 - Leather and Allied Product Manufacturing	1.28	-	-51	-
321 - Wood Product Manufacturing	0.51	0.29	-2	-5.1
322 - Paper Manufacturing	1.53	0.76	-77	-7.1
323 - Printing and Related Support Activities	1.49	1.67	-501	-4.4
324 - Petroleum and Coal Product Manufacturing	0.52	1.03	-26	0.5
325 - Chemical Manufacturing	1.15	1.48	-152	-5.0
326 - Plastics and Rubber Products Manufacturing	1.33	1.47	-153	-6.8
327 - Non-Metallic Mineral Product Manufacturing	0.79	0.82	-3	-0.7
331 - Primary Metal Manufacturing	0.96	0.34	-16	-7.3
332 - Fabricated Metal Product Manufacturing	1.12	1.05	-329	-10.2
333 - Machinery Manufacturing	1.17	0.65	-149	-10.4
334 - Computer and Electronic Product Manufacturing	1.44	1.88	-237	-8.6
335 - Electrical Equipment, Appliance and Component Manufacturing	1.40	1.34	-81	-2.2
336 - Transportation Equipment Manufacturing	0.80	1.10	-113	-28.0
337 - Furniture and Related Product Manufacturing	0.95	1.55	-36	-5.3
339 - Miscellaneous Manufacturing	1.04	1.54	43	-2.4
41 - Wholesale Trade	1.15	1.26	-573	28.6



Sector/subsector	Establishment LQ (2010)	Employment LQ (2010)	Change in the no. of establishments (2000-2010)	Change in employment in thousands (2000-2010)
411 - Farm Product Wholesaler-Distributors	0.54	-	-4	-
412 - Petroleum Product Wholesaler-Distributors	0.25	-	-11	-
413 - Food, Beverage and Tobacco Wholesaler-Distributors	1.10	1.41	378	8.7
414 - Personal and Household Goods Wholesaler-Distributors	1.69	1.79	492	5.2
415 - Motor Vehicle and Parts Wholesaler-Distributors	0.89	1.25	-146	8.1
416 - Building Material and Supplies Wholesaler-Distributors	0.98	0.91	112	4.4
417 - Machinery, Equipment and Supplies Wholesaler-Distributors	1.09	1.28	-524	2.3
418 - Miscellaneous Wholesaler-Distributors	1.24	1.20	-846	2.0
419 - Wholesale Electronic Markets and Agents and Brokers	1.13	-	-24	-
44-45 - Retail Trade	0.82	0.90	4,263	578.1
441 - Motor Vehicle and Parts Dealers	0.62	0.68	394	4.6
442 - Furniture and Home Furnishings Stores	0.97	0.65	233	-2.3
443 - Electronics and Appliance Stores	1.00	0.93	287	-4.3
444 - Building Material and Garden Equipment and Supplies Dealers	0.59	0.62	356	3.9
445 - Food and Beverage Stores	0.85	0.89	1,233	13.7
446 - Health and Personal Care Stores	1.14	0.82	1,343	4.2
447 - Gasoline Stations	0.40	0.47	-36	-3.3
448 - Clothing and Clothing Accessories Stores	0.90	1.20	542	12.1
451 - Sporting Goods, Hobby, Book and Music Stores	0.73	1.06	8	-1.3
452 - General Merchandise Stores	0.91	1.01	76	6.6
453 - Miscellaneous Store Retailers	0.75	1.12	-610	7.2
454 - Non-Store Retailers	1.15	1.13	437	2.4
48-49 - Transportation and Warehousing	1.11	1.07	15,891	460.5
481 - Air Transportation	0.50	1.08	-29	-1.0
482 - Rail Transportation	0.24	0.96	-15	3.7
483 - Water Transportation	0.25	-	-15	-
484 - Truck Transportation	1.09	0.84	10,131	5.1
485 - Transit and Ground Passenger Transportation	1.27	1.16	2,871	4.6
486 - Pipeline Transportation	0.15	-	-6	-
487 - Scenic and Sightseeing Transportation	0.40	-	25	-
488 - Support Activities for Transportation	1.27	1.16	1,774	9.7
491 - Postal Service	0.94	1.12	-45	5.3
492 - Couriers and Messengers	1.11	1.63	1,055	-2.8
493 - Warehousing and Storage	0.83	1.51	145	-0.6
51 - Information and Cultural Industries	1.59	1.53	3,257	2.5
511 - Publishing Industries (except Internet)	1.31	1.49	321	-0.4
512 - Motion Picture and Sound Recording Industries	1.96	1.58	2,026	3.5
515 - Broadcasting (except Internet)	1.21	1.83	-	1.5
517 - Telecommunications	1.17	1.38	-	-8.3
518 - Data Processing, Hosting, and Related Services	1.49	2.96	-	2.0

Sector/subsector	Establishment LQ (2010)	Employment LQ (2010)	Change in the no. of establishments (2000-2010)	Change in employment in thousands (2000-2010)
519 - Other Information Services	1.04	1.42	-	4.3
52 - Finance and Insurance	1.22	1.64	4,676	59.2
521 - Monetary Authorities - Central Bank	0.58	-	0	-
522 - Credit Intermediation and Related Activities	0.95	1.81	-575	43.9
523 - Securities, Commodity Contracts, and Other Financial Investment and Related Activities	1.30	1.84	4,850	3.4
524 - Insurance Carriers and Related Activities	1.04	1.24	635	9.8
526 - Funds and Other Financial Vehicles	1.84	3.84	-234	-
53 - Real Estate and Rental and Leasing	1.27	1.44	18,911	24.3
531 - Real Estate	1.32	1.47	19,584	21.9
532 - Rental and Leasing Services	0.71	1.34	-765	2.3
533 - Lessors of Non-Financial Intangible Assets (Except Copyrighted Works)	1.44	-	92	-
54 - Professional, Scientific and Technical Services	1.34	1.50	25,240	77.8
541 - Professional, Scientific and Technical Services	1.34	1.50	25,240	77.8
55 - Management of Companies and Enterprises	1.24	-	7,226	-
551 - Management of Companies and Enterprises	1.24	-	7,226	-
56 - Administrative and Support, Waste Management and Remediation Services	1.01	1.17	4,077	13.0
561 - Administrative and Support Services	1.03	1.20	3,863	12.6
562 - Waste Management and Remediation Services	0.60	0.54	214	0.4
61 - Educational Services	1.08	1.00	2,201	69.1
611 - Educational Services	1.08	1.00	2,201	69.1
62 - Health Care and Social Assistance	0.90	0.74	7,551	70.6
621 - Ambulatory Health Care Services	1.02	1.05	6,220	28.8
622 - Hospitals	0.33	0.59	-33	14.6
623 - Nursing and Residential Care Facilities	0.54	0.65	718	15.1
624 - Social Assistance	0.66	0.74	646	12.1
71 - Arts, Entertainment and Recreation	1.01	1.11	1,807	25.0
711 - Performing Arts, Spectator Sports and Related Industries	1.43	1.59	1,764	10.2
712 - Heritage Institutions	0.28	0.40	-15	-
713 - Amusement, Gambling and Recreation Industries	0.59	0.93	58	14.4
72 - Accommodation and Food Services	0.81	0.87	388	28.1
721 - Accommodation Services	0.25	0.65	136	-2.4
722 - Food Services and Drinking Places	0.93	0.92	252	30.7
81 - Other Services (except Public Administration)	1.01	0.92	18,511	28.6
811 - Repair and Maintenance	0.75	0.68	1,433	-0.9
812 - Personal and Laundry Services	0.97	0.90	1,929	13.1
813 - Religious, Grant-Making, Civic, and Professional and Similar Organizations	0.75	0.99	2,165	9.6
814 - Private Households	2.00	1.64	12,984	6.7
91 - Public Administration	0.25	0.72	278	34.8
911 - Federal Government Public Administration	0.36	0.44	42	11.2



Sector/subsector	Establishment LQ (2010)	Employment LQ (2010)	Change in the no. of establishments (2000-2010)	Change in employment in thousands (2000-2010)
912 - Provincial and Territorial Public Administration	0.58	0.82	219	10.7
913 - Local, Municipal and Regional Public Administration	0.09	1.02	16	12.6
914 - Aboriginal Public Administration	0.01	-	1	-
919 - International and Other Extra-Territorial Public Administration	1.11	-	0	-
All industries	-	-	125,523	453.8

Note that in some cases employment LQs and changes in job numbers could not be calculated because either (i) employment numbers were suppressed or (ii) registered as '0.0' with Statistics Canada.

The change in the number of establishments serves as an estimate only. "Establishment data is not intended for use as a time series because changes that affect the continuity of the data might result from changes in methodology. Some examples are: the change to another version of the Standard Geographical Classification (SGC) or the differences in the Classification systems" (Statistics Canada).

Source: TRRA analysis based on data from Statistics Canada.



Methodology

Labour Force

Canadian labour force data is based on a custom tabulation from Statistics Canada's Labour Force Survey (LFS) and estimates the number of persons employed per sector or subsector (NAICS 2007). In Ontario, Statistics Canada suppresses LFS data for any sector or subsector with employment less than 1,500 persons. This is done for confidentiality reasons. The LFS is based on a monthly sample of approximately 56,000 households across Canada and more than 2,600 households in the Toronto CMA. Estimates typically vary from the results of a complete census. It must be noted that "LFS estimates are based on a sample, and are therefore subject to sampling variability. Estimates for smaller geographic areas or industries will have more variability."

For more information or guide to the LFS:

- Statistics Canada, *Labour Force Survey* [web page] <<http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3701&lang=en&db=IMDB&dbg=f&adm=8&dis=2>>

Establishments

Business data is based on a custom tabulation from Statistics Canada's Canadian Business Patterns and estimates the number of business establishments per sector and subsector. Industry classification is based on the 2007 NAICS codes. Statistics Canada's definition of a **statistical establishment** is "the production entity or the smallest grouping of production entities which:

- (a) Produces a homogeneous set of goods or services;
- (b) Does not cross provincial boundaries; and

(c) Provides data on the value of output together with the cost of principal intermediate inputs used along with the cost and quantity of labor resources used to produce the output."

Statistics Canada notes that the "establishment data is not intended for use as a time series because changes that affect the continuity of the data might result from changes in methodology. Some examples are: the change to another version of the Standard Geographical Classification (SGC) or the differences in the Classification systems."

For more information on 2007 NAICS:

- Statistics Canada, 'North American Industry Classification System (NAICS) 2007', *Definitions, data sources and methods* [web page] (17 May 2010) <<http://stds.statcan.gc.ca/naics-scian/2007/cs-rc-eng.asp?criteria=541>>
- Statistics Canada, *Canadian Business Patterns* [web page] <<http://www.statcan.gc.ca/bsolc/olc-cel/olc-cel?catno=61F0040X&lang=eng>>

Currency

Unless indicated otherwise, all amounts are expressed in Canadian dollars.



Endnotes

- ¹ Industry Canada, 'GDP Canadian Economy (NAICS 11-91)', *Canadian Industry Statistics (CIS)* [web page] (6 Oct. 2011) <http://www.ic.gc.ca/eic/site/cis-sic.nsf/eng/h_00013.html>
- ² Organisation for Economic Co-operation and Development, *Statistics Portal* [web database] <http://www.oecd.org/statsportal/0,3352,en_2825_293564_1_1_1_1_1,00.html>
- ³ Ontario Ministry of Finance, 'Ontario Economic Accounts – First Quarter of 2011', *Quarterly Economic Accounts* [web page] <<http://www.fin.gov.on.ca/en/economy/ecaccts/>>
- ⁴ Industry Canada, 'Definition Goods-Producing Industries (NAICS 11-33)', *Canadian Industry Statistics (CIS)* [web page] (25 Feb. 2011) <http://www.ic.gc.ca/eic/site/cis-sic.nsf/eng/h_00007.html>
- ⁵ Toronto Region Research Alliance, *The Race for Global Leadership in Innovation: An Analysis of National R&D Strategies* (Toronto: TRRA, 2011).
- ⁶ Toronto Region Research Alliance, *At a Crossroads: Strengthening the Toronto Region's Research and Innovation Economy. Lessons from Leading High-tech Centres Around the World* (Toronto: TRRA, 2006).
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