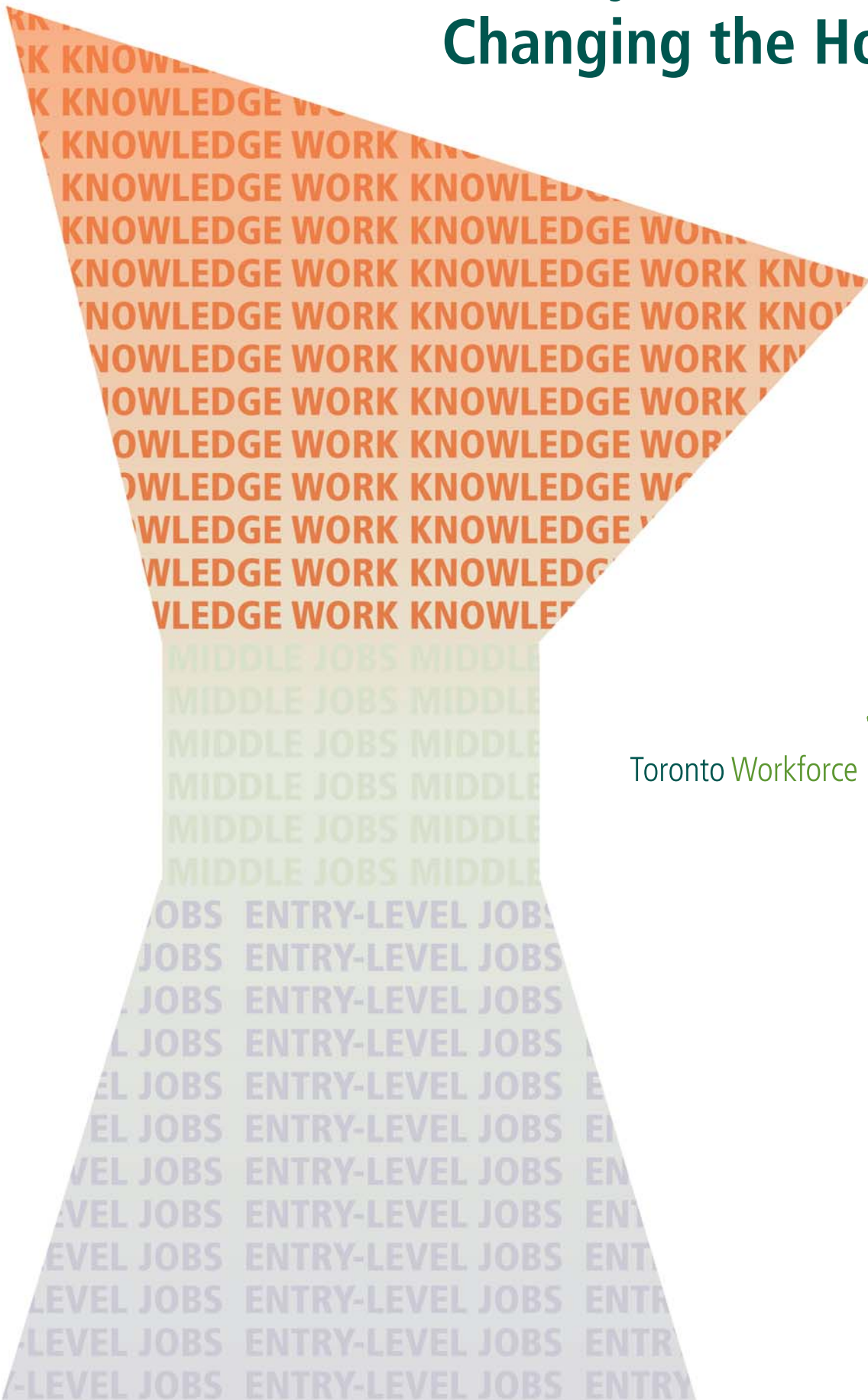


An Economy Out of Shape: Changing the Hourglass



Toronto Workforce  Innovation Group

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April 1, 2010

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ACKNOWLEDGEMENTS

The Toronto Workforce Innovation Group, TWIG is a not-for-profit organization governed by a volunteer Board of Directors representing business, labour, community groups and education and training. Our vision sees sustainable jobs in a vibrant economy. The Toronto Workforce Innovation Group, formerly the Toronto Training Board, acts as a catalyst for labour market solutions grounded in research and guided by multi-stakeholder perspectives. We achieve this by:

- Researching and analyzing labour market trends and challenges
- Distributing current, appropriate labour market information about Toronto
- Developing strategies and fostering partnerships that meet the labour market needs of business and labour and address the issues of Toronto's workforce
- Providing opportunities for multiple stakeholders to discuss labour market issues
- Promoting strategies and public policies that support accessible, equitable opportunities for lifelong learning

The Toronto Workforce Innovation Group gratefully thanks all those whose advice and expertise guided the development of this paper. Their contributions greatly enriched both the process and the product. This paper was written by Tom Zizys.

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I. Executive Summary

This Toronto Workforce Innovation Group report examines changes in the occupational structure of the labour force in the City of Toronto and the rest of Ontario using Statistics Canada census data. The purpose of this report is to highlight trends, isolate the impact of these trends on different population groups, and offer recommendations that can contribute to economic growth and productivity as well as promote equitable outcomes for all workers.

The Toronto Workforce Innovation Group (formerly known as the Toronto Training Board) is a not-for-profit organization that acts as a catalyst for workforce solutions. TWIG conducts labour market studies, analyzes employment trends, convenes stakeholder consultations and facilitates workforce initiatives that serve the needs of employees and employers in the City of Toronto.

Rationale For This Research

Toronto's labour force has experienced significant changes over the last 20 years, not only in terms of notable employment growth but also considerable job losses among certain occupations. To make sense of these trends, three distinct occupational categories have been identified in this report:

- Entry-level jobs (which require no previous work experience and no more than a high school education);
- Middle-level jobs (which require several years of work experience or some pre-acquired demonstrable skill);
- Knowledge jobs (which involve the application of a high level of skills and almost always require a university or college degree).

Over the last two decades, Ontario's labour market has moved towards an hourglass shape, with an increasing proportion of jobs at both ends of the labour market spectrum. These are high-end, well-paid Knowledge jobs and low-skilled, low-paid Entry-level jobs. The Middle-level sector of jobs continues to contract. In the City of Toronto, this hourglass is top-heavy, with a higher proportion of Knowledge jobs. In the rest of Ontario, the hourglass is bottom-heavy, with a higher proportion of Entry-level jobs.

The number of Knowledge jobs in the City of Toronto grew significantly between 2001 and 2006, boosting the economy and contributing to other phenomenon such as the housing price boom. But others did not experience comparable benefits-apart from Knowledge jobs, all other occupation categories in Toronto lost jobs between 2001 and 2006.

Newcomers landing in Toronto have experienced worse employment outcomes compared to newcomers settling in other parts of Ontario, even though the levels of educational attainment of these two groups were the same.

A healthy society requires both economic prosperity and economic fairness. A polarized labour market results in polarized incomes and fewer middle income jobs means fewer prospects for economic advancement. The growing concern regarding those who are working yet still poor is a direct consequence of the shape of our labour market, determining the kinds of jobs that are available as well as the opportunities for advancement. History has shown that no society can long sustain the contradictions of an economy that creates a thriving elite class yet makes life a hardship for everyone else.

There are strong reasons to place more emphasis on generating and enhancing access to Middle jobs, those jobs requiring skills and work experience but not a post-secondary degree:

- Middle jobs are typically better paying;
- More Middle jobs would provide the necessary opportunities for advancement to workers already in Entry-level jobs;
- More Middle jobs could also provide additional career pathways to Knowledge Worker jobs;
- More Middle jobs would boost the productivity of our businesses and contribute to the overall performance of our economy.

As we focus on transitioning to a knowledge economy, we need to ensure there is a place at the economic table for those who are not employed in Knowledge Work. Not every job requires a university degree and not every worker is going to have the means, the capacity or the interest to graduate from university. For the sake of economic prosperity, we must continue to promote higher education, innovation and high-skilled work. For the sake of economic opportunity and fairness, we need to ensure that work pays an adequate wage and offers the promise of a better life. Consequently, those employed in occupations outside the Knowledge Work category need the protection and enforcement of employment standards legislation, minimum wage laws and collective bargaining leverage.

II. Methodology

Methodology

This Toronto Workforce Innovation Group discussion paper proposes an analytical tool for assessing the changes that have taken place in the labour market over the last decade and more. This tool builds on the analysis advanced by Richard Florida, who highlights a Creative Class that has grown prominently in recent decades. Florida's approach has been applied in Ontario through the work of the Martin Prosperity Institute. The Toronto Workforce Innovation Group takes the Florida approach a step further, dividing jobs into Middle and Entry-level jobs as well as by broad industry sector, to distinguish different levels of job quality as well as by industry sector.

The Toronto Workforce Innovation Group skill/sector matrix divides all occupations into three broad skill categories:

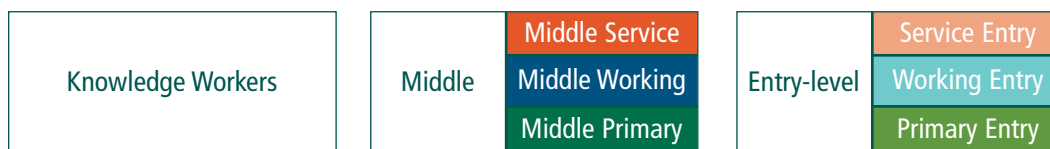
- *Knowledge Worker jobs*, which require a college diploma or a university degree or a highly refined skill;
- *Middle jobs*, which do not require a post-secondary degree but can be accessed on the basis of several years of workplace experience; and
- *Entry-level jobs*, typically requiring a high school diploma but otherwise requiring no experience, and the next-level jobs immediately accessible after a short period in an entry-level position.

Middle and Entry-level jobs are further divided by sector:

- *Service sector*: occupations engaged in the provision of services;
- *Working sector*: occupations engaged in manufacturing, the trades and transportation;
- *Primary sector*: occupations engaged in agriculture, fishing, farming and oil & mining.

The purpose for segmenting these occupations further helps to highlight the presence of Middle category jobs across the various sectors. Thus, Service sector jobs are not limited to cashiers and cleaners, but include bookkeepers and chefs, while Working sector jobs range from higher-skilled manufacturing workers and construction tradespeople to factory labourers and warehouse material handlers. The value of highlighting Middle jobs means one can identify jobs that pay relatively well but which do not require post-secondary credentials.

The resulting classification can be illustrated in the following way:



Findings

Applying this framework to the labour market dynamics experienced by residents of Toronto and comparing these to residents in the rest of Ontario results in the following findings:

OVERALL PROPORTION OF JOBS BY CATEGORY

In Ontario, Knowledge jobs (K-workers) have been a growing proportion of the Ontario workforce, and since 2001, it is the single largest category. The two Service categories combined are still larger than the K-worker category, with the Service Entry group (entry-level and next jobs) having the significantly larger proportion. Other than K-workers, all other categories show a consistent drop in their share of jobs between 1996 and 2006.

In 2006, the ratio of Knowledge jobs was a full 13 percentage points higher in Toronto (45.6% versus 32.2%, or 40% greater) compared to the rest of the province. Between 1996 and 2006, Knowledge Worker jobs exhibited robust growth in Toronto and, in fact, were the only category that added jobs. Every other occupational category experienced a net decline. For the rest of Ontario, the Knowledge job category grew significantly, but the other occupational categories also grew, albeit at a more limited rate.

In Toronto, the Knowledge job category increased by 151,000 positions between 1996 and 2006, while the other four main occupational categories **lost over 27,000 jobs**. For the rest of Ontario, the Knowledge job category increased by 395,000 jobs, matched by a nearly equal increase in the other four categories, a combined total of 327,000 jobs.

JOBS IN TORONTO AND EMPLOYED TORONTO RESIDENTS

Commuting patterns for Toronto residents vary according to skill/sector category. Toronto residents who are employed in Knowledge jobs or Service Middle category are less likely to commute outside Toronto for work. Workers who are employed in the Middle Worker and Worker Entry categories are more likely to commute to jobs outside of Toronto, and that likelihood has increased between 1996 and 2006. The trend for Toronto residents employed in Service Entry category jobs over the past ten years is inching toward net commuting outside Toronto.

In addition to more Toronto residents commuting to jobs outside of Toronto, more residents are finding themselves in jobs where they are required to move around (jobs with no fixed workplace, such as construction workers, cleaners and actors). These jobs may be in Toronto or outside Toronto.

EMPLOYMENT INCOME

Knowledge Workers earn on average higher incomes. Male Knowledge Workers earn more than female Knowledge Workers and Toronto Male Knowledge Workers earn average salaries considerably higher than any other group. Male Knowledge Workers in Toronto who worked full-year, full-time experienced a 28.2% increase in their average employment income in constant dollars between 1995 and 2005. This is an increase far greater than any other group, although other Knowledge Workers (females and those in the rest of Ontario) also benefited from healthy income increases.

Median incomes for full-time, full-year workers increased only slightly over this same period. This means that not only did wage earners in the higher-paid categories see their wages rise much more during this period compared to workers in other job categories, but that within any category, those already earning a higher wage saw greater increases than those earning a lower wage in that same category.

FULL-YEAR, FULL-TIME EMPLOYMENT

Most jobs categories have higher proportions of employees who work full-year, full-time, except the Service Entry category.

GENDER PROPORTIONS

Women are as equally represented as men in the Knowledge Worker category, but all other categories reflect gender differences. Women are over-represented in the Service categories and men in the Working and Primary categories.

OUTCOMES FOR CANADIAN-BORN, IMMIGRANTS AND NEWCOMERS

There is a noticeable difference in the occupational distribution between Toronto and the rest of Ontario for Canadian-born, immigrant and newcomer workers. In Toronto, Canadian-born

residents are far more likely to be employed in the Knowledge Worker occupations. Immigrants and Newcomers are more likely to be employed in the Middle Worker and Entry jobs. Newcomers, in particular, are more likely to be working in Service Entry jobs. The difference in the outcomes between Newcomers in Toronto and Newcomers in the rest of Ontario is puzzling because there is virtually no difference between the educational attainment of these two groups. Even as the educational attainment levels of newcomers rose between 2001 and 2006, a smaller proportion found employment in the Knowledge Worker category.

YOUTH

Youth aged 25 to 29 years of age in Toronto have slipped in their share of Knowledge Worker jobs. The difference is made up by employment in Service Entry jobs, although these jobs, as noted above, usually pay less.

EDUCATIONAL ATTAINMENT

Toronto residents without a post-secondary degree have seen a jump in their unemployment rate between 2001 and 2006. This increase was not experienced by the same category of residents in the rest of Ontario.

Analysis and Policy Implications

The implications of the findings, related to three categories of occupations (Knowledge Work, Middle jobs and Entry-level jobs) suggest three categories of interventions:

1. Strategies to support Knowledge Work
2. Programs related to Entry-level Work
3. Workforce development and labour market planning focused on Middle jobs

1. Knowledge work-education and R&D policies

Knowledge work is undeniably the wave of the future and the basis for continuing prosperity in Canada as well as in Toronto. For that reason, our education system needs to focus on preparing youth for the work of the future, starting with effective early childhood development programs that lay the foundation for future learning, stay-in-school programs through high school, and equitable financial support to ensure that those who seek post-secondary schooling do not encounter financial barriers. Public investments in and encouragement of innovation, research & development, and targeted niche industry clusters are among the strategies necessary to secure Toronto's and Ontario's standing in the increasingly competitive global marketplace.

2. Entry-level jobs-employment programs

At the other end of the jobs spectrum, entry-level jobs offer little in the way of quality employment, given their significantly lower wages and the limited proportions of full-year, full-time employment. Focusing on assisting those who are further removed from the labour market to access these jobs, through an emphasis on proper assessment of needs, provision of employability skills, and creating opportunities for transition into the labour market through social enterprises, among other possibilities would be a logical focus for labour market policies and programs.

Labour market policy relating to entry-level jobs should focus on enhancing the quality of these jobs through increasing the minimum wage, providing stronger employment standards legislation and giving workers greater leverage through strengthened collective bargaining rights. Individuals in entry-level jobs have the greatest need for enhanced support through Working Income Tax Benefits and Employment Insurance. Many of these interventions are already under consideration as part of Ontario's poverty reduction strategies.

3. Middle jobs-workforce development strategies

Employment programs might be re-oriented to focus on workforce development, in the following ways:

- Target Middle jobs as the focus of employment services;
- Build career ladders from Entry-level to Middle jobs;
- Focus on industries with a higher proportion of Middle jobs;
- Work with employers to expand the proportion of Middle jobs;
- Promote horizontal (between industry subsectors) ladders as well as vertical ladders;
- Develop the tools to advocate effectively with employers regarding Middle jobs and career ladders;
- Create or enhance workforce intermediaries that can deliver such demand-focused initiatives;
- Align workforce development with other economic as well as social goals.¹

III. Context

The current recession has heightened concerns about unemployment and its impact on the livelihoods of households across Canada. By all accounts, whatever economic recovery is emerging will be slow and advances on the job front will be even slower. How this recession impacts the mix and quality of jobs remains to be seen.

Toronto and Ontario's labour markets' have been evolving for years. They have absorbed technological change, globalization, corporate restructuring, aging demographics and waves of immigration. These factors have influenced the shape of our labour market, affecting what types of jobs are increasing, which are decreasing, and where there is wage growth. They have also influenced which population groups are benefiting or hurting from these transformations.

These longer term trends create lasting transformations affecting what kinds of jobs will be available in the future. Labour market policies developed in response to the current recession should take into consideration these longer term trends. Indeed recessions often simply accelerate these trends.

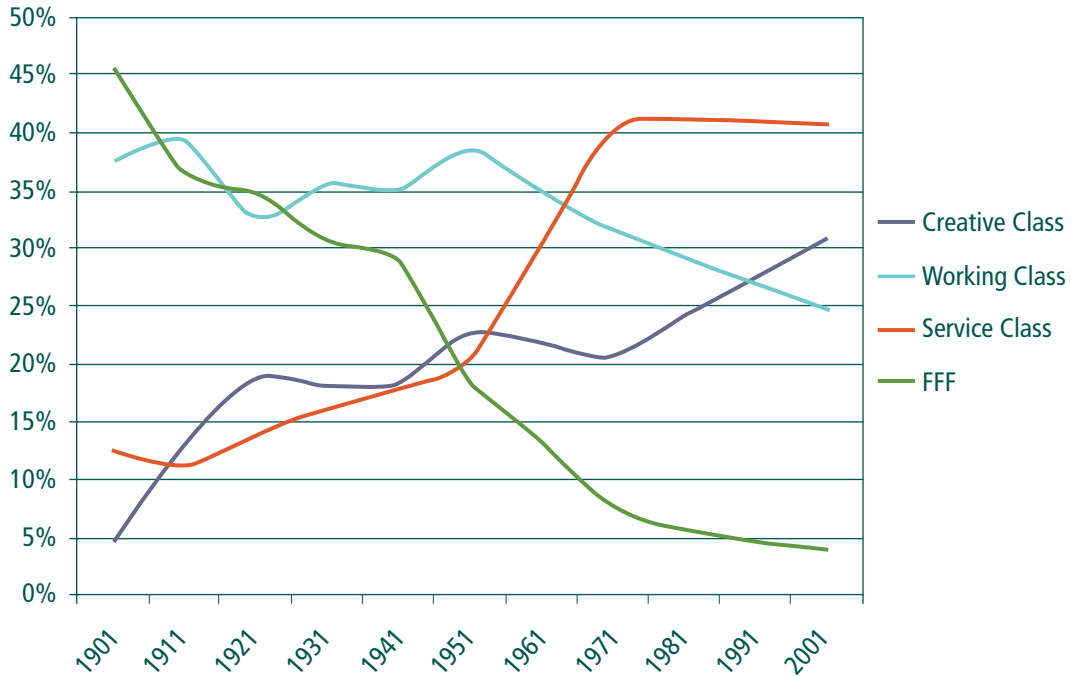
The labour market is exceptionally dynamic and complicated, made up of hundreds of different categories of occupations. There are several ways to measure changes among these many occupations to illustrate these evolving trends?

In most statistical analysis, jobs are either classified by industry division (e.g. manufacturing or wholesale trade) or occupational category (e.g. health occupations or sales and service occupations). Data that tracks employment by these groupings tells us which industries are growing and which occupations are in high-demand. We can create larger clusters of these occupations by sector, such as the primary sector (farming, forestry, fishing, mining), the secondary sector (goods producing) and the tertiary sector (services). A major concern over the last decade and more has been the loss of typically higher paid factory jobs and the rise of often lower-paid service jobs, that is, the shift from the secondary to the tertiary sector.

These broad sectors do not always accurately reflect the quality of the job or its remuneration. The so-called service sector has given rise to both lower paid traditional service jobs as well as highly paid creative jobs.² This Creative Class (workers who are primarily paid to create and who experience considerable autonomy and flexibility in their work) cuts across the traditional sectors, though the major portion of these jobs are often in the tertiary sector. This leaves a residual Service Class (workers who are primarily paid to execute according to plan), as well as Working Class (manufacturing, trades and transportation) and Fishing/Farming/Forestry.

This model was the basis for a recent paper authored by Amy Cervenak and published by the Martin Prosperity Institute entitled *Service Class Prosperity in Ontario*.³ The long term transition of the Canadian labour market has been characterized by the shift from the primary sector to the secondary sector and eventually to the tertiary sector. Cervenak's reliance on Florida's categories (primary = Fishing/Farming/ Forestry; secondary = Working Class; tertiary = Creative Class + Service Class, further highlighting the Creative Class separately) provides a telling picture of just how much our labour market has changed in the last one hundred years. The chart following illustrates these changes.

Chart 1: Share of the Canadian workforce by class, 1901 to 2001⁴



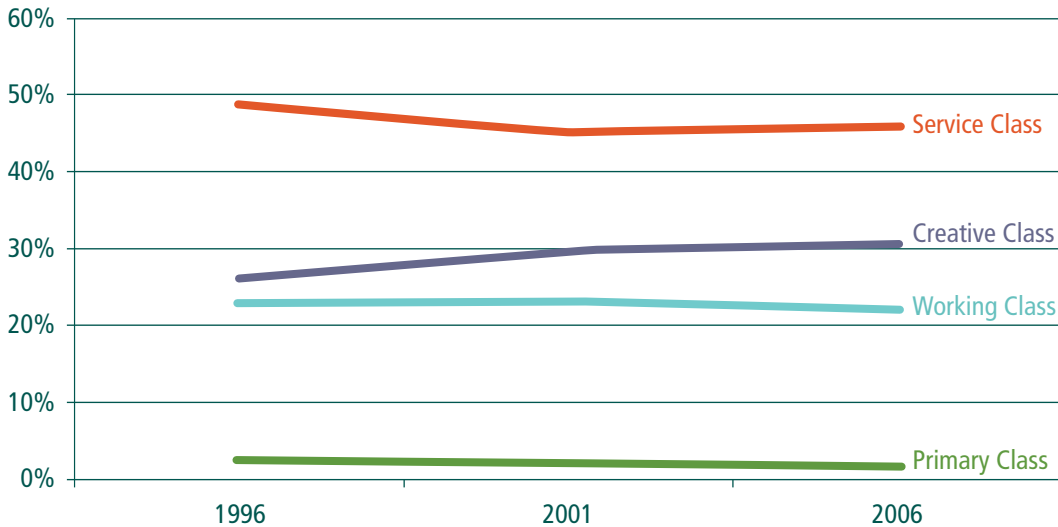
The clustering of occupations into several broad, homogeneous categories makes it possible to view longer-term trends that reflect bigger changes in the labour market. In this case it reflects not only what has happened to the three essential sectors (primary, secondary and tertiary) but also provides a more nuanced unpacking of the service sector through the division between the Creative Class and the Service Class. This latter distinction isolates two significant groups, those who are engaged in managerial, professional or technical occupations and those who are working in relatively routine, fairly constricted employment.

Both the Creative Class and the Service Class have grown in recent decades. The Service Class, as defined by Florida and expanded on by Cervenak, represents the largest share of Canada's and of Ontario's workforce. Cervenak further notes that the Service Class is a feminized, significantly part-time, low-human capital workforce, with considerably lower average earnings compared to the creative class.⁵

VIEWING RECENT CHANGES IN ONTARIO'S LABOUR MARKET THROUGH SEVERAL LENSES

Applying the Florida approach⁶ to the Ontario labour market over the last ten years produces the following chart:

Chart 2: Share of Ontario labour force⁷ by class (Florida typology), 1996 to 2006⁸



It is apparent that Canadian historical trends up until 2001, evident in Chart 1, continued into 2006. The Working Class and Primary jobs lost further share of the total labour market. The Creative Class continued to increase.

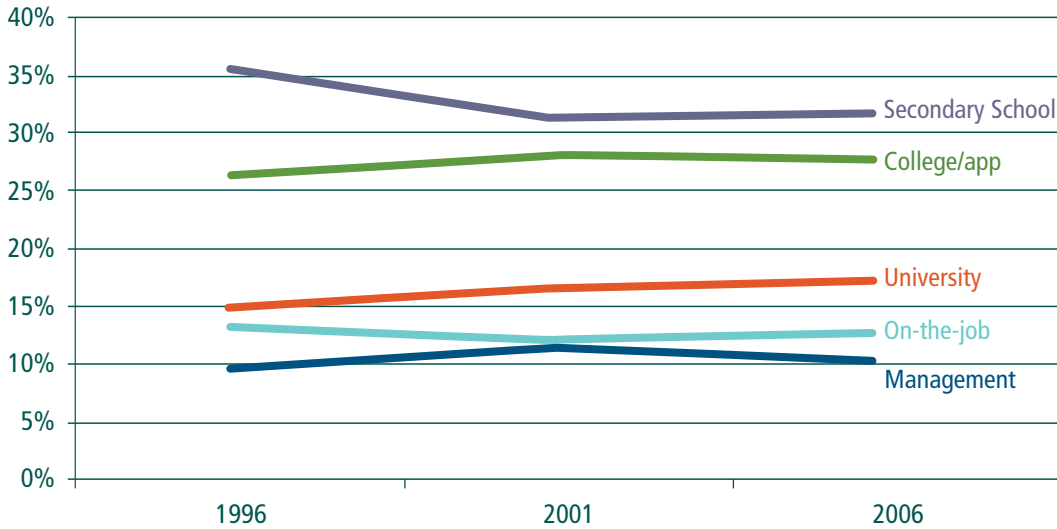
Another way to categorize these trends is to measure the changes in the proportion of occupations by the skill level necessary for that job, as opposed to by industry sector. The National Occupational Classification (NOC) used by Human Resources Development Canada not only clusters jobs by broad occupational categories but also by the skill level associated with that job.

The NOC classification of occupations by skill level required is based on the following categories:

- Management occupations;
- Skill Level A (occupations usually requiring a university education);
- Skill Level B (occupations usually requiring a college education or apprenticeship training);
- Skill Level C (occupations usually requiring secondary school and/or occupation specific training);
- Skill Level D (occupations that can be accessed with some on-the-job training).

Applying this framework to the Ontario labour market produces the following picture:

Chart 3: Share of Ontario labour force by skill required (NOC), 1996 to 2006



As might be expected in a “knowledge” economy, the proportion of jobs requiring an apprenticeship certificate or college diploma (light green line in the chart), or university degree (red line) is growing. The largest single category of jobs remains those requiring only a high school diploma.

The analysis that follows blends the approaches exemplified by these two preceding charts, by focusing on broad sector categories as well as classifying jobs by skill levels. In both cases some modifications are made.

The Toronto Workforce Innovation Group Sector/Skill Occupational Framework proposes three job skill levels:

- (1) **Knowledge Work**, jobs that require a university or college degree or diploma, or some very specialized skill (such as a professional athlete or dancer);
- (2) **Middle Work**, jobs that do not absolutely require a post-secondary degree but that rely on skills and work experience acquired over several years of employment;
- (3) **Entry-level and next-level Work**, jobs that may only require a high school diploma and that are a first job or the next job following an entry-level position.

The Middle and Entry-level occupations are further divided according to sector classifications:

Service sector: occupations engaged in the provision of services

Working sector: occupations engaged in manufacturing, the trades or transportation

Primary sector: occupations engaged in agriculture, fishing, farming or oil & mining

The resulting framework has seven categories, as follows:

Figure 1: Toronto Workforce Innovation Group Sector/Skill Occupational Framework

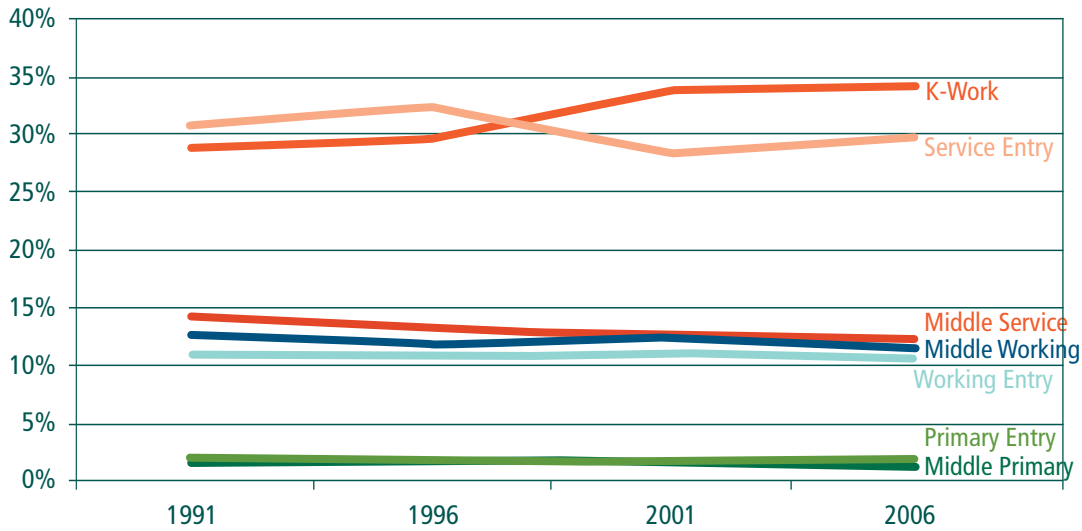
	<p style="text-align: center;">Knowledge Work</p> <p>Workers in jobs that require a university or college degree or diploma, or a highly specialized skill; includes many management positions, professional occupations, jobs involving highly technical skills, or professional athletes and performers</p>
MIDDLE JOBS	<p style="text-align: center;">Middle Service workers</p> <p>Workers in service sector jobs that may not require a university or college degree or diploma but that usually require the accumulation of experience and skills acquired in the workplace; includes many supervisory positions</p>
	<p style="text-align: center;">Middle Working workers</p> <p>Workers in manufacturing, trades or transportation jobs that may not require a university or college degree or diploma but that usually require the accumulation of experience and skills acquired in the workplace, including apprenticeship certification</p>
	<p style="text-align: center;">Middle Primary workers</p> <p>Workers in agriculture, fishing, farming or mining jobs that may not require a university or college degree or diploma but that usually require the accumulation of experience and skills acquired in the workplace; includes many supervisory positions</p>
ENTRY LEVEL AND NEXT JOBS	<p style="text-align: center;">Service Entry workers</p> <p>Entry level and next job after entry-level position in the service sector</p>
	<p style="text-align: center;">Working Entry workers</p> <p>Entry level and next job after entry-level position in manufacturing, trades or transportation</p>
	<p style="text-align: center;">Primary Entry workers</p> <p>Entry level and next job after entry-level position in agriculture, fishing, farming or mining</p>

Sorting occupations into these seven categories relied on several filters:⁹

1. The NOC stratification provided a starting point, however the reference to “usually requiring” this or that qualification was too vague. For greater precision, each of the in-depth descriptions for the 520 occupations was consulted, to provide an initial sorting;
2. The proportion of youth (both 15 to 24 year olds and 15 to 19 year olds) working in each occupation was tabulated using Ontario 2006 census data. Occupations that had a proportion of youth that was 50% greater than the provincial average for all occupations were assumed to be entry-level or next-level jobs, except where the NOC description conclusively stated otherwise;
3. The educational attainment of workers currently employed in Ontario (2006) in each of these occupations was tabulated, highlighting the proportion of workers who had either a university or college degree or diploma. While this data was not conclusive of the requirements of a particular job, where there remained a question, that data was used to sort border-line cases.

Applying the TWIG Skill/Sector Framework to the Ontario labour market data results in the following trends:

Chart 4: Share of Ontario labour force by skill/sector framework, 1991 to 2006

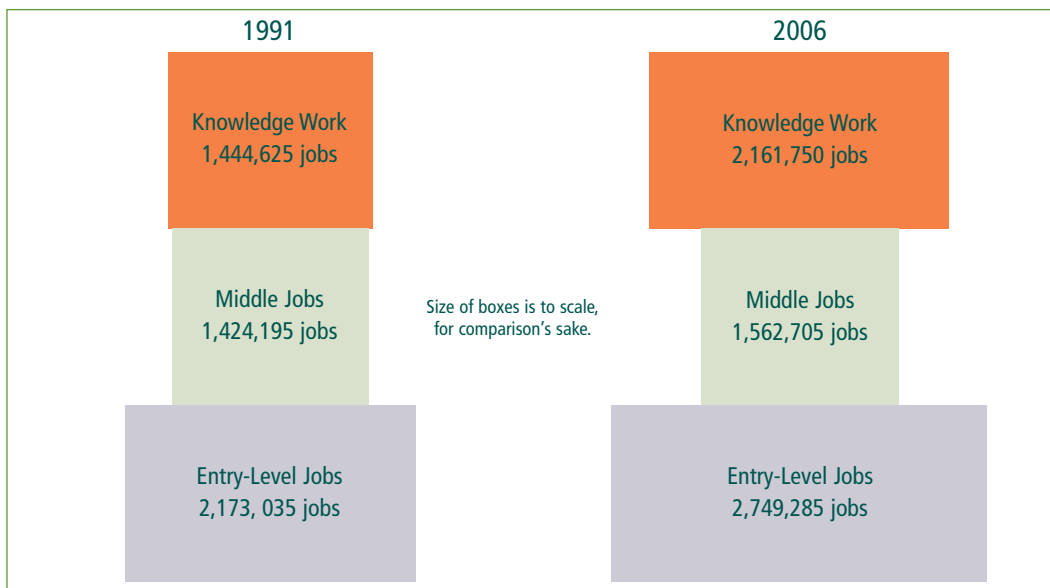


This finer grain analysis illustrates several trends:

1. Knowledge Workers are a growing proportion of the Ontario workforce and in this configuration now the single largest category.
2. The two Service categories combined are still larger than the K-worker category. The Service Entry group (entry-level and next jobs) is the larger proportion.
3. Other than K-workers, all other categories show a consistent drop in their share of jobs between 1996 and 2006, although Middle Working did see an uptick in 2001. Service Entry experienced a rebound between 2001 and 2006.

Looking at these numbers in terms of the skill levels, that is, Knowledge Worker, Middle and Entry-level jobs reveals that the Ontario labour market is shaped like an hourglass. The largest number of jobs is among the high-end Knowledge Worker category and the low-end Entry-level category, with a proportionately shrinking section of Middle jobs.

Chart 5: Comparison of distribution of jobs by skill categories, Ontario, 1991-2006

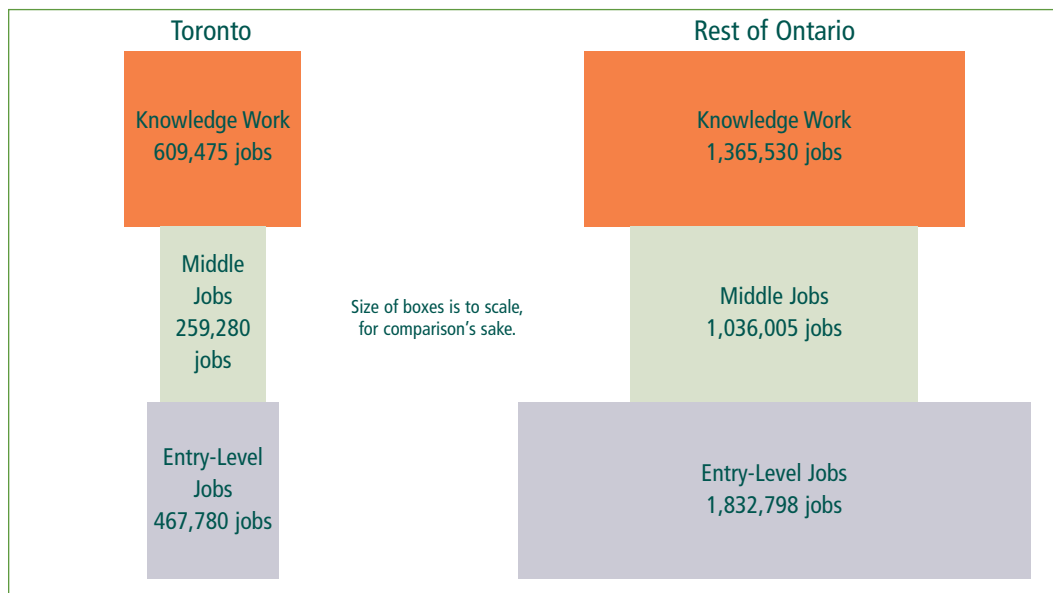


While each skill level category of jobs has experienced an increase in the number of jobs, the net increase in jobs has been significantly different for each category. This emerging polarization of occupations carries with it a parallel polarization of employment income. The hourglass labour market in Ontario is another factor that explains both the growing polarization of income and the rising concern regarding the working poor.

TWIG SKILL/SECTOR CATEGORIES: THE NUMBERS AND TRENDS FOR JOBS IN TORONTO AND IN THE REST OF ONTARIO

When we compare the labour market composition and trends between Toronto and the rest of Ontario, some striking features emerge. The following section focuses on actual jobs in Toronto and in the rest of Ontario.¹⁰

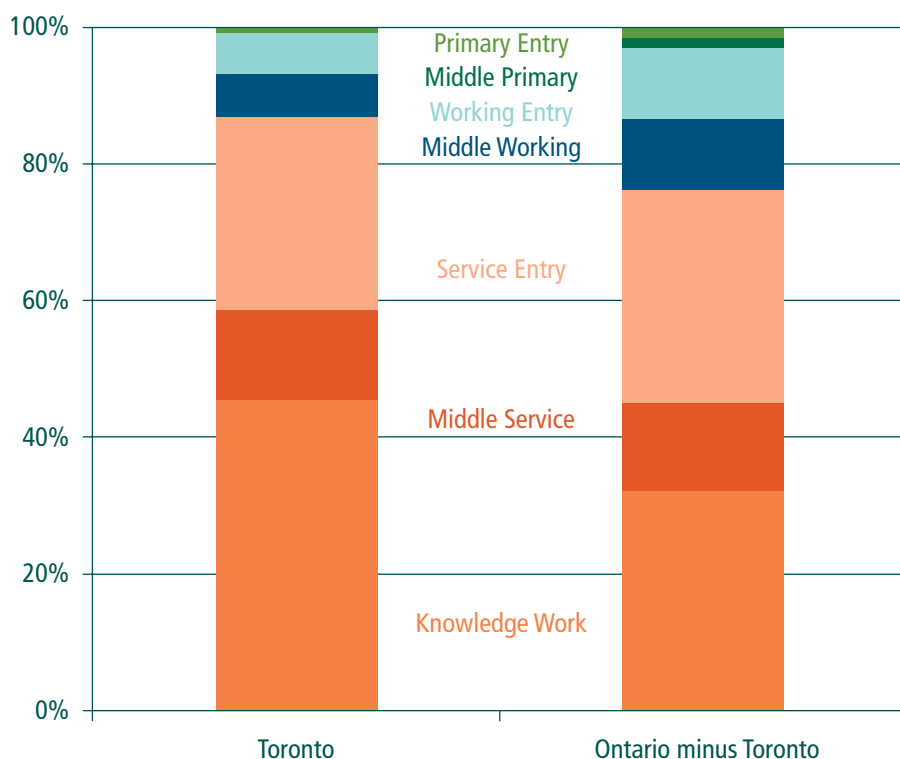
Chart 7: Percentage distribution of jobs by skill/sector categories, Toronto and the rest of Ontario, 2006



Toronto and the rest of Ontario exhibit an hourglass tendency in their labour market. However, Toronto has a top-heavy (large proportion of Knowledge Worker positions) hourglass and the rest of Ontario has a bottom-heavy hourglass.

Toronto is markedly different from the rest of the province due to the preponderance of Knowledge Worker jobs in the financial sector, other business professions, hospitals, universities, research activities and the cultural sector. The ratio of Knowledge Worker jobs is a full 13 percentage points higher in Toronto (45.6% versus 32.2%, or 40% greater) compared to the rest of the province.

Chart 7: Percentage distribution of jobs by skill/sector categories, Toronto and the rest of Ontario, 2006

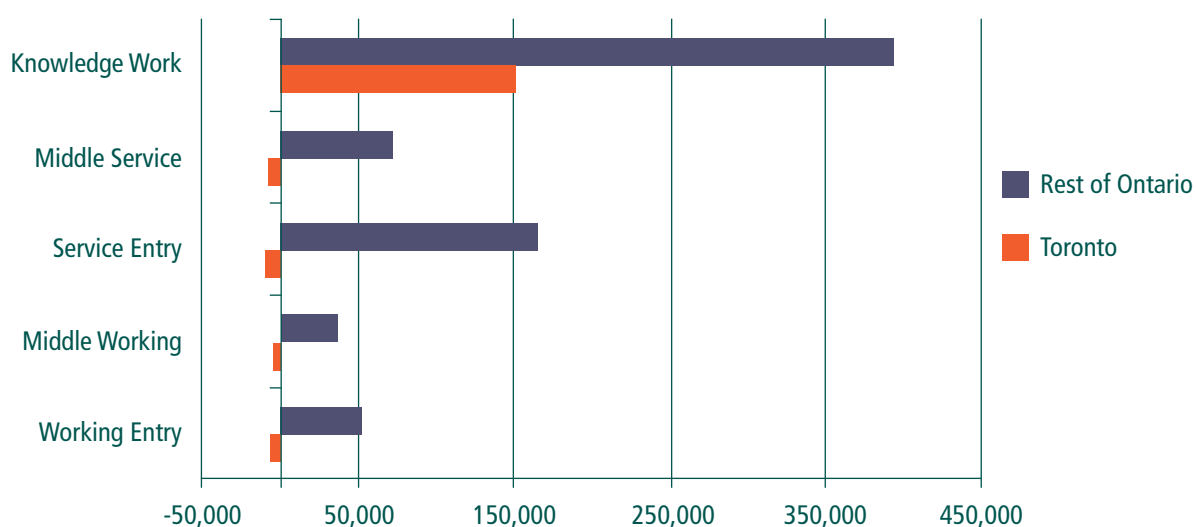


Between 1996 and 2006, only the Knowledge Worker jobs exhibit robust growth in Toronto. In fact, the only category to exhibit *any* growth. Every other occupational category shows an actual decline. For the rest of Ontario, the Knowledge Worker category experienced even greater growth (40.7% versus 33.0% in Toronto), but the other occupational categories also grew, although at a more limited rate (Table 1).¹¹

Table 1: Number of jobs by skill/sector categories, Toronto and the rest of Ontario, 1996-2006

JOBS IN TORONTO				
	Number of jobs in 1996	Number of jobs in 2006	Change in number of jobs 1996-2006	Percentage change 1996-2006
Knowledge workers	458,310	609,475	151,165	33.0%
Middle Service	183,515	175,610	-7,905	-4.3%
Service Entry	386,930	377,795	-9,135	-2.3%
Middle Working	87,415	82,510	-4,905	-5.6%
Working Entry	92,510	86,695	-5,815	-6.3%
ALL JOBS ¹²	1,213,185	1,336,535	123,350	10.2%
JOBS IN REST OF ONTARIO				
Knowledge workers	970,440	1,365,530	395,090	40.7%
Middle Service	465,810	537,535	71,725	15.4%
Service Entry	1,161,805	1,327,710	165,905	14.3%
Middle Working	402,950	439,900	36,950	9.2%
Working Entry	388,145	440,875	52,730	13.6%
ALL JOBS	3,520,015	4,234,330	714,315	20.3%

Chart 8: Percentage change in number of jobs by skill/sector categories, Toronto and the rest of Ontario, 1996-2006



In Toronto, the Knowledge Worker category increased by 151,000 positions between 1996 and 2006, while the other four main occupational categories saw an **actual loss of over 27,000 jobs**. For the rest of Ontario, the Knowledge Worker category increased by 395,000 jobs, matched by a nearly equal increase in the other four categories of a combined 327,000 jobs.

NUMBERS AND TRENDS FOR EMPLOYED RESIDENTS IN TORONTO AND IN THE REST OF ONTARIO

What jobs exist in Toronto compared to the jobs that Toronto residents work in are two different categories, with substantial overlap. Many workers commute into Toronto from outside the city and some 20% of Toronto residents commute out of the city for employment.¹³

Table 2: Employed Toronto residents by skill/sector categories, 1996-2006

	Employed Toronto Residents			Change 1996-2006	Percentage by skill/sector		
	1996	2001	2006		1996	2001	2006
K workers	378,390	493,355	505,880	127,490	34.4%	40.2%	40.7%
Mid Service	148,425	143,330	140,430	-7,995	13.5%	11.7%	11.3%
Service Ent	361,580	350,060	367,460	5,880	32.9%	28.5%	29.6%
Mid Working	97,190	113,370	105,080	7,890	8.8%	9.2%	8.5%
Working Ent	107,235	122,190	116,195	8,960	9.8%	10.0%	9.4%
TOTAL¹⁴	1,099,125	1,228,030	1,242,210	143,085	100.0%	100.1%	100.1%

The profile of the categories of jobs in which Toronto residents work does not quite match the profile of jobs that exist in Toronto. For example, a smaller proportion of Toronto residents work in the Knowledge Worker category (in 2006, 40.7% of residents compared to 45.6% of jobs), while a higher proportion of residents are employed in the Middle Working and Working Entry categories compared to the jobs that are present in Toronto.

An important comparison is the ratio between jobs that Toronto residents work in and jobs that exist in Toronto and doing the analysis by skill/sector category.¹⁵ In the 2006 census, 1,242,210

Toronto residents were employed, and there were 1,336,535 jobs in Toronto. This results in a ratio of 0.93 (1,242,210 divided by 1,336,535). This means that for every 100 jobs in Toronto, there were 93 Toronto residents working. For every 100 jobs in Toronto seven people had to commute from outside the city to fill the gap.¹⁶

The likelihood that people are commuting from outside Toronto to jobs in Toronto or that Toronto residents may have to commute outside the city for work varies by skill/sector category, as demonstrated by Table 3. Toronto residents who are employed in the Knowledge Worker or Middle Service category are less likely to commute outside Toronto to their job, as the ratio of employed residents to Toronto jobs hovers in the low 80s. Workers who are employed in the Middle Worker and Worker Entry categories are more likely to commute outside Toronto, and that possibility increased between 1996 and 2006. The prospect for Service Entry workers is worrisome. While in 2006 there was a balance between the number of such Toronto workers and available jobs in Toronto (97 employed residents to 100 jobs), the trend over the past ten years is inching toward net commuting outside Toronto (that is, from 93 to 95 to 97; going over 100 will trigger net commuting outside the city).

Table 3: Ratio of Toronto employed residents to 100 Toronto jobs, 1996-2006

Employed Toronto Residents			
	1996	2001	2006
K workers	83	84	83
Middle Service	81	82	80
Service Entry	93	95	97
Middle Working	111	119	127
Working Entry	116	125	134
TOTAL	91	92	93

There is one other grouping of jobs that merits consideration in this discussion: jobs with no fixed workplace. These are jobs where the worker did not go from home to the same workplace location at the beginning of each shift. Close to 10% of Ontario's workforce is employed in jobs with no fixed workplace. Occupations with a higher proportion of workers having no fixed workplace include the construction trades, truck drivers, cleaners and actors.

Table 4: Percentage of employed residents with no fixed workplace by skill/sector framework, 2006

	% Distribution by category		% Increase 1996-2006	
	Toronto	Rest of Ontario	Toronto	Rest of Ontario
K workers	23.7%	17.4%	71.7%	89.8%
Middle Service	5.5%	5.6%	41.5%	57.6%
Service Entry	24.9%	19.3%	57.5%	41.3%
Middle Working	24.0%	30.8%	62.1%	72.1%
Working Entry	19.3%	21.5%	90.2%	95.7%
Middle Primary	0.3%	1.2%	10.9%	50.1%
Primary Entry	2.2%	4.2%	71.6%	75.9%
TOTAL	99.9%	100.0%	66.5%	71.1%

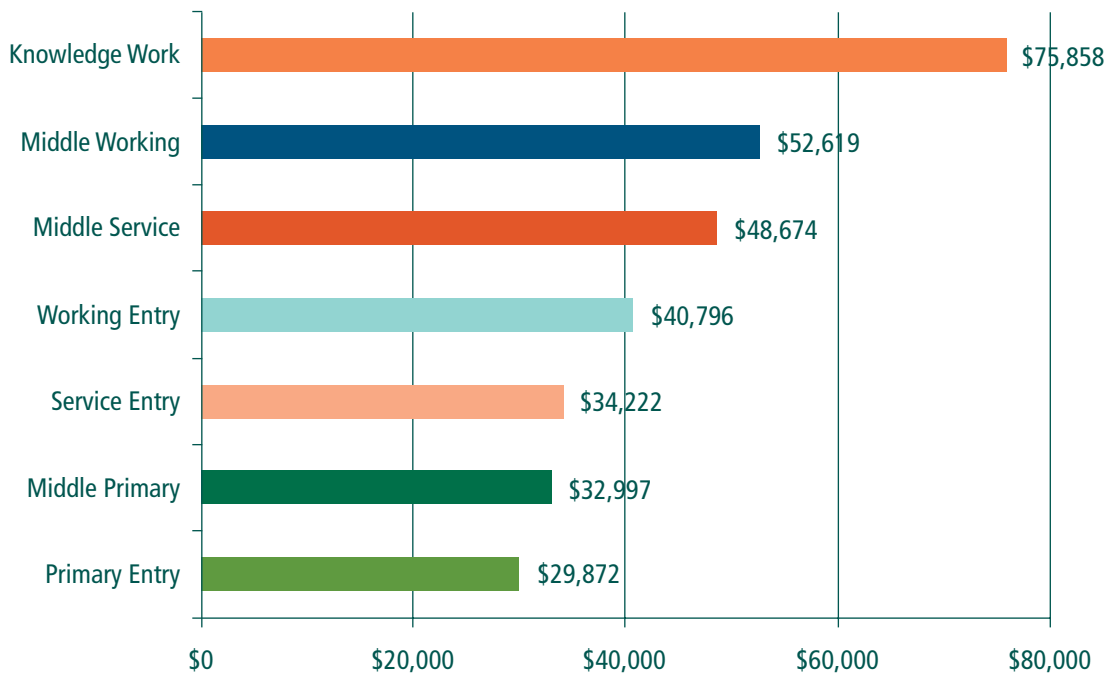
The distribution of workers having no fixed workplace by skill/sector categories is noticeably different from that of workers having a usual place of work. In particular, the Middle Working and Working Entry jobs are more prominently represented among those with no fixed workplace compared to other jobs.

The last two columns in Table 4 illustrate the very high growth rates in jobs with no fixed workplace over the last ten years by skill/sector category. Thus, in addition to more Toronto residents having to commute to jobs outside of Toronto, there are also growing numbers who are finding themselves in jobs where they are required to move around. These jobs may be in Toronto or outside Toronto.

EMPLOYMENT INCOME AND SKILLS/SECTOR CATEGORIES

Employment income by skill/sector categories demonstrates a significant disparity of wages. The following chart compares the average employment income for full-year, full-time workers for Ontario for the year 2005.

Chart 9: Average employment income by skill/sector categories for full-year, full-time wage earners, Ontario, 2005



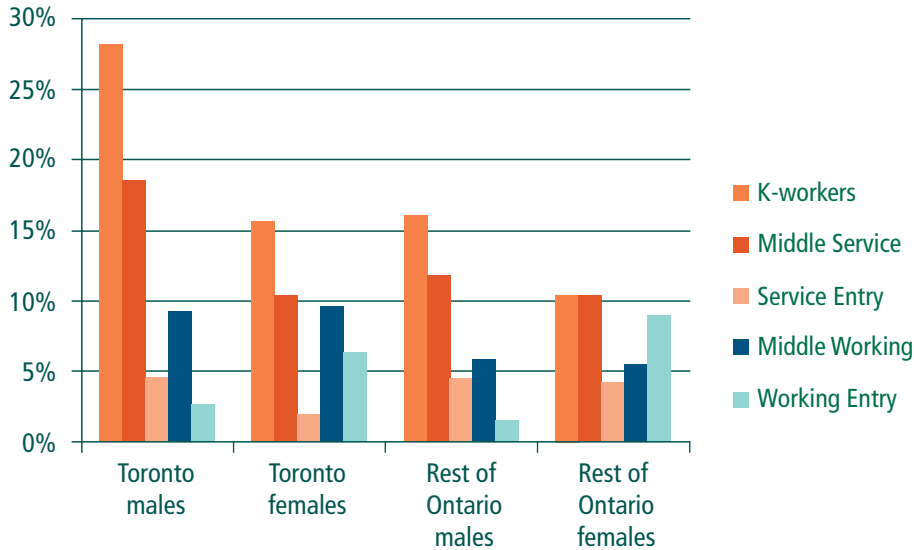
In any economy, different levels of skills or qualifications are compensated at a different rate. Knowledge Work is particularly well-compensated, while the differential between Middle jobs in the Working and Service categories is smaller than that found between Entry level jobs in these categories. Compensation in the Primary sector is considerably less, both for Middle jobs and Entry level jobs.

The comparison in the rate of increase in average employment income, not only across skill/sector categories but also across geography and gender is striking. Chart 10 illustrates this rate of increase by skill/sector categories between 1995 and 2005 for male and female employed residents in Toronto and in the rest of Ontario.

Most categories of full-year, full-time wage earners experienced an increase in employment income

of around 10% or less over this ten year period. Toronto male Middle Service workers, and Toronto female and rest of Ontario male Knowledge Workers saw their wages increase between 15-20%. Toronto male Knowledge Workers experienced the biggest increase, 28.2%. Overall, Knowledge Workers fared well, male Knowledge Workers very well, and male Knowledge Workers in Toronto fared extremely well.

Chart 10: Rate of increase in average employment income for full-year, full-time wage earners, males and females, Toronto and the rest of Ontario, 1995 to 2005 (all calculations based on 2005 dollars)



How much wages differ and how much wage increases differ is illustrated in Chart 11 by comparing the wage amounts and trajectory over time of the two extreme categories, Toronto males versus women in the rest of Ontario.

Chart 11: Average employment income for full-year, full-time wage earners, Toronto males and females in the rest of Ontario, 1995 to 2005 (all calculations based on 2005 dollars)

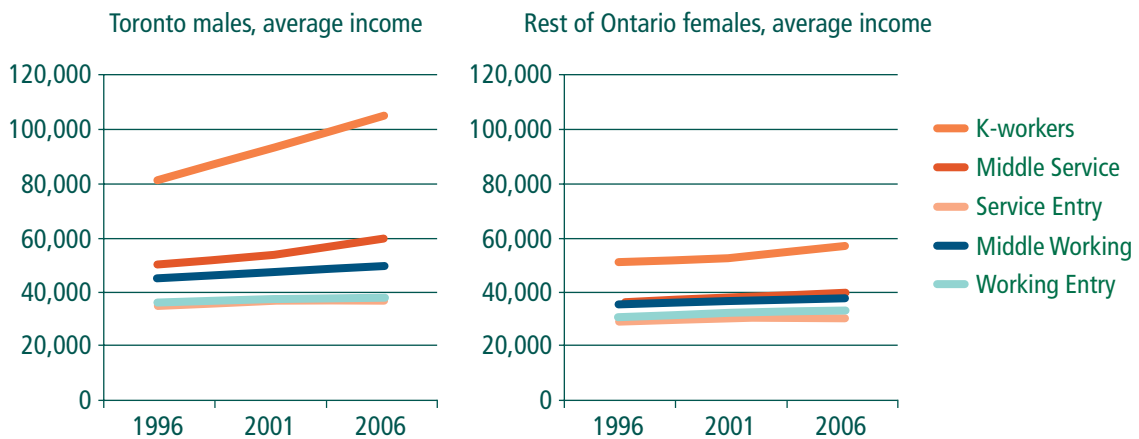


Chart 12: Rate of increase in median employment income for full-year, full-time wage earners, males and females, Toronto and the rest of Ontario, 1995 to 2005 (all calculations based on 2005 dollars)

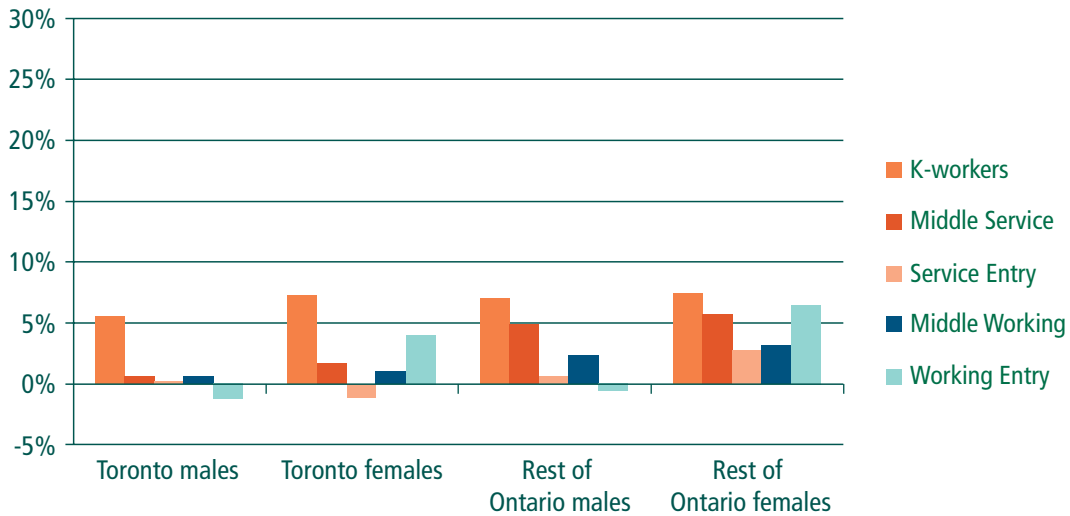
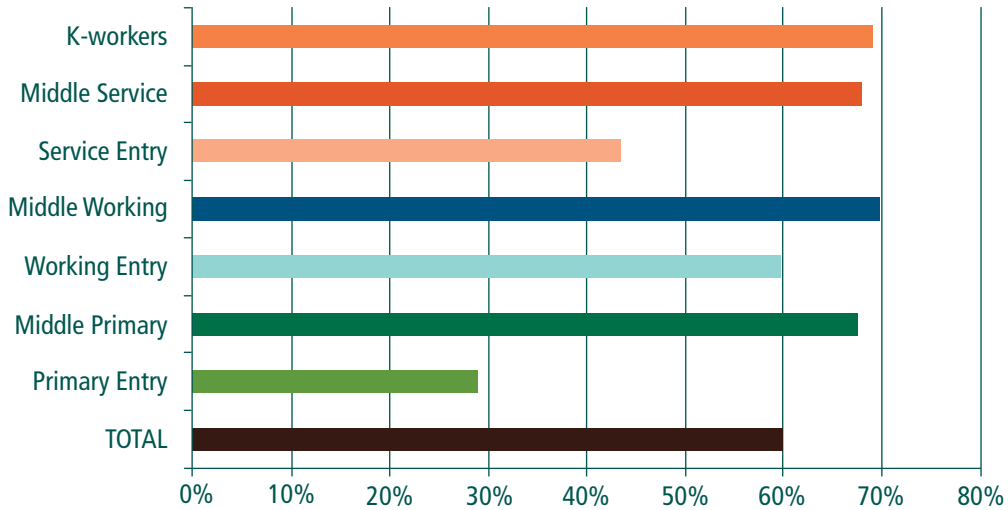


Chart 12 shows changes in median employment income over the same period for the same categories. If the increase in wages had been experienced equally across any given category, then the median wage would rise by an amount equivalent to the rise in the average wage. Instead, the very limited change in median wages for any category compared to the changes for average wages (see Chart 9) indicate that higher wage earners (that is, those earning above the median wage) were the major beneficiaries of increases in employment income. Thus, not only did wage earners in the higher-paid categories see their wages rise much more during this period compared to workers in other job categories, but within any category, higher wage positions were earning much more above the median wage for that category than was the case in the past.

FULL-YEAR, FULL-TIME EMPLOYMENT VERSUS NOT FULL-YEAR, FULL-TIME

60% of Ontario's workforce are employed in full-year (49-52 weeks of employment), full-time (30 hours or more a week) jobs. That average masks significant variation by skill/sector category. Higher skill jobs have higher proportions of full-year, full-time work, typically around two-thirds of all jobs. Entry-level occupations have lower proportions of full-time, full-year work: Service Entry jobs at around 40% and Primary Entry jobs at around 30%. Only Working Entry occupations buck this trend, where some 60% of jobs are full-year, full-time (see Chart 13).¹⁷

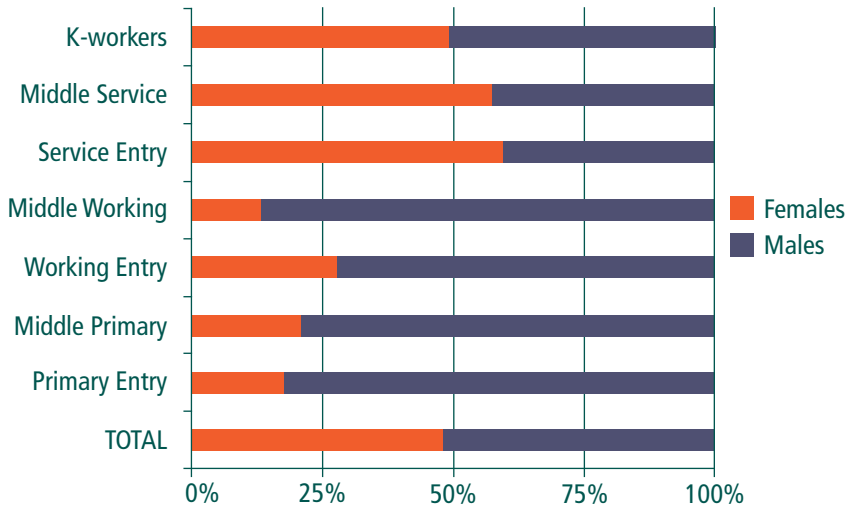
Chart 13: Approximate proportion of full-year, full-time work by skill/sector categories, Ontario, 2006



GENDER PROPORTIONS BY SKILL/SECTOR CATEGORIES

In 2006, women made up slightly less than half (47.6%) of the employed workforce in Ontario. The proportion for Toronto is much the same. In general, Toronto and the rest of Ontario exhibit roughly similar proportions of women as far as any given skill/sector category is concerned.

Chart 14: Percentage of female employed workers by skill/sector category, Toronto, 2006



As chart 14 illustrates, women appear to be equally represented in the Knowledge Worker category (49.2% in Toronto, 51.4% in the rest of Ontario.) In the other categories, however, there are clear occupational ghettos: Middle Service and Service Entry are made up of near 60% females, while Middle Working, Working Entry, Middle Primary and Primary Entry are predominantly the preserve of males.

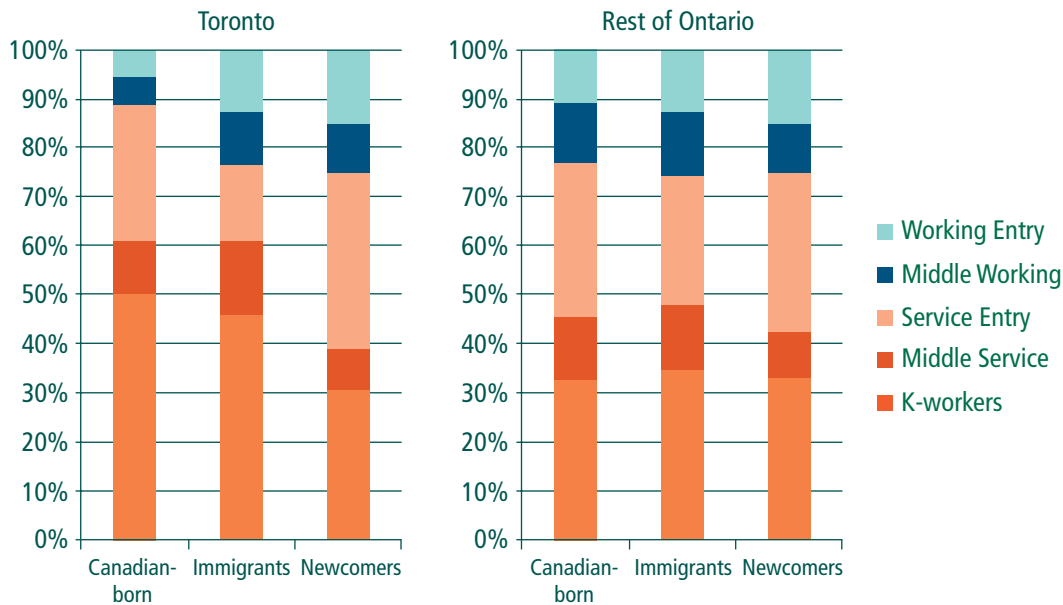
The indication of near gender parity among Knowledge Workers has to be tempered by two considerations. First, in each category, females have a higher proportion of jobs that are not full-year, full-time, so that in terms of the quality of the jobs, parity has not yet been achieved.

Second, and more significantly, full-year, full-time Toronto male Knowledge Workers earned in 2005 an average income of \$105,009, compared to \$66,620 for Toronto Knowledge Worker females, almost 60% more. And these same males saw their average income increase by 28.2% between 1995 and 2005, while women in the category saw an increase of 15.6%, just over half that of males.

SKILL/SECTOR CATEGORY OUTCOMES FOR IMMIGRANTS AND NEWCOMERS

The labour market outcomes for immigrants to Canada in the Knowledge Worker category are a cause for concern. The following analysis compares the skills/sector category outcomes for different groups of workers in Toronto and the rest of Ontario: Canadian-born, immigrants (not born in Canada and living in Canada for more than five years) and newcomers (not born in Canada and living in Canada for less than five years).

Chart 15: Percentage distribution of employed residents by skill/sector categories, Canadian-born, immigrants and newcomers, Toronto and the rest of Ontario, 2006



There is a noticeable difference between the occupational distribution between Toronto and the rest of Ontario for Canadian-born, immigrant and newcomer workers. In many respects, the occupational distribution for the rest of Ontario is roughly equivalent: there is an almost equal proportion of Knowledge Workers among these three population groups,¹⁸ while Newcomers are somewhat more likely to be employed in the Service Entry and Working Entry categories. For Toronto residents, the differences between the three groups are far more pronounced: Canadian-born residents are far more likely to be employed in the Knowledge Worker occupations,¹⁹ Immigrants and Newcomers are more likely to be employed in the Middle and Entry-level Worker jobs, and Newcomers are especially more likely to be employed in Service Entry jobs. The difference in the outcomes between Newcomers in Toronto and Newcomers in the rest of Ontario is puzzling because there is virtually no difference between the educational attainment of these two groups as illustrated by Table 5.

Table 5: Educational attainment of employed newcomers, Toronto and the rest of Ontario, 2001 and 2006

	Toronto		Rest of Ontario	
	2001	2006	2001	2006
No certificate	14.9%	9.1%	14.7%	9.3%
High school	20.6%	21.9%	22.7%	23.1%
Post-secondary	64.5%	69.0%	62.5%	67.6%

No certificate means no education certificate, essentially no high school diploma.

High school includes those who have some post-secondary education but no certificate or diploma, as well as those with a trades certificate.

Post-secondary includes a non-university certificate or diploma and university certificate, diploma or degree.

A smaller proportion of newcomers found employment as Knowledge Workers in 2006 compared to 2001, even when the educational attainment of 2006 Newcomers was higher than that of 2001 Newcomers (this applies to both Toronto and to the rest of Ontario). Charts 16 and 17 illustrate this trend for Toronto, comparing the occupational classification and educational attainment of the same population, employed newcomers. Even as the proportion of employed newcomers with post-secondary degrees rose from 64.5% in 2001 to 69.0% in 2006, the proportion of these workers who found jobs that required post-secondary degrees dropped from 34.1% to 30.7%.²⁰

Chart 16: Percentage distribution of employed Toronto newcomers by skill/sector categories, 2001-2006

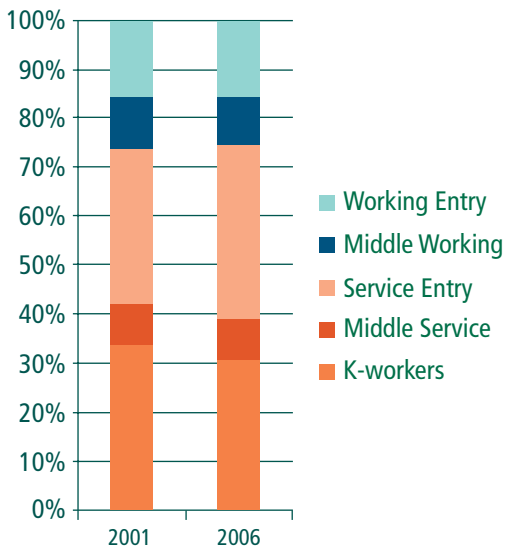
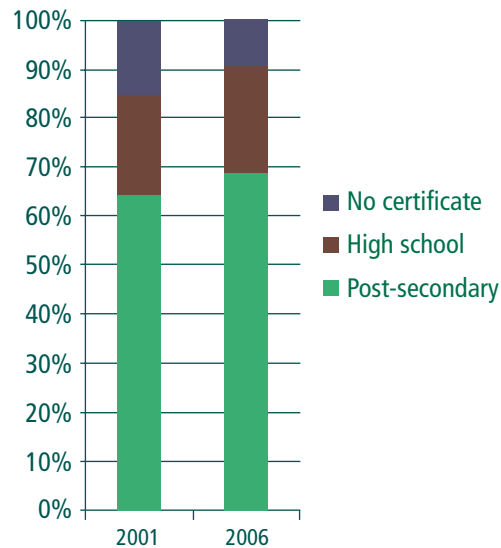


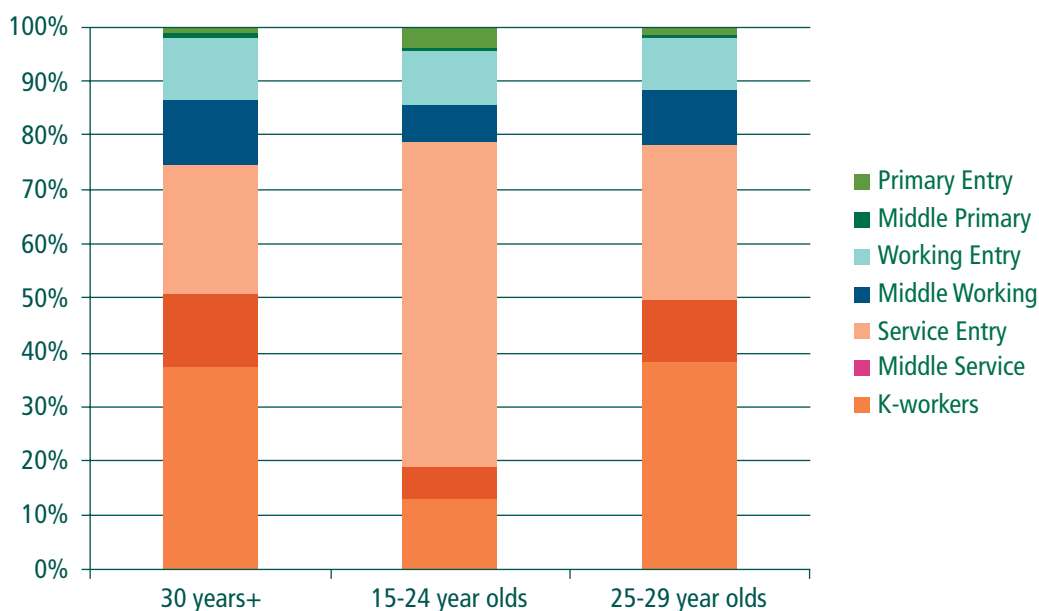
Chart 17: Percentage distribution of employed Toronto newcomers by educational attainment, 2001-2006



SKILL/SECTOR CATEGORY OUTCOMES FOR YOUTH

A large proportion of youth work in entry-level and or next-job positions. Chart 18 illustrates how almost three-quarters (73.3%) of employed youth aged 15 to 24 years of age in Ontario are employed in entry-level and next-job occupations (Service Entry, Working Entry and Primary Entry). Occupational outcomes for the next age bracket (aged 25 to 29 years of age) are substantially different. Indeed, a slightly higher proportion of workers aged 25-29 years of age are employed in Knowledge Worker jobs than is found among workers aged 30 years and older (38.4% versus 37.5%). At the same time, these older youth are also more likely to work in entry-level and next job positions (39.3% versus 35.7% for over 30 year olds).

Chart 18: Percentage distribution of employed Ontario workers by select age groups and by skill/sector categories, 2006



While the higher proportion of older youth holding Knowledge Worker jobs in Ontario is encouraging, the trend for these youth living in Toronto may pose a problem. Given the changing proportions of demographic age groups, one way to analyze data across different time periods is to create a ratio that reflects the proportion of employed youth in a given job category compared to the proportion of employed youth in all jobs. That is, if the proportion of youth in a select category is the same as the proportion of youth in all jobs, then the ratio is 1.0. If the proportion of youth in that select category is double that found across all jobs, then the ratio is 2.0; if it is half, then the ratio is 0.5.

Table 6: Ratio of employed youth, aged 15-24 and 25-29 years old, resident in Toronto, by skill/sector categories, 1996-2006

	15-24 years old			25-29 years old		
	1996	2001	2006	1996	2001	2006
K workers	0.42	0.46	0.44	1.01	1.18	1.12
Middle Service	0.61	0.67	0.68	1.03	0.96	0.98
Service Entry	1.92	2.1	2.05	1.05	0.91	0.99
Middle Working	0.54	0.57	0.6	0.84	0.78	0.79
Working Entry	0.83	0.79	0.77	0.9	0.77	0.71
Middle Primary	0.85	0.69	1.16	0.75	0.98	0.85
Primary Entry	2.76	2.44	2.73	1.12	1.09	0.95

Table 7: Ratio of employed youth, aged 15-24 and 25-29 years old, resident in the rest of Ontario, by skill/sector categories, 1996-2006

	15-24 years old			25-29 years old		
	1996	2001	2006	1996	2001	2006
K workers	0.34	0.39	0.37	0.99	1.13	1.11
Middle Service	0.46	0.46	0.47	1.01	0.97	0.94
Service Entry	1.94	2.08	2.02	1.02	0.92	0.95
Middle Working	0.53	0.56	0.63	0.97	0.94	0.96
Working Entry	0.95	0.97	0.92	1.09	1.04	0.97
Middle Primary	0.32	0.31	0.4	0.53	0.54	0.59
Primary Entry	2.79	2.75	2.68	0.9	0.77	0.92

By and large, the proportion of youth by age group and skill/sector category has been relatively consistent over the last ten years. Somewhat worrisome is the drop in the ratio for employed Toronto youth aged 25-29 years of age in the Knowledge Worker category in 2006, mirrored by an increase in the ratio for Service Entry jobs. These figures may not seem like a major change (from 1.18 to 1.12 and from 0.91 to 0.99), but they represent approximately 3400 youth, around 2.4% of employed youth in that age bracket.²¹

SKILL/SECTOR CATEGORIES AND EDUCATIONAL ATTAINMENT OF JOB HOLDERS

We operate in a Knowledge economy and therefore accessing better paying work depends on acquiring higher level degrees. Nevertheless, not all jobs require a college diploma or a university degree. The skill/sector framework deliberately categorizes occupations according to requirement of these credentials through the designation of Knowledge Worker jobs. Other job levels (Intermediate and Entry-level) do not require post-secondary credentials. Table 8 illustrates, for each skill/sector category, what proportion of jobs is held by individuals with college diplomas or university degrees.

Table 8: Percentage of workers with a college or university certificate, diploma or degree, by skill/sector category, Toronto and the rest of Ontario, 1996-2006

	Toronto				Rest of Ontario			
	1996	2001	2006	Change 1996-2006	1996	2001	2006	Change 1996-2006
K workers	81.8%	82.4%	85.8%	4.9%	78.1%	78.1%	80.8%	3.5%
Mid Service	54.1%	56.0%	59.7%	10.4%	48.0%	50.1%	51.1%	6.5%
Service Entry	37.3%	37.9%	43.3%	16.1%	31.0%	30.9%	33.5%	8.1%
Middle Working	36.8%	39.4%	37.1%	0.8%	40.9%	42.0%	31.0%	-24.2%
Working Entry	20.3%	22.7%	28.5%	40.4%	19.5%	21.1%	20.8%	6.7%
Middle Primary	37.9%	40.7%	42.7%	12.7%	26.5%	30.1%	30.5%	15.1%
Primary Entry	25.6%	24.4%	29.6%	15.6%	20.2%	19.4%	20.1%	-0.5%
TOTAL	53.1%	56.5%	60.5%	13.9%	46.1%	48.5%	49.0%	6.3%

In both Toronto and the rest of Ontario, the proportion of workers with post-secondary credentials in almost all occupational categories has been increasing. While the proportion has been increasing for Knowledge Workers, it is striking that it is also increasing for Service Entry, the entry-level jobs in the Service sector. Toronto has a slightly higher rate of workers in each category with a post-secondary degree than the rest of Ontario. The rate of increase in that proportion over the last ten years in Toronto is on average twice that for the rest of Ontario (13.9% versus 6.3%).

This may reflect a greater propensity on the part of Toronto employers to hire on the basis of higher credentials or it may be a consequence of there being a larger proportion of immigrants and newcomers in the Toronto workforce and that a higher percentage of them end up in entry-level jobs. This despite the fact that large percentages of these groups have post-secondary degrees.²²

The deteriorating employment picture for those without post-secondary degrees in Toronto is evident. Those with lower levels of educational attainment have lower labour market participation rates and higher rates of unemployment than individuals with higher levels of education. Table 9 confirms these co-relations, but also highlights a further finding.

Among all variables the change between 2001 and 2006 was very low (on average around 2%), *except* for the unemployment rate for those without post-secondary degrees in Toronto. This increased from 8.4% to 10.0% (see shaded cells in Table 9), a difference of 19%. It is possible that even for jobs that do not require a post-secondary degree, employers are asking for these degrees as a way of screening applicants. If the acquisition of a bachelor's or master's degree does not lead to a Knowledge Worker job, there are implications for the labour market. This may mean that *post-secondary degree holders are displacing non-degree holders for jobs that the non-degree holders would otherwise be suited.*

Table 9: Participation rates, employment rates and unemployment rates for individuals 15 years and older, with or without post-secondary degrees (PSE), Toronto and the rest of Ontario, 2001-2006

	Toronto				Rest of Ontario			
	No PSE		With PSE		No PSE		With PSE	
	2001	2006	2001	2006	2001	2006	2001	2006
Participation Rate	53.0%	52.1%	80.0%	78.3%	59.4%	59.7%	80.3%	78.9%
Employment Rate	48.6%	46.9%	75.3%	73.6%	55.1%	55.2%	76.8%	75.3%
Unemployment Rate	8.4%	10.0%	5.9%	6.0%	7.3%	7.5%	4.4%	4.6%

Recap of the Data

The skill/sector framework analysis highlights the degree to which the Ontario labour market, both in Toronto and in the rest of Ontario, has the shape of an hourglass — two large clusters of employment at the top and the bottom (Knowledge Workers and Entry-level jobs), with proportionately shrinking employment in the middle Intermediate jobs.

Applying the skill/sector framework to labour market data for Toronto and the rest of Ontario reveals a tale of two different labour markets as:

- Toronto has a significantly higher proportion of Knowledge Worker jobs than the rest of Ontario. The only net job growth in Toronto between 1996 and 2006 was among Knowledge Worker jobs — all other categories lost jobs, unlike the trends for the rest of Ontario;
- The distribution of employed Toronto residents by occupational category reflects a far greater

preponderance of Knowledge Worker positions, though not as high as the proportion of such jobs in Toronto;

- As a result, Toronto residents employed in the Working sector are more likely to commute outside Toronto. The trend suggests the same will be happening with Toronto residents employed in Service Entry (entry-level) jobs;
- Newcomers who live in Toronto fare worse than newcomers settling in the rest of Ontario in terms of the categories of jobs they find themselves. Both categories of newcomers are faring worse in 2006 in terms of labour market outcomes than they did in 2001;
- Youth aged 25 to 29 years of age in Toronto have slipped in their share of Knowledge Worker jobs, with the difference being made up by employment in Service Entry jobs;
- Toronto residents without a post-secondary degree have seen a jump in their unemployment rate between 2001 and 2006, an increase not experienced by the same category of residents in the rest of Ontario.

WHAT DOES THIS DATA MEAN?

The growing polarization of the labour market explains the growing polarization of income. The circumstance of individuals employed at the bottom end of the labour market reflects the experience of many of the working poor. According to the United Way, there are over 1 million working Torontonians living below the poverty line.²³

That this is particularly the case in Toronto can further be understood in light of the disparate average employment income trends for the different occupational categories. Even within any occupational category, those already earning higher wages are experiencing greater income increases than those at the lower end of the same occupation's income spread.

WHAT ARE THE POLICY IMPLICATIONS ARISING FROM THIS DATA AND ANALYSIS?

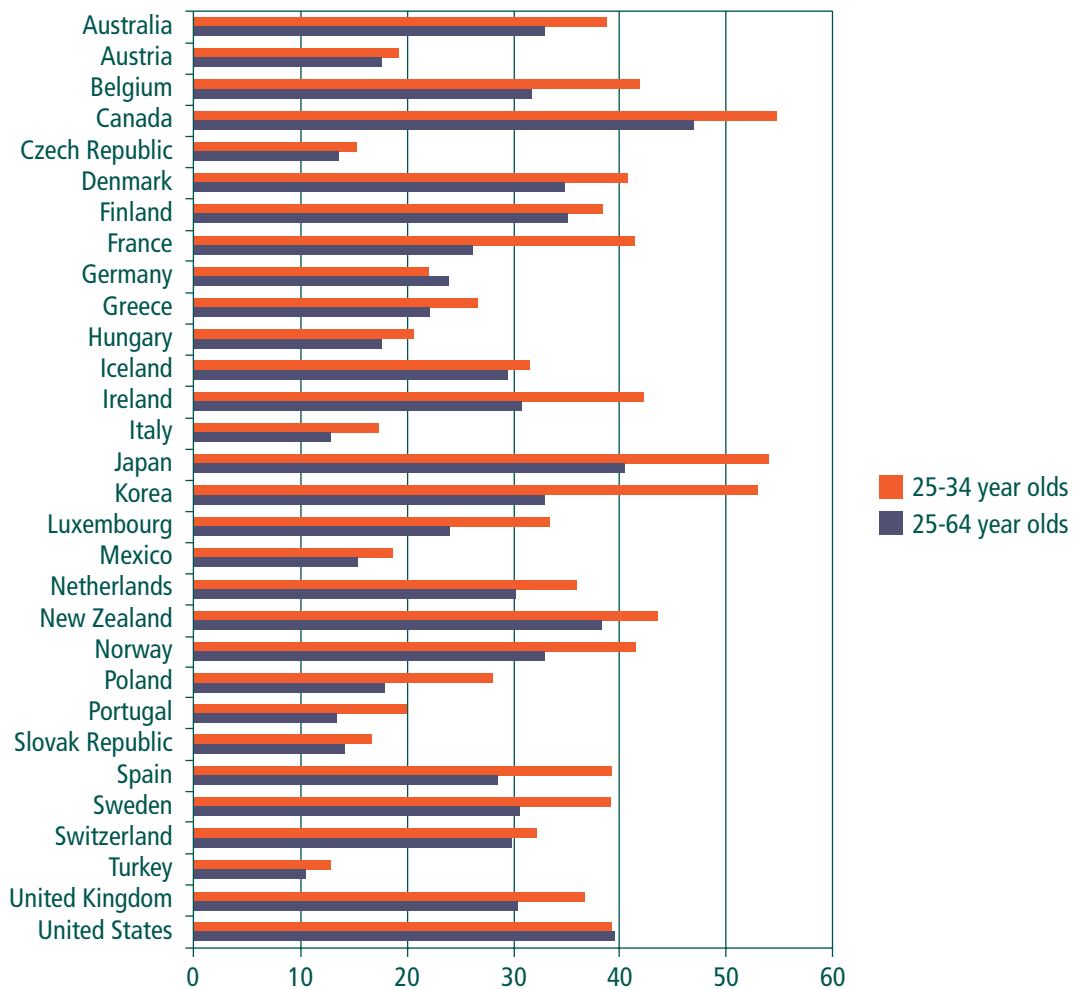
The Florida analysis provided a very helpful step in understanding the dynamics of a changing labour market by isolating the Creative Class (what is termed Knowledge Workers in this report). The Toronto Workforce Innovation Group skill/sector framework builds on this approach by distinguishing two further levels among the sectors: Middle jobs and Entry-level jobs. Labour market interventions might address these three streams in a separate and distinct manner.

Knowledge jobs

Knowledge work is undeniably the wave of the future and the basis for continued prosperity in Canada as well as in Toronto. For that reason, our education system needs to focus on preparing youth for the work of the future, starting with effective early childhood development programs that lay the foundation for future learning, stay-in-school programs through high school, and equitable financial support to ensure that those who seek post-secondary schooling do not encounter financial barriers. Public investments in and encouragement of innovation, research & development, and targeted niche industry clusters are among the strategies being advanced to secure Toronto's and Ontario's standing in the increasingly competitive global marketplace.

Canada and Ontario have laid important foundations for this emerging labour market. For example, Canada already outperforms all industrialized countries when it comes to the percentage of its population that holds a college or university degree.²⁴ Still, many of these graduates are not finding work in Knowledge jobs.

Chart 19: Percentage of college or university degree holders, by select age groups, OECD countries, 2006



Entry-level jobs

At the other end of the spectrum, entry-level jobs offer little in the way of quality employment, given their significantly lower wages and the limited proportions of full-year, full-time employment. Labour market policies and programs for this category of jobs might focus on assisting those who are further removed from the labour market by:

- Providing appropriate preparation for the work of work (what are termed essential skills or employability skills);
- Providing appropriate assessments of individuals, to ensure that proper guidance and support can be provided (for example, identifying previously undiagnosed learning disabilities);
- Assisting youth to access their first job.

In large measure this is what our existing employment services provide, often delivered through non-profit, community-based agencies. Social purpose enterprises could be used to serve an even greater role. These enterprises act as businesses, aiming to generate a profit, but also focus on socially-useful activity (for example, providing skills training). Because these enterprises are nestled in the non-profit sector, the social work context provides a more forgiving environment for a long-term unemployed individual seeking to ease back into workforce. Social purpose enterprise employment may be a useful transition to a permanent job.

Otherwise, labour market interventions relating to entry-level jobs could focus on enhancing the quality of these jobs through increasing the minimum wage, providing stronger employment standards legislation and giving workers greater leverage through strengthened collective bargaining rights will help to strengthen the economy by building up the workforce. Individuals in entry-level jobs have most need of enhanced support through Working Income Tax Benefits and Employment Insurance.

Middle jobs

In many ways, the bedrock of Knowledge jobs is our education policies and R&D programs. The comparable government response to address entry-level jobs is employment programs, preparing individuals to access these jobs. Middle jobs require a workforce development strategy.

Focus on Middle jobs

If employment services have limited resources (and all public programs have resource limitations), then far greater emphasis should be placed on accessing Middle jobs, shifting attention from Entry-level positions, in order to support individuals to acquire better-paying jobs and more secure careers.

Build career ladders from Entry-level to Middle jobs

A good number of job seekers may only qualify for Entry-level jobs. The objective of employment services should be to build career ladders from Entry-level to Middle jobs.²⁵

We recognize that traditional career ladders, where individuals would begin their careers in an entry-level job with a company and work their way up to higher level positions, have been replaced by far less structured arrangements. Employers are increasingly hiring individuals on the basis of their academic credentials and immediate suitability for a job, as opposed to committing to an individual and growing their workforce talent internally.

While this provides a clear return to those individuals who invest in a post-secondary education, it does disadvantage those who may not go on to post-secondary education, often for legitimate reasons — they cannot afford the time, cost and foregone income that several years of further schooling demands.

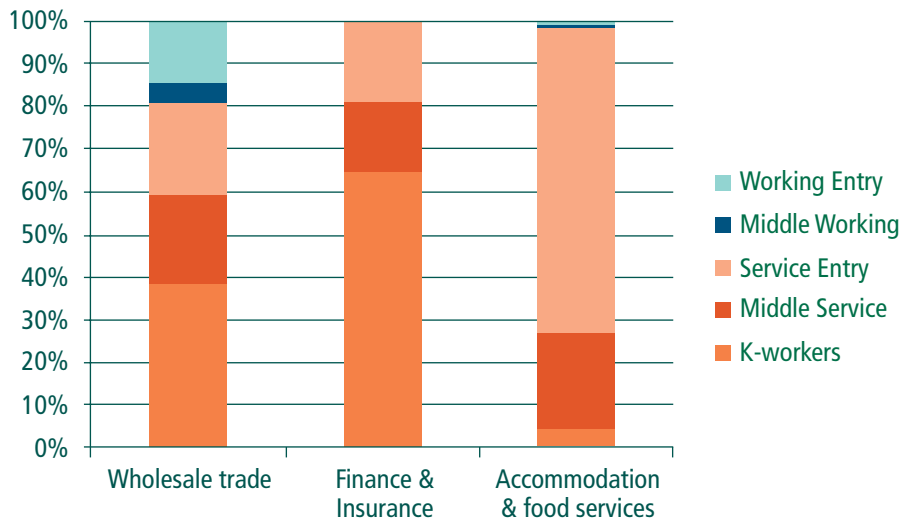
This also disadvantages newcomers, who may have the formal academic credentials but who may not be deemed familiar enough with Canadian business practices, Canadian business culture or the English language to be ready for higher positions. At the same time they are not able to acquire those practices, culture and language skills because their sojourn in an entry-level job no longer ladders to a higher level position. Thus they are relegated to jobs that don't match their skills, qualifications or experience.

Career ladder programs seek to serve not one but many employers in an industry, creating intentional pathways for advancement based on work experience and credentialed training related to the job. By enlisting a large number of employers, economies of scale are realized, and employers need not fear that their support for training will lead to their employees being poached by competitors. At the same time, employees may have more options for advancement if more employers participate in these programs.

Focus on those industries with a higher proportion of Middle jobs:

Different industries have different proportions of Middle jobs and, again, because employment services have limited resources, they should target those industries that have higher proportions of Middle jobs.

Chart 20: Comparisons of occupational category proportions by select industries in Toronto, 2006



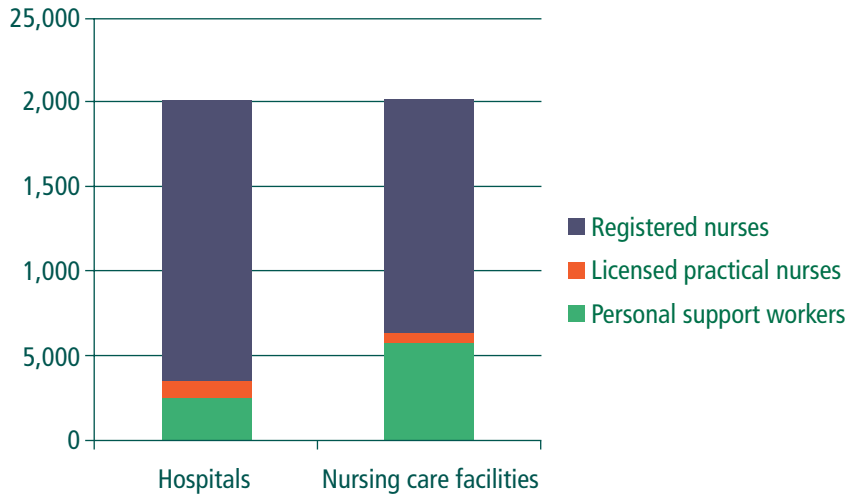
Labour market analysis can help target employment services by prioritizing. Chart 20 illustrates this point: Wholesale Trade offers a balanced mix of Entry-level and Middle positions. With appropriate training, Material handlers could easily ladder into customer service positions. Finance & Insurance has a very high proportion of Knowledge Workers, but also a nice balance between Entry-level and Middle positions. Accommodation and Food Services has a highly disproportionate number of Service Entry jobs, but nevertheless a healthy number of Middle Service occupations. Different industries offer different opportunities and require different kinds of strategies.

Work with employers to expand the proportion of Middle jobs

In some instances, the hourglass labour market is so exaggerated that it begs the question of whether work could not be structured differently. An excellent case in point is the health care sector.

Chart 21 shows the number of jobs among two categories of health sector employers in Toronto, hospitals and nursing care facilities, and highlights three occupations: registered nurses (now requiring a four-year baccalaureate degree), licensed practices nurses (a two-year college diploma) and personal support workers (a maximum nine-month college program). The hourglass labour market is well illustrated here, in particular the narrow middle sliver occupied by licensed practical nurses.

Chart 21: Distribution of select occupations in the health sector in Toronto, 2006



This is an area that warrants further inquiry to understand if there are opportunities to expand the responsibilities of licensed practical nurses and how would that fit with the role of registered nurses.

An emphasis on career ladders might lead to a situation in which more Personal Support Workers could gain on-the-job certified training allowing them over time to become licensed practical nurses. That same human resources development approach might allow more licensed practical nurses to gain on-the-job credentialed training to qualify them to be registered nurses.

This approach might require redefining the work responsibilities of licensed practical nurses. It would involve strategizing and would have to include employers, unions and professional associations, in addition to the Ministry of Health and Long-term Care and the Ministry of Training, Colleges and Universities. Such an approach requires deliberate effort and resources, bringing stakeholders together to design the distribution of work in such a way that enhances the number of good jobs and the opportunity for advancement for more workers.

In the health care sector, career ladders make sense for other reasons as well:

- A large percentage of registered nurses are poised to retire in the next few years and we are facing the potential of staff shortages;
- This comes at a time when the demand for health care services and thus health care personnel continues to increase.

Promoting explicit career ladders, with on-the-job credentialed training across these three occupations brings us back to the situation 40 years ago when a nurse's aide could aspire to become a registered nurse, acquiring the necessary experience and training while working in a hospital. That possibility is far more remote now that a registered nurse's position can only be accessed after four years of in-school post-secondary education.

Explore horizontal as well as vertical career ladders

The current labour market is dynamic and less predictable, and career pathways are less clear than the previous expectations of promotion within a given company. For that reason, career ladder strategies need to consider horizontal as well as vertical movement, that is, horizontal pathways that help employees move from one sub-industry sector to another one with more promising career opportunities.

In the example of the health care sector, nursing care facilities have a far higher proportion of personal support workers than hospitals, but they offer more limited opportunities for advancement. A sector-wide career ladder could facilitate movement between employers and between industry sub-sectors.

The same could be said of careers in retail trade. The variations in the proportion of occupational categories across the retail sector are illustrated in Chart 22. Some retail sub-sectors not only have healthy proportions of Middle jobs but also noticeable chunks of Knowledge Worker jobs, as in the case of electronics and appliance stores as well as department stores. This warrants further investigation to explore the feasibility of working with such employers on career ladder programs.

Chart 22: Skill/sector categories across several select retail sub-sectors, jobs in Toronto, 2006



Develop the tools to advocate with employers

The case for career ladders must be made on economic grounds, that it is good for business.

This requires:

- Compelling case studies;
- Rigorous ROI (Return-on-Investment) studies that demonstrate the business case for training and workforce development;
- Targeted and customized programs that provide on-the-job training combining with workplace occupational restructuring that supports career laddering.

Create or enhance workforce intermediaries that can deliver such demand-focused initiatives

Developing interventions is not easy and requires specially-tailored organizations that can:

- Knit together the partnerships necessary to ensure buy-in and implementation capacity, including employer sector organizations, individual employers, unions, training bodies (which can bestow recognized credentials), community-based employment services and governments;
- Design customized training programs;
- Work with employers to restructure their workforce.

This latter point is critical. Consider the following major U. S. study of numerous labour market intermediaries (survey of 220 respondents), ranging from temp agencies to local sector-wide employment strategies, which concluded that:

- Using a workforce intermediary only to obtain new workers (that is, only job placement) leads to lower wages, to the detriment of workers and to the possible detriment of employers (these

employers experience both lower labour costs and lower productivity, and it depends from employer to employer whether the lower labour costs produce sufficient savings to offset the lower productivity);

- Using a workforce intermediary to redesign jobs leads to higher productivity and higher wages, benefiting both employers and workers;
- Using a workforce intermediary to plan and/or provide training reduces labour turnover, which then leads to higher productivity and higher wages, benefiting both employers and workers.²⁶

In fact, investing in employees should make business sense to employers. In an extensive quantitative analysis of five American business sectors (trucking, software, semiconductors, retail food and financial services), the data showed businesses that survived (as opposed to those that failed) had lower rates of employee turnover, higher workforce quality and higher productivity.²⁷

Align workforce development with other economic as well as social goals

Workforce development should not be an after-thought, a policy “nice-to-have.” How individuals fare in the labour force is integral to their livelihood and their sense of self-worth. How our population fares in the global labour market is integral to our success as a province and a country. Higher wages are typically linked to higher productivity (that is, more output for the same effort), and thus higher-skilled jobs usually command higher salaries. Promoting more Middle jobs could also be a way to elevate some Entry-level jobs, and thus Entry-level workers, to better quality employment. By focusing on the Middle jobs, we ensure there are viable opportunities for individuals without post-secondary degrees.

Promoting higher productivity work aligns with the business interests of many Canadian employers, as it also boosts our competitiveness. A healthy society requires both economic prosperity and economic fairness. A polarized labour market results in polarized incomes and fewer middle income jobs means fewer prospects for economic advancement. The growing concern regarding those who are working yet still poor is a direct consequence of the shape of our labour market, determining the kinds of jobs that are available as well as the opportunities for advancement. No society can long sustain the contradictions of an economy that creates a thriving elite class yet makes life a hardship for everyone else.

Summary of issues/areas warranting further research or study

- Understanding why Newcomers to Toronto have worse labour market outcomes than Newcomers to the rest of Ontario;
- Understanding why Newcomers in 2006 have worse labour market outcomes than Newcomers in 2001;
- Assessing the reasons and implications of the drop in the proportion of Toronto employed residents aged 25 to 29 years in the Knowledge Worker category and their concomitant increase in the Service 2 category;
- Clarifying whether there has been a greater propensity on the part of employers to prefer job candidates with higher level academic credentials for jobs that do not require such credentials, and identifying ways to challenge this behaviour;
- Identifying industries and sub-industries in Toronto where there are greater opportunities for employment in Intermediate jobs;
- Identifying industries and sub-industries in Toronto where there would be opportunities to work with employers to expand the number of Intermediate jobs;
- Developing appropriate tools for advocating with employers on behalf of workplace restructuring that creates career ladder pathways and more Intermediate jobs.

Conclusion

This report illustrates that over the last two decades, Ontario's labour market has moved towards an hourglass shape, with an increasing proportion of jobs at both ends of the labour market spectrum: high-end, well-paid Knowledge jobs, low-skilled, low-paid Entry-level jobs, with a contracting Middle-level sector of jobs. Our labour market in large measure is the reason for the growing polarization of income.

This report recommends placing more emphasis on generating and enhancing access to Middle jobs, those jobs requiring skills and work experience but not a post-secondary degree:

- Middle jobs are typically better paying;
- More Middle jobs would provide the necessary opportunities for advancement to workers already in Entry-level jobs;
- More Middle jobs could also provide additional career pathways to Knowledge Worker jobs;
- More Middle jobs would boost the productivity of our economy and contribute to the overall performance of our economy.

As we focus on transitioning to a knowledge economy, we need to ensure there is a place at the economic table for those who are not employed in Knowledge Work. Not every job requires a university degree and not every worker is going to have the means, the capacity or the interest to graduate from university. For the sake of economic prosperity, we need to continue to promote higher education, innovation and high-skilled work. For the sake of economic opportunity and fairness, we need to ensure that work pays an adequate wage and offers the promise of a better life.

IV. Appendix A: Richard Florida NOC-S Classes

The following two-digit occupation codes from NOC-S were included in the empirical definition of the occupational classes in Cervenak's study, applying Richard Florida's typology.

Service Class — NOC-S

- A2 Managers in retail trade, food and accommodation services
- (A3/2) Other Managers
- B2 Secretaries
- B3 Administrative and regulatory occupations
- B4 Clerical Supervisors
- B5 Clerical Occupations
- D3 Assisting Occupations in Support of Health Services
- E2 Paralegals, social services workers and occupations in education and religion
- G0 Sales and service supervisors
- G1 Wholesale, technical, insurance, real estate sales specialists, and retail wholesale and grain buyers
- G2 Retail Salespersons and sales clerks
- G3 Cashiers
- G4 Chefs and cooks
- G5 Occupations in food and beverage service
- G6 Occupations in protective services
- G7 Occupations in travel and accommodation, including attendants in recreation and sports
- G8 Child Care and home support workers
- G9 Sales and service occupations

Creative Class — NOC-S

Creative Professionals

- AO Senior management occupations
- A1 Specialist Managers
- (A3 Other Managers, n.e.c)/2
- B0 Professional occupations in business and finance
- B1 Finance and insurance administration occupations
- D0 Professional Occupations in Health
- D1 Nurse Supervisors and Registered Nurses
- D2 Technical and Related Occupations In Health

Super Creative Core

- C0 Professional Occupations in Natural and Applied Sciences
- C1 Technical Occupations Related to Natural and Applied Sciences
- E0 Judges, Lawyers, Psychologists, Social Workers, Ministers of Religion, and Policy and Program Officers
- E1 Teachers and Professors
- F0 Professional Occupations in Art and Culture
- F1 Technical Occupations in Art, Culture, Recreation and Sport

Working Class — NOC-S

- HO Contractors and supervisors in trades and transportation
- H1 Construction Trades
- H2 Stationary engineers, power station operators and electrical trades and telecommunications occupations
- H3 Machinists, metal forming, shaping and erecting occupations
- H4 Mechanics
- H5 Other trades n.e.c.
- H6 Heavy equipment and crane operators, including drillers
- H7 Transportation equipment operators and related workers, excluding labourers
- H8 Trades helpers, construction and transportation labourers and related occupations
- I2 Primary production labourers
- J0 Supervisors in manufacturing
- J1 Machine operators in manufacturing
- J2 Assemblers in manufacturing
- J3 Labourers in processing, manufacturing and utilities

Fishing/Farming/Forestry — NOC-S

- I0 Occupations unique to agriculture, excluding labourers
- I1 Occupations unique to forestry operations, mining, oil and gas extraction and fishing, excluding labourers

V. Appendix B: Toronto Workforce Innovation Group (TWIG) Skill/Sector Framework — Methodology and Classification

The National Classification Code was used as a starting point for the TWIG categories. However, each NOC skill level states that a particular credential is “usually required.” As a result, for greater precision, each of the in-depth descriptions for the 520 occupations was consulted, to provide an initial sorting.

Secondly, the proportion of youth (both 15 to 24 year olds and 15 to 19 year olds) working in each occupation was tabulated (using Ontario 2006 census data). Occupations that had a proportion of youth that was 50% greater than the provincial average for all occupations were assumed to be entry-level or next-level jobs, except where the NOC description conclusively stated otherwise.

Thirdly, the educational attainment of workers currently employed in Ontario (2006) in each of these occupations was tabulated, highlighting the proportion of workers who had either a university or college degree or diploma. While this data is not conclusive of the requirements of a particular job, it is indicative, especially where the occupation in question falls in the highest or lowest quintile distribution of jobs according to post-secondary education (being in the highest quintile meant Knowledge Worker, being in the third or lower quintile typically resulted in the occupation dropping out of the Knowledge Worker category).

Using these three “filters” and comparing the results by occupation, the 520 jobs were sorted into the seven categories (see further in this appendix for the actual classifications). The following examples illustrate the nature of the decision-making process:

- While youth aged 15 to 24 years of age make up 30.1% of all post-secondary teaching and research assistants (this age group represents 14.7% of all workers), and even though the education requirements for this job only stipulate enrollment in a university or college, the fact that 85.1% of individuals employed in this occupation have a post-secondary degree led to it being characterized as a Knowledge Worker position;
- Youth aged 15-24 years old make up 32.6% of all veterinary and animal health technologists and technicians, however the NOC description clearly states that completion of the appropriate two- to three-year college program is required, thus making it a Knowledge Worker position;
- Youth aged 15-24 years old make up 47.8% of land survey technologists and technicians (indeed, youth aged 15-19 years old represent 12.4%, compared to 5.7% of all occupations); even though this occupation is coded at a Skill B level, the NOC description only states that a college degree is usually required (it also states that high school completion is usually required), and less than half of workers in this occupation have a post-secondary degree; as a result, it is classified as a Service Entry job;
- Dancers and athletes are made up of large proportions of youth aged 15 to 24 years old (42.8% and 31.5%), with lower rates of post-secondary completion (42.0% and 41.9%); further, the NOC description for neither occupation stipulates the need for a post-secondary degree; nevertheless, to be a professional dancer or athlete requires such a significant level of skill that both positions are classified as Knowledge Workers jobs;
- Retail trade supervisors and food service supervisors are occupations with high proportions of youth (23.2% and 40.8%, respectively, are 15-24 years old and, more tellingly, 9.8% and 20.0% are 15-19 years old) and have low rates of post-secondary completion (32.4% and 33.2%), resulting in their being classified as Service Entry jobs;

- Similarly, managers in retail trade and in restaurant and food services have low rates of post-secondary completion, resulting in their being classified as Middle Service jobs.

The TWIG occupation classification:

KNOWLEDGE WORKERS	
0011 Legislators	0611 Sales, marketing and advertising managers
0012 Senior government managers and officials	0632 Accommodation service managers
0013 Senior managers — financial, communications and other business services	0641 Commissioned police officers
0014 Senior managers — health, education, social and community services and membership organizations	0642 Fire chiefs and senior fire-fighting officers
0015 Senior managers — trade, broadcasting and other services, n.e.c.	0643 Commissioned officers, Armed Forces
0016 Senior managers — goods production, utilities, transportation and construction	0811 Primary production managers (except agriculture)
0111 Financial managers	0911 Manufacturing managers
0112 Human resources managers	0912 Utilities managers
0113 Purchasing managers	1111 Financial auditors and accountants
0114 Other administrative services managers	1112 Financial and investment analysts
0121 Insurance, real estate and financial brokerage managers	1113 Securities agents, investment dealers and brokers
0122 Banking, credit and other investment managers	1114 Other financial officers
0123 Other business services managers	1121 Specialists in human resources
0131 Telecommunication carriers managers	1122 Professional occupations in business services to management
0132 Postal and courier services managers	1212 Supervisors, finance and insurance clerks
0211 Engineering managers	1222 Executive assistants
0212 Architecture and science managers	1223 Personnel and recruitment officers
0213 Computer and information systems managers	1225 Purchasing agents and officers
0311 Managers in health care	1226 Conference and event planners
0312 Administrators, post-secondary education and vocational training	1227 Court officers and justices of the peace
0313 School principals and administrators of elementary and secondary education	1228 Immigration, employment insurance and revenue officers
0314 Managers in social, community and correctional services	1233 Insurance adjusters and claims examiners
0411 Government managers, health and social policy development and program administration	1234 Insurance underwriters
0412 Government managers, economic analysis, policy development and program administration	1235 Assessors, valuers and appraisers
0413 Government managers, education policy development and program administration	1242 Legal secretaries
0414 Other managers in public administration	1243 Medical secretaries
0511 Library, archive, museum and art gallery managers	1244 Court recorders and medical transcriptionists
0512 Managers, publishing, motion pictures, broadcasting and performing arts	2111 Physicists and astronomers
0513 Recreation, sports and fitness program and service directors	2112 Chemists
	2113 Geologists, geochemists and geophysicists
	2114 Meteorologists
	2115 Other professional occupations in physical sciences
	2121 Biologists and related scientists
	2122 Forestry professionals
	2123 Agricultural representatives, consultants and specialists
	2131 Civil engineers
	2132 Mechanical engineers
	2133 Electrical and electronics engineers
	2134 Chemical engineers

2141 Industrial and manufacturing engineers	2271 Air pilots, flight engineers and flying instructors
2142 Metallurgical and materials engineers	2272 Air traffic control and related occupations
2143 Mining engineers	2274 Engineer officers, water transport
2144 Geological engineers	2281 Computer network technicians
2145 Petroleum engineers	2282 User support technicians
2146 Aerospace engineers	2283 Systems testing technicians
2147 Computer engineers (except software engineers)	3111 Specialist physicians
2148 Other professional engineers, n.e.c.	3112 General practitioners and family physicians
2151 Architects	3113 Dentists
2152 Landscape architects	3114 Veterinarians
2153 Urban and land use planners	3121 Optometrists
2154 Land surveyors	3122 Chiropractors
2161 Mathematicians, statisticians and actuaries	3123 Other professional occupations in health diagnosing and treating
2171 Information systems analysts and consultants	3131 Pharmacists
2172 Database analysts and data administrators	3132 Dietitians and nutritionists
2173 Software engineers and designers	3141 Audiologists and speech-language pathologists
2174 Computer programmers and interactive media developers	3142 Physiotherapists
2175 Web designers and developers	3143 Occupational therapists
2211 Chemical technologists and technicians	3144 Other professional occupations in therapy and assessment
2212 Geological and mineral technologists and technicians	3151 Head nurses and supervisors
2213 Meteorological technicians	3152 Registered nurses
2221 Biological technologists and technicians	3211 Medical laboratory technologists and pathologists' assistants
2222 Agricultural and fish products inspectors	3212 Medical laboratory technicians
2223 Forestry technologists and technicians	3213 Veterinary and animal health technologists and technicians
2224 Conservation and fishery officers	3214 Respiratory therapists, clinical perfusionists and cardio-pulmonary technologists
2225 Landscape and horticultural technicians and specialists	3215 Medical radiation technologists
2231 Civil engineering technologists and technicians	3216 Medical sonographers
2232 Mechanical engineering technologists and technicians	3217 Cardiology technologists
2233 Industrial engineering and manufacturing technologists and technicians	3218 Electroencephalographic and other diagnostic technologists, n.e.c.
2234 Construction estimators	3219 Other medical technologists and technicians (except dental health)
2241 Electrical and electronics engineering technologists and technicians	3221 Denturists
2242 Electronic service technicians (household and business equipment)	3222 Dental hygienists and dental therapists
2243 Industrial instrument technicians and mechanics	3223 Dental technologists, technicians, and laboratory bench workers
2244 Aircraft instrument, electrical and avionics mechanics, technicians and inspectors	3231 Opticians
2251 Architectural technologists and technicians	3232 Midwives and practitioners of natural healing
2252 Industrial designers	3233 Licensed practical nurses
2253 Drafting technologists and technicians	3234 Ambulance attendants and other paramedical occupations
2255 Mapping and related technologists and technicians	3235 Other technical occupations in therapy and assessment
2262 Engineering inspectors and regulatory officers	4111 Judges
2263 Inspectors in public and environmental health and occupational health and safety	4112 Lawyers and Québec notaries
2264 Construction inspectors	

<p>4121 University professors 4122 Post-secondary teaching and research assistants 4131 College and other vocational instructors 4141 Secondary school teachers 4142 Elementary school and kindergarten teachers 4143 Educational counsellors 4151 Psychologists 4152 Social workers 4153 Family, marriage and other related counsellors 4154 Ministers of religion 4155 Probation and parole officers and related occupations 4161 Natural and applied science policy researchers, consultants and program officers 4162 Economists and economic policy researchers and analysts 4163 Business development officers and marketing researchers and consultants 4164 Social policy researchers, consultants and program officers 4165 Health policy researchers, consultants and program officers 4166 Education policy researchers, consultants and program officers 4167 Recreation, sports and fitness program supervisors and consultants 4168 Program officers unique to government 4169 Other professional occupations in social science, n.e.c. 4211 Paralegal and related occupations 4212 Community and social service workers 4213 Employment counsellors 4214 Early childhood educators and assistants 4215 Instructors and teachers of persons with disabilities 4217 Other religious occupations 5111 Librarians 5112 Conservators and curators 5113 Archivists</p>	<p>5121 Authors and writers 5124 Professional occupations in public relations and communications 5125 Translators, terminologists and interpreters 5131 Producers, directors, choreographers and related occupations 5132 Conductors, composers and arrangers 5133 Musicians and singers 5134 Dancers 5135 Actors and comedians 5136 Painters, sculptors and other visual artists 5211 Library and archive technicians and assistants 5212 Technical occupations related to museums and art galleries 5221 Photographers 5222 Film and video camera operators 5223 Graphic arts technicians 5224 Broadcast technicians 5225 Audio and video recording technicians 5226 Other technical and co-ordinating occupations in motion pictures, broadcasting and the performing arts 5227 Support occupations in motion pictures, broadcasting and the performing arts 5231 Announcers and other broadcasters 5232 Other performers 5241 Graphic designers and illustrators 5242 Interior designers 5243 Theatre, fashion, exhibit and other creative designers 5244 Artisans and craftspersons 5245 Patternmakers, textile, leather and fur products 5251 Athletes 5252 Coaches 6221 Technical sales specialists, wholesale trade 6272 Funeral directors and embalmers 6431 Travel counsellors 6463 By-law enforcement and other regulatory officers, n.e.c.</p>
MIDDLE PRIMARY	
<p>8211 Supervisors, logging and forestry 8221 Supervisors, mining and quarrying 8222 Supervisors, oil and gas drilling and service 8231 Underground production and development miners 8232 Oil and gas well drillers, servicers, testers and related workers 8241 Logging machinery operators 8251 Farmers and farm managers 8252 Agricultural and related service contractors and managers</p>	<p>8253 Farm supervisors and specialized livestock workers 8254 Nursery and greenhouse operators and managers 8255 Landscaping and grounds maintenance contractors and managers 8257 Aquaculture operators and managers 8261 Fishing masters and officers 8412 Oil and gas well drilling workers and services operators</p>

SERVICE ENTRY	
<p>1411 General office clerks 1413 Records management and filing clerks 1414 Receptionists and switchboard operators 1422 Data entry clerks 1423 Desktop publishing operators and related occupations 1424 Telephone operators 1431 Accounting and related clerks 1433 Customer service representatives — financial services 1435 Collectors 1443 Court clerks 1451 Library clerks 1452 Correspondence, publication and related clerks 1453 Customer service, information and related clerks 1454 Survey interviewers and statistical clerks 1461 Mail, postal and related clerks 1462 Letter carriers 1463 Couriers, messengers and door-to-door distributors 1471 Shippers and receivers 1472 Storekeepers and parts clerks 1473 Production clerks 1474 Purchasing and inventory clerks 1475 Dispatchers and radio operators 1476 Transportation route and crew schedulers 2254 Land survey technologists and technicians 3413 Nurse aides, orderlies and patient service associates 3414 Other assisting occupations in support of health services 4216 Other instructors 5253 Sports officials and referees 5254 Program leaders and instructors in recreation, sport and fitness 6211 Retail trade supervisors 6212 Food service supervisors 6214 Dry cleaning and laundry supervisors 6215 Cleaning supervisors 6216 Other service supervisors 6242 Cooks</p>	<p>6251 Butchers, meat cutters and fishmongers, retail and wholesale 6252 Bakers 6421 Retail salespersons and sales clerks 6432 Purser and flight attendants 6433 Airline sales and service agents 6434 Ticket agents, cargo service representatives and related clerks (except airline) 6441 Tour and travel guides 6442 Outdoor sport and recreational guides 6451 Maîtres d'hôtel and hosts 6452 Bartenders 6453 Food and beverage servers 6465 Other protective service occupations 6471 Visiting homemakers, housekeepers and related occupations 6472 Elementary and secondary school teacher assistants 6474 Babysitters, nannies and parents' helpers 6481 Image, social and other personal consultants 6482 Estheticians, electrologists and related occupations 6483 Pet groomers and animal care workers 6484 Other personal service occupations 6611 Cashiers 6621 Service station attendants 6622 Grocery clerks and store shelf stockers 6623 Other elemental sales occupations 6641 Food counter attendants, kitchen helpers and related occupations 6651 Security guards and related occupations 6661 Light duty cleaners 6662 Specialized cleaners 6663 Janitors, caretakers and building superintendents 6671 Operators and attendants in amusement, recreation and sport 6672 Other attendants in accommodation and travel 6681 Dry cleaning and laundry occupations 6682 Ironing, pressing and finishing occupations 6683 Other elemental service occupations</p>
WORKING ENTRY	
<p>7411 Truck drivers 7412 Bus drivers and subway and other transit operators 7413 Taxi and limousine drivers and chauffeurs 7414 Delivery and courier service drivers 7422 Public works maintenance equipment operators 7431 Railway yard workers</p>	<p>7432 Railway track maintenance workers 7433 Deck crew, water transport 7434 Engine room crew, water transport 7435 Lock and cable ferry operators and related occupations 7436 Boat operators 7437 Air transport ramp attendants</p>

<p>7441 Residential and commercial installers and servicers 7442 Waterworks and gas maintenance workers 7443 Automotive mechanical installers and servicers 7444 Pest controllers and fumigators 7445 Other repairers and servicers 7451 Longshore workers 7452 Material handlers 7611 Construction trades helpers and labourers 7612 Other trades helpers and labourers 7621 Public works and maintenance labourers 7622 Railway and motor transport labourers 9414 Concrete, clay and stone forming occupations 9423 Rubber processing machine operators and related workers 9435 Paper converting machine operators 9441 Textile fibre and yarn preparation machine operators 9443 Textile dyeing and finishing machine operators 9451 Sewing machine operators 9452 Fabric, fur and leather cutters 9453 Hide and pelt processing workers 9461 Process control and machine operators, food and beverage processing 9462 Industrial butchers and meat cutters, poultry preparers and related workers 9463 Fish plant workers 9464 Tobacco processing machine operators 9471 Printing machine operators 9474 Photographic and film processors</p>	<p>9482 Motor vehicle assemblers, inspectors and testers 9484 Assemblers and inspectors, electrical appliance, apparatus and equipment manufacturing 9487 Machine operators and inspectors, electrical apparatus manufacturing 9491 Boat assemblers and inspectors 9492 Furniture and fixture assemblers and inspectors 9493 Other wood products assemblers and inspectors 9495 Plastic products assemblers, finishers and inspectors 9497 Plating, metal spraying and related operators 9498 Other assemblers and inspectors 9512 Forging machine operators 9513 Woodworking machine operators 9514 Metalworking machine operators 9516 Other metal products machine operators 9517 Other products machine operators 9611 Labourers in mineral and metal processing 9612 Labourers in metal fabrication 9613 Labourers in chemical products processing and utilities 9614 Labourers in wood, pulp and paper processing 9615 Labourers in rubber and plastic products manufacturing 9616 Labourers in textile processing 9617 Labourers in food, beverage and tobacco processing 9618 Labourers in fish processing 9619 Other labourers in processing, manufacturing and utilities</p>
PRIMARY ENTRY	
<p>8256 Supervisors, landscape and horticulture 8262 Fishing vessel skippers and fishermen 8411 Underground mine service and support workers 8421 Chain-saw and skidder operators 8422 Silviculture and forestry workers 8431 General farm workers 8432 Nursery and greenhouse workers 8441 Fishing vessel deckhands</p>	<p>8442 Trappers and hunters 8611 Harvesting labourers 8612 Landscaping and grounds maintenance labourers 8613 Aquaculture and marine harvest labourers 8614 Mine labourers 8615 Oil and gas drilling, servicing and related labourers 8616 Logging and forestry labourers</p>

VI. Appendix C: Background Data Tables

All data for these tables was obtained from the customized Statistics Canada labour market data that has been purchased by the Ontario Ministry of Training, Colleges and Universities and made available to every Ontario training board. In some instances, numbers for the same variable are slightly different in separate tables due to rounding of original data cells that contribute to the total. In all instances where that is the case, the discrepancy is minor.

Table A: Number of Ontario labour force by class, 1996-2006 (Chart 2)

	1996	2001	2006
Creative	1,409,535	1,780,703	1,959,780
Service	2,629,300	2,710,248	2,973,990
Working	1,233,860	1,381,560	1,429,875
Primary	128,675	120,260	110,055
TOTAL	5,401,370	5,992,770	6,473,700

Table B: Percentage of Ontario labour force by class, 1996-2006 (Chart 2)

	1996	2001	2006
Creative	26.1%	29.7%	30.3%
Service	48.7%	45.2%	45.9%
Working	22.8%	23.1%	22.1%
Primary	2.4%	2.0%	1.7%
TOTAL	100.0%	100.0%	100.0%

Table C: Number of Ontario labour force by skill required (NOC), 1996-2006 (Chart 3)

	1996	2001	2006
Management	522,710	685,390	666,480
University	812,270	992,190	1,123,350
College/apprenticeship	1,437,460	1,698,935	1,802,145
Secondary school	1,918,860	1,886,870	2,061,760
On-the-job	710,115	729,390	820,000
TOTAL	5,401,415	5,992,775	6,473,735

Table D: Percentage of Ontario labour force by skill required (NOC), 1996-2006 (Chart 3)

	1996	2001	2006
Management	9.7%	11.4%	10.3%
University	15.0%	16.6%	17.4%
College/apprenticeship	26.6%	28.3%	27.8%
Secondary school	35.5%	31.5%	31.8%
On-the-job	13.1%	12.2%	12.7%
TOTAL	99.9%	100.0%	100.0%

Table E: Number of Ontario labour force by skill/sector framework, 1996-2006 (Chart 4)

	1991	1996	2001	2006
K workers	1,444,625	1,544,365	1,985,330	2,161,750
Middle Service	709,020	692,935	724,960	766,775
Service Entry	1,540,720	1,757,905	1,719,055	1,948,420
Middle Working	635,060	637,775	738,075	729,105
Working Entry	541,790	602,570	661,025	702,600
Middle Primary	80,115	77,280	74,250	66,825
Primary Entry	90,525	88,460	90,105	98,265
TOTAL	5,041,855	5,401,290	5,992,800	6,473,740

Table F: Percentage of Ontario labour force by skill/sector framework, 1996-2006 (Chart 4)

	1991	1996	2001	2006
K workers	28.7%	28.6%	33.1%	33.4%
Middle Service	14.1%	12.8%	12.1%	11.8%
Service Entry	30.6%	32.5%	28.7%	30.1%
Middle Working	12.6%	11.8%	12.3%	11.3%
Working Entry	10.7%	11.2%	11.0%	10.9%
Middle Primary	1.6%	1.4%	1.2%	1.0%
Primary Entry	1.8%	1.6%	1.5%	1.5%
TOTAL	100.1%	99.9%	99.9%	100.0%

Table G: Number and percent of jobs by skill/sector framework, Toronto and the rest of Ontario, 2006 (Chart 7)

	NUMBER		PERCENT	
	Toronto	Ontario minus Toronto	Toronto	Ontario minus Toronto
K workers	609,475	1,365,530	45.6%	32.2%
Middle Service	175,610	537,535	13.1%	12.7%
Service Entry	377,795	1,327,710	28.3%	31.4%
Middle Working	82,510	439,900	6.2%	10.4%
Working Entry	86,695	440,875	6.5%	10.4%
Middle Primary	1,160	58,570	0.1%	1.4%
Primary Entry	3,290	64,210	0.2%	1.5%
TOTAL	1,336,535	4,234,330	100.0%	100.0%

Table H: Number of jobs in Toronto and number of employed Toronto residents, by skill/sector framework, 1996-2006 (Table 3)

	Number of jobs			Number of employed residents		
	1996	2001	2006	1996	2001	2006
K workers	458,310	587,780	609,475	378,390	493,355	505,880
Middle Service	183,515	175,400	175,610	148,425	143,330	140,430
Service Entry	386,930	367,115	377,795	361,580	350,060	367,460
Middle Working	87,415	95,585	82,510	97,190	113,370	105,080
Working Entry	92,510	97,830	86,695	107,235	122,190	116,195
Middle Primary	1,025	900	1,160	1,230	1,210	1,225
Primary Entry	3,480	3,055	3,290	5,075	4,515	5,940
TOTAL	1,213,185	1,327,665	1,336,535	1,099,125	1,228,030	1,242,210

Table I: Average and median employment income, full-year, full-time wage earners, and percentage changes, Toronto males, 1995-2005 (all calculations in 2005 dollars)(Charts 10-12)

	Average wages			Median wages			% change average 1995-2005	% change median 1995-2005
	1995	2000	2005	1995	2000	2005		
K workers	81,892	93,185	105,009	65,729	66,471	69,398	28.2%	5.6%
Middle Service	50,080	53,767	59,323	41,914	42,185	42,196	18.5%	0.7%
Service Entry	34,700	36,323	36,302	32,617	33,339	32,676	4.6%	0.2%
Middle Working	44,907	47,082	49,105	43,114	44,334	43,417	9.3%	0.7%
Working Entry	36,530	37,107	37,559	35,780	35,679	35,351	2.8%	-1.2%

Table J: Average and median employment income, full-year, full-time wage earners, and percentage changes, Toronto females, 1995-2005 (all calculations in 2005 dollars) (Charts 10-12)

	Average wages			Median wages			% change average 1995-2005	% change median 1995-2005
	1995	2000	2005	1995	2000	2005		
K workers	57,636	60,768	66,620	53,485	53,273	57,406	15.6%	7.3%
Middle Service	39,755	41,383	43,871	37,103	37,297	37,773	10.4%	1.8%
Service Entry	30,506	31,648	31,128	29,475	29,786	29,151	2.0%	-1.1%
Middle Working	32,151	33,012	35,241	30,017	30,124	30,362	9.6%	1.1%
Working Entry	25,715	26,878	27,358	24,986	25,918	25,991	6.4%	4.0%

Table K: Average and median employment income, full-year, full-time wage earners, and percentage changes, rest of Ontario males, 1995-2005 (all calculations in 2005 dollars) (Charts 10-12)

	Average wages			Median wages			% change average 1995-2005	% change median 1995-2005
	1995	2000	2005	1995	2000	2005		
K workers	74,057	80,574	85,940	66,590	68,168	71,392	16.0%	7.2%
Middle Service	52,969	56,754	59,194	47,639	49,311	50,037	11.8%	5.0%
Service Entry	38,519	39,894	40,270	36,291	36,595	36,559	4.5%	0.7%
Middle Working	51,763	53,725	54,825	50,202	49,879	51,368	5.9%	2.3%
Working Entry	43,313	44,458	43,993	42,960	43,217	42,740	1.6%	-0.5%

Table L: Average and median employment income, full-year, full-time wage earners, and percentage changes, rest of Ontario females, 1995-2005 (all calculations in 2005 dollars) (Charts 10-12)

	Average wages			Median wages			% change average 1995-2005	% change median 1995-2005
	1995	2000	2005	1995	2000	2005		
K workers	52,006	52,992	57,459	50,459	49,848	54,253	10.5%	7.5%
Middle Service	35,867	38,131	39,602	34,034	34,607	36,023	10.4%	5.8%
Service Entry	29,440	30,618	30,671	28,280	28,502	29,102	4.2%	2.9%
Middle Working	36,005	36,880	37,974	34,307	34,353	35,417	5.5%	3.2%
Working Entry	30,776	32,219	33,550	29,915	30,421	31,863	9.0%	6.5%

Table M: Number of employed residents by skill/sector categories, Toronto, 2001 and 2006 (Charts 13 and 14)

	2001			2006		
	Canadian-born	Immigrants	Newcomers	Canadian-born	Immigrants	Newcomers
K-workers	278,560	170,855	43,965	286,315	171,985	47,565
Middle Service	69,060	63,465	10,815	66,195	60,910	13,355
Service Entry	158,170	151,370	40,530	157,480	155,240	54,735
Middle Working	37,020	62,815	13,525	34,240	55,015	15,825
Working Entry	33,060	69,510	19,630	30,125	63,205	22,870
Middle Primary	700	425	55	760	400	70
Primary Entry	2,760	1,440	310	3,655	1,715	575
TOTAL	579,330	519,880	128,830	578,770	508,470	154,995

For 2001, Immigrants are those who arrived to Canada pre-1996 and Newcomers are those who arrived to Canada 1996 and afterwards. For 2006, Immigrants are those who arrived to Canada pre-2001 and Newcomers are those who arrived to Canada 2001 and afterwards.

Table N: Percentage distribution of employed residents by skill/sector categories, Toronto, 2001 and 2006 (Charts 15 and 16)

	2001			2006		
	Canadian-born	Immigrants	Newcomers	Canadian-born	Immigrants	Newcomers
K-worker	48.1%	32.9%	34.1%	49.5%	33.8%	30.7%
Middle Service	11.9%	12.2%	8.4%	11.4%	12.0%	8.6%
Service Entry	27.3%	29.1%	31.5%	27.2%	30.5%	35.3%
Middle Working	6.4%	12.1%	10.5%	5.9%	10.8%	10.2%
Working Entry	5.7%	13.4%	15.2%	5.2%	12.4%	14.8%

Primary 1 and 2 have been excluded because they make up a small proportion of the total.

Table O: Number of employed residents by skill/sector categories, rest of Ontario, 2001 and 2006 (Chart 15)

	2001			2006		
	Canadian-born	Immigrants	Newcomers	Canadian-born	Immigrants	Newcomers
K-workers	1,088,910	301,855	39,545	1,179,360	351,565	59,155
Middle Service	430,025	120,190	10,125	452,585	133,570	16,995
Service Entry	1,016,350	215,695	31,435	1,133,245	260,600	57,640
Middle Working	446,195	130,425	12,170	441,775	130,770	18,175
Working Entry	371,460	105,980	16,225	385,330	126,325	26,685
Middle Primary	60,230	10,090	1,075	54,720	8,755	855
Primary Entry	67,230	9,175	1,455	72,450	9,540	1,925
TOTAL	3,480,400	893,410	112,030	3,719,465	1,021,125	181,430

Table P: Percentage distribution of employed residents by skill/sector categories, rest of Ontario, 2001 and 2006 (Chart 15)

	2001			2006		
	Canadian-born	Immigrants	Newcomers	Canadian-born	Immigrants	Newcomers
K-workers	31.3%	33.8%	35.3%	31.7%	34.4%	32.6%
Middle Service	12.4%	13.5%	9.0%	12.2%	13.1%	9.4%
Service Entry	29.2%	24.1%	28.1%	30.5%	25.5%	31.8%
Middle Working	12.8%	14.6%	10.9%	11.9%	12.8%	10%
Working Entry	10.7%	11.9%	14.5%	10.4%	12.4%	14.7%

Table Q: Percentage distribution of employed Ontario workers by select age groups and by skill/sector categories, 2006 (Chart 18)

	Over 30 years of age	15-24 year olds	25-29 year olds
K workers	37.5%	13.0%	38.4%
Middle Service	13.3%	6.0%	11.4%
Service Entry	23.8%	59.7%	28.4%
Middle Working	12.2%	7.2%	10.3%
Working Entry	10.9%	9.6%	9.6%
Middle Primary	1.2%	0.5%	0.6%
Primary Entry	1.0%	4.0%	1.3%
TOTAL	100.1%	100.0%	100.0%

Table R: Comparisons of occupational category proportions by select industries in Toronto, 2006 (Chart 20)

	Wholesale trade	Finance & insurance	Accommodation & food services
K workers	38.3%	64.6%	5.2%
Middle Service	21.2%	16.6%	21.9%
Service Entry	21.1%	18.5%	71.7%
Middle Working	5.0%	0.2%	0.4%
Working Entry	14.4%	0.1%	0.8%

Table S: Number of jobs by select occupations and employers in the health sector in Toronto, 2006 (Chart 21)

	Hospitals	Nursing care facilities
Registered nurses	16625	2720
Licensed practical nurses	1070	620
Personal support workers	2435	5770

Table T: Skill/sector categories across several select retail sub-sectors, jobs in Toronto, 2006 (Chart 22)

	Electronics & appliance stores	Grocery stores	Department stores	Clothing stores
K workers	19.8%	2.7%	15.4%	5.9%
Middle Service	18.5%	15.8%	15.2%	23.2%
Service Entry	57.7%	79.3%	64.9%	66.8%
Middle Working	1.4%	0.3%	1.1%	2.6%
Working Entry	2.6%	1.6%	3.3%	1.5%

VII. Endnotes

- 1 Planning to Succeed in Toronto: Integrated Workforce Planning examples for the Us and Europe, June 2009, Toronto Training Board. See, for example the case study on Philadelphia.
- 2 This distinction has been well illustrated by Richard Florida, starting with his seminal *The Rise of the Creative Class: And How It's Transforming Work, Leisure and Everyday Life*, Basic Books (2002).
- 3 Amy Cervenán, *Service Class Prosperity in Ontario*, Working Paper Series: Ontario in the Creative Age, Martin Prosperity Institute, Rotman School of Management, University of Toronto, March 2009
- 4 Cervenán, p. 5.
- 5 *Ibid.*, p. 4.
- 6 The sorting of occupational categories adopted by Florida is provided in Appendix A.
- 7 Labour force includes both employed and unemployed.
- 8 Data for this chart and for other charts generated for this report can be found in Appendix C.
- 9 Further background on the sorting methodology and the actual classification results are provided in Appendix B.
- 10 This is distinct from the jobs that residents have. That is, jobs in Toronto are filled by both Toronto residents as well as residents from outside Toronto commuting into the city. The same applies to jobs in the rest of Ontario.
- 11 The table excludes Middle Primary and Primary Entry category jobs, which accounted for 0.3% of jobs in Toronto and 2.9% of jobs in the rest of Ontario in 2006.
- 12 ALL JOBS includes Middle Primary and Primary Entry categories for both Toronto and the rest of Ontario.
- 13 The actual estimate is 19.4% and is based on Statistics Canada Census 2006 commuting data, of those employed residents having a usual place of work (Cat. No. 97-561-X2006010).
- 14 TOTAL includes Middle Primary and Primary Entry categories for Toronto.
- 15 This comparison can only be made with employees that worked in “fixed” place of work, that is, at a usual place of work or at home.
- 16 We know that Toronto residents also commute outside Toronto for work, so this ratio represents the *net* comparison of Toronto residents to jobs in Toronto.
- 17 These figures are approximate because the data for Chart 10 uses 2005 full-year full-time work figures and compares them to May, 2006 all employed workers data. When this calculation is performed for 1996 and 2001, comparable proportions result, so these figures are sufficiently good approximations of the actual percentages.
- 18 Proportion of Knowledge Workers for rest of Ontario: 31.7% for Canadian-born, 34.4% for Immigrants and 32.6% for Newcomers.
- 19 Proportion of Knowledge Workers for Toronto: 49.5% for Canadian-born, 33.8% for Immigrants and 30.7% for Newcomers.
- 20 These findings, both the poorer labour market results between Toronto Newcomers versus rest of Ontario Newcomers, as well as their worsening outcomes between 2001 and 2006, warrants further study.
- 21 This is another labour market trend that warrants further study and attention.
- 22 The issue of whether this reflects a greater propensity on the part of employers to prefer job candidates with higher level academic credentials for jobs that do not require such credentials is a question that deserves further data investigation and inquiry of employers.

- 23 Losing Ground: The Persistent Increase of Poverty in Canada's Largest City
- 24 Organization for Economic Co-operation and Development, *Highlights from Education at a Glance 2008* (2009), p. 13.
- 25 An excellent overview of career ladder approaches can be found in Joan Fitzgerald, *Moving Up in the New Economy: Career Ladders for U.S. Workers*, Cornell University Press, 2006.
- 26 PEERS (Partnership for Employer-Employee Responsive Systems), *Workforce Intermediaries: Generating Benefits for Employers and Workers*, Ford Foundation, 2003.
- 27 Clair Brown, John Haltiwanger and Julia Lane, *Economic Turbulence: Is a Volatile Economy Good for America?* The University of Chicago Press, 2006, p. 52.