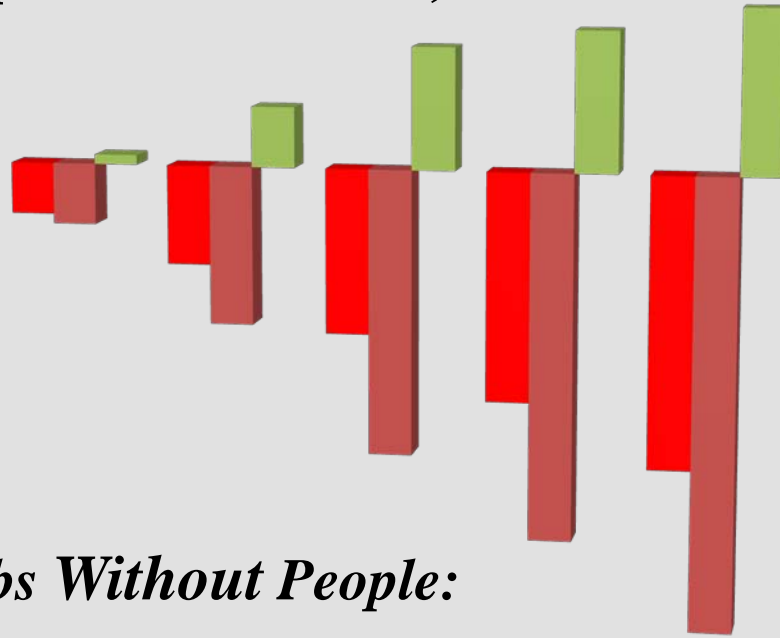


People Without Jobs,



Jobs Without People:

Canada's Labour Market Future

MINER

MANAGEMENT CONSULTANTS

Rick Miner, Ph.D.

II

Two Mega Trends:

- Aging population resulting in lower labour force participation rates
- Knowledge economy requiring a more educated work force

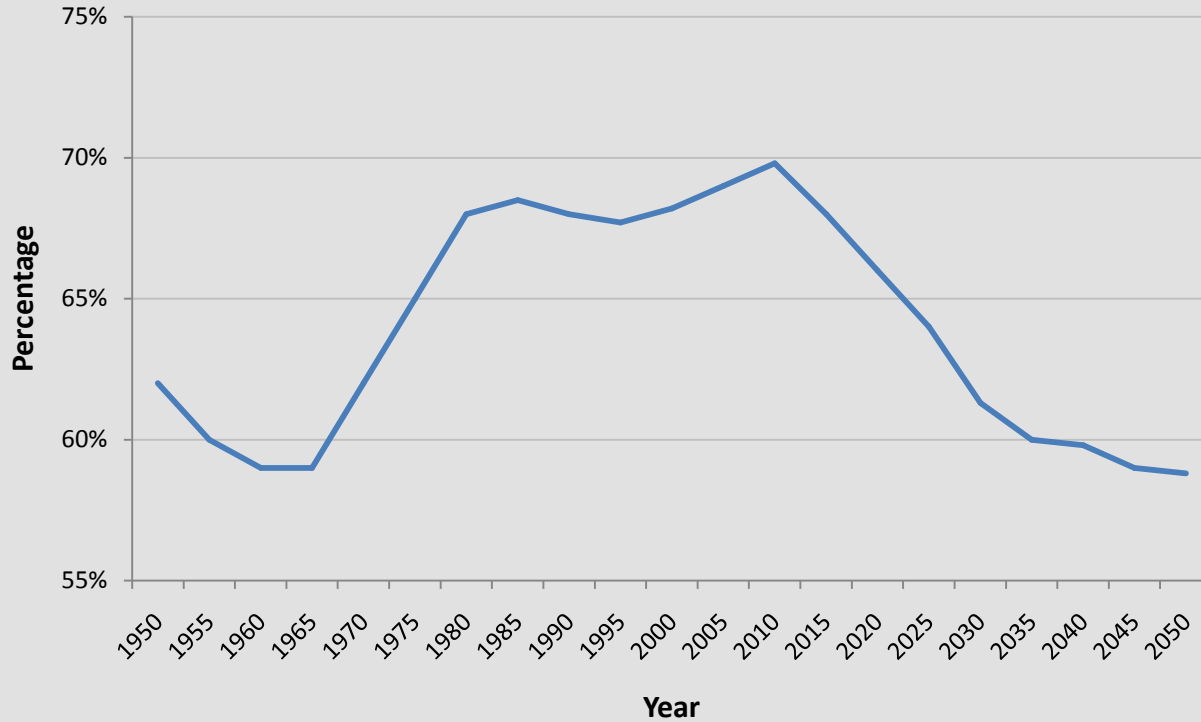
II

The Baby Boomers

- Born, 1946/47 to 1964
- Similar in US & Europe (millions and millions of them)
- Dramatic Changes:
 - Elementary Schools
 - High Schools
 - Colleges
 - Universities
- Now retirement beginning 2011

II

**Figure 1. Percentage of Total Canadian Population,
15 - 64 Years of Age**



Source: Russell Barnett, Bank of Canada Review, Summer 2007

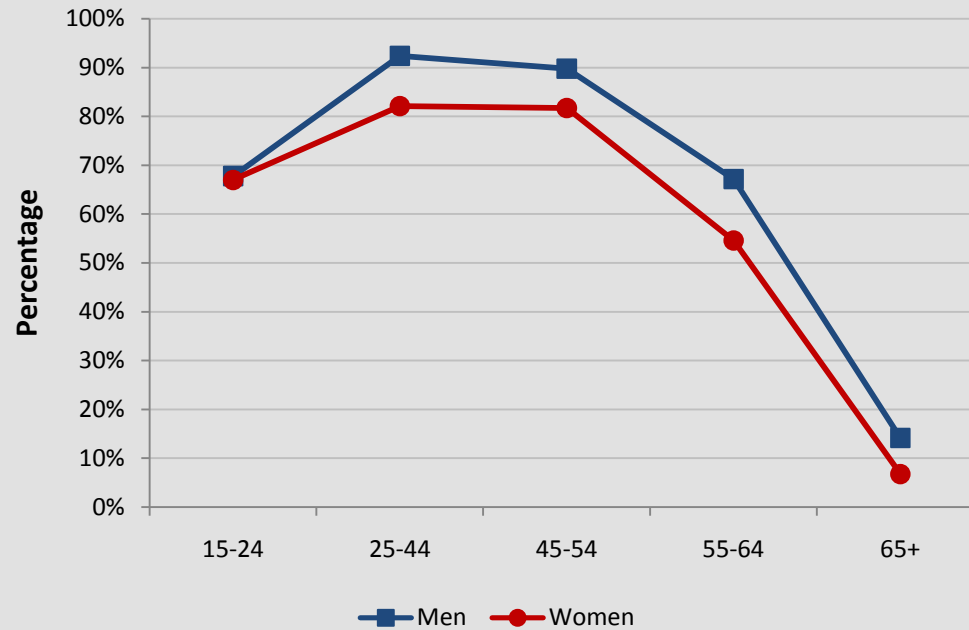
II

How will their “exit” affect Canada’s labour markets?

- Labour force participation rates

II

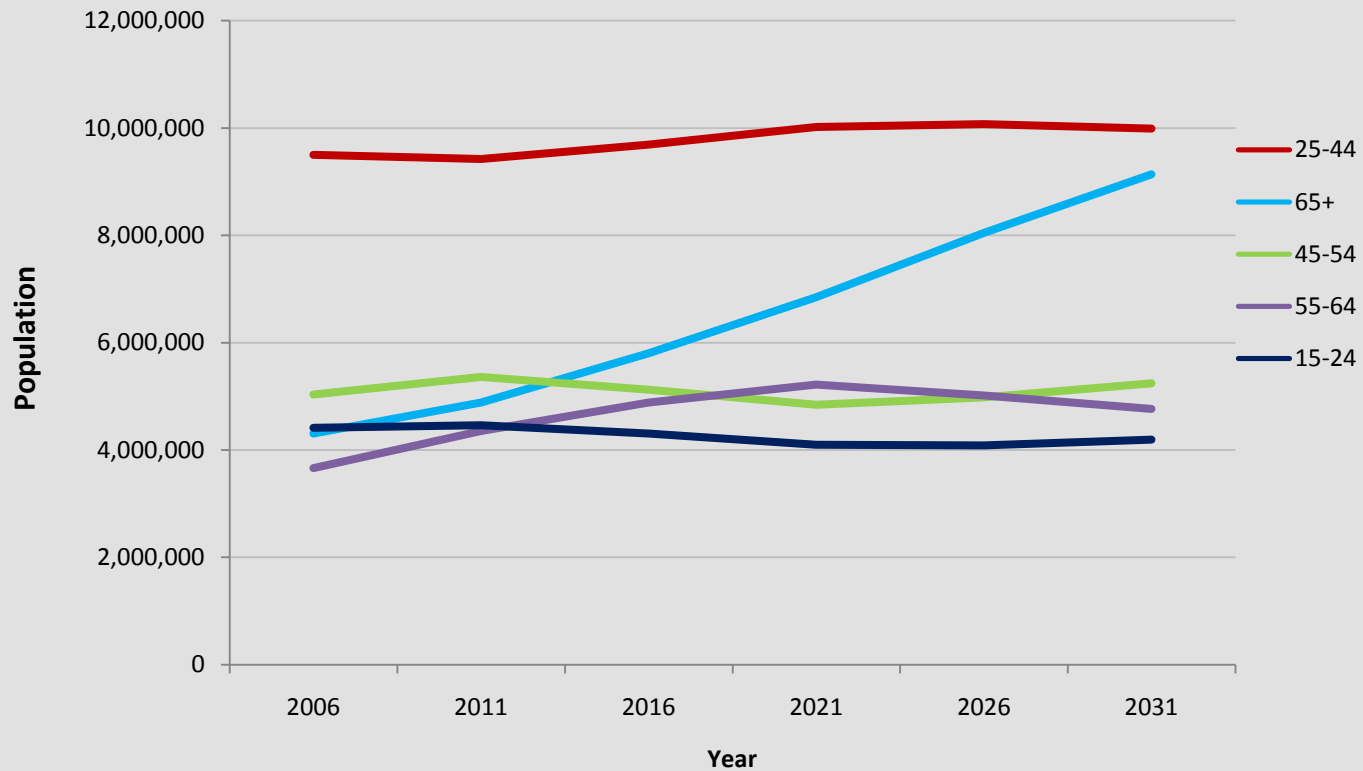
Figure 2. Canadian Participation Rates by Gender and Age



Source: Statistics Canada, 2009

II

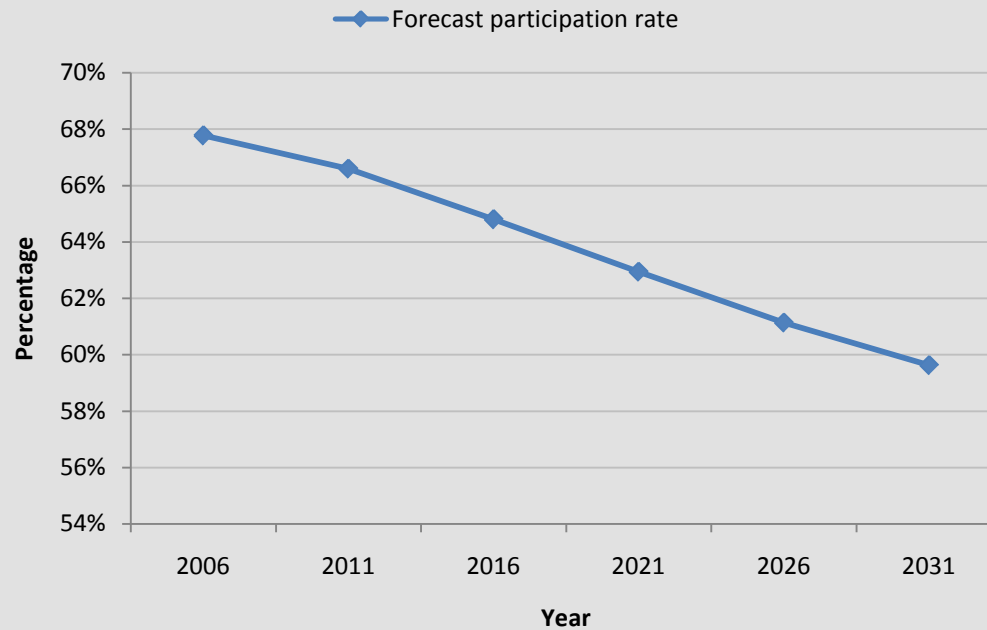
Figure 3. Canada Population Projections by Age



Source: Statistics Canada, 2005

II

Figure 4. Canadian Labour Force Participation Rate Changes: 2006 to 2031



Source: Created using Statistics Canada data

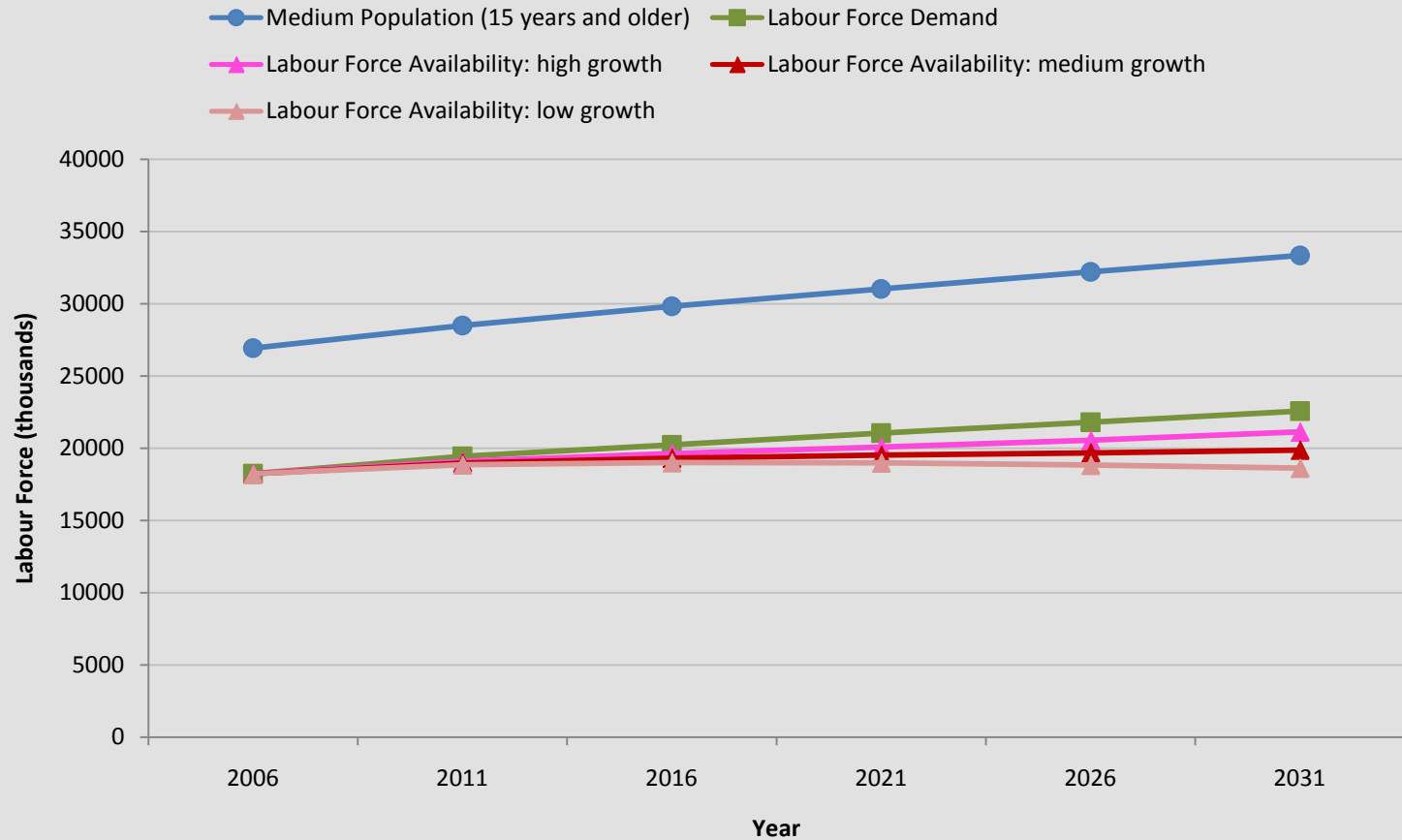
II

Projecting Canada's Labour Market Through 2031

- HRSDC (2007). 10-Year Outlook for the Canadian Labour Market
- Statistics Canada (2005). Population Projections for Canada (medium growth)

II

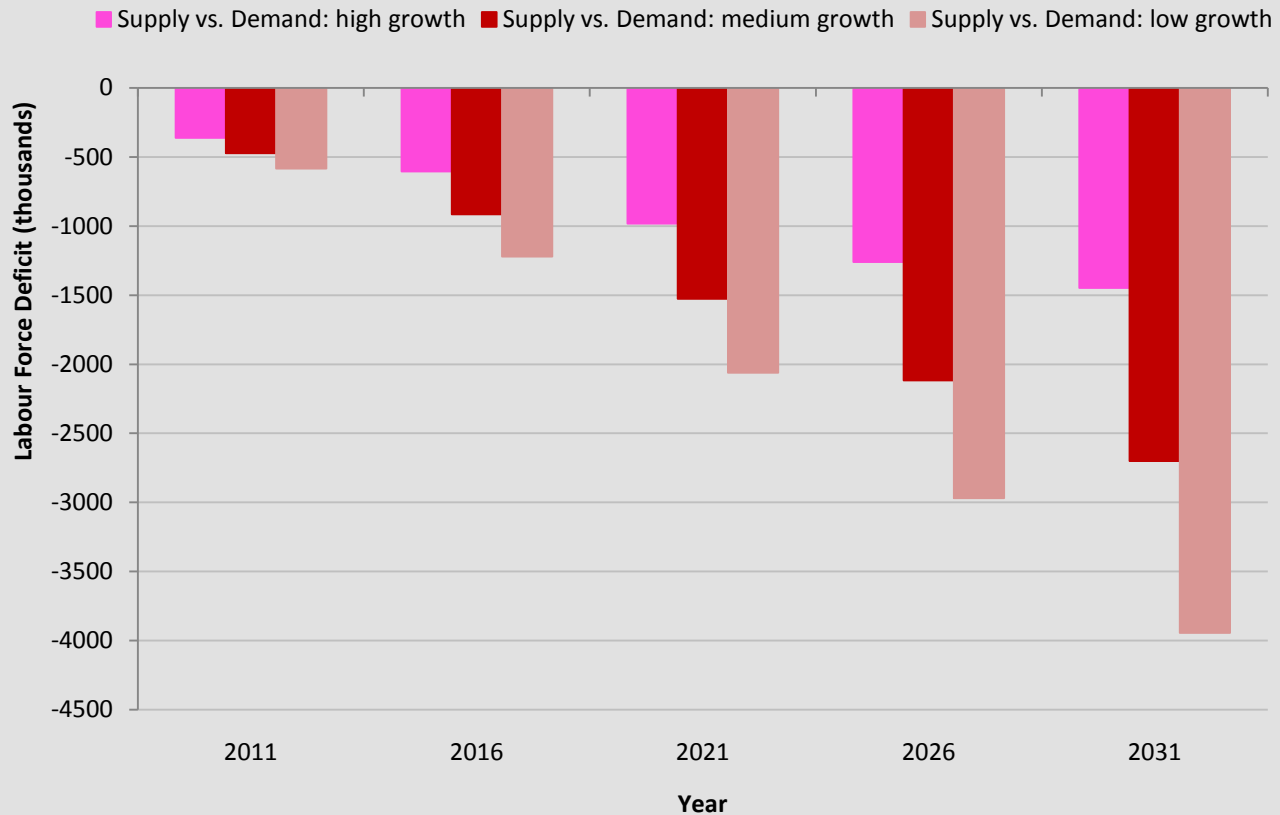
**Figure 5. Canada Population and Workforce Projections:
2006-2031**



Source: HRSCD 2007; Statistics Canada 2005

II

Figure 6. Canada Labour Force Supply and Demand: High, Medium and Low Population Growth Projections



II

**What kind of new jobs/workforce does
Canada need?**

II

- In 2003, a quarter of the jobs listed in the U.S. Occupational codes did not exist in 1967.
- “Old” jobs become new jobs every 15 years.
- Knowledge economies require knowledge workers.

II

Futurist Adam Gordon (2020-2030 Jobs):

- **Body Part Maker**
- **Nano-Medic**
- **Memory Augmentation Surgeon**
- Organ Agent
- Old Age Wellness Manager
- End-of-life Planner

- **Climate Change Reversal Specialist**
- 'New Science' Ethicist
- Time Broker

- **Weather Modification Police**
- Quarantine Enforcer
- Automated Systems Monitor

- Vertical Farmer
- **'Pharmer' – Genetically Engineered Crops & Livestock**

- **Narrowcasters**
- **Social "Networking" Worker**
- **Personal Branders**

- Virtual Clutter Organizer
- **Waste Data Handler**
- Virtual Lawyer
- Avatar Manager

- **Space Pilot**
- Alternative Vehicle Developers

II

Canada's Skilled Work Force Requirements

- Education/training beyond high school:
 - apprenticeship
 - university
 - college
 - polytechnic
 - industry and/or professional qualification

II

Estimates of Current & Future “New Job” Requirements:

- 65% (HRSDC, 2007)
- 67% (Canadian Council on Learning, 2009)
- 75/76% (B.C. Ministry of Advanced Education & Labour Market Development, 1997 and 2009)
- 78% (U.S. Skills2Compete, 2007)
- 81% (Ontario Ministry of Education, 2005)
- 16 million shortfall in PSE qualifications (U.S. Lumina Foundation, 2009)

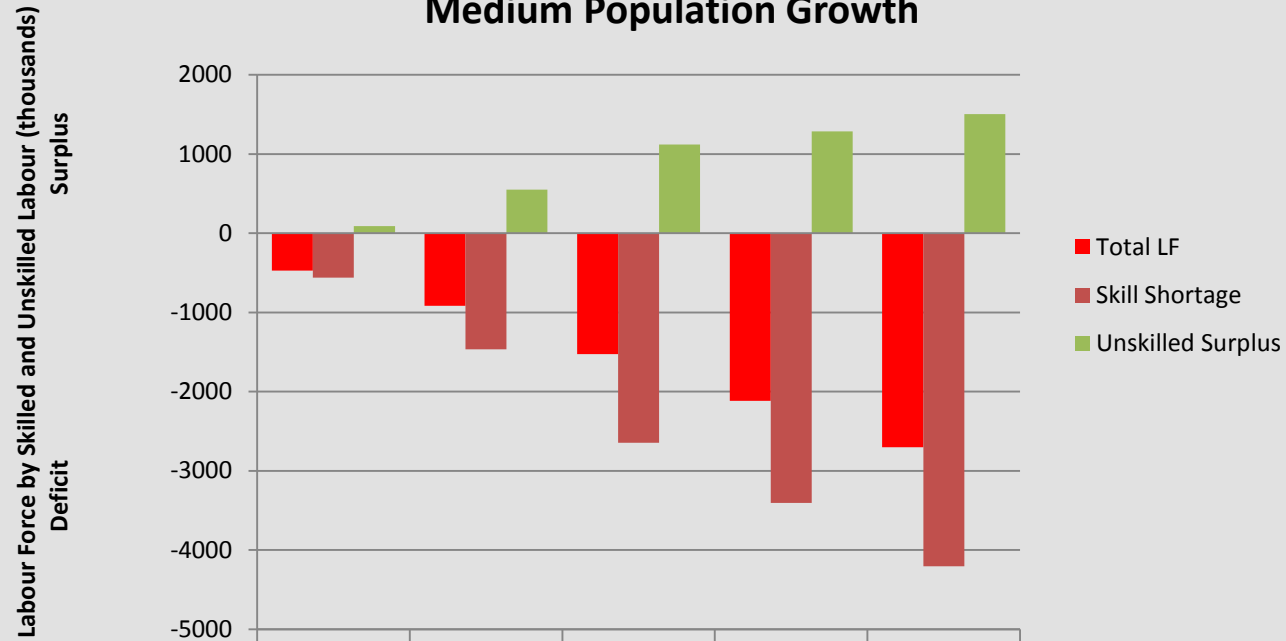
II

Table 1. Labour Force Skill Assumptions

	2006	2011	2016	2021	2026	2031
New Job Skill Requirements	65.0%	70.0%	72.5%	75.0%	77.5%	80.0%
Labour Force Skill Availability	60.0%	62.0%	63.0%	64.0%	65.0%	66.0%
Overall Labour Force Skill Requirements	60.0%	63.4%	67.4%	71.9%	74.3%	76.7%

II

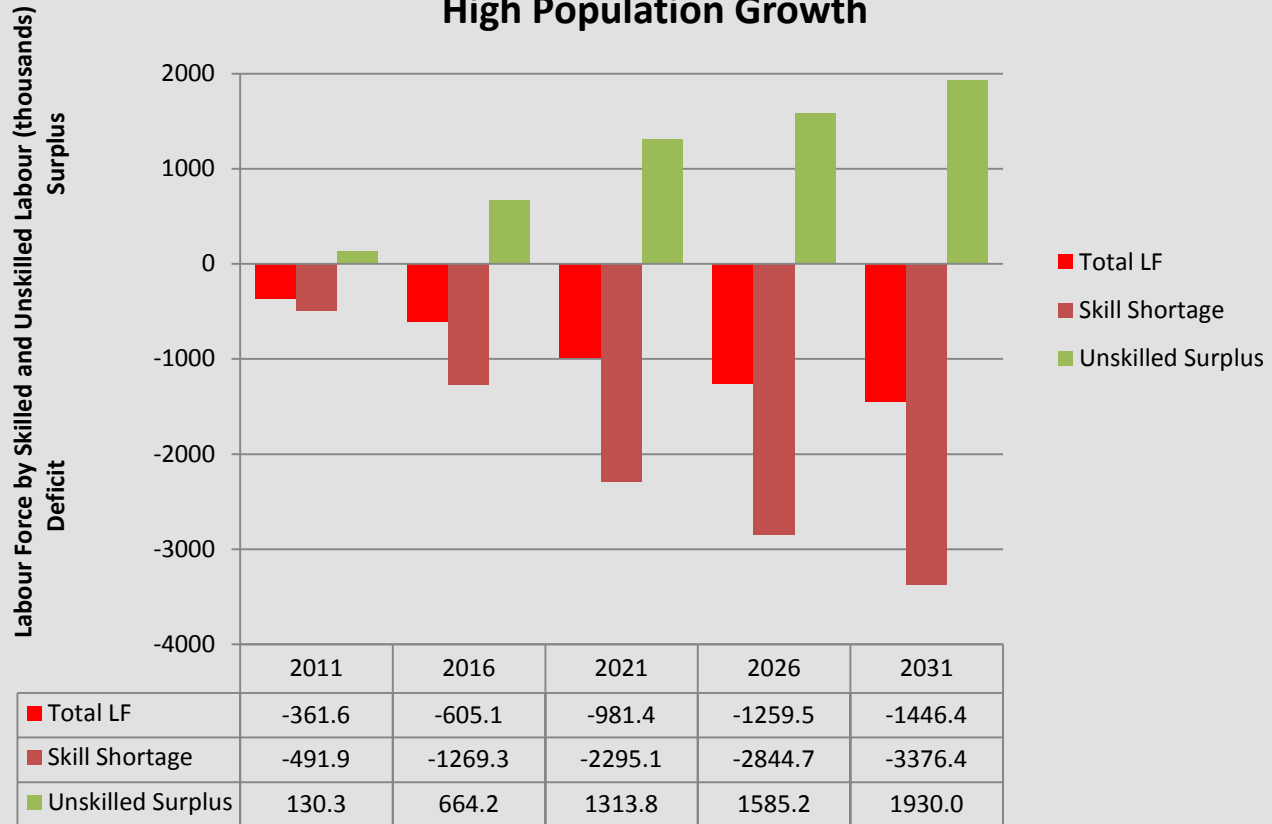
**Figure 7. Canada Labour Force Balance:
Medium Population Growth**



	2011	2016	2021	2026	2031
Total LF	-472.9	-914.4	-1526.3	-2117.7	-2700.7
Skill Shortage	-560.9	-1464.1	-2643.9	-3402.5	-4204.2
Unskilled Surplus	88.0	549.7	1117.6	1284.8	1503.5

II

**Figure 8. Canada Labour Force Balance:
High Population Growth**



II

Labour Force Options

(labour force size & participation rates)

- Increased immigration of younger skilled workers
- Increased involvement of Aboriginals
- Increased involvement of persons with disabilities
- Increased involvement of women
- Increased involvement of older workers (ages 55 and older)
- Increased involvement of youth (15 to 24 years of age)

II

**Table 2. Immigrant vs. Canadian Labour Force Participation Rates:
25 - 54 Years of Age**

	Canadian ¹	Immigrant ²		
		Very Recent	Recent	Established
Labour Force Participation Rate	87.9%	73.3%	82.3%	86.8%

¹ Born in Canada

² Very Recent = 5 years or less

Recent = 5 to 10 years

Established = 10 years or more

Source: Statistics Canada, 2008

II

Table 3. Canadian Aboriginal Labour Force Participation Rates¹

	Population		
Age (years)	Total Population ²	Aboriginal Population	Difference
15 - 24	65.6%	52.0%	13.6%
25 - 54	85.7%	75.8%	9.9%
55 - 64	59.7%	53.3%	6.4%

¹Taken from 2006 Census data, Statistics Canada, No. 97-559-XCB2006008

² Includes the Aboriginal population which makes the difference less

II

Table 4. Persons with Disabilities: Labour Force Participation

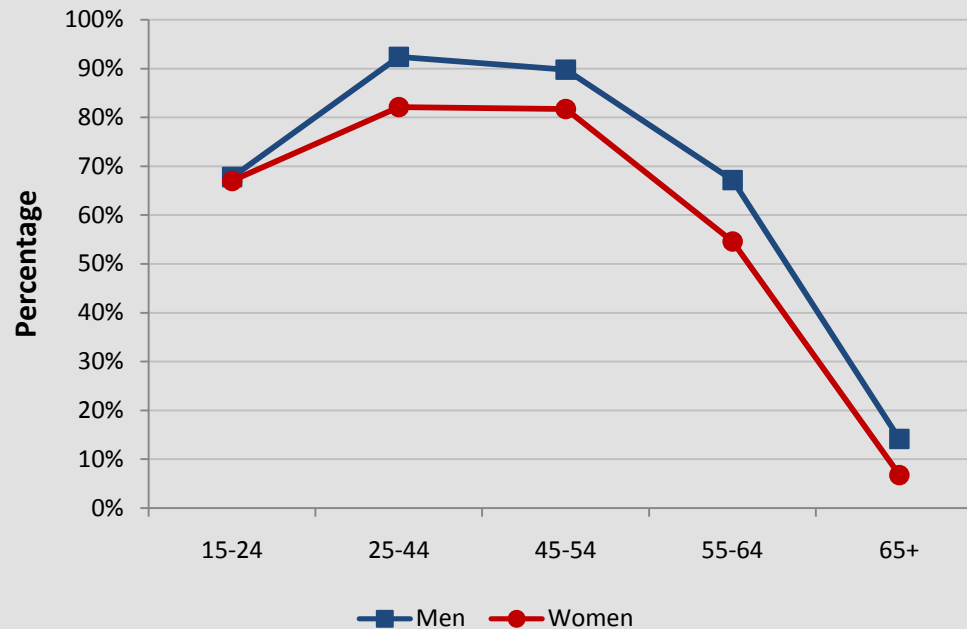
	Ages 15 – 64	
	With disabilities	Without disabilities
Participation Rates	54.9%	77.3%
Specific Disability		
Hearing	64.1%	
Seeing	49.9%	
Learning	47.6%	
Developmental	32.7%	
Mobility	53.6%	
Memory	40.2%	
Agility	52.8%	
Psychological	45.2%	

Source: Statistics Canada, 2006

II

- Youth, Female and Older worker participation rate increases

Figure 2. Canadian Participation Rates by Gender and Age



Source: Statistics Canada, 2009

II

Labour Force

Specific Considerations

- Youth (15 to 24 years)
 - accelerated degree completion (summers)
 - more university-college joint programs: less time
 - reinstatement of “old” 3-year B.A. Degree
 - improve high school – university/college coordination & cooperation
 - attitudinal changes (75% high school graduation rate)

II

Labour Force Specific Considerations

- Older (55 years and older)
 - more work-retirement transition opportunities
 - different retirement and tax provisions
 - more work-life balance opportunities
 - creation of a new entrepreneurial class
 - mentoring programs & options (knowledge transfer & increased workforce)
 - elimination of age discrimination

II

Improve Literacy & Corporate Training

- Literacy
 - 4 of 10 Canadians 16 to 65 struggle with low literacy rates (2009)
 - 6 of 10 immigrants struggle with low literacy rates (2009)
- Workplace Training
 - 1.5% of Canadian payrolls spent on training (2.25% in US)
 - both employers & employees have too many excuses

II

Understanding the Magnitude of the Challenge

II

**Table 5. Skilled Labour Force Sources
(Medium Population Projection)**

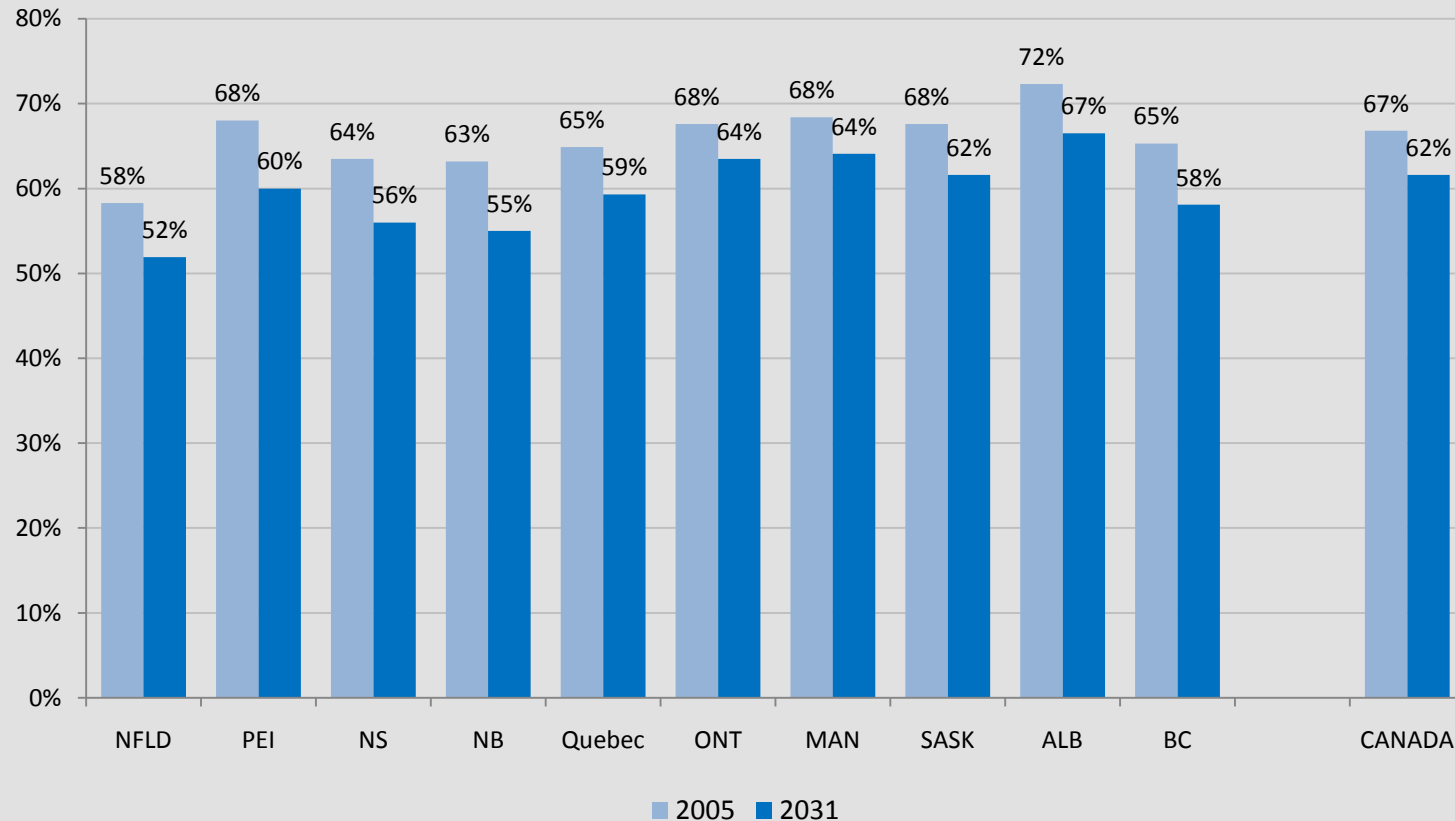
Year	Skilled Workers Needed in Year			Sources of Skilled Workers	
	With No Skill Training Change	If Previous Year Skill Training Needs Met	“Graduates” per year	Retraining Unskilled Workers	Increase Labour Force Participation Needed
2011	560,853	560,853	112,171	87,972	472,881
2016	1,464,115	903,262	180,652	461,776	441,486
2021	2,643,861	1,179,747	235,949	567,840	611,907
2026	3,402,515	758,654	151,731	167,262	591,392
2031	4,204,177	801,662	160,332	218,668	582,995

II

Where we stand

II

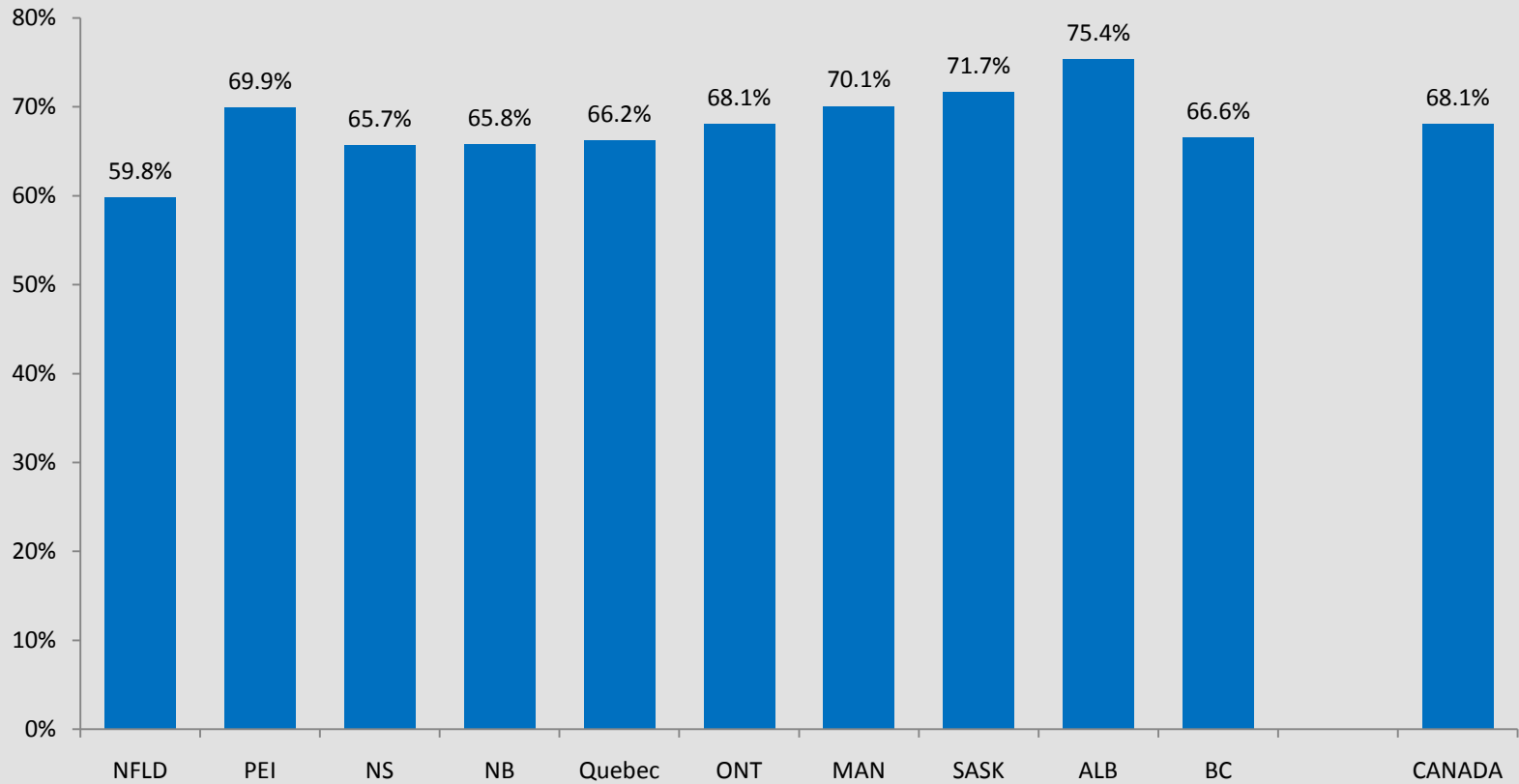
**Figure 9. Participation Rate Projections by Province:
2005 and 2031**



Source: Statistics Canada, 11-010-XIB using population scenario 3 (medium growth)

II

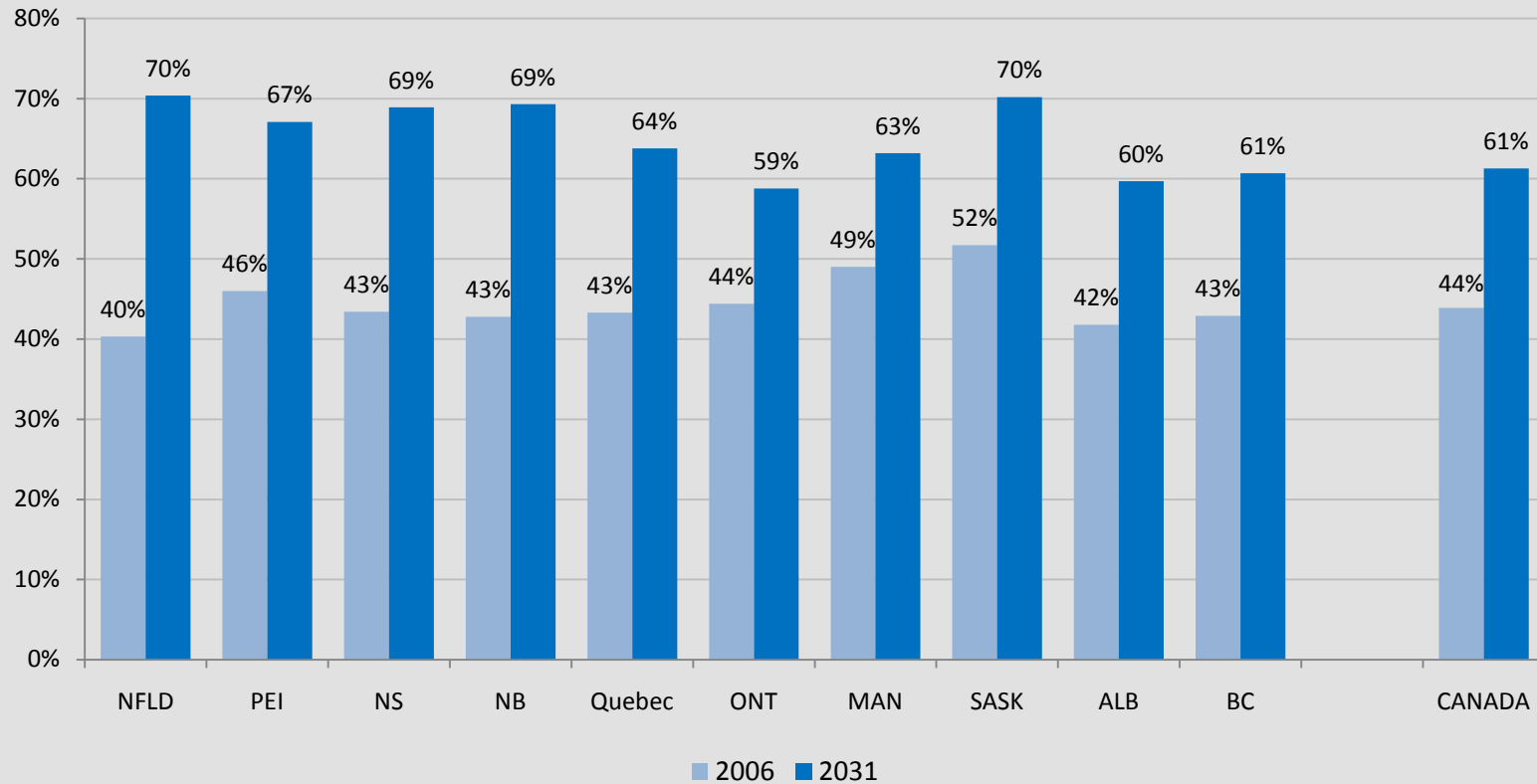
Figure 10. Labour Force Participation Rates by Province: May 2009



Source: Statistics Canada, monthly labour force characteristics

II

Figure 11. Dependency Ratios¹ by Province: 2006 and 2031

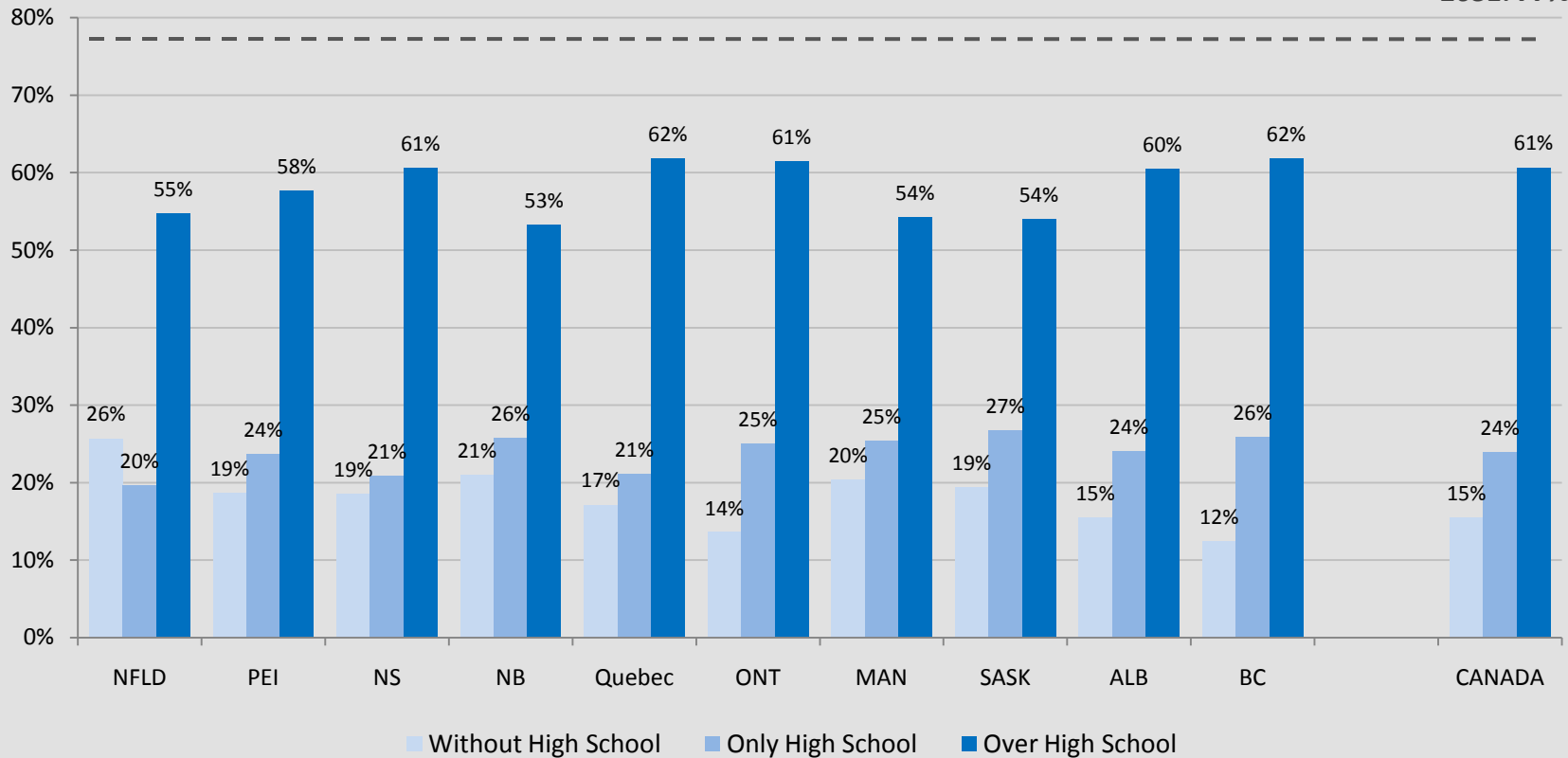


¹Dependency ratio is the percentage of population in the younger and older age groups. Source is Statistics Canada - catalogue no. 91-520 using scenario 3 population projection (medium growth)

II

Figure 12. Educational Attainment by Province: Ages 25 to 64¹

2031: 77%



Source: Statistics Canada using 2006 Census data

II

What should we know/consider?

- Job/career mobility
- Labour force consideration
 - Individual
 - Educational providers
 - Employers

II

Table 6. Job to Job Mobility Rates

Comparisons	Same Employer Same Job	Same Employer Different Job	Different Employer Different Job	Out from Paid Work
1999-2000	73.4%	10.9%	8.8%	6.8%
2001-2002	76.2%	6.0%	8.8%	9.1%
2003-2004	76.8%	6.1%	8.5%	8.6%

Source: Workplace & Employee Survey Compendium. Statistics Canada, 2008. (note: new survey using more current data to be published shortly)

II

Table 7. Occupational Mobility

Comparisons	Overall	<25	25-44	45+
1999-2000	9.4%	19.7%	19.5%	17.2%
2001-2002	7.6%	9.3%	7.6%	9.9%
2003-2004	8.4%	6.6%	4.0%	4.1%

Source: Workplace & Employee Survey Compendium. Statistics Canada, 2008. (note: new survey using more current data to be published shortly)

II

Future Labour Force Considerations

- Individuals
- Educational Institutions/Trainers
- Employers

II

Individual Labour Force Considerations

- High school graduation is a must
- Post-secondary completion will be increasingly necessary
 - strong transitional career foundation
 - ability and understanding of the need for applied expertise
- Accelerated programs desirable
- Acceptance of a continuous learning model
 - formal
 - informal
- Change (jobs & careers) will be the norm of the day
- More complex retirement planning required

II

Educational Institutions/Trainers as Providers

- Overall increase in demand will occur
- More flexible and responsive program designs are required
- Desire for more modularized, on-site, and/or technology-based delivery
- Changing student profile
 - older
 - aboriginal
 - persons with disabilities
 - men
 - immigrants
- Increased university, college and private sector cooperation
 - programs (joint/blended/articulated)
 - transfer credit arrangements
 - educational delivery partnerships

II

Employers

- Recruit
- Retain
- Recycle

II

Recruit

- Analyse your workforce dynamics
 - demographic profiles
 - shifts/trends related to educational attainment
 - projected labour force demands
 - relative labour force position
 - education needs
 - workforce size
- Get “close” to your educational institutions
 - co-op positions
 - advisory boards
 - scholarships
 - PT instruction
 - workplace “events”
 - participation @ job fairs
 - program partnerships

II

Retain

- Good HR policies
 - compensation policy
 - job satisfaction
 - succession planning
 - labour management relation investments
 - education needs
 - workforce size
- Increased workforce training
 - 1.5% of salaries to ?? (U.S. now sits at 2.25% to 2.5%)

II

Recycle

- Most employees want to work past 65
 - US survey
 - Canadian survey

II

US Baby Boomer Retirement Wishes

42%	cycle between periods of work and leisure
17%	never work again
16%	PT work
13%	start their own business
6%	FT work
6%	undecided

Source: Merrill Lynch, 2005, N=2,348 (40 to 58 years old)

II

Canadian Boomer Survey Results

Employee and Employer Desires

- 63% want to be accommodated in some way past traditional retirement
 - 54% of employers are willing to do so
- 34% want to ease into retirement (flexible work, PT hours)
 - 21% of employers will allow this
- 64% say it is difficult to talk to their employers about retirement
- 33% of employers say they would allow older workers to stay on past retirement in FT positions
- If allowed to stay beyond retirement (PT or FT)
 - 60% retire fully in 5 years or less
 - 40% retire after 5 years

Source: Ipsos Reid Survey, Dec 2009, 50-64 year olds, N=804 boomers & 254 managers/executives

II

Recycle

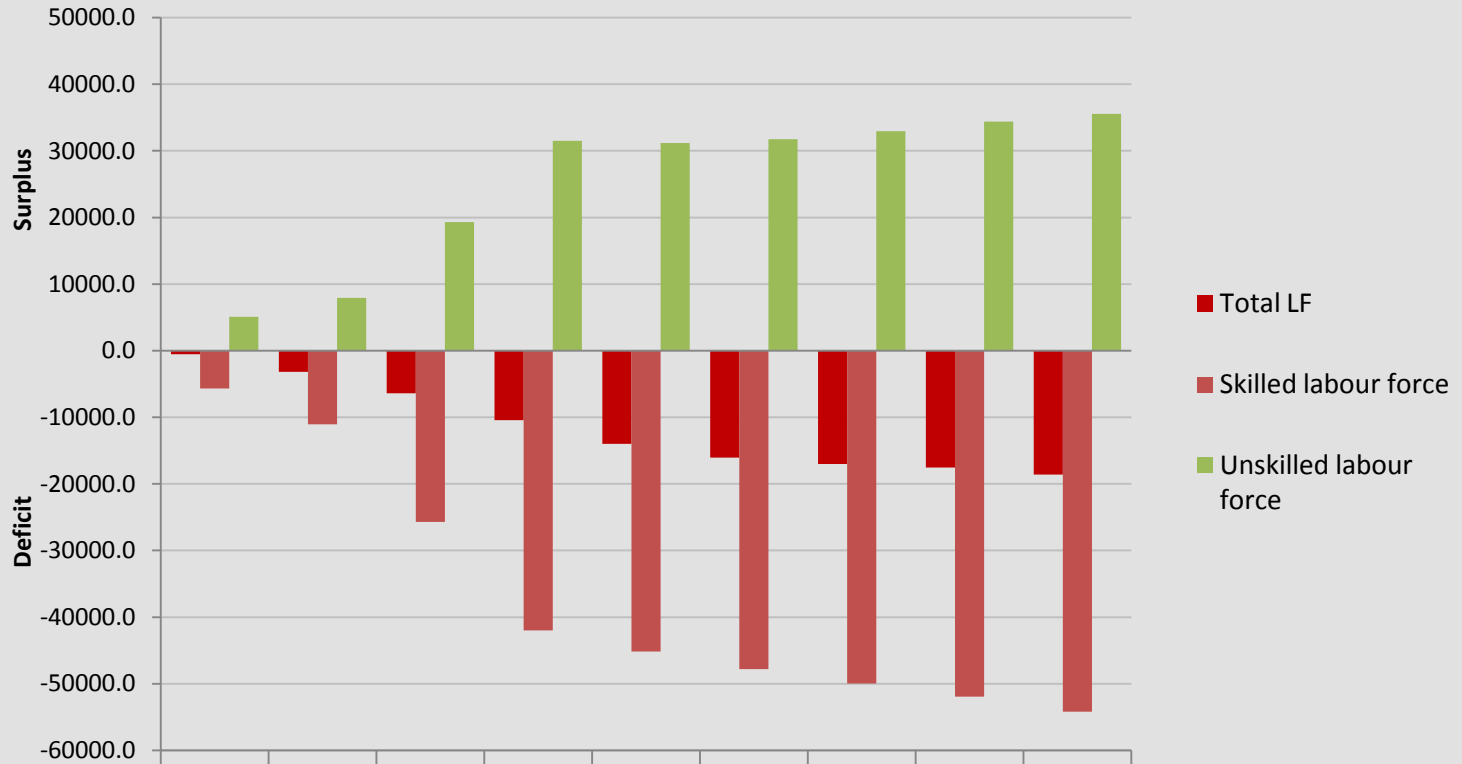
- More flexible retirement plans needed (transitional retirement)
- Early retirement discussion desirable (plan ahead)
- Nature of “post-retirement” work likely to change (cyclical/mentoring/part-time)

II

The Time for Planning and Analysis is Now

II

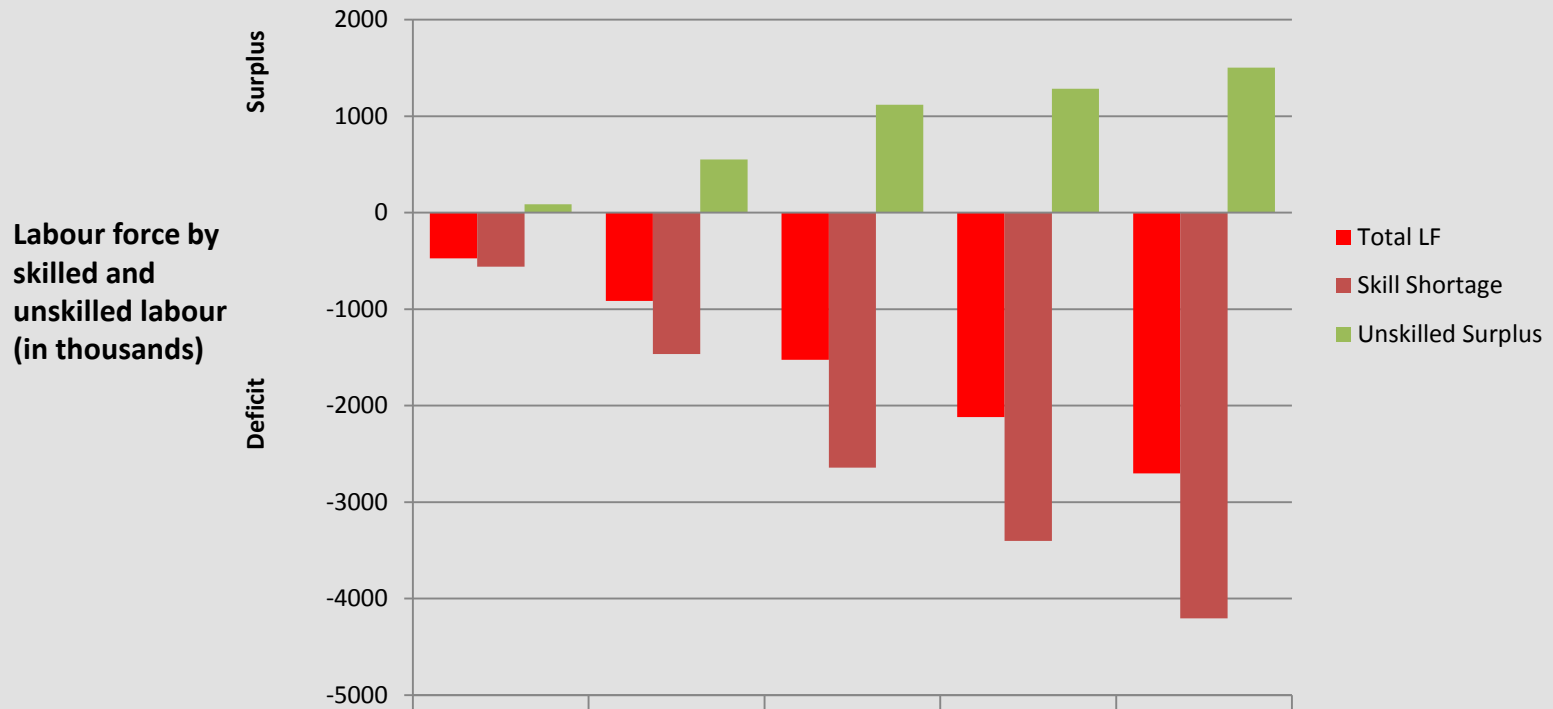
Figure 13. US Labour Force Balance



	2010	2015	2020	2025	2030	2035	2040	2045	2050
Total LF	-556.7	-3157.8	-6387.0	-10449.2	-14004.8	-16040.2	-17015.3	-17552.3	-18612.5
Skilled labour force	-5662.5	-11059.6	-25700.5	-41970.1	-45178.4	-47796.1	-49964.2	-51942.1	-54169.4
Unskilled labour force	5105.7	7901.8	19313.5	31520.9	31173.6	31755.9	32948.9	34389.8	35556.9

II

**Figure 7. Canada Labour Force Balance:
Medium Population Growth**



	2011	2016	2021	2026	2031
Total LF	-472.9	-914.4	-1526.3	-2117.7	-2700.7
Skill Shortage	-560.9	-1464.1	-2643.9	-3402.5	-4204.2
Unskilled Surplus	88.0	549.7	1117.6	1284.8	1503.5

Thank you

MINER

Miner and Miner Limited

360 Bloor Street East, Suite 508, Toronto, Ontario M4W 3M3

416.921.7058 info@minerandminer.ca

minerandminer.ca

II

Job Descriptions - Futurist Adam Gordon (2020-2030 Jobs):

- **Body Part Maker:** the creation & maintenance of body parts using bio-tissues, robotics and plastics
- **Nano-Medic:** nano-medicine specialists will be required to administer a range of sub-atomic 'nanoscale' devices, inserts and procedures
- **Memory Augmentation Surgeon:** to increase memory capacity and to help those who have been over exposed to information
- **Organ Agent:** sources and negotiates real or artificial organs on behalf of those who want them
- **Old Age Wellness Manager:** drawing on a range of medical, pharmaceutical, prosthetic, psychiatric, natural and fitness solutions to help manage the various health and personal needs of the aging population
- **End-of-life Planner:** person who helps people plan and manage their own death
- **Climate Change Reversal Specialist:** a new breed of engineer-scientists will be required to help reduce or reverse the effects of climate change on particular locations
- **'New Science' Ethicist:** need to understand a range of underlying scientific fields and help society make consistent choices about what developments to allow. Much of science will not be a question of can we, but should we...
- **Time Broker:** alternative currencies will evolve their own markets (Time banking facilitates reciprocal service exchange based on units of time.)
- **Weather Modification Police:** the act of stealing clouds to create rain is already happening in some parts of the world, and is altering weather patterns thousands of miles away. Weather modification police will need to control and monitor who is allowed to shoot rockets containing silver iodine into the air – a way to provoke rainfall from passing clouds
- **Quarantine Enforcer:** if a deadly virus starts spreading rapidly, few countries, and few people, will be prepared. As mortality rates rise, and neighborhoods are shut down, someone will have to guard the gates

II

- **Automated Systems Monitor:** person who oversees automated systems (e.g. smart highways) and intervenes and corrects as necessary. Would need specific expertise in their field — transport or manufacturing or surgery or whatever is automated — but would share the specific skill of being a complex-automated-system monitor, evaluator, and emergency troubleshooter
- **Vertical Farmer:** city based vertical farms, with hydroponically-fed food being grown in multi-storey buildings
- **‘Pharmer’** : raise crops and livestock that have been genetically engineered to improve yields and produce therapeutic proteins
- **Narrowcasters:** as the broadcasting media become increasingly personalized, specialists will work with content providers and advertisers to create content tailored to individual needs
- **Social “Networking” Worker:** social workers for those in some way traumatized or marginalized by social networking
- **Personal Branders:** an extension of the role played by stylists, publicists and executive coaches - advising on how to create a personal ‘brand’ using social and other media
- **Virtual Clutter Organizer:** organising our electronic lives
- **Waste Data Handler:** specialists providing a secure data disposal service
- **Virtual Lawyer:** as more and more of our daily life goes online, specialists will be required to resolve legal disputes which could involve citizens resident in different legal jurisdictions
- **Avatar Manager:** avatars could be used to support or even replace teachers in the elementary classroom, i.e., computer personas that serve as personal interactive guides
- **Space Pilot:** for space tourism, space trained pilots and tour guides will be needed, as well as designers to enable the habitation of space and the planets
- **Alternative Vehicle Developers:** designers and builders of the next generations of vehicle transport using alternative materials and fuels