
The Future of Canada's Construction Industry Work Force: Managing the Opportunities and Challenges of Demographic Change

A Presentation to

**2008 Canadian Legislative Conference
*2108: The Next 100 Years – Years Without Limits***

**Building and Construction Trades Department
Canadian Office, AFL - CIO**

By

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**Ottawa, Ontario
May 6, 2008**



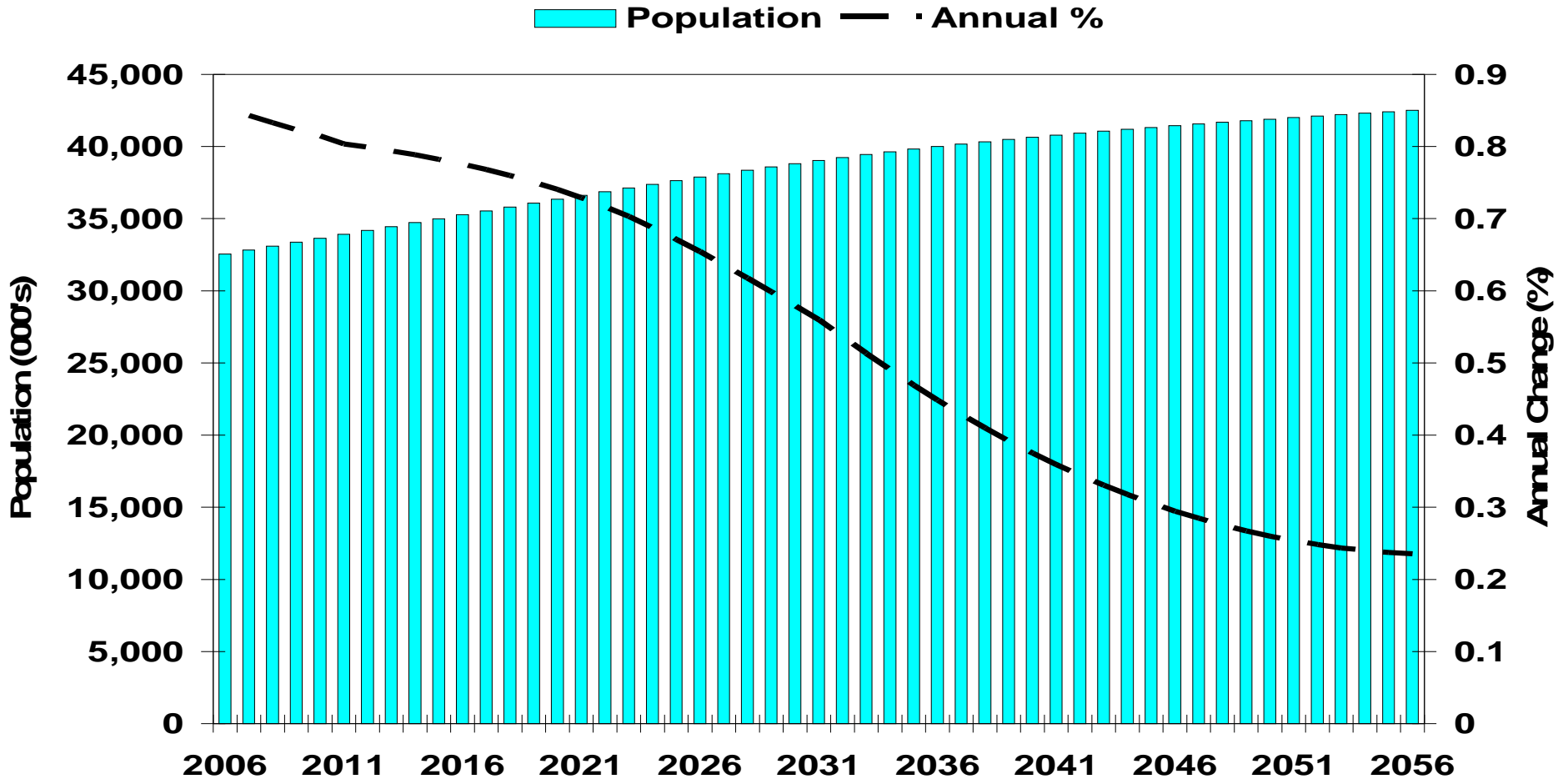
Demographic Analysis

Overview

Will demographic change continue as a strategic trend in Canada during the 21st century?

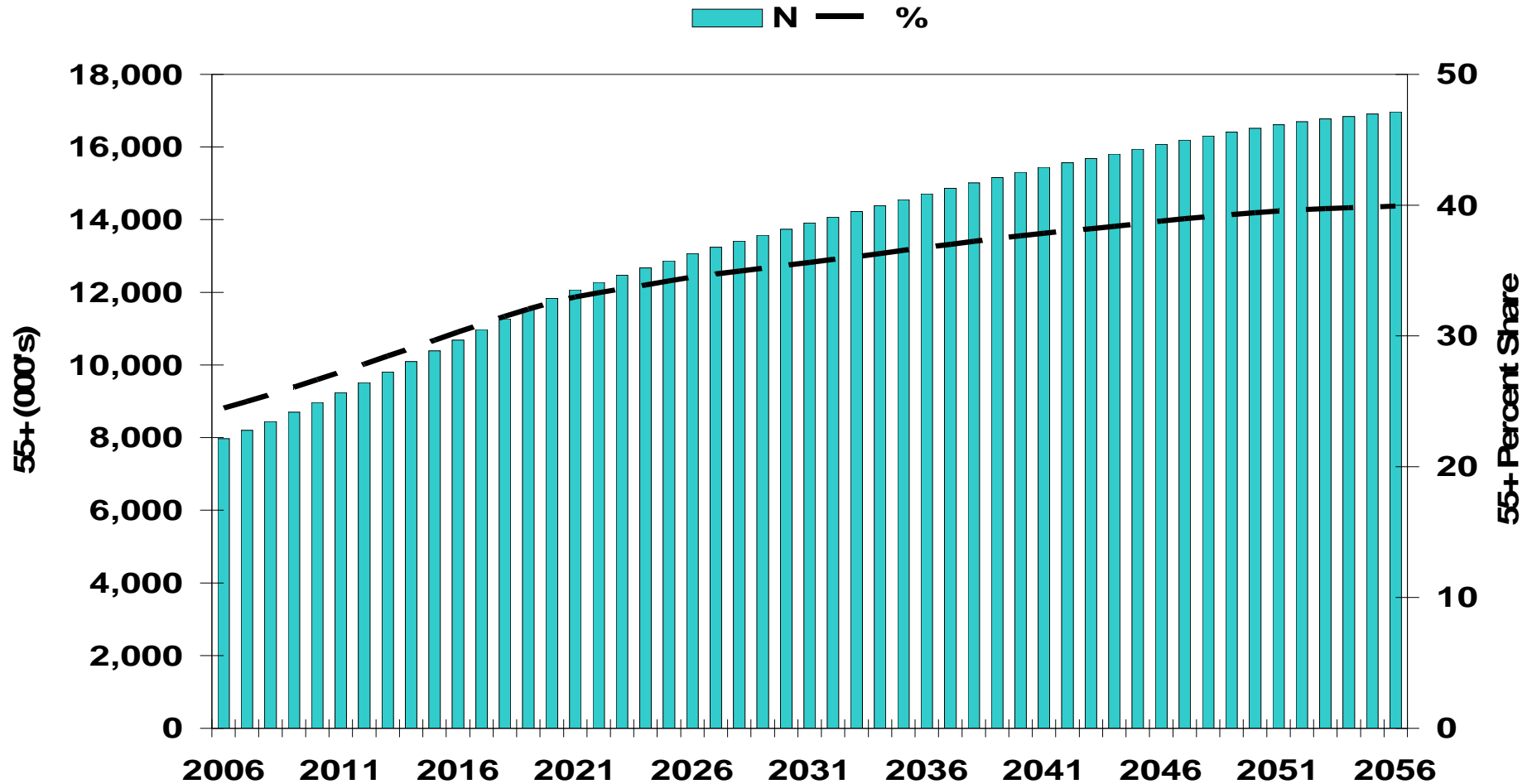
Canada

Population, Total and Annual Change (%), 2006-2056 (projected)



Canada

Population 55+, Total and Percent Share, 2006-2056 (projected)



Demographic Analysis

Overview

- Study of human populations
- Key factors of analysis:
 - » Sex
 - » Ethnicity/race
 - » Marital status and family structure
 - » Births and deaths
 - » Migration
 - » **AGE**

Demographic Analysis

Overview

To become an amateur demographer
you must understand:

- Two assumptions
- Template of “cohorts”

Demographic Analysis

Assumptions

Assumption #1

Every year you get a year older

Demographic Analysis

Assumptions

Assumption #2

You tend to act your age

Demographic Analysis

Assumptions

- *Acting your age:*

- » “Two-thirds of everything” (David K. Foot, *Boom, Bust & Echo 2000*)
- » Life cycle analysis of **economic behaviour**: how you spend your time and money
- » **Strategic and long-term** (10-20 years)
- » **Baseline analysis** (don't forget the survey research, economic forecasting, policy analysis, etc.)

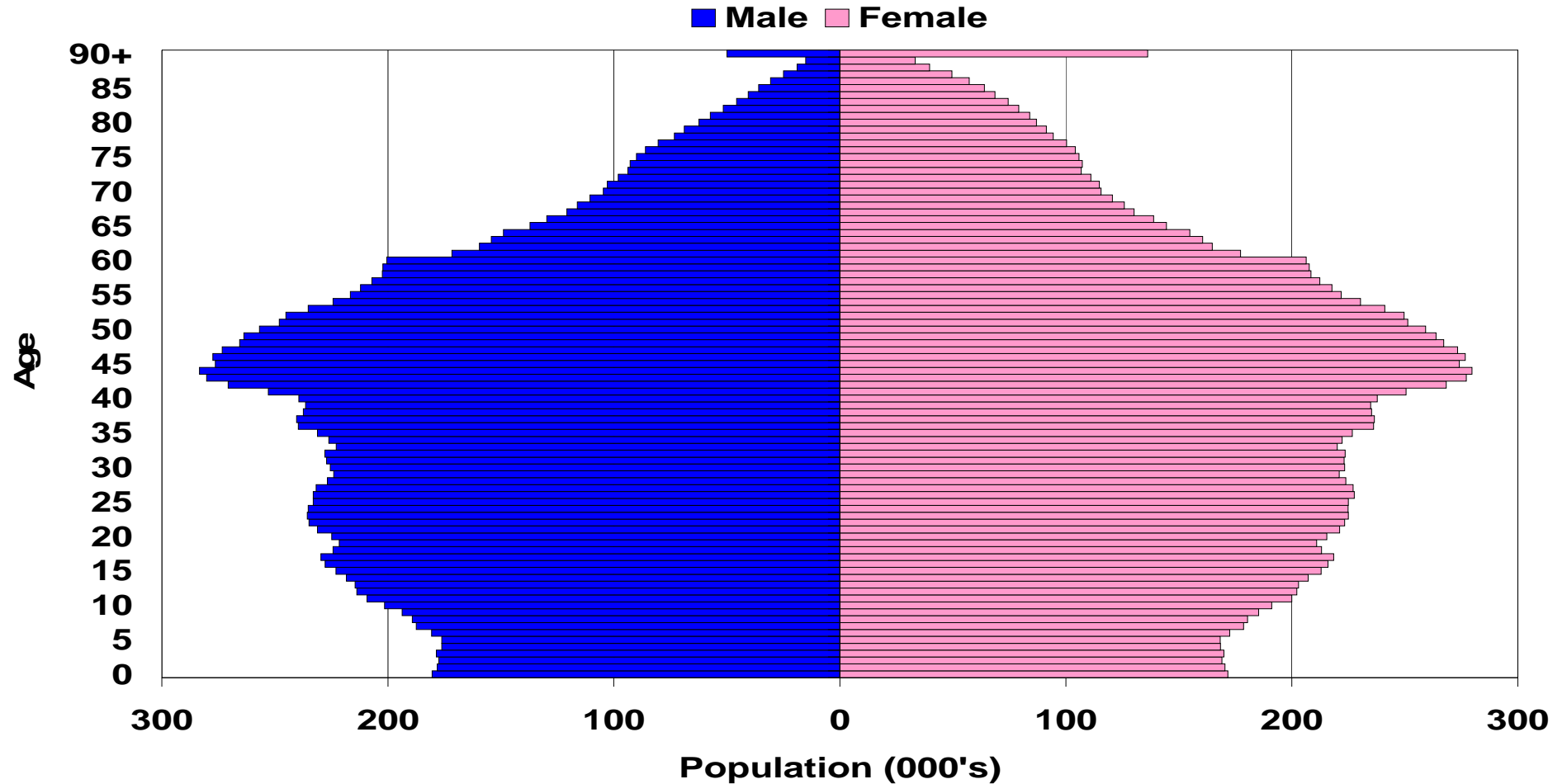
Demographic Analysis

Cohorts

- **Boom:** 1947-1966
 - » 42-61 in 2008
 - » 30 percent of Canada's population
- **Bust:** 1967-1979
 - » 29-41 in 2008
 - » 18 percent of Canada's population
- **Echo:** 1980-1995
 - » 13-28 in 2008
 - » 22 percent of Canada's population

Canada

Population Pyramid, 2007



Demographic Analysis

Today's Presentation

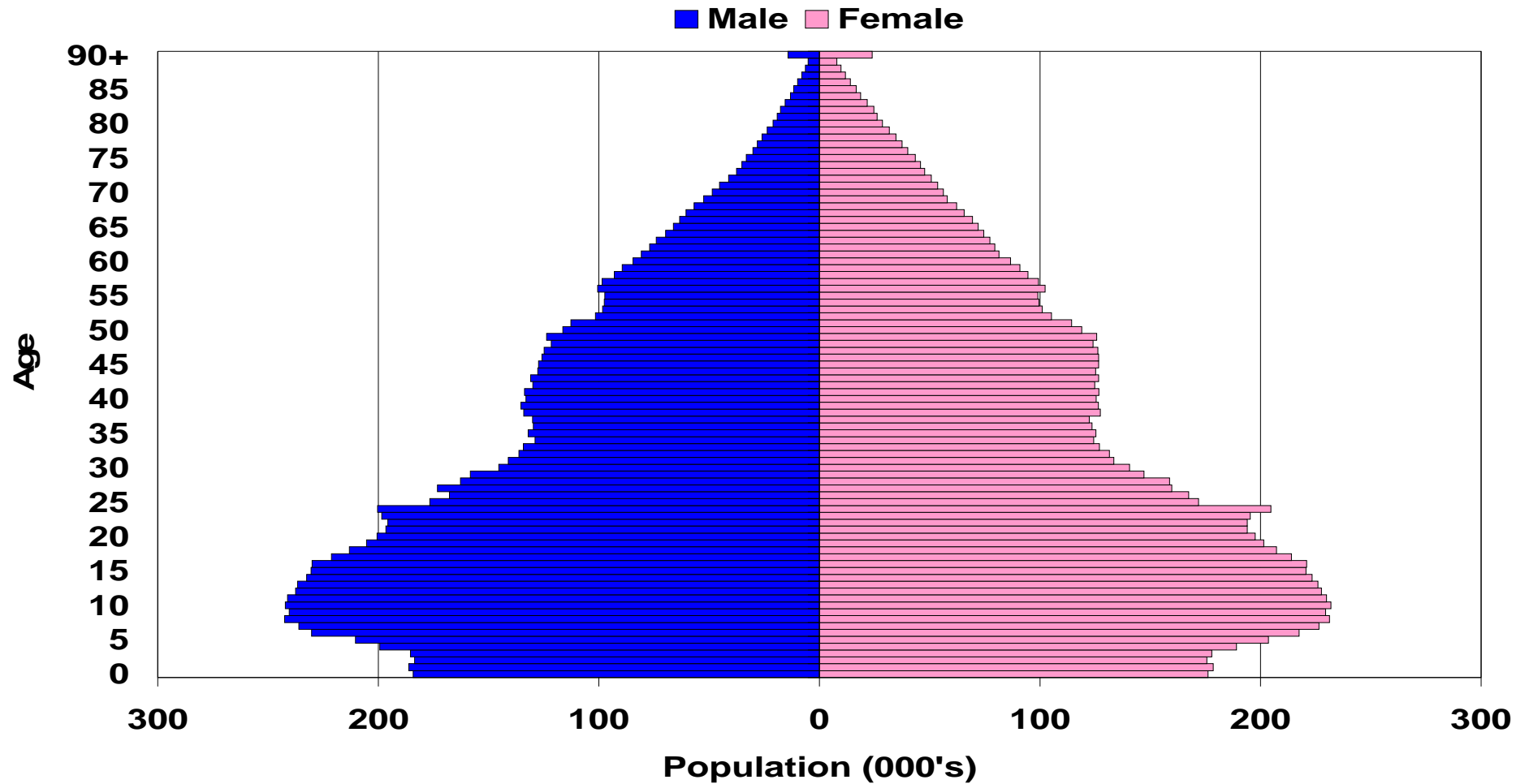
- Major demographic trends in Canada:
 - Population
 - Labour force
- How demographic change creates opportunities and challenges for the construction industry work force:
 - Youth
 - Under-represented groups
 - Immigrants
 - Older workers
 - Technology

Demographic Trends - Canada

Population Aging

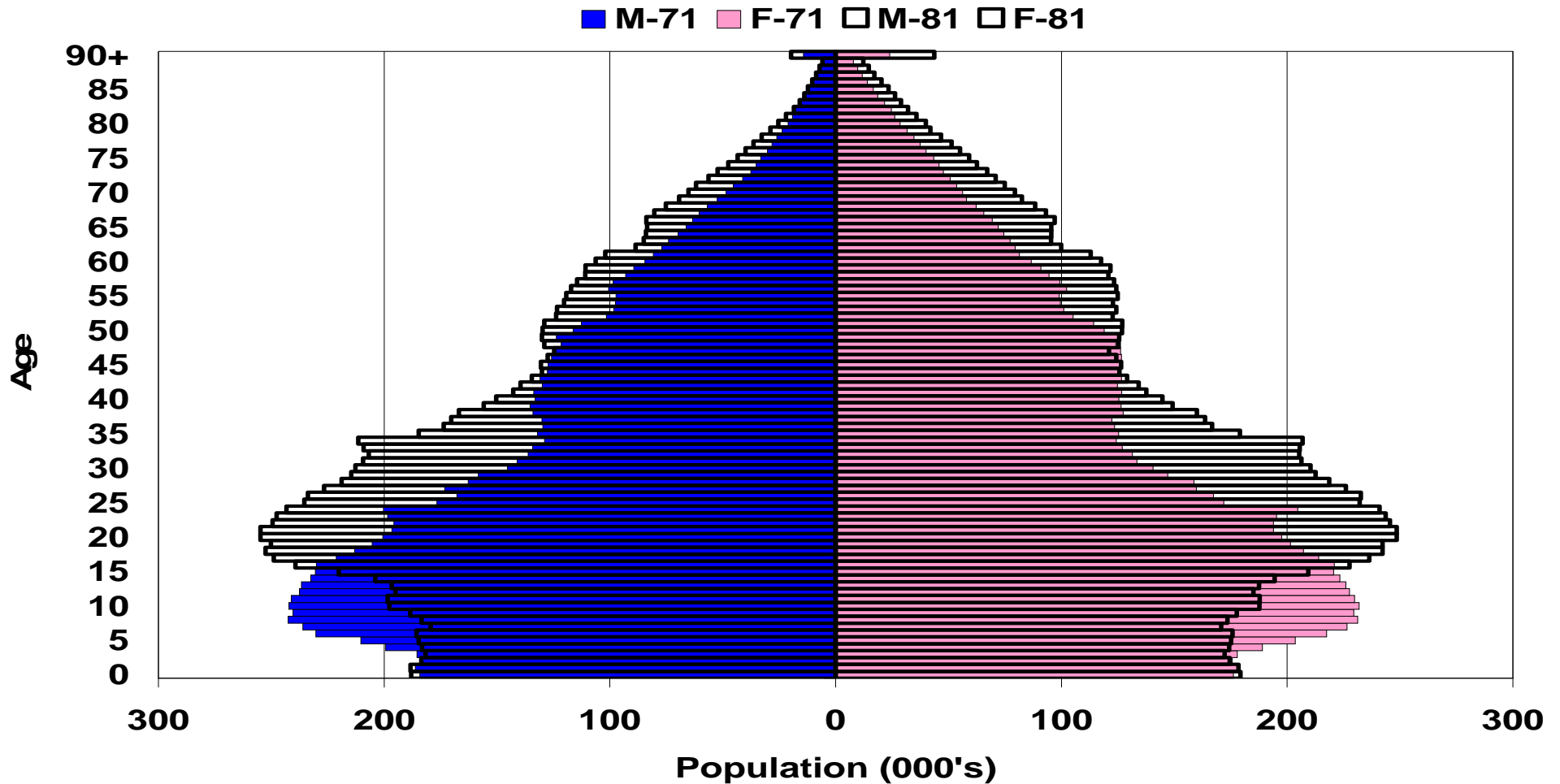
Canada

Population Pyramid, 1971



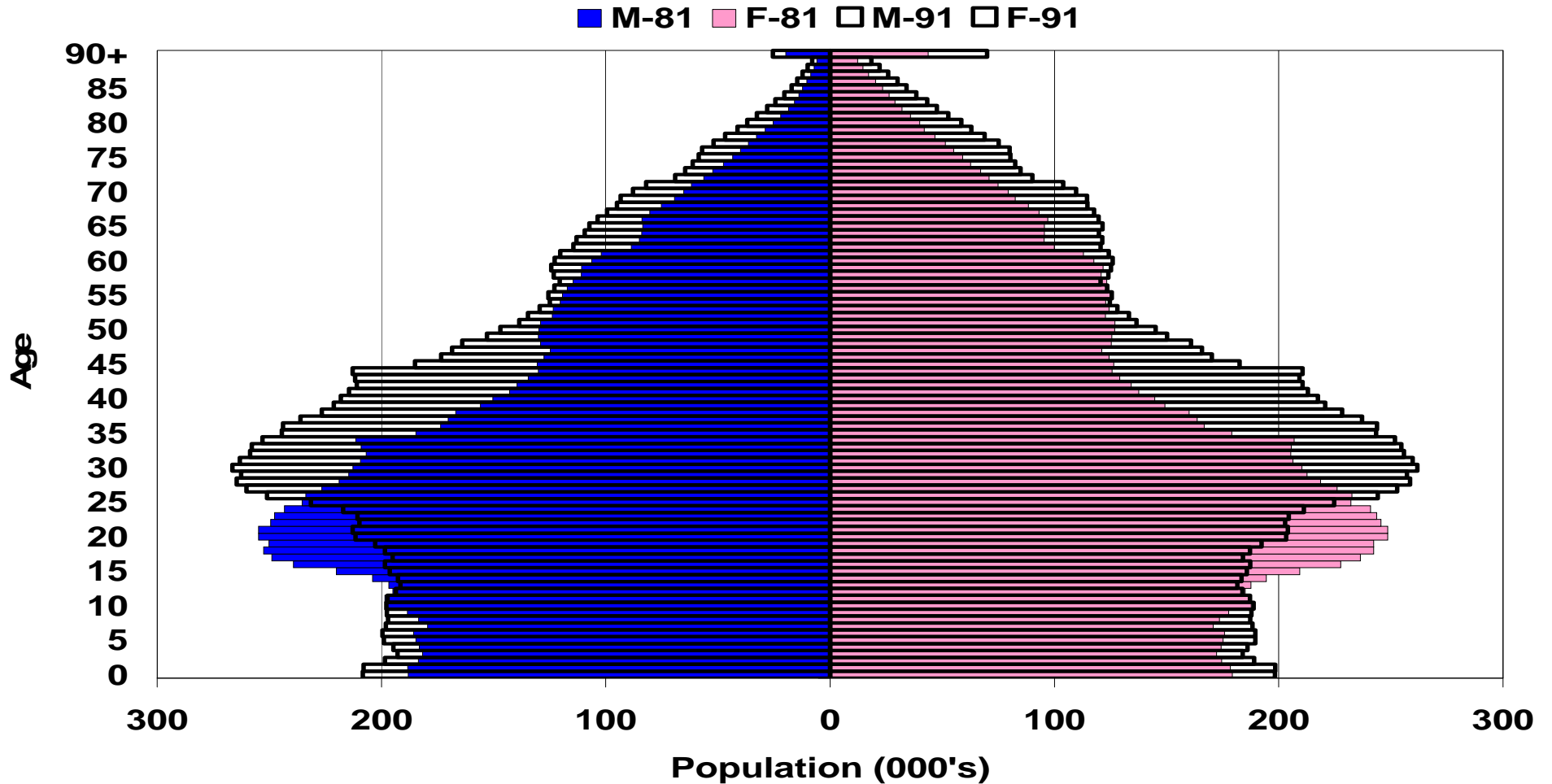
Canada

Population Pyramid, 1971 (colour) versus 1981 (outline)



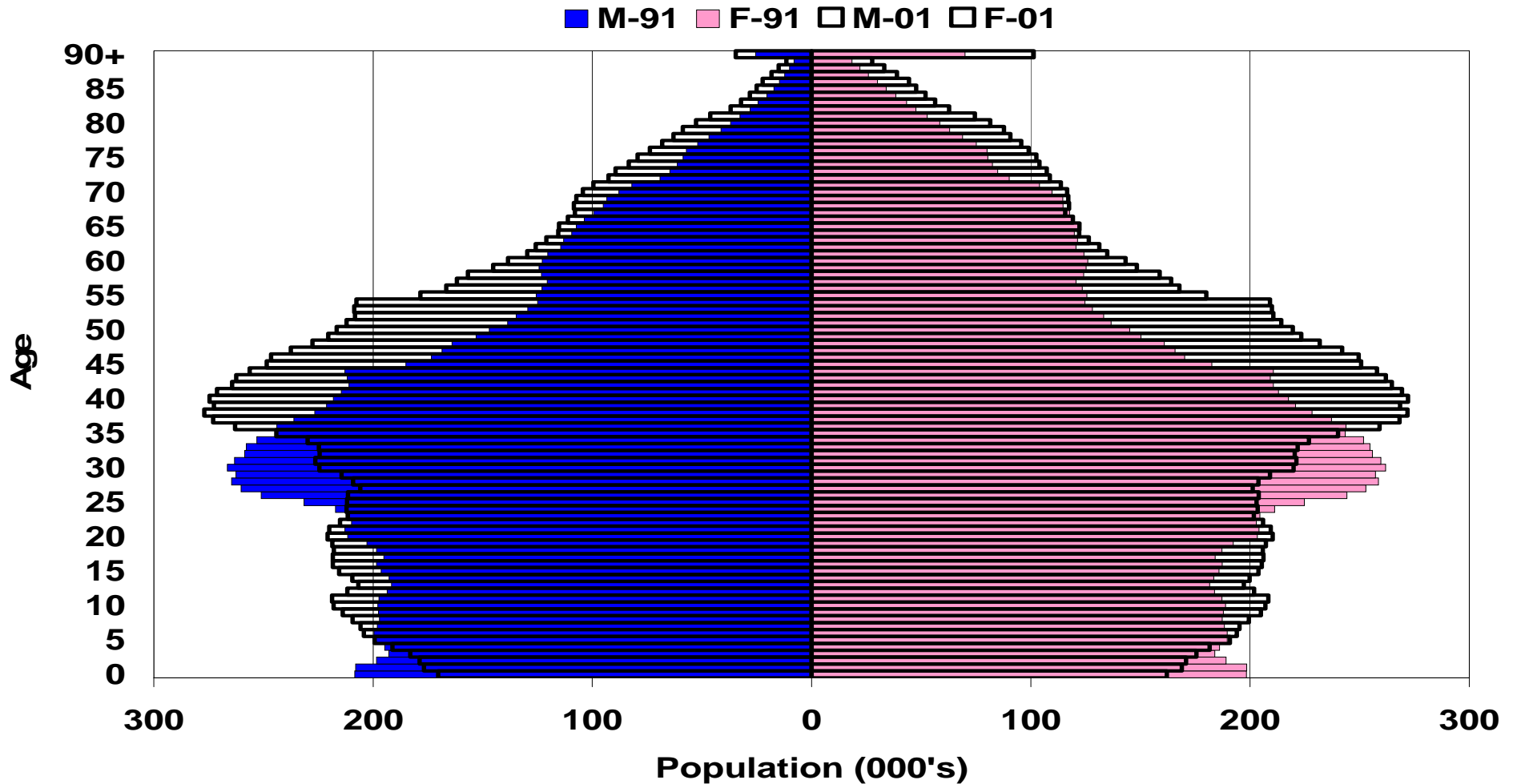
Canada

Population Pyramid, 1981 (colour) versus 1991 (outline)



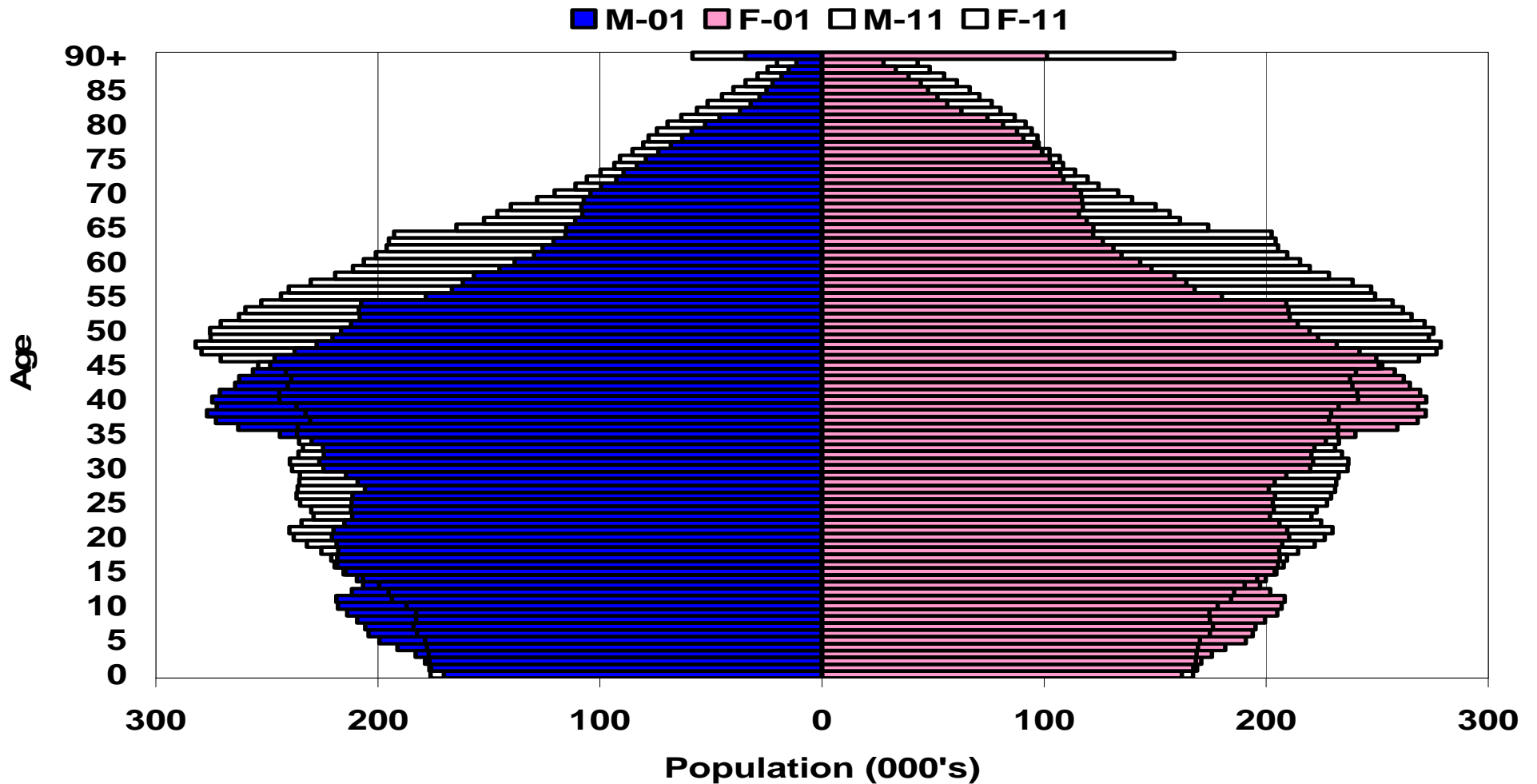
Canada

Population Pyramid, 1991 (colour) versus 2001 (outline)



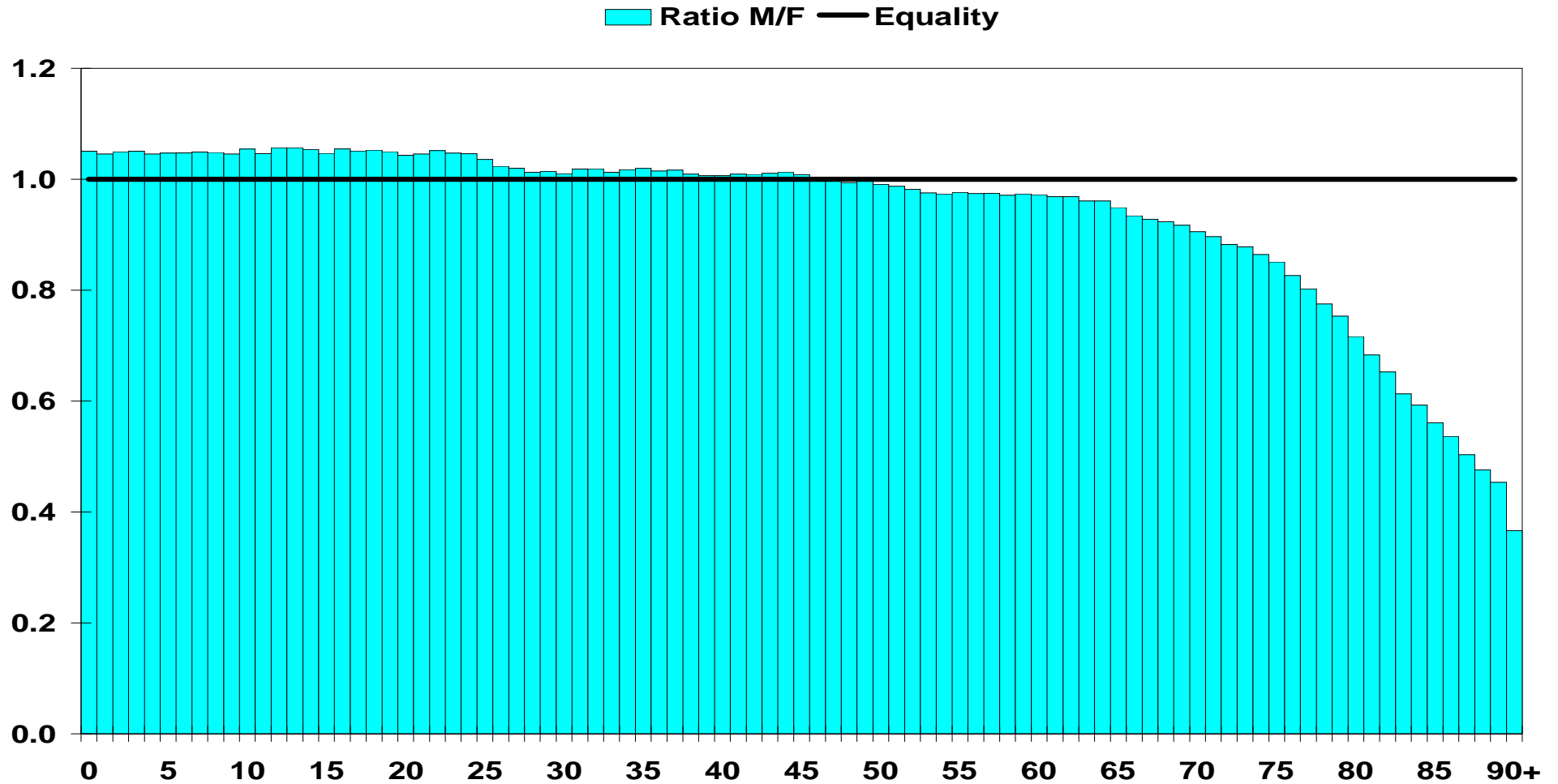
Canada

Population Pyramid, 2001 (colour) versus 2011 (outline)



Canada

Male/Female Ratio by Age, 2007

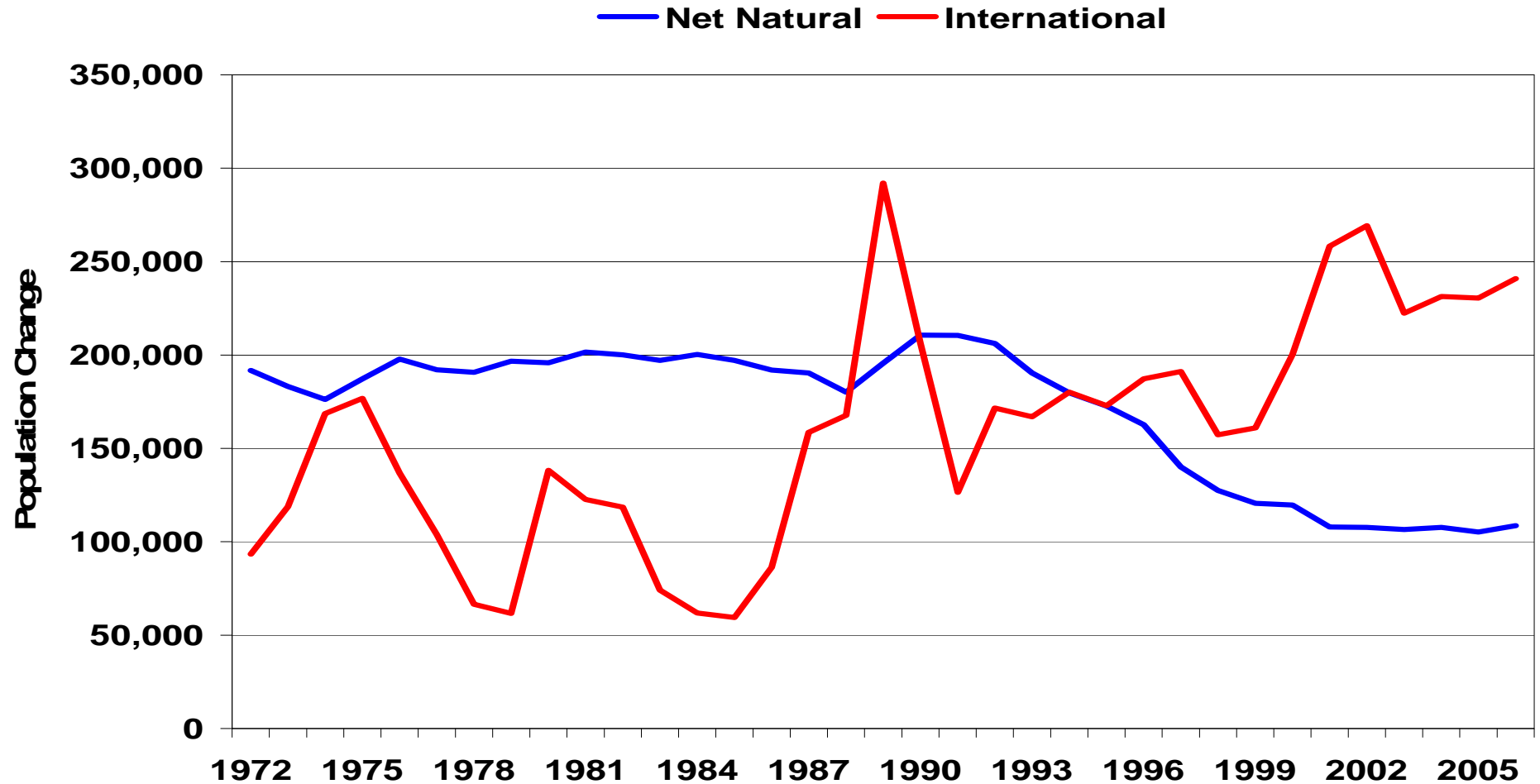


Demographic Trends - Canada

Population Change and Diversity

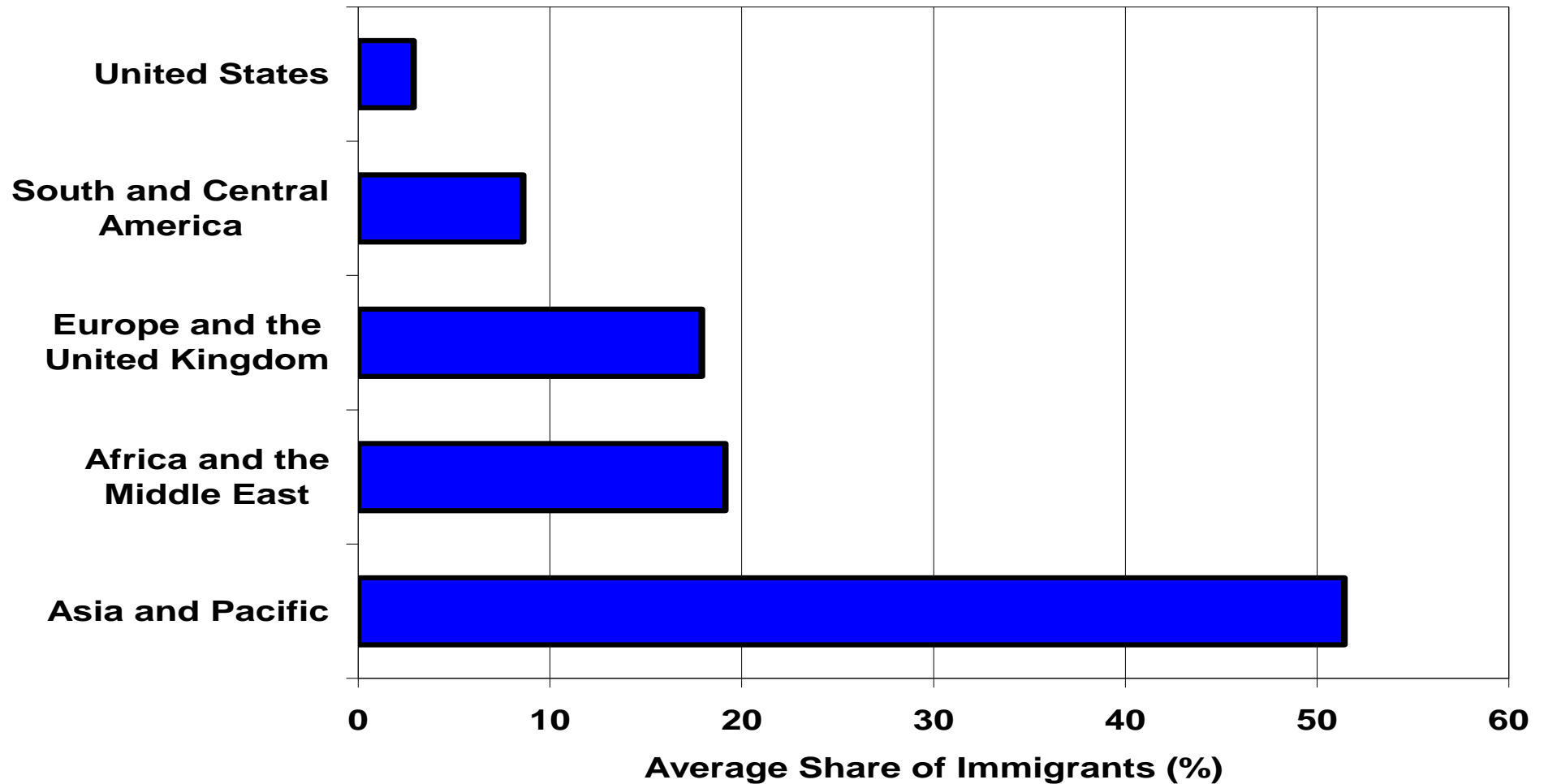
Canada

Population Change by Source, 1972-2006



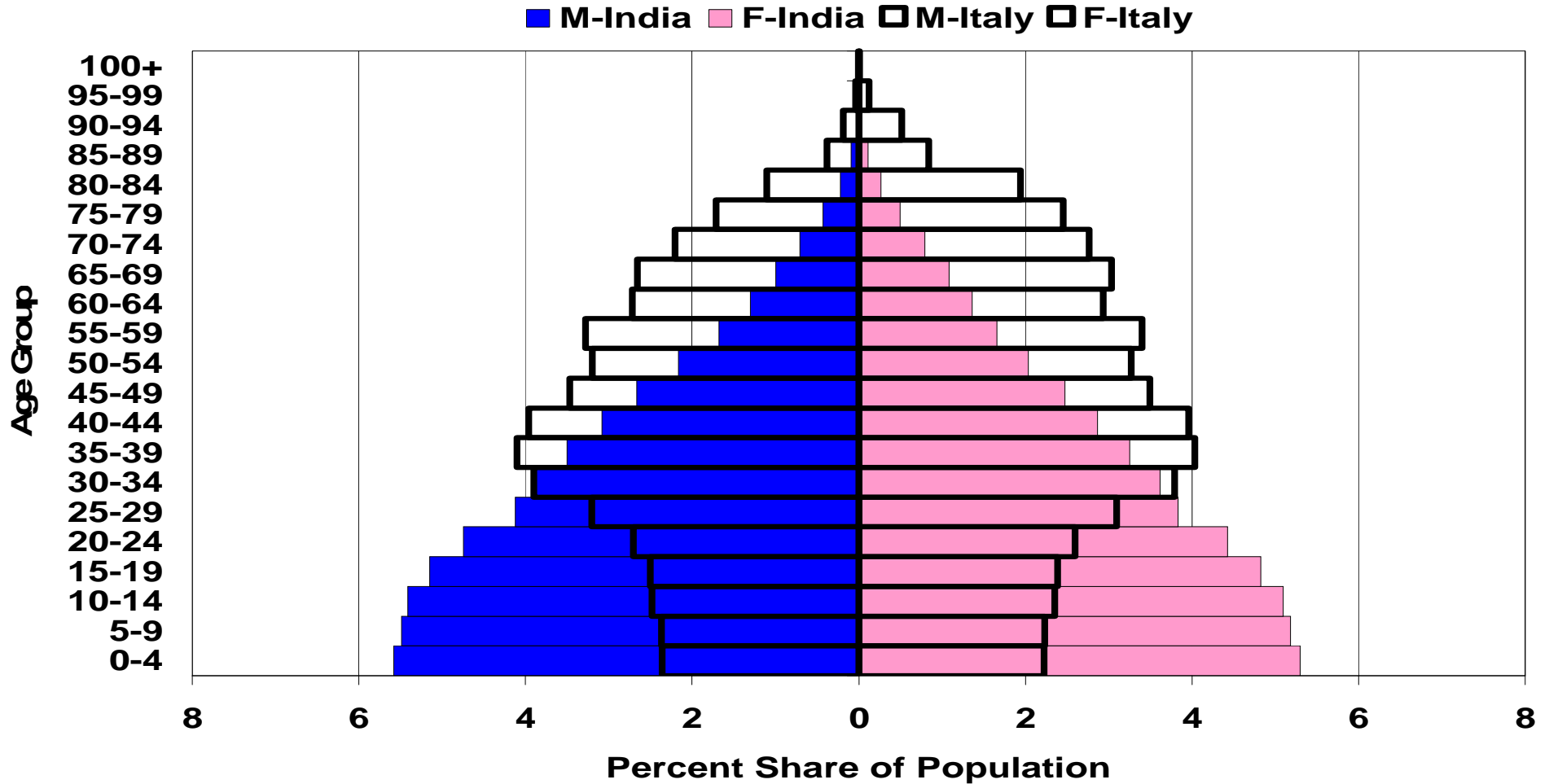
Canada

Average Share of Immigrants by Source Region, 1997-2006



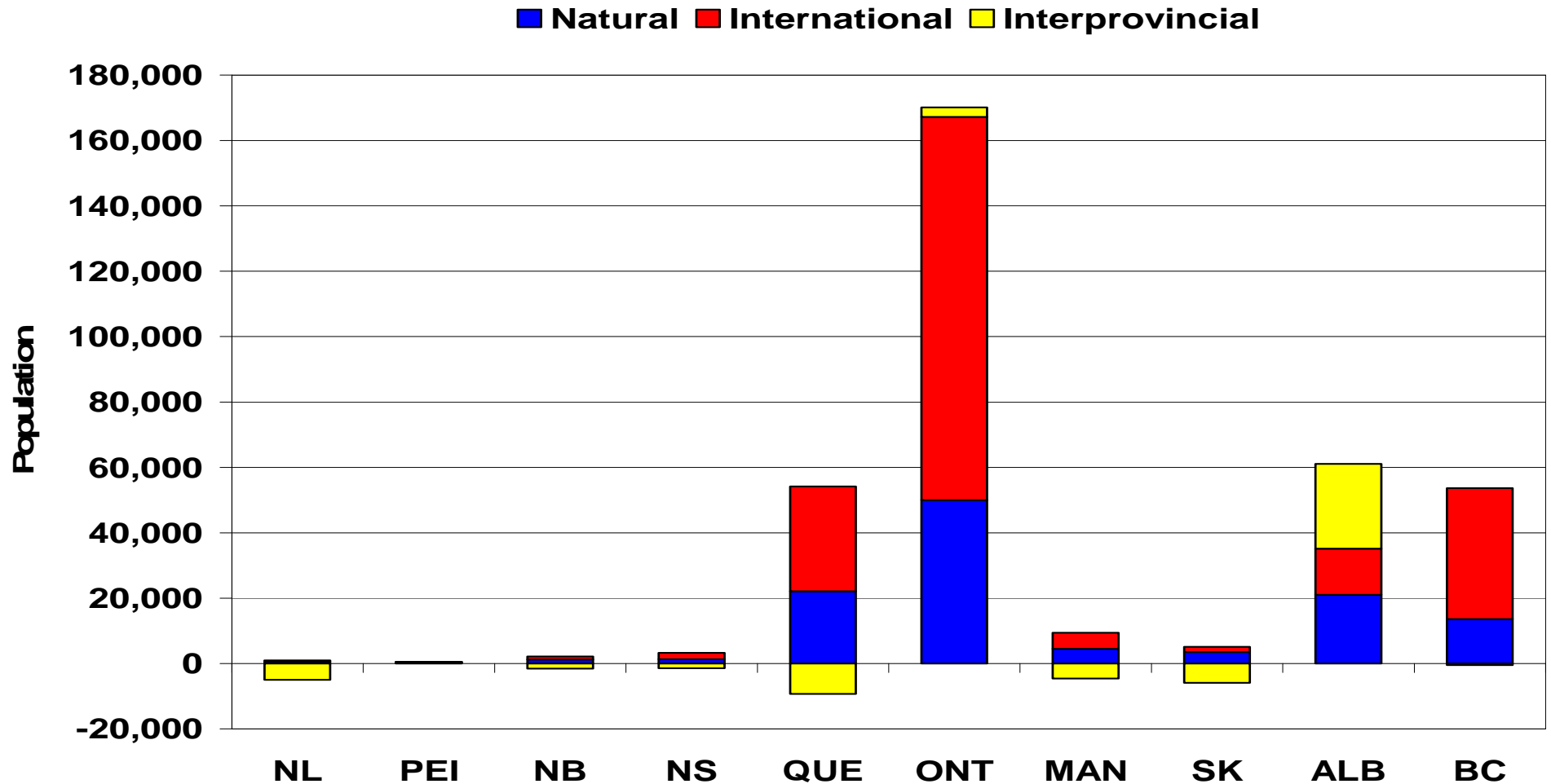
Population Pyramid

Italy (outline) versus India (colour), 2005 (percent)



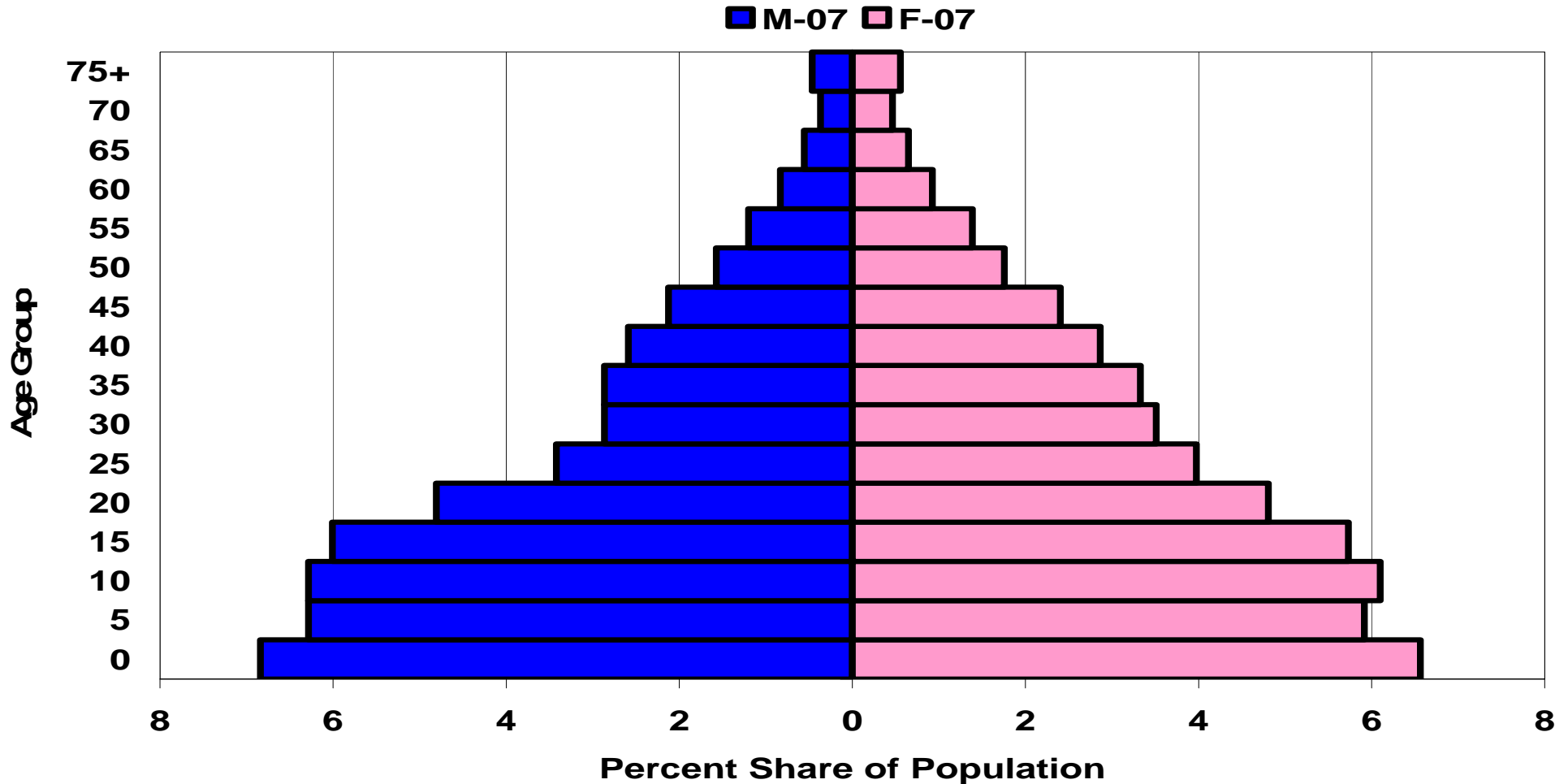
Canada's Provinces

Population Change by Source, 1996-2006 (annual average)



Population Pyramid

North American Indian , Saskatchewan, 2007

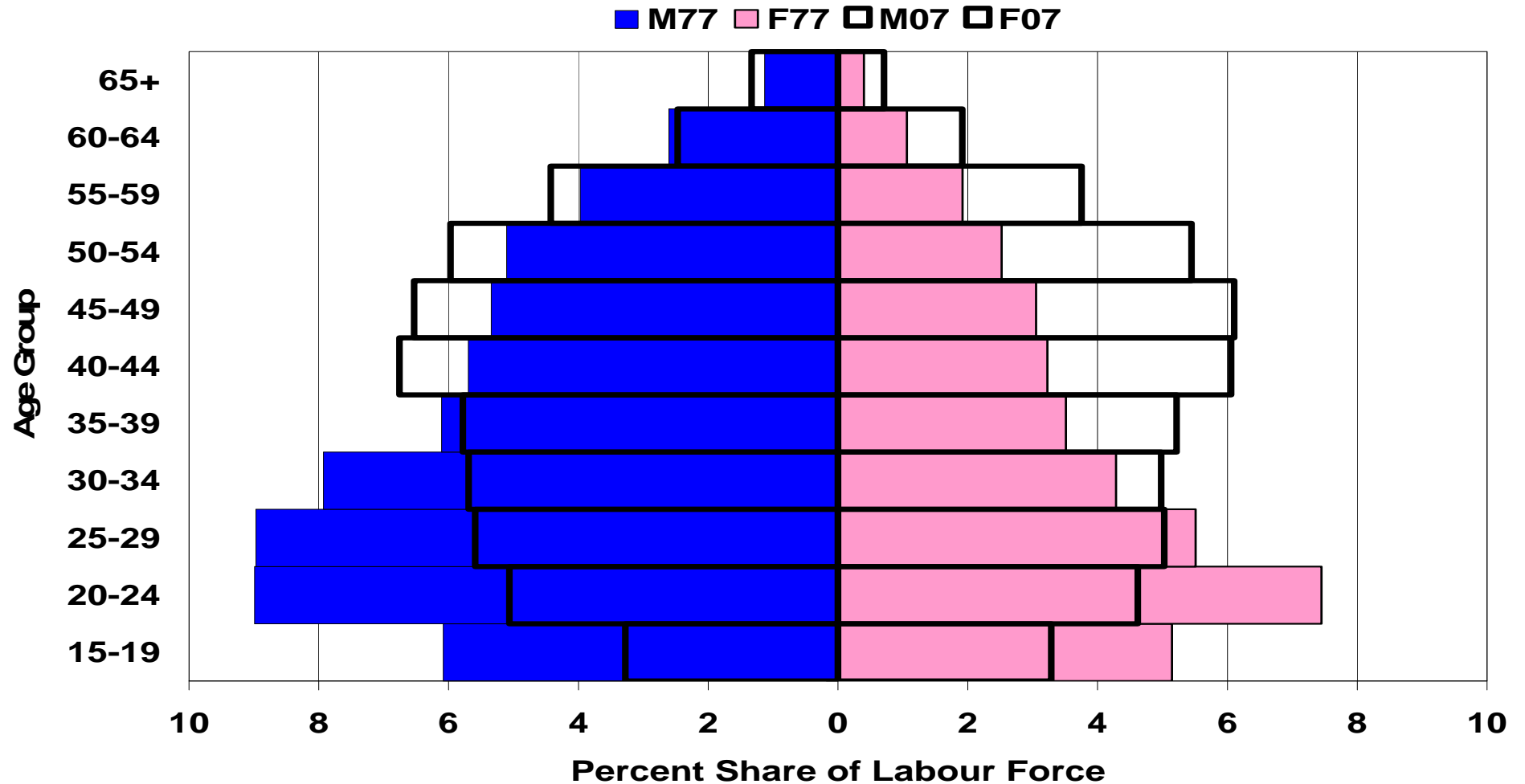


Demographic Trends - Canada

Labour Force

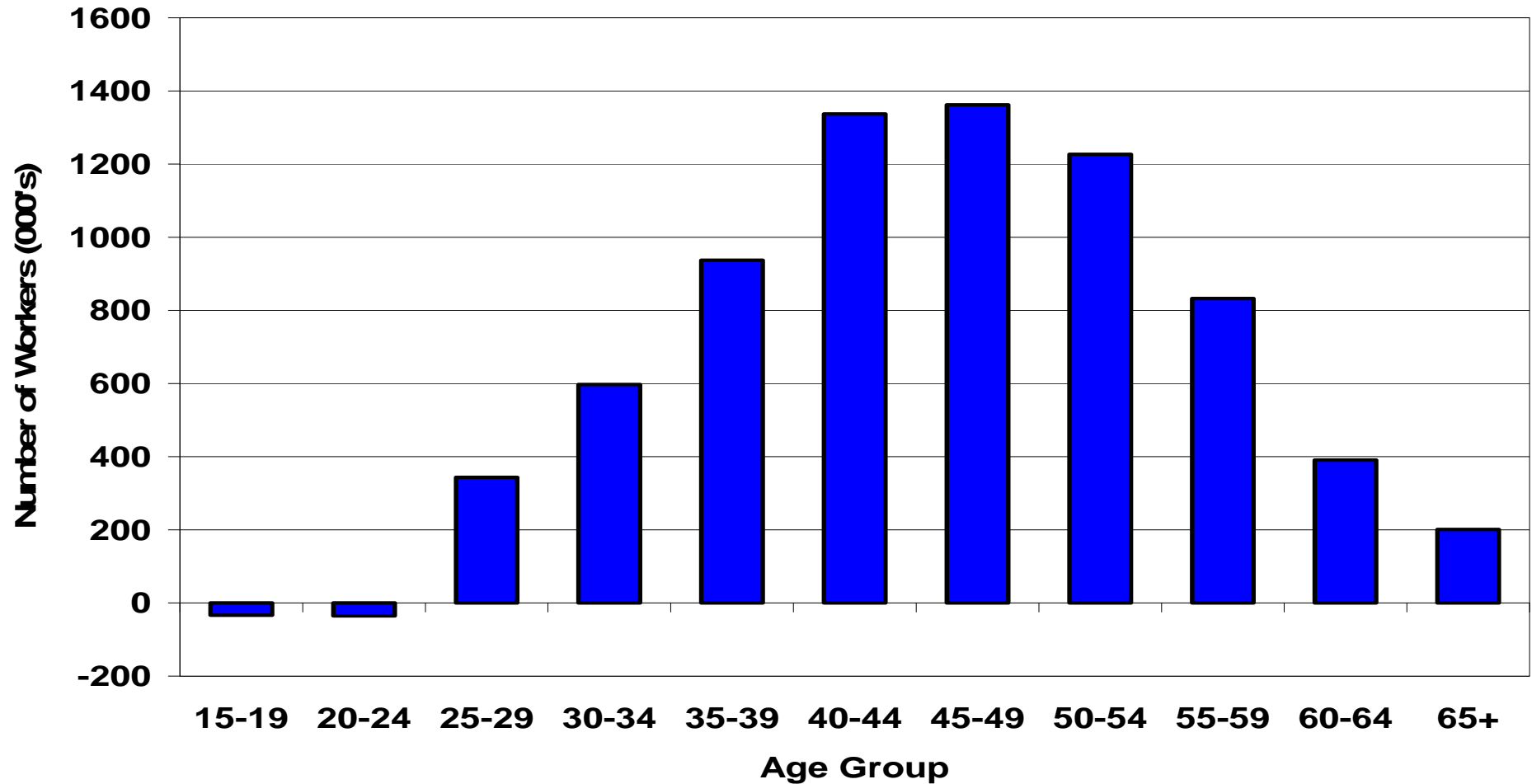
Canada

Labour Force Pyramid, 1977 versus 2007



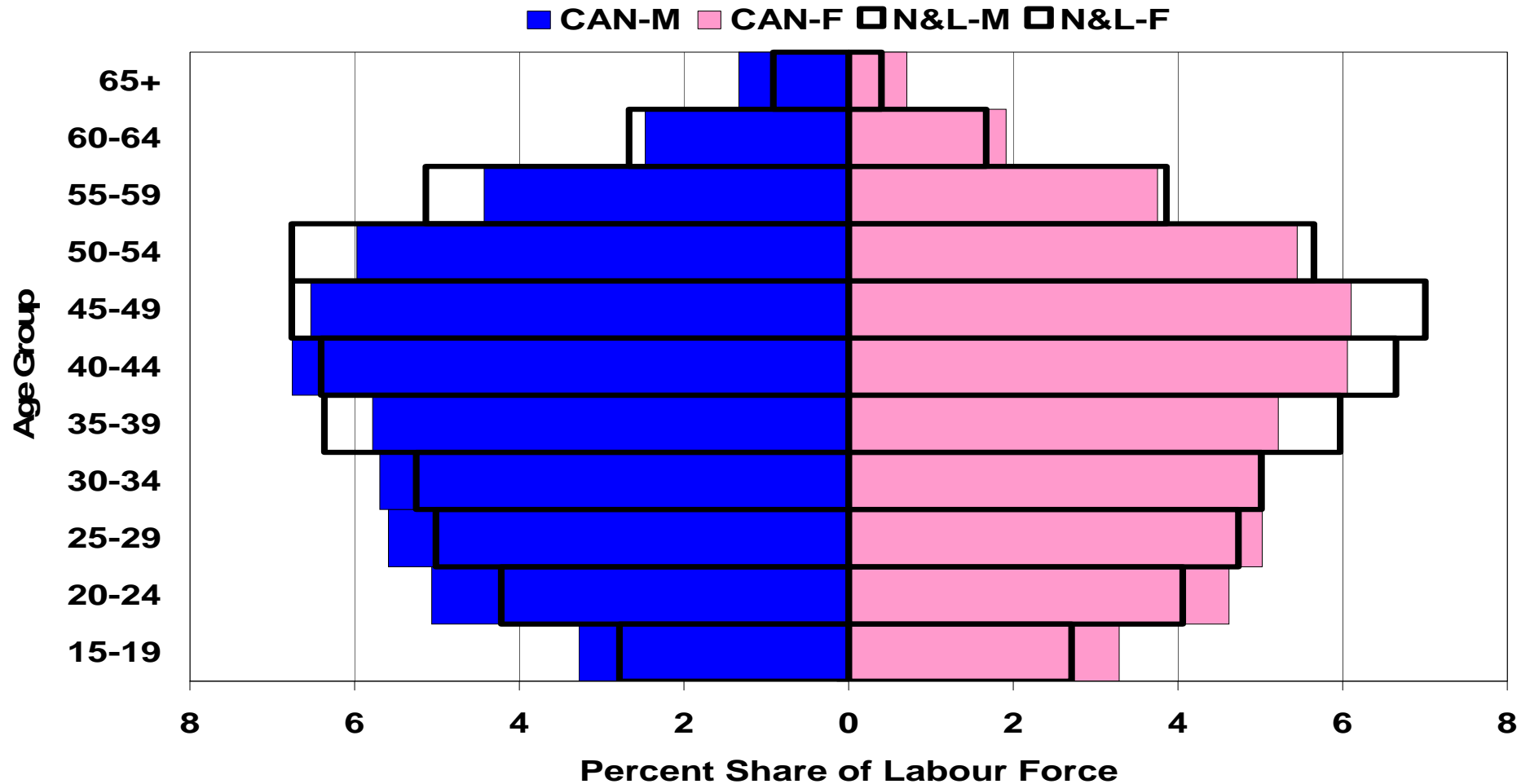
Canada

Labour Force Change, 1977-2007 (thousands)



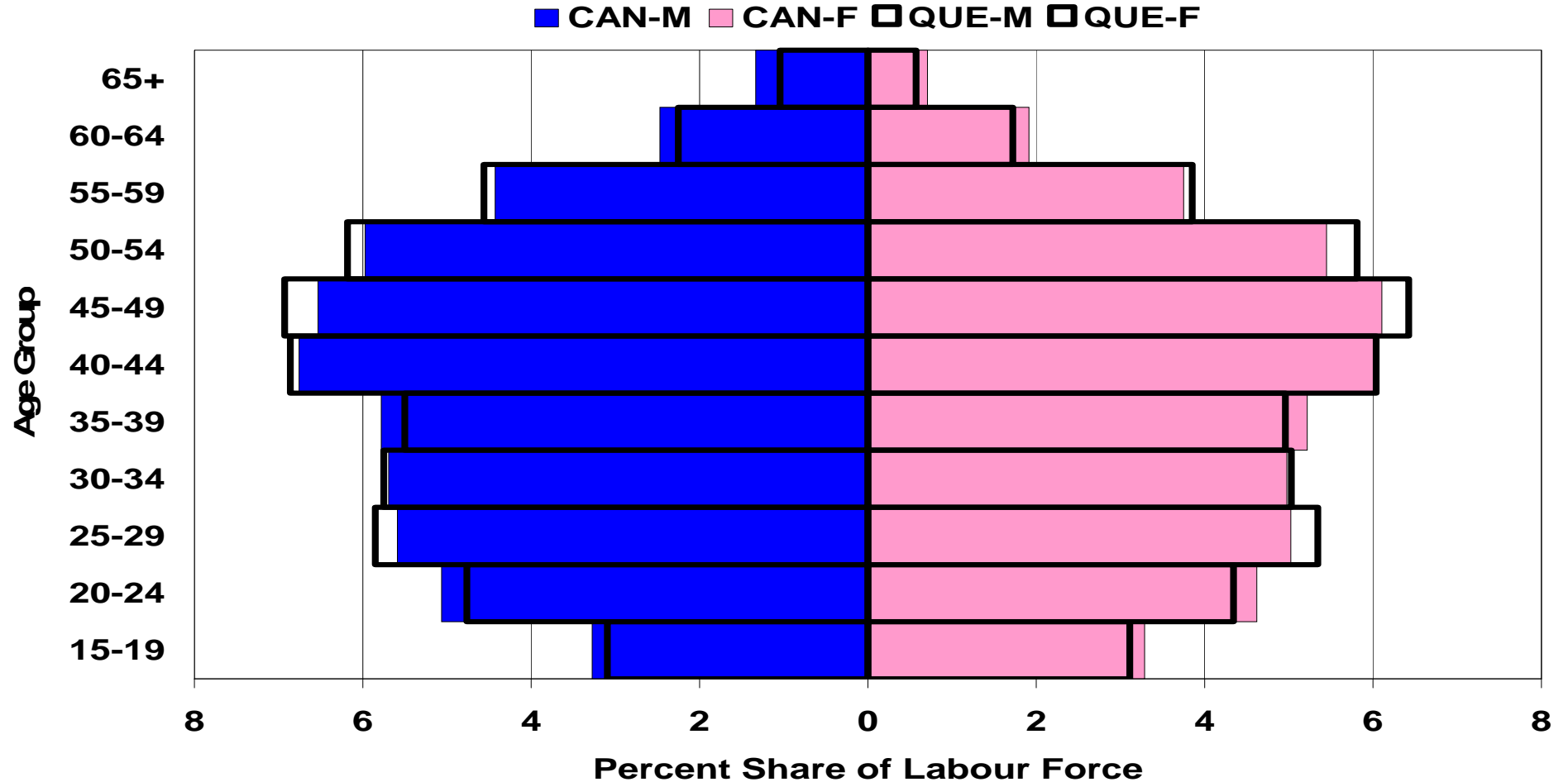
Labour Force Pyramid

Canada (colour) versus Newfoundland & Labrador (outline), 2007



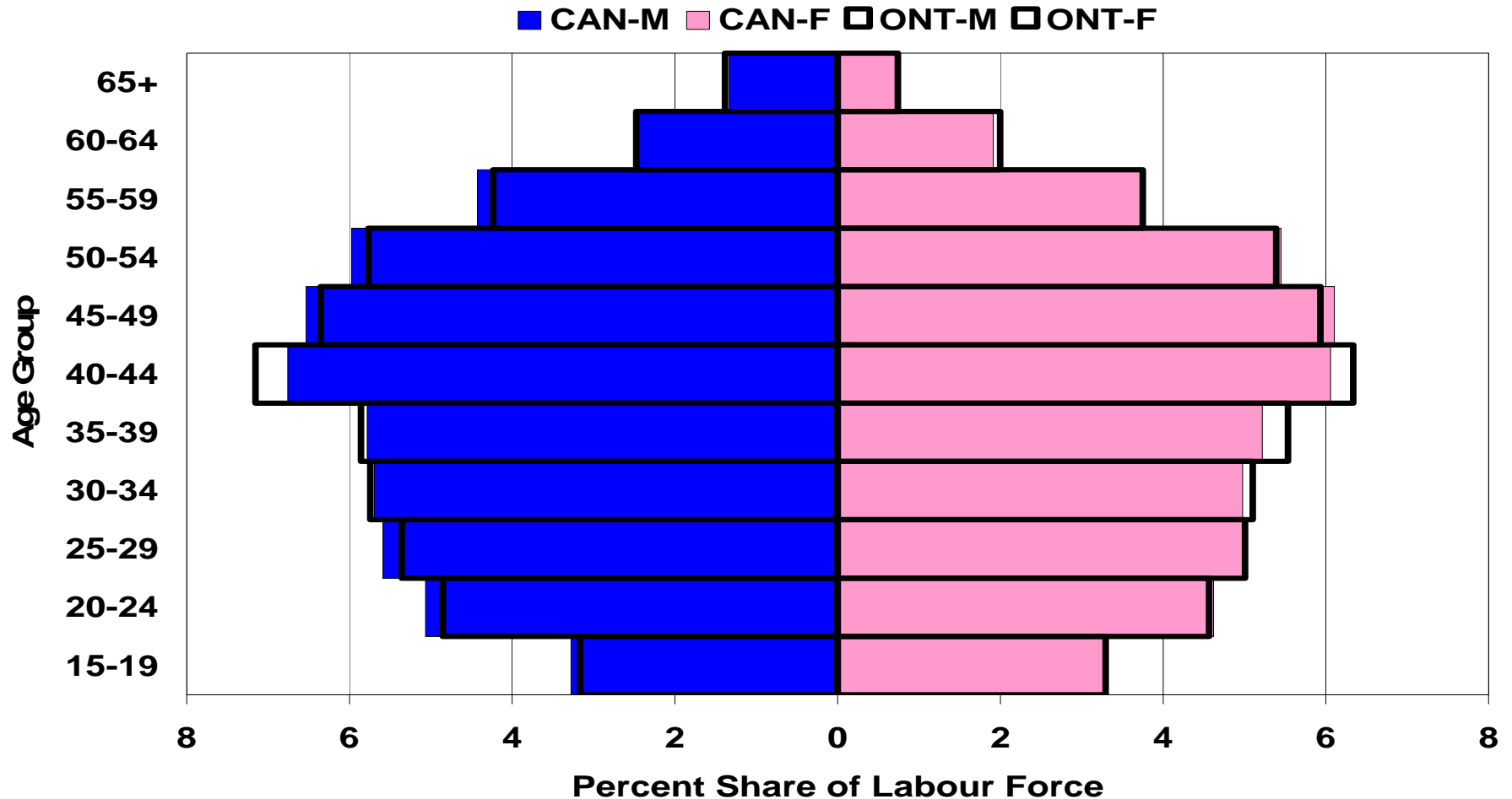
Labour Force Pyramid

Canada (colour) versus Québec (outline), 2007



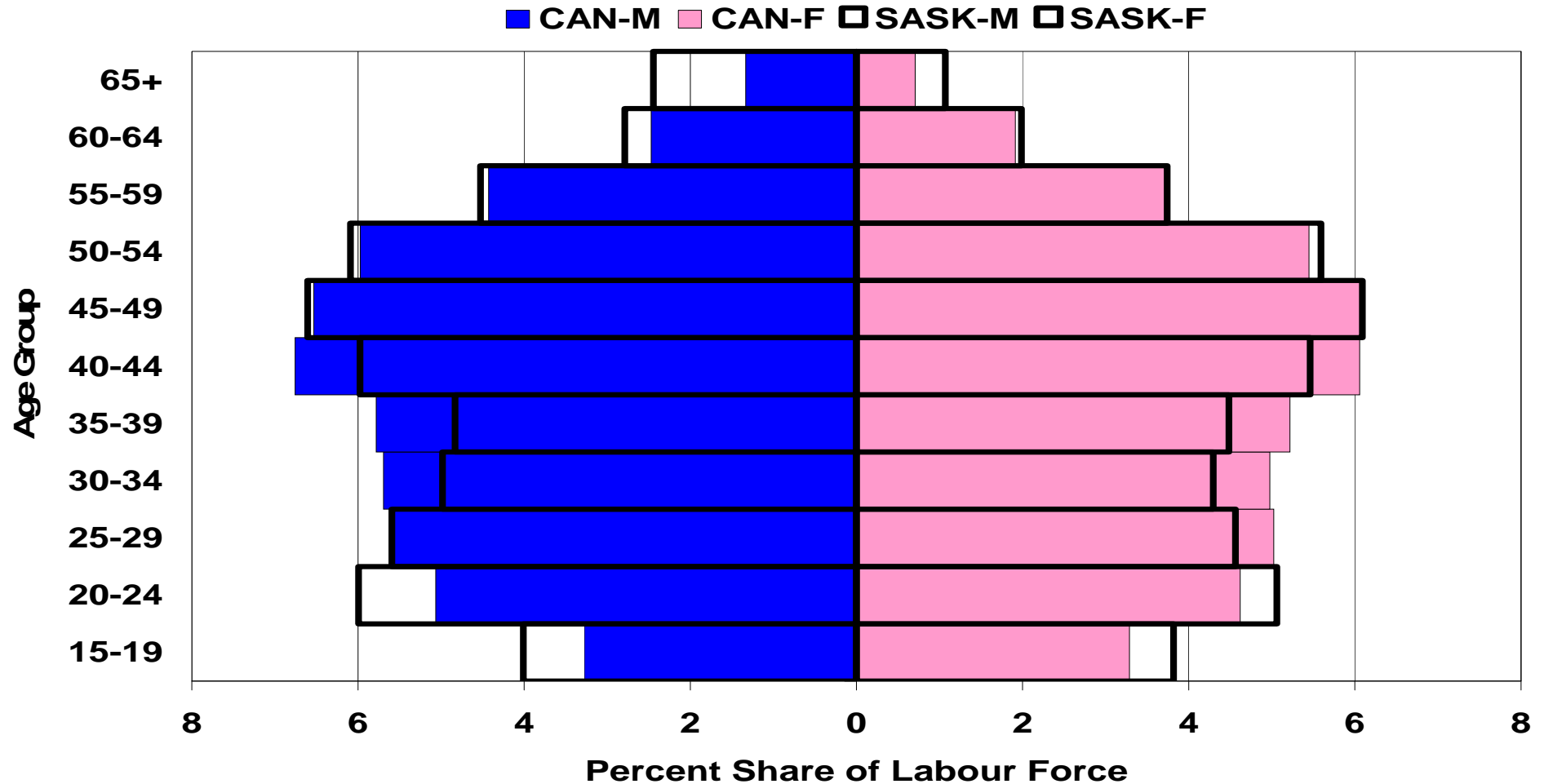
Labour Force Pyramid

Canada (colour) versus Ontario (outline), 2007



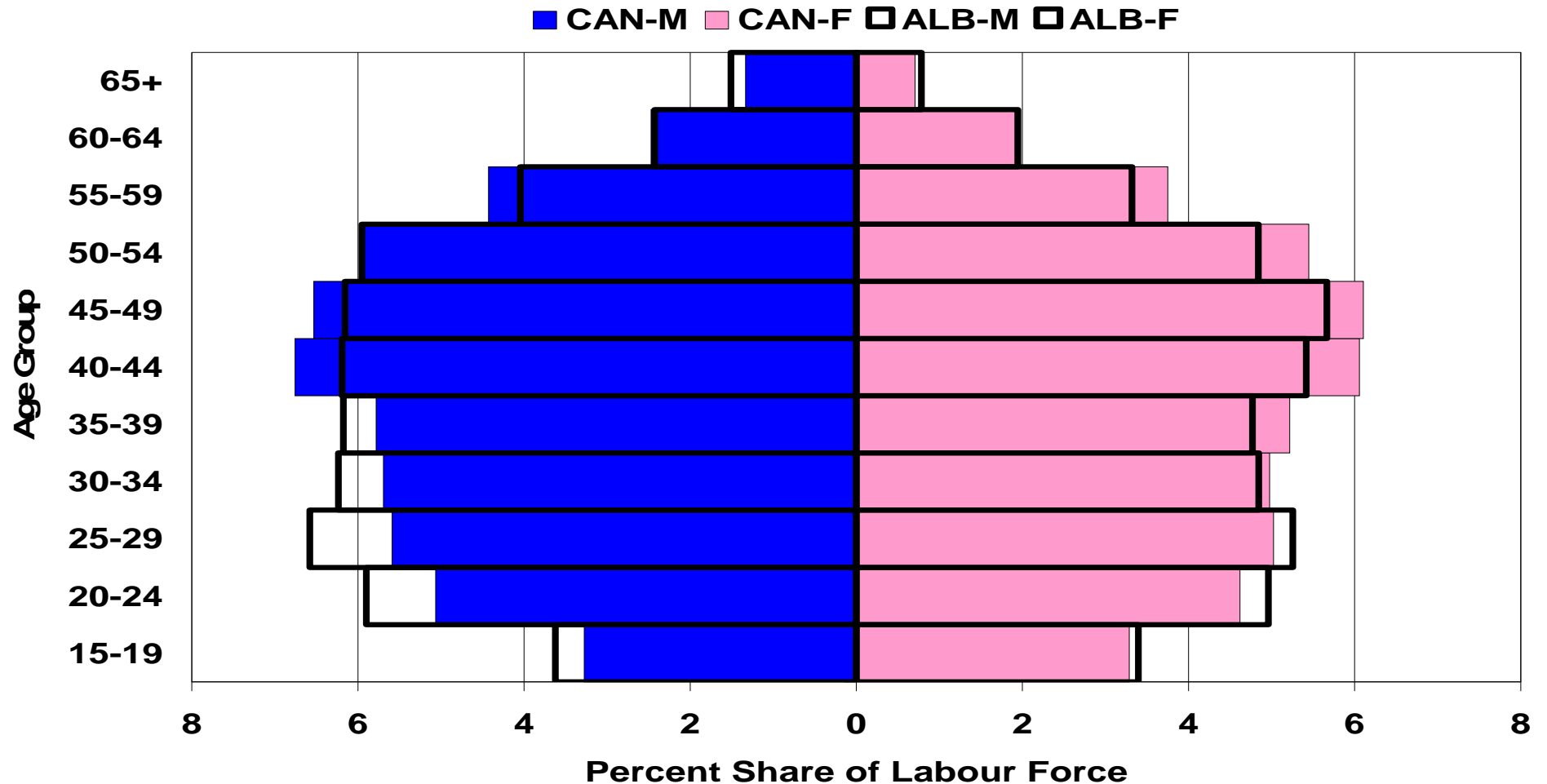
Labour Force Pyramid

Canada (colour) versus Saskatchewan (outline), 2007



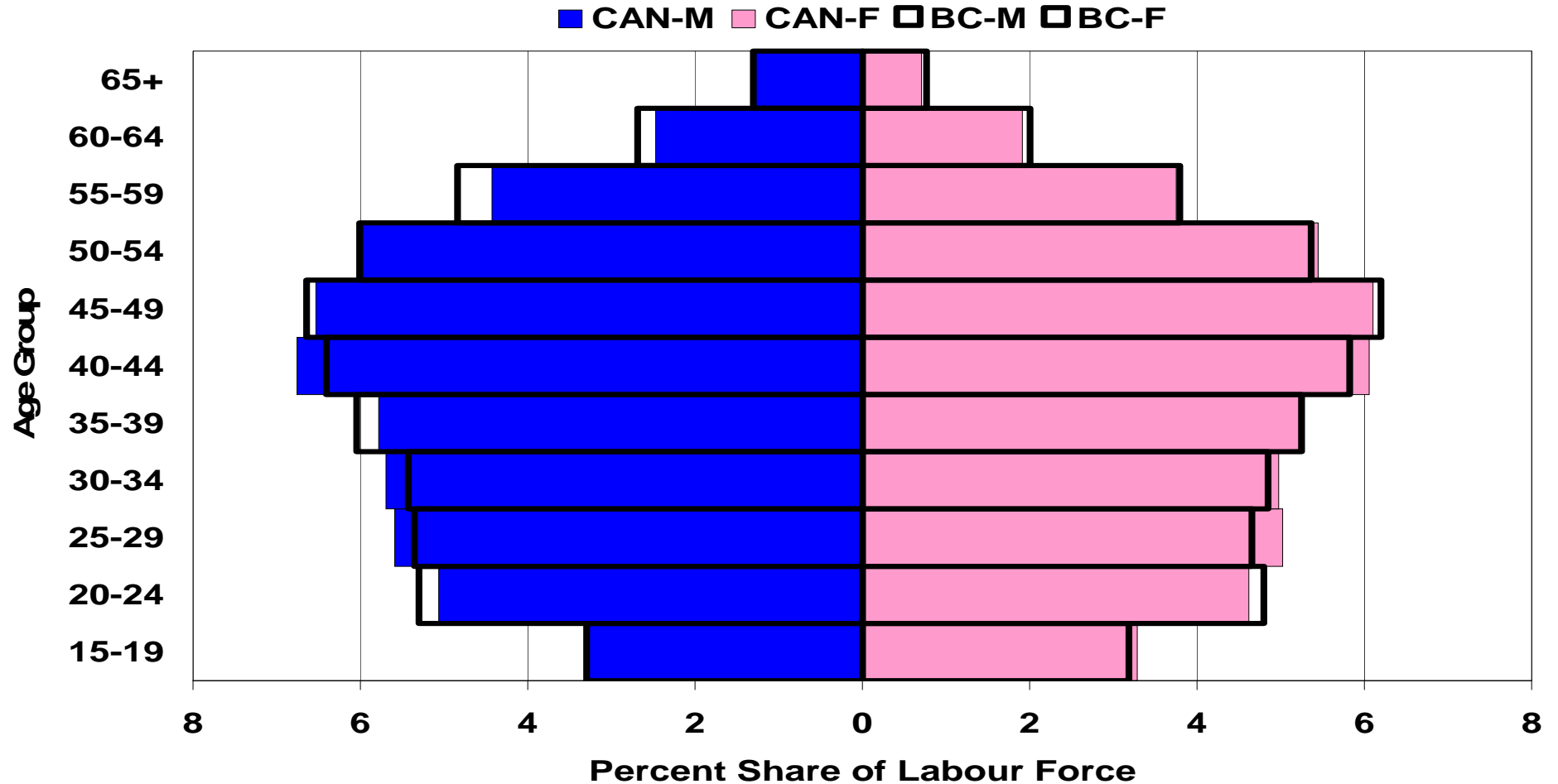
Labour Force Pyramid

Canada (colour) versus Alberta (outline), 2007



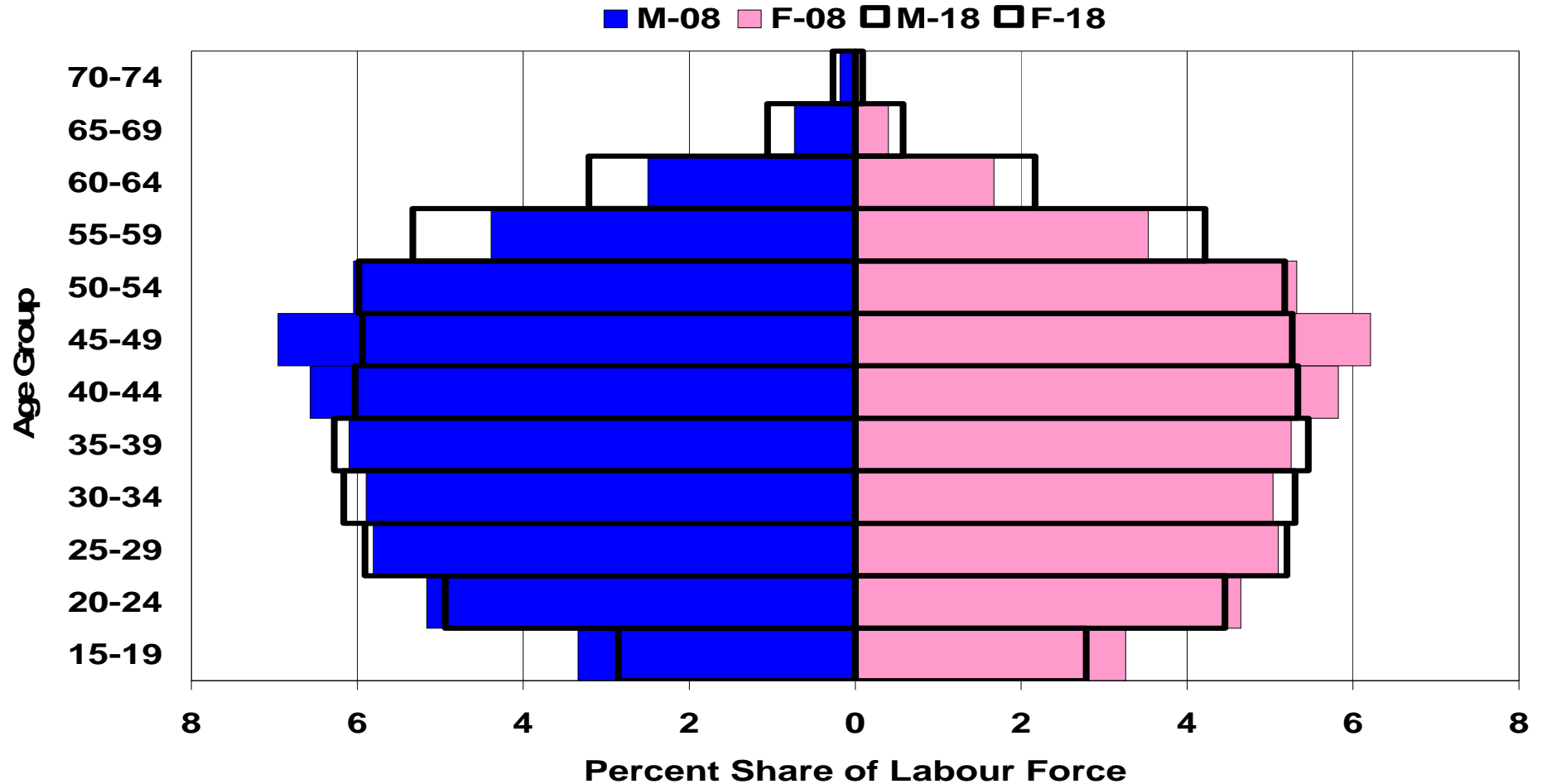
Labour Force Pyramid

Canada (colour) versus British Columbia (outline), 2007



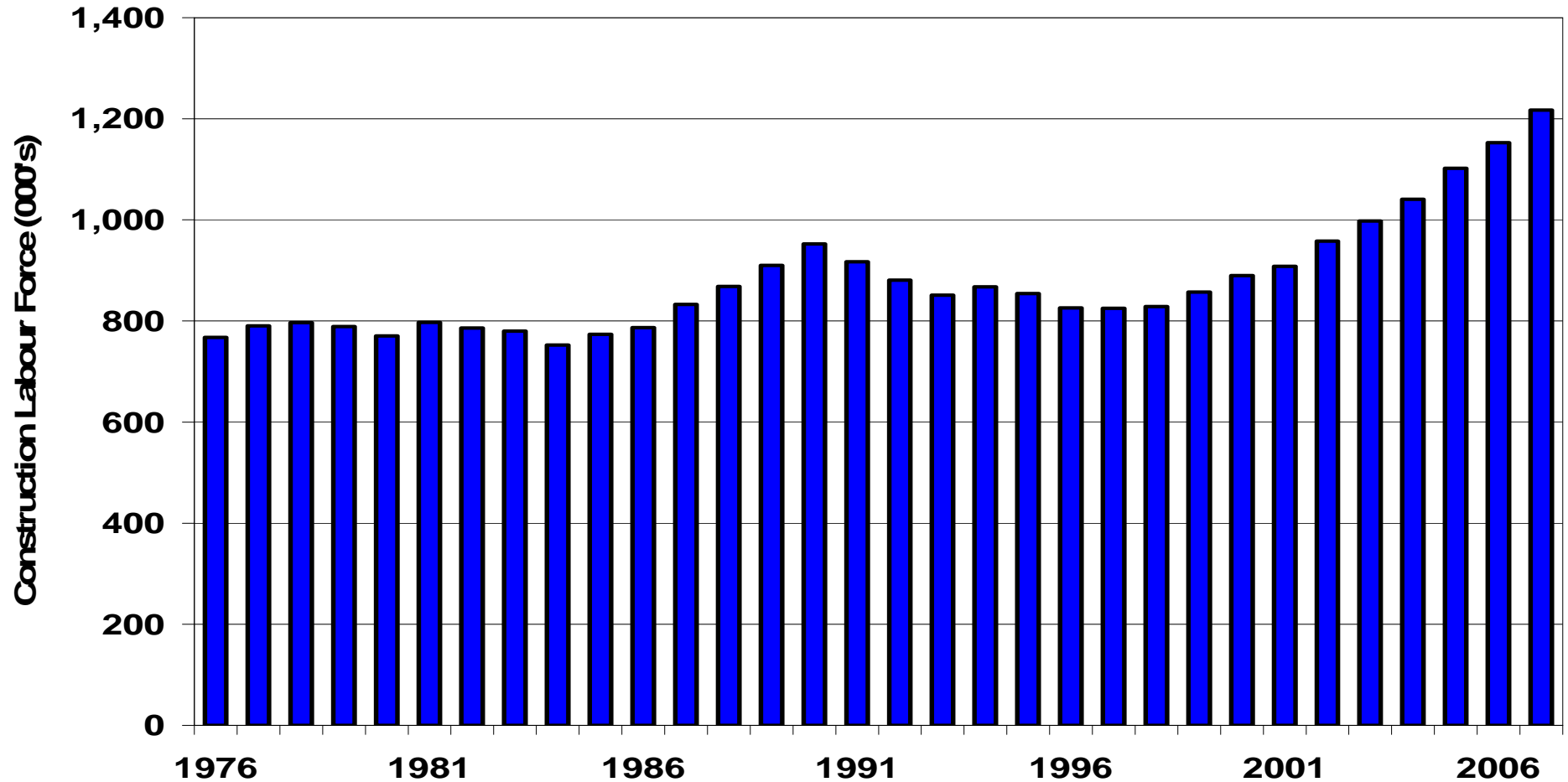
Canada

Labour Force Pyramid, 2008 versus 2018



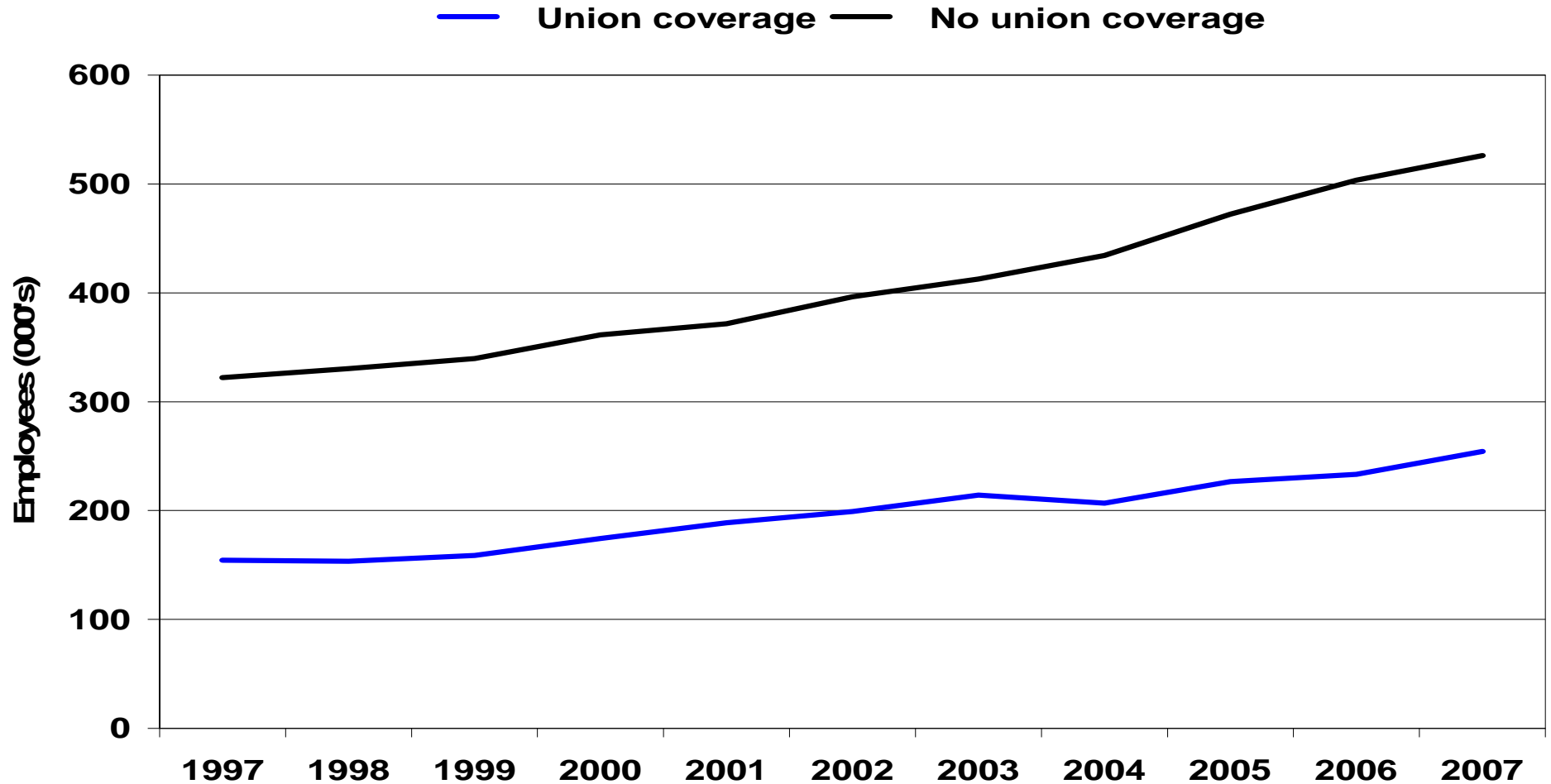
Canada

Labour Force, Construction, 1976-2007 (000's)



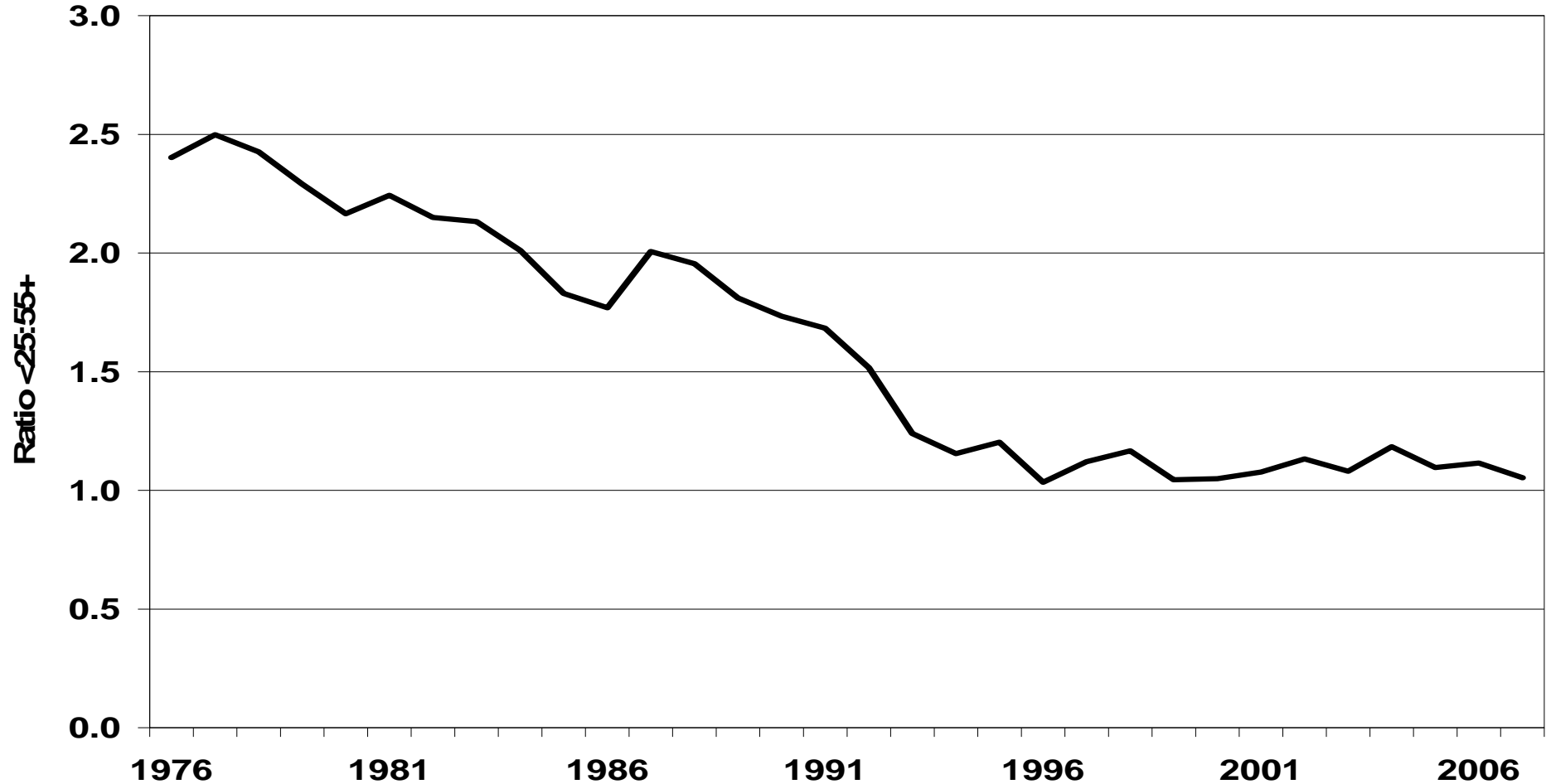
Canada

Employees (000's) by Union Status, Construction, 1997-2007



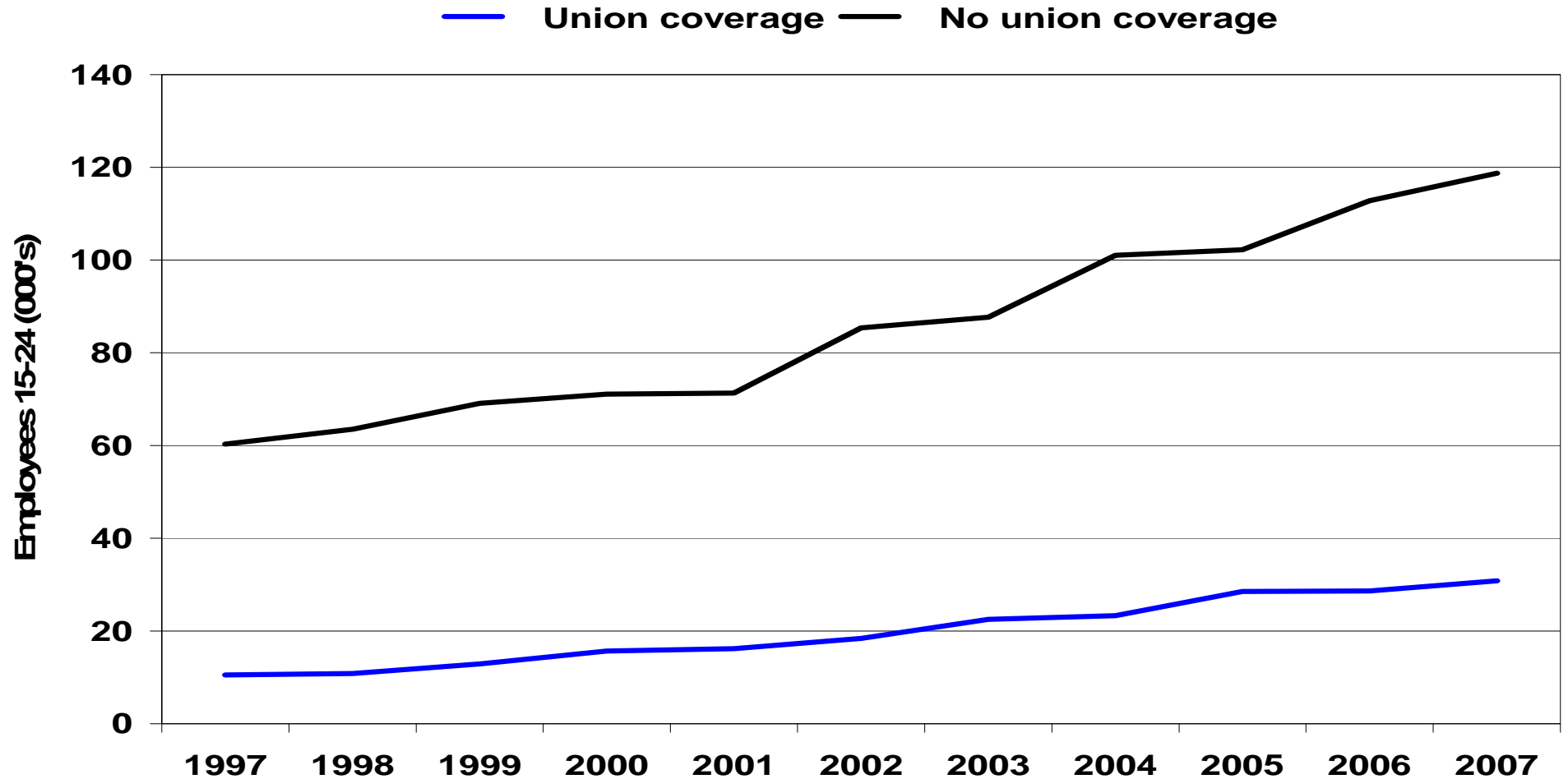
Canada

Entry/Exit Ratio (<25:55+), Construction, 1976-2007



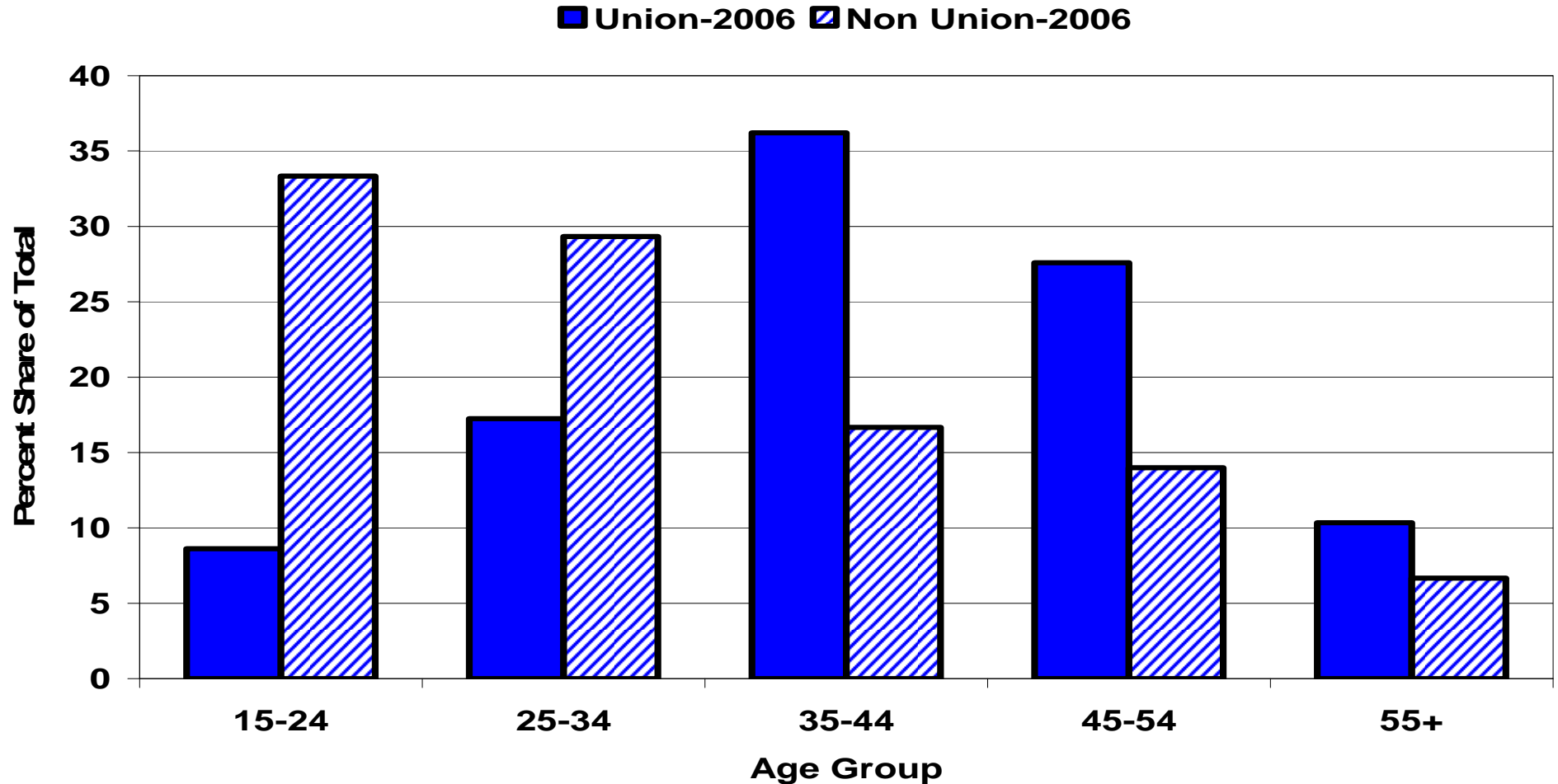
Canada

Construction Labour Force (000's), 15-24, by Union Status, 1976-2007



Ontario

Carpenters by Age Group and Union Status, 2006 (percent)

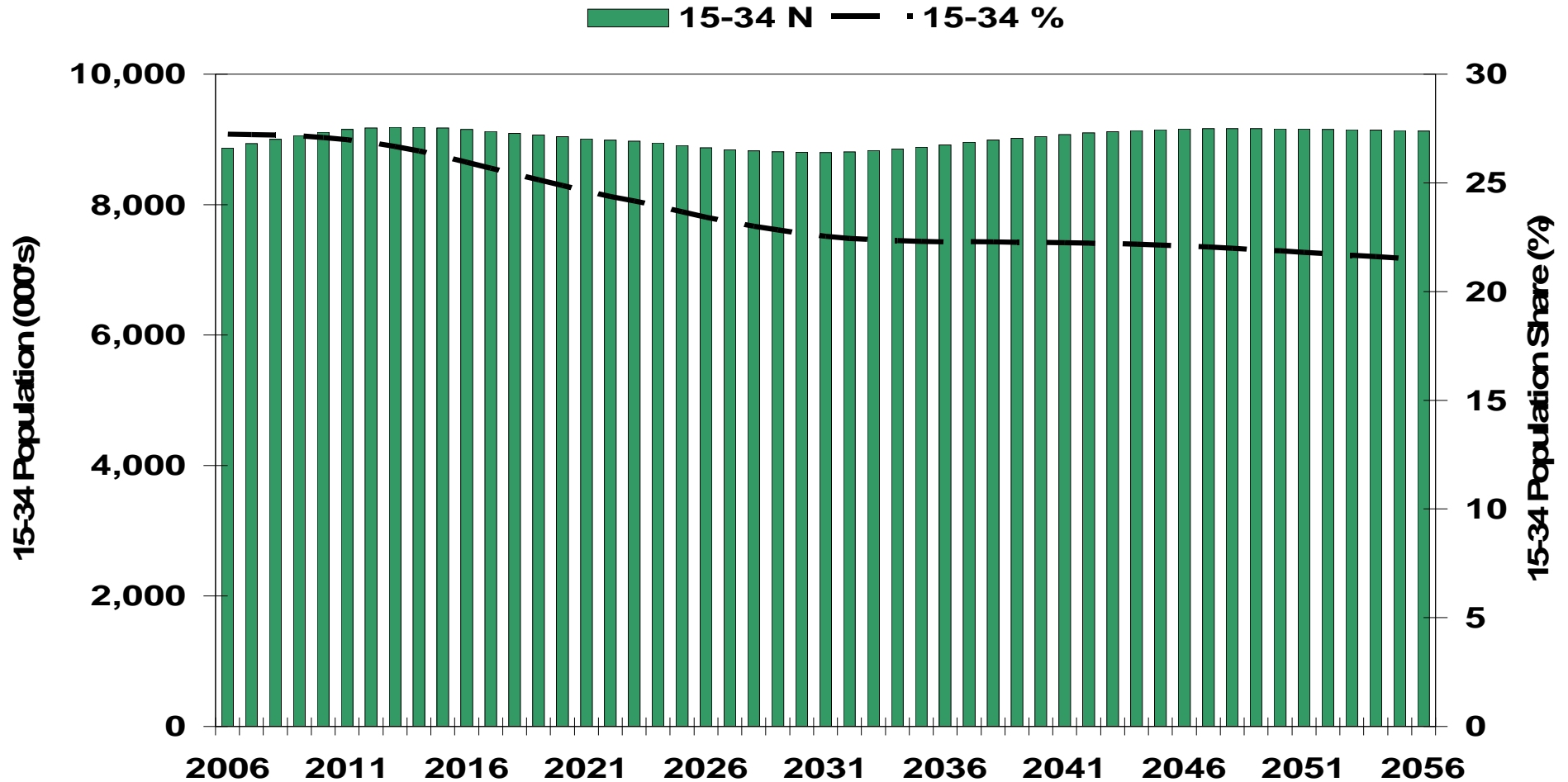


Opportunities and Challenges

Recruiting Youth in a Competitive Labour Market

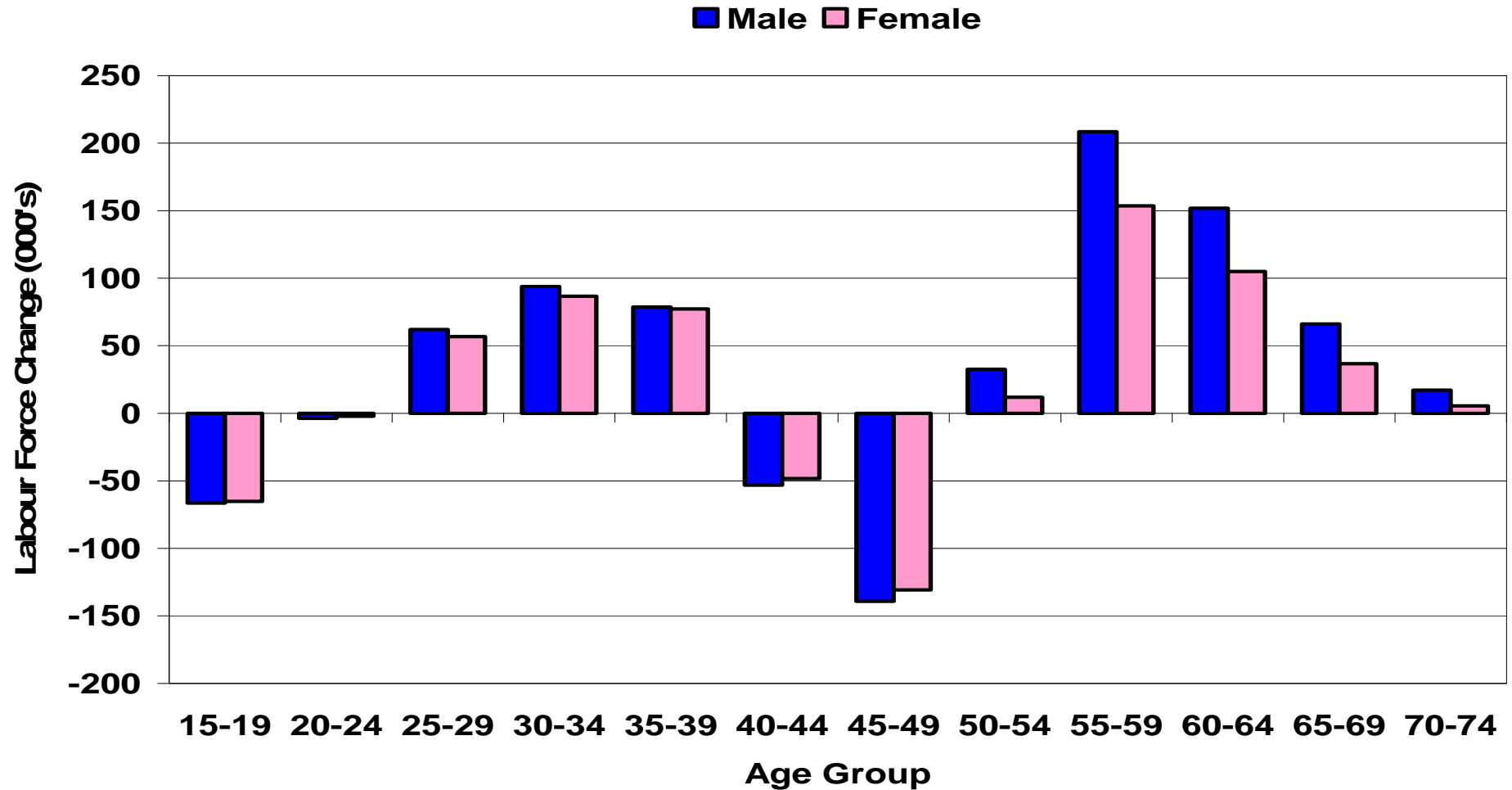
Canada

Population 15-34, Total and Percent Share, 2006-2056 (projected)



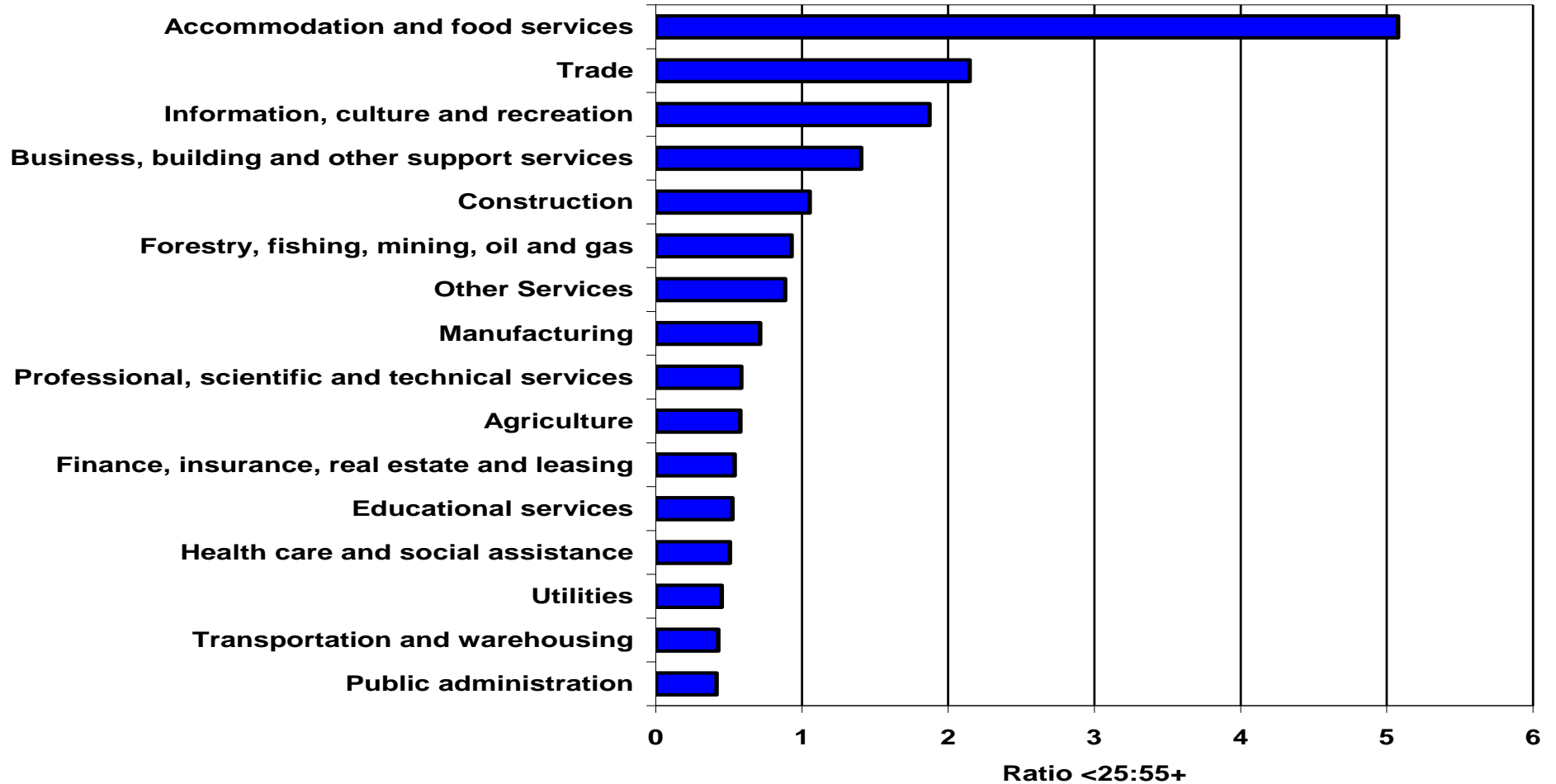
Canada

Labour Force Change (000's), 2008-2018



Canada

Entry/Exit Ratio (<25:55+) by Industry, 2007

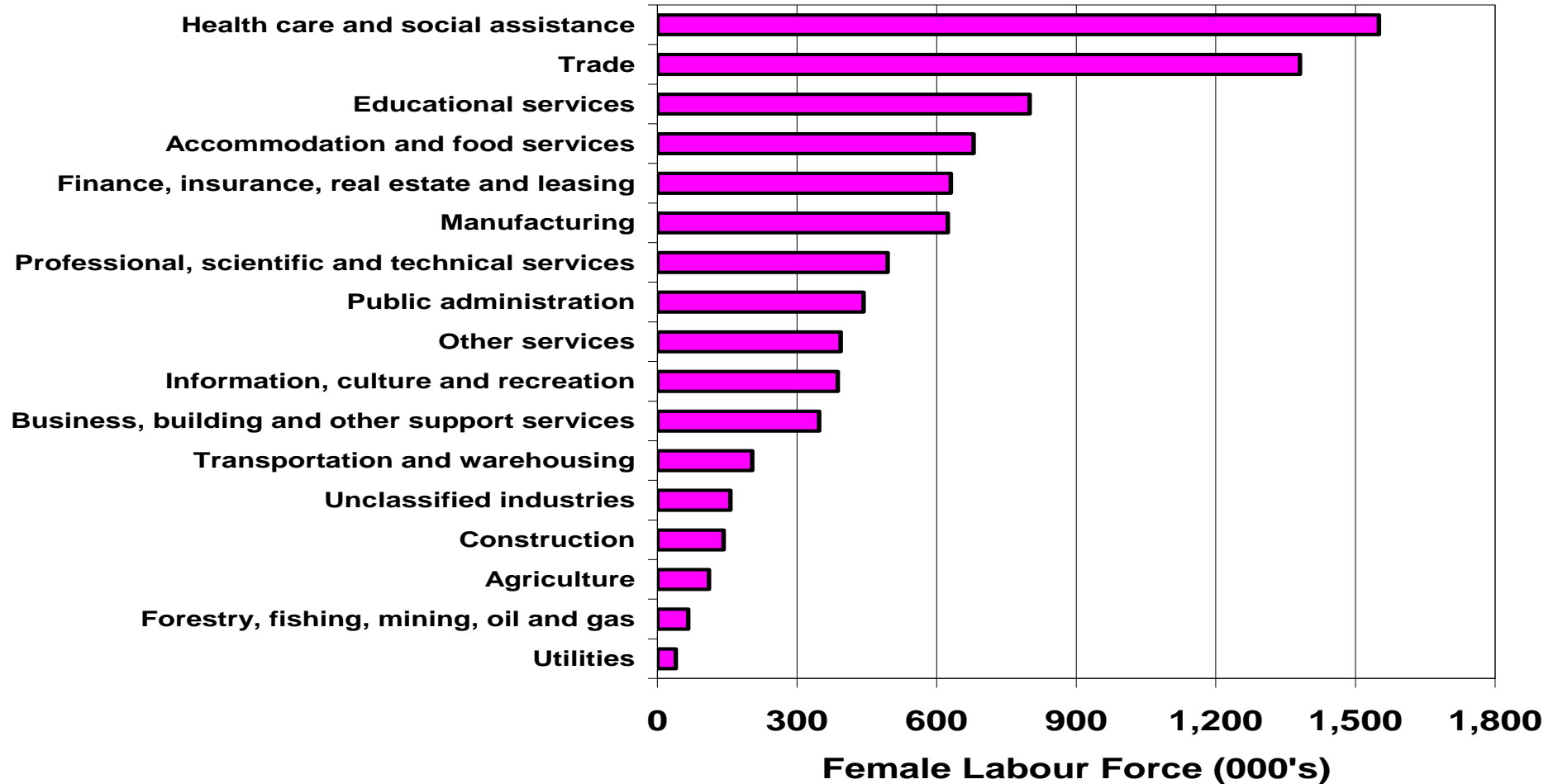


Opportunities and Challenges

Maximizing the Participation of Under-represented Groups

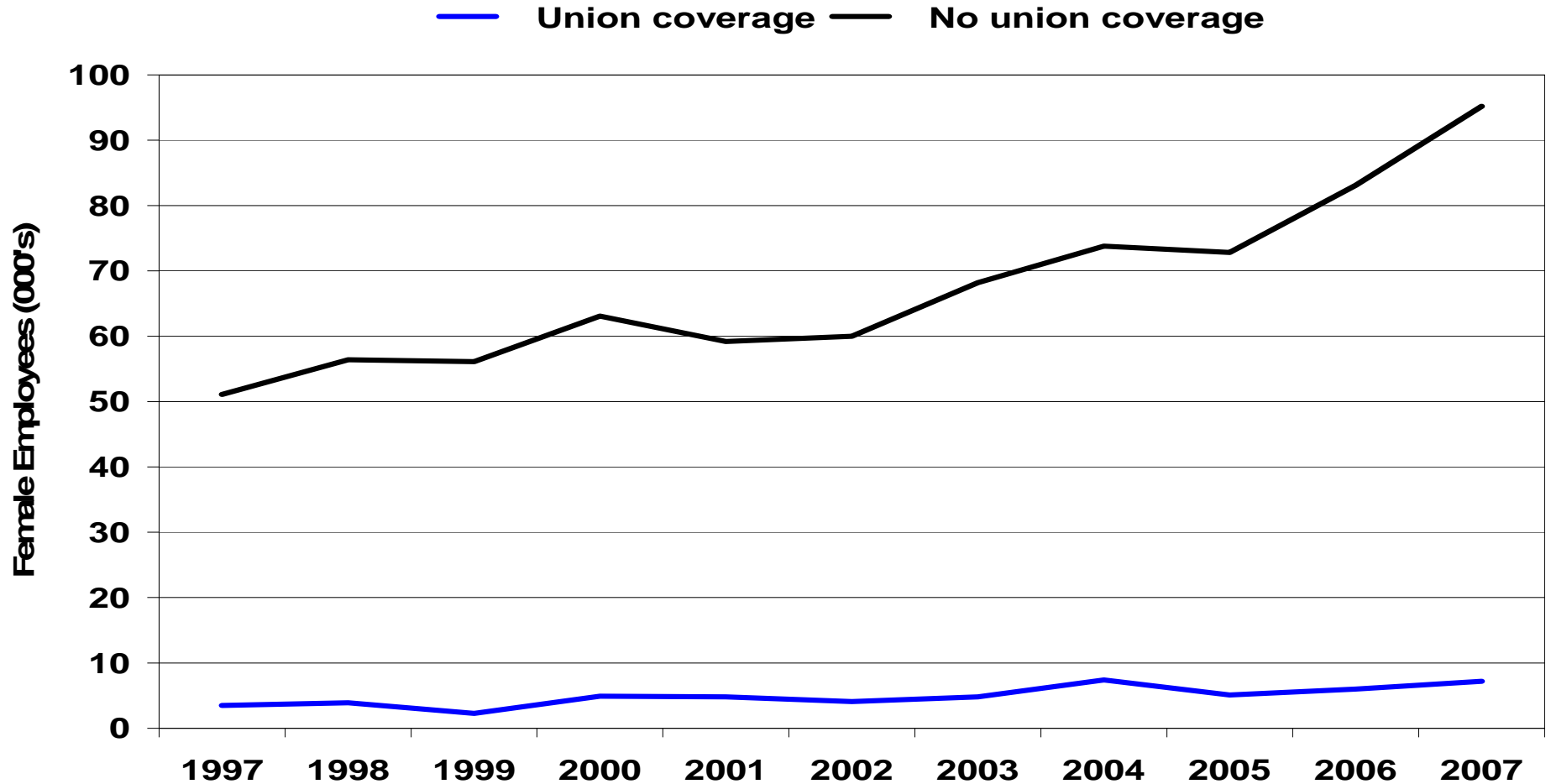
Canada

Female Labour Force (000's) by Industry, 2007



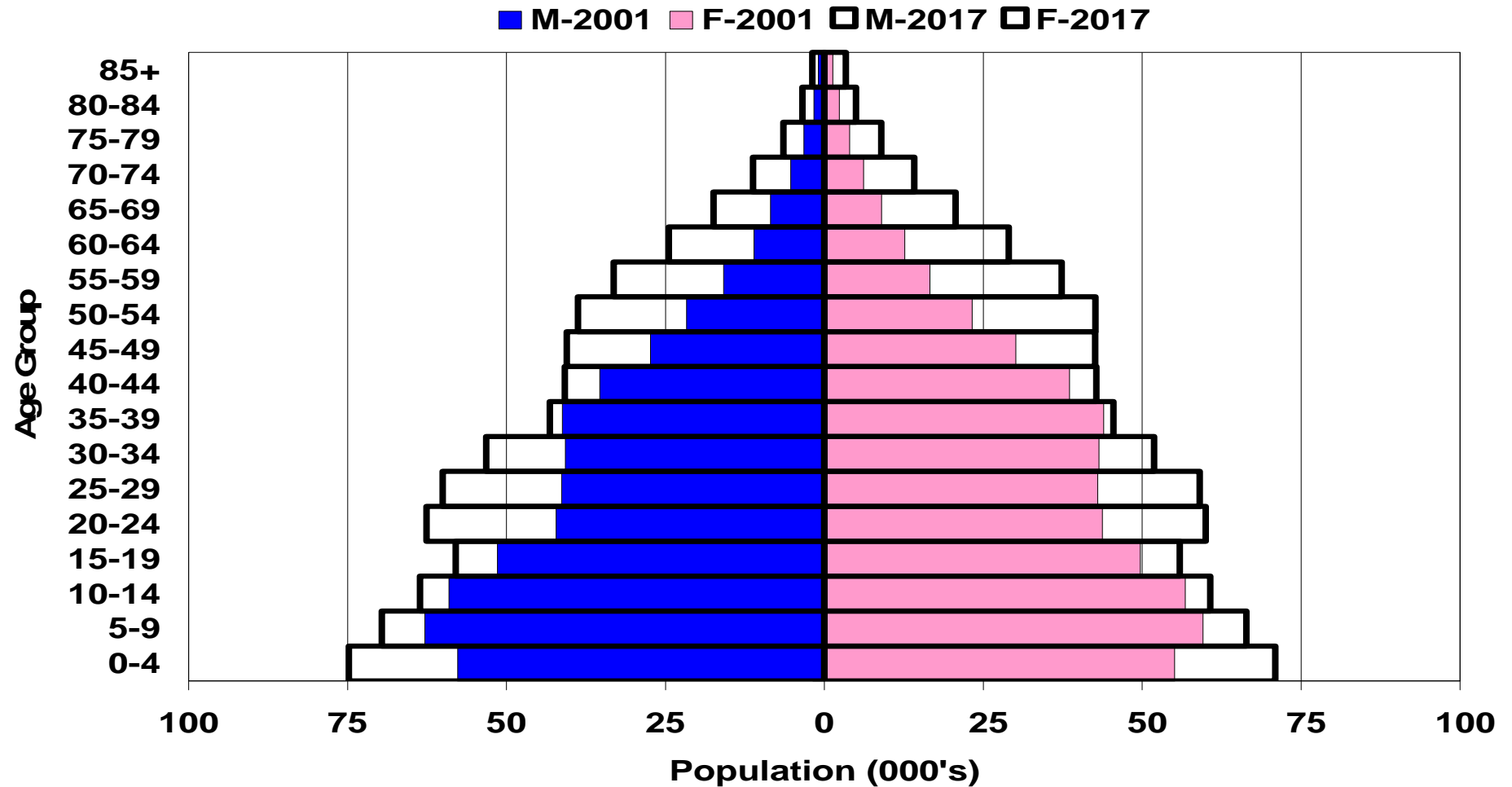
Canada

Female Employees (000's) by Union Status, Construction, 1997-2007



Population Pyramid

Aboriginal Identity Population , Canada, 2001 - 2017 (projected)

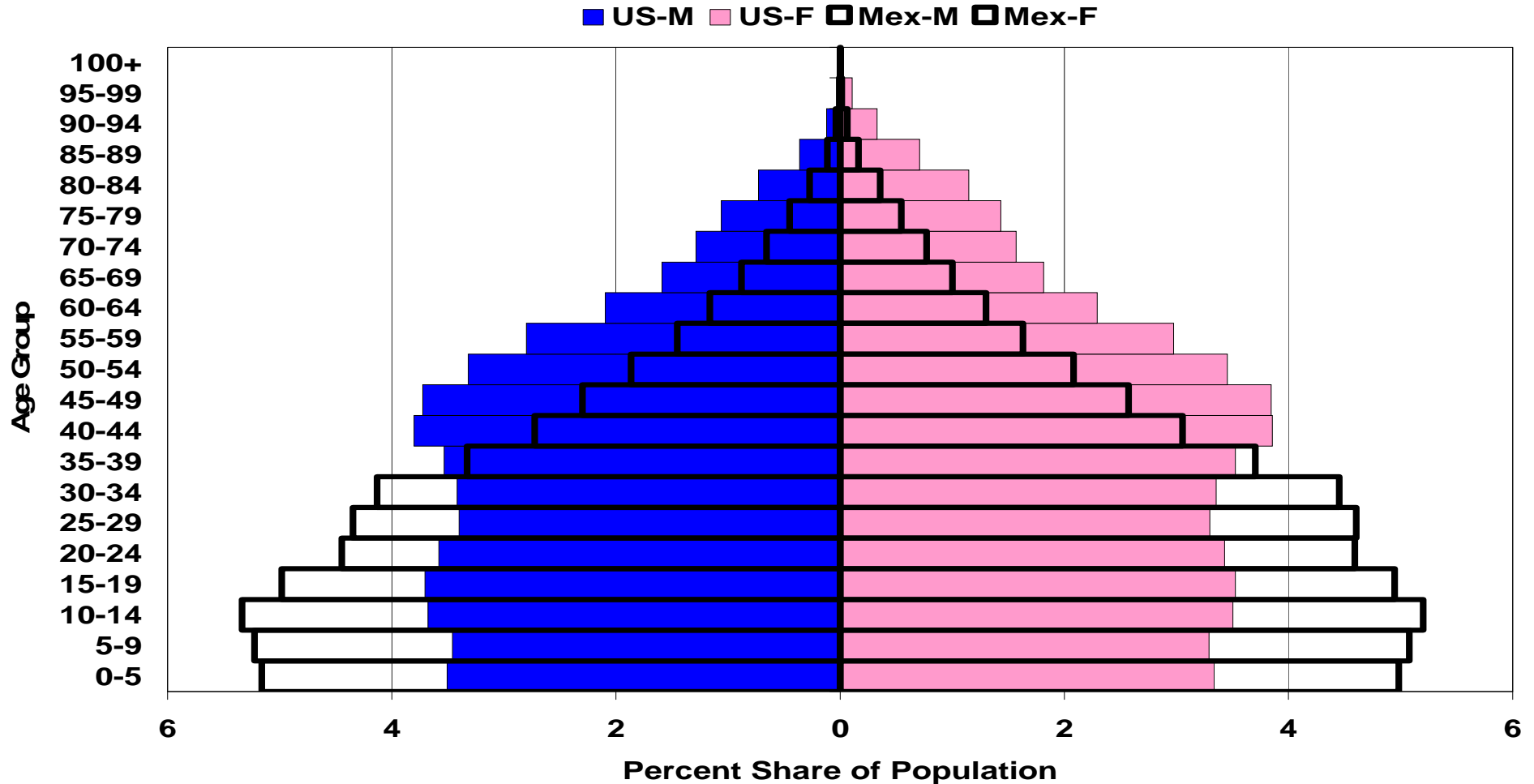


Opportunities and Challenges

Recruiting and Integrating Immigrants

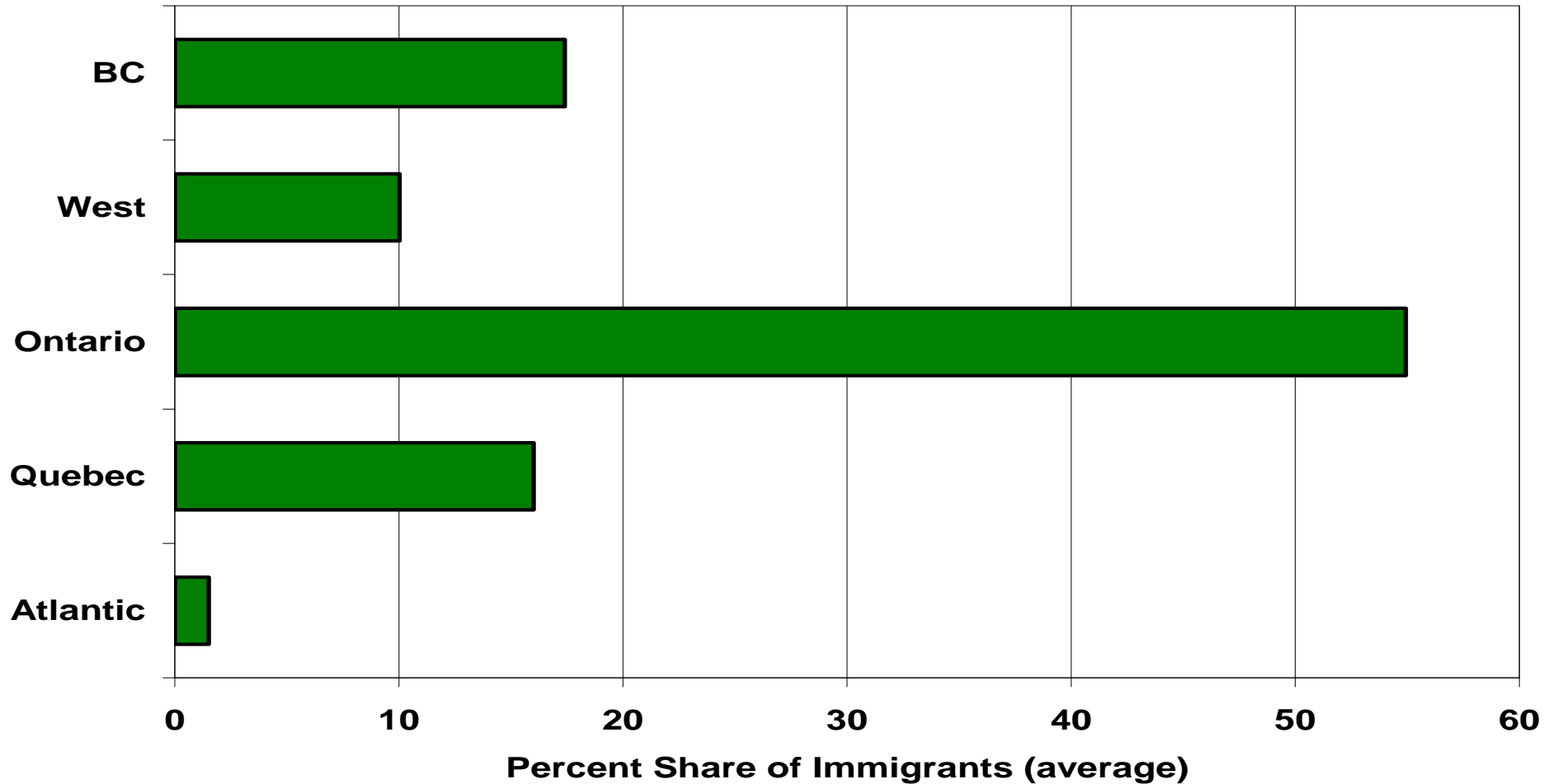
Population Pyramid

Mexico (outline) versus United States (colour), 2005



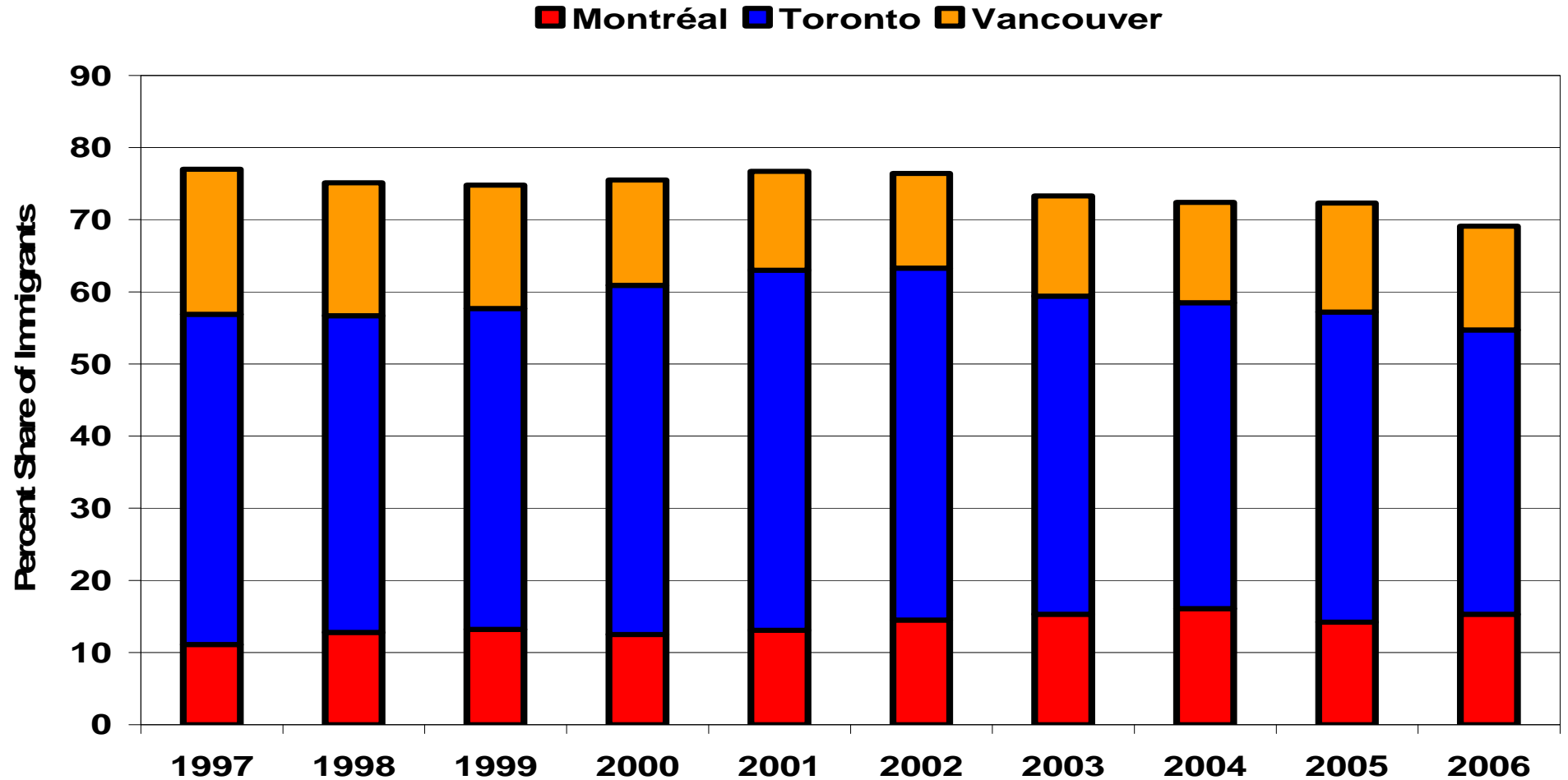
Canada

Average Share of Immigrants by Destination, 1997-2006



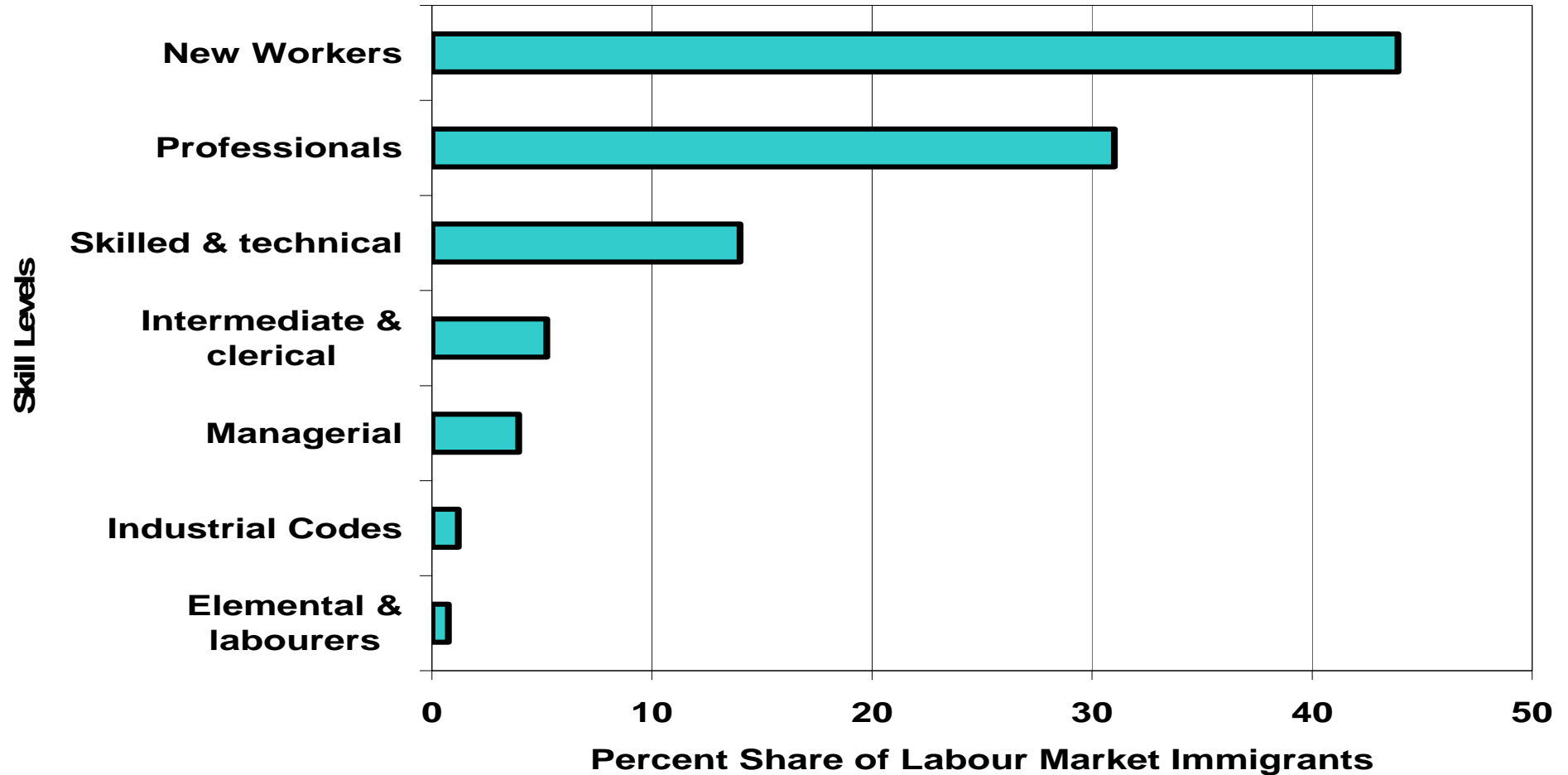
Canada

Average Share of Immigrants by Census Metropolitan Area, 1997-2006



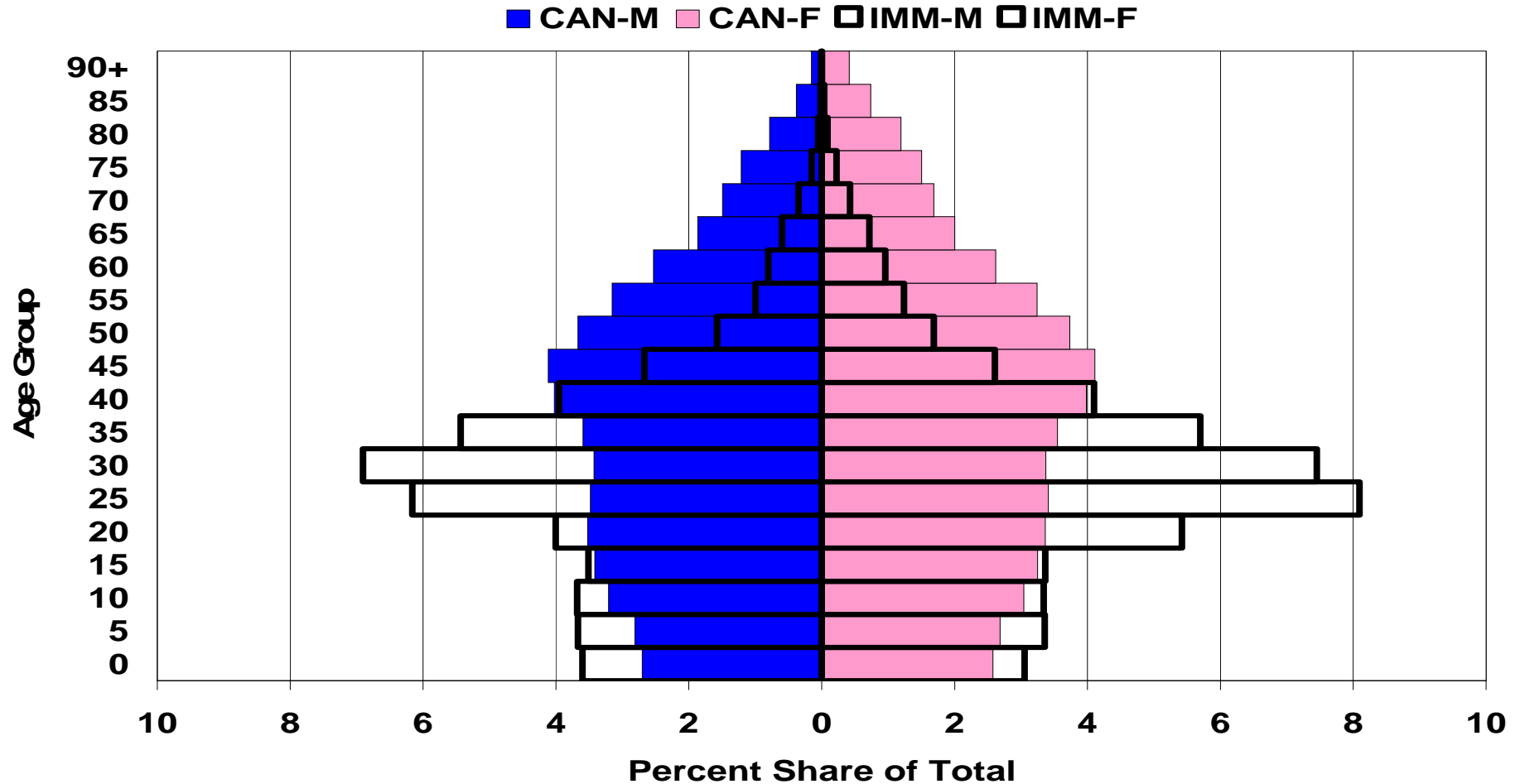
Canada

Average Share of Labour Market Immigrants by Skill Level, 1997-2006



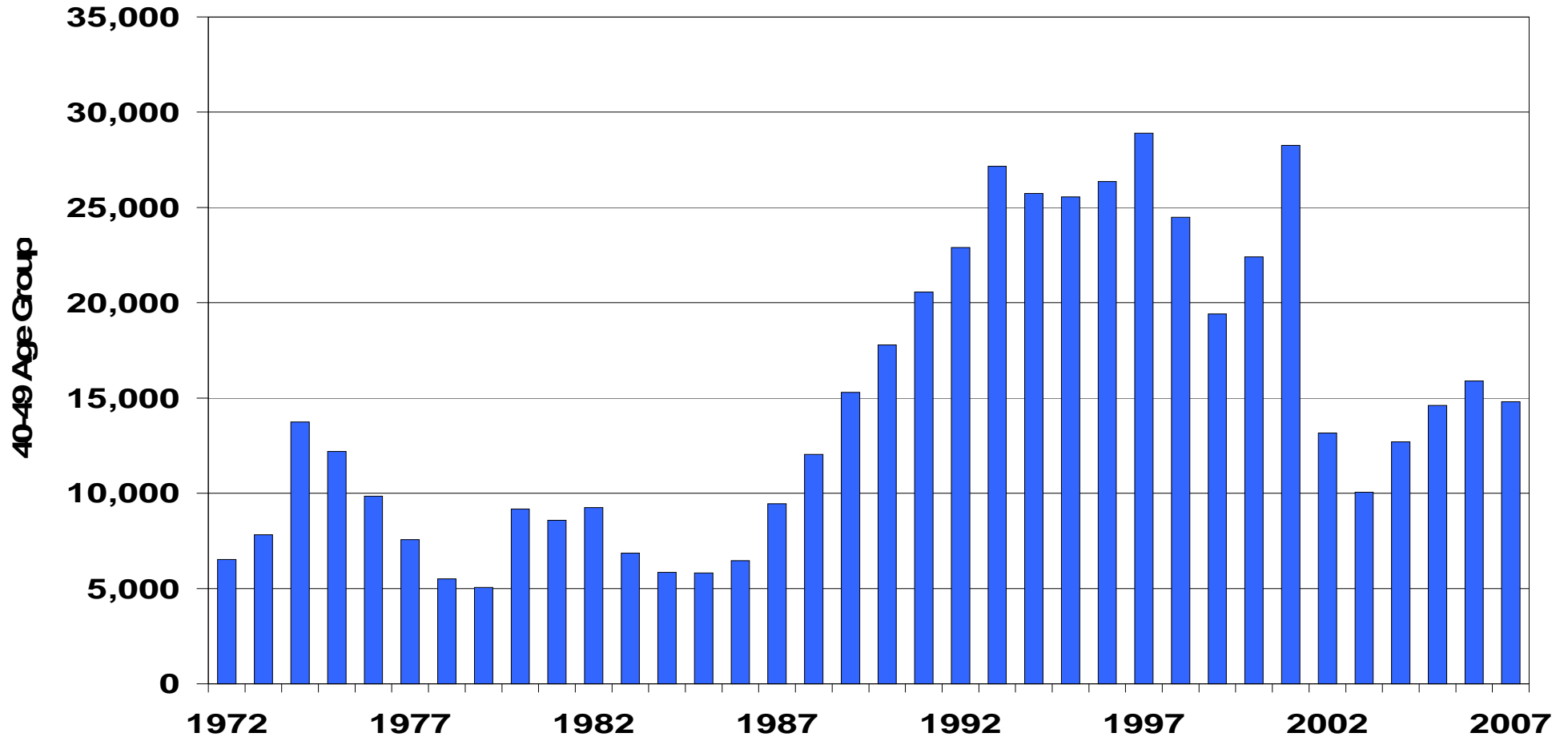
Population Pyramid

Immigrants to Canada (outline) versus Canada (colour), 2007



Canada

Immigrants, 40-49 Age Group, 1972-2007



Opportunities and Challenges

Re-inventing the Older Worker

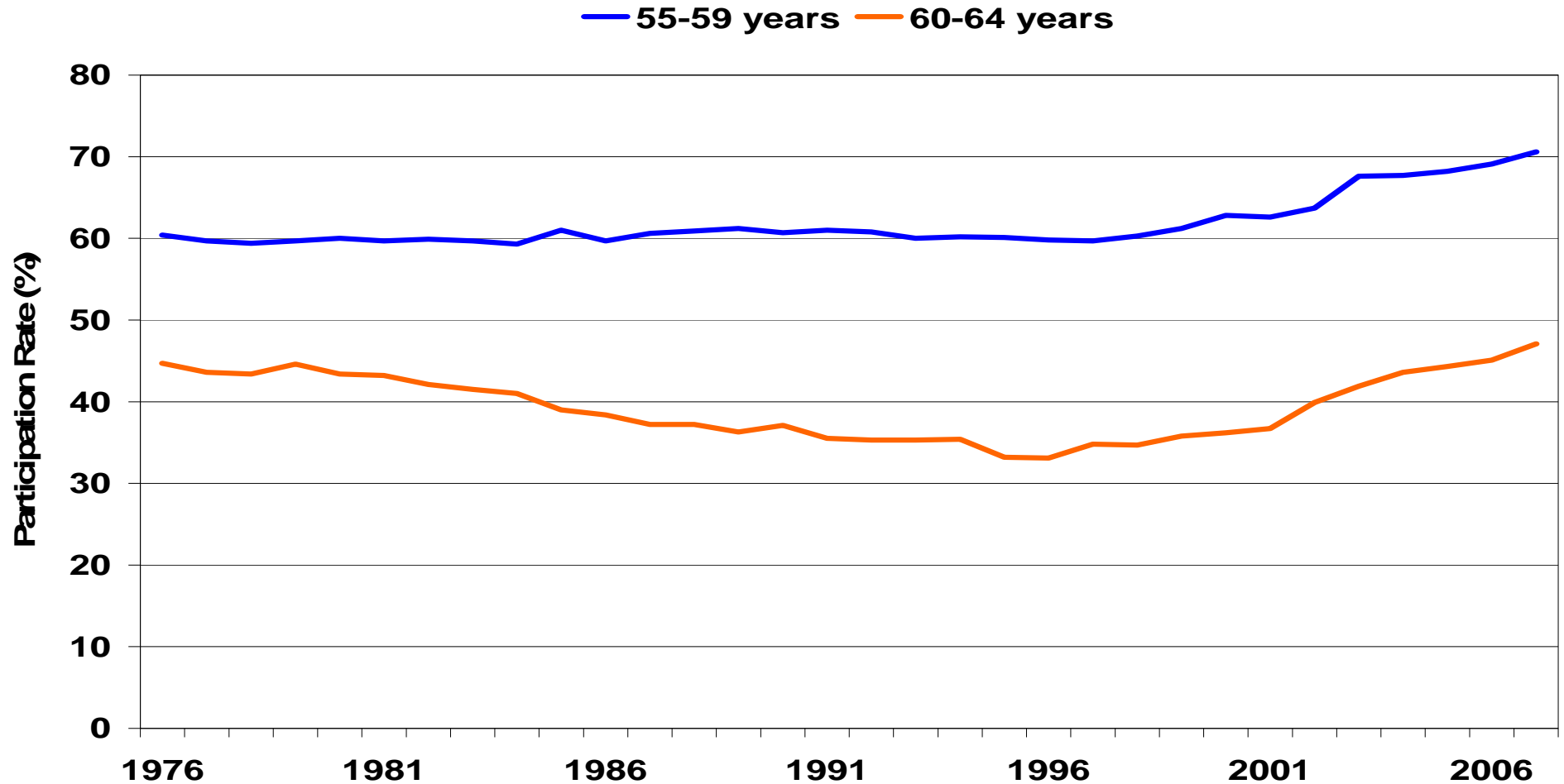
Ontario

Labourers by Age Group and Union Status, 2006 (percent)



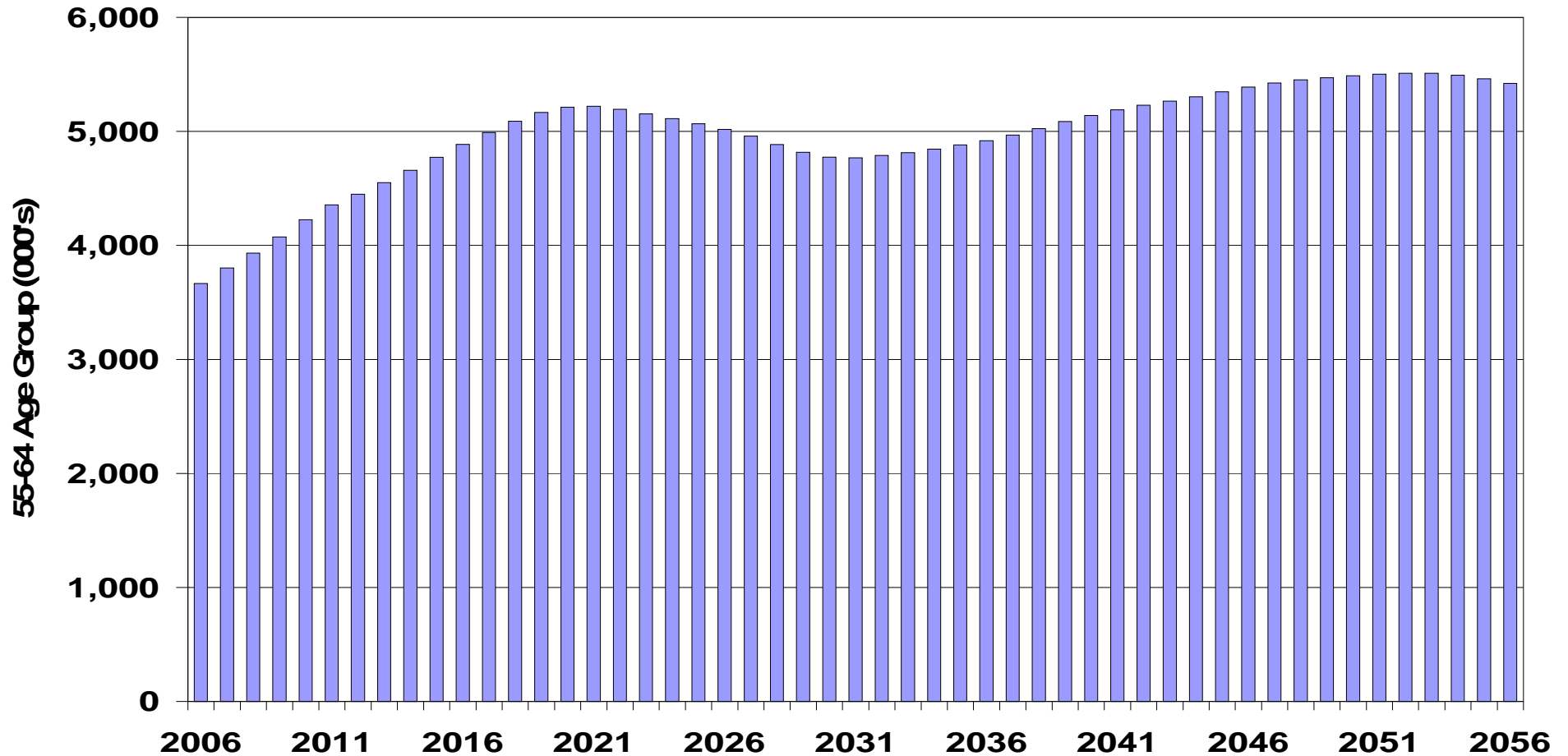
Canada

Labour Force Participation Rates (%) by Age Group, 1976-2007



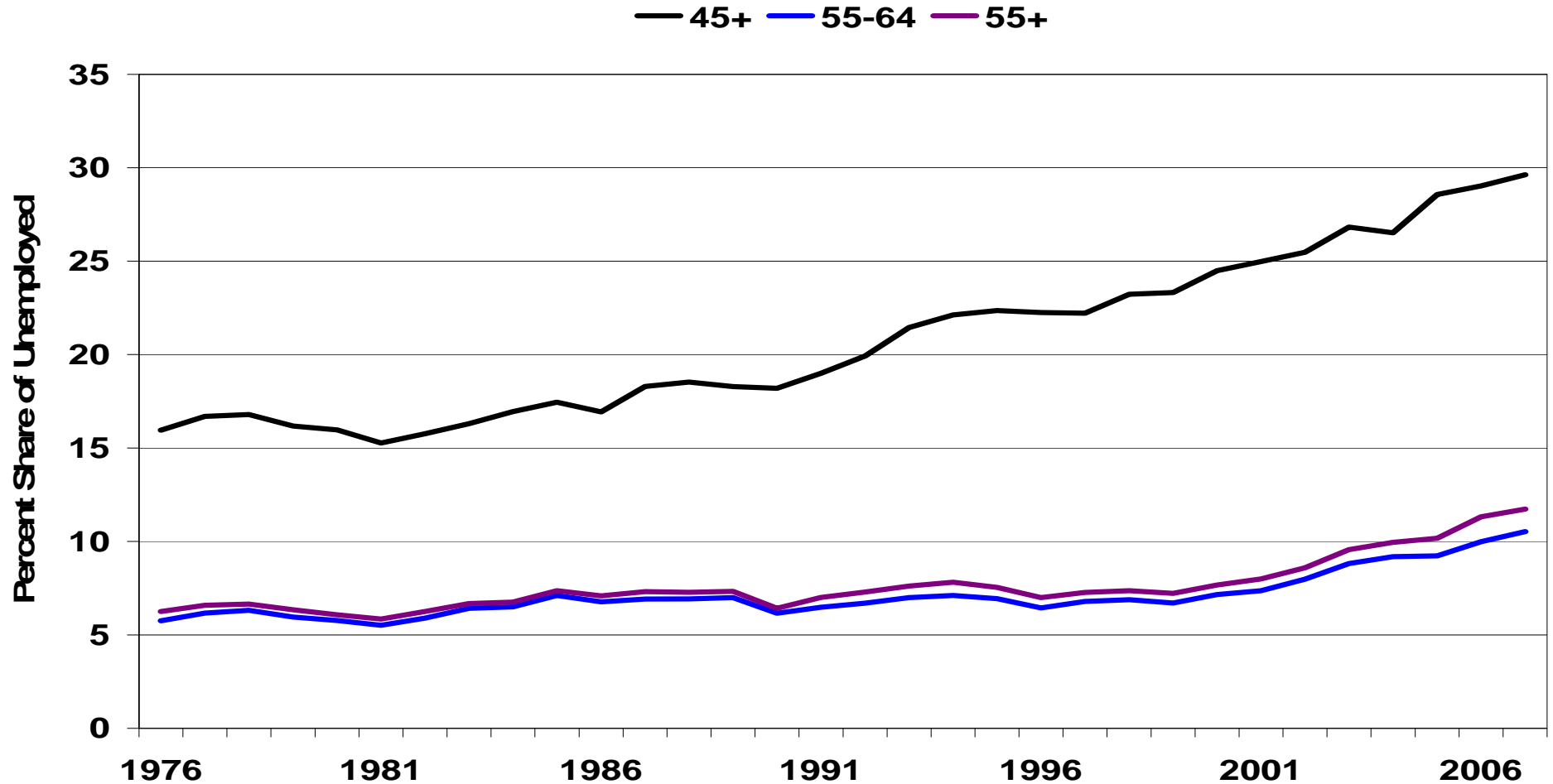
Canada

Population 55-64 (000's), 2006-2056 (projected)



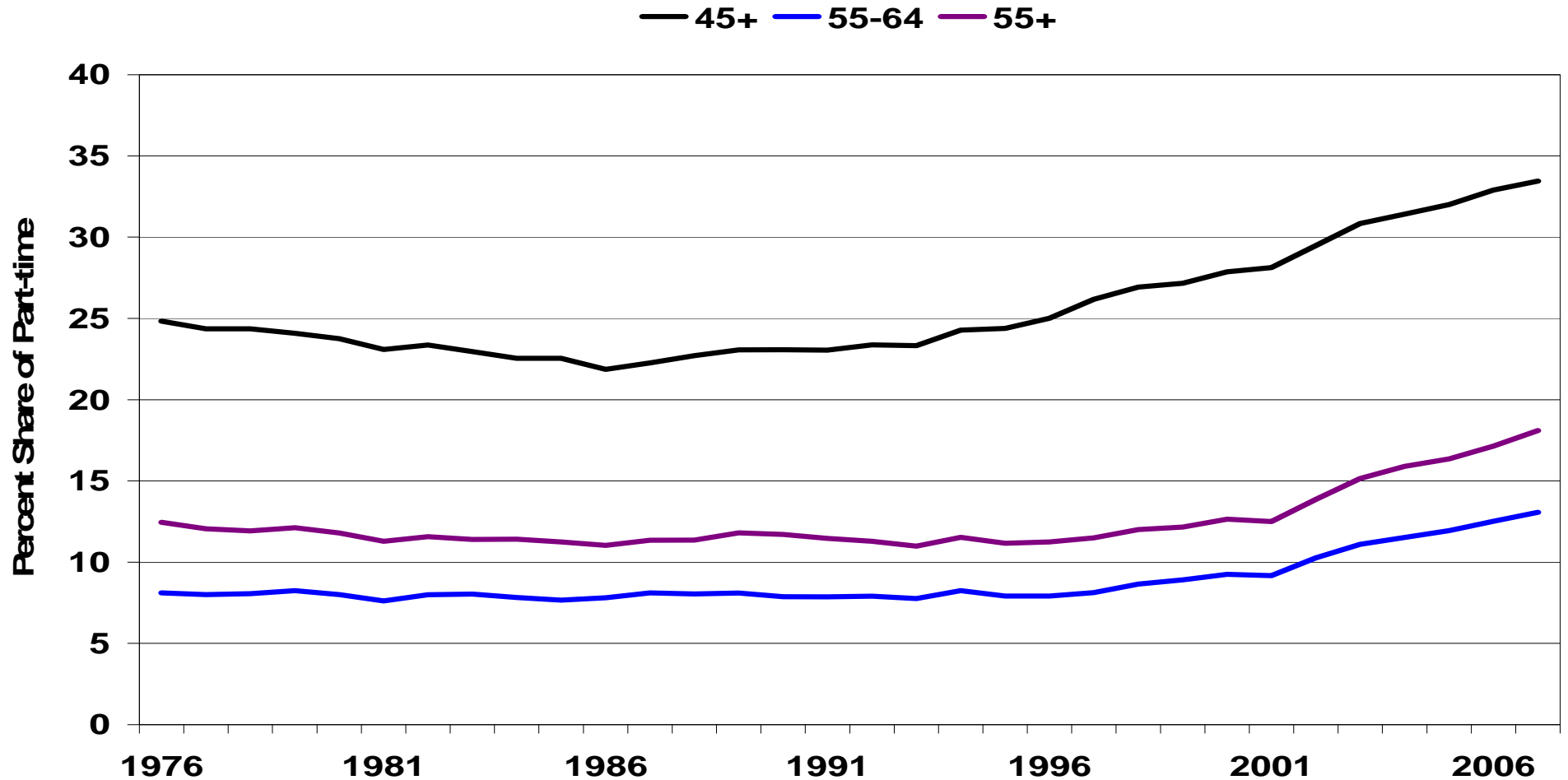
Canada

Unemployment by Age Group (percent share), 1976-2007



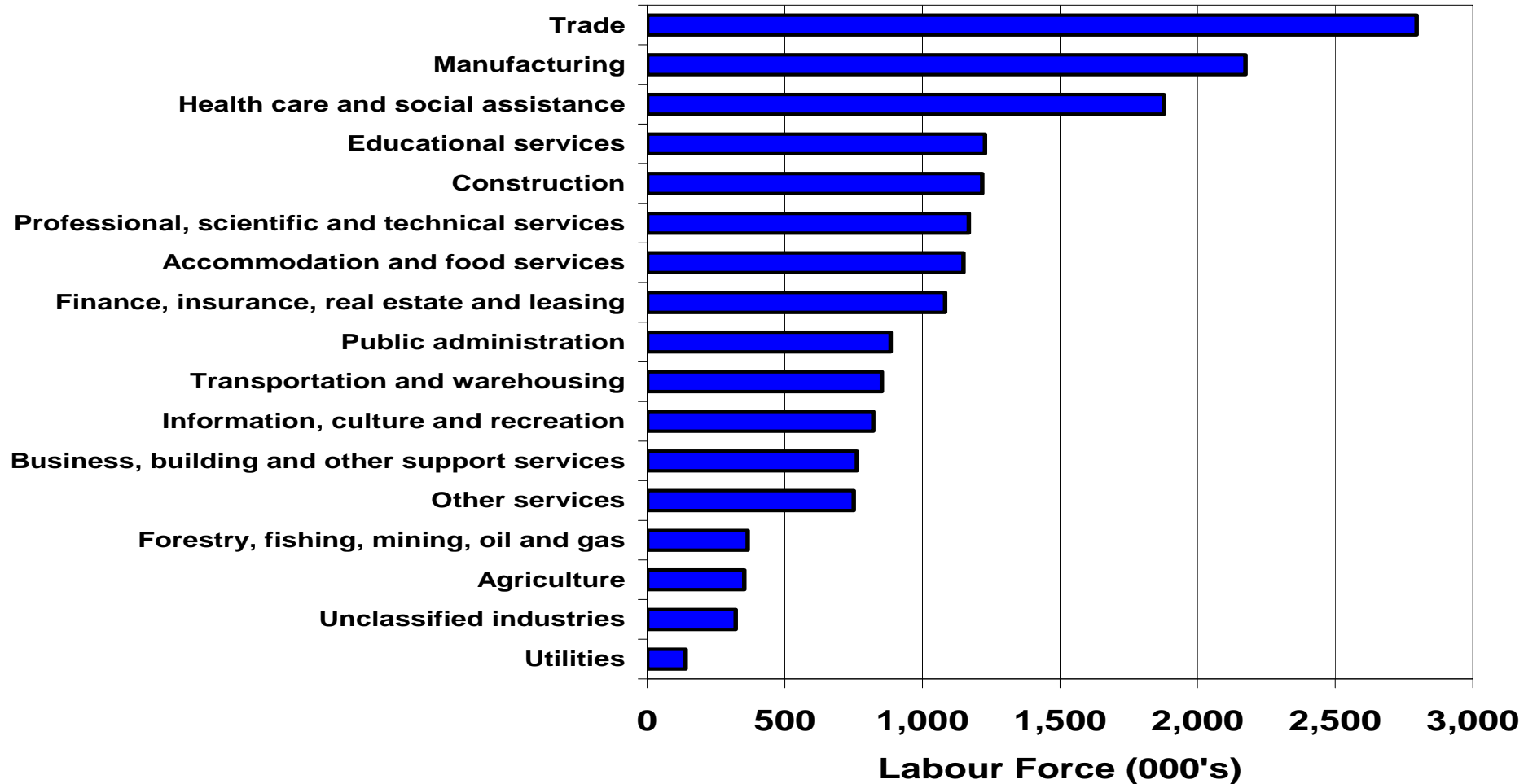
Canada

Part-time Employment by Age Group (percent share), 1976-2007



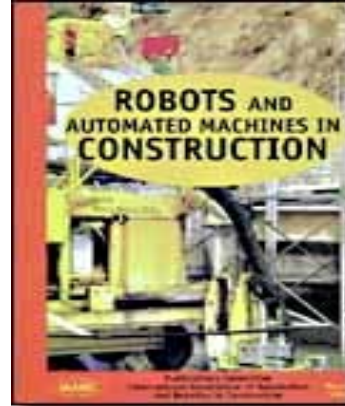
Canada

Labour Force (000's) by Industry, 2007



Opportunities and Challenges

Technology: The “I Robot” Scenario



Technology

Robotics

International Journal of Advanced Robotic Systems

Volume 4 Number 4 December 2007

***Special Issue on Robotics and Automation
Technologies in Construction***

Technology

Robotics

- Issues:
 - » Labour supplementation or displacement
 - » Productivity
 - » Health and safety
 - » Training → maintenance and control processes
- Application:
 - » Modular construction
 - » Assistive devices
 - » Human-machine work teams

Key Points

- Demographic trends will have a profound impact on the Canadian labour market well into the 21st century
- The aging and diversification of the labour market present both opportunities and challenges
- Human resources management must become a strategic priority in all industry sectors
- Effective HR strategy should be multi-faceted:
 - » Recruitment: youth, under-represented groups, immigrants
 - » Retention: older workers both inside and outside the industry
 - » Integration of people and technology

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