

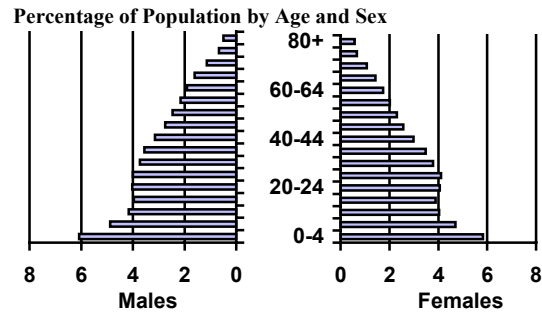
## CANADA

Canada's population has aged rapidly over the past 50 years. The figures at right show the percentage of Canada's total population by five year age groups separately for males and females. In 1950, Canada's population formed a classic pyramid shape, where each successively younger age cohort represents a larger portion of the total population. However, the drop in fertility rates during the Depression and WWII created a slight indentation for several younger cohorts.

By 2000, Canada's population structure diverged from the classic pyramid shape and was replaced by a formation more representing a pillar, where the percentage of the population in each age cohort is more evenly distributed. This change is due to a decrease in the country's birth rate from 3.7 in 1950 to 1.6 in 2000, and to a rise in life expectancy of 9 and 10 years for males and females, respectively. The bulge in the middle aged cohorts represents the surge in fertility rates following WWII that produced the baby boom generation.

Looking to the future, the anticipated mix of low fertility with rising life expectancy will lead to a fulfillment of a pillar formation. By 2030, the Canada will have an average age of over 43 years old compared to today's average age of 39.

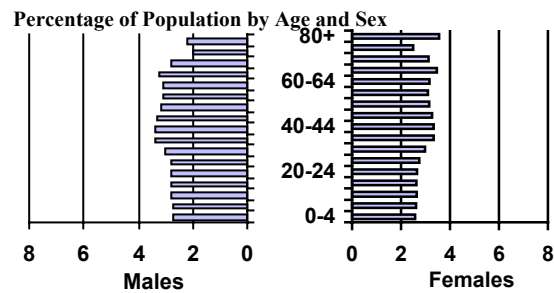
### Canada's Population Structure in 1950



### Canada's Population Structure in 2000



### Canada's Population Structure in 2030



Source: UN Population Division, World Population Prospects (The 2000 Revision).

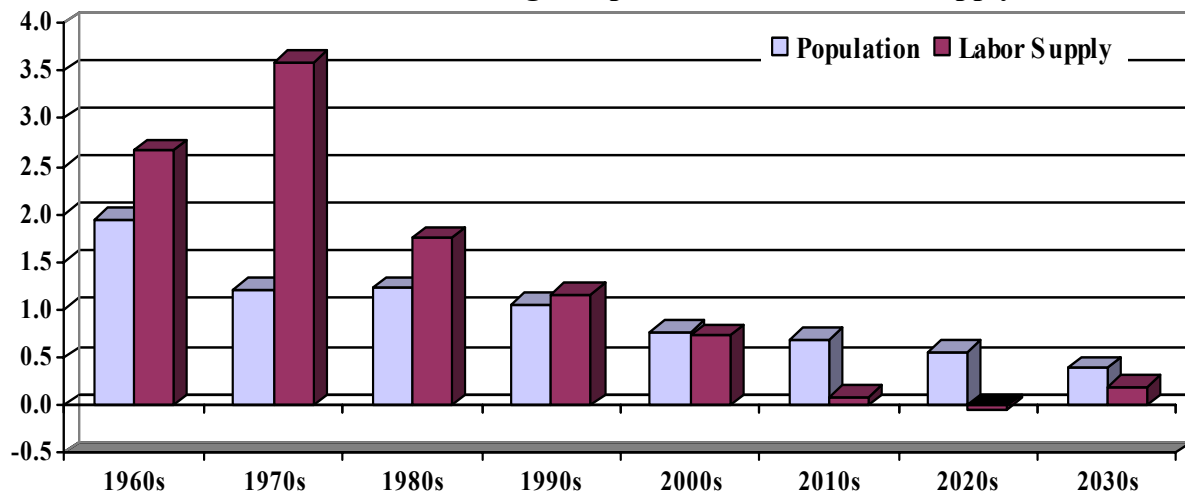
## Demographic History

	1950	1960	1970	1980	1990	2000
Life Expectancy at Birth						
Males	66.75	68.50	69.70	72.44	74.94	76.23
Females	71.55	74.55	76.80	79.60	81.01	81.77
Life Expectancy at 65						
Males	-	78.60	78.80	79.60	80.70	81.54
Females	-	81.10	82.50	83.90	84.79	85.31
Fertility Rate	3.73	3.61	1.97	1.63	1.70	1.58
Net Migration Rate	4.34	1.02	2.27	1.35	2.50	2.44

A critical component of a society's ability to expand its production of goods and services is the growth of its labor force. As Canada's population aged over the past half-century, its labor force has undergone changes as well. Soon after the end of World War II, many industrialized societies, including Canada, experienced a significant spike in birth rates that produced the generation known as the baby boom. Labor supply growth increased dramatically during the 1960's and 1970's as the baby boom generation, including an unprecedented number of its female members, entered the workforce. Low fertility rates over the last few decades have caused population growth to slow considerably. This created a temporary boon, where a greater percentage of the population was economically active – often referred to as a “demographic dividend”. Between the 1970 and 2000, total dependency rates in Canada fell by about 32 percent, while youth dependency fell by over 48 percent.

As the baby boom generation begins to retire, labor supply in Canada will grow more slowly than the population beginning in the coming decade. This is caused by the combination of several factors – prolonged low fertility, improving life expectancy and a greater proportion of the population in age groups that have lower propensities to work. In fact, our estimates indicate that Canada's labor force will be stagnant over the coming decade and actually shrink over the 2020's. Canada's relatively high immigration rates have kept this reduction from being even more dramatic; however, by 2030 a greater portion of the population will be inactive, causing Canada's total dependency rate to rise by 36 percent and old age dependency to increase by 93 percent from rates in 2000.

**Annual Percent Change: Population versus Labor Supply**



Source: World Bank, World Development Indicators database

**Dependency Ratios**

	1970	2000	2030	% change 1970-2000	% change 2000-2030
Youth- (Inactive pop 0-19)/ LF 15+	0.82	0.42	0.40	-48.21	-5.22
Aged- (Inactive pop 55+)/ LF 15+	0.25	0.31	0.60	21.71	92.82
Total- (Inactive pop 0-19 and 55+)/ LF 15+	1.07	0.73	1.00	-31.60	36.21

Source: Sources: International Labor Office, LABORSTA database, current through 2001; UN, Population Division, World Population Prospect (The 2000 Revision); OECD, CDE database on labor statistics, current though 2002

### Old Age Pension System

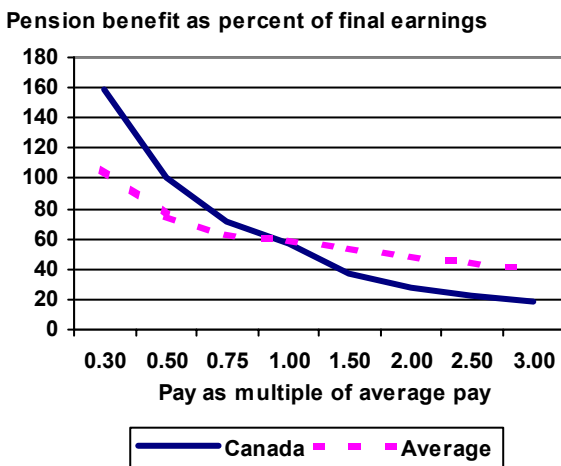
Canada's old age pension system is made up of a two tiered public pension system and private plans. The first tier of the public system is a flat benefit based on residency and payable from age 65. Forty years of residency after age 18 is necessary to receive the full base amount of about 14 percent average earnings. The amount is reduced by 1/40<sup>th</sup> for each year under 40 that the pensioner was a non-resident. Ten years of residency is required to be eligible for any benefit. A means-tested supplement is available to low-income pensioners that increases the maximum first tier benefit, including the base, to 31 percent average earnings for a single person and 50 percent for a couple. This means-tested benefit is withdrawn against income other than the basic pension at a rate of 50 percent. The total first tier benefit is indexed to prices. The second tier of the public system is an earnings related formula that targets a 25 percent replacement rate. The benefit is based on average lifetime salary excluding the lowest 15 percent of years, and only one year's contribution is necessary to receive a benefit. There is a contribution floor for those earning less than 10 percent of average earnings and a ceiling of about 107 percent of average earnings to both contributions and earnings. The maximum benefit amount is about 26 percent of average earnings and is adjusted annually in line with prices. To finance the public pension program the government covers the entire cost of the universal and means-tested pension. However, the earnings related pension is paid for through a 7 percent payroll tax split equally between employers and employees.

As shown in the figures below, Canada's public pension scheme is quite progressive compared to the OECD average, providing higher benefits for low income earners and lower benefits to upper wage earners, while the average earner is roughly comparable. Subsequently, higher wage earners accumulate significantly lower levels of pension wealth than in other developed nations.

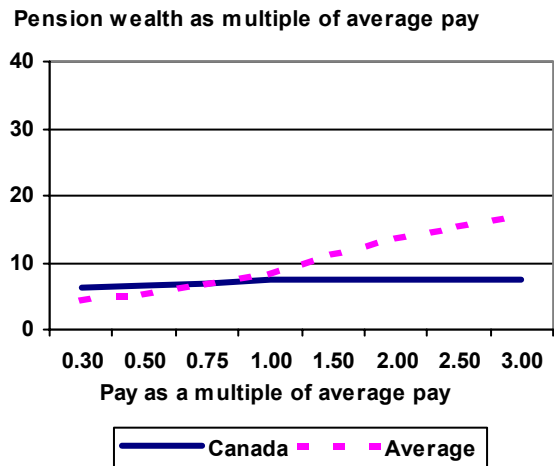
To supplement higher income workers, over 40 percent of Canadians are members of the voluntary occupational pension scheme. Over 60 percent of these employees participate in a defined benefit plan. Most occupational schemes are compulsory for those eligible and are vested, generally after 5 years service. In addition, most plans are integrated with the public earnings-related scheme.

Source: Whitehouse, Edward (2003) and Social Security Administration, Social Security Programs Throughout the World (1999).

**Gross Replacement Rates**  
Canada v OECD Average



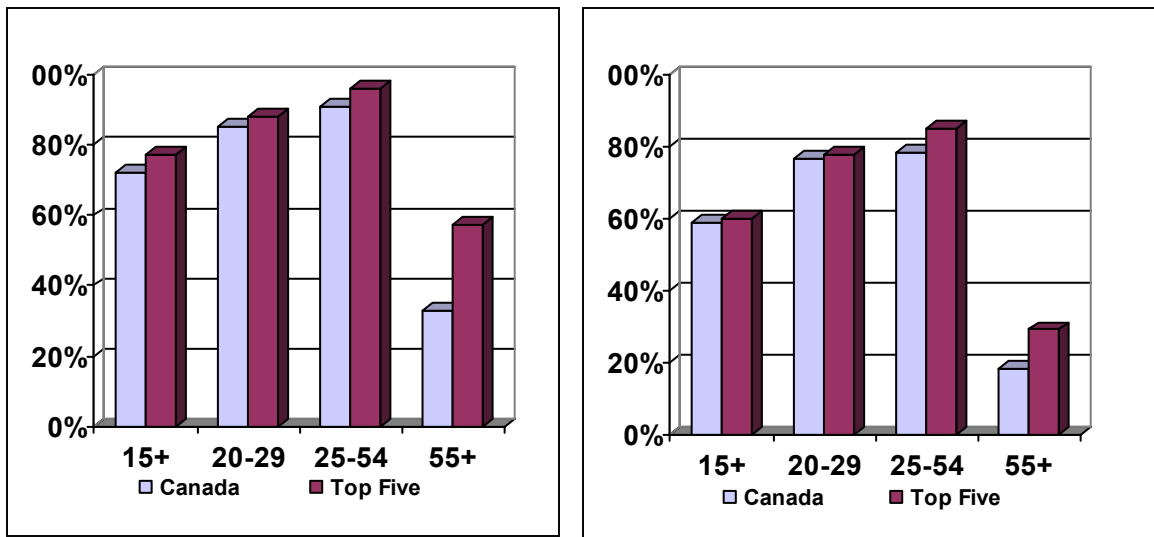
**Gross Pension Wealth**  
Canada v OECD Average



Source: Whitehouse, Edward (2003)

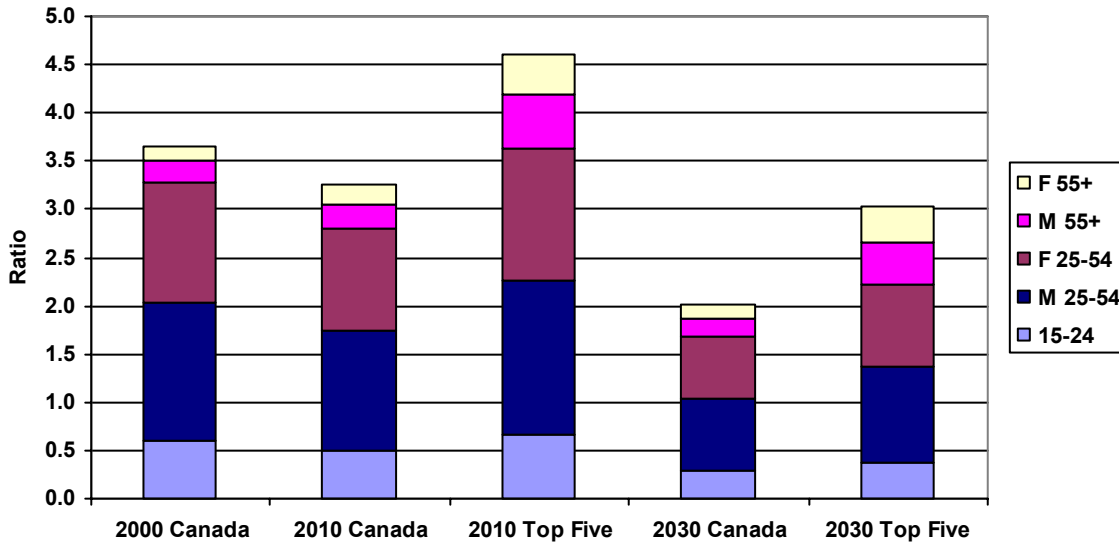
Notes: Pension wealth estimates are a multiple of economy-wide average.

**Labor Force Participation Rates: Canada v Top Five OECD Country Composite**



Source: OECD, Corporate Data Environment database on labor statistics, current though 2002

**Ratio of Workers in Canada 15+ to Retirees 60+ in 2000, 2010 and 2030 and Under Alternative Assumptions of Old Age Participation Rates for the Top Five OECD Countries**



Source: UN Population Division, World Population Prospect (The 2000 Revision); OECD, Corporate Data Environment database current though 2002

Much of the burden caused by demographic aging is due to the rising dependency burden. In the coming decades, Canada will need to figure out how to support a growing inactive population with fewer workers. A remedy to this problem is to adopt programs that promote greater workforce participation at all ages. Some countries excel at achieving high workforce participation across various age and gender groups. The figures above show how Canada's labor force participation stacks up next to the average of the top five OECD nations. Activity rates in Canada fall short of rates in the Top-5 countries for every age and gender group. Most noticeably, older individuals participate in the labor force to a much lesser extent than those in the Top-5 countries. If Canada adopts measures to increase labor force participation of older age groups (55+) to rates similar to the Top-5 OECD nations, it could significantly reduce its old age dependency rates. As shown in the figure above, if Canada maintains its current activity rates between 2000 and 2030, the ratio of workers to retirees is expected to fall from 3.7 to 2.0. However, by adopting policies to entice workers to defer their retirement at rates similar to those achieved by the Top-5 OECD nations, Canada could reduce its dependency burden by raising its activity rate to 3.0 workers per retiree in 2030.